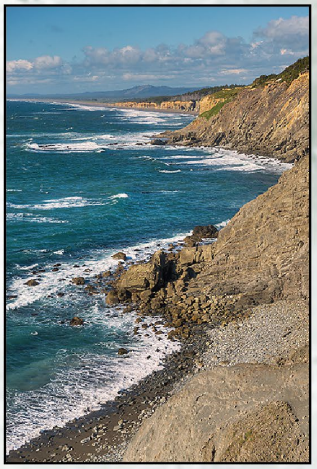
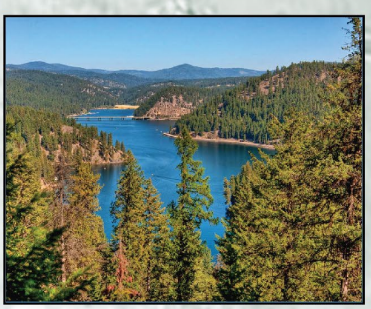
Northwest Area Contingency Plan





2020

Interim Plan updated by Letter of Promulgation signed April 2024

Also serving as the

Region Ten Regional Contingency Plan

April 16, 2024

The Northwest Area Contingency Plan, Puget Sound Area Contingency Plan, and Columbia River Area Contingency Plan continue to undergo updates and transitions. As we evaluate and adjust the existing governing bodies, relationships, and planning processes to reflect the needs of all the Pacific Northwest partner agencies and interests, it is crucial to recognize efforts to update and enhance existing tools, policies and procedures outlined in applicable Area Contingency Plans.

The below enclosures are promulgated to supplement the Northwest Area Contingency Plan, Puget Sound Area Contingency Plan, and Columbia River Area Contingency Plan. The enclosures promulgated here include information on general authorities and responsibilities, doctrine and policy for oil and hazardous materials incident response, multi-agency response organizational structures, and specific incident response expectations. The enclosures are intended to complement the current and future Federal, Tribal, State, and local oil and hazardous materials spill contingency plans. These are living documents, and subject to periodic review and updates to ensure continuous improvement. Pursuant to Section 311 (j)(5)(D)(i) of the Clean Water Act, 33 U.S.C. § 1321(j)(5)(D)(i), Section 300.211 of the National Oil and Hazardous Substances Pollution Contingency Plan, and applicable State statutes and regulations, all facility and vessel contingency plans must be consistent with applicable Area Contingency Plans, including the updates herein.

These enclosures are tools intended to be used during a response and are effective immediately. The incorporation of these enclosures should be reflected on a record of changes within all applicable Area Contingency Plans. This letter and its enclosures serve as an interim step to formally adopt those products and documents until comprehensive updates to plans are completed and signed.

The specific portions of the Northwest Area Contingency Plan (2020) that are updated include the following:

- Section 3200: Wildlife Response Task Force
- Section 9202: JIC Manual Task Force
- Section 9210: Liaison Manual Task Force
- Section 9301: Best Management Practices
- Section 9310: Wildlife Response Task Force
- Section 9330: Abandoned and Derelict Vessel Task Force

- Section 9404: ESA Compliance Guide
- Section 9404: ESA Consultation Form and Process Flowchart

For questions regarding this matter, please contact Captain Brian Conley (brian.t.conley@uscg.mil – USCG RRT10 Co-Chair), Beth Sheldrake (sheldrake.beth@epa.gov – EPA RRT10 Co-Chair), CDR Trish Jantzen (trisha.a.jantzen@uscg.mil – Sector Puget Sound, Emergency Management Chief), LCDR Shannon Anthony (shannon.m.anthony@uscg.mil – Sector Columbia River, Emergency Management Chief), Carlos Clements (Carlos.Clements@ecy.Wa.Gov – Washington Department of Ecology Spills Prevention, Preparedness and Response Program Manager), Wes Risher (wes.risher@deq.oregon.gov – Emergency Response Manager, Oregon Department of Environmental Quality) or Sarah Cerda (SCerda@imd.idaho.gov – Idaho Office of Emergency Management HAZMAT and Special Teams Program Manager).

Digitally signed by CONLEY.BRIAN.T.1050067854
Date: 2024.04.30 07:32:15 -07'00'

CAPT Brian Conley
USCG D13 RRT10 Co-Chair

BETH SHELDRAKE
Digitally signed by BETH SHELDRAKE
Date: 2024.04.16 15:10:53 -07'00'

Beth Sheldrake
EPA RRT10 Co-Chair

Digitally signed by CAPT Mark McDonnell
Date: 2024.04.23 14:07:07 -07'00'

CAPT Mark McDonnell, USCG
Sector Puget Sound, Captain of the Port

Carlos Clements
Digitally signed by Carlos Clements
Date: 2024.04.17 15:27:58 -07'00'

Carlos Clements
Washington Department of Ecology

JW Noggle
Digitally signed by NOGGLE.JUSTIN.W.1162869864
Date: 2024.04.30 08:09:29 -07'00'

CAPT Justin Noggle, USCG
Sector Columbia River, Captain of the Port

Wesley Risher
Digitally signed by Wesley Risher
Date: 2024.04.23 07:18:51 -07'00'

Wes Risher
Oregon Department of Environmental Quality

Sarah Cerda
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Date: 2024.04.23 12:11:04 -06'00'

Sarah Cerda
Idaho Office of Emergency Management

January 2020

This is the Twenty-first release (Change 21) of the Northwest Area Contingency Plan (NWACP). This plan serves as both the Area Contingency Plan and the Regional Contingency Plan for the northwest states of Washington, Oregon, and Idaho, two US Coast Guard Captain of the Port Zones (Puget Sound and Columbia River), and the US Environmental Protection Agency's (EPA's) Inland Zone. Federal, state, tribal, and local government representatives as well as representatives from commercial, non-profit, and private concerns continue to drive this planning effort from the ground up. For Washington, this document continues to function as the Washington Statewide Master Plan for oil spill and hazardous substance release response. For Oregon, the Oregon Emergency Response System Council approved the NWACP in June 1996 as the State's oil and hazardous materials emergency response plan. (State of Oregon Emergency Management Plan, Volume II, Part 3). For Idaho, the Idaho Hazardous Materials/Weapons of Mass Destruction (WMD) Incident Command and Response Support Plan is the primary mechanism for initial response to HAZMAT incidents in Idaho and supports the Idaho Emergency Operations Plan (IDEOP) as well as this plan. All federal, state, tribal, and local response organizations in Oregon and Washington that are members of Regional Response Team 10 or the Northwest Area Committee should use this plan for responses to oil and hazardous materials spills, drills, and exercises. All federal, state, tribal, and local response organizations in Idaho that are members of Regional Response Team 10 or the Northwest Area Committee should use the Idaho Hazardous Materials Incident Command and Response Support Plan in conjunction with this plan for responses to oil and hazardous materials spills, drills, and exercises.

This plan supersedes the 2019 release. The entire document has been reviewed and updated as appropriate, to reflect as up to date information as is possible. The following substantive changes were made:

Table of Contents Front Matter, Notifications, etc.	
Section	**Detailed Change**
	No substantive changes for 2020

Chapter 1000 Introduction	
Section	**Detailed Change**
Acronyms	Updated new acronyms.
Definition	Added a definition for surface washing agents.
1000	Moved text regarding Region 10 commitments from Section 9101.
1200	Updated title of section adding "Regional and Area Planning Structures and Process"
1210	Updated title of section removing "membership" and adding "Consolidated Planning and Authority"
1210	Added paragraph on the consolidated NWACP.
1210	Added paragraph on the structure of the combined RRT and NWAC.

Chapter 1000 Introduction Section	Detailed Change
1220	Entire section deleted and consolidated in Section 9101.
1221	Entire section deleted and consolidated in Section 9101.
1222	Entire section deleted and consolidated in Section 9101.
1220	Renumbered 1220 and title updated to add “Standing and Incident-Specific”
1445	West Coast Mutual Aid – the word “benchmarks” was removed.
1500	Entire section deleted and consolidated in Section 9101.
1500 – 1700	Remainder of sections renumbered for formatting purposes.

Chapter 2000 Command Section	Detailed Change
	No substantive changes for 2020 or 2024

Chapter 3000 Operations Section	Detailed Change
	Wildlife Response Task Force Updated April 2024

Chapter 4000 Planning Section	Detailed Change
4624	New section “Surface Washing Agents Background and Policy” in 2020
4624.1	New section “Role of RRT with the use of Surface Washing Agents” in 2020

Chapter 5000 Logistics Section	Detailed Change
	No substantive changes for 2020 or 2024

Chapter 6000 Finance/Administration Section	Detailed Change
	No substantive changes for 2020 or 2024

Chapter 7000 Hazardous Substances Unique Information Section	Detailed Change
	No substantive changes for 2020 or 2024

Chapter 8000 Sector Columbia River’s Marine Firefighting Contingency Plan Section	Detailed Change
Throughout	Updated F-PAAC acronym to FPAAC in 2020
Page 7	Updated Clark County Fire District 6 capabilities in 2020
Page 8	Updated Cowlitz County Fire District #5 capabilities in 2020
Page 9	Updated title of Portland Airport Fire and Rescue in 2020
Page 10	Updated Vancouver Fire Department capabilities in 2020

Section 8100 Sector Puget Sound's Marine Firefighting Contingency Plan Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9101 Region 10 Response Team and Northwest Area Committee Charter Section	Detailed Change
9101	Commitment bullets moved to Chapter 1000 in 2020
9101.1	New text added with updated list of RRT 10 and Executive Committee membership list in 2020
9101.2	New text added with updated Northwest Area Committee membership list in 2020
9101.2.2	New subsection for the relationship of RRT to NWAC in 2020
9101.3	Section moved in entirety from Section 1222 in 2020
9101.4	Section moved in entirety from Section 1223 in 2020
9101.4	Changed title from RRT/NWAC Organizational Groups and added subcommittees bullet in 2020

Section 9105 Incident Specific Region 10 Regional Response Team 10 Activation – Quick Response Guide Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9106 Response Partner Roles and Contacts Section	Detailed Change
9106.1	Addition of National Weather Service information in 2020

Section 9202 Joint Information Center Manual Section	Detailed Change
	Section updated in 2024

Section 9203 Health and Safety Job Aid Section	Detailed Change
9203.1.1	Deleted last sentence of paragraph in 2020
Table 9203.1	New table outlining Health and Safety Plan requirements with federal, Washington, Oregon, and Idaho state statutes in 2020
9203.2.1	Add sentence requiring Health and Safety Plans requirement to follow both federal and state requirements in 2020
9203.2.6	Deleted reference to ASTM Standard in 2020

Section 9210 Liaison Manual Section	Detailed Change
	Section updated in 2024

Section 9220 96-Hour Plan Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9301 Oil Spill Best Management Practices Section	Detailed Change
	Section updated in 2024

Section 9302 Oil Response in Fast Water Currents: A Decision Tool Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9310 Northwest Wildlife Response Plan Section	Detailed Change
Section	updated in 2024, includes information previously in 9311, 9312, 0313, and 9314

Section 9311 Northwest Area Wildlife Deterrence (Hazing) Resources Section	Detailed Change
Information	incorporated into Section 9310 in 2024 and removed from the NWACP in 2024

Section 9312 Oil Spill Marine Mammal Resources Section	Detailed Change
Information incorporated into Section 9310 in 2024 and removed from the NWACP in 2024	

Section 9313 Wildlife Branch Position Descriptions Section	Detailed Change
Information incorporated into Section 9310 in 2024 and removed from the NWACP in 2024	

Section 9314 Potential Mobile Bird Rehabilitation Unit Deployment Locations in Coastal Counties Section	Detailed Change
Information	incorporated into Section 9310 in 2024 and removed from the NWACP in 2024

Section 9315 Operations Section Organizational Guidance Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9330 Derelict Vessel Best Management Practices Section	Detailed Change
	Updated in 2024

Section 9331 Marine Debris and Severe Marine Debris Events	
Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9401 Permit Summary Table	
Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9402 Permit Tracking Template	
Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9403 Compliance Guide for National Historic Preservation Act during an Emergency Response	
Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9404 Region 10 Regional Response Team/Northwest Area Committee Endangered Species Act Compliance Guide for Federal Responders during Emergency Response	
Section	Detailed Change
	Section updated in 2024

Section 9405 Disposal and Waste Management Guidance for the Northwest Area	
Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9406 Dispersant Tools, Job Aids, and Decision Process	
Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9407 In-Situ Burning Operations Planning Tool	
Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9408 Resources at Risk Response Tool	
Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9409 Managing Impacts to Commercial Recreational, and Tribal Fisheries	
Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9410 Places of Refuge Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9411 Decanting Response Tool Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9412 Non-Floating Oil Spill Response Tool Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9413 Geographic Response Plan Booming Strategy Points – Standardized Data Format Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9418 Emergency Response Community Air Monitoring Section	Detailed Change
`	No substantive changes for 2020 or 2024

Section 9419 Emergency Response Environmental Sampling Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9420 Northwest Area Shoreline Countermeasures Manual and Matrices Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9421 Shoreline Cleanup and Assessment Response Tools Section	Detailed Change
	No substantive changes for 2020 or2024

Section 9422 Shoreline Segmentation Guidance for Shoreline Cleanup and Assessment Technique Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9423 Surface Washing Agent Authorization Process and Decision Support Tools Section	Detailed Change
	New Section in its entirety in 2020

Section 9501 Communications Manual Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9502 Logistics Resource List Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9701 Northwest Area Contingency Plan Hazard Assessment Section	Detailed Change
	No substantive changes for 2020 or 2024

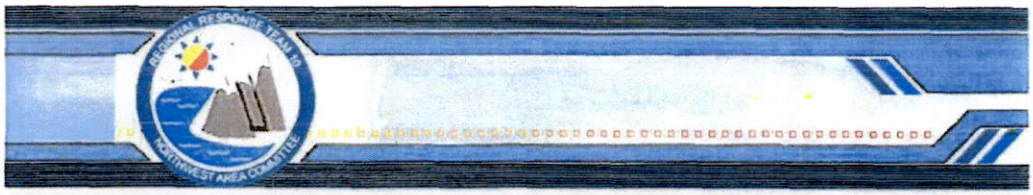
Section 9702 Initial Hazmat Incident Objectives Section	Detailed Change
	No substantive changes for 2020 or 20204

Section 9703 Initial Incident Objectives for Oil Spills Section	Detailed Change
	No substantive changes for 2020 or 2024

Section 9710 Suspicious Package/Envelope Decision Matrix Section	Detailed Change
	No substantive changes for 2020 or 2024

Geographic Response Plans (GRPs) exist for the all the coastal and many of the inland waters of Washington, Oregon, and Idaho; they are considered part of the NWACP but are distributed and revised separately. These GRPs may be found by visiting the RRT10/NWAC web site at http://www.rrt10nwac.com/GRP/

The Regional Response Team 10 and the Northwest Area Committee encourage active participation by all interested parties in the continuing area planning process in the northwest. Comments, suggestions, and corrections should be directed to the RRT10/NWAC Steering Committee by completing the comment form on the RRT10/NWAC web site at http://www.rrt10nwac.com/Comment/Default.aspx



NWACP SIGNATURE PAGE

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Spill Prevention, Preparedness, and Response
WA Department of Ecology Emergency Response
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NWACP RECORD OF CHANGES

Date	Change Number	Comments
July 1, 1993	Original Release	
July 1, 1994	Change 1	
September 1, 1995	Change 2	
July 1, 1996	Change 3	
November 1, 1998	Change 4	
February 1, 2003	Change 5	
February 29, 2004	Change 6	
February 28, 2005	Change 7	
July 1, 2006	Change 8	
July 26, 2007	Change 9	
September 1, 2008	Change 10	
August 31, 2009	Change 11	
August 27, 2010	Change 12	
October 15, 2011	Change 13	
January 1, 2013	Change 14	
January 1, 2014	Change 15	
January 1, 2015	Change 16	
January 1, 2016	Change 17	
January 1, 2017	Change 18	
January 1, 2018	Change 19	
January 2, 2019	Change 20	
January 1, 2020	Change 21	See NWACP Transmittal Letter (Page iii)
April 2024	Change 22	See Letter of Promulgation (Page i)

REQUIRED NOTIFICATIONS BY SPILLER

All spills of oil or hazardous substance into navigable waters as defined by the Clean Water Act (CWA) and all spills of a reportable quantity of hazardous substances (40 CFR Part 302) must be immediately reported by the spiller to the National Response Center (NRC). The NRC will contact appropriate local US Coast Guard (USCG) or Environmental Protection Agency (EPA) offices. Notifying state offices does not relieve the spiller from federal requirements to notify the NRC nor vice versa.

National Response Center (NRC)
1-800-424-8802 Toll Free
1-202-267-2675 Toll Call

All spills of oil into Washington State waters must be immediately reported to the Washington State Emergency Management Division. The owner or operator of a regulated vessel must notify the state of any vessel emergency that results in the discharge or substantial threat of discharge of oil to state waters or that may affect the natural resources of the state within one hour of the onset of that emergency.

The Washington Emergency Management Division (EMD)
24-hour Emergency Spill Response
1-800-258-5990

For spills of hazardous substances, the spiller is also required to notify the nearest regional office of Ecology.

The Washington State Department of Ecology
24-hour Emergency Spill Response
Northwest Office, Bellevue: 1-425-649-7000
Southwest Office, Olympia: 1-360-407-6300
Central Office, Yakima: 1-509-575-2490
Eastern Office, Spokane: 1-509-329-3400

All spills of a reportable quantity* oil or hazardous substances in Oregon must be reported by the spiller to:

The Oregon Emergency Response System (OERS)
24-hour Emergency Spill Response
1-800-452-0311 or 1-800-OILS-911 (in Oregon)

***Reportable Quantity in the State of Oregon:**

For oil: If spilled into waters of the state, or escape into waters of the state is likely, any quantity of oil that would produce a visible oily slick, oily solids, or coat aquatic life, habitat or property with oil, but excluding normal discharges from properly operating marine engines; if spilled on the surface of the land, any quantity of oil over one barrel (42 gallons).

For hazardous substances see OAR 340-142-0050.

The party responsible for a spill of oil or hazardous materials in Idaho State is required by Idaho State law to notify the following:

Idaho Office of Emergency Management (IOEM)/
Idaho Emergency Medical Services (EMS)
24-hour Emergency Notification
1-800-632-8000 or 911 (in Idaho)
1-208-846-7610 (outside Idaho)

For spills and Marine Casualties (defined by 46CFR4.03) in coastal navigable waters of Puget Sound, Strait of Juan de Fuca, and the Washington Coast north of the Queets River contact:

Sector Puget Sound
1-206-217-6001

For spills and Marine Casualties (defined by 46CFR4.03) occurring in coastal navigable waters of the Columbia River, the Oregon Coast, and the Washington Coast south of the Queets River contact:

Sector Columbia River
1-503-861-2242

For spills occurring in inland waters of Washington, Oregon, Idaho contact:

U.S. Environmental Protection Agency, Seattle
1-206-553-1263

If the Seattle EPA office is not reachable by telephone, notifications may be made to:

U.S. Environmental Protection Agency, San Francisco
1-800-300-2193
U.S. Environmental Protection Agency, Denver
1-303-293-1788

Spills into water shared by two states must be reported to both.

REQUIRED NOTIFICATIONS BY NW AREA COMMITTEE MEMBERS

Initial Emergency Communication

The primary emergency notification list for this plan is located in the Forward, Page v-vii. Additional emergency contact information is listed in Section 9106: Roles and Contacts.

Notification Guidelines for FOSC Agency

The lead federal response agency shall also ensure that all appropriate notifications are made to tribes, natural resource trustees and states. The OSC shall promptly notify Natural Resources Trustees of discharges or releases according to the following Notification Guidelines under their

jurisdiction. The OSCs shall coordinate all response activities with the Natural Resource Trustees.

Trustees are defined in the National Contingency Plan as federal, state, or tribal officials who are to act on behalf of the public to manage and control natural resources. In addition to the operational notifications described above, trustees must be notified of oil spills and hazardous materials incidents that may impact or threaten natural resources under their care. Trustees in the northwest area and the circumstances when they must be notified are described below. When it is unclear if an incident meets a given trustee's notification threshold, the trustee should be notified.

Natural Resource Trustee Notification Numbers for this plan are located in below and in Chapter 9106.

Federal

All spills and hazardous material releases are required to be reported to the National Response Center (NRC) by telephone (1-800-424-8802) or via the NRC's website: http://www.nrc.uscg.mil/. In addition to the NRC, chemical incidents involving any chemical listed in Appendix A (6 CFR Part 27) must also be reported to the National Infrastructure Coordination Center (NICC) as a potential chemical facility anti-terrorism standards (CFATS) related incident at 202-282-9201 or via e-mail to NICC@hq.dhs.gov.

Secretary of Commerce – NOAA

NOAA Emergency Response Division: (206) 526-6322
Northwest Scientific Support Coordinator (SSC)
Seattle, Washington

The NOAA SSC will notify the appropriate DOC line offices and no further action to contact DOC for notification purposes is required.

When the FOSC, in exercising best professional judgment, determines any of the following, contact the NOAA SSC:

1. Petroleum product spills, or other hazardous material discharges, greater than 500 gallons.
2. The release or discharge impacts known marine sensitive resources, such as:
    a. Marine threatened and endangered species
    b. Areas that have been identified as a sensitive site in the ACP/GRP
3. For incidents that have the potential to release more than 500 gallons or the FOSC deems it appropriate to alert the NOAA SSC, such as vessel groundings.
4. For any spill or release, or threat of a spill or release, that could potentially impact:
    - The Olympic Coast National Marine Sanctuary;
    - Padilla Bay National Estuarine Research Reserve; and
    - South Slough National Estuarine Research Reserve.

5. Any time scientific support or expertise of the DOC natural resource trustee (or any other natural resource trustee) is needed regardless of the reason.

For information on what NOAA can provide for Scientific Support see section Chapter 9000, Section 9106.1 "Department of Commerce".

Secretary of the Interior

Department of the Interior: (503) 326-2489 (office); (503) 720-1212 (cell phone)
Regional Environmental Officer (REO)
Portland, Oregon

The DOI REO will notify the appropriate DOI bureaus and no further action to contact DOI for notification purposes is required.

Contact the DOI REO:

1. For all oil spills greater than 500 gallons; and
2. For all major potential incidents such as vessel groundings

For oil spills less than 500 gallons and all chemical spills, the FOSC should exercise best professional judgment in determining whether the incident has the potential to impact to trust resources. When in doubt, please err on the side of over-notification.

Tribes

Tribes with reservation and/or usual and accustom hunting or fishing grounds within the states of Idaho, Oregon, and Washington, must be notified by the Federal On-Scene Coordinator in the event a spill may impact or threaten to impact any of their resources. Since boundaries for usual and accustom hunting and fishing grounds may be complicated, it is recommended that the Department of the Interior and/or the Bureau of Indian Affairs (BIA) be consulted to ensure proper notifications are made. Tribes must also be notified if there may be a potential impact from a spill or spill response operations to any tribal cultural resources. Again, DOI and BIA may assist in identification of tribes for notification; however, it remains the FOSC's responsibility to make all proper notifications to tribes.

Contact information for BIA offices can be found in Section 9106.

State

Washington

1. The Washington Emergency Management Division (EMD)
   - All spills of oil into Washington State waters must be immediately reported to the Washington State EMD. Marine casualties, disabled vessels, near-miss incidents or oiled wildlife should also be reported. See "Required Notifications" in the Forward in this document.

2. The Washington State Department of Ecology
   - For spills of hazardous substances, the spiller is required to notify the nearest regional office of Ecology. See "Required Notifications" in the Forward in this document.

Oregon

The Oregon Emergency Response System (OERS)

- All spills of a reportable quantity of oil or hazardous substances in Oregon must be reported by the spiller to OERS. See "Required Notifications" in the Forward in this document.
- Reportable Quantities.
  - **For oil.** If spilled into waters of the state, or escape into waters of the state is likely, any quantity of oil that would produce a visible oily slick, oily solids, or coat aquatic life, habitat or property with oil, but excluding normal discharges from properly operating marine engines; if spilled on the surface of the land, any quantity of oil over one barrel (42 gallons).
  - **For hazardous substances.** See OAR 340-142-0050.

Idaho

Idaho Office of Emergency Management/Idaho Emergency Medical Services (EMS)

- The party responsible for a spill in Idaho State waters is required by Idaho State law to notify OEM/EMS. See "Required Notifications" in the Forward in this document.

Downstream Notification Guidelines

Downstream federal and tribal partners will be notified by the FOSC or their representative. Downstream state, county and municipal partners will be notified by the State OSC or their representative.

FIRST RESPONDER GUIDELINES!

REMAIN UPWIND, UPHILL OR UPSTREAM OF THE INCIDENT. FROM A SAFE DISTANCE, assess the situation. Use binoculars, if available, to view the scene. Attempt to determine if radiological materials or hazardous substances are present. Observe and note the following:

- Effects on people, animals, and the environment;
- Container types, markings, placards and labels. If available, use the DOT Emergency Response Guidebook for reference;
- Signs of any released or discharged substances and any unusual or pungent odors (move farther away or upwind if you detect an odor and are not positive it is safe);
- Wind direction and prevailing weather;
- Distance and direction of nearby dwellings; and
- Distance and direction of any nearby surface water.

The initial responder shall then make notifications as listed in the preceding pages.
The initial responder shall not enter an area where the responder may become a victim, *even to rescue another*.

Until help arrives, the initial responder should:

- Cordon off the incident area and establish a safe zone. If chemical vapors or flammable/ explosive materials are involved, evacuate all persons from the immediate area and remain upwind of the incident area; if sources of radiation or radioactive materials are suspected to be involved, use the principles of time, distance and shielding to reduce potential exposure;
- Enter the incident area only if properly trained and equipped with appropriate protective clothing and equipment;
- Render first aid to victims; be sure to notify medical personnel if radiation exposure or contamination is suspected;
- Serve as an on-scene communication point;
- Brief the response team leader or incident commander upon arrival.

Initial Assessment/Information Check-off List

The following information should be collected for all spills reported to member agencies:

Date and Time of Call:

Caller Name, Address, & Phone Number:

Name of Person Taking the Report:

Vessel/Facility/Spiller Information:

1. Name of Potentially Responsible Party
2. Name of vessel/facility, railcar/truck number or other identifying information
3. Type and size of vessel/facility
4. Total quantity of fuel on board or in tank
5. Nationality (vessel only)
6. Location of Incident (i.e., street address, lat/long, mile post)
7. Date and time of incident (or when discovered)
8. Description of spill (i.e., size, color, smell, etc.)
9. Type of incident (i.e., explosion, collision, tank failure, grounding, etc.)

10. Material released

11. Source of material released

12. Estimated amount released

13. Total potential quantity that could be released (i.e., total quantity in tank or on board)

14. Environmental media impacted or potentially impacted by spill (i.e., air, water, ground/soil)

15. Weather/sea conditions

16. Point of contact (i.e., Responsible Party name, phone and address)

17. Vessel/facility agent(s) (i.e., name and phone)

18. Name and contact information of insurance carrier

19. Number and type of injuries or fatalities

20. Description of who is on-scene and what response activities are being done or have been completed

21. Have evacuations occurred

22. Other Agencies Notified
    a. Department of Commerce (NOAA)
    b. Department of the Interior

First Federal Official On Scene

The first federal official affiliated with a National Response Team (NRT) member agency to arrive at the scene of a discharge should coordinate activities under the National Contingency Plan (NCP); and is authorized to initiate, in consultation with the pre-designated Federal On-Scene Coordinator (OSC), any necessary actions normally carried out by the FOSC until the arrival of the pre-designated FOSC. This official may initiate federal fund-financed actions only as authorized by the pre-designated FOSC.

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7000 Hazardous Substances (Including Weapons of Mass Destruction) Unique Information

8000 Sector Columbia River's Marine Firefighting Contingency Plan

8100 Sector Puget Sound Marine Firefighting Plan

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Chapter 1000

Introduction

Northwest Area Committee Expectations:

- Northwest Area Committee members are aware of the structure of the consolidated regional and area plan, and all interagency partners that may or should be involved in an oil/hazardous materials incident.

Critical Elements of Chapter 1000:

- Identifies United States Environmental Protection Agency and United States Coast Guard Federal On-Scene Coordinators Jurisdictional Boundary
- Outlines response authorities and policy for Northwest Area Committee members.
- Provides information on interagency response partners and what may trigger their involvement in an oil/hazardous materials incident. Outlines response commitments for Region Ten.

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Acronyms and Abbreviations Used in all Chapters of the NWACP

°F	degrees Fahrenheit
ACP	Area Contingency Plan
ADV	abandoned and derelict vessel
AEGL	Acute Exposure Guideline Level
AIHA	American Industrial Hygiene Association
ALOHA	Aerial Locations of Hazardous Atmospheres
AM	amplitude modulation
APCO	Associated Public Safety Communications Officers
API	American Petroleum Institute
AQI	Air Quality Index
ARD	NOAA Office of Response and Restoration Assessment and Restoration Division
ARES	Amateur Radio Emergency Services
ASTM	American Society for Testing and Materials
ATF	United States Treasury – Bureau of Alcohol, Tobacco, Firearms, and Explosives
ATSDR	Agency for Substances and Disease Registry
ATV	all-terrain vehicle
BC	British Columbia
BIA	United States Bureau of Indian Affairs
BLM	United States Bureau of Land Management
BLS	basic life support
BNM	United States Coast Guard Broadcast Notice to Mariners
BNSF	Burlington Northern Santa Fe Railway
BOR	United States Bureau of Reclamation
BSEE	United States Bureau of Safety and Environmental Enforcement
CAM	Community Air Monitoring
CAMP	Community Air Monitoring Plan
CAMEO	Computer-Aided Management of Emergency Operations
CANUSPAC	Joint Canada-United States Marine Pollution Contingency Plan Pacific
CANUSWEST	Canada-United States Joint Inland Pollution Contingency Plan
CCFD6	Clark County Fire District 6
CCGD13	Commander, United States Coast Guard District Thirteen
CDO	Command Duty Officer
CEMNET	Comprehensive Emergency Management Network
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESG	Cleanup Endpoints Stakeholder Group
CFAT	Chemical Facility Anti-Terrorism Standards
CFR	Code of Federal Regulation
cm	centimeters
CO_2	carbon dioxide

Coastal JRT	Joint Coastal Pollution Response Team
COTP	Captain of the Port
CRITFC	Columbia River Inter-Tribal Fish Commission
CTCSS	Continuous Tone-Coded Squelch System
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DEQ	Oregon Department of Environmental Quality
DHS	United States Department of Homeland Security
dilbit	Diluted Bitumen
DLI	Washington State Department of Labor and Industries
DNR	Washington State Department of Natural Resources
DOC	United States Department of Commerce
DOD	United States Department of Defense
DOE	United States Department of Energy
DOI	United States Department of the Interior
DOJ	United States Department of Justice
DOT	United States Department of Transportation
DQO	Data Quality Objective
DSL	Department of State Lands
ECC	Emergency Coordination Center
Ecology	Washington State Department of Ecology
EEZ	Economic Exclusive Zone
EFH	Essential Fish Habitat
EMD	Washington State Emergency Management Division
EMP	Emergency Management Program
EMS	Emergency Medical Services
ENVL	Environmental Unit Leader (also referred to as EUL)
EOC	Emergency Operations Center
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act.
ERPG	Emergency Response Planning Guideline
ERTV	emergency response towing vessel
ESA	Endangered Species Act
ESA MOA	*Inter-agency Memorandum of Agreement Regarding Oil Spill Planning and Response Activities under the Federal Water Pollution Control Act's National Oil and Hazardous Substances Pollution Contingency Plan and the Endangered Species Act*
ESI	Environmental Sensitivity Index
EU	Environmental Unit
EUL	Environmental Unit Leader (also referred to as ENVL)
FBI	Federal Bureau of Investigation

FCC	Federal Communications Commission
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FLAT	Federal Lead Administrative Trustee
FM	frequency modulation
FMP	Fishery Management Plan
FOSC	Federal On-Scene Coordinator
FOSCR	Federal On-Scene Coordinator's Representative
FPAAC	Fire Protection Agency Advisory Council
fsw	feet seawater
ft^2	square feet
FTP	file transfer protocol
F/V	fishing vessel
FWPCA	Federal Water Pollution Control Act
g/cm^3	grams per cubic centimeter
GETS	Government Emergency Telecommunications Service
GIS	geographic information system
gpm	gallons per minute
GPS	global positioning system
GRP	Geographic Response Plan
GPVRFO	Group V Residual Fuel Oils
GT	gross tons
HazMat	Hazardous Material
HAZWOPER	Hazardous Waste Operations and Emergency Response
HCA	high consequence area
HCRTS	Historical/Cultural Resources Technical Specialist
HEEDS	Helicopter Emergency Egress Device System
HF	high frequency
HHS	United States Department of Health and Human Services
HMS	Highly Migratory Species
HPS	Historic Properties Specialist
HSIN	Homeland Security Information Network
HSRAF	Hazardous Substance Remedial Action Fund
HVPA	High Volume Port Area
IAG	Interagency Agreement
IAP	Incident Action Plan
IC/UC	Incident Commander/Unified Command
ICS	Incident Command System
IDFG	Idaho State Department of Fish and Game
IDLH	Immediately dangerous to life or health
IOEM	Idaho Office of Emergency Management

ID	identifier
IMAAC	Interagency Modeling and Atmospheric Assessment Center
IMO	International Maritime Organization
IMT	Incident Management Team
IO	Information Officer
IOSA	Island Oil Spill Association
ISB	In-Situ Burn
IT	Internet Technology
JHOC CDO	Joint Harbor Operations Center Command Duty Officer
JIC	Joint Information Center
km	kilometer
LAPIO	Low American Petroleum Institute Oil
LEPC	Local Emergency Planning Committee
LNO	Liaison Officer
LOC	Level of Concern
LOFR	Liaison Officer
MARPLOT	Mapping Application for Response, Planning and Local Operational Tasks
MaST	Marine Science and Technology Center
MERS	Mobile Emergency Response System
MFSA	Maritime Fire & Safety Association
mg/m^3	milligrams per cubic meter
MHz	megahertz
mm	millimeters
MMI	Marine Mammal Institute
MMPA	Marine Mammal Protection Act
MMSN	Marine Mammal Stranding Network
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MRL	Minimal Risk Level
MRU	Mobile Rehabilitation Unit
MSA	Magnuson Stevens Fisheries Management and Conservation Act
MSDS	Material Safety Data Sheet
MSRC	Marine Spill Response Corporation
MTS	Marine Transportation System
NAAQS	National Ambient Air Quality Standards
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEB	Net Environmental Benefit
NEBA	Net Environmental Benefit Analysis
NFT	no further treatment
NGO	non-government organization

NHPA	National Historic Preservation Act
NIMS	National Incident Management System
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOO	no observed oil
NOTAM	Notice to Airmen
NPFC	National Pollution Fund Center
NPS	National Park Service
NRC	National Response Center
NRDA	Natural Resource Damage Assessment
NRF	National Response Framework
NRS	National Response System
NRT	National Response Team
NS/EP	National Security and Emergency Preparedness
NSF	National Strike Force
NVIC 01-05	Navigation and Inspection Circular 01-05
NWAC	Northwest Area Committee
NWACP	Northwest Area Contingency Plan
NWIFC	Northwest Indians Fish Commission
OAR	Oregon Administrative Rules
OCNMS	Olympic Coast National Marine Sanctuary
ODA	Oregon State Department of Agriculture
ODFW	Oregon State Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OEM	Oregon Emergency Management
OERS	Oregon Emergency Response System
OHA	Oregon State Health Authority
OP	operational period
OPS	Operations Section
OPA	Oil Pollution Act of 1990
OPHD	Oregon Public Health Division
ORS	Oregon Revised Statutes
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
OSLTF	Oil Spill Liability Trust Fund
OSP	Oregon State Police
OSRA	Oil Spill Response Account
OSRO	Oil Spill Removal Organization
PA	Programmatic Agreement on Protection of Historic Properties During Emergency Response Under the National Oil and Hazardous Substance Pollution Contingency Plan

PAC	Protective Action Criteria
PAH	polycyclic aromatic hydrocarbons
PBX	power branch exchange
PCB	polychlorinated biphenyl
PDA	personal digital assistant
PEL	permissible exposure limit
PFMC	Pacific Fisheries Management Council
PIO	Public Information Officer
PL	Private Line
PM 10	particulate matter up to 10 microns in diameter
PM 2.5	particulate matter up to 2.5 microns in diameter
POLREP	Pollution Report
POR	Place of Refuge
POSSE	Program of Ship Salvage Engineering
PPE	personal protective equipment
ppm	parts per million
PREP	National Preparedness for Response Exercise Program
PRFA	Pollution Removal Funding Authorization
PRS	Petroleum Radio Service
PSC	Planning Section Chief
psi	pounds per square inch
PSMFC	Puget Sound Marine Firefighting Commission
PSTN	Public Switched Telephone Network
QA/QC	Quality Assurance/Quality Control
Q&A	question and answer
QRC	quick response card
RACES	Radio Amateur Civil Emergency Service
Rad	Radiation
RAR	Resources at Risk
RBM	Response Boat Medium
RCP	Regional Contingency Plan
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
READ	National Response Framework, Resource Advisor
REO	Regional Environmental Officer
RHB	rigid-hulled inflatable boat
ROV	remotely operated vehicle
RP	Responsible Party
RPIC	Responsible Party Incident Commander
RRT 10	Region 10 Regional Response Team
RRT	Regional Response Team

SAR	Search and Rescue
SARA	Superfund Amendments and Reauthorization Act
SCAPA	Subcommittee on Consequence Assessment and Protective Actions
SCAT	Shoreline Cleanup Assessment Technique
SDS	Safety Data Sheet
SERC	State Emergency Response Commission
Services	United States Department of the Interior, Fish and Wildlife Service and National Oceanic and Atmospheric Administration, National Marine Fisheries Service
SHPO	State Historic Preservation Office
SIP	Seafood Inspection Program
SIR	shoreline inspection report
SMART	Special Monitoring of Applied Response Technologies
SOFR	Safety Officer
SOP	Standard Operating Procedure
SOSC	State On-scene Coordinator
SPLASH	Structure of Populations, Levels of Abundance, and Status of Humpbacks
SSB	single-sideband
SSC	Scientific Support Coordinator
STAG	Shoreline Treatment Advisory Group
STR	shoreline treatment recommendation
SU	Situation Unit
SUPSALV	Office of the Director of Ocean Engineering Supervisor of Salvage and Diving
TAT	Turnaround Time
TCC	Transportable Communications Center
TCS	Tribal Coordination Specialist
TEEL	Temporary Emergency Exposure Limit
TERC	Tribal Emergency Response Commissions
TFR	Temporary Flight Restriction
THPO	Tribal Historic Preservation Office
TIC	Toxic Industrial Chemicals
TOSC	Tribal On-Scene Coordinator
T/V	tanker vessel
U&A	Usual and Accustomed Area
UHF	ultra-high frequency
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UTB	Utility Boat Large
VHF	very high frequency

VIP	very important person
VOC	Volatile Organic Compounds
VRP	vessel response plan
V-SORs	Vessel Submerged Oil Recovery System
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WDOH	Washington State Department of Health
WISHA	Washington Industrial Safety and Health Administration
WMD	Weapons of Mass Destruction
WP&RC	Washington State Parks and Recreation Commission
WRRL	Western Response Resource List
WSP	Washington State Patrol.

Glossary of Terms Used in all Chapters of the NWACP

Area Committee, as provided for by Clean Water Act sections 311(a)(18) and (j)(4), means the entity appointed by the President consisting of members from qualified personnel of federal, state, and local agencies with responsibilities that include preparing an Area Contingency Plan for an area designated by the President.

Area Contingency Plan (ACP), as provided for by Clean Water Act sections 311(a)(19) and (j)(4), means the plan prepared by an Area Committee that is developed to be implemented in conjunction with the National Contingency Plan and Regional Contingency Plan, in part to address removal of a worst case discharge and to mitigate or prevent a substantial threat of such a discharge from a vessel, offshore facility, or onshore facility operating in or near an area designated by the President.

Average Most Probable Discharge means a discharge of 1 percent of the volume of the worst-case discharge.

Bioremediation agents are microbiological cultures, enzyme additives, or nutrient additives that are deliberately introduced into an oil discharge and that will significantly increase the rate of biodegradation to mitigate the effects of the discharge.

Captain of the Port Sector Columbia River (COTP) is the Commander, Sector Columbia River is designated at the COTP. The COTP is responsible for administering and directing all USCG activities relating to Port Safety and Security, Marine Environmental Response, and Waterway Management functions.

Captain of the Port Sector Puget Sound (COTP) is the Commander, Sector Puget Sound is designated at the COTP. The COTP is responsible for administering and directing all USCG activities relating to Port Safety and Security, Marine Environmental Response, and Waterway Management functions.

CERCLA is the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986.

Claim for purposes of a release under CERCLA, means a demand in writing for a sum certain; for purposes of a discharge under the Clean Water Act, it means a request, made in writing for a sum certain, for compensation for damages or removal costs resulting from an incident.

Commander, United States Coast Guards District Thirteen is the United States Coast Guard District Commander (Admiral) who exercises operational and administrative control over all USCG units assigned to the district (with few exceptions) and acts as a direct representative of the Commandant.

Consist means the list of what each rail car is carrying. The engineer has this document.

Dispersants are chemical agents that emulsify, disperse, or solubilize oil into the water column or promote the surface spreading of oil slicks to facilitate dispersal of the oil into the water column.

Federal On-Scene Coordinator means the federal official predesignated by the United States Environmental Protection Agency or the United States Coast Guard to coordinate and direct responses under subpart D, or the government official designated by the lead

agency to coordinate and direct removal actions under subpart E of the National Contingency Plan. This person represents the federal government in Unified Command.

First Federal Official means the first federal representative of a participating agency of the National Response Team to arrive at the scene of a discharge or a release. This official coordinates activities under the National Contingency Plan and may initiate, in consultation with the On-Scene Coordinator, any necessary actions until the arrival of the predestinated On-Scene Coordinator. A state with primary jurisdiction over a site covered by a cooperative agreement will act in the stead of the first federal official for any incident at the site.

Fund or *Trust Fund* means the Hazardous Substance Superfund established by section 9507 of the Internal Revenue Code of 1986.

Incident Commander is the person who is directly responsible for coordinating and directing a comprehensive response to the emergency situation. Designated by the responsible party or Lead Agency.

Industry It is the responsibility of a vessel owner, agent, master, operator, or person in charge, in accordance with 46 CFR Subpart 4.05, to immediately notify the nearest USCG Sector Office, Marine Inspection Office or Coast Guard Group Office whenever a vessel is involved in a marine casualty after addressing the immediate resultant safety concerns. Marine causalities include an occurrence materially and adversely affecting the vessel's seaworthiness or fitness for service or route, including but not limited to fire, flooding, or failure of or damage to fixed fire-extinguishing systems, lifesaving equipment, auxiliary power-generating equipment, or bilge-pumping systems (46 CFT 4.05-1(a)(4)).

Joint Harbor Operations Center Command Duty Officer directs operational responses at the direction of Commander Sector Puget Sound, and holds ultimate responsibility for all operational decision and delegated to the watch, and determines which partners need to be informed concerning any particular incident or operation.

Lead Agency means the agency that provides the On-Scene Coordinator/Remedial Project Manager to plan and implement response actions under the National Contingency Plan. The United States Environmental Protection Agency (EPA), the United States Coast Guard (USCG), another federal agency, or a state (or political subdivision of a state) operating pursuant to a contract or cooperative agreement executed pursuant to section 104(d)(1) of CERCLA, or designated pursuant to a Superfund Memorandum of Agreement entered into pursuant to subpart F of the National Contingency Plan or other agreements may be the lead agency for a response action. In the case of a release of a hazardous substance, pollutant, or contaminant, where the release is on, or the sole source of the release is from, any facility or vessel under the jurisdiction, custody, or control of Department of Defense (DOD) or Department of Energy (DOE), then DOD or DOE will be the lead agency. Where the release is on, or the sole source of the release is from, any facility or vessel under the jurisdiction, custody, or control of a federal agency other than EPA, the USCG, DOD, or DOE, then that agency will be the lead agency for remedial actions and removal actions other than emergencies. The federal agency maintains its lead agency responsibilities whether the remedy is selected by the federal agency for non-National Priority List sites or by EPA and the federal agency or by EPA alone under CERCLA section 120. The lead agency will consult with the support agency, if one exists, throughout the response process.

Higher Volume Port Areas include the Strait of Juan de Fuca at Port Angeles, Washington (including any water area within 50 nautical miles seaward); Puget Sound to the Strait of Juan de Fuca at Cape Flattery, Washington (including any water area within 50 nautical miles seaward); and Puget Sound.

Management of Migration means actions that are taken to minimize and mitigate the migration of hazardous substances or pollutants or contaminants and the effects of such migration. Measures may include, but are not limited to, management of a plume of contamination, restoration of a drinking water aquifer, or surface water restoration.

Manifest Train is a train in which each car is not carrying the same commodity.

Marine Firefighting Coordinator is the officer at Sector Puget sound responsible to the Captain of the Port, for overall supervision of the USCG marine firefighting support operations and for execution of this plan.

Marine Inspector means the officer at the respective USCG Sector responsible for on-scene execution of COTP Marine Firefighting support responsibilities.

Maximum Most Probable Discharge is a discharge of the lesser of 1,200 barrels or 10 percent of the volume of a worst-case discharge.

National Pollution Funds Center is the entity established by the Secretary of Transportation whose function is the administration of the Oil Spill Liability Trust Fund (OSLTF). The center's duties include providing appropriate access to the OSLTF for federal agencies and states for removal actions and for federal trustees to initiate the assessment of natural resource damages; providing appropriate access to the OSLTF for claims; and coordinating cost recovery efforts.

National Strike Force Coordination Center is defined by sections 311(a)(23) and (j)(2) of the Clean Water Act, as amended by the Oil Pollution Act of 1990 and refers to the entity established by the secretary of the department in which the United States Coast Guard is operating at Elizabeth City, North Carolina. Its responsibilities include providing a variety of technical assistance and other resources to a Federal On-Scene Coordinator, and administration of the United States Coast Guard Strike Teams established under the National Contingency Plan.

Natural Resources are land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States (including the resources of the exclusive economic zone defined by the Magnuson Fishery Conservation and Management Act of 1976), any state or local government, any foreign government, any Indian tribe, or, if such resources are subject to a trust restriction on alienation, any member of an Indian tribe.

Navigable Waters (7) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the United States Environmental Protection Agency. As defined in 40 CFR §230.3.

Non-floating oils refer to heavy oils and Group V oils that exhibit qualities which could, due to the oil characteristics, weathering, environmental factors or how they are discharged, potentially cause the oils to submerge or sink. Examples of these types of oils

include, but are not limited to, Diluted Bitumen (dilbit), Group V Residual Fuel Oils (GPVRFO), Low API Oil (LAPIO), Asphalt and Asphalt Products.

Non-persistent or Group 1 Oil means a petroleum-based oil that, at the time of shipment, consists of hydrocarbon fractions.

(1) At least 50 percent of which by volume, distill at a temperature of 340 degrees Celsius (645 degrees Fahrenheit); and

(2) At least 95 percent of which by volume, distill at a temperature of 370 degrees Celsius (700 degrees Fahrenheit).

Offshore Facility as defined by section 101(17) of CERCLA and section 311(a)(11) of the Clean Water Act, means any facility of any kind located in, on, or under any of the navigable waters of the United States, and any facility of any kind that is subject to the jurisdiction of the United States and is located in, on, or under any other waters, other than a vessel or a public vessel.

Oil as defined by section 311(a)(1) of the Clean Water Act, means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. Oil, as defined by section 1001 of the Oil Pollution Act means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil, but does not include petroleum, including crude oil or any fraction thereof, that is specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of section 101(14) of CERCLA and that is subject to the provisions of that Act.

Oil Spill Liability Trust Fund means the fund established under section 9509 of the Internal Revenue Code of 1986 (26 United States Code 9509).

On-Scene Commander is a designation per the National Search and Rescue (SAR) Plan who prosecutes the SAR mission on-scene and has operational control of all SAR response united on scene. This is not be confused with the National Incident Management System definition for “Incident Commander”, who is the person responsible for all aspects of an emergency response, including quickly developing incident objectives, managing all incident operations, application of resources, and having responsibility for all persons involved.

Primary Resource Provider is listed in the vessel response plan as the principal entity contracted for providing specific salvage and/or marine firefighting services and resources, when multiple resource providers are listed for that service, for each of the COTP zones in which a vessel operates. The primary resource provider will be the point of contact for the plan holder, the FOST and the UC in matters related to specific resources and services as required in 155.4030(s).

Puget Sound Vessel Traffic Service is a Branch of the Waterway Management Division of Sector Puget Sound. Its mission is to prevent groundings, collisions, and environmental damage while supporting navigation safety mission goals.

Onshore Facility means any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under any land within the United States other than submerged land.

Persistent Oil means a petroleum-based oil that does not meet the distillation criteria for a

non-persistent oil. For the purposes of this subpart, persistent oils are further classified based on specific gravity as follows:

(1) Group II - specific gravity of less than .85.
(2) Group III - specific gravity equal to or greater than .85 and less than .95.
(3) Group IV - specific gravity equal to or greater than .95 and less than or equal to 1.0.
(4) Group V - specific gravity greater than 1.0.

Preliminary Assessment under CERCLA means review of existing information and an off-site reconnaissance, if appropriate, to determine if a release may require additional investigation or action. A Preliminary Assessment may include an on-site reconnaissance, if appropriate.

Primary Dispersant Staging Site means a site designated within a Captain of the Port zone that has been identified as a forward staging area for dispersant application platforms and the loading of dispersant stockpiles. Primary staging sites are typically the planned locations where platforms load or reload dispersants before departing for application at the site of the discharge and may not be the locations where dispersant stockpiles are stored or application platforms are home-based.

Radiation Emergency Response Team is a group composed of individuals that will respond to any radioactive materials incident.

Rail Car Owners are the car owners who are responsible for keeping the tank car in compliance with the Hazardous Materials Regulations (inspections/repairs etc.). Rail car owners often lease the cars to the shipper for use.

Rail Commodity Owner means the owner of the product being shipped by rail. In Washington State, the owner of the oil being shipped has responsibility to respond to incidents involving that oil. The owner of the oil may be the shipper, consignee, or a beneficial owner. The shipper would be contacted through the submitted emergency response contact listed on the shipping papers. It would be the shipper's responsibility to contact the owner of the oil. If using Chemtrec or another service provider, the papers must identify the person (by name or contract number) who has a contractual agreement with the service provider (49 Code of Federal Regulations 172.201 (d)).

Rail Consignee is the company receiving the rail shipment at the destination.

Rail Shipper is the party that certifies and offers the hazardous material package for transportation. The hazardous material must be properly classified and packaged by the shipper. The shipper will then submit shipping instructions and hazardous material information to the transporter (carrier). The shippers are also required to provide and maintain emergency response information.

Rail Trackage Agreements means a type of agreement that allow carriers to operate on lines owned by other companies. Regardless of whose trains are operating on the line, the track owner is responsible for the Emergency Response phase of the incident. Once the emergency is over, cleanup or other monitoring work may be transferred to the transporter. Where trackage rights do not exist, the shipment continues to destination after transferring the material at an "Interchange Point." At this "Interchange Point" the responsibility shifts to the new line owner.

Rail Transporter (carrier) is the company required by federal law to transport from origin to destination hazardous materials that meet the United States Department of Transportation requirements and as certified by the "shipper." Carriers are responsible for materials that are in transport on their system. Carriers usually operate on their own lines but often have trackage agreements in areas where they don't own the lines.

Regional Hazardous Materials Response Team means a team of local emergency responders trained, equipped, and organized to respond to oil and hazardous materials incidents in a given geographic area.

Release, as defined by section 101(22) of CERCLA, means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant), but excludes any release that results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such persons; emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine; release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954, if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of this act, or, for the purposes of section 104 of CERCLA or any other response action, any release of source, byproduct, or special nuclear material from any processing site designated under section 102(a)(1) or 302(a) of the Uranium Mill Tailings Radiation Control Act of 1978 (42 United States Code. 7901 et seq.); and the normal application of fertilizer. For purposes of the National Contingency Plan, release also means threat of release.

Remove or Removal, as defined by section 311(a)(8) of the Clean Water Act, refers to containment and removal of oil or hazardous substances from the water and shorelines or the taking of such other actions as may be necessary to minimize or mitigate damage to the public health or welfare of the United States (including, but not limited to, fish, shellfish, wildlife, public and private property, and shorelines and beaches) or to the environment. For the purpose of the National Contingency Plan, the term also includes monitoring of action to remove a discharge. As defined by section 101(23) of CERCLA, remove or removal means the cleanup or removal of released hazardous substances from the environment; such actions as may be necessary taken in the event of the threat of release of hazardous substances into the environment; such actions as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances; the disposal of removed material; or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare of the United States or to the environment, which may otherwise result from a release or threat of release. The term includes, in addition, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under section 104(b) of CERCLA, post-removal site control, where appropriate, and any emergency assistance that may be provided under the Disaster Relief Act of 1974. For the purpose of the National Contingency Plan, the term also includes enforcement activities related thereto.

Resource Provider is an entity that provides personnel, equipment, supplies, and other capabilities necessary to perform salvage and/or firefighting services identified in the vessel response plan.

Response Community is any person who has a role in spill response.

Responsible Party Incident Commander means the representative designated by the spiller to coordinate and direct the spillers' assets and actions. This person represents the spiller in Unified Command. They do not use the title On-Scene Coordinator, because that term is for those with regulatory authority for spill response.

Search and Rescue Mission Coordinator is a designation per the National SAR Plan. This person is responsible for planning and operational coordination and control of SAR missions. This position has overall responsibility for execution of SAR responsibilities normally designated by the Commander of the cognizant USCG Sector or USCG District 13.

Spill Management Team refers to the personnel identified to staff the organizational structure identified in a response plan to manage response plan implementation.

State On-Scene Coordinator means the representative designated by the State to coordinate and direct state assets and authorities during an oil or hazardous materials response. This person represents the state in Unified Command.

State means the several states of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Commonwealth of the Northern Marianas, and any other territory or possession over which the United States has jurisdiction. For purposes of the National Contingency Plan (NCP), the term includes Indian tribes as defined in the NCP, except where specifically noted. Section 126 of CERCLA provides that the governing body of an Indian tribe shall be afforded substantially the same treatment as a state with respect to certain provisions of CERCLA. Section 300.515(b) of the NCP describes the requirements pertaining to Indian tribes that wish to be treated as states under CERCLA.

Sinking Agents are additives applied to oil discharges to sink floating pollutants below the water surface.

Site refers to the area covered by the extent of contamination and all suitable areas in very close proximity to the contamination necessary for implementation of a response action.

State Emergency Response Commission is a group of officials appointed by governors to implement the provisions of Title III the Superfund Amendments and Reauthorization Act of 1986.

Substantial Threat of a discharge means any incident or condition involving a facility that may create a risk of discharge of oil. Such incidents include, but are not limited to, storage tank or piping failures, aboveground or underground leaks, fires, explosions, flooding, spills contained within the facility, or other similar occurrences.

Superfund. See CERCLA.

Surface Collecting Agents are chemical agents that form a surface film to control the layer thickness of oil.

Surface Washing Agent is any product that removed oil from solid surfaces, such as bleaches and rocks, through a detergency mechanism and does not involve dispersing or solubilizing the oil into the water column.

Tank vessel as defined by section 1001 of the Oil Pollution Act means a vessel that is constructed or adapted to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue, and that:

(1) is a vessel of the United States;
(2) operates on the navigable waters; or
(3) transfers oil or hazardous material in a place subject to the jurisdiction of the United States.

Tier is the combination of required resources and the times within which the resources must arrive on scene.

Trustee is an official of a federal natural resources management agency designated in subpart G of the National Contingency Plan or a designated state official or Indian tribe or, in the case of discharges covered by the Oil Pollution Act, a foreign government official, who may pursue claims for damages under section 107(f) of CERCLA or section 1006 of the Oil Pollution Act.

Unit Train means a train that is carrying a single commodity in all cars. For example, a unit train of crude oil would be one in which every car being transported by the engines was full of crude oil.

United States Coast Guard Group/Air Station means Group Commands are established to provide coordination and efficiency of achievement of the basic missions by all operating units in their geographical area.

United States Coast Guard Sector Columbia River is responsible for administering and directing all USCG activities relating to applicable navigation, shipping, transportation, and environmental laws and regulations within the COTP. In addition, the Sector Commander provides coordination and efficiency of achievement of the basic missions by all operating units in their geographical area.

United States Coast Guard Sector Puget Sound is responsible for administering and directing all USCG activities relating to applicable navigation, shipping, transportation, and environmental laws and regulations within the Captain of the Port Puget sound. In addition, the Sector Commander provides coordination and efficiency of achievement of the basic missions by all operating units in their geographic area. Sector Puget Sound was established in 2010 which merged Sector Puget Sound and USC/Air Station Port Angeles into one command.

Vessel, as defined by section 101(28) of CERCLA, means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water; and, as defined by section 311(a)(3) of the Clean Water Act, means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water other than a public vessel.

Waterfront Facility are all piers, wharves, docks, and similar structures to which vessels may be secured; areas of land, water, or land and water under and in immediate proximity to them; buildings on such structures and equipment; and materials on or in such buildings.

Worst Case Discharge, as defined by section 311(a)(24) of the Clean Water Act, means, in the case of a vessel, a discharge in adverse weather conditions of its entire cargo, and, in the case of an offshore or onshore facility, the largest foreseeable discharge in adverse weather conditions.

1000

Introduction

Pursuant to the National Oil and Hazardous Substances Pollution Contingency Plan (NCP; 40 Code of Federal Regulations [CFR] Part 300), Area Committees have been established for each area of the United States that has been designated by the President. The Area Committees are composed of personnel from federal and state agencies who coordinate response actions with tribal and local governments and with the private sector. Area committees, under the coordinated direction of Federal On-Scene Coordinators (FOSCs), are responsible for developing Area Contingency Plans (ACPs). Area committees are also required to work with the response community to develop procedures to expedite decisions for the use of alternative response measures.

The NCP also establishes the National Response Team (NRT) and 13 Regional Response Teams (RRTs) who are responsible for national and regional planning and preparedness activities before a response action and support to the FOSC and State On-Scene Coordinator (SOSC) when activated during a response. RRT membership consists of designated representatives from key federal response and support agencies together with affected states.

In the Northwest Area (defined as the coastal and inland zones of Idaho, Oregon, and Washington), the Area committees and RRT have joined together to accomplish all planning and preparedness activities and jointly publish the Northwest Area Contingency Plan (NWACP). The purpose of the NWACP is:

1. To provide for orderly and effective implementation of response actions to protect the people, natural resources, and property of the coastal and inland zones of the Northwest Area, including the states of Washington, Oregon, and Idaho, from the impacts of a discharge or substantial threat of discharge of oil or a release or substantial threat of a release of a hazardous substance from inland and marine sources.
2. To promote the coordination of and describe the strategy for a unified and coordinated federal, state, tribal, local, potentially responsible party (PRP), response contractor, response cooperative, and community response to a discharge or substantial threat of discharge of oil or a release or substantial threat of a release of a hazardous substance from inland and marine sources.
3. To be consistent with the NCP and to be adopted as the Regional Contingency Plan (RCP) and ACP for the northwest.

4. To provide guidance to all holders and viewers of the Facility and Vessel Response Plan to ensure consistency with the NWACP.

This plan is intended for use as a guideline for coordination of spill response actions and to ensure consistency in response to spills. Federal and state rules require that a responsible party (RP), or spiller, must be able to manage spills with a pre-designated response management organization that accommodates a Unified Command (UC) structure in recognition of federal, state, tribal, or local jurisdiction.

If an oil or hazardous material spill happens in the context of a Presidentially Declared Disaster, the response may be conducted under the National Response Framework. See https://www.fema.gov/media-library-data/1572366339630-0e9278a0ede9ee129025182b4d0f818e/National_Response_Framework_4th_20191028.pdf.

In Region 10, we are committed to:

- Zero missed internal notifications.
- A bias towards a rapid, aggressive, and well-coordinated response when spills or incidents occur.
- Joint decision making through Unified Command.
- Maintaining our organization's expertise on the area plan and serving as full participants in the planning process.
- Ensure that organized transitions occur when Regional Response Team (RRT)/Northwest Area Committee (NWAC) agencies experience turn-over of key people.

1100 Authority

The Federal Water Pollution Control Act (33 United States Code [USC] 1321 et seq.) and the Comprehensive Emergency Response Compensation and Liability Act of 1980 (CERCLA or Superfund) address development of a National Planning and Response System. As part of this system, in conjunction with the NCP, ACPs address responses to worst-case discharges of oil or hazardous substances, and mitigation or prevention of a substantial threat of discharge from a vessel, offshore facility, or onshore facility. The Area Committee is given the responsibility for working with the response community to plan for joint response efforts, including spill containment, mechanical recovery, use of dispersants, in-situ burning, shoreline cleanup, protection of sensitive areas, and protection, rescue, and rehabilitation of fish and wildlife.

1110 Federal

Designating areas, appointing Area Committee members, determining information to be included in, and review of ACPs, has been delegated by Executive Order 12777 of 22 October 1991, to the Commandant of the United States Coast Guard (USCG) (through the Department of Homeland Security) for the coastal zone, and to the Administrator of the United States Environmental

Protection Agency (EPA) for the inland zone. The coastal zone and inland zone are defined in the NCP (40 CFR 300.5). The EPA has NCP response authority for incidents in all areas inland of the coastal zone. The USCG has designated as Areas those portions of the Captain of the Port (COTP) zones that are within the coastal zone and for which Area Committees will prepare area contingency plans. COTP zones are described in Coast Guard regulations (33 CFR Part 3). This is the ACP for Coast Guard COTP Zones Puget Sound and Columbia River; the states of Washington, Oregon, and Idaho; and EPA's Inland Region 10, excluding Alaska.

1120 Washington State

The Northwest Area Contingency Plan. The NWACP has been adopted as the state's Oil and Hazardous Substance Spill Prevention and Response Plan, as required by statute (see Chapter 90.56.060 Revised Code of Washington [RCW]). This plan applies to the activities of all state and local agencies involved in managing oil and hazardous substance spills where federal, state, and local agencies respond to a spill or potential spill of oil or hazardous substances.

Lead Agency. The Washington State Department of Ecology (Ecology) is designated (see Chapter 90.56.020 RCW) as the state's lead agency "to oversee prevention, abatement, response, containment, and cleanup efforts with regard to an oil or hazardous substance spill to waters of the state. The director is the head of the state Incident Command System (ICS) in response to a spill of oil or hazardous substances and shall coordinate the response efforts of all state agencies and local emergency response personnel." The Ecology Incident Commander will coordinate with other state agencies and be the principal state spokesperson in the incident command as an advocate for all state interests.

If an RP fails to respond in a manner deemed reasonably consistent with this policy and the NWACP, the FOSC or Ecology may assume the lead for all or a portion of the response. Ecology will closely coordinate with other members of the Unified Command prior to taking such action.

Cooperation with Other Government Entities. It is the policy of the State of Washington that it will co-manage spills of oil or hazardous substances in close cooperation with federal, local, and tribal officials as provided in this plan. A coordinated approach is the best means to provide the best protection of the state's public health and safety, natural resources, and private property.

1130 Oregon State

The NWACP has been adopted as the state's Oil and Hazardous Materials Response Plan in the State of Oregon Emergency Management Plan (Emergency Support Function 10 – Oil and Hazardous Materials Response). The NWACP replaces the Oil and Hazardous Materials Spill Contingency Plan for the Oregon Coast, Columbia River and Willamette River to Willamette Falls (Volume II), which is required under Oregon Revised Statutes (ORS) 468B.495-500 and 466.620. This plan also satisfies ORS 401, 453.347 (Hazardous Material

Emergency Response System), and 466.605 to 469.680 (Spill Response and Cleanup of Hazardous Materials). The Oregon State Department of Environmental Quality (DEQ) is the lead state agency on the Area Committee and provides the lead for oil and hazardous substance spill prevention efforts, contingency planning, and cleanup oversight for spills affecting state air, water, or land resources.

1140 Idaho State

The Idaho Hazardous Materials/Weapons of Mass Destruction Incident Command and Response Support Plan, in conjunction with this plan, supports the Idaho Emergency Operations Plan (IDEOP). These plans may be activated independent of the IDEOP. The primary purpose of these plans is to provide effective, coordinated emergency response support to local government by federal, state, and private agencies for incidents involving the release or potential release of oil and hazardous substances in Idaho. The Idaho Hazardous Materials/Weapons of Mass Destruction Incident Command and Response Support Plan defines the support role of specific state agencies. The NWACP focuses specifically on how federal and state agencies will work together during cleanup operations. These plans can be initiated at the request of local governments when their capabilities have been exceeded. Authority for implementation of the IDEOP and The Idaho Hazardous Materials/Weapons of Mass Destruction Incident Command and Response Support Plan is derived from Executive Order 96-01; the Idaho Environmental Protection and Health Act (Idaho Code §39-101 et seq.); the Hazardous Waste Management Act (Idaho Title 39 Chapter 44); the Idaho Hazardous Substance Emergency Response Act (Idaho Title 39, Chapter 71); and the Disaster Preparedness Act (Idaho Title 46, Chapter 10).
https://ioem.idaho.gov/hazardous-materials/hazmat-plan/

1200 Regional and Area Planning Structure and Process

1210 Regional Response Team and Northwest Area Committee Consolidated Planning and Authority

The RRT and the Northwest Area Committee (NWAC) are a consolidated body composed of federal, tribal, and state representatives with jurisdiction over oil and hazardous materials response and planning efforts in Washington, Oregon, and Idaho. This group includes two coastal and one inland Area Committees and the Region 10 RRT. Region 10 has developed a consolidated plan whereby the United States Coast Guard (USCG), United States Environmental Protection Agency (EPA), member tribes and all states in the region sign on to one plan that meets the requirements for both a Regional Contingency Plan and three Area Contingency Plans. Previous state and federal Regional Contingency Plans were shelved for an area-wide focus on one consolidated plan.

The NWAC is jointly chaired by the COTP for Puget Sound and Columbia River and EPA's Emergency Response Program Manager. Washington, Oregon, and Idaho lead response agency representatives serve as co-vice chairs. To facilitate decision making within this consolidated effort, an Executive Committee is also

formed and is composed of the RRT, the chairs of the NWAC and other additional representatives.
See Section 9101 for Regional Response Team, Executive Committee and Northwest Area Committee membership. Section 9101 also contains a description of functions and relationships of the RRT, Executive Committee and the Area Committee, as well as the other organizing groups and annual meeting and plan update structures.

The combined RRT and NWAC structure has a long history of success and reflects the inherent business culture and spirit of partnership in the Northwest. With the large geographic area of responsibility managed by RRT 10 and the Area Committees, the combined planning approach was found to be the most efficient and effective method to ensure response and planning coordination, as well as sharing of ideas.

Each Area Committee and the RRT retain jurisdiction over and legal responsibility for its area, and the RRT/NWAC meets and functions as a unified organization addressing spill preparedness and planning in the Pacific Northwest.

The RRT retains its incident specific functions to support the On-Scene Coordinator (OSC) and Unified Command. The RRT/NWAC solicits advice, guidance, and expertise from all appropriate sources and establishes working groups (task forces, subcommittees and workgroups) as necessary to accomplish preparedness and planning tasks. The RRT/NWAC directs development and maintenance of the NWACP.

1220 Standing and Incident-Specific Regional Response Team

The NCP (40 CFR Part 300) states that regional planning and coordination of preparedness and response actions shall be accomplished through the RRT. The NCP also outlines the concept of two components of the RRT: the standing RRT and an incident-specific RRT. The standing RRT is co-chaired by EPA and USCG District 13. The role of the standing RRT includes evaluation of communication systems and procedures, planning, coordination, training, evaluation, preparedness, and related matters on a region-wide basis. In the Northwest Area, these activities are conducted concurrently with the Area Committee. As evidence of this, the NWACP/RCP has been adopted by both the RRT and the Area Committee as the spill contingency plan for the Northwest Area. The NWACP/RCP is essentially a Memorandum of Understanding by which all RRT and Area Committee member agencies will conduct responses to releases of hazardous substances and oil discharges.

Further, Subpart J (40 CFR §300.900; Use of Dispersants and Other Chemicals) outlines specific roles and responsibilities of the RRT and Area Committee, or certain RRT representatives, with respect to the use of particular response technologies. Section 300.910 states that RRTs and Area Committees shall address, through the planning process, the appropriate use of dispersants, surface washing agents, surface collecting agents, bioremediation agents, or other

miscellaneous oil spill control agents listed on the NCP Product Schedule and the appropriate use of burning agents. The NCP allows RRTs and Area Committees to develop preauthorization or expedited approval plans for the use of the substances listed above. The NCP also states that the EPA RRT representative, the affected state(s), DOI, and DOC must approve all preauthorization plans. For situations not addressed by preauthorization plans, the EPA RRT representative may authorize the use of products listed on the NCP Product Schedule or burning agents. As appropriate, this authorization should be given with the concurrence of the affected state(s) and in consultation with DOI and DOC. It should be noted that an FOSC may authorize the use of an NCP Product Schedule substance without the concurrence of the EPA RRT representative when the use of the product is necessary to prevent or substantially reduce a hazard to human life. An incident-specific RRT can be deactivated when the RRT chair determines that the FOSC no longer requires RRT assistance.

When the RRT is activated for response actions, the chair shall be the member agency providing the OSC/RPM in accordance with 40 CFR 300.115(c). For incident-specific activations, participation by RRT member agencies will relate to the technical nature of the incident and its geographic location. When the RRT is activated, state government representatives and tribes have the same status as any federal member of the RRT. See Section 9105, "Incident Specific Regional Response Team 10 Activation – Quick Response Guide" for RRT activation procedures.

1300 Geographic Boundaries

The geographic boundaries of this plan are the states of Washington, Oregon, and Idaho, which include COTP zones for Puget Sound and Columbia River and EPA Inland Region 10, excluding Alaska. All waterways that mark the boundary between two states (e.g., the Columbia and Snake Rivers) are the joint, shared responsibility of both states. Spills affecting, or with the potential to affect, shared water must be reported to both states, and both states will normally participate in the unified response.

1310 Makah Tribe Lands

Makah Tribe land holdings were settled in the Treaty of Neah Bay in 1855 with the United States government, and more recently various courts have determined the Makah marine Usual and Accustomed Area (U&A) consists of United States waters north of 48°02'15"N latitude (at the Norwegian Memorial), east of 125°44'00"W longitude, and west of 123°42'30"W longitude (at Tongue Point just east of Crescent Bay in the Strait of Juan de Fuca). The seaward boundary of the Makah Tribe approximates the 100-fathom isobath in the southerly direction from the United States/Canada international boundary to a point due west of the mouth of the Copalis River. The Makah are the sole natural resource trustees to the mean lower low water line and co-trustees of the marine resources seaward from this line within this U&A. The Makah U&A encompasses a portion of the Olympic Coast National Marine Sanctuary and the Flattery Rocks and Quileute Needles National Wildlife Refuges.

1320 EPA/USCG Federal On-Scene Coordinator Jurisdictional Boundary

The boundaries between the USCG and EPA areas of responsibility within Region 10 are shown in Table 1000-1 and through a web interface at: https://r10.ercloud.org/epa/r10epajurisdiction/

The geographic area described in this section encompasses the Thirteenth Coast Guard District as defined in 33 CFR Subpart 3.65, specifically, this section addresses jurisdictional boundaries between the coastal and inland zones within the COTP Puget Sound Area of Responsibility, as defined by 33 CFR 3.65-10, and the COTP Columbia River Area of Responsibility, as defined by 33 CFR 3.69-15.

As outlined in the NCP, 40 CFR 300.5, the "coastal zone" is defined as "all United States waters subject to the tide, specified ports and harbors on inland rivers, waters of the contiguous zone, other waters of the high seas subject to the NCP, and the land surfaces or land substrate, and ground waters, and ambient air proximal to those waters."

The "inland zone" is defined as "the environment inland of the coastal zone excluding specified ports and harbors on inland rivers."

In areas where precise boundaries are not defined, the boundary will generally default to the high-water mark. In locations where navigable waterways feed into the ocean, the boundary will generally default to the high tide mark. This policy will help to ensure that response is not delayed because EPA and the USCG each believe a spill is located within the boundaries of the other's jurisdiction. In the case of oil and hazardous substance, pollutant or contaminant releases from shoreline facilities and for those releases that threaten or have resulted in sediment, soil, or other shoreline contamination, EPA and USCG phone duty officers will need to consult to determine the appropriate lead agency.

Table 1000-1 Area of Responsibility Boundaries between EPA and USCG for Major Oregon and Washington Waters

River Name/Body of Water	Boundary
Oregon	
Alsea River	Line North from Mouth of Eckman Slough
Chetco River	Route 101 Bridge Brookings to Harbor
Clatskanie River	Spokane, Portland and Seattle Railroad Bridge One Mile North of Clatskanie
Columbia River	Bonneville Dam
Columbia River: Columbia Slough	North Lombard Street Bridge
Columbia River: Lewis & Clark River	Highway 101 Business Bridge

River Name/Body of Water	Boundary
Columbia River: Scappoose Bay	Line East of Milton Creek
Columbia River: Skipanon River	Warrenton - Astoria Highway (East Harbor Drive Bridge in Warrenton)
Columbia River: Youngs River	Highway 101 Business Bridge
Coos Bay: Catching Slough	Permanent bridge on Coos River Road (junction of Coos River and Catching Slough)
Coos Bay: Coalbank Slough	Highway 101 Bridge
Coos Bay: Coos River	First Bridge on Coos River, upriver from Catching Slough
Coos Bay: Haynes Inlet	Mean High Water Mark of Haynes Inlet
Coos Bay: Isthmus Slough	Bascule Bridge at Bunker Hill
Coos Bay: Kentucky Slough	East Bay Drive Bridge
Coos Bay: North Slough	Mean High Water Mark of North Slough
Coos Bay: South Slough	South Slough - Mean High Water Mark on South Slough
Coos Bay: Joe Ney Slough	South Slough - Bridge at Crown Point Road
Coos Bay: Willach Slough	East Bay Drive Bridge
Coquille River	Route 101 Bridge in Bandon
Elk River	Route 101 Bridge
Little Nestucca River	Route 101 Bridge
Multnomah Channel	The entire channel is in USCG jurisdiction
Nehalem River	Highway 101 Bridge
Nestucca River	Pacific Avenue in Pacific City – Bridge
Rogue River	Route 101 Bridge Wedderburn to Gold Beach
Sandy River	Interstate 84 Bridge at Troutdale
Scappoose Bay	McCoy Estates Road, east of Columbia River Highway
Siletz River	Route 101 Bridge Kernville to Gleneden Beach
Siuslaw River	Line South from Cushman
Tillamook Bay	Mean High Water Mark
Tillamook River	Netarts Highway Bridge
Umpqua River	Line North of Scholfield Road/Umpqua Highway intersection
Umpqua River: Smith River	First Bridge Upstream of Confluence with the Umpqua River
Willamette River	Oregon City Falls
Yachats River	Route 101 Bridge
Yaquina Bay	Mean High Water Mark
Yaquina River	Butler Bridge at Toledo
Yaquina River: Depot Slough	Bridge on Old Toledo - Yaquina Road
Yaquina River: King Slough	Mean High Water Mark
Washington	
Big Quilcene River	North Quilcene Avenue Bridge
Chuckanut Creek	Highway 11 Bridge
Chehalis River	Route 107 Bridge South of Montesano
Clallam River	State Highway 112 Bridge
Columbia River	Bonneville Dam
Columbia River: Elochoman Slough (Cathlamet)	USCG Jurisdiction Throughout
Columbia River: Lake River	Bridge at Ridgefield, WA
Columbia River: Vancouver Lake Flushing Channel	Flood control gate at NW Lower River Road, Vancouver, WA
Columbia River: Washougal River	Railroad Bridge at Washougal
Cowlitz River	Route 4 Bridge at Kelso

River Name/Body of Water	Boundary
Deep Creek	State Highway 112 Bridge
Deep River	State Highway 4 Bridge
Deschutes River	4th Avenue Bridge at Olympia
Dosewallips River	Route 101 Bridge
Duckabush River	Route 101 Bridge
Dungeness River	Dungeness Bridge in Sequim
Duwamish River	Pacific Highway South Bridge
East Twin River	State Highway 112 Bridge
Ebey Slough	I-5 Bridge in Everett
Elwha River	State Highway 112
Grays River	Route 4 Bridge at Roseburg
Hama Hama River	Route 101 Bridge
Hoko River	State Highway 112 Bridge
Hoquiam River	Route 101 Bridge
Humptulips River	Route 109 Bridge
Kalama River	Interstate 5 Bridge
Lake Washington Ship Canal (Lake Washington/Lake Union)	Montlake Bridge in Seattle
Lewis River	Interstate 5 Bridge at Woodland
Little Quilcene River	Rogers Street Bridge
Naselle River	Route 101 Bridge
Nisqually River	I-5 Bridge
Nooksack River	Slater Road North of Marietta
North River	Route 105 Bridge
North Nemah River	Route 101 Bridge at Nemah
Palix River	Route 101 Bridge
Puyallup River	I-5 Bridge
Pysht River	Bridge Northwest of Pysht, North of Highway 112
Queets River	Route 101 Bridge at Queets
Quillayute River	Entrance of Dickey River
Quinault River	Quinault River Bridge East of Taholah
Sail River	State Highway 112 Bridge
Salt Creek	Bridge on Camp Hayden Road
Sekiu River	State Highway 112 Bridge
Skagit River, North Fork	Route 511 Bridge Five Miles Southwest of Mount Vernon
Skagit River, South Fork	Bridge at Conway
Skokomish River, South Fork	Route 106 Bridge
Snohomish River	Interstate 5 Bridge
Sooes River	Bridge Approximately 1 Mile South of Mukkaw Bay entrance
Steamboat Slough	I-5 Bridge Near Everett
Stillaguamish River	Great Northern Railroad Bridge at Silvana
Union River	State Highway 300 Bridge
Waatch River	Bridge East of Makah Air Force Station
Whatcom Creek	Holly Avenue Bridge in Bellingham
West Twin River	State Highway 112 Bridge
Willapa Bay: South Fork Willapa River	Highway 101 Bridge
Willapa Bay: Willapa River	Highway 101 Bridge
Wishkah River	Route 12 Bridge at Aberdeen

1321 First Federal Official on Scene

According to Section 300.135(b) of the NCP, the first federal official (FFO) affiliated with an NRT member agency to arrive on the scene of a discharge or release should coordinate activities under the NCP. The FFO is authorized to initiate, in consultation with the pre-designated FOSC and prior to the FOSC's arrival on scene, any necessary actions normally carried out by the FOSC. Arrival of the FFO on scene does not affect the designation of the appropriate FOSC. If the FFO determines that the FOSC should be from the other agency, that FOSC will generally accept the transfer of authority. Once that transfer has occurred, the FOSC will need to coordinate with the National Pollution Fund Center to ensure that only one Federal Project Number remains open for that case, as appropriate.

1322 Releases or Discharges Affecting More than One Zone Determination of Federal On-Scene Coordinator

According to Section 300.140(b) of the NCP, if a discharge or release affects more than one zone, determination of the FOSC should generally be based on the area vulnerable to the greatest threat. If the area vulnerable to the greatest threat cannot be determined, the Unified Command may want to consider establishing an ICS that can adequately provide for effective response in both zones. If transition of the FOSC position from one agency to another is necessary, the transition will generally follow the guidelines outlined in Section 1410, below."

Funding

If a spill occurs across both sides of the EPA-USCG FOSC boundary, and both an EPA FOSC and a USCG FOSC are responding, then two Federal Project Numbers (i.e., one for each FOSC) might be appropriate. If the spill is on the USCG side and the USCG FOSC is responding with EPA assistance, then EPA should be allowed to use the accounting line from the USCG Federal Project to set up a site in the EPA financial system to charge against. In such a circumstance, EPA would likely not need to obtain a Pollution Removal Fund Authorization from the USCG FOSC, but EPA would need a ceiling and a statement of work. Likewise, if the spill is on the EPA side and the USCG is assisting EPA, the USCG should be able to charge against the EPA's Federal Project accounting line. For further clarification, the National Pollution Fund Center should be consulted, at telephone number (703) 872-6000.

1323 Modifications to Notification Requirements

For incidents that fall within the jurisdictional boundary of one agency and pose a threat of impact to an area within the other agency's jurisdiction, the USCG and EPA expect each agency to be notified. Duty officers and watchstanders making notifications must be informed of the need to notify both agencies for incidents that may impact both jurisdictional boundaries.

1324 United States Environmental Protection Agency and United States Coast Guard Overlapping Jurisdiction

There are geographic areas covered by this ACP in which EPA has NCP FOSC authority, but where the USCG has COTP authority. Examples of these

overlapping areas include, but are not limited to, the Columbia River above the Bonneville Dam, the Willamette River above Oregon City Falls, and Lake Washington. If an incident occurs in these areas, the EPA FOSC must consult and coordinate with the USCG COTP or COTP's representative to ensure that both agencies are appropriately engaged in the response based on their respective authority. During response in these situations, each agency retains its statutory authorities but must consult with the other throughout the response or incident to ensure that both agencies are appropriately engaged in the response. The nature of response generally does not allow complete separation of the maritime casualty response from the pollution response. In these overlapping areas, the general practice will be to allow the EPA FOSC to determine whether the incident requires an NCP response, after consultation with the COTP or the COTP's representative.

When a spill occurs in an area where it is initially unclear which agency has FOSC authority, USCG and EPA duty officers will immediately consult to ensure that a timely response takes place. Once it is determined which agency, if any, will have FOSC authority, both agencies will continue to consult with each other to ensure that the non-FOSC agency provides adequate and appropriate support to the FOSC agency. Such support could include anything within the non-FOSC agency's statutory authority, such as on-scene observation, maritime technical advice, surface and air resources, and staffing at the Unified Command Post. It is recommended that the position of Operations Section Chief be held by a representative of the agency with the greatest statutory responsibility for the incident risk during the current operational period.

1325 Oil Discharges Originating from Inland Facilities

The authority to respond to releases or threats of a release of oil is derived from the Clean Water Act. The determination of the pre-designated FOSC for oil spills from land shall be determined based on the areas vulnerable to the greatest threat. If the release or threat of a release does not impact or threaten navigable water, neither EPA nor the USCG has the authority to respond.

1326 Hazardous Substances, Pollutant or Contaminant Incidents Originating from Inland Facilities

The authority to respond to releases or threats of a release of hazardous substances, pollutants or contaminants is derived from CERCLA and is not predicated on impacts to navigable water.

1400 National Response System

1410 National Response Structure

The National Response System (NRS) coordinates all government agencies with responsibility for human health and environmental protection in a focused response strategy for the immediate and effective cleanup of an oil or hazardous substance spill. It is a three-tiered federal response and preparedness system that supports the pre-designated FOSC and SOSC in coordinating national, regional,

state, tribal, and local government agencies, industry, and the RP during a response.

The three tiers are the NRT, RRT, and OSC. The NRS is described in the NCP (40 CFR 300). The NRS does not remove the primary responsibility of initiating and completing a proper response by the RP. The NRS is used for all spills. When appropriate, the NRS is designed to incorporate a Unified Command and control support mechanism consisting of the FOSC, the SOSC, the RP's Incident Manager, and, when appropriate, tribal and local representatives.

1420 National Response Team

The NRT consists of 16 federal agencies with responsibilities, interests, and expertise in various aspects of emergency response to pollution incidents. EPA serves as chair and the USCG as vice-chair of the NRT, except when activated for a specific incident, when the lead response agency representative serves as chair. The NRT is primarily a national planning, policy, and coordination body and does not respond directly to incidents. The NRT provides policy guidance prior to an incident, as well as assistance during an incident as requested by an FOSC via an RRT. NRT assistance usually takes the form of technical advice, access to additional resources/equipment, or coordination with other RRTs.

1430 Regional Response Teams

There are 13 RRTs, one for each of the 10 federal regions and Alaska, the Caribbean, and the Pacific Basin. Each RRT has federal and state representation. EPA and the USCG co-chair the RRTs. RRTs are planning, policy, and coordinating bodies and may be activated during a major incident to assist the FOSC with resources. The RRT operating in the Northwest Area has agreed to use this ACP as the RCP. They also provide guidance support and approval for pursuing certain response strategies.

The role of an incident-specific RRT is determined by the operational requirements of the response. An incident-specific RRT may be activated when the response exceeds the capabilities of the area where it occurs, transects state boundaries, or may pose a substantial threat to public health or welfare or the environment. An incident-specific RRT may also be activated upon a request by the FOSC or any RRT representative. Generally, the RRT may be used to assist the FOSC in obtaining additional federal resources. If the assistance requested by an FOSC exceeds an RRT's capability, the RRT may request assistance from the NRT. During an incident, the RRT may either be convened or alerted by telephone. Activation procedures for RRT10 may be found in Section 9105, "Incident Specific RRT 10 Activation – Quick Response Guide." The incident-specific RRT may also monitor and evaluate reports from the FOSC, advise the FOSC on the duration and extent of the response, recommend specific actions related to the response, assist the FOSC in preparing information for the public, and, if necessary, recommend the appointment of a different FOSC for the response.

For situations not addressed by preauthorization plans, the EPA RRT representative may authorize the use of products listed on the NCP Product Schedule or burning agents. As appropriate, this authorization should be given with the concurrence of the affected state(s) and in consultation with DOI and DOC. It should be noted that an FOSC may authorize the use of an NCP Product Schedule substance without the concurrence of the EPA RRT representative when the use of the product is necessary to prevent or substantially reduce a hazard to human life. Section 9101 is the RRT 10 NWAC Charter and further explains the membership and operation of RRT 10.

1440 Area Response Structure

The NWAC member agencies have adopted and will manage spill incidents according to the following principles:

- **Incident Command System.** The signatory agencies will use the National Incident Management System (NIMS) model ICS.
- **Unified Incident Command.** When more than one of the signatory agencies arrive on scene to participate in managing a response action, the agencies will utilize a Unified Incident Command structure to jointly manage the spill incident. In the Unified Incident Command, whenever possible, decisions with regard to the response will be made by consensus and documented through a single Incident Action Plan. When a consensus cannot be reached, the FOSC has the ultimate decision-making authority.
- **Unified Area Command.** For very large single incidents or multiple, simultaneous incidents involving a large number of resources and/or impacting a large geographic area, a Unified Area Command may be established. The Unified Area Command has the responsibility to set overall incident-related objectives and priorities, allocate critical resources based on those priorities, ensure the incident/incidents are properly managed, and ensure that incident objectives are met and do not conflict with each other. The Unified Area Command has overall responsibility for setting response priorities and objectives, which are then carried out by field ICS/Unified Command organization(s).
- **Tribal and Local Government On-Scene Coordinators.** The Unified Command may incorporate additional tribal or local government OSCs into the command structure as appropriate.
- **Responsible Party Command Structure.** The person or persons responsible for a spill incident shall utilize an ICS, which is capable of rapidly and readily integrating into the NIMS based ICS/Unified Command organization utilized by the NWACP signatory agencies.
- **Response Plan Approval.** The NCP 40 CFR 300 requires that vessel and facility response plans be compatible with the applicable Area Plan. Washington and Oregon State laws have similar provisions in RCW 90.56.210 and OAR 340-141-0140(7) and (9). Therefore, it is the policy of the Area Committee that vessel and facility contingency plans be consistent with the NWACP.

The Unified Incident Command structure allows for a coordinated response that takes into account the federal, state, tribal, local and RP concerns and interests when implementing the response strategy. The FOSC has the ultimate authority in a response operation and will exert this authority only if the other members of the Unified Incident Command are not present or are unable to reach consensus quickly.

During responses to oil and hazardous substance spills, local agencies may be involved as part of the Unified Command and may provide agency representatives who interface with the command structure through the Liaison Officer or the SOSC. When a Unified Command is used, an Incident Command Post (ICP) and Joint Information Center (JIC) shall be established. The ICP shall be as near as practicable to the spill site. All responders (federal, state, tribal, local, and private) should be incorporated into the response organization at the appropriate level.

1441 Federal On-Scene Coordinators

USCG Sector Puget Sound and Sector Columbia River maintain and manage emergency response teams for response to discharges of oil and hazardous substances in the coastal zone. These teams vary in size based on the nature of the incident. In all cases, they are tasked with assessing the discharge to determine response measures, monitor and supervise pollution countermeasures, deploy pollution control equipment as available and necessary until a contractor arrives, document all phases of the response, conduct investigations, and act for the FOSC until their arrival.

The EPA Emergency Management Program consists of emergency response FOSCs located in the regional office in Seattle and field offices in Boise and Portland. Additional FOSCs for EPA Region 10 are located in Anchorage, Alaska, but they may respond to any location throughout the region, or throughout the country, as needed. The FOSCs are responsible for determining the source, cause, and RP, as well as initiating source control and enforcement actions as appropriate. Additional responsibilities include ensuring that containment, cleanup, and disposal are carried out adequately; notification of all Natural Resources Trustees; and coordination of activities with federal, state, tribal, and local agencies to monitor their performance. EPA also has access to technical assistance contractors who can provide technical oversight and other resources at spills and uncontrolled hazardous waste sites. In some cases, EPA's technical assistance contractor may arrive on scene prior to the FOSC. Prior to arrival of the EPA OSC, the EPA contractor will cooperate with on-site agencies but will take direction through the EPA OSC only. EPA's contractor has technical response personnel and equipment located in Seattle and Portland.

Both EPA and USCG FOSCs have access to all federal response agencies as well as special response teams. EPA can deploy the Environment Response Team or the Radiological Emergency Response Team from Las Vegas, Nevada. The USCG can deploy the Pacific Area Strike Team from Novato, California. For a

list of special teams and federal response agencies and their roles during an oil/hazardous materials incident, see 9106: Response Partner Roles and Contacts.

1442 Washington Response System

The Washington State Response System is designed to provide coordinated state agency response, in cooperation with federal agencies for effective cleanup of oil or hazardous substance spills. In Washington State, Ecology acts as the state Incident Commander for oil or hazardous substance spills or threatened spills to waters of the state. Ecology provides 24-hour response to oil and hazardous substance spills when any amount of regulated waste or hazardous substance is released to the air, land, or water, or whenever oil is spilled on land or to state waters. As needed, Ecology deploys SOSCs to an incident. The agency maintains spill response teams in Olympia, Seattle, Bellingham, Vancouver, Spokane, and Yakima that provide round-the-clock response service to emergencies that pose an immediate threat to human health and the environment. In addition, Ecology:

- Confirms emergency notifications;
- Determines the source and cause of an incident;
- Identifies the RP for an oil spill or hazardous substance release;
- Assumes responsibility for incident management and cleanup if the RP is unavailable, unresponsive, or unidentified;
- Sets state cleanup standards and ensures that source control, containment, cleanup, and disposal are accomplished;
- Assists in monitoring and ensuring the safety of first responders and other personnel;
- Determines the need for and initiates appropriate enforcement actions;
- Coordinates spill response with other state and federal agencies and tribal and local jurisdictions using NIMS/ICS;
- Establishes a JIC with involved agencies and the RP to provide current and accurate information to the community;
- Conducts on-site inspections of commercial vessels and oil handling facilities.
- Provides maritime expertise, such as advice on salvage operations;
- Leads, activates, and coordinates the Natural Resource Damage Assessment (NRDA) team, which also includes the state departments of Fish and Wildlife, Health, Natural Resources, Community, and Archeology and Historic Preservation, and Parks and Recreation Commission;
- Participates in the activities of the Wildlife Branch of the Operations Section of the ICS; and
- Notifies the appropriate resource trustee agency of injury to fish, shellfish, habitat, and other wildlife.

Under the Washington Response System, the Washington State Patrol (WSP) assumes responsibility as Incident Commander and acts as the lead state agency

responsible for cleanup activities when oil and hazardous substance spills occur on state highways. The WSP also:

- Assists local jurisdictions with law enforcement and evacuations;
- Represents local jurisdictions as designated Incident Commander;
- Coordinates and maintains liaison with other state agencies involved with an incident;
- Assists in receiving and disseminating warning information;
- Provides communications and technical support to the incident;
- Provides radiological monitoring;
- Provides aerial reconnaissance of the impacted area;
- Coordinates fire resources when an emergency mobilization is authorized for a hazardous substance incident; and
- Provides 24-hour, statewide communications support.

For list of Washington state response agencies and their roles during an oil/hazardous materials incident, see 9106.3: Washington Agency Response Partners: Roles and Contacts.

The **Washington Military Department's Emergency Management Division** maintains capabilities to make 24-hour notifications to Ecology, WSP, and other appropriate local, tribal, state, and federal agencies. This division also:

- Activates the state Emergency Operations Center (EOC) when required;
- Coordinates state agency response activities within the state EOC, including procurement of state resources, as requested;
- Provides public information officer support to JICs or Incident Command Posts; and
- Provides communication links on an ongoing basis.

Local jurisdictions are usually the first responders to oil and hazardous substance spills and releases. Under the Washington Response System, local jurisdictions must designate a local Incident Command agency, usually a fire department, or they may delegate that responsibility to WSP. Under the Superfund Amendments and Reauthorization Act of 1986, Title III, Local Emergency Planning Committees may be involved with planning, training, and assisting with interagency coordination. They may also activate their local EOC to support on-scene operations, make notifications, and respond to requests for resources and other assistance.

1443 Oregon State Response System

The NWACP provides a description of Oregon's statewide oil and hazardous materials response system and outlines the responsibilities of all those who may be involved in response to or coordination of an incident. To ensure a reasonable emergency response time to all parts of the state, a system of state funded regional hazardous materials response teams (HAZMAT Teams) has been developed. The

teams are equipped and trained by the state and staffed for the most part by individuals from local fire departments and other emergency providers.

The Office of the State Fire Marshal has developed a computerized system that provides data on the location and type of hazardous materials stored in Oregon directly to fire departments and HAZMAT Teams. It also provides technical information on various hazardous materials and guidance on emergency response procedures.

DEQ is the lead agency for oil or hazardous material spills. DEQ has prepared an Incident Response Information System to provide information needed to identify people, as well as natural and economic resources at risk during spill incidents. The system is available 24/7 through DEQ's On-Call Duty Officer.

The Oregon Health Authority (Public Health Division) is the lead state agency for all incidents involving hazards to human beings, communicable disease agents, or radiation emergencies other than transportation accidents. The Oregon Department of Energy is the lead state agency for radioactive materials transportation incidents. The lead state agency will provide an SOSC to direct state response and to assist the FOSC. Assistance that may be requested from the State includes guidelines for the disposal of oily waste, identification, and prioritization of vulnerable resources, local geographic and environmental information, counsel on cleanup and restoration standards, medical/toxicological information through State health officials, and identification of unknown pollutants.

For list of Oregon state response agencies and their roles during an oil/hazardous materials incident, see 9106.4 Oregon Agency Response Partners: Roles and Contacts.

1444 Idaho State Response System

Local fire departments and departments of emergency management are the primary response authority for all oil spills and hazardous material releases. It is the state's intent to supplement local response activity, not supplant it. This plan and the Idaho Hazardous Materials/Weapons of Mass Destruction Incident Command and Response Support Plan are to be implemented when local capabilities have been exceeded by the incident. The ICS, when implemented by local government during initial response, will allow the state to become part of the response network without disrupting local efforts.

1445 Pacific States/British Columbia Oil Spill Task Force

The Pacific States/British Columbia Oil Spill Task Force was established to provide cooperative and coordinated oil spill response and prevention efforts. Since its formation in March 1989, it has grown to include the states of Alaska, Oregon, Washington, Hawaii, and California, and the Province of British Columbia, Canada. The environmental agencies of the five western states and

British Columbia have agreed to work together to improve coordinated spill response in the following ways:

- Sharing state resources and assisting SOSCs during major spills if requested;
- Observing state spill drills and response activities;
- Conducting joint spill drills to better coordinate trans-boundary response efforts;
- Debriefing after major spills or drills to determine changes necessary for improving spill prevention or response across state and national boundaries;
- Meeting regularly to share information and coordinate state and provincial policies with federal agencies;
- Coordinating implementation efforts, such as making rules and regulations as consistent as possible; and
- Collaborating on regional initiatives to address such issues as coastwise vessel traffic, spill data collection, and places of refuge.

West Coast Mutual Aid

During major and catastrophic spills on the West Coast, it may be necessary to expedite the cross-boundary transfer of additional response capabilities that can only be provided by private contractors. Many of these contractors have signed commitments with facility and/or vessel operators that, if released to another spill, would place them out of compliance with their federal or state/provincial approved spill contingency plan.

The members of the Pacific States/British Columbia Oil Spill Task Force are the primary state and provincial spill prevention and response agencies for Alaska, British Columbia, Washington, Oregon, California, and Hawaii. In an effort to expedite and enhance the response to major West Coast spills, the Pacific States/British Columbia Oil Spill Task Force members pre-approved and signed the 1993 mutual aid agreement, which will be activated by the Unified Command if additional resources are needed. The purpose of the agreement is to set specified conditions whereby contingency plan holders may be allowed to meet temporarily reduced response standards in order that their response equipment may be available for mutual aid. This agreement thereby ensures that most of the spill response equipment on the West Coast will be available to respond rapidly in the event of a major spill.

Some West Coast states set planning standards and let the plan holder and response contractors decide how they will be met. All major contractors have commitments under several contingency plans. This makes equipment "cascading" more difficult. To implement this policy of mutual aid, task force members have adopted minimum requirements for resident, non-cascadable response resources. These minimum requirements for resident response systems ensure the continued ability of plan holders to initiate effective response action at their facility/vessel, should a spill occur while a portion of their response

capability is out of the region for purposes of mutual aid. See http://www.oilspilltaskforce.org/docs/agreements_resolutions/MutualAid96.pdf

1500 Response Policy

1510 National Response Policy

The National Response Policy is designed to ensure that all applicable laws and regulations are carried out. Those laws and regulations are intended to ensure effective and immediate removal of a discharge, mitigation, or prevention of a substantial threat of a discharge of oil or release of hazardous substances, and overall protection of human health and the environment.

1511 High Seas Policy

The Intervention on the High Seas Act (33 USC 1471 et seq.) is applied as follows. Under authority of the International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969, governments party to the present convention may take such measures on the high seas as may be necessary to prevent, mitigate, or eliminate grave and imminent danger to their coastline or related interests from oil or hazardous substances pollution or threat of pollution. The pollution or threat of pollution may result from a maritime casualty or acts related to such a casualty, which may reasonably be expected to result in major harmful consequences. In the event of a ship collision, stranding, or other incident on board or external to a ship outside United States Territorial waters, which creates a potential threat of pollution by oil or hazardous substances, all available information shall be relayed to the USCG, which will determine whether grave and imminent danger to the coastline or related interests exists. Once that determination is made, the designated FOSC shall take measures to prevent, mitigate, or eliminate the threat.

1512 Coast Guard Policy

The USCG will respond, consistent with the policy outlined in the NWACP. The USCG may elect not to dispatch representatives to reported discharges where representatives of another cognizant government agency are responding. However, if federal removal is indicated within the Coastal Zone, the USCG will respond. If the RP is conducting proper removal, the USCG OSC will use best judgment in determining the need for the presence of USCG personnel on scene. General USCG policy for pollution response is provided in the Coast Guard Marine Safety Manual, Volume VI, Chapter 6, Contingency Planning for Emergency Response and Chapter 7, Pollution Response. Thirteenth Coast Guard District policy is provided in the manual's Annex C, Operation, Appendix 21 - Natural Disaster Response Operations, and Annex J, Command Relationships in the Thirteenth District OPLAN 9830-11, as well as in Chapter 3, Operations, Section G, Marine Environmental Protection, and in Chapter 11, Contingency Planning, in the Thirteenth Coast Guard District Standard Operating Procedures.

1513 United States Environmental Protection Agency Policy

By statute, EPA is the FOSC for inland spills of oil or hazardous substances. In most instances, EPA is not the first responder on scene. EPA works in

cooperation with other responders but has not delegated its responsibility as FOSC. In all spill situations, it is EPA's intent to contribute to the response by working with the local, state, tribal authorities, general public, and federal agencies to ensure that the information needed to maximize the effectiveness of the response effort is easily accessible. During a response to a release, the PRPs, if known, available, and willing, are generally given the opportunity to adequately respond. The EPA works closely with the PRPs when they are known and willing to take action to ensure that the release reaches an adequate and rapid conclusion with a minimum impact on the environment. In the event of a spill for which the PRP is not identified, does not respond to contain or clean up the spill, or does an inadequate job responding, EPA's responsibilities may include taking over the response or assuming a co-lead role in a Unified Command with state and local responders.

1514 United States Department of Defense and Department of Energy Policies

In the case of the DOD or DOE, when a response to a release or threat of a release of a hazardous substance, pollutant, or contaminant is on, or the sole source of the release is from any facility or vessel under the jurisdiction, custody, or control of DOD or DOE, those agencies shall provide FOSCs responsible for taking all response actions. DOD will be the removal response authority with respect to incidents involving DOD military weapons or munitions, or weapons or munitions under the jurisdiction, custody, or control of DOD. For oil spills on DOD facilities, the USCG or EPA is the pre-designated FOSC, as appropriate.

1515 Tribal Nations Policy

Indian Tribes have the right to engage with Federal agencies on a government-to-government basis. NWAC agencies seek meaningful tribal engagement in the development, maintenance, and implementation of the NWACP and this Tribal Nations Policy is intended to facilitate tribal participation in all stages of contingency planning and response activities.

The NCP requires the FOSC to notify any natural resource trustee when any resources for which they are the trustee may be impacted by a release. Tribal Nations are trustees for tribal natural and cultural resources. Although the FOSC is legally responsible for tribal notification, the DOI may provide assistance in the identification of potentially impacted tribes and locating appropriate contact information. When EPA or USCG responds to an emergency using its FOSC authority, the FOSC will, as soon as practicable, notify and offer emergency coordination to all affected tribes, through appropriate tribal natural, cultural resources or environmental staff or other individual designated by the tribe, regarding oil spills and chemical releases that could potentially affect tribal interests. On-scene coordination, either with the FOSC or in the ICP, can be performed directly with tribal representatives. Spill response can involve volunteers, in addition to hired contractors. If a spill is on tribal land, the tribal government will have authority to decide whether or not volunteers will be included in the response.

Federally recognized tribes may elect to send a Tribal On-Scene Coordinator (TOSC) for any incident over which they have governing interests. Governing interests are defined within each treaty or Executive Order. The FOSC(s) should defer to a tribe's interpretation of their governing interests if there is doubt. If further clarification of a treaty right is requested, legal counsel for the FOSC agency should work with legal counsel for the impacted tribe. Governing interests include reservation land; tribal trust land; usual and accustomed fishing, hunting, food and medicinal gathering areas and culturally significant areas; and, governing interests may exist within ceded lands. When a tribe has governing interests, but does not send a TOSC to sit in Unified Command, the FOSC holds Trust Responsibility within the Unified Command group for tribal interests. In that role, the FOSC should seek to understand Tribal Ecological Knowledge, cultural knowledge and current usage of an area. Each tribe with governing interest within an impacted area may elect to send their own TOSC to Unified Command. In cases where multiple tribes have governing interests, there may be multiple TOSCs in Unified Command.

Generally, each TOSC shall have delegated authority to make decisions on behalf of their tribe, and shall have governing interests within the impacted area. Each TOSC should have a working knowledge of and adequate training in NIMS/ICS consistent with the requirements in Section 2210. The FOSC may facilitate the engagement of tribal representatives by identifying a Tribal Coordination Specialist (TCS), a specialized member of the Liaison Officer's staff, who provides support in ensuring that representatives from a potentially impacted tribe(s) not only have a forum to communicate their priorities and concerns, but also an opportunity to successfully integrate into the response command structure. In situations that require additional support (e.g., a TOSC requests assistance in navigating NIMS/ICS), a deputy TCS might also be activated to help fulfil the TCS's responsibilities. This role is further defined in Section 9210.3.2. The TCS is not intended to be a spokesperson for the tribe.

Regardless of whether a tribe has a TOSC in Unified Command, tribal representatives can provide valuable support to the response in a variety of ways. Effective response actions require local knowledge and a comprehensive understanding of the resources at risk. Tribal representatives may choose to support the response as a subject matter expert in the Logistics, Planning, or Operations Sections or the Environmental Unit; or an Agency Representative under the Liaison Officer. If a NRDA is conducted, tribes may also participate in that effort to help define the injury done by the release. NRDA is separate and distinct from the response effort. The level of tribal participation will depend on a number of factors, including the individual circumstances of the incident and the level of training and/or experience the representative(s) bring to the response. As with the TOSC role, the FOSC may facilitate the engagement of a TCS (specialized Assistant Liaison Officer) who will assist tribal representatives in navigating NIMS/ICS.

When incidents occur beyond areas of tribal governing interests, but none the less present a concern to a tribe, tribes may interact directly with the response through the incident's Liaison Officer.

1515.1 Makah Tribe

Makah Tribe personnel who will be participating in any level of the response are expected to be appropriately trained in any ICS positions they will be staffing, as well as understand how they will best fit into the system during a response. The positions where each member will be assigned will be determined jointly by the Unified Command to best suit the needs of the response.

The Makah Tribe will be represented within the ICS structure by members from various tribal, departments including:

- The Port of Neah Bay/Office of Marine Affairs,
- Makah Fisheries Department,
- Makah Cultural and Research Center,
- Makah Emergency Management Department,
- Neah Bay Police Department, and
- Neah Bay Fire Department.

Makah tribal staff participating in the Unified Command's ICS structure will communicate with the TOSC when arriving on scene, upon check-in, to ensure that appropriate assignments are made and field operations are coordinated. Once tribal staff are assigned, they will work within the ICS structure, under the direction of the appropriate Section Chief, Unit Leader, or Division/Group Supervisor. This in no way limits their ability to communicate with the TOSC.

Depending on the type and complexity of response, it is generally expected that the Makah Tribe will provide staff and resources in the following areas:

- **Command:** The Office of Marine Affairs Manager will be the TOSC.
- **Information Officer/JIC**: The Makah Tribe will designate a trained Information Officer as appropriate.
- **Planning Section/EU**: Makah Fisheries personnel will become members of the EU and Planning Section (PS) as appropriate and will be relied upon to provide the best available information about tribal resources that are at risk, provide baseline characterizations, assess and suggest response options, and provide local knowledge to support response operations and help determine treatment endpoints as well as help evaluate response options and waste management issues in concert with other key resource agencies and stakeholders.
- Operations Section: Port of Neah Bay personnel may be requested to facilitate the deployment of boats, equipment and personnel; and may staff other Operations roles as assigned.

1520 State Response Policy

1521 Washington State Policy

Washington State law has established Ecology as the pre-designated SOSC for all oil and hazardous substance spills in state waters. As such, Ecology is also responsible for supporting federal response actions. In this role, Ecology effectively represents all Washington State agencies and the interests of the state and its citizens. Ecology will respond to any significant discharge or threatened discharge. Ecology will provide local geographic and environmental information; identify and prioritize vulnerable resources in consultation with other resource agencies through the EU; fund orphan oil spills through the Oil Spill Recovery Act; and coordinate with other state agencies. The State of Washington has devised parallel statutes on water pollution and marine transportation safety that meet, or in some cases exceed, the standards set forth in federal legislation. Chapter 90.48 of the RCW has made it unlawful to cause or permit the discharge by any means, of polluting matter into the waters of Washington State. Additionally, this act designates the State of Washington as a participant in the federal permit program. It is the policy of the state to use the Unified Command system (as described in Section 2000, "Command") during response to significant spills or threatened spills.

1522 Oregon State Policy

- **Abandoned Chemicals.** The Oil and Hazardous Materials Fund may be used by DEQ to contract for emergency removals of materials presenting public health and environmental risk if the owner, property owner, or RP is unable to act. This assistance may be provided on a cost reimbursement basis.
- **Drug Lab Chemicals.** Requests for use of DEQ's Drug Lab Cleanup Fund must come through a law enforcement agency.
- **Financial Reimbursement.** Available through the State Fire Marshal's Office for HAZMAT Team response within the terms of the response contract.
- **State Response Contractor.** DEQ maintains a contract with local emergency response contractors that can be utilized by other state and local agencies.

1523 Idaho State Response Policy

Idaho uses a collaborative system in responding to hazardous materials incidents. A single phone call to the state provides immediate access to virtually any resource needed at a hazardous materials incident. The state plays a key role in facilitating and fostering the collaborative efforts, and the Idaho Office of Emergency Management is responsible for ensuring that emergency response is timely and effective. Local, state, and federal responses are expected to be coordinated and supportive of local efforts.

Unified Command and NIMS is the standard method of operation. The state's representative to command under emergency or disaster conditions is designated

by the Idaho Adjutant General. It is policy in Idaho that responders operate only within the scope of their training and the state has set clear training guidelines in the Idaho Hazardous Materials/Weapons of Mass Destruction Incident Command and Response Support Plan. The Idaho Department of Environmental Quality directs long-term site remediation efforts with the cooperation and support of other state and federal agencies.

1530 Multinational Policy

The geographic area covered by the NWACP includes shared marine and inland borders with Canada: in particular, the northern terrestrial boundaries of Washington and Idaho about the Canadian border, and the marine boundary between the U.S. and Canada transects the Strait of Juan de Fuca and the Georgia and Haro Straits waterbodies. For oil spills and other hazardous material releases, or potential releases that occur at or in the adjacent transboundary area it is required that Federal and State/Provincial response leadership in both United States and Canada will coordinate their respective responses on their sides of the border. Two particular documents outline how the Unified Command members on each side of the border will coordinate spill response in the transboundary region: the CANUSPAC Annex of the Canada-United States Joint Marine Pollution Contingency for spills of oil and other harmful substances http://www.rrt10nwac.com/Files/FactSheets/141021044455.pdf for marine spill responses; and the Canada-United States Joint Inland Pollution Contingency Plan (CANUSWEST) (www.canuswest.com) for inland spill response.

Any pollution incident in one country that poses a substantial threat to the other country shall be reported immediately to the Canadian National Environmental Emergencies Center (1-819-997-3742) or the United States National Response Center (1-800-424-8802), depending on the incident location. In addition, for spills threatening the marine zone, the 13th U.S. Coast Guard District will immediately notify the Canadian Coast Guard Western Region emergency number and vice versa, in the event of an incident with cross-border threats or impacts.

The NWACP guides spill responses conducted on the U.S. side of the transboundary region, while the CANUSPAC Annex and CANUSWEST Joint Contingency Plan identify how the two nations will coordinate their individual response actions on their side of the border. These plans are designed to be complementary and promote effective international coordination. In addition to updating the cross border plans, periodic meetings and exercises involving both US and Canadian response personnel are held to maintain relationships and ensure the plans can be enacted.

1540 Responsible Party Policy

Responsible Party Conformance with the Northwest Area Contingency Plan

The NCP requires that response plan holders "prepare and submit a plan for responding, to the maximum extent practicable, to a worst case discharge, and to a

substantial threat of such a discharge, of oil or a hazardous substance. These response plans are required to be consistent with applicable Area Contingency Plans."

The requirement for facility and vessel response plans to be consistent with the NWACP applies to:

- Vessel and Facility Contingency Plan: content, review, and approval;
- The execution and evaluation of spill drills and exercises; and
- The management of spill response actions.

Failure to adequately conform to the NWACP may result in rejection of a spill contingency/response plan; non-credit for a drill; or federal and/or state agencies assuming direct control of a spill response action. However, it is also the policy of the NWAC that the Unified Command will encourage the party responsible for a spill incident to maintain the primary responsibility for managing the response action so long as they:

- Actively and cooperatively participate in the Unified Command structure;
- Provide an organization which is compatible with NIMS/ICS;
- Provide regular communication and documentation that ensures adequate response resources are being rapidly mobilized in proportion to the size of the incident as discussed in the following section; and
- Follow their approved spill contingency/response plan (if applicable) unless otherwise directed, or a deviation is agreed to, by the Unified Command.

Requirement for a Full and Rapid Response

Adequate response resources must be rapidly mobilized if initial source control, containment, and cleanup efforts are to be successful. Experience in the Northwest has found that it is much more cost-effective and far less damaging to natural resources to contain an oil spill rather than remove it from the water and beaches.

Therefore, it is the policy of the NWAC that the response to a spill incident should be promptly "ramped-up" to provide adequate equipment and trained personnel to effectively respond to the highest quantity of product that is most likely to be released. If it is determined that excessive response resources are ordered or mustered they may be canceled or demobilized to help control the cost of the response action to the RP and responding agencies.

The emergency response towing vessel (ERTV) stationed at Neah Bay is an important safety net to prevent disabled ships and barges from grounding in the western Strait of Juan de Fuca or off the outer coast. Funding for the ERTV is provided by private maritime industry-financed and managed operations. The maritime shipping industry established an ERTV contract (vessel under charter to the Washington State Maritime Cooperative) to maintain an industry funded

standby towing capability at Neah Bay. In the event that the ERTV is needed to assist a vessel, the ERTV would follow the Washington State Maritime Cooperative (WSMC) contract for standby service and be contracted directly by the vessel owner/operator for emergency services. As required by Washington statute, the USCG and Ecology may separately contract for the services of the ERTV stationed at Neah Bay to respond to an emerging maritime casualty, or as a precautionary measure.

If an RP fails to respond in a manner deemed reasonably consistent with this policy and NWACP, the FOSC or SOSC may assume the lead for all or a portion of the spill. The agency proposing to lead the cleanup will closely coordinate with other members of the Unified Command prior to taking such action.

Another reason that rapid response and containment is important is that, while the Northwest Area has one of the best spill response systems in the world, there are certain weaknesses in the response community's ability to mount a fully effective response. These weaknesses are:

- **Coastal Response.** During certain times of the year, it is very difficult to mount an effective response action for spills in the outer coastal environment. This difficulty is due to the long transit distance from the major Columbia River and Puget Sound equipment stores to the outer coast. Once equipment arrives on scene in the coastal environment, sea state and meteorological conditions (such as fog, wind, and rain) may dramatically limit or terminate effective oil booming and on-water oil recovery efforts.
- **Response in Shallow Marine Embayments.** Diversion and containment booming and intertidal shoreline clean-up are very difficult in many of the Northwest's environmentally sensitive shallow marine estuaries such as the Columbia River, Padilla Bay, and Nisqually Delta. Once oil enters these intertidal areas, extensive environmental damage is likely and recovery technology has minimal effectiveness. In these environments, conventional shoreline clean-up activities themselves can cause extensive damage and are therefore seldom used.
- **Response to Catastrophic Oil Spills.**[1] Should a catastrophic oil spill occur, it is likely that there will not be adequate response resources in the Northwest Area to manage and clean up the spill. Therefore, the Northwest Area will rely in part on mutual aid from other West Coast and other jurisdictions to provide much of the necessary response resources. In order to expedite decision-making on West Coast mutual aid, the Pacific States/British Columbia Oil Spill Task Force adopted a Mutual Aid Plan.

Significant weather factors for Washington's northern outer coast

[1] Note: Where a catastrophic onshore oil discharge or hazardous material release may impact or potentially impact a navigable waterway, it may be that both the USCG and EPA, upon consultation, provide Unified Command representation during the initial phases of an incident.

There are significant weather factors for Vessel Response Plan holders to consider when evaluating the operability of response equipment from the Hoh River north along the outer coast of Washington State to the entrance of the Strait of Juan de Fuca. This is Washington's northern outer coast.

Reference: Appendix B to Part 33 CFR 155 – Determining and Evaluating Required Response Resources for Vessel Response Plan
33 CFR 155, 2.5

A vessel owner or operator must refer to the applicable ACP to determine if ice, debris, and weather-related visibility are significant factors in evaluating the operability of equipment.

Weather Factors to Consider When Planning Oil Spill Response Tactics and Evaluating Safety Plans

Fog

Fog can curtail or reduce the effectiveness of:

- Spill reconnaissance/monitoring, either by boat or by air,
- On-water recovery, and
- In-situ burn or dispersant activities.

Fog can create a boating safety hazard. This can be true anywhere in Washington's marine waters, but is a special problem on the northern outer coast, especially if vessels are operating close to shore where there are numerous rocks and reefs.

Fog can also be a major factor affecting where and when crews can be deployed. On Washington's northern outer coast, dense summer fogs can materialize very quickly. This presents a special challenge because many sites on this remote stretch of coastline are not accessible via boat or land trail and thus require a helicopter to insert/extract personnel, such as:

- Response contractors tasked with deploying or maintaining booming strategies;
- Shoreline Cleanup Assessment Technique/sampling/NRDA teams; and/or
- Oiled wildlife search and collection crews.

Any response planning that considers inserting personnel on remote beaches using helicopters will need to include provisions for intensive weather monitoring and ensuring that sufficient helicopters are available to accomplish the safe extraction of beach personnel within a very short time frame. Only the rarest of these sites is accessible via boat and very few can be accessed by trail. A good guideline is that no more people should be transported to an isolated beach site than can be retrieved within one hour or less with available helicopter assets.

Small craft operating in near shore waters along the northern Washington Coast (from Point Grenville north to Cape Flattery) should also implement safety

procedures to address the possibility of fog. It is highly recommended that such vessels maintain a continuous global positioning system (GPS) track line that will allow them to retrace their route back to safe waters in case fog develops before they have a chance to clear near shore hazards such as reefs, kelp beds, rocks, and islands.

Wind/Waves
All mechanical equipment used in oil-spill cleanup, including oil spill recovery vessels, have operating limits. Alternate technologies for spill cleanup such as dispersant application and in situ burning also have operating limits. These limits can cause recovery operations to be halted, making response situations dependent on weather, fog, or daylight.

There are many operating limits that can shut down recovery operations. Generally, when winds reach a Beaufort Wind Scale of 6 and seas are in excess of 8 feet, mechanical skimming is no longer viable. There are instances when the limits can be pushed, such as when seas have long period swells. Conversely, there are other instances when operations are no longer safe and effective, even at lower wind speeds, such as when seas are short and choppy. At Beaufort 5 and above, it is necessary to take into account skimming vessel safety, equipment integrity, and the physics of a vessel working in waves.

The specific gravity of recoverable black oil and water are close in magnitude. The oil will float on a calm day; however, when energy from the wind and waves is introduced, the oil will roil with the sea and be naturally dispersed under the surface. There, it can attach to small debris and sink or wash up on a beach or resurface as emulsified oil. In these high energy states, the oil is not at the surface and available for skimmer collection.

From northern outer coast weather data, one can roughly extrapolate that the winter months do not favor open-water containment and mechanical recovery or the use of alternate technologies. In weather conditions such as these, the marshaling of resources would be better aimed at shoreline protection and cleaning versus open water operations.

Severe weather also impacts in situ burning and air-assisted dispersant operations. In the case of in situ burning, severe weather creates difficulties getting to and corralling the oil with a boom. In the case of aerial dispersant operations, the dispersant would likely be carried with the wind and either dry out on the way to the surface or not land as targeted.

Other Weather Conditions
Severe wind, surf, and tide conditions can present safety hazards to boat and/or shoreline operations in any area or season, and such conditions are routinely addressed via the Site Safety Plan. Special attention, however, must be paid to situations where personnel are deployed onto beaches from which egress or extraction is limited. Examples include narrow beaches backed by bluffs or cliffs or pocket beaches located between impassible headlands. Such conditions occur throughout the Northwest, but are especially common on the northern Washington coast. Strong onshore winds, because of their amplifying influence on tidal height, can dramatically reduce the available amount of time during which some of these beaches are safe for personnel conducting reconnaissance, beach cleanup, or other response-related tasks. The safety instructions for individual work assignments should emphasize the need for scheduling on-site work such that ample time is provided for safe egress (or extraction via boat or helicopter, if feasible) before crews get trapped.

Mitigating Factors
Vessel plan holders have a number of significant mitigating factors along this northern outer coastal area, including the following.

- The implementation of the ERTV at Neah Bay reduces the potential of drift grounding.
- The International Maritimes Organization Area to be Avoided designation applies to all ships and barges carrying cargoes of oil and hazardous materials, and all ships 1,600 gross tons and above solely in transit. The Area To Be Avoided along the outer coast moves vessel traffic away from the coastline to reduce the risk of a marine causality.
- The response community has been conducting HAZWOPER training for local first responders targeting coastal tribes.
- Both industry and the State of Washington have pre-positioned additional response equipment in the northern outer coast area.
- To address the uncertainties associated with response in remote areas with dynamic weather, the Outer Coast Geographic Response Plan (GRP) incorporates procedures to ensure that response assets are not committed to a remote site until reconnaissance has been performed or real-time information has been obtained regarding conditions at the strategy site.
- Finally, the Oil Pollution Act of 1990 (OPA) regulations have addressed many other mitigating factors, including the required use of double hulled barges and tankers to transport oil.

Umbrella Vessel Contingency Plans
Washington and Oregon require vessel oil spill contingency plans from all tank vessels and cargo and passenger vessels (300 gross tons and over) to be submitted for review and approval. Vessel owners and operators have two options for meeting these vessel contingency plan requirements. The first is to submit a company-specific vessel oil spill contingency plan to the states. The second is to enroll in one of the organizations that operate umbrella vessel contingency plans.

The WSMC and Maritime Fire & Safety Association (MFSA) provide contingency plan coverage, primary response contractors, and a spill management team to enrolled vessels for a per trip fee. These contingency plan services are provided for immediate response coverage, with the intention to transition to the RP within the first 24 hours of the oil spill response. The WSMC provides this coverage in Puget Sound, Strait of Juan de Fuca, and the Washington Coast. The MFSA provides coverage for the Lower Columbia River and Lower Willamette River.

Vessels enrolled with WSMC or MFSA are expected to follow the approved umbrella contingency plan throughout the duration of the spill response. The FOSCs and SOSCs must approve any deviation from the vessel contingency plan. All changes in ICS Command staff to allow enrolled party representatives to participate must be approved by the Unified Command. Where inadequate staff replacements are available to the enrolled party, the regulatory agencies may contract with qualified local persons to fill organizational posts. Representation by an enrolled vessel owner or operator's selected ICS staff and qualified individual is not guaranteed after the removal of the cooperative's preapproved representatives.

16700 Plan Review and Process

1610 Plan Implementation

Agencies signatory to this plan must participate in a training process to ensure familiarity with its contents. Other participating agencies are encouraged to use this plan in all response training. Signatory agencies agree to establish an annual training program within their agencies to ensure that all parties:

- Understand and are fully aware of their respective roles and responsibilities;
- Understand their role in the Unified Command System;
- Understand how they coordinate and communicate with other parties and agencies;
- Understand what and where their assignments will be at a spill scene;
- Understand the overall level of commitment they are to devote to spill response operations; and
- Understand how they will be notified and when to respond to such notification.

Agency spill responders and key personnel are required to read this plan on an annual basis. Each agency is responsible for regular review of this document. The use of open- and closed-book examinations for training purposes is encouraged.

1620 Exercises

The federal and state agencies signatory to the NWACP agree to adopt exercise policy consistent with the national guidance on exercise known as the National Preparedness for Response Exercise Program (PREP). For more information on this program, see http://www.navsea.navy.mil/Portals/103/Documents/SUPSALV/Environmental/PREP%20Guidelines.pdf

1621 Exercise Scheduling

Exercise scheduling is vital to the success of a national and regional program, though it requires large sums of money and time, particularly for large exercises. Coordinated scheduling allows key players to be available and budgets to be planned. Exercises will be scheduled in two ways, depending on their frequency. Large triennial or "Area" exercises as PREP calls them will be scheduled through the National Strike Force Coordination Center in coordination with regional agencies and industry. Smaller annual drills will be scheduled through a clearinghouse working within the NWAC. This scheduling function is a task of the Steering Committee, and the area drill schedule is posted at https://fortress.wa.gov/ecy/naces/

1630 Revision/Update Requirements

The NWACP shall be reviewed and updated annually by the NWAC. In addition, the NWAC has established a staggered approach for in-depth review of all NWACP Chapters over a period of five years. Comments on the plan can be submitted to the NWAC at http://www.rrt10nwac.com/Comment/Default.aspx.

1631 Plan Review/Update Process

The Steering Committee will receive recommendations for revisions to the NWACP from workgroups, exercises/drills, training, NWACP RRT Co-Chair Guidance, and other interested parties at least two months prior to the update cycle. The preferred method for submitting recommended changes is through the RRT/NWAC website, using the Submit Comments link: http://www.rrt10nwac.com/Comment/Default.aspx. Alternatively, comments and recommended changes may be submitted to the Steering Committee lead for the appropriate chapter. In either case, the Steering Committee lead will:

- Consider the proposed change;
- Make edits and minor changes;
- Submit major changes to the Steering Committee for review and concurrence; and
- Provide feedback to the submitter on the action taken.

1640 Geographic Response Plans

GRPs contain oil spill response strategies for marine and inland waters of Washington, Oregon, and Idaho. Each GRP has two priorities: 1) identification of natural, cultural, and significant economic resources in a specific geographic region, and 2) to describe and prioritize response strategies to minimize damages to these resources during an oil spill. GRPs can be located at http://www.oilspills101.wa.gov/northwest-area-contingency-plan/geographic-response-plans-grps/list-of-geographic-response-plans/

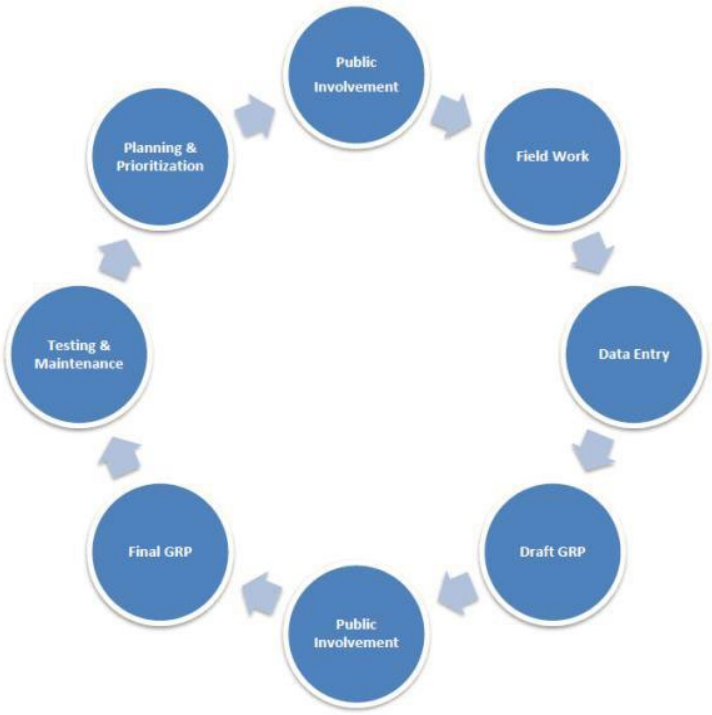
Each GRP has several chapters that contain:

- Introduction to the plan;
- Site descriptions, including physical features, hydrology, climate, risk assessment, and literature references;
- Reference maps and prioritized tactical strategies;
- Resources at risk, including endangered species, and shoreline information; and
- Logistical information for the area.

1641 Process to Develop Geographical Response Plans

Development of GRPs in the Northwest is a collaborative process. GRPs are developed through workshops and field work involving federal, state, and local oil spill emergency response experts, as well as representatives from tribes, local governments, industry, ports, environmental organizations, pilots and response contractors. Workshop participants identify resources, develop operational strategies, help prioritize the strategies, and pinpoint logistical support. It is important to involve local governments and local communities in the GRP development process. Field work is conducted to visit the selected sites, confirm the existence of the resource at risk, and further refine the operational strategies.

Figure 1000-1 – GRP Development and Update Cycle



1642 Agencies Responsible to Develop and Maintain Geographical Response Plans

Key RRT/NWAC agencies have committed resources to manage the development and maintenance of GRPs, as described below.

- Marine GRPs in Washington State are co-managed by Ecology and the USCG.
- Inland GRPs in Washington State are co-managed by Ecology and EPA.
- Marine GRPs in Oregon are co-managed by DEQ and the USCG.
- Inland GRPs in Oregon are co-managed by DEQ and EPA.
- Inland GRPs in Idaho are managed by EPA.

1643 Testing Geographical Response Plans

GRP strategies are tested during drills and spills or during the plan development process. Testing of the strategies is an important priority for the northwest response community. Deployment provides an opportunity for response contractors, plan holders, and agencies to verify the effectiveness of the strategy, deploy equipment, and train personnel to ensure that they are prepared for a real oil spill. GRP strategies are updated based on the results of the drills.

Comments on GRPs and the testing of GRP strategies during deployments can be made through the RRT/NWAC website, using the Submit Comments link the submit comments page: http://www.rrt10nwac.com/Comment/Default.aspx

1700 Spill Scenarios

1710 General

An important part of contingency planning is anticipating the effects of a spill and preparing in advance for the response to spills likely to occur in the area. In developing this plan, the NWAC has considered the risk of spills from marine traffic; facility sites, including five oil refineries and numerous oil terminals; highways; and pipeline and railroad corridors that exist in both marine and inland areas of all three states. Beginning in 2012, the Northwest Area has been documenting changes in the transportation of oil products that have the result of changing the risk picture for the plan.

Response scenarios were developed for three levels of response: the worst-case discharge (the complete discharge of a vessel's cargo in adverse weather conditions, 35 million gallons); the maximum most probable discharge (the largest historical spill in the area—up to 250,000 gallons); and the most probable discharge (the "average" spill up to 100 gallons) for each of the two areas covered by this plan (Puget Sound Area, Portland Area), as well as a single worst-case discharge scenario for the inland EPA Region 10 Area. Note that scenario discussions are separated by federal jurisdictions. This is because the requirement to develop scenarios is a federal one. These scenarios cover the range of spills likely to occur. At this time, the NWAC is only required to develop these scenarios for oil discharges. The NWAC will address scenario development for releases of hazardous substances in a future release of this plan.

1720 Discharge Scenarios

Information regarding worst case, maximum most probable, and most probable discharge information has been removed from the public version of this document for security concerns. This information is available upon request at http://www.rrt10nwac.com/Comment/Default.aspx.

Chapter 2000

Command

Northwest Area Committee Expectations:

- Signatories agree that Unified Command will be utilized to manage spill responses. If consensus cannot be reached, the Federal On-Scene Coordinator has the ultimate decision-making authority.

Critical Elements of Chapter 2000:

- Identifies which agencies have a command role in which situations
- Tribal and local On-Scene Coordinators to be involved in Unified Command when possible.
- Northwest Area Committee prefers spiller not fill the Public Information Officer or Liaison Officer position

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2000

Command

2100 Command Structure – Unified Command Organization

Policy Statement

It is the policy of the Northwest Area Committee (NWAC) to manage spill incidents according to the following principles:

Incident Command System. The signatory agencies will use the National Incident Management System (NIMS) model Incident Command System (ICS).

Unified Command. When a federal or state agency arrives on scene to participate in managing a response action, the agencies will use a Unified Command (UC) structure to jointly manage the spill incident. In the UC, decisions with regard to the response will be made by consensus and documented through a single Incident Action Plan for each operational period. In the event that the UC is unable to reach consensus, the Federal On-Scene Coordinator (FOSC) has ultimate decision making authority.

Tribal or Local Government On-Scene Coordinators. The UC may incorporate additional tribal or local government On-Scene Coordinators (OSCs) into the command structure as appropriate.

2200 Command Staff Elements: Roles and Responsibilities

The NWAC has adopted the NIMS/ICS as the basic model for managing a coordinated response. Under the UC structure, the federal government, state, and responsible party (RP) will each provide an OSC, who will consult each other and share decision-making authority regarding spill response and cleanup management issues. Depending on the circumstances of the incident, a local or tribal entity may also provide an OSC. Together, these OSCs will jointly serve as the UC.

2210 Incident Commander/Unified Command

Incident Commanders for oil discharges and hazardous substance releases will, whenever possible and practical, be organized under the UC structure, which includes, but is not limited to:

- The pre-designated FOSC,
- The State On-Scene Coordinator (SOSC),
- The representative of the RP, and
- The local and/or Tribal On-Scene Coordinators (TOSCs), as appropriate.

To be considered for inclusion as a UC member, the following criteria must be considered:

1. The organization must have jurisdictional authority or functional responsibility under a law or ordinance for the incident; and
2. The organization must be specifically charged by law or ordinance with commanding, coordinating or managing a major aspect of the incident response; and
3. The incident or response operations must have impact on the organization's Area of Responsibility; and
4. The organization should have the resources to support participation in the response organization.

Actual UC makeup for a specific incident will be determined on a case-by-case basis, taking into account:

- The specifics of the incident,
- Determinations outlined in the four criteria listed above, and
- Decisions reached during the initial meeting of the UC.

The makeup of the UC may change as the incident progresses, in order to account for changes in the situation.

The UC is responsible for the overall management of the incident. The UC directs incident activities, including the development and implementation of strategic decisions, approval of the Incident Action Plan, and approves the ordering and releasing of resources. It is expected that each UC member will have the authority to make decisions and commit resources on behalf of his or her organization.

An organizational chart for the UC and command staff is shown in Figure 2000-1. This chart serves as an example and is not meant to be all-inclusive.

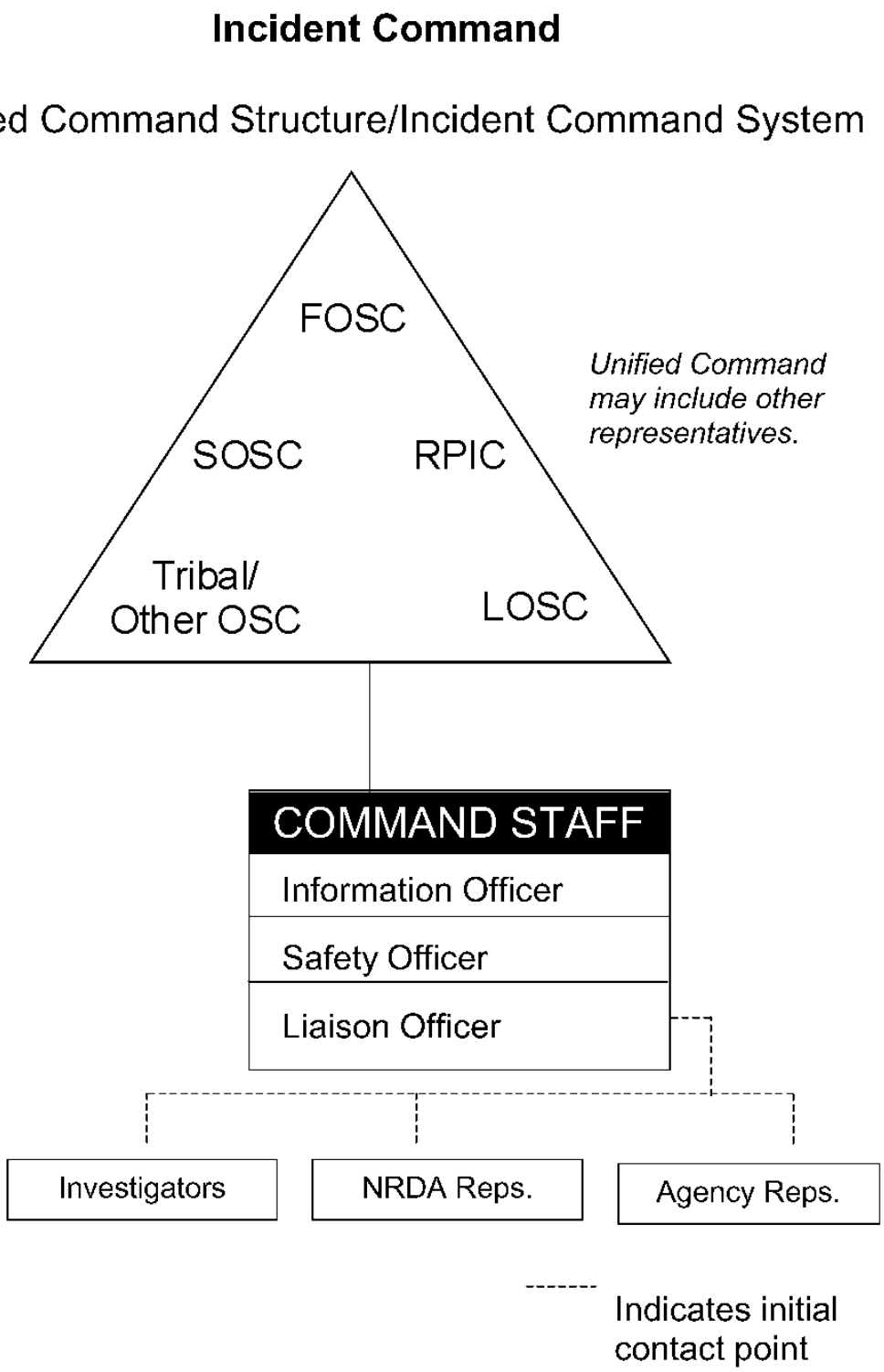

Figure 2000-1 Incident Command

2211 Naming Convention for Oil Spills – Washington State Policy

To ensure that accurate and credible information is provided to the public and to elected officials, it is the policy in Washington State to use the following naming convention for oil spills:

1. **Source by Name**: Name of vessel or facility, or other source (rail, pipeline, etc.)
2. **Geographic:** Location of the incident
3. **Incident Description**: Spill, spill threat, fire, explosion, grounding, sinking, etc.
4. **Date**: May be optional if the spiller has had previous oil spills.

When UC is formed, UC officials negotiate and concur on key decisions, which may include the name of the incident.

2212 Non-floating Oils – Expectations and Unified Command Responsibilities

The expectation of the Co-chairs of the NWAC and committee members is that non-floating oil will be identified in the initial report of an oil spill to the National Response Center. With knowledge that oil spilled is a non-floating oil, professional oil spill responders will identify specialized submerged oil equipment and personnel and bring it to the scene. Unified Commanders must concern themselves with writing response objectives aimed at underwater detection, containment, and recovery. See Section 9412, "Non-floating Oil Spill Response Tool," for details on response techniques, equipment capabilities, and considerations for non-floating oil spill response. See Section 2232 for safety concerns specific to non-floating oils.

2220 Information Officer

The Regional Response Team (RRT)/NWAC prefers that the spiller not fill the Information Officer position. This applies to both government agency and private industry spillers. However, the RRT/NWAC recognizes that UC holds the discretion to fill the position with whomever they choose. UC should consider credibility with the media and public, as well as previous experience in drills or spills, familiarity with the Northwest Area Contingency Plan tools and policies and with Emergency Management Support Function #15. Upon concurrence of UC, the spiller may fill the Information Officer position. The RRT/NWAC also encourages responsible parties to designate an Assistant Information Officer, who will participate in all the meetings attended by and briefings made by the Information Officer.

See Section 9202, "Joint Information Center Manual."

2221 Pre-Joint Information Center – Initial Information Officer

When a state environmental or emergency management agency, the United States Coast Guard, or the United States Environmental Protection Agency (EPA) first

learns about a spill, the respective Public Information Officers (PIOs) should quickly contact one another to share information in an effort to release a joint statement to the media. This first release should be issued within 30 minutes of the initial notification and not longer than two hours after notification is received. Initial media releases should be approved by the FOSC or his/her designated representative and the SOSC prior to release.

Until a Joint Information Center (JIC) is established, communication with the media and other key audiences is carried out by a lead agency's information office, either remotely or on site.

To build trust with the public and among agencies that are responding to the incident, every press release should include a "cooperative response statement." This statement should include, by name, all the primary participating agencies who are responding to the spill.

The volume of material spilled is an important piece of information that the public and media are generally interested in during the early hours of an incident. Unless responding agencies have accurate information regarding the volume spilled that has been approved through the UC for release, initial press releases should use a range of volumes, state the potential spill volume, or emphasize that the volume is only an estimate that may change as more accurate information is obtained.

2222 Joint Information Center Function and Use of Dispersants

Once UC sets objectives to consider the use of dispersants, it is critical that the JIC prepare for communication with the public.

The Information Officer will review any Environmental Unit (EU) Dispersant Recommendation Memo prior to its submission to the UC for consideration, and will work with the Environmental Unit Leader (EUL) to ensure that the memo meets the needs of the Information Officer.

If the UC decides to proceed with the use of dispersants during an incident response, the JIC should be prepared to provide a mechanism for sharing information with the public and addressing potential concerns. The JIC should also be ready to outline the process used to make the decision, provide background and scientific information about dispersants and the area in which they will be used, and address any other environmental and safety considerations expressed by the public.

2223 Joint Information Center Use of Social Media and Website

At the formation of a JIC, the Information Officer will provide recommendations to establish an incident specific website and use of social media accounts. The Information Officer should advise Unified Command on options for hosting the incident specific website, including agency supported site or purchase of site

hosting platform. Additional guidance and best practices are found in Chapter 9202.7.6.

2230 Safety Officer

Personnel involved in oil spill response activities must comply with all applicable worker health and safety laws and regulations. The UC may appoint a Safety Officer and request development of a specific Site Safety Plan. Site Safety Plan Job Aid is described in Section 9203, "Health and Safety Job Aid." Key safety aspects to be considered in the plan may include:

- Physical hazards (e.g., waves, tides, unstable or slippery surfaces);
- Heavy machinery and equipment;
- Chemical hazards (e.g., oil and dispersant exposure);
- Atmospheric hazards (e.g., fumes, ignition risks);
- Confined spaces;
- Personal protective equipment;
- Noise;
- Fatigue;
- Heat/cold stress;
- Wildlife (bites/stings);
- Cleanup facilities;
- Medical treatment; and
- Extreme weather.

The Hazard Assessment Worksheet as provided in Section 9701 or equivalent should be completed before personnel enter a hazardous location or site for the first time. When complete the worksheet is attached to the SDS/Chemical Database Print-out/Bill of Lading and submitted to the Documentation Unit.

2231 Safety Officer Function and Use of Dispersants

The Safety Officer will review the EU Dispersant Recommendation Memo prior to its submission to the UC for consideration and will work with the EUL to ensure that the memo meets the needs of the Safety Officer.
Additional safety considerations when using dispersants include:

- Individuals should not engage in activities that they are not appropriately trained to perform.
- Individuals are expected to adhere to safety procedures appropriate to the conditions under which they are working.
- Vessel/aircraft operators are expected to define appropriate operational limits and safety and maintenance requirements for their craft.
- Vessels and response resources should be properly maintained and undergo proper decontamination procedures.

- Apply dispersants only if there is no significant risk to response personnel (e.g., ignition risk, operational hazards).
- Ensure that appropriate personal protective equipment is used.
- Ensure that application aircraft and vessels remain within standard operating limits.

2232 Safety Officer Function and Non-floating Oils

When diving operations are conducted in contaminated water or in an area where there is a substantial threat of discharge of oil or hazardous materials, commercial divers must also comply with the Occupational Safety and Health Administration training and operational standards for Hazardous Waste Operations and Emergency Response (HAZWOPER). Divers should provide proof of HAZWOPER training, proof that they participate in a medical monitoring program with their employers, and evidence that they have completed the annual refresher training, before commencing diving operations. The Safety Officer should supplement his or her site-specific safety plan and on-site safety audits with a safety checklist for contaminated water diving if divers are used to locate non-floating oils. See Section 9412, "Non-floating Oils Response Tool" for details on response techniques, equipment capabilities, and considerations for non-floating oil spill response. The American Petroleum Institute (API) Technical Reports in Attachment C of the 9412 tool contain additional information on diving operations and safety considerations for non-floating oil response:

- API Technical Report 1154-1, Section 6: Diving in Oil Contaminated Water[1]
- API Operational Guide, Report 1154-2, Section 7: Safety Considerations[2]

2233 Safety Officer Function and Flammable Materials/Volatile Oils

Because of high concentrations of light hydrocarbons in volatile oils, the potential for fire and explosion is the single largest risk to responders and public health. Examples of such products includes, but is not limited to, gasoline, condensate and Bakken crude. Extreme caution should be exercised especially during the initial stages of response. Section 3320.1, "Tactical Response Options, Gasoline and Other Flammable Liquids" and Section 4622 "Gasoline and Other Flammable Liquids Response Policy" provide guidance on the response challenges and strategies with gasoline and other products with light ends. Operations should also refer to general response guidelines in the 2012 Emergency Response Guidebook prepared by the United States Department of Transportation – Pipeline and Hazardous Materials Safety Administration and Transport Canada. Bakken is not listed by name, but falls under Petroleum Crude Oil.

[1] American Petroleum Institute, February 2016, *Sunken Oil Detection and Recovery, API Technical Report 1154-1*, First Edition, API Publishing Services, Washington, DC.

[2] American Petroleum Institute, February 2016, *Sunken Oil Detection and Recovery Operational Guide, API Technical Report 1154-2*, First Edition, API Publishing Services, Washington, DC.

2234 Safety Officer Function and Crude Oil

During the initial days of spill response, the major components of concern to human health in crude oils include the volatile compounds— benzene, toluene, ethylbenzene, and xylenes (collectively called BTEX) and hydrogen sulfide (H_2S)—that can result in acute and sublethal effects via inhalation exposure. Extreme caution should be exercised especially during the initial stages of response.

2235 Safety Officer Sampling and Monitoring Requirements

On hazardous waste sites it is required to conduct monitoring for health and safety hazards to protect employees and workers. This includes:

1) Evaluate the need for medical monitoring of response personnel
2) Help determine if samples need to be shipped as dangerous goods
3) Monitoring for health and safety hazards during initial site entry
    a) Make visual observations of the site to detect signs of actual or potential chemical, physical, and biological hazards immediately dangerous to life and health (IDLH) or other dangerous conditions
    b) Conduct representative air monitoring with direct reading test equipment, when the preliminary site evaluation does not eliminate the potential for ionizing radiation or IDLH conditions
    c) Assess the following:
        i) Potential IDLH conditions
        ii) Exposure over radioactive material dose limits
        iii) Potential exposure over permissible exposure limits (PEL's) or other published exposure levels
        iv) Other dangerous conditions such as the presence of flammable or oxygen-deficient atmospheres
        v) Physical hazards
4) Evaluating employee exposure to hazardous substances during clean-up operations
    a) Identify the type of personnel monitoring and environmental sampling you plan to use, including instrumentation
    b) Include requirements for maintaining and calibrating the monitoring and sampling instrumentation used
    c) Monitor whenever employees may be exposed to concentrations exceeding PEL's or other published exposure levels
    d) Evaluate employees who are likely to have the highest exposure:
        i) Monitor all employees who are likely to have the highest exposure to hazardous substances or health hazards above the PEL
        ii) Use personal sampling frequently enough to characterize the exposures of these employees
        iii) When results indicate exposure over PEL, identify all employees likely to have been exposed to levels above that PEL
5) Conduct monitoring when the possibility of one of the following exists:
    a) An atmosphere that is immediately dangerous to life and health; OR
    b) A flammable atmosphere; OR

c) Employee exposures above PEL.

HUMAN SAFETY OVERRIDES ALL OTHER CONSIDERATIONS DURING A RESPONSE

2240 Liaison Officer

Given the importance of the Liaison Officer (LNO) duties, and to ensure public confidence and trust, it is the policy of the RRT/NWAC for the LNO position to be filled by a qualified representative of a federal, state, tribal, or local agency, if available. If no such agency representative is initially available, qualified, or willing to be the LNO, an RP representative may, upon the UC's concurrence, fill that role. Furthermore, a transition to an RP designated LNO may occur with the concurrence of the UC. The RRT/NWAC also encourages responsible parties to designate an Assistant LNO to participate in the meetings attended by the LNO.

See Section 9210, "Liaison Manual."

2241 Liaison Function and Use of Dispersants

Once UC sets objectives to consider the use of dispersants, it is critical that Liaison prepares for communication with stakeholders, including elected officials. Stakeholder meetings should be scheduled as soon as possible to provide a mechanism for sharing information and addressing concerns. Liaison should be ready to provide first initial, and then reliable and continuous, updates to stakeholders once the decision to use dispersants is made.

Areas that must be adequately addressed during a response for stakeholders include:

- Background and scientific information;
- Decision process and area plan policies for dispersant use;
- Seafood tainting concerns posed by dispersants;
- Risk communication;
- Discussion of net environmental benefit analyses and species of special concern; and
- Monitoring policies established for the spill.

The LNO will review the EU Dispersant Recommendation Memo prior to its submission to the UC for consideration and will work with the EUL to ensure that the memo meets the needs of the LNO.

2250 Natural Resource Damage Assessment

Natural Resource Damage Assessment (NRDA) involves identifying the type and degree of impacts on public biological and cultural resources in order to assist in restoring those resources. NRDA may involve a range of field surveys and studies used to develop a monetary damage claim, or may involve immediately developing a restoration plan with the RP. NRDA activities for small spills

typically involve simplified assessment methods and minimal field data collection.

Given that the goals of NRDA are outside the sphere of most emergency spill response actions, NRDA activities generally do not occur within the structure, processes, and control of the ICS. However, particularly in the early phases of a spill response, many NRDA activities overlap with environmental assessment performed for the sake of spill response. Because NRDA is carried out by natural resource trustee agencies and/or their contractors, personnel limitations may require staff to perform NRDA and response activities simultaneously. Therefore, NRDA staff should remain coordinated with the spill response organization and need to work with the LNO to coordinate with the UC, EU, Wildlife Branch and the National Oceanic and Atmospheric Administration Scientific Support Coordinator to resolve any problems or address areas of overlap. While NRDA resource requirements and costs may fall outside the responsibility of the Logistics and Finance sections, coordination is again important.

2260 Incident Investigation

Criminal or civil investigators from federal and state agencies will not normally be a part of the UC. While personnel may report to individuals that are part of the UC, the investigators should be separate so as not to introduce polarizing forces into the UC system. Coordination with UC is done through the LNO.

Chapter 3000

Operations

Northwest Area Committee Expectations:

- Northwest Area Committee members and those responding within the region are fully aware of key policies, expectations, and procedures in the Northwest Area, including:
  - Staffing of the Wildlife Branch under the Operations Section.
  - The role of the Operations Section in use of dispersants, salvage and when responding to rail incidents.
  - Shoreline cleanup tactics and property access.

Critical Elements of Chapter 3000:

- Offers operations safety guidance for responding to Bakken oil spills.
- Offers operations guidance on fast water response, remote sensing tactics, response to gasoline (or other highly volatile) oil spills.

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Operations

3100 Operations Section

All incidents begin with operations. The Operations Section Chief must be both tactically competent when responding to and possess a thorough understanding of the Incident Command System (ICS). For a quick explanation of how the Operations Section functions and organizes its work, please refer to Section 9315.

Some of the primary responsibilities of the Operations Section Chief are:

- Manage tactical operations;
- Ensure tactical operations are conducted safely;
- Maintain close communications with the Incident Commander/Unified Command (IC/UC);
- Identify required tactical resources to accomplish response objectives;
- Identify staging areas;
- Assemble and disassemble strike teams and task forces; and
- Assist in the development of the Incident Action Plan (IAP).

3101 Function and Organization of the Operations Section

3101.1 Initial Response

The ICS 201 Operations Diagram provides the operational structure for the initial day's response and that structure remains in place until the IAP is approved, briefed and commences. The incident works under the ICS 201 in the *Reactive Phase* of the response and under the IAP in the *Proactive Phase*. The Operational Diagram for the next operations period will not be complete until after the Tactics Meeting occurs and not final until approved by Unified Command (UC) in its Planning meeting. Finally, the operations diagram is not displayed in the Incident Command Post (ICP) until the operational period commences.

3102 Initial ICS Organization

Until Operations is established as a separate Section, the IC has direct control of tactical resources. The IC will determine the need for a separate Operations Section at an incident or event. When the IC activates an Operations Section, he or she will assign an individual as the Operations Section Chief.

3103 Role of an Operations Section Chief

The Operations Section Chief will develop and manage the Operations Section to accomplish the incident objectives. The Operations Section Chief is normally selected from the organization with the most jurisdictional or functional responsibility for the incident. The position of Operations Section Chief should be filled by the person with the greatest technical and tactical expertise in dealing with the problem at hand.

The Operations Section Chief roles are as follows:

- Operations Section Chief (along with Command and General Staff) develop and implement strategies and singularly develops and implements tactics.
- Responsible for developing and implementing strategies and tactics to carry out the Incident Objectives.
- Responsible to the IC/UC for the direct management of all incident-related operational activities.
- Organizes, assigns, and supervises all tactical field resources assigned to an incident, including air operations and those resources in a staging area.
- Has direct involvement in the preparation of the IAP.
- May have one or more Deputies assigned.
- The assignment of Deputies from other agencies may be advantageous in the case of multijurisdictional incidents.

The **Operations Section Chief's** workload consists of a combination of responsibilities both inside the ICP and in the field. Their day starts with the Operations Briefing at which time the Operations Section Chief discusses current response actions and accomplishments and the plan for the upcoming operating period. Once the operations brief is complete and after heading to the field to see how ICS work assignments are proceeding, the Operations Section Chief should begin to formulate what the next day's operational period work will entail.

When the Operations Section Chief returns to the ICP, they use the UCs objectives, the Work Analysis Matrix and Operation Planning Worksheet to prepare for the Pre-tactics and Tactics meetings. Once the Tactics Meeting is complete, the Operations Section Chief (or Deputy Operations Section Chief) returns to the field to speak to the division and group supervisors dealing with field issues to ensure the work is on track before returning to the ICP for the Planning Meeting.

The Operations Section Chief returns to the ICP to present the operations plan for the next operational period at the Planning Meeting. Depending on the complexity of the incident, an incident may be managed with a single Operations Section Chief, an Operations Section Chief and a Deputy working nights, or multiple Deputies working days and nights. In medium- to-large spills, the Operations Section Chief may use the Planning Operations Section Chief Deputy role to keep the IAP development process on track while they are in the field.

3104 Operations Section Technical Management

3104.1 Staging Areas

Staging areas are locations where incident personnel and equipment are assigned awaiting tactical assignment. All resources in the Staging Area are ready for deployment. Out-of-service resources are NOT located in the Staging Area. Each Staging Area should have a direct line of communication with the Resource Unit and should utilize ICS-211P and 211E for resource tracking. Staging Area Managers should determine adequacy of staging areas, communications and other support aspects and request additional support using ICS-213RR as needed. Staging Area names should account for the geographic location. For example, if it were located at Shilshole Marina, the name could be "Shilshole Marina Staging." After a Staging Area has been designated and named, a Staging Area Manager will be assigned. The Staging Area Manager will report to the Operations Section Chief or to the IC if the Operations Section Chief has not been designated.

In the event of a larger spill with multiple Staging Areas established, span of control may be managed by assigning a Staging Area Branch Director to oversee all of the Staging Area Managers.

The Staging Area Branch is responsible for supervising the Staging Area Managers (STAMs) as well as coordinating their activities including assigning STAMs and receiving, maintaining, checking-in/out, storing, and distributing resources. The Staging Area Branch will generally remain in the Incident Command Post and supervise the STAMs from there.

3104.2 Divisions

ICS Divisions are established **to divide an incident into geographical areas of operation**. The benefits of a **Divisional Organization** allow resources a clearly assigned location and can be found easily on a chart or map.

The person in charge of each Division is designated as a **Supervisor.** Divisions are determined by the needs of the incident. The most common way to identify Divisions is by using alphabet characters (A, B, C, etc.). Other identifiers may be used as long as the assigned responders know Division identifiers.

Northwest Regional Contingency Plan (NWRCP) best management practice naming conventions for divisions:

- Name the incident/source location Division A.
- Mainland divisions are named with a single alpha character B to Z a three-letter regional identifier City or County. For example, SKG-B for Skagit County.
- Island divisions are named with double alpha characters BB to ZZ proceeded by a 3-letter island code. For example, the convention would be SJI – BB for San Juan Island.

Riverbank Divisions are marked on the right descending bank or the left descending bank. Riverbank Divisions typically should not cross rivers. For

example, B-L or B-R looking to the mouth of the river. For larger spills the name may be proceeded by a regional identifier.

Divisions are land-based operations with a boundary against a shoreline where coastal spills are concerned. Divisions are not boundaries/breaks on the water; these boundaries/breaks are referred to as Branches. Determining the length of a Division along a shoreline involves several factors.

Consider the following when determining how to set Division boundaries:

- Span of control issues when dealing with both personnel and equipment resources
- Access issues and constraints, both on land and on water
- The degree of shoreline oiling. Heavy oiling would call for shorter segments while minimal oiling may allow the use of larger divisions
- Natural breaks such as a bridge or geological feature.
- Predominate shoreline types
- Jurisdictional boundaries such as a city, county or state line
- Consultation with the Environmental Unit to ensure that Divisions encompass rather than bisect Shoreline Cleanup Assessment Technique (SCAT) segments or Geographic Response Plans (GRP).
    - For example, the shoreline operational divisions are organized and named according to County boundaries. Within county domains, division boundaries are guided by logical features such as coastal physical characteristics and land ownership/management, shoreline cleanup logistical considerations and manageable working size. Logistics, access and manageability are driving considerations, particularly as it relates to types of cleanup operations required and problems likely to be present.
    - In Area Contingency Plan areas having more than one county, Shoreline Operational Divisions may utilize a single alpha character (A to Z). Shoreline Operational Divisions are labeled from north to south in each county. For example, the northern-most Operational Division in King County is "K-A." In large bays (i.e., Elliott), the labeling will continue in a clockwise direction to accommodate changing coastline angles. Divisions can be subdivided, if necessary, by Operations to account for unforeseen work assignment effort.

Operations should have in mind how to expand Divisions beyond the next operational period; however, Divisions should be created, named and populated based on the next day's operational needs. Creating Divisions in areas that are not yet impacted may not allow for the flexibility needed in subsequent operational periods.

In the early hours of a spill, responders will implement the GRP priority tables. This prioritized list of strategies may call for implementation of protection booming outside the impacted area. The Operations Section may not initially need

to create Divisions for all areas where GRPs are activated. Initially the GRP priority table deployments are best handled functionally, with a protection group or taskforce early in the spill before the actual extent of the oiling is determined via aerial observations. After the boom is deployed (and if a geographic division has been identified for the area) the GRP strategy may then be maintained as a resource assigned to the division where the strategy is located.

If a spill occurs at a facility that has pre-designated Divisions for their area of potential impact, those Divisions should be utilized. Pre-identifying Divisions based on the considerations listed above is a *Best Practice* under the NWRCP.

3104.3 Groups

Groups are used to describe **Functional** areas of operation. The person in charge of each Group is designated as a **Supervisor.**

The kind of Group established is determined by the needs of an incident. Groups are labeled according to the job that they are assigned (i.e., Sampling Group, Disposal Group, Protection Group, etc.). Groups will work wherever their assigned task is needed and are not limited geographically.

The benefits of a **Functional Organization** allow movement of resources without boundaries.

In general, coastal zone spills start with a heavy emphasis on the Functional Organization (on-water recovery, shore-side protection, shore-side recovery) and as time goes forward, the organization morphs into a Geographic Organization driven by SCAT and beach clean-up, while inland spills in narrow waterways may begin and end predominately as Geographic Organizations.

3104.4 Divisions and Groups

Divisions and Groups can be used together on an incident. Divisions and Groups are at an equal level in the organization. One does not supervise the other. When a Group is working within a Division on a special assignment, Division and Group Supervisors must closely coordinate their activities.

3104.5 Establishing Branches

If the number of Divisions or Groups exceeds the span of control, it may be necessary to establish another level of organization within the Operations Section called **Branches.** The person in charge of each Branch is designated as a **Director**. Deputies may also be used at the Branch level.

- Branches may be used to serve several purposes and may be functional or geographic in nature.
- Branches may be established for specialized or critical operations where strategies, tactics, and resources differ from oil spill response operations. For example; Damage Control, Salvage, Source Control, or Wildlife Branch.
- In general, Branches are established when the number of Divisions or

Groups exceeds the recommended span of control of one supervisor to three to seven subordinates for the Operations Section Chief.

- Branches are identified by Roman numerals, geographic location, or functional name.
- A Branch Director manages Branches. Branch Directors may have a Deputy. In multiagency incidents, the use of Deputy Branch Directors from assisting agencies can be of great benefit to ensure and enhance interagency coordination.
- Some incidents may require the use of aviation resources to provide tactical or logistical support.
    - On smaller incidents, aviation resources will be limited in number and will report directly to the IC or to the Operations Section Chief.
    - On larger incidents, it may be desirable to activate a separate Air Operations organization to coordinate the use of aviation resources. The Air Operations organization will then be established at the Branch level, reporting directly to the Operations Section Chief.
    - The Air Operations Branch Director can establish two functional groups. The Air Tactical Group coordinates all airborne activity. The Air Support Group provides all incident ground-based support to aviation resources.

3104.6 Branches, Other Factors

While span of control is a common reason to establish Branches, additional considerations may also indicate the need to use these Branches, including:

- **Multidiscipline Incidents.** Some incidents have multiple disciplines involved. Examples may include Source Control Branch, On-Water Recovery Branch, Near-Shore Branch, Damage Control, Salvage, Wildlife Branch, or Recovery Branch, etc.
- **Multijurisdictional Incidents.** In some incidents, it may be better to organize the incident around jurisdictional lines. In these situations, Branches may be set up to reflect jurisdictional boundaries.
- **Very Large Incidents.** Very large incidents may organize using Geographic or Functional Branches or both.

3104.7 Operations Section: Expanding and Contracting

The organization within the Operations Section reflects the objectives established by the IC. The Operations organization usually develops from the bottom up and may include:

Task Forces: Task Forces are comprised of a combination of mixed resources with common communications operating under the direct supervision of a Task Force Leader. Task Forces can be versatile combinations of resources and their use is encouraged. The combining of resources into Task Forces allows for several resource elements to be managed under one individual's supervision, thus lessening the span of control of the Division/Group Supervisor.

Task Forces are recommended as the initial tactical units to establish in operations. As additional resources and tactics are identified, Task Forces should be moved into Groups and Divisions as needed to maintain span-of-control.

Commonly used "Task Force" numbering conventions

- 1 – 19: Recovery Group
- 20 – 39: Protection Group
- 40 – 59: Shoreline Recovery Group
- 60+: Differentiate per the needs of the response

Strike Teams: Strike Teams are a set number of resources of the same kind and type with common communications operating under the direct supervision of a Strike Team Leader. Strike Teams are highly effective management units. The foreknowledge that all elements have the same capability and how many will be applied allows for better planning, ordering, utilization and management.

Hot Shot Teams have been defined as teams that have tools such as personnel, boom, and vessels and are assigned to the staging site. They are available but not engaged until the operating period commences and can be called upon by Division and Group supervisors for unforeseen operations. Their Function is to respond to and mitigate issues identified by On-Scene Coordinator (OSC), Division/Group Supervisors and SCAT in real time. Hot Shot Teams are organized as Functional Units so that they are not limited by geographic boundaries.

Single Resources: May be individuals, a piece of equipment and its personnel complement, or a crew or team of individuals with an identified supervisor. The IC or Operations Section Chief at an incident may work initially with only a few single resources or staff members. The Operations Section usually develops from the bottom up. The organization will expand to include needed levels of supervision as more and more resources are deployed.
At some point, the Operations Section and the rest of the ICS organization will contract. The decision to contract will be based on the achievement of tactical objectives. Demobilization planning begins upon activation of the first personnel and continues until the ICS organization ceases operation.

3200 Wildlife Branch

The primary purpose of the Wildlife Branch is to provide the best achievable care for oil-impacted wildlife and to minimize wildlife losses during oil spills. This includes preventing injury to wildlife or habitats, from either the oil itself or from any response countermeasures. The Wildlife Branch, working within the Operations Section, develops the operational strategies, tactics, and resource needs for its activities and submits these for inclusion in the incident action plan. It is the policy of the Northwest Area Committee (NWAC) that representatives of the United States Fish and Wildlife Service (USFWS) will assume the positions of Director and Deputy Director of the Wildlife Branch. State fish and wildlife representatives will assume these positions if a USFWS representative is not

available or if designated by a USFWS representative. This designation may be made on a case-by-case basis or through a pre-existing agreement. Appointment of other parties, including tribal or responsible party representatives, to one or both positions may be made by a USFWS representative or their designee at any time during an incident, and for such periods as may be deemed appropriate. Unless otherwise indicated by USFWS, these positions will be delegated to the Washington Department of Fish and Wildlife for spills that occur within the legal boundaries of Washington State.

The Wildlife Branch Director is responsible for implementing the Northwest Wildlife Response Plan (Section 9310) for the Northwest Area, which describes the roles, responsibilities, and duties of the Wildlife Branch and its associated personnel. The Wildlife Branch Director is also responsible for ensuring compliance with applicable federal and state wildlife laws and mandates on behalf of the Unified Command (UC) during a response.

Indian tribes retain sovereign authority to manage wildlife resource issues within their respective reservation boundaries and the Wildlife Branch will consult with and coordinate any wildlife response operations with tribal governments whose lands may be impacted by an oil spill.

The Wildlife Branch is activated whenever a federal or state trustee agency, responsible party, or the UC determines that an oil spill has occurred in the vicinity of wildlife resources (primarily mammals or birds) or when a spill's expected trajectory puts these wildlife resources at risk. Activation of personnel and equipment is based primarily on anticipated impacts to wildlife and will be appropriate to the size of the spill. Depending on the incident size, and the potential threat to wildlife, the Wildlife Branch may range in size from just a Branch Director to a more complex organization such as is represented in Figure 3000-1 (below). The equipment and other resources needed for a wildlife response can also vary significantly depending on the specific circumstances.

To help assess and reduce potential wildlife impacts, it is important that an initial wildlife assessment be conducted on-site by trained professionals as soon as is practicable. This assessment serves to identify already impacted wildlife, wildlife that is potentially at risk of being impacted, and to determine whether specific strategies (such as deterrence) could be implemented to reduce wildlife impacts from occurring altogether. This assessment will also help to determine the type and kind of resources that the Wildlife Branch will need to mobilize to address the needs of the incident, including which trustees may need to become involved in the Wildlife Branch.

Whenever possible, representatives of appropriate trustee agencies should be included in the Wildlife Branch to assist in the planning of branch activities to ensure that wildlife operations will comply with each trustee's governing laws and obligations to preserve and protect wildlife and habitat. These trustee agencies may also be able to provide important information about local wildlife resources, sensitive species or habitats, logistical considerations, and other issues that could arise during a spill response.

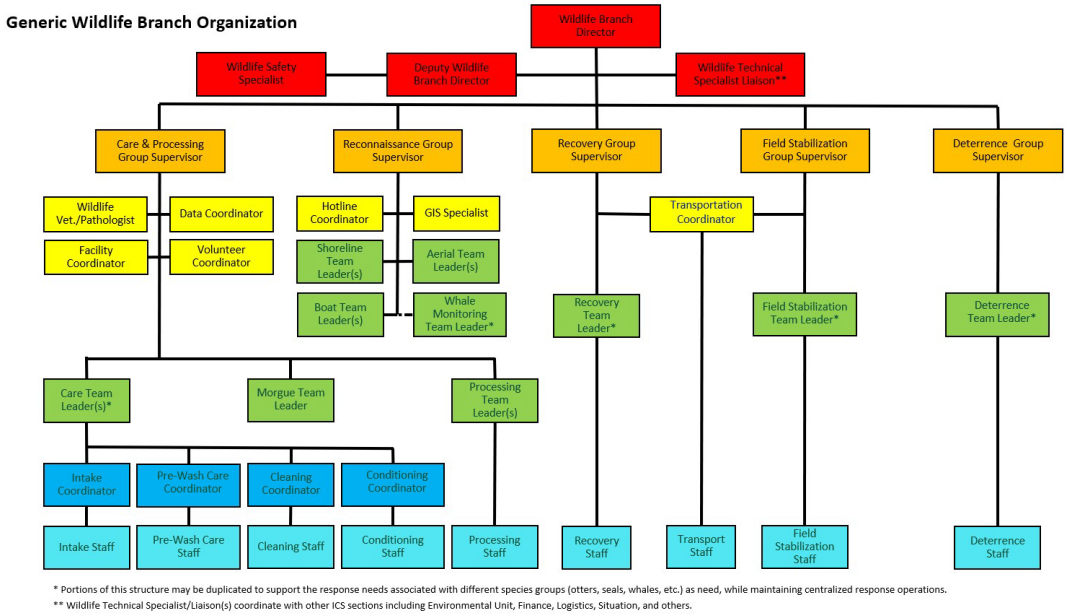

Figure 3000-1 Wildlife Branch Organizational Structure

The Wildlife Branch Director coordinates and manages the activities of all personnel in the Wildlife Branch who are under the authority of the UC during a spill response, including those associated with any federal, state, and local agencies or any commercial and nonprofit organizations involved in the wildlife response.

The Wildlife Branch is organized into five main groups: Wildlife Reconnaissance, Deterrence, Recovery, Field Stabilization, and Care and Processing. Each of these is managed by a Group Supervisor who reports to the Wildlife Branch Director. As with other parts of the Incident Command Structure (ICS), this organization can be modified as needed according to the needs of a particular response.

Wildlife Branch activities affect and interact with other parts of the ICS including the UC, the Environmental Unit, the Situation Unit, and the Public Information Officer/Joint Information Center. To ensure that wildlife activities are smoothly incorporated into a response, good communication must be established and maintained between the Wildlife Branch and these other parts of the response structure.

Worker safety must be considered as a part of any wildlife response effort and all Wildlife Branch activities must conform to the Incident Site Safety Plan during a response. Additional safety requirements may also be included in an incident-specific Wildlife Branch Safety Plan as necessary. Appropriate biosecurity measures will be utilized as needed to reduce the risk of transmission of infectious diseases between wildlife and personnel.

The determination to suspend wildlife operations and demobilize the Wildlife Branch is made by the UC based upon a recommendation from the Wildlife Branch Director and in consultation with other trustee agencies. The process of cleaning and rehabilitating oiled wildlife can take several weeks and some

animals, especially those recovered late during a response, may still require care for some time after other response resources have been demobilized. For this reason, the wildlife rehabilitation personnel, equipment, and facilities deployed by the Wildlife Branch may be the last resources to be demobilized following a response. As fewer animals remain in care, Wildlife Branch personnel and equipment will be demobilized as appropriate, and this process will follow any checkout procedures established by the UC.
See Section 9310 for more detailed information concerning the organization, activities, and responsibilities of the Wildlife Branch.

3300 Tactical Response Options

The Operations Section, in coordination with the Planning Section, develops the specific tactics for response strategy implementation.

3305 Temporary Flight Restrictions

A Temporary Flight Restriction (TFR) is a regulatory action issued via the United States Notice to Airmen system to restrict certain aircraft from operating within a defined area, on a temporary basis, to protect persons or property in the air or on the ground. This restriction applies to planes, helicopters, and also unmanned aerial vehicles (UAVs; often referred to as drones).

To request a TFR during an incident, call the Seattle Air Route Traffic Control Center (ZSE) at 253-351-3520, commonly referred to as Seattle Center, which supervises all Federal Aviation Administration (FAA) facilities that fall under the NWRCP including Washington, all of Oregon except the southeastern corner, and northern Idaho. For incidents not in that area the correct Air Traffic Control Center will be Salt Lake City Center (ZLC) at 801-320-2500. If unable to reach the FAA over the phone, requestors may contract the United States Coast Guard Sectors Puget Sound or Columbia River for assistance contacting the FAA through their respective Air Stations.

TFRs are authorized under several different sections of the Code of Federal Regulations. Generally speaking, TFRs in connection with a discharge/release can be requested by military commands; federal security/intelligence agencies; regional directors of the Office of Emergency Planning, and State Governors.

The following information is required when requesting a TFR:

- Name and organization of person recommending or requesting a TFR;
- Brief description of the situation;
- Location, size, and altitudes of the restricted area requested (normally no more than a five-mile nautical mile radius and an altitude between 2,000 and 5,000 feet above mean sea level or MSL);
- Estimated duration of restrictions; and
- Name of agency responsible for on-scene emergency activities and telephone of other communication contact.

The most recent circular on requesting a TFR can be found on the FAA website at this link. In large responses, the Air Operations Branch will be responsible for obtaining a TFR. Once confirmed, the Air Operations Branch should share this information with the OSC, Safety, and the Public Information Officer (PIO) at a minimum.

Licensed pilots typically understand the TFR process and how to verify if a TFR has been established by the FAA. However, many members of the public who purchase private UAVs do not. To better communicate the establishment of a TFR to this segment of the population, it is recommended the Air Operations Branch Director, or their designee fill out the template and provide the PIO/Joint Information Center so they can disseminate the specifics of the TFR on social media.

#NOTICE #UNIFIEDCOMMAND #AVIATION A Temporary Flight Restriction, including #DRONES, is in affect for the area (South of W-Road; North of X-Bridge; East of Y-River; and West of Z-Bay) up to an altitude of X-feet. Aircraft/drones may not operate in this area without FAA permission. This TFR is to protect (INCIDENT NAME) responders. For more info visit: (small URL to FAA TFR site).

3310 Situation Assessment

At any release where the lead agency determines that there is a threat to public health or welfare or the environment, the lead agency may take appropriate removal action to abate, prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release, or the threat resulting from that release (National Oil and Hazardous Substances Pollution Contingency Plan [NCP], Section 300.415(b)(1)). For releases determined to pose a substantial threat to public health or welfare, the Federal On-Scene Coordinator (FOSC) must direct a response to the incident.

The following checklist is intended to be used as a guideline for developing tactical response options/strategies. This list is not presented in order of importance and may not apply to every situation. The checklist does not prohibit the Operations Section from choosing response options or strategies that are not listed.

- Determine whether special circumstances exist requiring special action, such as:
  - Health and safety issues
  - Fire and/or explosions (see Gasoline Response Policy, Section 4622)
  - Access limitations (barricades, security fences, etc.)
  - Vessel collision
  - Vessel groundings
  - Lightering operations
  - Salvage operations
  - Vessel traffic blockages
  - Sample collection and analysis for evaluation or source determination

- Implement support infrastructure, i.e.:
  - Determine a response structure that is consistent with UC System principles that will be used, and from there determine the level of support needed to fill positions in the structure, which include Finance, Logistics, Operations, and Planning (see Chapter 2000, "Command" for further discussion of the UC System).
- Implement the Geographic Response Plan for the incident's location, based on real time information and protection strategy effectiveness (see Section 4400, "Geographic Response Plans." http://www.oilspills101.wa.gov/northwest-area-contingency-plan/geographic-response-plans-grps/list-of-geographic-response-plans/).
- Determine and mobilize the personnel necessary for initial response efforts.
- Mobilize equipment; see http://www.wrrl.us.
- Coordinate volunteers (see Chapter 4000, "Planning").
- Identify initial resources at risk using Geographical Response Plans or any other source of information available (see Section 4400), such as:
  - Natural resources – fish, wildlife, habitats, and Endangered Species Act issues (see Section 4314, "Endangered Species Act.")
  - Cultural Resources – Initiate contact with a State Historic Preservation Officer (see Section 4313, "National Historic Preservation Act; https://www.achp.gov/protecting-historic-properties)
  - Socioeconomic resources
    A. Critical infrastructure
       - Drinking water intakes
       - Energy/power generation intakes, locks, and dams
       - Federal/state irrigation agricultural channels and water projects

    B. Water dependent commercial areas
       - Industrial intakes
       - Agricultural irrigation intakes
       - Aquaculture
       - Marinas
       - Commercial fishing and shellfish harvest areas
       - Federal/state and private fish hatcheries
       - Specially designated residential, commercial, and industrial areas (e.g., floating homes and live-aboard marinas)

    C. Water dependent recreational areas
       - Boating
       - Public recreational areas
       - Sport fishing
       - National/state/local parks and beaches
       - National seashore recreational areas
       - National river reach designated as recreational
- Notify and coordinate with Natural Resource Trustees (see notification section 9106 for contact information; in the state of Washington, contact the Washington Department of Ecology [Ecology]).

- Coordinate with Federal and State Natural Resource Damage Assessment personnel (see notification section 9106 for contact information, in the state of Washington, contact Ecology)

3320 Containment and Cleanup

The following checklist is intended to be used as a guideline for developing tactical response options/strategies. This list is not presented in order of importance and may not apply to every situation. The checklist does not prohibit the Operations Section from choosing response options or strategies that are not listed.

For detailed information on the listed options and strategies, refer to "Characteristic Coastal Habitats: Choosing Spill Response Alternatives" Job Aid at http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/characteristic-coastal-habitats.html, as well as Section 4600, "Response Technologies for Oil Spills, and Section 9420, "Northwest Area Shoreline Countermeasures Manual and Matrices."

- Natural recovery (includes setting aside areas for research purposes and countermeasures effectiveness determination. Recognize that identifying set-aside sites involves a complex matrix of scientific, logistical, legal, and public relations issues.);
- Booming and containment (see Gasoline Policy Section 4622);
- Skimming (see Gasoline Policy Section 4622);
- Barriers and berms;
- Physical herding;
- Manual oil removal/cleaning;
- Mechanical oil removal;
- Sorbents;
- Vacuuming;
- Debris removal;
- Sediment reworking/tilling;
- Vegetation cutting/removal;
- Flooding/deluge;
- Dispersants (see Section 4620, "Decanting During On-Water Recovery" and http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/smart.html);
- In-Situ burning (see Section 4610, "Dispersant Use Policy," Section 4610, "Decanting During On-Water Recovery," Section 4620, and Section 9407 In-Situ Burn Operational Planning Tool);
- Decanting (Section 4620); and
- National Marine Fisheries Service Biological Opinion for oil response.

A critical element to containment and cleanup is to monitor the strategies/tactics that have been implemented for effectiveness and efficiency. It is also important to discuss and develop criteria/guidance for terminating the cleanup.

3320.1 Gasoline and Other Flammable Liquids

Spills of gasoline and other flammable liquids, including many crude oils, pose significant response challenges as well as serious health and safety concerns for responders and communities downstream and downwind from the release. Gasoline range products are finished gasolines and volatile hydrocarbon fractions used for blending into finished gasoline, including straight-run naphtha, alkylate, reformate, benzene, toluene, xylene, and other refined petroleum products with a flash point below 100 degrees Fahrenheit (37.8 degrees Celsius). When these types of products are spilled into the environment, it is imperative to take immediate steps to control the source of the release (where safe), to eliminate all possible ignition sources, to quickly establish isolation distances, to notify regulatory and local response agencies, and to initiate a preliminary site safety plan prior to any response activities. However, it is essential that no personnel enter a potentially unsafe environment prior to an initial safety assessment, including vapor monitoring for flammable materials, reduced oxygen, and toxic substance levels.

In many cases, highly flammable liquids should not be contained as part of spill response. Containing gasoline and other highly flammable liquids increases the risk of fire by delaying dispersion of vapors into the atmosphere. The risks posed by response techniques such as booming and applying foam to spilled gasoline and other flammable liquids are warranted only under very limited circumstances. However, in some cases and as judged by the FOSC, Incident Command, or UC, containment and the use of foam may be appropriate and necessary in response to an imminent threat to public health and safety and the environment. Deflection and protection booming can be used to move flammable liquids away from sensitive areas but must be conducted in a safe manner, within safe atmospheric levels. In unaffected downstream or down current areas at risk, a boom should be deployed prior to arrival of the product. Though mechanical recovery of flammable liquids on water can be an effective practice under some circumstances, often the more prudent response option is to allow flammable liquids to evaporate and dissipate.

Given the inherent danger of booming flammable liquids on water, as well as the products' rapid rates of evaporation and dissipation, the NWACs adopt the following guidelines for responding to gasoline and other flammable liquid releases on water. **Note that these are only guidelines. Each release must be evaluated based on its particular circumstances. Safe work practices and professional judgment should always prevail.**

- Control the source of flammable liquids as quickly as possible, when safe to do so.
- Ensure that proper safety precautions are taken to prevent accidental ignition and risk to responding personnel and the general public. An

evacuation may be warranted under some circumstances. In many cases, the best response option may be to allow the spilled product to spread and evaporate.

- Notify emergency and regulatory response agencies. Involve local fire jurisdictions immediately.
- Ensure that proper site hazard analysis and risk assessment are conducted to determine the scope of the release and initiate the development of a Site Safety Plan.
- Establish control zones as soon as possible. Track and predict movements of both liquid and vapors and re-establish control zones as appropriate.
- Eliminate all potential ignition sources within appropriate control zones.
- Prevent entry of the spilled product into waterways, sewers, or confined areas.
- Conduct air monitoring throughout the response.
  - Note: Air monitoring must be conducted with the greatest of care. Air monitoring both increases the exposure danger to responders and introduces possible accidental ignition sources. Nearby population centers should be monitored, as should the leading edge of the vapor cloud. However, in open water areas it may make more sense for responders to stay away from the concentrated area around the spilled material. In any area that is being monitored, the monitoring should be conducted continuously, if possible. Also, only direct reading, intrinsically safe, continuously monitoring instruments should be used. Lower explosive levels, oxygen, hydrogen sulfide, and benzene levels should all be monitored.
- Coordinate response efforts with all agencies; work within a UC.
- Identify and prioritize environmental concerns. Conduct exclusion, deflection, and protective booming downstream or down current as appropriate, outside of hazardous atmospheres and prior to the arrival of the released product.
- Workers should avoid touching, walking, or boating through the spilled product.
- Avoid prolonged inhalation exposure to fumes. Consult appropriate reference guides for exposure limits.
- Allow the product to evaporate and dissipate unless there is an imminent threat to public health and safety.

- When appropriate, use fire monitors/water fog spray to move product out from under docks and other collection areas where the product concentrates.
- Stage firefighting foam (appropriate to the type of flammable liquid released) and application equipment, if appropriate.
- All equipment used when handling the product must be grounded.

3320.2 Non-floating Oils – Policy and Operational Tactics

In the Pacific Northwest non-floating oils and Group V oils are moved over the water, over highways and rail corridors, in pipelines and stored in aboveground storage tanks. Non-floating oils refer to heavy oils and Group V oils that exhibit qualities which could, due to the oil characteristics, weathering, environmental factors or how they are discharged, potentially cause the oils to submerge or sink. Examples of these types of oils include, but are not limited to, Diluted Bitumen (dilbit), Group V Residual Fuel Oils, Low American Petroleum Institute Oil, Asphalt and Asphalt Products.

It is the policy of Regional Response Team (RRT) 10 that communication of the potential for sinking oil must again be brought to the attention of the UC at the Initial UC Meeting.

There are logistical and operational difficulties in detecting and recovering non-floating oils in the water column or on the sea floor or river bed. For spills of non-floating oils, or other oil products where submerging or sinking is a concern, the NWACs advocate use of the Sunken Oil Detection and Recovery Operational Guide, American Petroleum Institute (API) Technical Report 1154-2, First Edition, February 2016. The Operational Guide identifies, and documents current best practices and alternative technologies possessing the potential to more effectively detect, contain, and recover sunken oil, defined as "the accumulation of bulk oil on the bottom of a water body." Each technology mentioned includes a detailed description of the method, its advantages and disadvantages, and summary tables. Each technology entry also includes the kinds of information needed to select the most effective approaches to sunken oil detection and recovery.

- Refer to Section 9412, Sunken Oil Detection and Recovery Operational Guide, API Technical Report 1154-2, First Edition, February 2016.[1]
- Refer to API Technical Report 425, Options for Minimizing Environmental Impacts of Inland Spill Responses, October 2016 as supportive supplement to API-Technical Report 1154-2.[2]

[1] American Petroleum Institute, February 2016, *Sunken Oil Detection and Recovery, API Technical Report 1154-1*, First Edition, API Publishing Services, Washington, DC.
[2] American Petroleum Institute, February 2016, *Sunken Oil Detection and Recovery Operational Guide, API Technical Report 1154-2*, First Edition, API Publishing Services, Washington, DC.

United States Coast Guard (USCG) Oil Spill Removal Organization (OSRO) Classification Guidelines for Non-floating Oils

Detection:

Detection Types (Examples):

1) Sonar Systems;
2) Underwater Visualization Systems;
3) Diver Observations;
4) Sorbents;
5) Laser Fluorosensors;
6) Visual Observations by Trained Observers;
7) Bottom Sampling; and
8) Water-column Sampling

Recovery:

Recovery Types (Examples):

1) Suction Dredge;
2) Diver-directed Pumping and Vacuuming;
3) Mechanical Removal;
4) Sorbent/V-SORs;
5) Trawls and Nets;
6) Manual Removal; and
7) Agitation.

Storage:

Available storage within the Captain of the Port (COTP) zone will be compatible with the recovery devices. Storage requirements align with Higher Volume Port Area requirements and planning criteria.

Environment (COTP Zone):

All OSRO equipment will be suited for the area in which it's intended to operate. This will include weather, types of water bottoms, currents and water visibility, logistical challenges, etc.

Containment (Optional):

OSROs may choose to keep containment equipment on hand, but it is not a condition of becoming a classified OSRO for non-floating oil.

OSRO's will have non-floating oil procedures that connect their inventory, personnel and contractual assets in their ability to respond to an incident.

Response times for non-floating oil Facility Response Plan's and Vessel Response Plan's slightly differ, but the National Strike Force Coordination Center has made the determination that the stricter standard will be utilized when evaluating OSRO's response capability. Classified non-floating oil OSRO's must be capable of responding within 24 hours of discovery of a discharge. Refer to Section 9412, "Non-floating Oil Spill Response Tool" for details on response techniques, equipment capabilities, and considerations for non-floating oil spill response.

3320.3 Operational Safety Issues Associated with Bakken Crude Oil

Because of the presence of up to 30 percent (by volume) light volatiles in Bakken Crude oil, the potential for fire and explosion is the single largest risk to responder and public health regarding this type of oil. Accordingly, extreme caution should be exercised during the initial stages of response. Operations should refer to the general response guidelines in the 2016 Emergency Response Guidebook prepared by the United States Department of Transportation – Pipeline and Hazardous Materials Safety Administration and Transport Canada.

3320.4 Fast Water Oil Spill Response

Oil spills in fast moving water above 1 knot require special tactics and can be difficult to control and recover due to the ease with which oil mixes with water and entrains under booms and skimmers. Fast currents also make deploying equipment and maneuvering on the water very difficult and dangerous due to the high forces exerted on boats and recovery equipment. Fast water accelerates many spill processes, necessitating quicker and more efficient responses compared to stagnant water or slow-moving current conditions. More experience and skill are needed to successfully complete responses.

For the purposes of the NWRCP, "fast water" is defined as any current above 1 knot. Oil may begin to entrain under a boom at 0.7 knots; however, it is unrealistic and unnecessary to be that exact when responding to an oil spill, so the more generalized measure of 1 knot is used. Areas of fast water exist throughout the Northwest, including in Puget Sound, the Strait of Juan de Fuca, the Columbia River, Haro Strait, and most rivers.

In general, fast water spill response uses the same equipment as slow water spill response, but it is deployed in ways that account for the current. Examples include setting the boom on angles such that the oil flows along the boom rather than under it. The faster the current, the steeper the angle the boom must have to prevent boom failure. By setting up cascading booms, oil can be diverted away from sensitive areas or to containment or recovery devices near shore where currents are slower due to bottom frictional effects.

Rigging the angled booms can be time consuming. Additionally, the pressure put on the booms by the currents is substantial and creates safety hazards. To conduct these operations safely and efficiently, it is critical that experienced responders lead the deployment.

There are known "best practices" for responding in fast water, especially in challenging currents exceeding 2 knots. For example, a 10-inch boom with a 4-inch skirt and 6-inch freeboard works best in fast water, and anchoring boom in fast water requires anchors and lines that can withstand 3,000 pounds of force. Additional fast water techniques and practices are applied as well. There are some specialized pieces of equipment that are intended to improve fast water response, as described below.

A **BoomVane™** is a device for deploying oil containment boom into rivers and other waterways by harnessing the power of the current. A cascade of vertical vanes under the wave-rider float are designed so that the current pulls the vane into the center of the channel, in current speeds of 0.5 to >5 knots. The system can be operated in waters with heavy traffic and debris. The lightweight design and control rudder allow for easy retrieval and re-launching. The BoomVane™ can also be towed with a boat to operate a single vessel sweep system without the need for an outrigger arm. This piece of equipment can be used to hold one end of a boom in the center of the channel instead of setting up rigging from the opposite shoreline. For more details, see http://www.elastec.com/oilspill/containmentboom/boomvane/index.php.

Boom Deflectors are installed between boom sections prior to deployment. The wing on the deflector is set at an angle against the water flow. As the water moves the deflector wing, the boom is also moved at an angle toward the shoreline. The speed of the current will determine the appropriate angle to set the wing. Faster currents will apply more force, and therefore less angle on the wing is needed to achieve the desired results. The Boom Deflectors are made from aluminum and are 80 inches long and 16 inches high, with a wing that is 60 inches long and 12 inches high. Two people using the handles built in at the top can easily move a deflector. This piece of equipment can be used to hold boom at an angle and reduce the amount of rigging required.

NOFI Current Busters® are a combination booming and collection system intended to be towed by a single boat. This system uses two booms in a V shape that is underlain by a net to concentrate the oil. At the base of the V, the boom widens out again in a loop to create a quiescent zone that acts both as a collection area and an oil water separator. Current Busters come in different sizes and can handle currents of 3 to 5 knots. This equipment improves the ability to collect and recover oil that is moving in currents. For more details, see http://www.qualitechco.com/env/products/boom-vane.

The DESMI Speed-Sweep System is a heavy-duty rubber boom recovery system designed to allow for the collection of oil at greater speeds. Once the pollutant has been collected at the cusp, a skimmer can be located at the apex and recovery can begin. The high efficiency DESMI Speed-Sweep System is designed to either connect to a Ro-Boom system or operate as an independent collection unit. It can be towed either between two vessels or by one vessel with a jib arm or paravane. The Speed-Sweep can collect oil up to speeds of 3 knots, which results in easier and quicker operations all round. This system allows the surface water and oil to be slowed by as much as 70%, which allows the oil to concentrate in the apex ready for collection. No head wave phenomena or planing will occur. For more details, see http://www.desmi.com/advanced-sweep-systems/speed-sweep.aspx.

The MegaSecur Water Gate is a water barrier technology that quickly stops the flow of a stream in order to create a water reserve, perform aquatic work, or stop the spread of a toxic spill. Recognized worldwide for its reliability, durability, and

ease to deploy, the "WA" category barriers adapt to all situations and all relief without exception. Models are available for water depths from 15 to 60 inches. For more details, please visit http://megasecur.com/products/serie-wa/.

Tactical Manuals

The USCG has published two resources for fast water response. These remain the most commonly used manuals and are available online:

- Oil Spill Response in Fast Currents: A Field Guide, USCG Research and Development Center, 2001, Report No. CG-D-01-02
  Available at:
  http://wildpro.twycrosszoo.org/000ADOBES/OilSpill/Spills_FastCurrent.pdf
- Oil Response in Fast Water Currents: A Decision Tool, USCG Research and Development Center, December 2002, Report No. CG-D-03-03
  Available in Section 9302.

3330 Monitoring Oil Movement

The following best practices should be followed when monitoring oil movement:

- Conduct overflights and collect detailed photographic, video, low visibility, and/or infrared information
- Conduct computer modeling and develop oil spill trajectories. For support, contact the National Oceanic and Atmospheric and Administration (NOAA) Scientific Support Coordinator 206-526-6322 or 206-526-4883, also see Section 9106.1, "Federal Agency Response Partners: Roles and Contacts" for more information about the NOAA's role in spill response.
- Conduct shore-side and on-water assessments to monitor proximity of spill to sensitive areas (see "Shoreline Assessment" Job Aid at http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/shoreline-assessment-job-aid.html).

3340 Remote Sensing during Oil Spill Response

Many factors must be considered when contemplating the use of remote-sensing technology during an oil spill response. There are three basic arenas in which the sensors can operate:

- Terrestrial platforms (land or water-based): these platforms can support observers using visual means of detection, cameras (single frame, television, infrared, etc.), and/or radar.
- Aircraft (manned helicopters, manned fixed wing, or drones): these platforms can support visual observers, cameras (same as terrestrial), radar (of various types), infrared, lasers (of various types), microwave, and/or ultraviolet.
- Satellites: these platforms typically use electronic detection means, mostly types of radar.

All sensor/platform packages provide different spatial resolutions, dwell times, on-scene ("delivery") times, planning requirements for use, swath widths, detection thresholds, analysis times, difficulty of data interpretation, false detection rates, weather limitations, and costs. Additionally, there are dramatic differences in each sensor's capabilities to accomplish specific tasks. Of interest to the response effort are such things as slick size, description, and movement; relative oil thickness; location of the thickest oil; type of oil being observed; etc. In addition, various environmental conditions have a bearing on the sensor. For example, darkness, fog, rain/snow, sun location, and cloud coverage, etc. are important considerations.

The geometry of the situation also plays an important role. A sensor at high altitude is able to "see" a larger area, but typically at a lower resolution than would be obtainable by a platform operating at a lower altitude. Moreover, many sensors, including visual, lose detection capability at certain acute angles.

In general, increased capability comes with increased cost. At the high end, these costs can be extraordinary. In addition, no single sensor package will give all the information desired at a given spill under all conditions. At the high end, the very sophisticated laser-based sensor packages may be able to give more information; however, most of the information is merely "nice to know" and is of little value to the actual response. For instance, absolute oil thickness is of little value if a much less expensive sensor will provide a sufficiently reliable estimate of relative thickness for the purpose of guiding response actions. Also, classification of the oil type and characteristics would likely be of little value when such information can be easily obtained from the spiller or from the first responders on scene.

Region 10 currently has access to the following remote sensing tools:

Terrestrial

In addition to visual observation (mostly from a vessel), the USCG Sector Puget Sound Joint Harbor Operations Center has the capability to view various camera feeds throughout the marine waters of northwest Washington using the Sensor Management System. This system is a joint USCG/United States Navy application that captures federal, state, local, and port partner sensor feeds and vessel track data throughout this area, displaying them on a global information system display. This system also includes optical and infrared cameras.

In the event of a significant spill, the FOSC has the ability to contact the Joint Harbor Operations Center where one of the 24-hour watch standers can view the affected area on the Sensor Management System, giving a broader view of the spill and any hazards that might be present that cannot be seen from the shore.

Aircraft

In addition to customary visual observation from helicopters and fixed wing aircraft, the following are available:

- King County Sheriff helicopter with infrared capability, and

- Washington State Patrol fixed wing aircraft with infrared capability.

Satellite

Both commercial and military satellite platforms exist.

A literature search reveals the following sensor technologies, each with its own set of capabilities and limitations that could potentially be useful for oil spill response. The NWACs Science Response and Technology Workgroup will study these sensors in greater depth for inclusion in future updates to the Northwest Area Contingency Plan:

- Next generation infrared,
- Ultraviolet,
- Microwave,
- Laser,
- Laser-acoustic, and
- Various satellite platforms.

3350 Dispersants

According to the NCP, for areas that are not Pre-Authorized or No-Use Zones, (as described in Section 4610), the FOSC must request approval for the use of dispersants from the RRT, in particular; there must be concurrence from the affected state and the United States Environmental Protection Agency (EPA), with consultation with the United States Department of the Interior and United States Department of Commerce.

In preparation for RRT approval, typically the UC will trigger a process to evaluate the applicability of dispersant use for the specific conditions of that incident, by setting that as an objective. During the time that the EU is following its procedures (Section 4610) for evaluating whether dispersant use is appropriate for the specific incident, the Operations Section should also be conducting its own preparations, including ordering of resources, described in further detail below.

The types of oils typically produced or transported in Washington offshore waters are oils imported from Alaska such as Alaska North Slope crude oil or oil imported from foreign countries into northwest ports; oils from Canadian sources, including Alberta crude and dilbit; and a range of fuel oil types that could be spilled from a variety of marine industrial activities (e.g., fuel tanks from ships, cargoes of small tankers).

Dispersants typically work best on spilled oil with a relatively low viscosity at the time of treatment and when there is wave energy to mix the dispersant into the oil. Viscous and emulsified oil typically may not disperse as effectively as fresher oil, even with sufficient mixing. Therefore, the window of opportunity for application of dispersants is small, meaning that all preparations, authorizations, and logistics must be undertaken as expeditiously as possible while ensuring thorough adherence to all appropriate regulations and notifications.

Dispersants are typically applied using either a vessel or aircraft-mounted spraying unit. Spray systems need to be able to apply the appropriate dispersant dosage in droplets that are the appropriate size. Droplets that are too small can be subject to wind drift; those that are too large will pass right through the oil slick. Both the flow rate and the droplet size are a function of the spray bar pressure and nozzle type. Application systems should be calibrated prior to use, preferably with the specific dispersant type to be used. This determination should be made in the Operations Section during the preparation for the RRT dispersant use approval decision.

Approved dispersants are listed in the NCP Product Schedule (https://www.epa.gov/emergency-response/ncp-product-schedule-products-available-use-oil-spills) as per Subpart J of the NCP. In the Northwest, dispersant stockpiles are maintained by some of the OSROs.

As a best practice and if time allows, before dispersant applications proceed, a small test should be conducted, in which dispersants are sprayed on a portion of the slick. Once dispersant operations are underway, a monitoring/observation program should be established to monitor the safety of operations, and observations of wildlife in the area, in addition to Special Monitoring of Applied Response Technologies (SMART) protocols to monitor of the effectiveness of the application (http://response.restoration.noaa.gov/sites/default/files/SMART_protocol.pdf).

Operations will develop Daily Operational Plans using these guidelines as a minimum:

- Dispersant must only be applied by experienced spray applicators and in accordance with manufacturer instructions.
- The persons applying dispersant are responsible for the calibration and operation of the spraying system, and the safety and maintenance of the application platform.
- Droplet size is the key variable influencing dispersant effectiveness. Undersized droplets (e.g., fog or mist) will be lost through drift and evaporation. Oversized droplets will punch through the oil and be lost in the water column.
- Only undiluted concentrate dispersant is applied from aircraft. Dispersant should, where possible, be applied into the wind and parallel with the slick.
- Dispersant should be applied in a methodical and continuous manner to ensure that the entire target area is treated.
- Spraying effort should concentrate on the thickest sections, and/or the leading edges, of oil that threatens sensitive areas. Use visual observation or remote sensing to locate the thickest concentrations of oil.
- Thick portions of the slick may require several applications.

- Oil sheen should not be sprayed with dispersant.
- In general, aerial application is preferred over vessel application. The altitude of the aircraft should be as low as possible.

Dispersant applications must be monitored to confirm whether or not dispersant use is effective. The SMART protocols are the accepted protocols for monitoring dispersant applications and should be utilized. However, dispersant applications should not be delayed simply because monitoring is not in place. The policy of the RRT is that visual observation (Tier 1 of SMART) is the minimum level of monitoring during a dispersant application. Once a dispersant application operation is a potential option, the Operations Section should immediately request deployment of the USCG Strike Team to the spill site if dispersant use is likely. The Strike Team maintains monitoring capabilities for SMART monitoring and can typically deploy a team within 2 hours of notification. The USCG FOSC will typically deploy the Strike Team.

A decision to end dispersant application due to poor effectiveness should ideally be based on SMART monitoring results. Review all aspects of the application and monitoring for possible reasons why dispersant application may be ineffective, including:

- Dispersant formulation,
- Application ratios (increase or decrease oil: dispersant ratio),
- Application methods,
- Monitoring methods,
- Interpretation of monitoring results
- Oil weathering, and
- Weather conditions.

Further details regarding how SMART field data should be interpreted and utilized to make decisions on adjustments to or termination of dispersant application can be found in the SMART Manual (http://response.restoration.noaa.gov/sites/default/files/SMART_protocol.pdf).

3360 Shoreline Cleanup

Under certain conditions, it will be appropriate to take actions to remediate the effects of oil on shorelines. Other conditions may dictate that no actions should be taken. The primary goal of any shoreline countermeasure is the removal of oil from the environment with no further injury or destruction to that environment, ideally to help enhance the treated area's ability to recover.

To best assess and determine the appropriate treatment options for affected shoreline, the SCAT provides a comprehensive program of assessment, monitoring, and treatment recommendations for affected shorelines. On USCG spills, SCAT is typically run from the EU within the Planning Section. The EPA may choose to run this from within the Operations Section for inland spills.

Once a spill occurs, typically the EU will begin to develop a SCAT plan within the first day of a response, and the Operations Section will need to coordinate with the SCAT Coordinator to ensure appropriate interaction of the shoreline assessments and treatment recommendations with the shoreline cleanup tactics being used. The SCAT program and process typically leads the development of the Treatment Endpoints for shorelines, which will guide the Operations Section when their work on shorelines is complete.

Access to Shorelines for Cleanup
Access to shoreline areas may be accomplished from the water, land, or air. Deployment from the water usually involves using shallow water platforms such as landing craft and skiffs. Access from a land-based response utilizes trucks, all-terrain vehicles, or other four-wheel drive vehicles, while access from the air may be possible by helicopter. For coastal spills in the Pacific Northwest, access by air to some remote regions may be the only option. In some cases, permission for entry onto private property must be obtained first.

Passive Oil Recovery
Shoreline cleanup is usually carried out in stages, starting with the removal of the heaviest accumulations of oil, which reduces the risk of recontamination by floating oil. Passive recovery can be applied to shorelines that have already been oiled to help keep the re-mobilizing oil from refloating and migrating to other non-impacted shorelines. Passive recovery can be deployed along shorelines prior to shoreline assessment occurring. Passive recovery can also be used to line the inside of a containment, diversion, or exclusion boom as an effective collection technique.

Shoreline cleanup operations can produce a significant solid waste stream; all wastes generated must be measured, stored, and disposed of according to the approved Disposal Plan (Sections 4325 and 9405).

3370 Removal and Disposal

Ensure adequate disposal of released substances. Moving of hazardous substances off site must comply with regulations promulgated under the Resource Conservation and Recovery Act (RCRA). Under certain circumstances, some of the procedural requirements of the RCRA regulations can be waived. The specific circumstances are described in the RCRA regulations (see Section 4315, "Resource Conservation and Recovery Act" for RCRA guidance).

- Outline the disposal plan, prepared with the EU and in accordance with the disposal guidelines found in Section 4325 and Section 9405, "Disposal Guidance for Washington State and Oregon State."
- Comply with federal, state, and local disposal laws/regulations:
  - Obtain necessary permits.
- Determine the volume of oil or hazardous substance for disposal and possible recovery credit.
- Take measures to minimize waste:

  - Segregate clean from contaminated waste.
  - Line storage area to contain contaminated waste.
- Identify disposal locations (on site vs. offsite).
- Secure transportation for product disposal.

3380 Demobilization

The following actions should be taken when demobilizing from the site:

- Complete final survey.
- Clean/return equipment.
- Survey/replace equipment.
- Restore damaged areas in consultation with appropriate Natural Resource Trustees and property owners.

3390 Salvage

Before, during, and/or after an oil spill or potential incident, salvage assistance may be required. A salvage plan may be developed within the response organization for, but not limited to, vessel stranding, vessel sinking's and rescues (towing). The IC/UC will review and approve or disapprove the salvage plan based on the resulting risk to human life, port security, and the environment.

Initial rescue efforts will have priority over pollution response efforts, to the extent that they may interfere. Subsequent to any rescue efforts, the pollution response efforts and salvage efforts may be conducted concurrently. The On-Scene Coordinator will prioritize actions when interference between salvage and pollution response efforts cannot be eliminated.

USGC COTPs have jurisdiction over vessel salvage; this does not preclude any other agencies' interests with respect to spill prevention or response. Ecology would normally be part of the Salvage/Source Control Group.

For general guidelines to follow in responding to an incident that requires salvage operations, refer to United States Navy Salvage Manual Volume 1–6 http://www.supsalv.org/00c2_publications.asp?destPage=00c2&pageId=2.6 and Section 5230 for Resource Listings.

For additional salvage guidance, see the Sector Columbia River or Sector Puget Sound Salvage Annex to the Marine Transportation Security Plan. For specific salvage resource lists also see the Western Response Resources Inventory at http://www.wrrl.us/.

Contacts for Salvage References and Support:

- Navy Supervisor of Salvage:
  - Supervisor of Salvage Operations (202) 781-2736
  - After hours and on weekends (NAVSEA Duty Officer) (202) 781-3889

- Switchboard (202) 781-1731
- Office of the Director of Ocean Engineering Supervisor of Salvage and Diving (SUPSALV) http://www.supsalv.org

SUPSALV can provide the services of naval architects, may provide the services of naval salvage vessels, and has access to contracts that will provide the services of commercial salvers and equipment. SUPSALV has developed and has available software for rapid analysis of longitudinal strength and intact/damaged stability; the software is known as Program of Ship Salvage Engineering.

- USCG Marine Safety Center Salvage Team:
  - During business hours: (202) 327-3985
    Duty email: SERT.Duty@uscg.mil
  - After hours, contact the USCG Headquarters Command Center: (202) 327-3985

  The USCG Marine Safety Center Salvage Emergency Response Team can evaluate vessel stability, hull strength, and salvage plans and may be available to go on scene. The Marine Safety Center may be able to provide vessel plans, if the ship is U.S. flagged.
- United States Army Corps of Engineers:
  - Vessel PUGET Supervisor: 206-498-8795
  - Vessel PUGET Captain: 206-399-0358

  The United States Army Corps of Engineers can respond to floating logs, debris, and navigational hazards, including derelict vessel up to 30 feet in length. A majority of this response work is conducted by the vessel PUGET, a 104-foot vessel with a 20-ton crane, typically moored at the Hiram M. Chittenden Locks in Seattle.

  NOTE: Be prepared to provide the following information when calling for support: brief description of services required, location, urgency, point of contact, and telephone number. If the task is urgent and requires immediate mobilization, this fact should be clearly articulated and include a statement that funding will be provided by separate correspondence.

- Ecology
  - Through Washington Department of Emergency Management 24-hour number: (800) 258-5990

  Ecology can provide response and reviews of salvage or lightering plans.

3400 Responding to Rail Incidents

Parties that offer for transportation, accept for transportation, transfer, trans-load, or otherwise handle hazardous material for transportation via rail are required to

have the following available at all times: the basic description and technical name of the hazardous material, immediate hazards to health, risks of fire or explosion, immediate precautions to be taken in the event of an incident or accident, immediate methods for handling fires, and initial methods for handling spills or leaks in the absence of fire and preliminary first aid measures. They must also provide an emergency response telephone number of a person who is either knowledgeable regarding the hazardous material being shipped and has comprehensive emergency response and incident mitigation information for that material, or has immediate access to a person who possesses such knowledge and information. The emergency response number may be the number for the shipper, consignee, beneficial owner, or contract services provider (e.g., CHEMTREC). When a service provider is used, the shipper must register with the company and provide safety data sheets and contact telephone numbers. During an emergency when the contract provider is called, the provider will provide responders with shipment information and will then contact the shipper and pass along the information. At this point, the shipper will contact the first responders. More information on requirements can be found in 49 Code of Federal Regulations 172 Subpart G.

In general, rail carriers transport products on lines that they own. However, there are a variety of agreements that allow carriers to operate on lines owned by other companies. Regardless of whose trains are operating on the line, the track owner is responsible for the emergency response phase of the incident. Once the emergency is over, cleanup or other monitoring work may be transferred to the transporter. Where trackage rights do not exist, the shipment continues to its destination after being transferred at an "Interchange Point." At this Interchange Point, the responsibility shifts to the new line owner.

Currently, there are no requirements for the amount of response resources that track owners must have in order to respond to an incident on their lines. Below is a summary of resources available to several rail owners operating in Washington, Oregon, and Idaho. The rail companies surveyed for this information are Burlington Northern Santa Fe Railway (BNSF), Union Pacific Railroad (UP), Genesee & Wyoming, Inc. (Portland and Western Railroad, Puget Sound and Pacific Railroad), and Tacoma Rail/Tacoma Municipal Belt Line.

Incident Management: Once a derailment involving hazardous materials is detected, the local Public Safety Answering Point (PSAP or 9-1-1 center) is alerted. Local emergency services are then dispatched and respond to the scene to conduct a scene size-up, request additional resources, establish incident command, and initiate strategies to protect life, property, and the environment from fire and hazardous materials.
As additional local, state, federal, tribal, and private resources arrive, the command structure evolves into a UC with the following key positions:

- Local Agency Having Jurisdiction (or local on-scene spill coordinator);
- State OSC;
- Federal OSC, typically EPA and/or USCG;

- Tribal representative; and
- Responsible Party representative

UC will establish incident objectives that take into consideration and attempt to integrate existing local, railroad, state, federal, and tribal emergency response plans. Stakeholder agencies who do not have jurisdiction, authority, or a financial responsibility for the event – but have available resources and a vested interest in its outcome – will establish an Agency Representative who will report to the incident Liaison Officer. Upon assessing the scope and community-wide impacts of the incident, UC may request an Incident Management Team to support UC over multiple operational periods.

Air Monitoring: Air monitoring resources vary according to organization. The initial air monitoring may be conducted by the local first responders and HAZMAT teams until additional resources arrive such as OSCs and OSROs. The capabilities of these responders can vary depending on their location and the resources available to them. This air monitoring would be used to inform responder and public safety decisions.

Several of the carriers rely on their response contractors to provide air monitoring. In general, this air monitoring would be performed specifically for cleanup operations and not necessarily to support public safety decision making. BNSF has a more robust air monitoring program than the other providers, called the Tactical Toxicology program that is designed to provide air monitoring information for the incident. BNSF has the ability to cascade additional air monitoring equipment into the region as well as toxicologists and industrial hygienists. BNSF's air monitoring program will support response activities and public safety decisions in coordination with the local IC/UC. UP has the same ability to bring in contractors that specialize in toxicology and environmental health to support public health and safety decisions.

In all rail incidents, the decisions regarding public safety will be made by the local IC/UC.

Resources for Fire Fighting: In general, resources for combating a fire resulting from a train incident will come from local fire departments. BNSF and UP have additional resources, including foam trailers staged in Montana, Washington, and Oregon. Rail owners may also maintain contracts with private industrial firefighting companies.

In Oregon, both BNSF and UP have partnered with the Oregon Office of State Fire Marshal to pre-position eight (8) firefighting foam trailers that are hosted by fire departments with 24/7 staffing to deploy them to an incident.

Spill Response Equipment: In general, initial spill control at a train incident involving the release of hazardous materials will be implemented by first responders, local OSCs, or HAZMAT teams. Rail owners all contract with at least

one spill response contractor whose equipment they would rely on in an incident resulting in a spill. Rail owners determine the number of cleanup organizations they contract with. BNSF and UP have company-owned spill response equipment staged throughout the region. This equipment is listed on the Western Response Resource List.

Mutual Aid: Resources can be shared among the different rail companies if available, but there are no formal mutual aid agreements.

Chapter 4000

Planning

Northwest Area Committee Expectations:

- Northwest Area Committee members and those responding within the region are fully aware of key policies, expectations, and procedures in the Northwest Area, including:

  - Dispersant *In-Situ* Burning, and surface washing agent use,
  - Disposal and Decanting,
  - Gasoline and flammable liquids,
  - Bioremediation,
  - Places of Refuge,
  - Staffing the Environmental Unit,
  - Permitting, and
  - Endangered Species Act and National Historical Properties Act Compliance.

Critical Elements of Chapter 4000:

- Offers compliance guidance for many applicable laws and regulations.
- Describes the policy for developing Geographic Response Plans and the use of alternative countermeasures.
- Describes volunteer policy and organizational structure for incorporating volunteers into a response.

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Planning

4100 Planning Section Organization

Planning Section function and staff positions can be found in the National Incident Management System (NIMS) Guidance. The pattern for response will follow the NIMS Incident Command System (ICS) processes and position descriptions. Where NIMS ICS does not describe a process or organizational requirement, the incident specific need will be addressed during the incident.

4200 Roles and Responsibilities

The Planning Section is responsible for the collection and evaluation of incident situation information, preparing situation status reports, displaying situation information, maintaining status of resources, developing an Incident Action Plan, and preparing required incident related documentation. This is done under the direction of the Planning Section Chief. All functions not assigned by the Section Chief remain the responsibility of the Section Chief.

Additional information concerning staffing and function of the Environmental Unit (EU) is provided in Section 4213, below, due to its unique application to spill response.

4210 Planning Section Chief Responsibilities

The Northwest Area Committee (NWAC) views the Planning Section Chief position as critical to the success of a response and to the protection of human life, the environment, and the economy. It is expected that responsible parties (RPs) and agencies will assign experienced and qualified Planning Section chiefs to this position. It is also expected that the Planning Section Chief will ensure a robust and inclusive “prep for tactics” work period and include the appropriate staff from the Operations Section and EU.

4211 Planning for Dispersant Use

Once Unified Command (UC) sets objectives to consider the use of dispersants, it is critical that the Planning Section Chief establish and communicate a timeframe to complete the decision process and set a time for a UC dispersant decision meeting. The Planning Section Chief consults with the Environmental Unit Leader (EUL) when setting the timeframe.

4212 Situation Unit

The NWAC's expectation is that the Situation Unit will be able to collect, synthesize, present, and disseminate information for the response. This will require robust staffing and access to technology.

4213 Environmental Unit

Other than protecting human life and safety, reducing impacts on natural, cultural, and economic resources is the key motive in responding to an oil or hazardous substance spill or release. The EU is the central point within the Planning Section for determining how to best protect those resources.

4213.1 Environmental Unit Responsibilities

The EU is responsible for:

- Identifying all natural resources, economic resources, and cultural/historic properties likely to be affected by the spill or release and recommending priorities to protect these resources (see Section 9408, "Resources at Risk Response Tools" for an operational checklist for completing ICS form 232 – Resources at Risk);
- Providing guidance for the implementation of protection strategies contained within Geographic Response Plans (GRPs);
- Working with the Operations Section to establish any additional environmental protection strategies not identified in GRPs;
- Working with the Operations Section to coordinate wildlife rescue/rehabilitation activities;
- Developing a Shoreline Cleanup Assessment Team (SCAT) Plan (see Section 9421, "Shoreline Cleanup and Assessment [SCAT] Response Tools");
    - Establishing and managing the SCAT
    - Using SCAT information to recommend shoreline cleanup recommendations, priorities, and restrictions
    - Providing guidance regarding "how clean is clean" decisions;
- Providing technical review and recommendations regarding the use of alternative technologies;
- Developing a disposal plan (note: Washington State Disposal Guidelines are provided in Chapter 9000, "Response Tools");
- Providing information to the Joint Information Center and Incident Commander/Unified Command regarding natural resource concerns/impacts;
- Coordinating with Natural Resource Damage Assessment activities;
- Coordinating with the Wildlife Branch and Air Operations Branch on issues involving wildlife hazing.

4213.2 Environmental Unit Leader Staffing Policy

The NWAC and Region 10 Regional Response Team (RRT 10) recognize that there is a shared responsibility to manage a response among the UC

representatives. Moreover, it is broadly recognized that the critical phase of any response, regardless of size, occurs during the initial hours after the spill or release. Given the importance of the EU's duties, and because the responsibility and knowledge base for public resources lies with trustee agencies, it is in everyone's best interest to ensure that early critical response decisions are made by the most knowledgeable individuals quickly, efficiently, and effectively. Therefore, it is the policy of the NWAC that the EU be led by a representative of a government natural resource trustee or environmental agency, if available. If no such agency representative is initially available or willing to lead the EU, an RP representative may fill that role. Furthermore, as the response action matures, a transition to an RP-designated EUL may occur with the concurrence of the UC. The NWAC also encourages spill response plan holders and RPs to designate a Deputy EUL, who will participate in all the meetings attended and briefings made by the EUL. These meetings and briefings include, but are not limited to, the following pre-identified ICS scheduled events:

- Initial ICS 201 briefing,
- Command and general staff meetings,
- Tactics meetings,
- Planning meetings,
- Operations meetings,
- UC briefings, and
- Press conferences.

4213.3 Washington State Policy on Environmental Unit Leadership

As the response matures, Washington State agrees that the Trustee EUL will co-lead the EU with an RP. The Co-Leader situation will continue until such time that the Trustee representative in the EU and the UC agree to an RP lead only. For moderate to large incidents, the Co-Leaders will primarily attend meetings together, so it may be important to designate an Assistant EUL. The Assistant EUL's job is to stay in the EU to ensure that assignments made by the Co-Leaders are carried out and complete other duties as assigned by the Co-Leaders.

4213.4 Environmental Unit Staffing

All trustee resource agency staff with environmental information/expertise should initially report to the EU. This includes technical specialists (e.g., Scientific Support Coordinator [SSC]) identified elsewhere within the ICS organization. However, it is recognized that the SSC is an independent advisor to the Federal On-Scene Coordinator (FOSC). Technical specialists might include:

- Sampling Specialist,
- Response Technology Specialist,
- Trajectory Analysis Specialist,
- Weather Forecast Specialist,
- Resources at Risk Specialist,
- Shoreline Cleanup Assessment Specialist,

- Historical/Cultural Resources Specialist, and
- Disposal Specialist.

4214 Special Emphasis: Resources at Risk

The Resources at Risk (RAR) Summary provides information about locations in the incident area that are sensitive due to environmental, archaeo-cultural, or socioeconomic RARs. Typically, the ICS 232 – Resources at Risk form is completed within the EU. The ICS 232 form identifies and prioritizes incident-specific priorities and issues. The EUL, with input from resource trustees, will complete this form for each operational period. See Section 9408, "Resources at Risk Response Tools" for guidance on completing an ICS 232 form.

Sources and types of information for the ICS 232 form may include, but are not limited to, the following:

- Environmental Sensitivity Index (ESI) Maps,
- Environmental Response Management Application Northwest,
- Washington State Coastal Atlas,
- Oregon Incident Response Information System,
- Washington Department of Fish and Wildlife Priority Habitat and Species,
- Geographic Response Plans,
- Watersheds and Aquifers,
- Threatened and Endangered Species,
- Nautical Charts, other maps, and
- Tribal Reservation Lands and Usual and Accustomed (U&A) areas.

The GRPs contain pre-identified strategies or tactics to address the protection or mitigation of risk for some—but not all—RARs. Strategies may need to be developed for an incident specific resource at risk. It is possible that a resource may not be able to be protected from potential impacts; however, it is important to know what resources may be at risk within the incident area. The EU may provide guidance to the Operations Section on how to best implement protection strategies, including considerations of Endangered Species Act (ESA) and cultural resources.

4215 Marine Transportation System Recovery Unit

The Marine Transportation System (MTS) Recovery Unit is responsible for planning infrastructure recovery for transportation security incidents and other incidents that significantly impact the MTS. The MTS Recovery Unit Lead will track and report on the status of the MTS, understand critical recovery pathways, recommend courses of action, and provide all MTS stakeholders with an avenue of input to the response organization.

4300 Compliance Guidance

See Sections 9401, "Northwest Area Contingency Plan Permit Summary Table" and 9402, "Permit Tracking Template" during a response.

4310 Statutory Guidance Federal

4311 Comprehensive Environmental Response, Compensation and Liability Act, 1980

The Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund, was enacted by Congress in 1980 and is defined in 42 United States Code (USC) 9601 et seq. Its purpose is to provide for liability, compensation, cleanup, and emergency response for hazardous substances or pollutants or contaminants (as defined by the statute) released into the environment and the cleanup of inactive hazardous waste disposal sites. Emergency and time critical actions for pollutants or contaminants may only be taken when these releases pose an *imminent and substantial threat to human health or the environment*. The National Oil and Hazardous Substance Pollution Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) 300.415 outlines factors that shall be considered in determining the appropriateness of an emergency or time-critical response action. These factors include:

- Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;
- Actual or potential contamination of drinking water supplies or sensitive ecosystems;
- Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;
- High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may pose a threat of release;
- Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;
- Threat of fire or explosion;
- The availability of other appropriate federal or state response mechanisms to respond to the release; and
- Other situations or factors that may pose threats to public health or welfare of the United States or the environment.

4312 Federal Water Pollution Control Act as Amended by Clean Water Act and Oil Pollution Act 1990

As listed in 33 USC 1251 et seq., the objective of the Federal Water Pollution Control Act (FWPCA) as amended by the Clean Water Act and Oil Pollution Act of 1990 (OPA) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The goals of this act include:

- Eliminate pollutants discharged into navigable waters;
- Attain water quality, which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and around those waters;

- Prohibit the discharge of toxic pollutants;
- Provide federal financial assistance to construct publicly owned waste treatment works;
- Require states to provide waste treatment management plans;
- Conduct research to develop technology to eliminate the discharge of pollutants into the navigable waters, waters of the contiguous zone, and the oceans; and
- Develop national policy for the control of non-point sources of pollution.

4313 National Historic Preservation Act

This section discusses obligations required of state and federal responders to protect cultural and historic properties during an emergency response and procedures to follow to meet those obligations. For the FOSC, this section adopts a national *Programmatic Agreement on Protection of Historic Properties During Emergency Response Under the National Oil and Hazardous Substance Pollution Contingency Plan (PA)*. This section also fulfills the FOSC's responsibility to ensure that historic properties are appropriately considered in planning for an emergency response (Section IV. A. of the PA).

See Section 9403, "Compliance Guide for National Historic Preservation Act During an Emergency Response."

Responses Conducted Under NCP Authority

Overview

The National Historic Preservation Act (NHPA) of 1966 (Public Law 89-665) requires agencies using federal funds to identify, evaluate, and, where significant, protect historic, archaeological, and traditional cultural properties. This act also authorizes the National Register of Historic Places, expanding federal recognition to historic properties of local and state significance. The National Park Service in the United States Department of the Interior (DOI) administers both programs. Regulations for these programs are contained in 36 CFR Part 60, National Register of Historic Places, and 36 CFR Part 65, National Historic Landmarks Program.

Oil can contaminate archaeological, historic, and culturally sensitive resources. Such contamination can prevent carbon dating, damage the fragile artifacts, and make restoration and preservation extremely difficult or impossible. In addition, oil spill response activities (e.g., mechanical cleanup and staging area construction) can physically disturb or destroy artifacts and sites.

Archaeological research and inventory in Oregon, Washington, and Idaho is incomplete, and the data that do exist are not disclosed in order to prevent looting and vandalism. The primary contact for responders seeking information and expertise on local culturally sensitive areas is the State Archeologist in the State Historic Preservation Office (SHPO) for the state and the Tribal Historic Preservation Officer (THPO) for the affected tribal lands. It is important that

responders be aware of the types of archaeological, cultural, or historic materials that they are likely to encounter while responding to an oil spill or hazardous materials release and that they immediately notify the FOSC/UC if these types of materials are discovered.

The Regional Response Team (RRT)/NWAC will review response strategies outlined in the GRPs when they are developed or revised to identify and revise any strategies that may adversely impact archaeological, cultural, or historic resources. These resources are protected under federal, tribal, and state laws. To avoid any inadvertent impacts on cultural and historic resources, responders are required to utilize existing hardened access paths and paved areas when approaching shorelines, and cleanup teams are to remain on beaches.

An FOSC, as an agency representative, is required to follow the NHPA. Thus, during a response, the FOSC will need to identify, evaluate, and, where significant, protect historic, archaeological, and traditional cultural properties. Under the NHPA, the FOSC is to protect property from 1) oil, hazardous substance, pollutant, or contaminate that has been spilled or released and 2) damage due to the response itself.

The NHPA was written for planned actions and does not adequately address federal actions under an emergency response. To fill that gap for environmental emergencies, the Advisory Council on Historic Preservation, the National Conference of State Historic Preservation Officers, and eight federal agencies, including the United States Coast Guard (USCG) and United States Environmental Protection Agency (EPA), developed and signed the PA.

Note that circumstances of a response may involve a THPO. Not all tribes have a formally designated THPO, and the FOSC may need to consult with a tribal representative on cultural issues instead. Wherever this document refers to a THPO, this also implies a tribal representative for tribes with no THPO.

Before the PA can be used, an RRT needs to adopt the NHPA into its Regional or Area Contingency Plan (ACP) (Section VII. C. of the NHPA). As such, RRT 10 incorporates by reference the NHPA into the NWACP. Subsequently, the adoption of the NHPA into the NWACP will satisfy the USCG and EPA FOSC Section 106 responsibilities for all individual undertakings carried out in accordance with the NHPA and this plan as allowed under 36 CFR 800.14(b), the implementing regulations for the NHPA.

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It is necessary to define the term “emergency response” because, as stated in the title, the NHPA is an agreement regarding protection of historic properties during an “emergency response” under the NCP. The NHPA states that “an ‘emergency’ shall be deemed to exist whenever circumstances dictate that a response action to a release or spill must be taken so expeditiously that normal consideration of the Section 106 process is not reasonably practicable.” Note that “emergency response” is not defined in the NCP, and instead all cleanups of a discharge or a

release are regarded as a "removal," whether an emergency or planned. A planned removal will follow the requirements under 36 CFR 800.

Nevertheless, the term "emergency response" is widely used to distinguish a planned response from an unplanned response for administrative purposes, particularly within the EPA. With few exceptions, most oil responses under the OPA are unplanned and thus considered emergencies. The USCG deals almost exclusively with oil spills, and so almost all responses performed by the USCG are emergencies. However, with hazardous substances responses under Comprehensive Environmental Response, Compensation, and Liability Act, many are planned and indeed require an Action Memorandum (approval and funding mechanism) before a removal can begin.

For the sake of clarity, the NWAC grants the FOSC the discretion to determine what is "reasonably practicable" in consultation with the SHPO. For consistency with FOSC practices, an emergency response will be considered a response performed in the context of all oil spills and any hazardous substance release that does not require an action memorandum before initiating a removal. In these types of responses, normal consideration of the Section 106 process is deemed not reasonably practicable. However, this does not preclude following the Section 106 process, if the FOSC determines in consultation with the SHPO that conditions of the response allows for it.

In the context of this section, an emergency response shall be deemed complete using the same determination process as for a removal in the NCP under 40 CFR 300.320(b) – "Removal shall be considered complete when so determined by the OSC in consultation with the Governor or Governors of the affected states."

<u>Determining Presence of Historic Properties/Cultural Resources</u>
The FOSC must first determine if there are any historic properties or cultural resources to consider during an emergency response. The FOSC may not be trained to recognize such properties or resources, or the resources may be buried and not visible. Therefore, the FOSC should assume that the emergency response location contains historic properties and cultural resources and notify the SHPO/THPO at the beginning of the response to ascertain the status of the response location. Even if the FOSC is given the "all clear" from the SHPO/THPO, he or she should proceed cautiously, especially if the response involves excavations.

To reduce the burden of notifying the SHPO/THPO of all emergency responses, the FOSC can consult the list of types of locations and spills/releases that are categorically excluded, provided in Section 9403, "Compliance Guide for National Historic Preservation Act During and Emergency Response." However, there are four overriding factors noted in this list that would still require consultation with the SHPO/THPO. Therefore, the most prudent path is to notify the SHPO/THPO of all emergency responses.

SHPO/THPOs can help the FOSC by monitoring National Response Center (NRC) emails for any potential concerns. SHPOs should note that The EPA and USCG do not respond to all NRC notifications and can verify if an FOSC was dispatched by calling the phone duty officer.

FOSC Obligations

The FOSC will give appropriate consideration to historic properties and cultural resources as defined by the NHPA during an emergency response.

Once the FOSC has determined that a response location involves historic properties or cultural resources, he or she consults with the SHPO/THPO to make informed decisions. By means identified in this plan, the FOSC will inform the SHPO/THPO of the location and nature of the emergency response and actions to take for all emergencies to which the FOSC responds. The SHPO/THPO can respond to the FOSC's notification by telephone or in person.

The FOSC may make emergency response decisions that adversely affect historic properties, but those decisions must take historic property information into account prior to authorizing actions that might affect such property.

An informed decision is one in which the FOSC has:

- Notified, consulted, and taken into account comments of the SHPO, federal land-managing agencies, and tribes;
- Consulted with a Historic Properties Specialist;
- Reviewed cultural information contained in the GRP for the area; and
- Determined whether a categorical exclusion applies.

The FOSC will notify the SHPO/THPO when an emergency response has been completed. Where an emergency response decision has adversely affected historic properties, the FOSC will consult and discuss restoration and mitigation options with the SHPO or THPO.

Cultural and Historic Property Specialist

Activating a historic property specialist is an important decision that should be made in consultation with the SHPO/THPO. The size and complexity of response and the degree to which a historic property is involved may warrant one or more specialists. Note that any action that adversely affects historic property without having activated a historic property specialist against the recommendation of the SHPO/THPO during the consultation process may be considered an uninformed decision and inconsistent with the NWACP.

Under ICS, the Historic/Cultural Resource Specialist will be placed in the EU within the Planning Section. This position is referred to as the "Historical/Cultural Resources Technical Specialist" in the USCG Incident Management Handbook and the "Historical/Cultural Resources Specialist" in the EPA Incident Management Handbook. This position coordinates on technical matters with the

SHPO/THPO on behalf of the FOSC. However, the FOSC makes all governmental decisions.

If the SHPO or THPO responds to an incident in person or visits the Incident Command Post, the visit would typically be a short one, meant to assess the situation and provide any needed advice to the FOSC. The SHPO/THPO should not serve in the UC as a Historic/Cultural Resource Specialist since that person reports to the FOSC and the FOSC consults with the SHPO/THPO.

Even if the response is led by the potentially responsible party, the obligation to meet the Section 106 requirements of NHPA remains with the FOSC in UC.

4314 Endangered Species Act

Responses to oil spills or hazardous substance release may impact species listed as "endangered" or "threatened" under the ESA, 50 CFR 402.02 and, in accordance with Section 7 of the ESA, federal agencies must consult with the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) and/or the United States Fish and Wildlife Service (USFWS) regarding any activities that may affect a listed species.

The NOAA SSC and DOI Regional Environmental Officer (REO) can help facilitate the consultation process and coordinate appropriate listed species expertise, as appropriate.

The FOSC is responsible for initiating consultation to determine impacts to threatened or endangered trustee species by spill response actions. This consultation is undertaken regarding the federal action taken by the FOSC in response to the spill, not regarding impacts of the spill itself.

The nature of a response does not allow for a normal consultation process, which can take 135 days to complete, so emergency consultation processes are followed (see 50 CFR 402.02). Under the emergency consultation process it is the FOSC's responsibility to engage in consultation with USFWS and NMFS. This is facilitated by the NOAA SSC and DOI REO, who consult and engage the assistance of the USFWS and NMFS regarding methods to help mitigate and minimize impacts on listed species and critical habitat(s). The NMFS and USFWS have developed emergency consultation procedures to allow action agencies to incorporate endangered species concerns into their emergency response activities.

The documentation associated with emergency consultation under the ESA is completed after the response is finished. NMFS and USFWS are able to provide technical assistance to the FOSC in complying with Section 7 of the ESA.

In 2001, the USCG, EPA, the DOI's Office of Environmental Policy and Compliance and USFWS, and the NOAA NMFS and NOAA Fisheries and National Ocean Service signed an Interagency Memorandum of Agreement (MOA) regarding Oil Spill Planning and Response Activities under the FWPCA's

National Oil and Hazardous Substances Pollution Contingency Plan and the ESA. This MOA provides guidance on how the USCG, EPA, USFWS, and NMFS work collaboratively before, during, and after an emergency and provides templates for required documentation and processes.

See Section 9404, "Region 10 Regional Response Team/Northwest Area Committee Endangered Species Action Compliance Guide for Federal Responders During Emergency Response." Section 9404 also provides guidance and templates for initiating consultation.

The MOA among the USCG, EPA, DOI, USFWS, and National Ocean Services may be found here:
https://www.nrt.org/Main/Resources.aspx?ResourceType=ESA MOA&ResourceSection=2

Notifying Trustee Agencies
See the "Required Notifications" section at the beginning of this plan for notification numbers.

4315 Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was enacted by Congress as 42 USC 6901 et seq. Congress declared it to be the national policy of the United States that, whenever feasible, the generation of hazardous waste is to be reduced or eliminated as expeditiously as possible. Waste that is nevertheless generated should be treated, stored, or disposed of so as to minimize the present and future threat to human health and the environment.

4316 National Environmental Policy Act

As defined by 42 USC 4321 et seq., the purposes of the National Environmental Policy Act are:

- *To declare a national policy which will encourage productive and enjoyable harmony between man and his environment;*
- *To promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man;*
- *To enrich the understanding of the ecological systems and natural resources important to the Nation; and*
- *To establish a Council on Environmental Quality.*

4317 National Responsible Party Policy

Under the FWPCA as amended by the OPA, the RP has primary responsibility for cleanup of a discharge. Per FWPCA Section 311 and OPA Section 4201, an owner or operator of a tank vessel or facility participating in removal efforts shall act in accordance with the NCP and the applicable response plan. FWPCA Section 311(j)(5)(C) as implemented by OPA Section 4202 states that these response plans shall:

- Be consistent with the requirements of the NCP and ACPs;

- Identify the qualified individual having full authority to implement removal actions and require immediate communications between that individual and the appropriate UC official and the persons providing personnel and equipment pursuant to this clause;
- Identify, and ensure by contract or other means approved by the President, the availability of private personnel and equipment necessary to remove to the maximum extent practicable a worst-case discharge (including a discharge resulting from fire or explosion), and to mitigate or prevent a substantial threat of such a discharge;
- Describe the training, equipment testing, periodic unannounced drills, and response actions of persons on the vessel or at the facility, to be carried out under the plan to ensure the safety of the vessel or facility and to mitigate or prevent the discharge, or the substantial threat of a discharge;
- Be updated periodically; and
- Be resubmitted for approval of each significant change.

Each owner or operator of a tank vessel or facility required by OPA to submit a response plan shall do so in accordance with applicable regulations. Facility and tank vessel response plan regulations, including plan requirements for the coastal zone, are located in 33 CFR Parts 154 and 155, respectively. Facility response plan regulations for the inland zone are located in 40 CFR Part 112.

Each RP for a vessel or a facility from which oil is discharged, or that poses a substantial threat of a discharge, into or upon the navigable waters, adjoining shorelines or the Exclusive Economic Zone of the United States, is liable for the removal costs and damages specified in Subsection (b) of Section 1002 of OPA. Any removal activity undertaken by an RP must be consistent with the provisions of the NCP, the Regional Contingency Plan, the NWACP, and the applicable response plan required by OPA. If directed by the UC at any time during removal activities, the RP must act accordingly.

4318 State and Local Compliance Guidance

4319 Responsible Party

Specific responsibilities of the RP are as follows:

- Assess spill or release;
- Robustly staff the response with a spill management team;
- Establish a command post, in concurrence with the other On-Scene Coordinators (OSCs);
- Document/identify the type and quantity of oil or hazardous substance spilled or released;
- Contain the oil or hazardous substance spilled or released and protect the environment, with a particular emphasis on sensitive areas;
- Provide input relative to cleanup priorities (i.e., waste minimization);
- Perform timely and effective cleanup;

- Dispose of oil, oily waste, and hazardous substances;
- Restore damaged environment/natural resources;
- Communicate with local, state, and national response agencies and organizations;
- Communicate with media;
- Pay for damages;
- Take steps to prevent reoccurrence of spills or releases; and
- Collect and care for wildlife, in conjunction with responsible state, local, and federal agencies.

The RP has the opportunity to conduct damage assessment when required by the state/federal agencies and/or when appropriate given the RP's available resources as determined by the UC.

4320 Washington Compliance Guidance

Any person responsible for discharging oil or hazardous substances to the waters of the state must immediately notify the NRC and the Washington State Emergency Management Division.

The owner or operator of a regulated vessel must notify the state of any vessel emergency that results in the discharge or substantial threat of discharge of oil to state waters or that may affect the natural resources of the state within one hour of the onset of that emergency. The purpose of this notification is to enable the department to coordinate with the vessel operator, contingency plan holder, and USCG to protect the public health, welfare, and natural resources of the state and to ensure that all reasonable spill preparedness and response measures are in place before a spill occurs.

Waters of the state include lakes, rivers, ponds, streams, inland waters, underground water, salt waters, estuaries, sewers, and all other surface waters and watercourses within the jurisdiction of the State of Washington. For the notification requirements for spills or releases of dangerous waste or hazardous substances to other than waters of the state, see Chapter 7000, "Hazardous Substances Unique Information."

Under the Revised Code of Washington (RCW) 90.48.335, 90.48.336, and 90.48.142, Washington State has no limit on the liability of the RP for cleanup of a spill or damages caused by a spill. In addition, any party owning oil or having control over oil that enters the waters of the state in violation of RCW 90.48.320 shall be strictly liable, without regard to fault, for the damages to persons or property, public or private, caused by such entry.

If the RP is unknown, fails to respond, or fails to respond in a manner deemed adequate by the State On-Scene Coordinator (SOSC) or the FOSC, the state or federal agency having jurisdiction may exercise the authority to take over the response and recover expenses from the spiller (RCW 90.48.335).

4321 Oregon Compliance Guidance

Under Oregon state law, for all oil spills to water or reportable quantities of hazardous substances, the RP is required to immediately notify the Oregon Emergency Response System and the NRC. (See the "Required Notifications" section at the beginning of this plan for notification numbers.) The RP is also encouraged to notify local response agencies through the 911 system.

Any person owning or having control over any oil or hazardous material spilled or released or threatening to spill or release is strictly liable without regard to fault. Any person, who fails to clean up oil or hazardous materials immediately, when under obligation to do so, is responsible for the expenses incurred by the Oregon Department of Environmental Quality (DEQ) in carrying out the cleanup project. Any person who does not make a good faith effort to carry out a cleanup project is liable to DEQ for damages not to exceed three times the amount of expenses incurred by DEQ.

If a spiller is unknown or fails to respond, or the response is considered inadequate, DEQ may exercise the authority to take over the response or contract for the cleanup of the spill or release. DEQ may recover the costs of the cleanup (Oregon Revised Statutes [ORS] 466.645).

4322 Idaho Compliance Guidance

Idaho law requires that the party responsible for a spill of oil or hazardous materials immediately contact the Idaho Office of Emergency Management and Emergency Medical Services Center. (See the "Required Notifications" section at the beginning of this plan for notification numbers.)

The Idaho Hazardous Substance Control Act provides that the RP is strictly liable for emergency response to hazardous materials incidents.

4323 Prevention Laws

4323.1 Washington Prevention Laws

Washington has an extensive spill prevention program for vessels and oil handling facilities. All types of large commercial vessels are required to comply with Washington's rules for safe bunkering (refueling). Vessel inspectors conduct inspections to ensure safe bunkering operations. Cargo and passenger vessels with capacity of 300 gross tons and larger are specifically screened for potential risk by Washington State Department of Ecology (Ecology) vessel inspectors to determine risk and mitigate risks through a system of Accepted Industry Standards. Inspectors also assess whether vessels are able to make appropriate oil spill notifications in accordance with the vessels contingency plan.

Washington has a Voluntary Best Achievable Protection Program for companies operating tank vessels that agree to voluntarily meet the state's Best Achievable Protection standards, including operational procedures, personnel policies, management practices, and safety technology.

The State Pilotage Act requires that local licensed marine pilots be on board all vessels over 1,600 gross tons guiding them through Puget Sound waters. This act also requires tug escorts for virtually all laden oil tankers over 40,000 deadweight tons.

All oil handling facilities must comply with operating and design standards and have approved operations manuals, spill prevention plans, and training and certification programs. Additionally, all vessels delivering oil and the major land-based oil handling facilities are required to pre-boom all high rate oil transfers whenever it is safe and effective to do so. Many smaller transfer operations also pre-boom oil and fuel transfers and are required to have spill response and containment equipment on hand to ensure that spills are quickly contained and cleaned up. Oil transfer inspectors conduct routine inspections of all these facilities to determine if operations are being conducted in compliance with oil transfer rules and that required equipment is on site and in operating condition.

4323.2 Vessel Traffic System in Puget Sound

East of Dungeness Spit, participation in the Puget Sound Vessel Traffic System is mandatory for the following vessels:

- Vessels of 300 gross tons or more propelled by machinery;
- Vessels of 100 gross tons or more carrying one or more passengers for hire;
- Commercial vessels of 26 feet or more engaged in towing; and
- Each dredge or floating plant (33 CFR 161.101).

West of Dungeness Spit, participation in the cooperative Vessel Traffic Management System, as described in 33 CFR 161 Subpart B, is mandatory for the following vessels:

- Each vessel of 30 meters or more in length.

Each vessel towing alongside or astern or pushing ahead an object or objects where:

- The combined length of the vessel towing and object being towed (including towline) exceeds 45 meters; and/or
- The vessel or object being towed is over 25 meters in length.

4323.3 Oregon Prevention Laws

In accordance with ORS 776.405, no person shall pilot any vessel upon any of the pilotage grounds established under ORS 776.025 or 776.115 without being a licensed pilot under this chapter or a pilot trainee under the on-board supervision of a pilot licensed under this chapter.

This does not apply to:

- The master of a vessel under fishery, recreation, or coastwise endorsement provided under 46 USC Chapter 121;
- A vessel registered with the State Marine Board or a similar licensing agency of another state; or
- The master of a foreign registered fishing or recreational vessel, exempted by the board, of not more than 100 feet in length or 250 gross tons international.

4324 Local Government Requirements

4324.1 Washington Local Government Requirements

Under RCW 38.52, local government has the responsibility to prepare for emergencies, including oil spills and hazardous materials releases. Some key responsibilities and authorities that relate to oil and hazardous substance spill planning and response are described below.

"Emergency Management" means the preparation for and carrying out of all emergency functions, other than functions for which the military forces are primarily responsible, to mitigate, prepare for, respond to, and recover from emergencies and disasters and to aid victims suffering from injury or damage, resulting from disasters caused by all hazards, whether natural, technological, or human caused, and to provide support for search and rescue operations for persons and property in distress (RCW 38.52.010 [1]).

Each political jurisdiction (county, city and town) is directed to establish a local organization for emergency management. Each local organization shall have a director appointed by the executive head of the political subdivision, subject to the direction and control of such executive officer or officers (RCW 38.52.070 [1]).

Each political subdivision shall have the power to enter into contacts and to incur obligations necessary to combat disaster. Each political subdivision can exercise the powers herein without regard to time consuming procedures and formalities prescribed by law (except constitutional requirements) (RCW 38.52.070 [2]).

The director of each local organization for emergency management may, in collaboration with other public and private agencies within this state, develop or cause to be developed mutual aid arrangements for reciprocal emergency management aid and assistance in case of disaster too great to be dealt with unassisted. Such arrangements must be consistent with the state emergency management plan and program, and during emergencies it is the duty of each local organization for emergency management to render assistance in accordance with the provisions of such mutual aid arrangements (RCW 38.52.091).

The governor and the executive heads of political subdivisions are directed to utilize the services of all public agencies, and the officers and personnel of all public agencies are directed to cooperate with the emergency management

organizations of the state upon request, notwithstanding any other provision of law. The governor; the chief executive of counties, cities, and towns; and the emergency management directors of local political subdivisions appointed in accordance with RCW 38.52.110, in the event of a disaster, after proclamation by the governor of the existence of such disaster, shall have the power to command the service and equipment of as many citizens as considered necessary in the light of the disaster proclaimed (RCW 38.52.110).

4325 Disposal Guidelines

It is critical for the OSC in an immediate removal operation to recognize that contaminated soils, dredge spoils, drums, tanks, refuse, water, or other associated materials are to be considered hazardous wastes and must be disposed of as such in accordance with RCRA, as well as local and state regulations managing the disposal of hazardous wastes. Many of the removal actions employed by the OSC will create a situation in which the OSC has assumed the responsibility as a generator of hazardous wastes. These wastes then become subject to the "cradle to grave" manifesting procedures currently in effect under the governing RCRA regulations. The OSC must ensure that the hazardous waste generated from his or her removal actions is transported by an approved hazardous waste hauler to an approved hazardous waste facility. The OSC should consider the possibility of employing on-site treatment (e.g., incineration, biological treatments, chemical treatments, waste stream treatment methods, etc.). Approved and effective on-site treatment is often the best course, as it resolves the problem of simply transporting the waste to another location where it still may cause a problem.

Specific disposal information will be added to this section as it is developed. Also, for local disposal options, consult the GRP for the specific area being considered.

4325.1 Washington Disposal Guidelines

Disposal practices in the state of Washington shall be performed in accordance with state disposal guidelines. Guidelines are available from Ecology and can be found in Section 9405, "Disposal Guidance for Washington State and Oregon State."

4325.2 Oregon Disposal Guidelines

DEQ's general policy is that recovered oil and oily debris is to be recycled and reused whenever possible, thereby reducing the amount of oily debris to be burned on site or disposed of at a solid waste landfill. Spilled oils and oil contaminated materials resulting from control, treatment, and cleanup shall be handled and disposed of in a manner approved by DEQ. General guidelines for the handling, storage, and recycling/reuse or disposal of wastes can be seen in Section 9405, "Disposal Guidance for Washington State and Oregon State."

4325.3 Idaho Disposal Guidelines

Reserved

4326 Use of Volunteers to Assist in Oil Spill Responses

The use of volunteers to assist in oil spill responses is recognized in 40 CFR 300 Part 185 (c), the NCP. The NCP defines "volunteer" as "any individual accepted to perform services by the lead agency which has authority to accept volunteer services" (for examples, see 16 USC 742f(c)). A volunteer is subject to the provisions of the authorizing statute and the NCP.

During an initial response before a need for volunteers has been expressed, the ICS structure may not contain positions specifically dedicated to volunteer management. The Liaison Officer will query other ICS Sections and Units concerning the need for the use of volunteers, or if there is interest expressed by the public and therefore a need to respond to requests for volunteers exists, the Liaison Officer will assign a Volunteer Coordinator to manage the work. If there are a significant number of volunteers needed, the Planning Section Chief will establish a Volunteer Unit under Planning.

Volunteers fall into two general categories:

- Affiliated volunteers are individuals associated with an Affiliated Volunteer Organization prior to an incident. They usually have received sufficient training to allow them to contribute to their host organizations, although individuals may not be trained in oil spill response.
- Non-affiliated volunteers are individuals not affiliated with an existing Affiliated Volunteer Organization. After a spill has occurred, convergent volunteers may express a spontaneous desire to participate in a response effort, but may have little or no oil spill response training.

Human health and safety is the first priority in a decision regarding use of volunteers. The benefit of volunteer efforts must be weighed against concerns for volunteer safety. Based on the conditions specific to an incident, the UC will determine the suitability of integrating volunteers, whether affiliated or convergent, into an oil spill response.

4326.1 Affiliated Volunteer Organizations

Affiliated Volunteer Organizations generally hold a nonprofit status and provide some form of training, maintain an affiliated volunteer database, and have volunteer functions to facilitate current volunteer experience and communication. These groups also accept donations of money or materials.

4326.2 Non-Affiliated Volunteers

Oil spills typically receive significant press coverage and engender strong public concern for public health and injury to wildlife and the environment. This visibility and concern motivates citizens to assist where they can in the oil spill response. The opportunity for the public to volunteer during an oil spill can be helpful for their emotional experience and can assist in altering public perception in a positive manner.

Once a decision has been made to call for convergent volunteers, the Volunteer Coordinator within ICS may work with local emergency managers or an Affiliated Volunteer Organization to organize a volunteer intake and registration process.

4326.3 Volunteer Policy of the Regional Response Team/Northwest Area Contingency Plan

The general policy accepted by the RRT/NWACP is that volunteers will be used in low risk activities and only after receiving safety training appropriate for their designated activities. If volunteers are used for higher risk activities such as wildlife rehabilitation or pre-cleaning beaches, specialized training and in some cases licensing may be required.

- Priority will be given to volunteers associated with an Affiliated Volunteer Organization and with documented specialized training.
- Non-affiliated volunteers must participate through either local government or an Affiliated Volunteer Organization.
- Use of unpaid, convergent volunteers will supplement, not replace, the work of professional responders hired by the RP.
- For safety, liability, and management reasons, volunteers will not be used during hazardous material or incidents involving weapons of mass destruction.

4326.4 Decision to Use Volunteers

The UC will decide whether volunteers will be used in a specific incident, as well as in what roles/capacities they may serve, for what duration. The decision to use volunteers will be made by the UC after discussion of the advantages and disadvantages associated with a particular incident, with advice from legal representatives because volunteer coordination in an oil spill offers complications not normally encountered in a response. The UC should consider the following issues when deciding whether to utilize volunteers.

- Non-wildlife unaffiliated volunteers do not usually participate in the physical removal or remedial activities during oil spill response. The Planning, Operations, and Logistics Sections will need to incorporate volunteer efforts into many aspects of their duties. This paradigm shift will require time and effort during an Incident Command Post's daily routine.
- The timing of the Incident Action Planning process could be more immediate than the lead time volunteer training and deployment might require. The cycles could be mismatched and difficult to manage.
- Unaffiliated volunteers are "just in time" trained. This creates a higher risk of injury and liability than other oil spill responders who are trained and exercised on a regular basis.
- More risk and cost may be required to train volunteers at a minimum level, which could achieve a lower performance result at a higher threat to safety.

- Using volunteers at the Incident Command Post may create an information security risk.
- There are many agencies involved in oil spill response. UC should be aware of any litigious issues between agencies and subsequent access to sensitive information.
- If there is no RP for a spill, the responsibility of volunteer liability will need to be determined.

4326.5 Federal Agency Volunteer Management Policy

The three primary federal regulations governing oil spill response—40 CFR 300 (NCP), 29 CFR 1910.120 (Occupational Safety and Health Standards/Hazardous Waste Operations and Emergency Response) and 40 CFR 311 (Worker Protection)—do not exclude the use of volunteer organizations. However, all spill response operations must comply with these regulations. Various health and safety requirements for different on-site activities are outlined in 29 CFR 1910.120. In addition, various federal property owners (e.g., United States Department of Defense and Department of Energy) may have specific regulations, policies or national security concerns regarding the use of volunteers. The USCG requires each volunteer to sign a "hold harmless" clause. The legal representatives of these organizations must be consulted prior to employing volunteers.

The USCG and EPA have signed a Memorandum of Understanding with the Corporation for National and Community Services for the management of non-affiliated volunteers. This agreement is preliminary in nature, and more work must be done at the federal level to implement it locally.

The USCG Auxiliary is chartered to assist the USCG as authorized by the Commandant and by Congress. In the states of Washington, Oregon, Idaho, and Montana (known as the 13th USCG District) there are approximately 1,781 Auxiliarists, or citizen volunteers. Their functions include all missions authorized by law except military operations and law enforcement. They are involved with marine safety, environmental protection, search and rescue, aircraft operations, seamanship training, weather training, radio and computer operations, public education instruction, aids to navigation, vessel safety checks, support during disasters, recruiting assistance, and safety patrols. As the roles and responsibilities of the USCG expand under the Department of Homeland Security, the Auxiliary is taking on more non-traditional roles. In their post-9/11 role, Auxiliarists may be established and organized to tackle myriad duties with specific training.

4326.6 Washington Volunteer Management Policy

Ecology has established a system to pre-register volunteers and operators of "vessels of opportunity "who have expressed interest in being trained and available to assist in responding to oil spills (before, during, or after). Some Washington plan holders have contracted access to pre-trained "vessels of opportunity" that are able to deploy boom, assist in oil recovery, and support logistical needs during a response. These assets are accessed through the company's response contractors.

4326.6.1 Washington Volunteer Wildlife Rescue Operations

Oiled wildlife response programs throughout the world regularly incorporate the volunteers as a part of their overall rescue strategy. In Washington State, volunteers are used in combination with paid staff and consultants.

Wildlife Volunteers

- The Washington Department of Fish and Wildlife is recognized as the "affiliated organization" for the purpose of recruiting and training, volunteers for oiled wildlife rescue.

See Section 9310, "Northwest Wildlife Response Plan" for a description of the Wildlife Branch duties and responsibilities.

4326.6.2 Washington Volunteer Emergency Worker Program

Washington State's Emergency Worker Program is designed for use during emergencies, disasters, and related incidents. Local governments, with the Washington Military Department, Emergency Management Division providing assistance, implement the Emergency Worker Program. While this program has generally been used for search and rescue missions, local officials may elect to implement it for volunteers in oil spills for specific tasks. However, if local emergency management agencies elect to implement this program for oil spill response, they will need to be integrated into the Incident Command structure established by the state and federal OSCs for the spill. The following are some of the job classes of emergency workers that have been established in the Emergency Worker Program:

- Administrative assistance such as recruiting, coordinating, and directing oil spill support activities;
- Communication assistance that is carried out in accordance with approved state or local emergency operations and communication plans;
- Fire service assistance, including fighting fires, rescuing persons, or protecting property. This job class does not include volunteer fire fighters while operating under RCW 41.24;
- Mass care assistance, including the provision of food, clothing, and lodging for persons who may be temporarily displaced or for oil spill response workers; and
- Public education assistance involving public education and informational activities necessary to keep the public informed during an oil spill.

This list is just a summary of the potential activities for volunteers under the Emergency Worker Program that may be appropriate during an oil spill. Emergency workers will be assigned to an emergency worker class in accordance with their skills, abilities, licenses, and qualifications. Emergency workers must register in their jurisdiction of residence or in the jurisdiction where their volunteer organization is headquartered. Please refer to Chapter 118-04 of the Washington Administrative Code or contact local emergency management agencies.

4326.7 Oregon Volunteer Management Policy

State agencies may provide limited training, but have no resources to manage volunteer organizations.

Human health and safety is the first priority in decisions regarding use of volunteers. Volunteers will normally only be used in very low risk activities and only after receiving appropriate safety training. Volunteers with documented specialized training will be given higher priority for use.

4326.8 Idaho Volunteer Management Policy

The State of Idaho has several statutes that allow for use of volunteers, and there are limited immunities. Idaho's plans and policies would require training consistent with 29 CFR 1910.120.

4326.9 Makah Tribe Volunteer Management Policy

The Makah Office of Marine Affairs has created an ordinance to address the rapid training of tribal members to participate in a response. The following table shows the training requirements.

Public Interest Volunteers	
Wildlife rescue and recovery On the beach In the water wading In small boats	 4 hours 4 hours 4 hours
Wildlife cleaning at staging areas outside the "hot zone"	4 hours
Beach cleanup (especially the cleaning of oil-effected stones, etc.)	4 hours
Visitors to the "Hot Zone"	
Personnel who may be required to perform on-site duties during the response mode of operation	24 hours
Full time employees of contractors and those giving the 4-hour Hazardous Waste Operations and Emergency Response (HAZWOPER)	40 hours
Conducting Overflights – Helicopter Emergency Egress Device System (HEEDS) training	8 hours

4400 Geographic Response Plans

GRPs are an annex to the NWACP and a key element of both facility and vessel contingency plans. GRPs have two main functions:

1. From a planning perspective, the GRPs provide a description of sensitive biological, cultural, and economic resources that must be addressed to be in compliance with:
   - The NCP (40 CFR 300.210(3)(i).), which requires ACPs to describe areas of special economic or environmental importance that could be impacted during an oil spill; and

- The NHPA, which contains applicable, relevant, and appropriate requirements; the GRPs also address sensitive historic and prehistoric resources.

2. From an operational perspective, the GRPs guide responders in the first 12 to 24 hours of an oil spill by:
   - Providing prioritized lists of tactical response strategies to be implemented during the early hours of an oil spill (usually before the formation of UC);
   - Providing detailed information for booming strategies that could be utilized to minimize impacts on predetermined sensitive resources.

Once the UC is formed, additional operational strategies and tactics will be relayed to the field in the form of the ICS 204 work assignment sheets.

Because the GRPs are the primary tool used during an initial phase of the response, and fairly broad in their scope, they are not intended to minimize impacts on all possible sensitive areas that could be affected by an oil spill. Likewise, the GRPs are not intended to be an exhaustive list all of the tactical strategies that could, or should, be implemented during a spill.

Guiding Principles for GRPs

1. The safety and health of responders always takes precedence over the protection of sensitive environmental resources.
2. Source control and containment are always a higher priority over GRP strategy deployments.
3. The protection strategies in the GRPs have been designed for use with persistent oils and may not be suitable for other petroleum or hazardous substances (see Section 4622 for Gasoline Policy).
4. Environmental conditions (wind, currents, and tides), together with the physical limitations of existing spill response technology, may preclude the effective protection of some areas.
5. Once a coordinated response has been established during an oil spill incident, booming strategy selection and prioritization are refined and supplemented based on real-time assessments. UC has the authority to supersede the strategies proposed in the GRPs.
6. Response personnel may find it necessary to deviate from the exact details provided for deploying a particular strategy. An on-site evaluation of actual conditions is often needed to determine whether a strategy is safe to deploy and whether it will be effective under existing environmental conditions or effective for the particular type of oil involved. Therefore, field personnel should use their best judgment to modify existing strategies based on real-time conditions and notify Command accordingly. Field personnel are also encouraged to notify the Command Post regarding any opportunities for deploying additional strategies that might be used to take advantage of incident-specific conditions.

GRP Response Strategies:

In general, GRPs include the following types of response strategies:

- No action: Appropriate when weather, sea, or other conditions make deployments unsafe and/or infeasible and when response actions or site access will cause further environmental damage (e.g., wetlands);
- Collection booming with on-water recovery: Deploying various types of boom to collect oil for mechanical removal using sorbent materials, vacuum trucks, or near shore skimming devices;
- Exclusion Booming: Deploying various types of boom to reduce oiling in sensitive areas; and
- Deflection Booming: Deploying various types of boom to divert oil away from a sensitive area and/or divert oil toward a collection point.

GRPs do not include:

- *In-situ* Burning: Burning oil on the water, usually requires containment by fire-resistant boom (see Section 4617 for more NWAC policy on *in-situ* burning use); and
- Dispersants: Applying chemical agents, usually by aircraft, to aid in breaking up surface slicks and dispersing oil within water column (see Section 4610, below, for more NWAC policy on dispersant use).

Sensitive Resources Addressed by GRPs

The NCP (40 CFR 300.120 (3) (i) requires that Area Committees identify and prioritize sensitive areas requiring protection. In the NWACP, sensitive areas are broken into three main categories, described below.

Environmentally Sensitive Resources

Key natural resource areas are identified using a wide of range data provided by resource trustees, tribes, plan holders, spill response organizations, contingency plan holders, and other interested stakeholders during the process of GRP development and review. The ESI maps developed by NOAA are one example of the type of natural resource information available (http://response.restoration.noaa.gov). When appropriate, tactical response strategies are designed for implementation during the early hours of an oil spill to reduce impacts on those areas, and trajectory models or other assessment techniques are used to establish initial response priorities.

Historically or Culturally Sensitive Resources

Information on sensitive historic and cultural sites is coordinated through contact with t tribal governments, state archaeologists, and the DOI. Due to the sensitive nature of this information, the specifics regarding the location and nature of such sites are not included in the GRP documents. However, to ensure that tactical response strategies do not inadvertently harm historical and culturally sensitive sites, historic preservation specialists are consulted to review the GRP documents prior to finalization.

Socioeconomically Sensitive Resources
Economically sensitive areas are facilities or locations that rely on a body of water to be economically viable and that could be severely impacted by an oil spill. Economically sensitive areas are broken down into three separate categories: critical infrastructure, water dependent commercial, and recreational areas. Information on economic resources will be gathered for inclusion as an appendix to the GRPs as they are being updated.

Geographic Scope of the GRPs

GRPs have been developed for all marine waters of Washington and Oregon and for many of the inland waterways, including the Columbia River from the mouth to the confluence with the Snake River (Washington/Oregon), Lower Snake River (Washington), Spokane River (Washington), Nisqually River (Washington), Clark-Cowlitz Rivers (Washington), Lower Deschutes River (Oregon), Clearwater and Lochsa Rivers (Idaho), and the Pend Oreille River (Idaho). For a complete list of GRPs, with links to those available in electronic format, go to http://www.oilspills101.wa.gov/northwest-area-contingency-plan/geographic-response-plans-grps/list-of-geographic-response-plans/ .

For More Information

A fact sheet describing the development, maintenance, and testing of the GRPs is available on the RRT/NWAC website at http://www.rrt10nwac.com/FactSheets.aspx.

4410 Evaluation Criteria for Geographic Response Plans

Specific strategies for response to spills in sensitive areas are detailed in the GRP. Below is a list of some of the biological, cultural, and booming criteria used to determine whether it is appropriate to develop and maintain GRP strategies at specific locations. These criteria are not intended to be exhaustive or ranked in order of priority, but rather to help frame the evaluation of GRP strategies.

Key Criteria for Biological Sites, Species, and Habitats of Concern

1) **Temporal considerations –**
   a) What is the expected recovery time for habitats or fish and wildlife resources?
   b) What is the residence time of the oil?
2) **Substrate –**
   a) What is the exposure risk? What is the likelihood that a habitat or species will be exposed to direct contact with surface oil or to dispersed/dissolved oil in the water column?
   b) Given the substrate is cleanup feasible?
3) **Habitat quantity, quality, and pattern –**
   a) Is the impacted habitat considered scarce at local, regional, or statewide scales?
   b) Is the size of the impacted habitat significant compared to other sites in the region?

c) Is species diversity or endemism high? Is this true year-round or is it seasonal?
d) Is abundance of fish and/or wildlife high? Is this true year-round or is it seasonal?
e) What life stages of organisms are present?
f) Is the habitat important to threatened or endangered species?
g) What is the status of the habitat's integrity (i.e., is the area undeveloped or highly altered)?
h) Does the habitat have a special designation or status (i.e., Marine Protected Area, biological research area, restoration site, etc.)?
i) Is the habitat and/or its associated fish and wildlife resources especially susceptible to injury by oil?

Key Criteria for Archeological and Cultural Sites of Concern

1) **Deployment –** Does the act of deploying the GRP strategy threaten the archeological site (anchoring the boom, parking vehicles, etc.)?
2) **Purpose –** Will implementing the GRP strategy type (collection, diversion, deflection) negatively impact the site?
3) **Review –** If either of the above is possible, then a review of the site records is necessary to determine the exact location and sensitivity of the site. If the site records are old or insufficient, then a field visit is necessary.
4) **Significant developments –** Are there significant developments that may cause any concern about the impacts irrelevant (housing developments etc.)?
5) **Additional criteria for archaeological sites without existing GRP strategies include:**
   a) **Impacts.** Does the site extend below the high tide line?
   b) **Vulnerability.** Will it be damaged or destroyed if oil were to hit the area (or by the placement of response equipment in the area, e.g., vacuum trucks, etc.)?
   c) **Integrity.** Has the site been disturbed yet, or is it still intact?
   d) **Historic Importance.** Is the site nominated for, or already on, the National Register of Historic Places or the state equivalent?
   e) **Tribal Importance**. Does the site hold special tribal importance?
   f) **County Importance**. Does the site hold special county importance?
   g) Feasibility. Is booming the site feasible?

Examples Socioeconomic Sites of Concern

Critical Infrastructure:

- Drinking water intakes;
- Energy/power generation intakes, locks and dams; and
- Federal/state irrigation agricultural channels and water projects.

Water Dependent Commercial Areas:

- Industrial intakes;
- Agricultural irrigation intakes;
- Aquaculture;

- Marinas;
- Commercial fishing and shellfish harvest areas;
- Federal/state and private fish hatcheries; and
- Specially designated residential, commercial and industrial areas (e.g., floating homes and live aboard marinas).

Water Dependent Recreational Areas

- Boating;
- Public recreational areas
- Sport fishing;
- National/state/local parks and beaches;
- National seashore recreational areas; and
- National river reach designated as recreational.

Key Criteria for the Use of Boom

1) **Effectiveness** – Is booming the most effective strategy for reducing oil spill impacts? Would other alternatives such as a phone call to an operator, shutting off a water intake, or closing a tidal gate be as effective?
2) **Safety –** Determine if the safety of human responders will be put at risk for limited likelihood of strategy success.
3) **Determine –** What type of booming strategy would be the most effective at reducing oil impacts to the resource under prevailing conditions—collection, deflection, or exclusion?
4) **Evaluation –** Evaluate the site for advantageous characteristics based on:
   a) **Anchoring substrate.** Does the substrate allow responders to easily anchor the boom?
   b) **Accessibility.** Can the site be easily accessed by vessels or vehicles?
   c) Time to arrive on scene. How long will it take to get to the site?
   d) **Potential for oiling.** Is the site located near shipping activity or fueling operations?
   e) **Beach substrate.** Use NOAA ESI or Washington State Department of Natural Resources ShoreZone classification to determine vulnerability to oiling and likely oil longevity based on the shoreline type.
   f) **Type and quantity of boom**. How many sections of boom and what size anchors will be required for deployment? What is the anchoring depth? What type of boom tending will be required? Will this tending be complicated by the amount of time it takes to arrive at the site or the difficulty of access? Is the amount of boom required reasonable (<1000 feet).
   g) **Prevailing weather – especially wind and waves.** Is a booming strategy realistic for prevailing conditions?
   h) **Tidal influence.** At extreme lows, will there be nothing but mud flats (very difficult to tend boom when it is stuck in the mud), or at extreme highs, will the entire face of a coastal marsh be underwater (thus exposing the entire perimeter to oil)?
   i) **Influence of currents**. What velocities can be expected?

j) **Feasibility.** Depends on: boom size, boom length, number and size of anchors, capability of the recruited workboats (to tow boom, set and recover anchors, shelter boat crews, carry boom and associated equipment); the experience of the boat crew; and the effectiveness of the anchoring system (both on shore and in water).

4500 General Hierarchy of Response Priorities

Specific strategies for response to spills in sensitive areas are detailed in the GRP. The general hierarchies of response priorities are:

- Ensure the safety of citizens and response personnel,
- Control the source of the spill,
- Maximize protection of environmentally sensitive areas,
- Contain and recover spilled product,
- Recover and rehabilitate injured wildlife,
- Manage a coordinated response effort,
- Remove oil from impacted areas,
- Minimize damage to economically sensitive areas, and
- Keep the public and stakeholders informed.

4600 Response Technologies for Oil Spills

Though mechanical cleanup and recovery is always the initial and primary response tool, other response technologies are considered by RRT 10 and NWAC to be integral components of effective spill response that should be available for use, as appropriate, in a timely and efficient manner. The use of response technologies such as *in-situ* burning, dispersants, and other oil spill cleanup agents should be considered when the environmental benefit of their use is expected to outweigh adverse effects.

The NCP, Section 300.910 (Subpart J) outlines the circumstances under which chemical agents or other additives may be used to remove or control oil discharges. Section 300.910(a) allows RRTs and Area Committees, as part of their planning process, to address procedures, including Preauthorization Plans, to be followed in making decisions on the use of these agents. This gives the EPA representative to the RRT and, as appropriate, the state representative to the RRT with jurisdiction over navigable waters threatened by a release or discharge of oil, as well as United States Department of Commerce (DOC), and DOI natural resource trustees the ability to approve, disapprove, or approve with modifications any Preauthorization Plans developed by RRTs and Area Committees. Section 300.910(b) authorizes the FOSC, with the concurrence of the EPA representative to the RRT and, as appropriate, of the state representative to the RRT with jurisdiction over navigable waters threatened by a release or discharge of oil and, when practical and in consultation with the DOC and DOI natural resource trustees, to authorize the use of dispersing, surface-washing, surface-collecting, bioremediation, or burning agents on a case-by-case basis. It is the policy of RRT 10 to also consult with appropriate tribal governments with off-reservation treaty

rights in navigable waters threatened by a release or discharge of oil, when practicable. Section 300.910(d) further authorizes the FOSC to use any agent listed above without requesting permission if its use is necessary to prevent or substantially reduce a hazard to human life.

The Commandant of the USCG has pre-designated the USCG Captains of the Port under his/her jurisdiction as FOSC for oil spills and has delegated authority and responsibility for compliance with Section 311 of the FWPCA (Clean Water Act) to them. The Administrator of EPA has designated EPA OSCs as FOSCs for the inland zone and has delegated authority and responsibility for compliance with Section 311 of the FWPCA (Clean Water Act) to them. Decisions regarding the use of any dispersing, surface-collecting, bioremediation, or burning agent on the international border with Canada will include consultation with the Joint Coastal Pollution Response Team (Coastal JRT).

As required by Section 300.905 of the NCP, in order for a FOSC to authorize the use of a dispersing, surface-washing, surface-collecting or bioremediation agent, it must be listed on the NCP Product Schedule. Burning agents are not listed on the NCP Product Schedule. The EPA maintains the NCP Product Schedule, which can be found at https://www.epa.gov/emergency-response/ncp-product-schedule-products-available-use-oil-spills. The Product Schedule does not authorize or pre-approve use of any of the listed products. However, the FOSC may not authorize use of a product that is not listed on the Product Schedule unless its use, in the judgment of the FOSC, is necessary to prevent or substantially reduce a hazard to human life.

The Product Schedule includes the following categories of chemical agents or additives:

Bioremediation agents
Bioremediation agents are microbiological cultures, enzyme additives, or nutrient additives that are deliberately introduced into an oil discharge and that will significantly increase the rate of biodegradation to mitigate the effects of the discharge.

Dispersants are chemical agents that disperse or solubilize oil into the water column or promote the surface spreading of oil slicks to facilitate dispersal of the oil into the water column.

Surface washing agent is any product that removes oil from solid surfaces, such as beaches and rocks, through a detergency mechanism and does not involve dispersing or solubilizing the oil into the water column.

Surface collecting agents are chemical agents that form a surface film to control the layer thickness of oil.

Miscellaneous oil spill control agent is any product, other than a dispersant, sinking agent, surface collecting agent, bioremediation agent, burning agent, or sorbent, that can be used to enhance oil spill cleanup, removal, treatment, or mitigation.

Any of these chemical response measures may warrant consideration during a response, depending on conditions. All require approval in accordance with the NCP.

4610 Dispersant Use Policy

It is particularly important that materials are strategically stockpiled and that decisions regarding the use of dispersants and *in-situ* burning be made as quickly as possible to increase their effectiveness on marine oil spills. Accordingly, the RRT 10 and NWAC have established Pre-Authorization Zones, Case-by-Case Authorization Zones, and No Use Zones for the use of dispersants. A policy has also been established to define the conditions under which *in-situ* burning may be conducted on a pre-authorized or case-by-case basis and conditions under which burning will not be allowed. The FOSC, with the assistance of the UC, will determine if the use of these response technologies meets the pre-authorization criteria established for RRT 10 and NWAC area of responsibility. Our understanding of dispersant and *in-situ* burning efficacy and toxicity is evolving, and the appropriateness of their application is subject to change based on field and laboratory testing. As new information becomes available, these policies will be revisited, modified, and enhanced as appropriate.

Areas within RRT 10 and NWAC area of responsibility fall into three different zones with respect to dispersant use: a Pre-Authorization Zone, Case-by-Case Authorization Zones, or No Dispersant Use Zones (see “Regional Response Team 10 Dispersant Use Zones Summary Table” in Section 4614, below; see Figure 4000-1 for a presentation of the process for making decisions regarding dispersant use in Case-by-Case Authorization Zones).

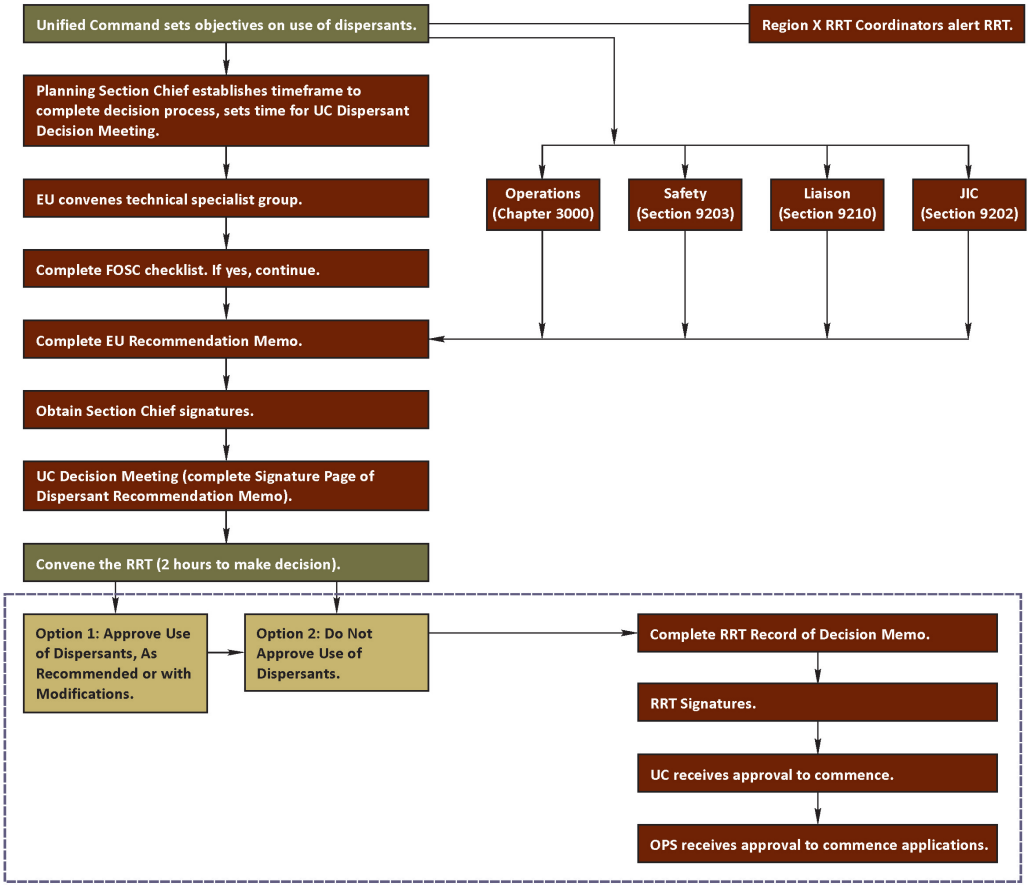


Figure 4000-1 Process for Decision Making Regarding Use of Dispersants in Case-by-Case Approval Zones

4611 Dispersant Pre-Authorization Zone

Within a designated Pre-Authorization Zone, the FOSC may authorize the use of dispersants without further concurrence or consultation with the RRT. Typically, the FOSC working in a UC will trigger a process to evaluate the applicability of dispersant use by setting that as an objective, ideally during the initial UC Objectives meeting. It is expected that the FOSC Checklist will be completed by the Technical Specialists within the EU, with input from appropriate members of the Operations Section, Liaison, and Information Officer, as needed. The RRT will be notified by the FOSC as soon as practicable following a dispersant use decision.

The Dispersant Pre-Authorization Zone is defined as follows:

- United States marine waters 3 to 200 nautical miles from the coastline outside of Puget Sound and Strait of Juan de Fuca or an island shoreline except for waters designated as a part of a National Marine Sanctuary and the Makah Tribe U&A marine area or waters within three miles of the border of the Country of Canada or the Makah Tribe U&A marine area (see Figure 4000-2).

4612 Dispersant Case-by-Case Authorization Zones

According to Section 300.910(b) of the NCP, in all areas outside the Pre-Authorization Zone, FOSC authorization to use dispersants requires the concurrence of the EPA and state representatives to the RRT with jurisdiction over the waters threatened by the release or discharge, and consultation with the DOI and DOC representatives to the RRT. It is the policy of RRT 10 to also consult with appropriate tribal governments with off-reservation treaty rights in the navigable waters threatened by a release or discharge of oil, when practicable. The FOSC and UC should forward the completed Dispersant Recommendation Memo along with the RRT Record of Decision Memo to the RRT for consideration in their concurrence and consultation process. A decision from the RRT on dispersant use is expected within 2 hours of activation.

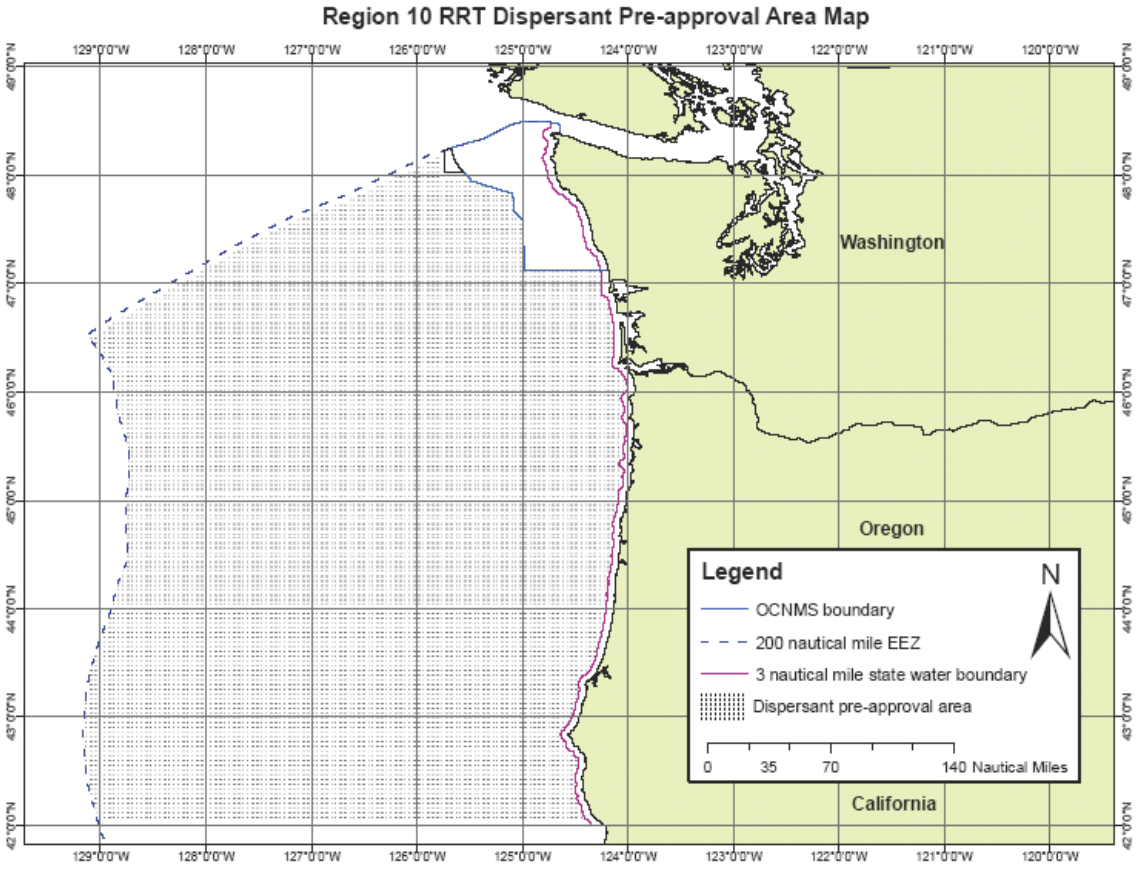


Figure 4000-2 Dispersant Pre-Authorization Zone

The Dispersant Case-by-Case Authorization Zones are defined as follows:

- All United States marine waters in Puget Sound and the Strait of Juan de Fuca that are both within 3 nautical miles of the coastline or an island shoreline and greater than 10 fathoms (60 feet) in depth, except any area located within a designated No Dispersant Use Zone (see Section 4613, below).

- Waters designated as a part of a National Marine Sanctuary and waters that are part of the Makah Tribe U&A marine area that are also greater than 10 fathoms (60 feet) in depth.
- Waters of the Strait of Juan de Fuca and North Puget Sound from Point Wilson to Admiralty Head and north, and greater than 10 fathoms (60 feet) in depth.
- Marine waters within 3 miles of the borders of the Makah Tribe U&A marine area and the country of Canada. In consideration of the use of dispersants within 3 miles of the Makah Tribe U&A marine area, the RRT 10 will consult with the Makah Tribal government. In considering the use of dispersants within 3 miles of the international border with Canada, RRT 10 will consult with the Coastal JRT, composed of representatives of the United States and Canadian governments.

4613 No Dispersant Use Zones

There are some areas in RRT 10 and NWAC area of responsibility where the RRT and NWAC have determined it is not appropriate to use dispersants. In these areas, dispersants may be used only if, in the judgment of the FOSC, they are required to prevent or substantially reduce a hazard to human life. In this case, the FOSC should document this determination. The RRT will be notified by the FOSC as soon as practicable following a dispersant use decision. An After Action report will be completed.

The No Dispersant Use Zones are as follows:

- Marine waters that are both less than 3 nautical miles from the coastline and less than or equal to 10 fathoms (60 feet) in depth;
- Marine waters south of a line drawn between Point Wilson (48º 08' 41" N, 122º45' 19" W) and Admiralty Head (48º 09' 20" N, 122º 40' 42" W); and
- Freshwater environments.

4614 Region 10 Dispersant Use Zones Summary Table

Regional Response Team 10/Northwest Area Committee Dispersant Use Zone Summary Table

Dispersant Pre-Authorization Zone	United States marine waters 3 to 200 nautical miles from the coastline outside Puget Sound and the Strait of Juan de Fuca or an island shoreline except for waters designated as a part of a National Marine Sanctuary and the Makah Tribe Usual and Accustomed marine area or waters within 3 miles of the border of the Country of Canada or the Makah Tribe Usual and Accustomed marine area
Dispersant Case-by-Case Authorization Zone	■ All United States marine waters in Puget Sound and the Strait of Juan de Fuca that are both within 3 nautical miles from the coastline or an island shoreline and greater than 10 fathoms (60 feet) in depth

Regional Response Team 10/Northwest Area Committee Dispersant Use Zone Summary Table

	■ Waters designated as a part of a National Marine Sanctuary and waters that are part of the Makah Tribe Usual and Accustomed marine area which are also greater than 10 fathoms (60 feet) in depth.
Dispersant Case-by-Case Authorization Zone (continued)	■ The Strait of Juan de Fuca and North Puget Sound from Point Wilson to Admiralty Head and north, and greater than 10 fathoms (60 feet) in depth. ■ Marine waters within 3 miles of the borders of the Makah Tribe Usual and Accustomed marine area and the country of Canada.
No Dispersant Use Zones	■ Marine waters that are both less than 3 nautical miles from the coastline and less than or equal to 10 fathoms (60 feet) in depth. ■ Marine waters south of a line drawn between Point Wilson (48º 08' 41" N, 122º45' 19" W) and Admiralty Head (48º 09' 20" N, 122 40' 70" W). ■ Freshwater environments.

4615 Role of RRT

RRT 10 and member agencies have various roles related to the use of dispersants within federal waters in the RRT 10 area of responsibility. See Section 1220 Standing and Incident-Specific Regional Response Team for additional information on roles and authorities of the RRT. The following provides more specific guidance on the role of RRT 10 in each designated zone:

a. Dispersant Pre-authorization Zone: There is no additional guidance required from the RRT prior to the application of dispersants within a Pre-Authorization Zone. The FOSC Checklist will be completed prior to use of dispersants. An Incident After-Action Report will be provided by the FOSC to all interested RRT members after the emergency response is over.

b. Case-by-Case Dispersant Authorization Zone (see Figure 4000-1): For areas in a Case-by-Case Authorization Zone, in order to authorize the use of dispersants, the FOSC will prepare a recommendation memo and request an activation of RRT 10 for a decision. The purpose of the activation is for the FOSC to outline the basis for the request to authorize dispersant use, and pursuant to 300.910(b) of the NCP, seek concurrence from the EPA representative to the RRT and, as appropriate, the RRT representatives from the states with jurisdiction over the navigable waters threatened by the release or discharge. This activation will also serve as consultation with the DOC and DOI natural resource trustees. It is the policy of RRT 10 to also consult with appropriate tribal governments with off-reservation treaty rights in navigable waters threatened by a release or discharge of oil, when practicable. Oil trajectory, potential impact areas, and the respective sensitivities of the RARs in those areas should be considered. The RRT members will sign the Record of Decision memo

and send it to the FOSC. An Incident After-Action Report will be provided to all interested RRT member agencies after the emergency response is over. An outline of suggested information to include in an Incident After-Action Report is provided in Section 4623, below.

c. No Authorization Zone: It has been determined that some areas within the RRT 10 area of responsibility are not appropriate for dispersant use. If, however, an FOSC determines that dispersant use is necessary to substantially reduce a hazard to human life, the FOSC will notify the RRT Co-Chairs as soon as practicable following a decision to use dispersants and provide an Incident After-Action Report to all interested RRT member agencies. An outline of suggested information to include in an Incident After-Action Report is provided in Section 4623, below.

   An Incident After-Action Report with relevant information on the spill incident and the dispersant application will be provided to all interested RRT member agencies after the emergency response is over.

In addition to the FOSC Dispersant Authorization Checklist and the Dispersant Decision Memo, the appropriate Technical Specialists within the EU will prepare a map outlining the area proposed for dispersant application, including any pertinent information.

For case-by-case dispersant decisions, once the RRT has made a decision on the use of dispersants, Technical Specialists within the EU will also prepare a Recommendation Memo to capture the specific details, conditions, constraints, and any other pertinent information from the RRT linked to the use of dispersants. This memo, addressed to the FOSC from the key RRT members (EPA Co-Chair, affected State representative, and representatives from the DOC and DOI), will then be signed by each key member of the RRT involved in the decision and sent to the FOSC.

4616 Special Monitoring of Applied Response Technologies Protocols for Dispersants

Special Monitoring of Applied Response Technologies (SMART) is a cooperatively designed monitoring program for *in-situ* burning and dispersants. SMART relies on small, highly mobile teams that collect real-time data using portable, rugged, and easy-to-use instruments during dispersant and *in-situ* burning operations. Data are channeled to the UC to address critical questions about effectiveness and effects. Monitoring data can assist the UC with decision-making for dispersant and *in-situ* burning operations.

It is the policy of the NWAC and RRT 10 that the SMART protocols will be used, to the extent possible, for monitoring after the application of dispersants. Additional detail on the SMART protocols may be found at http://response.restoration.noaa.gov/smart. To monitor the efficacy of dispersant application, SMART recommends three options, or tiers, described below.

Tier I
A trained observer flying over the oil slick assesses dispersant efficacy and reports back to the UC. Tier I monitoring, at a minimum, must be conducted during any dispersant application.

Tier II
Tier II provides real-time data from the treated slick. A sampling team on a boat uses a fluorometer to continuously monitor for dispersed oil 1 meter under the dispersant treated slick. The team records and conveys fluorometer data, with recommendations, to the UC. Water samples will be taken for later chemical analysis at a laboratory.

Tier III
By expanding the monitoring efforts in several ways, Tier III provides information on the dispersed oil movement and fate. (1) Two fluorometers are used on the same vessel to monitor at two water depths; (2) Monitoring is conducted in the center of the treated slick at several water depths, from one to ten meters; and (3) A portable water laboratory provides data on water temperature, pH, conductivity, dissolved oxygen, and turbidity.

4617 Region 10 *In-Situ* Burning Policy and Plan
The RR 10 *In Situ* Burning Policy and Plan for ocean and coastal waters and the inland zone has been developed based on the recognition that in some instances, the physical collection and removal of oil is infeasible or inadequate, and the use of *in-situ* burning as an oil spill response technique must be considered.

4617.1 Authority for RRT 10 *In-Situ* Burning Plan
Subpart J of the NCP provides that RRTs and Area Committees shall address the use of appropriate burning agents as part of their planning activities in responding to oil spills. Further, Subpart J encourages RRTs and Area Committees to develop Preauthorization Plans to be included in the ACP and identify the specific contexts in which burning agents should and should not be used [40 CFR 300.910(a)]. The entirety of Sections 4617, 4618, and 4619 constitutes the RRT 10 Preauthorization Plan.

Preauthorization and Case-by-Case zones have been established to delineate locations and conditions under which burning operations may take place in RRT 10.

The FOSC/UC shall follow the RRT 10 *In Situ* Burning Decision Tree (Figure 4000-3) and the Protocols for *In Situ* Burning (see Section 4619, below) in this Preauthorization Plan as well as guidance provided in Section 9407, "*In-Situ* Burning Operational Planning Tool" when a decision has been made to consider the use of *in-situ* burning operations to mitigate spilled oil.

Authorization in Case-by-Case Zones
Subpart J of the NCP provides that the FOSC, with the concurrence of the EPA representative to RRT 10 and the state(s) with jurisdiction over the navigable waters threatened by the release or discharge, and in consultation with the DOC and DOI trustee representatives to RRT 10, may authorize the use of burning agents on oil spills, not covered in the Preauthorization Plan, on a case-by-case basis [40 CFR 300.910(c)]. Tribes will be afforded substantially the same treatment as states (40 CFR 300.5 *State*). Thereby, tribal representation will be required for preauthorization concurrence or concurrence on a case-by-case application of burning agents in waters under tribal jurisdiction.

Substantial Threat to Human Life
The FOSC may authorize the use of burning agents for any oil spill when, in the judgment of the FOSC, the use of burning agents is necessary to prevent or substantially reduce a hazard to human life [40 CFR 300.910(d)].

EPA has delegated its authority for authorization of appropriate burning agents to the EPA representative to RRT 10. RRT 10 representatives from the DOC, DOI, and the states of Washington, Oregon, and Idaho have been delegated authority by their respective agencies or state governments to represent natural resource trustee concerns and to serve as consultants to the FOSC on these matters.

4617.2 Scope of Regional Response Team 10 In Situ Burning Plan

The RRT 10 *In Situ* Burning Plan allows the FOSC and/or UC to use burning agents to:

- Prevent or substantially reduce a hazard to human life;
- Reduce the environmental impact of the spilled oil; or
- Reduce economic losses to critical infrastructure and public property as a result of the spill.

While the NCP does not require RRT approval for the use of *in-situ* burning as a response technology when burning agents are not utilized, the USCG, EPA, DOI, DOC, and member states of RRT 10 have agreed that, regardless of the need for RRT authorization, the notification protocols and implementation guidance in this plan are appropriate for all oil spill responses in Federal Region 10 where *in-situ* burning is used as an applied response technology. *In situ* burning to remediate oil spills occurring in Federal Region 10 will be conducted in accordance with this plan. This plan includes:

- *In situ* burning at offshore, near-shore, or inland oil spills,
- *In situ* burning where burning agents (a.k.a. “accelerants”) are not used, and
- *In situ* burning where burning agents (a.k.a. “accelerants”) are used.

This plan is not intended to cover burning of stockpiled debris.

4617.3 Definition of "Ignition"

Subpart J of the NCP does not define or prohibit ignition as a method to initiate *in-situ* burning of an oil spill. Further, the use of ignition is not considered the use of a burning agent in the initiation of or sustained combustion of spilled oil.

4617.4 Definition of "Burning Agents"

Subpart J of the NCP specifically addresses authorization procedures for the use of "appropriate burning agents." A burning agent, also called an "accelerant," is defined as an additive that, through physical or chemical means, improves the combustibility of the materials to which it is applied [40 CFR 300.5]. The process of *in-situ* burning, through deliberate action as an applied response technology, often includes the use of burning agents to assist with ignition and, at times, with sustained combustion. The NCP does not require technical product data submissions for burning agents and does not include burning agents on the NCP Product Schedule [40 CFR 300.915(e)].

4618 Elements of RRT 10 Policy and Plan for In Situ Burning

In situ burning operations will be conducted within the jurisdiction of RRT 10 in accordance with this *In Situ* Burning Policy and Plan. Key elements of the plan are as follows:

1. The plan establishes a geographically defined Preauthorization zone. All areas not identified as in the Preauthorization zone will be designated as Case-by-Case zones.
2. In the Preauthorization zone, burning agents can be utilized, without further RRT approval, to conduct *in-situ* burning of spilled oil, provided that the guidelines in the Preauthorization Plan are followed.
3. RRT 10 approval is needed in order to utilize burning agents in Case-by-Case zones, unless the burn substantially reduces a hazard to human life.
4. The plan reaffirms the use of ignition by the FOSC/UC to conduct *in-situ* burning of spilled oil in the Preauthorization and Case-by-Case zone without RRT approval.
5. FOSC/UC can use ignition and/or burning agents in either zone, without RRT approval, to conduct *in-situ* burning of spilled oil in order to prevent or substantially reduce a hazard to human life.
6. FOSC is still required to conduct ESA Section 7, including Essential Fish Habitat, and NHPA Section 106, Emergency Consultations with the appropriate trustee agencies.

4618.1 Preauthorization Zone for In Situ Burning

The *In Situ* Burning Preauthorization zone is described as follows:

- Any area that is more than 3 miles from human population. Human population is defined as 100 people per square mile.
- EPA does not intend to utilize preauthorization to apply burning agents without incident specific RRT approval in the inland zone.

The FOSCs have the authority and responsibility for managing oil spills in the preauthorized area as part of a UC structure. This *In Situ* Burning Policy and Plan authorizes the FOSC/UC to do the following without RRT approval:

1. Under proper conditions, ignite the spilled oil without using burning agents.
2. Utilize burning agents, as appropriate, if the burning conditions are suitable. EPA does not intend to utilize preauthorization to apply burning agents without incident specific RRT approval in the inland zone.

This plan also reaffirms the FOSC requirement to conduct timely emergency consultations under the ESA Section 7 and the NHPA Section 106. See Sections 4313 and 4314 for additional information on complying with this requirement.

All burning operations within the Preauthorization zone will be conducted in accordance with the protocols outlined in this plan. It is imperative that the FOSC and UC make every reasonable effort to continuously evaluate an *in-situ* burn within the Preauthorization zone. Additionally, the FOSC and UC will brief RRT 10 on the burn operation as conditions warrant and time allows.

Within areas preauthorized for the use of appropriate burning agents, further consultation by the FOSC is not required as long as the appropriate RRT agencies are immediately notified and the relevant protocols outlined in this plan are followed.

4618.2 Open Water and Inland Zone Case-by-Case Zones for In Situ Burning

The *In Situ* Burning Case-by-Case zones are described as follows:

- Any areas within 3 miles of human population. Human population is defined as 100 people per square mile.

FOSCs have the authority and responsibility for responding to oil spills in the Case-by-Case Zones based upon their jurisdictional boundaries. Within UC, the FOSC is authorized to do the following in the Case-by-Case zones without RRT approval:

1. Under proper conditions, ignite the spilled oil without burning agents.
2. Utilize burning agents to initiate/sustain *in-situ* burn when, in the FOSC's judgment, the use of burning agents is necessary to prevent or substantially reduce a hazard to human life.

The FOSC is authorized to do the following in the Case-by-Case zones after RRT approval:

1. Utilize burning agents to initiate and sustain *in-situ* burning to mitigate spilled oil within any constraints provided by RRT 10.

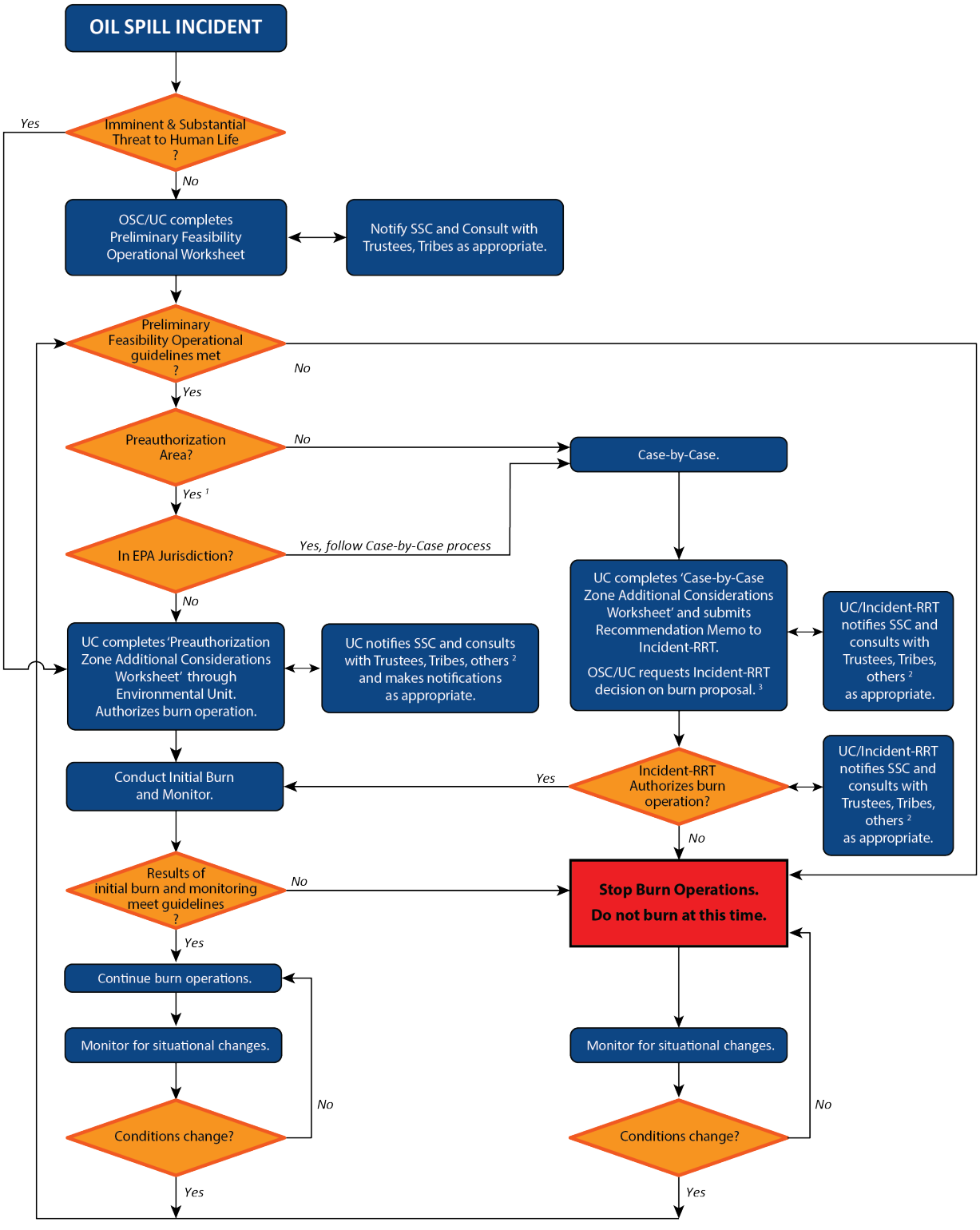
The RRT 10 *In Situ* Burn Policy and Plan also reaffirms the FOSC requirement to conduct timely emergency consultations under the ESA Section 7 and the NHPA Section 106. See Sections 4313 and 4314 for additional information on complying with this requirement.

In addition, the FOSC/UC shall do the following in requesting RRT 10 approval to initiate *in-situ* burning operations in Case-by Case Zones:

1. When planning to conduct *in-situ* burning within 3 miles of a population center, and within 3 miles of the international marine border with Canada, coordinate with RRT 10 to consult with the Coastal JRT, composed of representatives of the United States and Canadian governments, and co-chaired by the United States and Canadian Coast Guards.
2. When planning to conduct *in-situ* burning within 3 miles of a population center and 3 miles of the international land border with Canada, coordinate with RRT 10 to consult with the Regional Joint Response Team, composed of representatives of the United States and Canadian governments and co-chaired by the United States and Environment Canada.
3. Coordinate with RRT 10 to consult with appropriate tribal governments with off-reservation treaty rights in the navigable waters threatened by a release or discharge of oil, when practicable.
4. Conduct an emergency consultation with representatives of state and federal trustee agencies, considering operational timing constraints, with the goal of obtaining the best available information pertaining to the presence or absence of natural resources at the proposed burn site prior to submitting a request for authorization to RRT 10.
5. Complete and submit the *In Situ* Burning Application Long Form (see Section 9407, "*In-Situ* Burning Operational Planning Tool") to RRT 10 for an authorization decision. A decision from RRT 10 on conducting an *in-situ* burning operation is expected within 2 hours of receipt of the *In Situ* Burning Application Form.

All burning operations within the Case-By-Case zone will be conducted in accordance with the protocols outlined in this plan. It is imperative that the FOSC and UC make every reasonable effort to continuously evaluate an *in-situ* burn. Additionally, the FOSC and UC will brief RRT 10 on the burn operation as conditions warrant and time allows.

Figure 4000-3 RRT X In Situ Burning Decision Tree



Key:

[1] Indicates that the initial burn decision will be made by the UC.

[2] Other includes but not limited to: State & Local Health Departments, Air Agencies, Emergency Management Agencies.

[3] Incident RRT approval not required if burning agent not used.

4619 Protocols for In Situ Burning Policy and Plan

The requirements below apply to all *in-situ* burning operations under the provisions of this plan.

4619.1 Prior to Initiating an In Situ Burning Action

4619.1.1 Mechanical Recovery

Within Region 10, mechanical recovery is anticipated to be the primary response technique for the majority of on-water oil spills. *In situ* burning shall be considered by the FOSC/UC as another response tool to reduce the impacts of oil spills, as appropriate, in combination with mechanical and other response techniques. Note that provisions must be made for mechanical collection of burn residue following any burn(s).

4619.1.2 In Situ Burn Feasibility Analysis, Application Forms and Submittal for Regional Response Team 10 Authorization

Once an oil spill has occurred, and the FOSC/UC has determined that *in-situ* burning should be considered to help mitigate the impact of the spilled oil, the FOSC/UC shall complete the *In-Situ* Burn Preliminary Feasibility Analysis Worksheet to determine if conditions are appropriate for *in-situ* burning. Typically, this form will be completed by the EU and the NOAA SSC, including other technical specialists as appropriate.

If the worksheet indicates that conditions are appropriate for burning, then the FOSC/UC completes the appropriate application form depending on whether the spill occurred in the Preauthorization zone (short form) or Case-by-Case zone (long form).

a. For spills in the Preauthorization zone, the *In Situ* Burning Application short form (see Section 9407, "*In-Situ* Burning Operational Planning Tool") shall be completed after or concurrent with all burning operations and provided to RRT 10 members in a timely manner for documentation and informational purposes.

b. For spills in a Case-by-Case zone, the full form in Section 9407 shall be completed before commencing any burn (unless no burning agents will be used and only ignition will occur), and provided to RRT 10 members in a timely manner for their authorization decision.

4619.1.3 Inland Burning Considerations in Case-by-Case Zones

In situ burning in the inland zone is conducted primarily in wetland areas, inland waters, adjoining shorelines, and other areas that threaten release to a navigable waterway within the inland zone of RRT 10 geographic boundaries. These may include agricultural lands, lands void of vegetation, and grasslands. Burning will not occur in forested areas unless otherwise recommended by the land manager or owner.

In the inland zone, *in-situ* burning is typically considered under the following conditions:

- To remove oil to prevent its spread to sensitive sites or over large areas.
- To reduce the generation of oily wastes, especially where transportation or disposal options are limited.
- Where access to the site is limited by shallow water, soft substrates, thick vegetation, or the remoteness of the location.
- As a removal technique, when other methods begin to lose effectiveness or become too intrusive.

In situ burning in the inland zone should be conducted under the direction of a knowledgeable practitioner, if available. Burning will be conducted utilizing safe fire management techniques. All practical efforts will be made to control and contain the burn and prevent accidental or unplanned ignition of adjacent areas.

The FOSC/UC will notify adjacent land managers/owners prior to any *in-situ* burning operation conducted on land or non-navigable waters.

4619.1.4 Favorable Conditions

In open water and coastal zones, *in-situ* burning is advised only when the meteorological and sea conditions are operationally favorable for a successful burn. The FOSC/UC will utilize readily available resources to gather information on the speed and direction of the wind, atmospheric conditions, plume modeling, and the proximity to population centers or sensitive resources onshore and will make efforts to avoid particulate impacts in these areas. A safety margin of 45 degrees of arc on either side of predicted wind vectors should be used and documented for shifts in wind direction.

Favorable conditions for the inland zone include:

- Remote or sparsely populated sites (at least 3 miles from populated areas);
- Fresh crudes or light/intermediate refined products, which burn more readily and efficiently;
- Mostly herbaceous vegetation;
- Areas void of vegetation, such as dirt roads, ditches, dry streambeds, and idle cropland; and
- In wetlands with an adequate water layer (at least 1 inch) covering the substrate (prevents thermal damage to soil and roots, and keeps oil from penetrating substrate).

4619.2 During an In Situ Burning Action

4619.2.1 Responder Health and Safety

Ensuring worker health and safety is the responsibility of employers and the OSC/UC, who must comply with all Occupational Safety and Health Administration regulations.

RRT 10 has developed a Health and Safety Job Aid (see Section 9203, "Health and Safety Job Aid") to provide guidance and example Health and Safety Plans to be utilized at oil/hazardous materials incidents in the Pacific Northwest. In addition, see Section 9407, "*In Situ* Burning Operational Planning Tool" for guidance on health and safety concerns specific to *in-situ* burning of spilled oil.

4619.2.2 Public Health/Safety and *In Situ* Burning Air Monitoring Program

Public health will be protected during an *in-situ* burn by conducting air monitoring and/or sampling at appropriate locations downwind of the burn operations. In a case where smoke plumes are not predicted to cross over populated or environmentally sensitive areas, an inability to conduct air monitoring will not be automatic grounds for discontinuing or prohibiting *in-situ* burn operations.

The SMART protocols, as modified by RRT 10 (see Section 9407, "*In Situ* Burning Operational Planning Tool"), will provide the basis for the air monitoring/sampling program to ensure that sensitive populations are not exposed at levels expected to affect people's health.

It is RRT 10's policy to utilize EPA's National Ambient Air Quality Standards for particulate matter up to 2.5 microns in diameter (PM 2.5) and particulate matter up to 10 microns in diameter (PM 10) as Levels of Concern (LOCs) during *in-situ* burning operations (see Table 9407-1 "In-Situ Burning Pollutants and Exposure Limits" in Section 9407). The National Ambient Air Quality Standards (NAAQS) are based on a 24-hour time weighted average sample, and LOCs for particulates for the general public are 150 micrograms per cubic meter (PM 10) and 35 micrograms per cubic meter (PM 2.5). While conducting an in situ burn, responders will use the same LOCs from a 1-hour time weighted average sample. This is a very conservative LOC. If at any time it is anticipated, or measurements indicate, that the public are being or will be exposed to levels of particulates exceeding the identified LOCs, as a result of *in-situ* burning operations, then then the decision to continue in-situ burning operations will be reviewed with input from public health professionals. The NAAQS does not publish levels for shorter average times (e.g., 1- to 3-hour or 8-hour averages). As such, responders will have to determine how to assess the threats posed when particulates have not been present nor measured for 24-hours. Additional guidance can be found in Attachment B of Section 9418 (Emergency Response Community Air Monitoring).

Representatives of the USCG, EPA, federal trustee agencies, the affected state(s), Occupational Safety and Health Administration, and the RP may have the opportunity to observe *in-situ* burning operations if logistics and safety considerations permit. This decision will be made by the UC at the time of the incident.

4619.2.2.1 Local Air Agencies

The FOSC/UC will notify and coordinate with the state, local, and/ or tribal air agencies prior to and during an *in-situ* burning operation. Contact information for state and local air agencies may be found in Section 9407, "*In Situ* Burn Operational Planning Tool."

In addition to the UC–led air monitoring/sampling activities outlined generally in Section 4619.2.2, above, and specifically in Section 9407, the FOSC/UC will coordinate with the state, local, and/or tribal air agencies to identify regulatory air monitors/samplers in the anticipated plume path. In the event that there are exceedances of air quality standards or measurements of regulatory significance during/or after an *in-situ* burning operation, the FOSC/UC will work with the air agency to determine if the event qualifies as an Exceptional Event as governed by the "Treatment of Data Influenced by Exceptional Events" rule (72 Federal Regulations 13560, March 22, 2007) including any amendments thereto.

4619.2.3 Documentation during *In Situ* Burning Operations

Detailed information about the burn must be recorded, including duration, residue type and volume, water depth before and after the burn, visible impacts, post-burn activities (e.g., residue removal methods), etc.

Air monitoring/sampling data will be collected by the UC-led monitoring teams using the RRT 10 Modified SMART Protocol, during *in-situ* burning operations. These data will be shared with the state, local, and/or tribal air agencies responsible for the areas with regulatory monitors/samplers potentially impacted by smoke plumes resulting from *in-situ* burning operations. Incident data may be utilized by the impacted air agencies in implementing requirements for the treatment of air quality monitoring data influenced by exceptional events as governed by the "Treatment of Data Influenced by Exceptional Events" rule (72 Federal Register 13560, March 22, 2007), including any amendments thereto.

4619.2.4 Burn Control

Burning will be conducted in a way that allows for effective control of the burn, to the maximum extent feasible, including the ability to rapidly stop the burn if necessary. Contained and controlled burning is recognized as the preferred method of burning, using fire-resistant boom.

4619.2.5 Ignition Control

All practical efforts will be made to control and contain the burn and prevent accidental ignition of the source. Generally, it is not recommended that the source or adjacent uncontained slicks be allowed to ignite during *in-situ* burning operations. Certain circumstances, however, may warrant consideration of carefully planned source ignition.

4619.3 After Completion of an In Situ Burning Operation

4619.3.1 Final Report

Any use of *in-situ* burning during a spill response requires that the FOSC/UC provide a post-incident report to the RRT within 45 days of completing *in-situ* burning operations. Recommendations for changes or modification to this policy should be presented in the report, if appropriate. This report will be presented at an RRT 10 meeting, if requested by RRT 10. Required criteria for the final report are outlined in Section 9407, "*In-Situ* Burning Operational Planning Tool."

Additionally, issues that arose during the emergency consultations under ESA Section 7 and NHPA Section 106 may require additional reporting to those agencies after the response has ended.

4620 Decanting during On-Water Recovery

When oil is spilled on the water, mechanical recovery of the oil is the principal approved method of responding. However, the mechanical recovery process and associated systems necessarily involve placing vessels and machinery in a floating oil environment. When heavy oil sinks, large volumes of water mixed with silt/sediment may be recovered and need treatment prior to disposal. Decanting tank systems is one technique that could be used to separate and treat solids and liquids before discharging liquids back into the response area. Incidental returns of oil into the response area, such as oil that falls back into the recovery area from vessels and machinery that are immersed and working in the oil, are an inevitable part of the mechanical recovery process. Similarly, separation or "decanting" of water from recovered oil and return of excess water into the response area can be vital to the efficient mechanical recovery of spilled oil because it allows maximum use of limited storage capacity, thereby increasing recovery operations. This only applies to in-water recovery conducted with vessels and not on shore activities.

This practice is currently recognized as a necessary and routine part of response operations that is appropriately addressed in Area Contingency Plans (see National Contingency Plan Revisions, 59 Federal Register 47401, September 15, 1994.) In addition, some activities, such as those associated with oil recovery vessels, small boats and equipment cleaning operations may result in incidental discharges. These activities may be necessary to facilitate response operations on a continuing basis, and all of these activities are considered to be "incidental discharges."

4621 Decanting Policy

This policy addresses "incidental discharges" associated with spill response activities. "Incidental discharge" means the release of oil and/or oily water within the response area in or proximate to the area in which oil recovery activities are taking place during and attendant to oil spill response activities. Incidental discharges include, but are not limited to, the decanting of oily water, oil and oily water returns associated with runoff from vessels and equipment operating in an oiled environment and the wash down of vessels, facilities and equipment used in

the response. "Incidental discharges" as addressed by this policy, do not require additional permits and do not constitute a prohibited discharge. See 33 CFR 153.301, 40 CFR 300, RCW 90.56.320(1), Washington Administrative Code 173-201A-110, ORS 468b.305 (2)(b).

4621.1 Criteria

During spill response operations, mechanical recovery of oil is often restricted by a number of factors, including the recovery system's oil/water recovery rate, the type of recovery system employed and the amount of tank space available on the recovery unit to hold recovered oil/water mixtures. In addition, the longer oil remains on or in the water, the more it mixes to form an emulsified mousse or highly mixed oil/water liquid, which sometimes contains as much as 70% water and 30% oil, thus consuming significantly more storage space. Decanting is the process of draining off recovered water from portable tanks, internal tanks, collections wells or other storage containers to increase the available storage capacity of recovered oil. When decanting is conducted properly most of the petroleum can be removed from the water.

The overriding goal of mechanical recovery is the expeditious recovery of oil from water. In many cases, the separation of oil and water and discharge of excess water is necessary for skimming operations to be effective in maximizing the amount of oil recovered and in minimizing overall environmental damages. Expeditious review and approval, as appropriate, of such requests is necessary to ensure a rapid and efficient recovery operation. In addition, such incidental discharges associated with mechanical recovery operations should not be considered prohibited discharges. Such actions should be considered and in appropriate circumstances pre-authorized by the FOSC and/or SOSC because the discharged water will be much less harmful to the environment than allowing the oil to remain in the water and be subject to spreading and weathering.

Therefore, the Area Committee adopts the following policy in order to provide for an expeditious decanting approval process and provide clear guidance to the UC, response contractors and other members of the spill response community.

4621.2 Oils Pre-Approved for Decanting and Associated Conditions

Pre-approval for on-water decanting is authorized when pumping recovered oil and water ashore is not practical during the first 24 hours after the initial spill discovery. Decanting authorization is granted for the oil products listed below:

- All crude oils,
- Vacuum gas oils,
- Atmospheric gas oils,
- Recycle oils not containing distillates,
- Bunker fuels,
- No. 6 fuel oils,
- Cutter stocks, and

- Coker gas oils.

Decanting of the listed oils is pre-approved if the following conditions are met:

- Pre-approval applies to the first 24 hours after spill discovery. Decanting requests for all remaining operational periods will need to be completed and submitted to UC. The RP must fill out the NWACP decanting request and seek UC approval prior to any additional decanting approvals from the second operational period on.
- The Incident Commander must be notified within one hour of decanting being initiated and must then immediately notify the UC.
- The RP assures the UC that they are quickly obtaining adequate oil storage and skimming capacity within the first 24 hours and that the responders are expeditiously getting sufficient storage and skimming capacity on site to alleviate the need for prolonged decanting.

The following criteria found in the current Decanting Authorization Form must be complied with:

- All decanting should be done in a designated "Response Area" within a collection area, vessel collection well, recovery belt, weir area, or directly in front of a recovery system.
- Vessels employing sweep booms with recovery pumps in the apex of the boom shall decant forward of the recovery pumps.
- Vessels not equipped with an oil/water separator should allow retention time for oil held in internal or portable tanks before decanting commences.
- Containment boom needs to be deployed around the collection area, where feasible, to prevent loss of decanted oil or entrainment.
- Visual monitoring of the decanting shall be maintained at all times so that discharge of oil in the decanted water is detected promptly.
- Where feasible decant ahead of an operating skimmer recovery system, so decanting could occur ahead of a skimming system instead of just inside an enclosed boomed area.
- UC can revoke the pre-approval at any time if above conditions are not met.

Shore-side container decanting (i.e., vacuum truck, portable tanks, etc.) is not authorized for pre-approval under this policy. Decanting in areas where vacuum trucks, portable tanks, or other collection systems are used for shore cleanup will be subject to filling out the decanting form in the NWACP prior to authorization and must comply with the same rules as vessels.

Oils Requiring Approval by Unified Command Prior to Decanting

During a response, when decanting has not been pre-approved for lighter oils, which are not listed above, it will be necessary for response contractors or the RP to request from the UC written authority to decant while recovering oil so that

response operations do not cease or become impaired. The UC will consider each request for decanting of lighter oils on a case-by-case basis. Prior to approving decanting, the UC should evaluate the potential effects of weather, including the wind and wave conditions, the quantity of oil spilled, and the type of oil, as well as available storage. The UC should also take into account that recovery operations as enhanced by decanting will actually reduce the overall quantity of pollutants in a more timely and effective manner to facilitate cleanup operations.

The following criteria should be considered by the FOSC and/or SOSC in determining whether to approve decanting unless circumstances dictate otherwise:

- All decanting should be done in a designated "Response Area" within a collection area, vessel collection well, recovery belt, weir area, or directly in front of a recovery system.
- Vessels employing sweep booms with recovery pumps in the apex of the boom should decant forward of the recovery pump.
- All vessels, motor vehicles, and other equipment not equipped with an oil/water separator should allow retention time for oil held in internal or portable tanks before decanting commences.
- When deemed necessary by the FOSC, SOSC, or the response contractor, a containment boom will be deployed around the collection area to minimize loss of decanted oil or entrainment.
- When using decanting tank systems, tanks with baffles should be used as a best practice to speed up oil/water separation and prevent remixing.
- Visual monitoring of the decanting area shall be maintained so that discharge of oil in the decanted water is detected promptly.

The response contractor or RP will seek approval from the FOSC and/or SOSC prior to decanting by presenting the UC with a brief description of the area for which decanting approval is sought; the decanting process proposed; the prevailing conditions (wind, weather, etc.); and protective measures proposed to be implemented. The FOSC and/or SOSC will review such requests promptly and render a decision as quickly as possible. FOSC authorization is required in all cases, and SOSC authorization is required in addition for decanting activities in state waters.

The FOSC and/or SOSC will review and provide directions and authorization as appropriate to requests to wash down vessels, facilities, and equipment to facilitate response activities.

This policy does not cover other activities related to possible oil discharges associated with an oil spill event, such as actions to save a vessel or protect human life, which may include such actions as pumping bilges on a sinking vessel.

4622 Gasoline and Other Flammable Liquids Response Policy

Spills of gasoline and other flammable liquids, including many crude oils, pose

significant response challenges, as well as serious health and safety concerns for responders and communities downstream and downwind from the release. Gasoline range products are finished gasolines and volatile hydrocarbon fractions used for blending into finished gasoline, including straight-run naphtha, alkylate, reformate, benzene, toluene, xylene, and other refined petroleum products with a flash point below 100 degrees Fahrenheit (37.8 degrees Celsius). When these types of products are spilled into the environment, it is imperative to take immediate steps to control the source of the release (where safe), to eliminate all possible ignition sources, to quickly establish isolation distances, to notify regulatory and local response agencies, and to initiate a preliminary site safety plan prior to any response activities. However, it is essential that no personnel enter a potentially unsafe environment prior to an initial safety assessment, including vapor monitoring for flammable, reduced oxygen, and toxic levels.

In many cases, highly flammable liquids should not be contained for spill response. Containing gasoline and other highly flammable liquids increases the risk of fire by delaying dispersion of vapors into the atmosphere. The risks posed by response techniques, such as booming and applying foam to spilled gasoline and other flammable liquids, are warranted only under very limited circumstances. However, in some cases, and as judged by the FOSC, Incident Command, or UC, containment and the use of foam may be appropriate and necessary in response to an imminent threat to public health and safety and the environment. Deflection and protection booming can be used to move flammable liquids away from sensitive areas but must be conducted in a safe manner, within safe atmospheric levels. In unaffected downstream or down current areas at risk, boom should be deployed prior to arrival of the product. Though mechanical recovery of flammable liquids on water can be an effective practice under some circumstances, often the more prudent response option is to allow flammable liquids to evaporate and dissipate.

4623 Bioremediation

The use of bioremediation in open water is an unproven technology that currently shows little or no promise of removing significant quantities of oil from the surface of the water prior to shoreline impact or natural dispersion. Bioremediation by nutrient enhancement or seeding of biodegrading organisms is therefore not allowed on the surface of open water. This policy can be reviewed by the RRT if there is new and significant evidence that bioremediation can be a significant factor in oil removal on open water.

Bioremediation of Shorelines

Seeding of exotic organisms for pollution response is prohibited in Response Region 10. This is due to the unproven efficacy of such procedures and the unknown ecological effects resulting from the implementation of such.

Bioremediation is an effective technique for the encouragement of oil biodegradation on some contaminated shorelines. Nonetheless, this strategy is unlikely to lead to rapid decontamination of beaches. Consequently,

bioremediation should be used as the primary treatment only when oil concentrations are low (less than 15 grams of oil for every kilogram of sediment) and conventional forms of cleanup (heavy equipment use or manual cleaning) are likely to do more damage than good. Bioremediation should be considered as a polishing technique after gross contamination is removed by conventional means. The use of bioremediation for oil spill cleanup will be allowed only on a case-by-case basis.

4624 Surface Washing Agents Background and Policy

Surface-washing agents are chemicals that are used to enhance oil removal from substrates and hard surfaces. Most chemicals that are classified for this application contain a mixture of a non-polar solvent and a surfactant. The solvent dissolves into the highly viscous or weathered oil to create a less viscous and somewhat uniform liquid oil or oily mixture. The surfactant reduces the interfacial tension between the liquid oil and the surface to which the oil has adhered. Depending on environmental conditions and the selection and combination of solvents and surfactants, the removed oil will either float or disperse, giving rise to "lift and float" and "lift and disperse" descriptors of surface washing agents. The latter has a negative environmental impact for most shallow water coastal environments; therefore, products which "lift and float" are preferable. Adhering to the definition of surface washing agents in section 4600 of this document, all discussion of surface washing agents hereafter will implicitly refer to *lift and float* type cleaning agents.

When selecting a surface washing agent for use during a particular response, special consideration should be given to

1. its effectiveness on a particular oil and substrate;
2. the comparative toxicity among different surface washing agents; and
3. the availability of the surface washing agent to be acquired in a useful time period.

Any application of surface washing agents that would result in their release into the environment requires that the FOSC obtain RRT authorization prior to initiating any such applications. RRT authorization is not required for use of surface washing agents when all effluents are recovered and properly disposed of (e.g. cleaning of boom in containment areas on land). All applications of surface washing agents will be conducted in accordance with applicable state and federal regulations. See Section 9401 for potential state and federal permit lists.

Surface washing agents may be considered for use when traditional flushing techniques have been deemed to be inadequate, or when the use of surface washing agents is determined to have less of an environmental impact than other available alternatives.

Only surface washing agents that are included in the current NCP product schedule may be approved by the FOSC for use during an oil spill.

It is important to note that the NCP Product Schedule does not specifically identify shoreline cleaners as to their mode of action and may also include *lift and disperse* type surface washing agents that would not be recommended for use in Region 10 nor approved in this policy. An evaluation of the key characteristics of a NCP listed surface washing agent is required to select the most appropriate product for the situation. Technical specialists, such as the NOAA Scientific Support Coordinator, should be consulted as to the applicability of NCP listed products for specific applications.

4624.1 Role of RRT with the use of Surface Washing Agents

No surface washing agent pre-authorization zones exist in Region 10.

In order to receive authorization to approve the use of surface washing agents, the FOSC will prepare a recommendation memorandum (by completing the tools in Section 9423) and request an activation of RRT 10 for a decision on the proposed action.

The purpose of the RRT activation is for the FOSC to outline the basis for the request to authorize surface washing agent use, and pursuant to 300.910(b) of the NCP, seek concurrence from the EPA representative to the RRT and, as appropriate, the RRT representatives from the states with jurisdiction over the navigable waters threatened by the release or discharge. This activation will also serve as consultation with the DOC and DOI natural resource trustees. It is the policy of RRT 10 to also consult with appropriate tribal governments with off-reservation treaty rights in navigable waters threatened by a release or discharge of oil, when practicable. Oil trajectory, potential impact areas, and the respective sensitivities of the RARs in those areas should be considered.

The RRT members will sign the recommendation memo, indicating their support or opposition to the proposal, and return it, along with any specific details, conditions, constraints, or other pertinent information, to the FOSC. If surface washing agents are subsequently used, the FOSC will provide an Incident After-Action Report to all interested RRT member agencies after the emergency response is over.

4700 Managing Impacts to Fisheries

There are a variety of types of fisheries closures that may be proposed or needed following an oil spill. For example, when an oil spill occurs, shellfish may be exposed to petrochemicals. Because shellfish are filter feeders, they can readily accumulate substances from the water column and may become unsafe to eat and/or tainted, i.e., technically safe to eat but have altered flavor due to petrochemical exposure. The legal authority for closures varies depending on the outcome desired and on the owner of the resource (private, public, tribal).

A closure decision could be made unilaterally outside of the Incident Command by tribes, private property owners, trustee agency directors, or by county and other local officials. The EUL may identify potential impacts on fisheries as part

of the RAR process. The EUL should facilitate the decision making process by contacting the appropriate decision makers, inform them of the issues, and make sure they are brought into the decision making process. Coordination with the Operations Section is also necessary.

Section 9409, "Managing Impacts to Commercial, Recreational, and Tribal Fisheries" contains additional tools and information on closures.

4800 Places of Refuge

A ship in need of assistance may require a temporary place of refuge with adequate water depth for lightering or repairs in order to protect the marine environment. Ships may need to be brought into a harbor, anchored or moored in protected waters, or temporarily beached in order to safely make repairs and stop the loss of oil or other hazardous substances. Disabled ships need to be repaired in order to resume safe navigation and prevent an incident resulting in the loss of fuel or cargo. If leaking ships are not repaired, spilled oil and hazardous substances may affect health and human safety, natural resources, and shorelines.

There is no single place of refuge for all ships and all situations. Decisions relating to places of refuge encompass a wide range of security, environmental, social, economic, and operational issues that vary according to each situation, including the environmental sensitivity and protected status of the areas within or adjacent to a potential place of refuge. The initial decision to permit a ship to seek a place of refuge, as well as the decisions and actions implementing that decision, are inherently based on an assessment of the risk factors involved and the exercise of sound judgment and discretion.

Places of refuge are sites that could potentially be used for a disabled or damaged ship needing shelter for repairs. While information on potential sites may be pre-surveyed, this does not imply that any of these sites will be the location of choice in a future event. Selection of a place of refuge by the USCG Captain of the Port (COTP) in consultation with the RRT and other federal agencies, states, tribal and local governments, and other stakeholders will always be made on a case-by-case basis. If time allows, the COTP will activate a UC under ICS to address a request for a place of refuge.

When a place of refuge incident occurs that involves, or may involve, the international border, a response will be activated per the Joint Canada/United States Pacific Response Plan. Similarly, if a Place of Refuge incident is likely to involve more than one ACP, existing cross-jurisdictional protocols will be activated.

This section incorporates a decision-making process and recommended procedures for appropriate authorities and vessel masters to use when requesting a place of refuge. The guidelines incorporate the Guidelines on Places of Refuge for Ships in need of Assistance adopted by International Maritime Organization, and assume use of ICS to manage the incident.

When safety of life is involved, existing search and rescue conventions and protocols should be used.

When a ship is in need of assistance but safety of life is not involved, the guidelines in Section 9410 should be followed to evaluate whether a ship should remain in the same position, continue on its voyage, be brought into a place of refuge, taken out to sea, or intentionally scuttled in deep water.

See Section 9410, “Places of Refuge.”

4810 Jurisdiction for Places of Refuge Decisions

Under 33 CFR 6.04, the USCG COTP has authority to order ships into and out of ports, harbors, and embayment’s to protect the public, the environment, and maritime commerce. The COTP is the designated FOSC for the United States coastal zone per the NCP (40 CFR 300) (a)(1). There may be some maritime homeland security situations where the COTP, acting as the Federal Maritime Security Coordinator, may have access to sensitive security information and/or classified information—not readily shareable with other stakeholders—that may impact the final disposition of a vessel requesting "Force Majeure" or permitting a vessel to seek a place of refuge or approval of a salvage plan. These circumstances are dealt with on a case-by-case basis, and information is shared with other agencies on a “need to know” basis.

The states of Oregon, Washington, and Idaho have authority to represent and protect state interests for incidents within state waters. Each state has jurisdiction over state-owned shoreline and in nearshore waters out to 3 miles. In Washington and Oregon, SOSCs are pre-designated by Ecology and DEQ, respectively. In the state of Idaho, an SOSC is designated at the time of an incident by the Bureau of Homeland Security. Although Idaho does not have a coast, it does have a port that might potentially be used as a place of refuge.

Local governments or port authorities may have authority over nearshore waters, including ports and harbors. If so, a local government or port representative may serve as a Local OSC per the NWACP.

Resource agencies have authority to manage their lands, marine areas, wildlife, habitat, and resources as mandated in their laws and regulations. Resource agencies fill positions in the ICS and provide resource information to the UC. In addition, resource agencies are members of RRT 10.

Tribal governments may own land and have fishing rights in marine areas that could be impacted by a ship seeking a place of refuge. If so, a tribal government representative(s) may fill positions in the ICS or may serve as a Local OSC per the NWACP.

The master of the ship has control of the ship and is responsible for requesting a place of refuge from the COTP. The master provides details on the status of the

ship and justification for needing a place of refuge per the International Maritime Organization Guidelines on Places of Refuge.

Chapter 5000

Logistics

Northwest Area Committee Expectations:

- Northwest Area Committee members and those responding within the region are fully aware of the need and importance to rapidly staff and effectively run a robust logistic section to support response operations.

Critical Elements of Chapter 5000:

- Highlights the importance of adequate and appropriate Logistics Section staffing, roles, and responsibilities.
- Highlights the importance of rapidly establishing a strong communications plan, adequate to manage the complexities of the response operations, and functional in remote areas if applicable.
- Highlights the importance of establishing adequate and appropriate incident facilities (including Command Posts and Staging Areas), and staffing.

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Logistics

5100 Logistics

This chapter provides guidance for providing facilities, services, and material in support of an incident.

5200 Area Resources: Infrastructure

5210 Incident Facilities

A command post may be established based on the requirements of the incident. The Incident Commander or Unified Command determines when these facilities are established and where they are located.

The command post is the location from which all incident operations are directed. Only one command post is required per incident. Government and private entities should be co-located at the command post to make planning and communications easier. The communications center is usually established at the command post. Incident bases(s) are used for large oil spills affecting a large geographical area and provide staging areas for equipment and personnel (e.g., small craft launching area, shoreline cleanup access point).

5220 Resource Directory

For resource list see: http://www.wrrl.us/

5230 Oil Response Equipment

See http://www.wrrl.us/

5240 Hazardous Substance Response Equipment

See http://www.wrrl.us/

5250 Salvage Companies/Divers

For more information see: http://www.americansalvage.org/members.php

5300 Area Contact List Links

Area contacts can be found in Section 9106 – Response Partner Roles and Contacts.

Chapter 6000

Finance/ Administration

Northwest Area Committee Expectations:

- Northwest Area Committee members and those responding within the region are expected to be aware of the importance of rapidly and effectively managing Finance and Administrative duties with adequate and appropriate staffing, as well as how to access various funding mechanisms.

Critical Elements of Chapter 6000:

- Describes federal, state, and local/tribal access criteria and limitations to available federal and state response funding streams such as the Oil Spill Liability Trust Fund; Comprehensive Environmental Response, Compensation, and Liability Act; and Washington Oil Spill Response Account
- Requirements for Record Keeping and Documentation
- Claims and Cost Recovery overview
- Natural Resource Damage Assessment access to funds and overview of some Natural Resource Damage Assessment procedure references

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Finance/Administration

6100 Finance/Administration Section Organization

The functions of the Finance/Administrative Section must be accomplished during an incident; however, they can be performed by one individual or can be expanded, as needed, into additional organizational units with appropriate delegation of authority.

6200 Roles and Responsibilities

The Finance/Administrative Section is usually staffed in large-scale or complex incidents. Since most of the activities performed by the Finance/Administrative Section do not require face-to-face communication, these operations may be located remotely from the incident site. All functions not assigned by the Section Chief remain the responsibility of the Section Chief.

6300 Federal On-Scene Coordinator Access to the Federal Fund

Federal removal actions are authorized by the Federal Water Pollution Control Act (FWPCA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) if the required elements of jurisdiction exist. In the event of a discharge or release, if the spiller is not acting promptly or is not known, the Federal On-Scene Coordinator (FOSC) may initiate federal removal under the authority of section 311 (o)(l) of the FWPCA or section 104(a) of CERCLA. The responsible party (RP) is liable for government removal costs in accordance with section 311(f) of the FWPCA, and section 107 of CERCLA. Section 300.58 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) outlines the types of funds that may be available to remove certain oil and hazardous substances discharge.

6310 National Pollution Fund Center

The National Pollution Fund Center (NPFC) manages the Oil Spill Liability Trust Fund (OSLTF), a source for payment of removal costs and damages resulting from oil spills or incidents that threaten to spill oil into navigable waters of the United States, adjoining shorelines, or the Exclusive Economic Zone.

The NPFC:

- Acts as the fiduciary agency for the OSLTF and administers the United States Coast Guard (USCG) portion of CERCLA;
- Provides 24-hour funding to FOSCs for immediate removal actions at an incident, to monitor an RP's actions, or to initiate an assessment of damages to natural resources; and
- Issues Federal Project Numbers as requested by an FOSC.

The NPFC operates within a Case Team concept. There are four case teams: Southeast, Gulf Coast, West Coast, and Northeast. Each case team includes legal, financial, natural resource damage claims, and OSLTF claims specialists.

6320 Accessing the Oil Spill Liability Trust Fund

The OSLTF was established by section 311 (k) of the FWPCA and is administered by the USCG. Title 33 Code of Federal Regulations (CFR) subchapter M provides regulatory information on state access to the OSLTF, claims procedures, financial responsibility for vessels, and other topics. Additional information on the OSLTF can be found in "Oil Spill Liability Trust Fund (OSLTF) Funding for Oil Spills" (NPFCPUB 16465.2) and in Chapter 7 of the USCG Marine Safety Manual, Volume VI (COMDTINST M16000.11).

In the event of an oil spill, the FOSC, states, claimants, and trustees can obtain access to federal funds. FOSCs can obtain immediate access to a funding account and ceiling for incident response by accessing the Ceiling and Number Assignment Processing System online at: https://npfc.uscg.mil/canaps/.

The following funding limitations exist in accessing the OSLTF:

- The maximum, per case, is $1 billion, or the balance in the OSLTF, whichever is less.
- Removal funding (including response to a substantial threat) and initiate request funding are limited to the funds available in the OSLTF Emergency Fund.
- There is a maximum of $500 million per case to satisfy Natural Resource Damage claims and assessments.
- Initiation of Natural Resource Damage Assessment (NRDA) costs may be paid out of the Emergency Fund, subject to its availability and the process through which funding was requested.
- The discharge (or substantial threat of discharge) must impact navigable waters of the United States (including the 200-mile Exclusive Economic Zone).

6330 Hazardous Substance Response Trust Fund

A Memorandum of Understanding (MOU) between the USCG and the United States Environmental Protection Agency (EPA) allows the USCG to access the Hazardous Substance Response Trust Fund when the USCG undertakes response

activities pursuant to CERCLA, Executive Order 12316, and the provisions of Subpart E of the NCP. When EPA provides the On-Scene Coordinator (OSC), the OSC has the authority to spend up to $200,000 in emergency situations. The EPA Regional Administrator has authority to approve Trust Fund expenditures not to exceed $6,000,000. Expenditures exceeding $6,000,000 must be approved by EPA Headquarters. When the USCG provides the OSC, the USCG OSC has authority to approve Trust Fund expenditures not to exceed $50,000. USCG OSCs can receive approval for CERCLA Trust Fund expenditures up to $250,000 through the Commander, Thirteenth Coast Guard District. For additional expenditures, approval from the EPA Office of Land and Emergency Management is necessary. To access the fund, an account number must be obtained from EPA Headquarters.

Other federal agencies have authority to expend Trust Fund money in accordance with Interagency Agreements (IAGs) and MOUs with EPA. Agency expenditures will be reimbursed in accordance with the procedures specified in these IAGs and MOUs. The CERLCA statute allows state access to Superfund monies only through a Cooperative Agreement between EPA and the state.

In accordance with 40 CFR 300.415(b)(2), the Trust Funds may be used to undertake immediate removal actions when the agency providing the OSC determines that such action will prevent or mitigate immediate and significant risk of harm to human life or health or to the environment from such situations as:

- Human, animal, or food chain exposure to acutely toxic substances;
- Contamination of a drinking water supply;
- Fire and/or explosion; and
- Similar acute situations.

In the event of a hazardous substance release or imminent threat of a release, the FOSC can obtain access to federal funds through CERCLA.

- The FOSC determines if federal funds are required and requests a spending ceiling and CERCLA Project Number from the NPFC Case Officer/Regional Manager. The FOSC can fund USCG resources contracts, other government agencies, and contractor costs through the CERCLA Project Number (NPFC User Reference Guide, Chapter 3).

CERCLA Access Criteria and Limitations:

- The release or substantial threat of a release of a hazardous substance, pollutant, or contaminant must impact the environment. “Environment” is defined in CERCLA as waters of the United States, other surface waters, ground water, drinking water supply, land surface or subsurface, or ambient air.
- Removal funding is limited to no more than $2,000,000 or 12 months duration. EPA may grant incident specific waivers to this requirement.

- FOSCs may only obligate less than $250,000 for an incident without an approved Action Memorandum. (See NPFC User Reference Guide, Chapter 3, Section entitled "EPA Superfund Removal Procedures-Action memorandum Guidance.")
- There is no provision for state access.
- There is no provision for funding pre-assessment phase activities of NRDA.
- Compensation to claimants damaged by hazardous substances is not available.
- The substance must not be oil as defined by 33 United States Code Section 2701(23) (NPFC User Reference Guide, Chapter 3)

6400 Other Access to Funds

6410 Access through Pollution Removal Funding Authorizations

Federal, state, local, and tribal governments assisting the FOSC may receive reimbursable funding authority through a Pollution Removal Funding Authorization (PRFA). The NPFC can be consulted regarding PRFAs, but authorization to establish and use this funding source is provided by the FOSC. PRFAs must be approved by the FOSC.

6420 State access to the Oil Spill Liability Trust Fund

The Oil Pollution Act of 1990 (OPA) allows state governors to request payments of up to $250,000 from the OSLTF for removal costs required for the immediate removal of a discharge, or the mitigation or prevention of a substantial threat of a discharge, of oil. Requests are made directly to the FOSC, who will determine eligibility. If a state anticipates the need to access the fund, it must advise the NPFC in writing of the specific individual who is designated to make requests. The designation must include the person's name, title, address, telephone number, and the capacity in which they are employed. FOSCs will provide initial coordination of the request and subsequent coordination and oversight.

6421 Eligibility for State Access to the Oil Spill Liability Trust Fund

The following eligibility considerations will be evaluated by the FOSC when contacted by the state requesting OSLTF monies:

1. Is the incident eligible for immediate removal under the Clean Water Act, as amended by the OPA?
2. Is the substance discharged/threatening discharge oil?
3. Did the incident occur after August 18, 1990?
4. Is the aggregate amount of the request equal to or less than $250,000?
5. Are the proposed actions consistent with the NCP (including the requirement in 40 CFR 300.305 (c) that a reasonable effort was voluntarily made by the discharger to promptly perform removal actions)?
6. Are the proposed level of response, proposed actions, and amounts requested appropriate for the circumstances?
7. Does the state have the means to complete immediate removal?

The FOSC will then notify the state and the NPFC Director of his or her decision.

6422 Required Record Keeping

The state shall maintain records of expenditures of fund monies, including:

- Daily expenditures for each individual worker, the individual's name, title or position, activity performed, time on task, salary or hourly rate, travel costs, per diem, out-of-pocket or extraordinary expenses, and whether the individual is normally available for oil spill removal;
- Equipment purchased or rented each day, with the daily or hourly rate;
- Miscellaneous materials and expendables purchased each day; and
- Daily contractor or consultant fees, including costs for their personnel and contractor-owned or rented equipment, as well as that of any subcontractor.

The state shall submit a copy of these records and a summary document, stating the total of all expenditures made, to the NPFC within 30 days after completion of the removal actions. A copy of these documents shall also be submitted to the cognizant FOSC.

6430 Lead Administrative Trustee Access to the Fund

Section 6002 (b) of the OPA provides that the OSLTF Emergency Fund is available "to initiate the assessment of natural resource damages" (Initiate/Initiation). For the purpose of this agreement, Initiate activities have been defined as the Pre-assessment activities as outlined in 15 CFR 990, Subpart D.

Executive Order 12777 limits funding for Initiation to the Federal Trustees, who are as follows:

- United States Department of the Interior,
- United States Department of Commerce,
- United States Department of Agriculture,
- United States Department of Defense, and
- United States Department of Energy.

Executive Order 12777 introduced the Federal Lead Administrative Trustee (FLAT) concept to provide a focal point for addressing natural resource issues associated with a specific incident. The NPFC will only accept requests for Initiation from, and normally works directly with, the FLAT. State and Tribal Trustees must work through a FLAT. State and Tribal Trustees acting in the event of a spill may join with the designated Federal Trustees to name a FLAT.

Criteria for Initiation

Initiation of a NRDA must be performed in response to an OPA incident, i.e., a discharge or substantial threat of a discharge of oil into or upon the navigable waters or the adjoining shorelines or the Exclusive Economic Zone of the United States.

6440 Claims against Fund

Claimants (individuals, corporations, and government entities) can submit claims for uncompensated removal costs or certain damages (natural resources, real/ personal property, loss of profits, loss of subsistence use of natural resources, loss of government revenues, and increased costs of government services) caused by the oil spill to the NPFC if the RP does not satisfy their claim. The NPFC adjudicates claims and pays those with merit. RPs can submit claims to the NPFC, provided that:

- The total of all response costs and damage claims exceed the RP's statutory limit of liability, or
- The spill was solely caused by a third party, an Act of God, or an Act of War.

The categories of uncompensated losses covered by the OSLTF are:

- Removal costs,
- Real or personal property damages,
- Loss of profits or earning capacity,
- Loss of subsistence,
- Loss of government revenues,
- Cost of increased public services, and
- Damages to natural resources.

Generally, claims for all costs and damages resulting from an oil pollution incident must be presented first to the RP or its guarantor. The guarantor is typically the RP’s insurer.

6450 State Access to the CERCLA Fund

Expenditures of Trust Fund money by a state must be performed in accordance with a contract or cooperative agreement between EPA and that state.

6451 Cost Recovery

EPA will make all decisions regarding recovery of expenditures from the Trust Fund. All agencies expending Trust Funds must submit an itemized account of all funds expended in accordance with provisions of contracts, IAGs, or Cooperative Agreements with EPA. These agreements must be in place prior to the expenditure of funds.

6452 Reimbursement Procedures

Agency expenditures will be reimbursed in accordance with procedures specified in contracts, IAGs, or Cooperative Agreements with EPA.

Local governments may request reimbursement of costs to carry out temporary measures without a contract or cooperative agreement. All costs for which local governments are seeking reimbursement must be consistent with the NCP and federal cost principles outlined by the Office of Management and Budget.

Reimbursements are limited to $250,000 per hazardous substance response. In addition, reimbursement must not supplant local government funds normally provided for emergency response. States are not eligible for reimbursement, and no state may request reimbursement on its own behalf or on behalf of political subdivisions within the state.

6453 Local and Tribal Government Access to the CERCLA Fund

Local and federally recognized tribal governments may request reimbursement of costs to carry out temporary measures to protect human health and the environment without a contract or cooperative agreement. All costs for which local governments are seeking reimbursement must be consistent with the NCP and federal cost principles outlined by the Office of Management and Budget. Reimbursements are limited to $25,000 per hazardous substance response. In addition, reimbursement must not supplant local government funds normally provided for emergency response. States are not eligible for reimbursement, and no state may request reimbursement on its own behalf or on behalf of political subdivisions within the state.

More information on the Local Government Reimbursement program may be found at: https://www.epa.gov/emergency-response/local-governments-reimbursement-program.

6460 Access to the Washington State Oil Spill Response Account

The Oil Spill Response Account (OSRA) is provided to "pay for costs associated with the response to spills of crude oil or petroleum products into the navigable waters of the state" (Revised Code of Washington [RCW] 90.56.500). The state may use the OSRA for costs associated with responses to oil spills to water that are likely to exceed $50,000. The Washington State Department of Ecology (Ecology) uses its appropriation from the OSRA to pay for NRDAs, response costs, containment, cleanup and disposal costs, wildlife rescue, contracts, and equipment costs during large oil spill incidents. All state cost recovered (not including penalties or NRDA assessments) are deposited back into the OSRA.

6470 Access to Oil and Hazardous Materials Cleanup Funds in Oregon

Under Oregon Revised Statutes (ORS) 465.255 through 465.260, the owners or RPs in possession of oils and/or hazardous substances that have been spilled are responsible to conduct and pay for all costs associated with cleanup. The Director of the Oregon Department of Environmental Quality (DEQ) may take any removal or remedial action necessary to protect public health, safety, welfare, and the environment and recover those costs from liable persons or parties.

The State of Oregon collects fees and penalties under several funding programs to pay for cleanups when the RP is unknown, unable, or unwilling to conduct cleanup, at the time of an incident. These include the Oregon Oil Spillage Control Fund, the Hazardous Substance Remedial Action Fund (HSRAF), the Oregon Highway Emergency Response Fund, the Drug Lab Cleanup Fund, and the

Orphan Site Account. The purpose and uses of each of these accounts are described below. Access to all funds must be arranged through the State On-Scene Coordinator representing DEQ, who will determine whether funds may be used and will facilitate access.

6471 The Oregon Oil Spillage Control Fund

The Oregon Oil Spillage Control Fund is funded through penalties recovered from enforcement cases involving the willful or negligent discharge of oil to water of the state under ORS 468B.450 and is used by DEQ to conduct cleanup activities and rehabilitate affected fish and wildlife, as provided under ORS 468B.060.

6472 The Oregon Hazardous Substance Remedial Action Fund and Orphan Site Account

Costs from several sources, including natural resources damages penalties, tipping fees at hazardous waste landfills, remedial action costs, and environmental enforcement penalties contribute to the HSRAF administered by DEQ under ORS 465.381. The HSRAF may be used for DEQ's remedial action costs at contaminated sites that may affect human health or the environment.

The Orphan Site Account is a subaccount within HSRAF and is additionally funded through fees associated with the possession of hazardous substances and by the sale of general obligation bonds as allowed under ORS 453.398 to 453.402. This account is used to fund expenses of the department related to activities associated with removal or remedial action at properties that have been identified as orphan sites.

6473 The Oregon Highway Emergency Response Fund

Under ORS 465.104 to 465.127, the Oregon Department of Revenue collects fees associated with the withdrawal of petroleum products from bulk facilities. These funds support agencies in carrying out the state's oil, hazardous material, and hazardous substance emergency response program as it relates to the maintenance, operation, and use of public highways, roads, streets, and roadside rest areas. This fund is used primarily by the Oregon Department of Transportation and DEQ.

6474 The Oregon Illegal Drug Lab Cleanup Fund

Under ORS 475.405 to 475.495, funds (including forfeiture of property) are recovered or received from RPs and from federal, state, and local government and are placed in the Oregon Illegal Drug Lab Cleanup Fund. These funds are used by DEQ to clean up illegal drug manufacturing sites as needed. Cleanup and disposal of chemicals located at an alleged illegal drug manufacturing site may be performed by law enforcement agencies and is coordinated through a DEQ State On-Scene Coordinator.

6500 Federal Fund Documentation and Cost Recovery Procedures

Through Executive Orders, the President has delegated certain functions and responsibilities vested to him by the FWPCA and CERCLA to the EPA and the USCG. Under CERCLA, the Hazardous Substance Response Trust Fund has been set up to fund federal responses to hazardous substances, pollutants, or contaminants, as defined by CERCLA that may present an imminent or substantial threat to public health or the environment. Responses to discharges of petroleum products are specifically excluded from CERCLA. Section 311 of the Clean Water Act, as amended by the OPA, established the OSLTF for response to discharges of petroleum products Response includes conducting NRDAs and paying claims for removal costs or damages. EPA and the USCG both have access to both funds through MOUs established between both agencies. Only costs incurred during containment, countermeasures, cleanup, and disposal (Phase III) during a federal response to an oil pollution incident are recoverable from the Pollution Fund (311 (k)) and must be certified as Phase III costs by the FOSC. The NCP contains information and procedures with regard to both the FWPCA and CERCLA and contains sections dealing with documentation and cost recovery for both acts. USCG Commandant Instruction 16465.1 defines documentation for enforcement and cost recovery. The instruction is incorporated into this plan by reference.

6510 Letters

- Notice of Federal Interest for an Oil Pollution Incident (Form CG-5549);
- Notice of Federal Assumption; and
- Letter of Designation of Source.

The OSC is responsible for notifying the NPFC of the source of a discharge, actual or potential. The NPFC must also be notified if the source is not identified. Notification may be made by letter, Rapidraft, or message (POLREP or Situation Report). The NPFC should be contacted for guidance on procedures, or with any questions relating to this.

- Administrative/Directive Order (To be distributed under separate cover).

6520 Reports

- FOSC Reports will be submitted as determined necessary by the RRT for a particular incident.
- POLREPS shall be submitted for the coastal zone in accordance with the requirements outlined in Volume VI, Chapter 7.B.5.b of the Marine Safety Manual. The POLREP format can be found in Volume VII of the Marine Safety Manual. In the inland zone, POLREPS shall follow the format outlined in EPA's Superfund Removal Procedures: Removal Response Reporting guidance.

6600 Damage Assessment Procedures

The National Oceanic and Atmospheric Administration published a final rule to guide trustees in assessing damages to natural resources from discharge of oil. The rule provides a blueprint that enables natural resource trustees to focus on significant environmental injuries, to plan and implement efficient and effective restoration of the injured natural resources and services, and to encourage public and RP involvement in the restoration process.

Under the rule, the NRDA process is divided into three phases:

- Preassessment: The trustees evaluate injury and determine whether they have the authority to pursue restoration and if it is appropriate to do so.
- Restoration Planning: The trustees evaluate and quantify potential injuries and use that information to determine the appropriate type and scale of restoration actions.
- Restoration Implementation: The trustees and/or RPs implement restoration, including monitoring and corrective actions.

This process is designed to rapidly restore injured natural resources and services to the condition that would have existed had the spill not occurred and to compensate the public for the losses experienced from the date of the spill until the affected natural resources and services have recovered.

6610 Washington State Damage Assessment Procedures

Under state law (RCW 90.56.370), individuals or companies responsible for spilling oil into state waters are liable for damages resulting from injuries to public resources. In cases where the federal damage assessment procedure is not used, the state damage assessment procedure may be used. This process in Washington is defined in the Oil Spill Natural Resource Damage Assessment Rule (Washington Administrative Code 173-183).

In 1989, state lawmakers created the Resource Damage Assessment Committee to oversee the protection and restoration of natural resources that are injured by oil spills. The committee is made up of representatives from:

- Washington State Department of Ecology,
- Washington Department of Fish and Wildlife,
- Washington State Department of Natural Resources,
- Washington State Department of Health
- Washington State Parks and Recreation Commission
- Washington State Department of Archaeology and Historical Preservation

Under the state's process, the spiller may be able to reduce the damages by acting quickly to contain and recover the spilled oil from the water.

Following an oil spill, the committee will decide to proceed with a formal damage assessment, work with the spiller to develop an acceptable restoration or

enhancement project or study, or use the state's oil spill compensation schedule from the rule. The compensation schedule helps to determine a monetary value (damages) for injuries to public resources caused by the oil spill. The compensation schedule allows Ecology to collect damages based on a dollar per gallon charge. For spills less than 1,000 gallons this is $1to $100 per gallon range. For spills of 1,000 gallons or more this range is $3 to $300 per gallon spilled.

Ecology deposits damages collected through the compensation schedule into the state Coastal Protection Fund. The Resource Damage Assessment Committee authorizes expenditures from this fund after consulting with impacted local agencies and tribal governments. The monies are usually used for restoration projects or studies related to the resource damaged and spent in the area where the damages occurred.

Chapter 7000

Hazardous Substances Unique Information

(including weapons of mass destruction)

Northwest Area Committee Expectations:

- Spiller to conduct rapid and complete notification
- Spiller is responsible for conducting a full and rapid response

Critical Elements of Chapter 7000:

- Identifies Hazardous Material response authorities
- Identifies regional hazardous materials response assets and capabilities
- To be used for response phase only

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Hazardous Substances (including weapons of mass destruction) Unique Information

7100 Introduction/Purpose

While the basic Incident Command System (ICS)/Unified Command is unchanged whether the response is to an oil discharge or hazardous substance release, including a weapon of mass destruction (WMD) incident, there are a number of factors that are unique to hazardous substance releases. The purpose of this chapter is to provide Northwest Area Contingency Plan (NWACP) users with information specific to response to hazardous substance releases, including weapons of mass destruction incidents.

Many Region 10 Regional Response Team/Northwest Area Committee member agencies have specific responsibilities during and following a hazardous substances incident, including WMD or other terrorist act (chemical, biological, or radiological). The NWACP is a good general guide for interagency coordination and resources during a response to any type of oil or hazardous substances incident. When an incident is large enough in scope to trigger the National Response Framework (NRF), hazardous substance response will be conducted under Emergency Support Function 10, and may use this plan as a guide. For more information on federal disaster and homeland security planning, see the Chapter 1000, "Introduction."

7105 Scope

This chapter focuses on hazardous substance incidents with the following characteristics:

- Multi-agency and/or multi-jurisdictional response;
- Exceedance of localized (city/county/state) response capacity;
- Response that exceeds one operational period;
- Release or imminent release of hazardous substances (not intelligence only); and
- Response phase of the incident, through stabilization.

7110 Definitions of Hazardous Substances

Before the process of planning for a hazardous substance incident response can begin, there must be a clear understanding of the types of materials that are to be covered under this plan. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, defines hazardous substances as "hazardous wastes" under the Resource Conservation and

Recovery Act, as well as hazardous substances regulated under the Clean Air Act, Clean Water Act, and the Toxic Substances Control Act. In addition, any element, compound, mixture, solution, or substance may also be specifically designated as a "hazardous substance" under CERCLA. This definition includes numerous hazardous chemicals, as well as chemical warfare agents and radionuclides. CERCLA hazardous substances and associated Reportable Quantities are listed in 40 Code of Federal Regulations (CFR) part 302.4. CERCLA also applies to "pollutants or contaminants" that may present an imminent or substantial danger to public health or welfare. An imminent or substantial danger to public health or welfare is caused when the pollutant or contaminant will, or may reasonably be anticipated to, cause illness, death, or deformation in any organism. Most biological warfare agents have been determined to be pollutants or contaminants under CERCLA.

Petroleum products such as diesel and gasoline are specifically excluded from CERCLA and are not considered to be "hazardous substances" under federal statute. State environmental statutes may, however, consider these materials hazardous substances. This chapter does not specifically deal with issues related to response to petroleum products.

7120 Authorities

7121 Federal Authorities

Federal authorities for response to release of a hazardous substance, pollutant, or contaminant, including biological, chemical, and radiological warfare agent, are outlined in CERCLA (42 United States Code § 9604, CERCLA, commonly known as "Superfund") and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Part 300, NCP). Federal On-Scene Coordinators (FOSCs) are the federal officials predesignated by the United States Environmental Protection Agency (EPA) and the United States Coast Guard (USCG) to coordinate response activities. The FOSC, either directly or through his or her staff, monitors, provides technical assistance, and/or directs federal and potentially responsible party resources. As the state and local responders' gateway to the resources of the National Response System, it is the FOSC's responsibility to provide access to resources and technical assistance that may not otherwise be available to a community. Under the NCP, if federal involvement is necessary because state and local resources have been exceeded, the FOSC is obligated to coordinate the use of these resources to protect public health and the environment.

Similar to oil spills, federal response authorities are shared by EPA and USCG, with EPA maintaining jurisdiction of hazardous substance spills in the inland zone and the USCG in the coastal zone. See Section 1400, "National Response System" for jurisdictional boundary details. EPA also has the lead for longer-term hazardous substance and pollutant or contaminant cleanups in the coastal zone. Responsibility for radiological responses is more complex and is dependent on the source of the release. Roles and responsibilities are outlined in the Nuclear/Radiological Incident Annex to the NRF. This table summarizes the lead federal agency and regulatory roles.

Responsibility or Authority	Law or Act	CFR	Lead Agency
Releases of Hazardous Materials	Comprehensive Emergency Response, Compensation and Liability Act	40 Part 302	EPA/USCG
Response to Oil and Hazardous Materials	National Contingency Plan	40 Part 300	EPA/USCG/ DOD/DOE
Protection and Security of Chemicals	Chemical Facility Anti-Terrorism Standards	6 Part 27	DHS Infrastructure Protection

Key:
CFR = Code of Federal Regulations
DHS = United States Department of Homeland Security
DOD = United States Department of Defense
DOE = United States Department of Energy
EPA = United States Environmental Protection Agency
USCG = United States Coast Guard

7122 Washington State Authorities

The Washington State Department of Ecology (Ecology) Spills Program responds to releases of oil, hazardous substances and clandestine drug laboratories under the following authorities:

Responsibility or Authority	Law or Act	RCW/WAC	Lead Agency
Spills of polluting matter to water	Water Pollution Control Act	RCW 90.48	Ecology
Spills of oil or hazardous substances to water	Oil and Hazardous Substances Spill Prevention and Response Act	RCW 90.56	Ecology
Hazardous/Dangerous Waste Management	Hazard Waste Management Act	RCW 70.105 WAC 173-303	Ecology
Hazardous Waste Cleanup	Model Toxics Control Act	RCW 70.105D WAC 173-340	Ecology
Spillers Responsibility for Cleanup	Special Rights of Action and Immunities	RCW 4.24.314	Ecology/Washing-ton State Patrol
Designation of the Incident Command Agency	Hazardous Material Incidents	RCW 70.136.030	Washington State Patrol
Responsibility for Illegal Drug Lab Cleanup	Uniformed Controlled Substance Act	RCW 69.50.511	Ecology
Property Contaminated by the Manufacture of Illegal Drugs	Contaminated Properties	RCW 64.44	DOH
Radiation Protection Standards	Nuclear Energy and Radiation	RCW 70.98 WAC 246-221	DOH
Radiation Protection – Workers Rights	Nuclear Energy and Radiation	RCW 70.98 WAC 246-222	DOH
Packaging and Transportation of Radioactive Material	Nuclear Energy and Radiation	RCW 70.98 WAC 246-231	DOH
Radiation Waste Disposal	Nuclear Energy and Radiation	RCW 70.98 WAC 246-250	DOH
Regulation of all potential and actual radioactive air emissions	Nuclear Energy and Radiation	RCW 70.94 WAC 246-247	DOH

Key:
DOH = Washington State Department of Health
Ecology = Washington State Department of Ecology and Environment, Inc.
RCW = Revised Code of Washington
WAC = Washington Administrative Code

7123 Oregon State Authorities

The Oregon Public Health Division (OPHD) (Department of Human Services) is responsible for protecting the health of people in the state of Oregonby responding to outbreaks of diseases and releases of selected hazardous substances and has developed response and recovery plans to meet that responsibility. These plans are included in the State of Oregon Emergency Management Plan as an appendix to Annex F, Emergency Support Function 8 – Health and Medical Services. The subjects addressed by these plans include tracking the health outcomes among persons exposed to a wide range of hazardous chemicals, radioactive materials, and infectious agents. The State of Oregon's Regional Hazardous Material Emergency Response Teams respond to chemical emergencies that exceed the training and equipment capacity of local first responders. OPHD statutory authorities are described in detail in the OPHD Base Plan and in brief in the table below.[1] OPHD carries out the response activities described in these plans in collaboration with the state Office of Emergency Management (OEM), the Department of Environmental Quality, other state agencies, and local health departments.

Responsibility or Authority	Law or Act	ORS/OAR	Lead Agency
Oil Spill Planning and Response (Oil Spill Contingency Planning & Fees)	Oil or Hazardous Material Spillage	ORS Chapter 468B.300 to 468B.500 /340 Division 141	DEQ
Oil Spill Planning and Response (Oil and Hazardous Materials Emergency Response Requirements)	Oil or Hazardous Material Spillage	ORS Chapter 468B.300 to 468B.500 /340 Division 142	DEQ
Hazardous Substance Removal or Remedial Action	Hazardous Waste and Hazardous Materials	ORS Chapter 465.200 to 465.545/ 340 Division 122	DEQ
Isolating Contaminated Property	Public Health Measures	ORS 433.142, 433.220	OPHD
Responding to a Public Health Emergency	Public Health Emergencies	ORS 433.441 to 433.466; OAR 333, Division 3	Oregon Health Authority
Authority to Enforce Public Health Laws (covers all applicable areas)	Public Health Measures	ORS 431.262	Oregon Health Authority
Drug Lab Cleanup	Cleanup of Toxic Contamination from Illegal Drug Manufacturing	ORS 453.855 to 453.395; OAR 333, Division 40	Oregon Health Authority
Hazardous Material Emergency Response System	Community Right to Know	ORS 453.374	Office of State Fire Marshal
State Fire Marshall	Regional Hazardous Materials Response Team	ORS 453.380	Office of State Fire Marshal
Public Health Director	Authority of the Public Health Director during a Public Health Emergency Temporary Restriction	**ORS 333-003-0020** ORS **333-003-0070**	Oregon Health Authority

[1] The Oregon Administrative Rules contain OARs filed through December 15, 2009 DEPARTMENT OF HUMAN SERVICES, PUBLIC HEALTH DIVISION, http://arcweb.sos.state.or.us/rules/OARs_300/OAR_333/333_003.html

Responsibility or Authority	Law or Act	ORS/OAR	Lead Agency
Public Health Director	of Movement Emergency Health Care Services Emergency Health Care Centers; Emergency Operations Plan Public Health Emergency Plans	ORS **333-003-0100** ORS **333-003-0130** ORS **333-003-0200**	

Key:
DEQ = Oregon Department of Environmental Quality
OAR = Oregon Administrative Rules
OPHD = Oregon Public Health Division
ORS = Oregon Revised Statutes

Note:
[1] Includes isolating or quarantining an individual or group of individuals if contaminated with a toxic substance.

7124 Idaho State Authorities

The Idaho Department of Environmental Quality responds to the release of oil, hazardous substances under the following authorities:

Responsibility or Authority	Law or Act	IDAPA	Lead Agency
Spills of polluting matter to water	Water Quality Standards	58.01.02	DEQ
Spills of oil or hazardous substances to water	Water Quality Standards	58.01.02.851 58.01.02.852	DEQ
Hazardous/dangerous waste management	Rules and Standards for Hazardous Waste	58.01.05	DEQ
Hazardous/dangerous waste management	Solid Waste Regulations	58.01.06	DEQ
Hazardous waste cleanup	Solid Waste Regulations	58.01.06	DEQ
Hazardous waste cleanup	Pesticide Use Rules	02.03.03.850	DEQ
Spillers' responsibility for cleanup	Land Remediation Rules	58.01.18	DEQ
Designation of the Incident Command agency	Emergency Response Commission Rules Hazardous Substance Response Rules	15.13.02	Idaho Office of Emergency Management
Responsibility for illegal drug lab cleanup	Clandestine Drug Lab Cleanup	16.02.24.200	DEQ
Property contaminated by the manufacture of illegal drugs	Cleanup Process	16.02.24.300	H&W

Key:
DEQ = Idaho Department of Environmental Quality
H&W = Health and Welfare
IDAPA = Idaho Administrative Procedure Act

7200 Command

The complexity and jurisdictional characteristics of an incident will determine the level of involvement of federal, state, local, tribal, Responsible Party (RP), and other responders. It is expected that the Unified Command participants will be determined based on each incident. Table 7000-1, below, outlines the state and federal lead agencies for specific incident types.

Note this chart only shows the agency with primary authority; it does not reflect the fact that multiple agencies typically coordinate on each incident.

Table 7000-1: Lead State and Federal Agencies for Specific Incident Types

	Oil	HazMat	Biological	Radiological	Disaster
Washington	Washington State Department of Ecology	Washington State Patrol or other designated local Agency (RCW 70.136)	Washing-ton State Department of Health	Washington State Department of Health	Washington State Emergency Management Division
Oregon	Oregon Department of Environ-mental Quality	Oregon Office of State Fire Marshal	Oregon Department of Health	Oregon Department of Health	Oregon Office of Emergency Management
Idaho	Idaho Office of Emergency Management	Idaho Office of Emergency Management	Idaho Office of Emergency Manageme nt	Idaho Office of Emergency Management	Idaho Office of Emergency Management
Federal	• United States Environ-mental Protection Agency • United States Coast Guard	• United States Environment al Protection Agency • United States Coast Guard	United States Environ-mental Protection Agency	• United States Environmental Protection Agency • United States Coast Guard • United States Department of Energy • United States Department of Defense • United States Nuclear Regulatory Commission • National Aeronautics and Space Administration	• Federal Emergency Managemen t Agency

The USCG has developed an All-Hazards Incident Management Handbook that provides some guidance as to organizational set-up and roles/responsibilities for hazardous materials as well as mass-casualty incidents. These may be found in Chapter 20 (Hazardous Substances/Materials), Chapter 15 (Terrorism Incident), and Chapter 22 (Multi-Casualty Branch) of the Incident Management Handbook. This handbook can be downloaded from: http://wow.uscgaux.info/content.php?unit=Q-DEPT&category=new-im-handbook

7210 Hazardous Substances Incident/Unified Command Objectives

See Section 9701, "NWACP Hazard Assessment Worksheet" for field ready ICS forms with pre-loaded Command Objectives from the Washington State Department of Ecology.

Primary Unified Command Objectives:

- Identify the hazards,
- Isolate the hazard area,
- Protect the safety of the public and responders,
- Establish Command,
- Complete notifications, and
- Activate response plans.

Other Possible Unified Command Objectives:

- Threat assessment,
- Hazard detection and reduction,
- Environmental monitoring,
- Sample and forensic evidence collection/analysis,
- On-site safety, and
- Assess impacts to Critical Infrastructure and cascading impacts.

7220 Criminal Incident Management

It may be unclear at the onset of a response whether the cause was accidental or criminal. Local responders will be the first to arrive on scene to assess the situation and possibly take initial response measures to contain or stop the release. In instances where criminal activity is suspected, coordination is required between law enforcement, who view the incident as a crime scene, and other first responders, who view the incident as a hazardous substances problem or a disaster site. Although protection of life remains paramount, the protection and processing of the crime scene is imperative so perpetrators can be identified and apprehended.

Since September 11, 2001, much attention has been given to terrorist incidents. A nuclear, biological, or chemical WMD type terrorist incident is inherently a hazardous substance incident with a criminal investigation component. As such, it should be responded to under the National Response System and potentially the NRF. The Terrorism Incident Law Enforcement and Investigation Annex to the NRF also provide guidance on response to criminal incidents with significant impacts. A terrorist incident will always be treated as a federal crime scene, thus giving the Federal Bureau of Investigation (FBI) and local/state law enforcement agencies the initial lead in each response. It is important to be aware that the FBI and United States Department of Homeland Security can activate federal resources to assist in the response activities not only for the criminal investigation but for incident commander support to provide information on critical infrastructure, cascading impacts, geographic information system products, and access to the Infrastructure Protection Gateway systems.

The Unified Command responding to an incident involving terrorism must be acutely aware of the unique nature of the federal government's response mechanism for these types of incidents. Homeland Security Presidential Directive 5 gave the United States Department of Homeland Security (DHS) the lead federal role for coordinating federal support to a state and local response; however, nothing in the NRF changes the legal authorities or responsibilities outlined in other federal, state, or local laws and regulations. Members of the Unified Command may find themselves working with or for DHS, the FBI, Federal Emergency Management Agency, or a number of other federal agencies under the NRF.

Terrorism Credible Threat Determination

If a responder suspects terrorism, the FBI and local/state law enforcement must be notified as soon as possible. Given available evidence, statements, scenario, and intelligence, the FBI and other law enforcement agencies will determine whether the incident is credible. The FOSC may be approached by the law enforcement agencies (FBI or local/state law enforcement agencies) to assist in obtaining initial investigative samples to confirm their "credible threat" determination if local sampling resources are not identified or available.

The FOSC should share all available and applicable information, with the law enforcement agencies' assistance in making these determinations.

7230 Notification Requirements

7231 Federal

See the "Required Notifications" section of Chapter 1, "Introduction" for federal notification phone numbers.

Releases of CERCLA-regulated hazardous substances in quantities equal to or greater than their reportable quantity are subject to reporting to the National Response Center (800-424-8802) under CERCLA (40 CFR Part 300.125(c). Such releases are also subject to state and local reporting under section 304 of SARA, Title III (Emergency Planning and Community Right to Know Act (EPCRA)). CERCLA-regulated hazardous substances, and their reportable quantities, are listed in 40 CFR Part 302, Table 302.4. CERCLA and EPCRA reportable quantities may also be found in EPA's "List of Lists" at:
http://www2.epa.gov/epcra/epcracerclacaa-ss112r-consolidated-list-lists-march-2015-

version. Radionuclides listed under CERCLA are provided in a separate list, with Reportable Quantities in Curies.

While there are no statutory reporting requirements for releases of "pollutants or contaminants" or terrorist-related threats, the National Response Center will accept all reports of potential terrorist incidents and pass the report along to the appropriate agencies. All emergencies should also be immediately reported to 911 to activate local law enforcement and response resources.

7232 Washington

For Washington phone numbers, see page vii of the Introduction. Notification requirements for spills in Washington State are as follows.

- For spills or discharges of oil or hazardous substances to surface or groundwater, any person who is responsible for a spill or non-permitted discharge must immediately notify the Washington State Emergency Management Division. (RCW 90.56.280)
- Releases of dangerous waste or hazardous substances to water, ground or air that threaten human health or the environment must be immediately reported to the Ecology regional office. (WAC 173-303-145)
- Spills of oil or hazardous substances to the ground that create a human health or environmental threat must also be reported to Ecology, in writing, within 90 days of discovery. (WAC 173-340-300)
- Leaking underground storage tanks must be reported to Ecology within 24-hours of discovery. (WAC 173-340-450)

Additionally, for spills of oil, hazardous substances, and dangerous waste that threaten human health and the environment, immediate notification is required to all local authorities in accordance with the local emergency plan.

For spills or discharges that result in emissions to the air, notify all local authorities in accordance with the local emergency plan. Also in western Washington notify the local air pollution control authority, or in Eastern Washington notify the appropriate regional Ecology office.

Performing federal notifications does not satisfy Washington State notification requirements. Notification of federal and state agencies does not guarantee notification of local responders. Notify local authorities in accordance with the local emergency plan.

If radioactive materials are involved in any type of release, the Washington State Department of Health, Office of Radiation Protection should be notified at 206-NUCLEAR - (206) 682-5327.

7233 Oregon

See the "Required Notifications" section of Chapter 1, "Introduction" for Oregon notification phone numbers. The Oregon Emergency Response System (OERS), Oregon Revised Statute 466.635 requires any person owning or having control over oil or hazardous material who

has knowledge of a spill or release to immediately notify OEM through OERS, as soon as that person knows the spill or release is a reportable quantity. Oregon Revised Statutes 824.088 requires that railroads notify OEM of any derailment or fire involving or affecting hazardous materials. Recently written Oregon Administrative Rule 741-510-0045 requires railroads to report to OERS any release of hazardous material during transportation, not just from a derailment or fire. Oregon Administrative Rules 345-60-030 requires similar notification for radioactive material incidents. Sections 304, Title III of SARA requires facilities to notify the Local Emergency Planning Committee (LEPC) and the State Emergency Response Commission (SERC) if there is a release of a listed hazardous substance that exceeds the reportable quantity for that substance.

OERS provides 24-hour service through the Law Enforcement Data System division of the Department of State Police.

7234 Idaho

See the "Required Notifications" section of Chapter 1, "Introduction" for Idaho notification phone numbers. If hazardous materials are released in amounts that may pose a threat to persons, animals, property, or the environment—or if the release exceeds the Reportable Quantity (as defined in state or federal statute)—the RP must contact the Idaho State Communications Center. Spillers must also contact the local emergency response agency (commonly accessed through 911). While all state agency reporting requirements are met by calling the state communications center, a spiller is not relieved of notifying the National Response Center or other reporting requirements by calling the Idaho State Communications Center. Spillers, however, may seek advice on reporting requirements through the Idaho Sate Communications Center.

The Idaho Hazardous Materials/Weapons of Mass Destruction Incident Command and Response Support Plan is initiated through notification of the State Communications Center. This center will contact cognizant local, state, and federal agencies. Unless the spill requires no further actions, a conference call among pre-identified agencies will occur within 15 minutes of the initial call to the center. This conference call will be used to coordinate further response activities and to begin the transition from emergency to remediation.

7240 Public Information

For development and dispersal of public information, follow the protocols laid out in the Joint Information Center Manual

7250 Health and Safety

To promote health and safety, follow the requirements of 29 CFR 1910.120. For hazardous substance specific information, see Section 7700, below, for sources of information specific to health and safety during hazardous substances incidents.

7260 Liaison

The following is a list of potential stakeholders who may be involved, in addition to the agencies who are typically involved in an oil spill.

- Local/state hazardous material and health departments;
- Local/state emergency management agencies;

- Bomb squads or United States Department of Defense Explosive Ordinance Detachments;
- United States Department of Health and Human Services, Center for Disease Control, or Agency for Toxic Substances and Disease Registry;
- United States Nuclear Regulatory Commission or Department of Energy;
- United States Department of Agriculture;
- National Guard Civil Support Teams;
- USCG National Strike Force;
- Private sector cleanup contractors;
- Laboratories/transportable laboratories; and/or
- Other stakeholders identified in this plan or other local plans.

7300 Operations

Operations activities for hazardous substance, pollutant, or contaminant releases are dependent upon the manner in which they are released (i.e., explosion, train derailment, fire, etc.) and the environment (air, water, soil) and/or structures impacted by the release. However, operations activities can be grouped into the following general steps.

- Notification;
- Evacuation/shelter-in-place;
- Communication of the hazard warning to others;
- Removal of victims to a safe area;
- Observation of signs and symptoms of casualties;
- Determination of extent of contamination;
- Establishment of hot, warm, and cold zones;
- Control of access to area;
- Determination of the contaminant/hazards involved;
- Control/stoppage of further releases;
- Initiation of emergency decontamination of casualties;
- Initiation of decontamination procedures for response personnel/equipment;
- Sampling of water/soil/air/product;
- Containment of material already released;
- Implementation of countermeasures;
- Determination of threat to human health and the environment;

7310 Sampling Assistance and Resources

The following agencies can provide on-site sampling followed by laboratory analysis of hazardous substances. For each entity, we have identified their capabilities with these abbreviations: Toxic Industrial Chemicals (TIC), Chemical or Biological Warfare Agents (WMD), Radiation (Rad).

Contact the following if you are in need of assistance.

Entity	Location	Phone Number	Capabilities
Federal Assistance			
EPA – Region 10	Seattle, WA Portland, OR Boise, ID Coeur d'Alene, ID	206-553-1264	TIC, WMD, Rad
USCG Pacific Strike Team	Novato, CA	(415) 883-3311	TIC, WMD, Rad
FBI Hazardous Materials Response Unit	Washington, D.C.	(202) 324-3000	TIC, WMD, Rad
Washington State Assistance			
National Guard 10th Civil Support Team	Camp Murray, WA	253-512-8063	TIC, WMD, Rad
Washington State Department of Ecology	Bellevue, WA	Through Washington State Emergency Management Division at 800-258-5990	TIC, WMD
Washington State Department of Health	Olympia, WA	206-NUCLEAR 360-888-038	Rad, WMD
Oregon State Assistance			
Oregon Department of Environmental Quality	Portland, OR	Through OERS at 800-452-0311	TIC, WMD
Oregon Department of Health Radiation Protection Services	Portland, OR	Through OERS at 800-452-0311	Rad
Oregon Department of Health Mobile Emergency Response Laboratory	Portland, OR	Through OERS at 800-452-0311	TIC, WMD, Rad
Oregon Office of State Fire Marshal	Salem, OR	Through OERS at 800-452-0311	TIC, WMD, Rad
Oregon National Guard 102nd Civil Support Team	Salem, OR	Through OERS at 1-800-452-0311	TIC, WMD, Rad
Idaho State Assistance			
Idaho Office of Emergency Management	Boise, ID	Through ISC at 800-632-8000	TIC, WMD, Rad
101st Civil Support Team	Boise, ID	208-272-5755	TIC, WMD, Rad

Key:
ID = Idaho
OERS = Oregon State Emergency System
OR = Oregon
Rad = Radium
TIC = Toxic Industrial Chemicals
WA = Washington
WMD = Weapons of Mass Destruction (chemical or biological warfare agents)

For a complete listing, see the following link to the Hazardous Materials Response Special Teams Capabilities and Contacts Handbook (2005):
nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=15552

7320 Laboratory Assistance and Resources

The following laboratory resources and networks can be used to identify appropriate sampling techniques, analytical methods, and available laboratories for the analysis of samples from various matrixes:

Laboratory Source	Description	Contact/Info
Centers for Disease Control	Laboratory Response Network – A collaborative effort of federal, state, military, and private labs to aid in response effort of a TIC, WMD, or Rad event.	800-232-4636 https://emergency.cdc.gov/lrn/index.asp
EPA Environmental Response Laboratory Network	A network of agency, state environmental, commercial, and other federal laboratories who will provide integrated , rapid analysis using standardized diagnostic protocols and procedures	https://www.epa.gov/emergency-response/environmental-response-laboratory-network
EPA Laboratory Compendium	Network of EPA national labs, state public health, and private labs to aid in a water security event, in addition to TIC, WMD, and Rad events	703-818-4200 https://cfext.epa.gov/cetl/lblogin.cfm?action=None
Association of Public Health Laboratories	State Public Health Laboratories – Emergency Contact Directory	https://www.aphl.org/programs/preparedness/Crisis-Management/Pages/Emergency-Lab-Contacts.aspx
National Environmental Laboratory Accreditation Program	Current listing of accredited environmental labs and their primary accreditation body, in addition to types of sample media the labs can analyze.	http://www.nelac-institute.org/
National Environmental Method Index (NEMI)	Search all chemical, biological, microbial, toxicity, and physical methods in NEMI	https://www.nemi.gov/home/
EPA Method Collection	Standard Analytical Methods for environmental measurement and regional EPA laboratory contact information	http://www.epa.gov/fem/methcollectns.htm

7400 Planning

7410 Coordination with other Hazardous Materials Planning

Planning for hazardous substance responses happens at a number of levels throughout Idaho, Oregon, and Washington. As a result of SARA Title III requirements, SERCs, LEPCs, and Tribal Emergency Response Commissions (TERCs) were formed. Within Washington State, absent a formal TERC, the senior tribal representative is responsible for implementation of all SARA Title III provisions. The purpose of these groups is to develop local emergency

response plans, participate in exercises to ensure preparedness at the local level, and arrange for training for local responders. In addition, local departments of emergency management (or similar groups) may assist with these functions as well as notifications of hazardous substance incidents. The federal government provides very limited funding to SERCs, LEPCs, and TERCs through the Hazardous Materials Emergency Preparedness grant program. The level of SERC, TERC, and LEPC activity varies widely across the region. The emergency management positions vary from state to state and may be a department of emergency management, emergency services, civil defense, or disaster services.
Various federal and state statutes require facilities and vessels to develop emergency response plans to deal with their operations, as well as potential off-site impacts. Finally, the NWACP serves as the primary response planning document for the federal and state hazardous materials response agencies in the northwest. In Idaho, the Idaho Hazardous Materials/Weapons of Mass Destruction Incident Command and Response Support Plan is the primary state response planning document and references the NWACP.

7420 Natural Resource Trustees Roles

The following list outlines the trustees for natural resources designated in subpart G of the NCP and provides a brief description of the resources that may be potentially impacted as a result of an oil spill or hazardous material release. Natural resources include land, fish, wildlife, biota, water, ground water, drinking water supplies, and other such resources. This list is provided for informational purposes and is not intended to be all-inclusive.

FEDERAL TRUSTEES

United States Department of the Interior (through the Bureau of Indian Affairs, Bureau of Land Management, Bureau of Reclamation, Fish and Wildlife Service, National Park Service, Bureau of Safety, and Environmental Enforcement). This department is responsible for:

- Migratory birds and certain anadromous fish, endangered species, and marine mammals and their supporting ecosystems;
- Federally owned minerals;
- Federally managed water resources;
- Natural and cultural resources located on, over or under land administered by United States Department of the Interior through its component bureaus;
- National Parks, National Wildlife Refuges, National Landscape Conservation Areas, etc.
- Natural resources for which an Indian Tribe would otherwise act as a trustee in cases where the United Stated acts of behalf of the Indian Tribe.

United States Department of Commerce (through the National Oceanic and Atmospheric Administration). This department is responsible for:

- Marine fishery resources and certain anadromous fish, endangered species, and marine mammals and their supporting ecosystems.
- National Marine Sanctuaries.
- National Estuarine Reserves.

United States Department of Agriculture (through the Forest Service). This department is responsible for:

- Natural and cultural resources located on, over, or under land administered by the United States Forest Service.

United States Department of Defense. This department is responsible for:

- Natural and cultural resources located on, over or under land administered by the United States Department of Defense.

United States Department of Energy. This department is responsible for:

- Natural and cultural resources located on, over, or under land administered by the United States Department of Energy.

7430 Air Plume Modeling

The NRF designates the Interagency Modeling and Atmospheric Assessment Center (IMAAC) as the single federal source of airborne hazards predictions during incidents that involve multiple federal agencies. IMAAC is responsible for producing and disseminating predictions of the effects of hazardous chemical, biological, and radiological releases. IMAAC is not intended to replace or supplant dispersion modeling capabilities that federal agencies currently have in place to meet agency-specific mission requirements. Rather, it provides interagency coordination to use the most appropriate model for a particular incident and for delivery of a single federal prediction to all responders. Information on the IMAAC can be found at: http://www.dhs.gov/imaac. To request IMAAC support, state, local, and federal officials should contact the IMAAC Technical Operations Hub, run by the Defense Threat Reduction Agency at (703) 767-2003. The IMAAC products are available on the Homeland Security Information Network (HSIN) IMAAC page. To open an HSIN account, contact the HSIN Helpdesk at 1-866-430-0162 (available 24/7) or send an email to HSIN.HelpDesk@hq.dhs.gov requesting an HSIN account and access to the IMAAC community of interest.

Air Plume Modeling Contact Information
National Oceanic and Atmospheric Administration (206) 526-4911
Washington State Department of Ecology, Air Program (800) 258-5990, ask for Ecology responder

Computer-Aided Management of Emergency Operations (CAMEO): For direct air plume modeling:
The CAMEO® Suite of applications (including CAMEO, Aerial Locations of Hazardous Atmospheres [ALOHA], and Mapping Application for Response, Planning and Local Operational Tasks [MARPLOT]) is designed to allow the user to plan for and respond to a hazardous substances incident.

CAMEO Chemicals has identification information and response recommendations for thousands of chemicals commonly transported in the United States. CAMEOfm is a set of blank database templates that state and local organizations can enter information for facilities

that store hazardous substances. The CAMEO software suite can be downloaded for free from: http://www2.epa.gov/cameo.

In the state of Washington, any local jurisdiction may obtain this information by contacting Ecology Community Right to Know at (800)633-7585. In Oregon, the same information may be obtained through the Office of the State Fire Marshal Hazardous Substance Information Hotline at (503)378-6835. In Idaho, this information can be obtained by calling the Emergency Communications Center at 208-846-7610.

ALOHA can predict the movement of hazardous substances in the atmosphere and display the toxic threat zones on a digital map via MARPLOT. ALOHA can also estimate thermal and explosive threat zones of flammable chemicals. ALOHA has almost a thousand chemicals in its database. MARPLOT uses electronic maps created by the United States Bureau of the Census that cover the entire country and can be downloaded for free as part of the CAMEO software suite mentioned above.

7440 Transition to Long-Term Cleanup

At some point after the peak of the initial response phase, the nature of site activities may evolve into a long-term cleanup phase. The responders involved in the initial response phase may or may not be actively involved with this phase. Depending upon the scope of activities and the ability of the local responders, post-initial response and mitigation phase efforts may necessitate mobilization of additional resources. Also, it is possible that additional federal and/or state agency representatives may need to be involved with the long-term phase to ensure that regulatory mandates are followed. It is critical that the initial responders debrief the incoming clean up staff prior to demobilizing. Standard long-term cleanup actions are:

- Evaluate cleanup/decontamination options;
- Implement cleanup alternatives; and
- Perform long-term monitoring or remediation of impacted area, if necessary.

7441 Disposal

A number of different hazardous wastes may be generated as a result of an incident. The RP or lead agency must address proper disposal of the wastes in accordance with the Resource Conservation and Recovery Act, the NCP and NWACP, and state and local regulations. Options for disposal of materials connected to the emergency response action will be addressed by the state with support by the federal agencies for agents, substances, or radioactive materials that need special care.

7441.1 Hazardous Substances

	Hazardous Waste Regulator	Additional Information
Washington	Washington Department of Ecology	https://ecology.wa.gov/About-us/Get-to-know-us/Our-Programs/Hazardous-Waste-Toxics-Reduction
Oregon	Oregon Department of Environmental Quality	http://www.oregon.gov/deq/Hazards-and-Cleanup/hw/Pages/HW-Reporting.aspx
Idaho	Department of Environmental Quality	http://www.deq.idaho.gov/waste-mgmt-remediation.aspx

7441.2 Radioactive Waste

	Radioactive Waste Regulator	Additional Information
Washington	Washington Department of Health Radiation Protection	http://www.doh.wa.gov/CommunityandEnvironment/Radiation/WasteManagement.aspx
Oregon	Oregon Public Health: Radiation Protective Services	http://public.health.oregon.gov/HealthyEnvironments/RadiationProtection/Pages/index.aspx
Idaho	Nuclear Regulatory Commission	http://www.nrc.gov/info-finder/region-state/idaho.html

7471.3 Biological Waste (WMD)

The need to dispose of material contaminated with biological agents is rare, and therefore standard protocols do not exist. Often, it is possible to neutralize a biological agent, after which the material may be treated as non-hazardous waste. The appropriate disposal method for biological waste depends on the specific situation and will be influenced by politics. It will require consultations among local, state, and federal partners, as well as agreement from the disposal site operator.

7500 Logistics

7510 Specialized Emergency Response Teams

There are several specially trained hazardous materials teams (both public and private) throughout the states of Idaho, Oregon, and Washington that will most likely be involved in hazardous substance spills. The following tables provide information on how to contact these various teams. For a handbook on teams that are considered National Assets, see: Hazardous Materials Response Special Teams Capabilities and Contacts Handbook (2005). nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=15552

7511 Federal Emergency Response Teams

Team Name	Base	Region-wide if Requested	Team Level A/B	24-Hour Phone
EPA Emergency Response	Seattle, WA Portland, OR	Yes	Both	(206) 553-1263
EPA Radiological Emergency Response	Las Vegas, NV	Yes	Both	(206) 553-1263
Fairchild Fire Department (HazMat Team)	Fairchild Air Force Base	No	Both	(509)247-2643
Hanford Fire Department	Hanford	No	Both	(509) 373-2745
Joint Base Lewis McChord (HazMat Team)	McChord	Yes	Both	(253) 982-2603 (253) 912-4442
Pacific Strike Team (USCG)	Novato, CA	Yes	Both	(415) 883-3311
Naval Base Kitsap Bremerton	Bremerton	Local Area/County	A	360-315-4064
Naval Base Kitsap Bangor	Bangor	Local Area/County	A	360-315-4064
NAS Whidbey Island Ault Field	Whidbey Island	Local Area/County	A	360-315-4064

Team Name	Base	Region-wide if Requested	Team Level A/B	24-Hour Phone
Key: EPA = United States Environmental Protection Agency HazMat = hazardous materials NAS = Naval Air Station OR = Oregon USCG = United States Coast Guard WA = Washington				

7512 Washington State Emergency Response Teams

Team Name	Base	Region-Wide	Team Level	24-Hour Phone
Eastside	Bellevue Fire Department	No	Both	425-452-2048
Everett	Everett Fire Department	Yes	Both	425-257-8100
South King Fire and Rescue	South King Fire and Rescue	Yes	Both	253-946-7249
Graham/Central Pierce	Central Pierce Fire and Rescue	No	Both	253-588-5217
Kent	Kent Fire and Life Safety	Yes	Both	253-856-4374
Lynnwood SW Snohomish	Lynwood Fire Department	Yes	Both	425-649-7000
Marysville	Marysville Fire Department	N/A	Both	360-653-1122
Port of Seattle	POS/SEATAC Airport Fire Department	Yes	Both	206-433-5380
Renton	Renton Fire Department	No	Both	425-235-2121
Seattle	Seattle Fire Department	No	Both	206-386-1481
SERP	Bellingham Fire Department	No	Both	360-778-8000
Spokane	Spokane Fire Department	Yes	Both	509-532-8900
Tacoma	Tacoma Fire Department	Yes	Both	253-627-0151 253-591-5733
Tri County Hazmat Response Group	Richland Fire Department	Yes	Both	509-628-0333
Tukwila	Tukwila Fire Department	Yes	Both	206-625-5011
Vancouver Hazmat 81	Vancouver Fire Department	Yes	Both	360-696-4461
Walla Walla	Walla Walla Fire Department	Yes	Both	509-527-1960
Washington State University	Pullman	Yes	Both	509-335-8548
Yakima Valley NH3	Sunnyside Fire Department	No	Both	509-865-4338
Yakima Fire Department	Yakima Fire Department	No	Both	800-572-0490
Greater Palouse Hazmat Team	Pullman Fire Department		Both	509-332-2521
10th Civil Support Team	Camp Murray	Yes	Both	253-512-8063

7513 Oregon State Emergency Response Teams

State of Oregon Hazardous Materials Response Teams – All teams are activated by calling OERS at (800) 452-0311

No.	Team Name	Base	Team Level A/B	Statewide if Requested
HM01	Douglas County	Roseburg	Both	Yes
HM02	Eugene	Eugene	Both	Yes
HM03	Gresham/Multnomah	Gresham	Both	Yes
HM04	Klamath/Lake	Klamath Falls	Both	Yes
HM05	Linn/Benton	Corvallis	Both	Yes
HM06	Portland	Portland	Both	Yes
HM08	Southern Oregon	Medford	Both	Yes

No.	Team Name	Base	Team Level A/B	Statewide if Requested
HM09	Tualatin	Portland	Both	Yes
HM10	Hermiston	Hermiston	Both	Yes
HM11	Astoria	Astoria	Both	Yes
HM13	Salem	Salem	Both	Yes
HM14	Ontario	Ontario	Both	Yes
HM15	Coos Bay	Coos Bay	Both	Yes
OSFM	State Fire Marshal	Salem		Yes
OSHD	Radiological Emergency Response Team	Portland		Yes
CST	102nd Civil Support Team	Salem	Both	Yes

7514 Idaho State Emergency Response Teams

State of Idaho Hazardous Materials Response Teams all teams are activated by calling the Idaho State Communications Center, 800-632-8000 (in Idaho) or (208) 846-7610

Counties	Team Name	Base	Statewide if Requested	Team Level A/B	24 Hour Phone
Region I: Benewah, Bonner, Boundary, Kootenai, Shoshone	**RRT:** Kootenai Fire and **Rescue:** Bomb Squad: MOU in process with Spokane Police Department **ICSAR:** Coeur d'Alene Fire Department	Coeur D'Alene	Yes	Both	See above
Region II: Clearwater, Idaho, Latah, Lewis, Nez Perce	**RRT:** Lewiston Fire Department **Bomb Squad:** Comes from Regions 1 and 3 **ICSAR:** Comes from Regions 1 and 4	Lewiston	Yes	Both	See above
Region III: Adams, Canyon, Gem, Owyhee, Payette, Washington	**RRT:** Caldwell and Nampa Fire Departments **Bomb Squad:** Nampa City **PD:** ICSAR: Comes from Region 4	Nampa/ Caldwell	Yes	Both	See above
Region IV: Ada, Boise, Camas, Elmore, Valley	**RRT:** Boise Fire Department **Bomb Squad:** Boise PD and Mountain Home Air Force Base **ICSAR:** Boise Fire Department	Boise	Yes	Both	See above
Region VI: Bannock, Bear Lake, Butte, Bingham, Caribou, Franklin, Oneida, Power	**RRT:** Pocatello Fire Department **Bomb Squad:** Comes from Regions 5 and 7 **ICSAR:** Pocatello Fire Department and Idaho Falls Fire Department	Pocatello	Yes	Both	See above

Counties	Team Name	Base	Statewide if Requested	Team Level A/B	24 Hour Phone
Region VII: Bonneville, Clark, Custer, Fremont, Jefferson, Lemhi, Madison, Teton	**RRT:** Idaho Falls Fire Department **Bomb Squad:** Idaho Falls Police Department **ICSAR:** Idaho Falls Fire Department and Pocatello Fire Department	Idaho Falls	Yes	Both	See above
	101st Civil Support Team	Boise	Yes	Both	(208-272-5755)
Key: RRT = Regional Response MOU = Memorandum of Understanding ICSAR = Idaho Collapse Search and Rescue					

7515 Private Emergency Response Teams

Team Name	Base	Team Level A/B	Statewide if Requested	24-Hour Phone
Airgas	Multiple	Yes	Yes	866-734-3438
BNSF Railway	Multiple	Yes	Yes	800-832-5452
Union Pacific Railway	Multiple	Yes	Yes	888-877-7267
BOC Gases	Multiple	Yes	Yes	800-232-4726
Shell Puget Sound Refinery	Anacortes, Washington	Yes	No (Not available beyond facility)	360-293-0800

7520 Contractor Support

There are a number of contractors in the Northwest Area with expertise in responding to hazardous substance releases. It is essential that any contractor retained have the appropriate training to meet the Occupational Safety and Health Administration 1910.120 health and safety requirements and be capable of responding in the appropriate level of protection.

Ecology maintains a list of Washington State cleanup contractors. This list is maintained as a service to assist RPs in identifying potential contractors in their area. Ecology does not certify or endorse any contractors on this list, nor does Ecology verify that they are adequately trained, licensed, or insured. This list is maintained at: https://ecology.wa.gov/Regulations-Permits/Plans-policies/Contingency-planning-for-oil-industry/Primary-response-contractors

The Oregon Department of Environmental Quality maintains a contract with a local environmental response company. The contractor can be accessed through the regional State On-Scene Coordinator. An environmental contractor must possess an Oregon business license to do business in Oregon. An Oregon Construction Contractors Board license may be required depending on the scope of work to be performed.

7600 Finance/Administration

As outlined in Chapter 6000, "Finance/Administration," there are a number of federal and state funding sources that may be accessed to pay for costs incurred at an incident. These

sources are set up as funding mechanisms in the event that the RP is unable/unwilling to provide funding of response actions. Access to the funding sources is possible through the federal or state agency that is responsible for administering the fund.

Under CERCLA, the Hazardous Substance Response Trust Fund (Superfund) was established to pay for cleanup of releases of hazardous substances and uncontrolled hazardous waste sites. EPA manages and administers this fund. In order for a response/ cleanup to be initiated using Superfund monies, there must be a release or the threat of a release of a CERCLA-regulated hazardous substance, pollutant, or contaminant (see Section 7110, above). The release must cause a threat to public health or welfare or the environment based on the criteria outlined in NCP 300.415(b)(2). Pollutants or contaminants must meet a higher threshold of posing an "imminent and substantial endangerment" to human health or the environment. The FOSC makes these determinations.

The NCP 300.415(b)(2) criteria for accessing the Superfund are as follows:

i. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;
ii. Actual or potential contamination of drinking water supplies or sensitive ecosystems;
iii. Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of a release;
iv. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;
v. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;
vi. Threat of fire or explosion;
vii. The availability of other appropriate federal or state response mechanisms to respond to the release; and
viii. Other situations or factors that may pose threats to public health or welfare of the United States or the environment.

7610 Local Government Reimbursement

Local authorities (county, parish, city, municipality, township, or tribe) may apply for reimbursement of costs incurred in response to an incident through EPA, which administers the Superfund; states are specifically excluded from seeking reimbursement from the Superfund. Local governments are eligible for reimbursement up to $25,000 per incident for costs such as overtime charges, response contractors, equipment purchased for the response, and replacement of damaged equipment. EPA may accept only one request for reimbursement for each hazardous substance release incident. EPA cannot reimburse for costs previously budgeted for by the local government. On February 18, 1998, EPA published an Interim Final Rule simplifying the process for Local Government Reimbursement. Information on the new rule and application forms may be obtained by calling EPA's Local Government Reimbursement help line at: (800) 431-9209 or http://www.epa.gov/superfund/programs/er/lgr

The State of Idaho has a provision in the Idaho Code and Statutes Title 39, Chapter 71 to reimburse costs for local responders to hazardous materials incidents. This statute also

establishes the policy that it is Idaho's preference to use the Idaho cost recovery process when it is available. Cost recovery packages and forms may be obtained by calling Diana DeWeerd at 208-422-5725.

7620 Cost Documentation

All entities and agencies should document the full range of costs in responding to an incident. Since it may never be clear at the onset of an incident how costs might be recovered, it is important that records meet a very strict standard of accuracy and completeness.

Upon completion of all site activities and/or completion of each phase of an incident, the FOSC may be responsible for submitting letters and/or reports to other agencies. The NCP and NWACP require that an FOSC Report be submitted if requested by the National Response Team or the Regional Response Team. Also, those responders and agencies that accessed fund sources, or wish to access fund sources for reimbursement, must provide written documentation and information to support the costs incurred. Costs must be fully and accurately documented throughout a response. Cost documentation should provide the source and circumstances of the release; the identity of RP; the response action taken; accurate accounting of federal, state, or private party costs incurred for response actions; and impacts and potential impacts to the public health and welfare and the environment.

7700 Reference Material

CERCLA hazardous substances, and their reportable quantities, are listed in 40 CFR Part 302, Table 302.4. CERCLA and EPCRA reportable quantities may also be found in EPA's "List of Lists" at: http://www.epa.gov/osweroe1/docs/chem/list_of_lists.pdf. Radionuclides listed under CERCLA are provided in a separate list, with Reportable Quantities in Curies.

Information Source	Description	Web Link
Code of Federal Regulations	29 CFR – Labor 33 CFR – Navigation and Navigable Waters 40 CFR – Protection of the Environment 40 CFR Part 300 – National Contingency Plan 49 CFR – Transportation	Titles can be found online at the following web address: http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR
Safety	NIOSH Manual of Analytical Methods	http://www.cdc.gov/niosh/docs/2003-154/
	OSHA Guidance Manual for Hazardous Waste Site Activities	http://www.osha.gov/Publications/complinks/OSHG-HazWaste/4agency.html
	Quick Selection Guide to Chemical Protective Clothing	http://www.wiley.com/WileyCDA/WileyTitle/productCd-1118567706.html
	3M Respirator Selection Guide and Odor Thresholds for respirators	http://multimedia.3m.com/mws/mediawebserver?mwsId=SSSSSuH8gc7nZxtUOxmG4x_SevUqe17zHvTSevTSeSSSSSS--&fn=3M%20Respirator%20Selection%20Guide_Se

Information Source	Description	Web Link
	ATSDR Medical Management Guidelines for Acute Chemical Exposures: includes information on physical properties, symptoms of exposure, standards and guidelines, personal protection, decontamination, and care for first responders, pre-hospital, and hospital providers.	http://www.atsdr.cdc.gov/MMG/index.asp
Chemical Properties	Chemical Hazards Response Information System	https://www.hsdl.org/?abstract&did=24079
	ATSDR Chemical Specific Information	http://emergency.cdc.gov/agent/agentlistchem.asp
	ATSDR Chemical Specific 2-Page info sheets	http://www.atsdr.cdc.gov/toxfaqs/index.asp
	NIOSH Pocket Guide to Chemical Hazards	http://www.cdc.gov/niosh/npg/
	American Conference of Industrial Hygienists Threshold Limit Values and Biological Exposure Indices	http://www.acgih.org/forms/store/ProductFormPublic/search?action=1&Product_productNumber=0100Doc
	Wiley Guide to Chemical Incompatibilities	https://onlinelibrary.wiley.com/doi/book/10.1002/9780470523315
	Chemical Properties Handbook, Thermodynamics-Environmental Transport, Safety and Health Related Properties for Organic and Inorganic Chemicals (not a link to the book)	http://www.amazon.com/Chemical-Properties-Handbook-Thermodynamics-Engironmental/dp/0070734011
	The Merck Index	http://www.rsc.org/merck-index
First Responder References:	EPA OSC Blue Book – A collection of field related resources	http://www.epaosc.org/_bluebook/bluebook.asp
	Hazardous Materials Guide for First Responders	http://www.usfa.fema.gov/downloads/pdf/nfirs_q494/nfirs_module_7_hazmat.pdf
	CSX Corporation Transportation Emergency Response to Railroad Incidents	http://csxhazmat.kor-tx.com/
	DOT Emergency Response Guidebook	http://www.phmsa.dot.gov/hazmat/library/erg
	DOT Emergency Response Guidebook Mobile app	https://www.phmsa.dot.gov/hazmat/erg/erg2016-mobileapp
	ATSDR - HazMat Emergency Preparedness Training and Tools for Responders	http://www.atsdr.cdc.gov/hazmat-emergency-preparedness.html

Information Source	Description	Web Link
Military References	USAMRIID Medical Management of Chemical Casualties Handbook USAMRIID's Medical Management of Biological Casualties Textbook of Military Medicine Defense against Toxin Weapons Manual	https://www.usamriid.army.mil/education/bluebookpdf/USAMRIID%20BlueBook%207th%20Edition%20-%20Sep%202011.pdf
	Jane's Chem-Bio Handbook	Not available online, must be purchased or borrowed.

Key:
ATSDR = Agency for Toxic Substances and Disease Registry
CFR = Code of Federal Regulations
DOT = United States Department of Transportation
EPA = United States Environmental Protection Agency
NIOSH = National Institute for Occupational Safety and Health
OSC = On-Scene Coordinator
OSHA = Occupational Safety and Health Administration
USAMRICD = United States Army Medical Research Institute of Chemical Defense

Responder Tools:

- "NWACP Hazard Assessment Worksheet" (Section 9701)
- "Suspicious Package/Envelope Decision Matrix" (9710)

Chapter 8000

Sector Columbia River's Marine Firefighting Contingency Plan

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Sector Columbia River's Marine Firefighting Contingency Plan

8010 Introduction

Marine fires are complex events that can become extremely hazardous and involve a myriad of agencies and organizations. Even though the number of vessel and waterfront facility fires has been extremely reduced over the past few decades, they still have the potential to cause significant loss of life and personal injury to the vessel's crew, facility employees, and surrounding communities where the fire is located. They also have the potential to damage property, the environment, and the regional economy.

Because of these significant consequences, should one of these rare events occur, it is imperative that all organizations involved have a clear understanding of each other's roles, responsibilities, jurisdictions, capabilities, and preparedness levels.

This plan discusses these roles, responsibilities, and capabilities and gives a general overview of operational, planning, logistical, and financial considerations critical to a successful outcome of such an event in the Sector Columbia Captain of the Port (COTP) zone. It does not address the tactical level of fire response, as each incident is vastly different and should be addressed in each vessel's or facility's emergency response plan or during the development of an Incident Action Plan within an Incident Command or Unified Command Structure.

8011 Definitions and Responsibilities

Commander, United States Coast Guard District Thirteen (CCGD13): The United States Coast Guard (USCG) District Commander (Admiral) who exercises operational and administrative control over all USCG units assigned to the district (with some few exceptions) and acts as a direct representative of the Commandant.

USCG District Thirteen: The USCG District Thirteen's area comprises Washington, Oregon, Idaho, and Montana and extends out into the Pacific Ocean 200 nautical miles.

USCG Group/Air Station: Group Commands are established to provide coordination and efficiency of achievement of the basic missions by all operating units in their geographical area.

USCG Sector Columbia River: USCG Sector Columbia River is responsible for administering and directing all USCG activities relating to applicable navigation, shipping, transportation, and environmental laws and regulations within the COTP. In addition, the Sector Commander provides coordination and efficiency of achievement of the basic missions by all operating units in their geographical area.

Captain of the Port (COTP): The Commander, Sector Columbia River is designated as COTP. The COTP is responsible for administering and directing all USCG activities relating to Port Safety and Security, Marine Environmental Response, and Waterway Management functions.

Federal On-Scene Coordinator (FOSC): The federal official predesignated by the United States Environmental Protection Agency (EPA) or USCG to coordinate and supervise federal responses under the National Contingency Plan.

Industry: It is the responsibility of a vessel owner, agent, master, operator, or person in charge, in accordance with 46 Code of Federal Regulations (CFR) Subpart 4.05, to immediately notify the nearest USCG Sector Office, Marine Inspection Office or Coast Guard Group Office whenever a vessel is involved in a marine casualty after addressing the immediate resultant safety concerns. Marine causalities include an occurrence materially and adversely affecting the vessel's seaworthiness or fitness for service or route, including but not limited to fire, flooding, or failure of or damage to fixed fire-extinguishing systems, lifesaving equipment, auxiliary power-generating equipment, or bilge-pumping systems (46 CFR 4.05-1(a)(4)).

Incident Commander: The person who is directly responsible for coordinating and directing a comprehensive response to the emergency situation. Designated by the responsible party or Lead Agency.

Lead Agency: A government agency responsible for ensuring adequate fire response. Normally a local fire agency.

Marine Inspector: Officer at Sector Columbia River responsible for on-scene execution of COTP Marine Firefighting support responsibilities.

On-Scene Commander: Designation per the National Search and Rescue (SAR) Plan. Prosecutes the SAR mission on scene and has operational control of all SAR response units on scene. This is not to be confused with the National Incident Management System definition for "Incident Commander," who is the person responsible for all aspects of an emergency response, including quickly

developing incident objectives, managing all incident operations, application of resources, and having responsibility for all persons involved.

Primary Resource Provider: A resource provider listed in the vessel response plan as the principal entity contracted for providing specific salvage and/or marine firefighting services and resources, when multiple resource providers are listed for that service, for each of the COTP zones in which a vessel operates. The primary resource provider will be the point of contact for the plan holder, the FOSC and the Unified Command in matters related to specific resources and services as required in 155.4030(a).

Resource Provider: An entity that provides personnel, equipment, supplies, and other capabilities necessary to perform salvage and/or firefighting services identified in the vessel response plan.

Search and Rescue Mission Coordinator: Designation per the National SAR Plan. Responsible for planning and operational coordination and control of SAR missions. This position has overall responsibility for execution of SAR responsibilities normally designated by the Commander of the cognizant USCG Sector or CCGD13.

Waterfront Facility: All piers, wharves, docks, and similar structures to which vessels may be secured; areas of land, water, or land and water under and in immediate proximity to them; buildings on such structures and equipment; and materials on or in such buildings.

8012 United States Coast Guard Authority

The USCG has no specific statutory responsibility to fight marine fires. Traditionally, the USCG has been responsible for saving life and property upon the waters of the United States and typically will respond to a marine fire in some manner. To this extent, various statutes are used to establish USCG authority to respond to marine fires.

8013 The Statutes

8013.1 14 United States Code 88(b)

The USCG must render aid to save life and property, within the capabilities of available resources, when a marine emergency occurs. This may include marine fires.

8013.2 Clean Water Act

The Clean Water Act, as amended by the Oil Pollution Act of 1990 (33 USC 1251 et seq.), states that whenever a marine disaster occurs in a Navigable Waterway or in the Exclusive Economic Zone of the United States and creates a substantial threat of pollution because of a discharge or an imminent discharge of large quantities of oil or hazardous substance from a vessel, the USCG may coordinate and direct all public and private efforts to remove or eliminate such a threat and summarily to remove and destroy such a vessel if necessary. This act mandates

that the USCG develop and maintain an Area Contingency Plan, which should include a listing of firefighting equipment within each port.

8013.3 33 United States Code 1471, et seq.

Per 33 United States Code (USC) 1471, the USCG has authority to take similar preemptive or corrective action on the high seas. It specifically authorizes the Commandant of the USCG to take necessary measures on the high seas to prevent, mitigate, or eliminate grave and imminent danger to the coastline or related interests from pollution or threat of pollution, following a maritime casualty or acts related to such a casualty that may reasonably be expected to result in major harmful consequences. This authority rests with the Commandant.

8013.4 The Ports and Waterways Safety Act (33 United States Code 1221, et seq.)

The Ports and Waterways Safety Act charges the USCG's local COTP with responsibility for safe vessel operations, safety of waterfront facilities, and protection of the marine environment within the COTP's area of jurisdiction. This authority allows the COTP to:

a. Direct anchoring, mooring, or movement of a vessel;
b. Specify times of vessel entry, movement, and departure to, from, or through ports, harbors, or other waters;
c. Restrict vessel operation in hazardous areas; or
d. Direct the handling, loading, discharge, storage, and movement, including emergency removal, control, and disposition of explosives or other dangerous cargo/substances, on any bridge or other structure on or in the navigable waters of the United States or any land structure immediately adjacent to those waters.

8013.5 42 United States Code 1856–1856(d)

42 USC 1856 allows an agency charged with providing fire protection for any property of the United States to enter into reciprocal agreements with state and local firefighting organizations to provide mutual aid. This statute further provides that emergency assistance may be rendered in the absence of a reciprocal agreement when it is determined by the head of that agency to be in the best interest of the United States.

The USCG cannot delegate its statutory authorities and shall not delegate mission responsibilities to state or local agencies. A sector shall not be party to any agreement that relinquishes USCG authority, evades USCG responsibility, or places military personnel under the command of any person(s) who is/are not part of the federal military establishment. USCG forces will not be subject to any authority other than that of their superiors in their chain of command. Within the USCG, the COTP will delegate authority as necessary.

8014 Federal Policy

Federal policy established in the Federal Fire Prevention and Control Act of 1974 (Public Law 93-498) states that fire prevention and control is and should remain a

state and local responsibility, although the federal government must help to reduce fire losses.

8015 United States Coast Guard Policy

The USCG follows federal policy established in the Federal Fire Prevention and Control Act of 1974 (Public Law 93-498). It states that fire prevention and control is, and should remain, a state and local responsibility and that the federal government must help to reduce fire loss. However, the ultimate responsibility is always with the vessel or facility owner and operator.

Additionally, provisions of the Oil Pollution Act of 1990 require tank vessels to maintain response plans, (33 CFR 155 Subpart I). These regulations clarify the responsibilities and enhance the preparedness of tank vessel owners and operators in regards to marine fires. They establish planning criteria requiring the identification of specific resources and specific time frames that these resources are brought to the scene of an incident. Navigation and Inspection Circular 01-05 (NVIC 01-05) outlines similar voluntary standards for non-tank vessels.

The presence of local firefighters who respond to marine fires does not relieve the vessel's Master command of, or transfer the Master's responsibility for overall safety of the vessel. However, the Master should not normally countermand any orders given by the local firefighters on board the vessel, unless the action taken or planned clearly endangers the safety of the vessel or crew.

The USCG has traditionally provided firefighting equipment and training to protect its own vessels and property. COTPs are also called upon to provide assistance at major fires on board other vessels and waterfront facilities. Although the USCG clearly has an interest in fighting fires involving vessels or waterfront facilities, local authorities are principally responsible for maintaining necessary firefighting utilities in United States ports and harbors. The USCG renders assistance as available, based on the availability of resources and level of training. The Commandant intends to maintain this traditional "assistance-as-available" posture without conveying the impression that the USCG is prepared to relieve local fire agencies of their responsibilities.

Paramount in preparing for vessel or waterfront fires is the need to integrate USCG planning and training efforts with those of other responsible organizations, particularly local fire departments and port authorities. COTPs shall work closely with the municipal fire agencies, vessel and facility owners and operators, mutual aid sectors, and other interested organizations. The COTP shall develop a firefighting contingency plan that addresses firefighting in each port in the COTP zone.

It is the Commandant's policy that USCG personnel shall not actively engage in firefighting. The exceptions to this policy include the following:

- Individuals whose primary duty is firefighting;

- Isolated units located where there are no municipal fire agencies and the commanding officer determines that a fire brigade is necessary to carry out the mission of that unit;
- In order to save a life; and
- In the early stages of a fire that can be extinguished using a portable fire extinguisher.

8016 State Policy

Washington State Fire Services Resource Mobilization Plan

The Washington State Fire Services Resource Mobilization Plan has been developed in support of Revised Code of Washington (RCW) 38.54, the State Fire Services Mobilization Act. In implementing this act, consistency will be sought with:

- RCW 76.04, which governs the Washington State Department of Natural Resources;
- RCW 43.43 and 38.52, which govern fire protection services and emergency management;
- RCW 52, which governs fire districts; and
- RCW 35, which governs cities and towns.

Authorization of state fire resources mobilization may be requested when (1) all local and mutual aid resources have been expended in attempting to control an emergency incident presenting a clear and present danger to life and property or (2) a non-stabilized incident or simultaneous incidents presenting a clear and present danger to life and property and requiring in addition to local resources and mutual aid, the deployment of additional resources as established by the Region Fire Defense Plan approved by the State Fire Defense Committee.

Washington State law includes notification and response requirements for handling potential spill threats under the following provisions of law:

- RCW 88.46, which governs vessel oil spill prevention and response; and
- RCW 90.56, which governs oil and hazardous substance prevention and response.

State law requires the Washington State Department of Ecology to take all actions necessary to respond to a substantial threat of a discharge of oil or hazardous substances into the waters of the state. The Washington Department of Ecology Spills Program is responsible for these response activities and considers any disabled vessel situation involving significant marine firefighting or salvage operation as a potential spill and would participate in the Unified Command.

Oregon State Fire Services Resource Mobilization Plan

The Oregon State Fire Services Resource Mobilization Plan is developed in support of Oregon Revised Statutes (ORS) 476.510-.610 and 476.990(4), the Emergency Conflagration Act. This plan establishes operating procedures for the

most practical utilization of state firefighting resources for emergencies that are beyond the capabilities of the local fire service resources. It assumes the prior existence of mutual aid agreements that organize district and regional firefighting forces to cope with local emergencies. Fire services may also be mobilized under powers of the Governor and the Office of Emergency Management under authority of ORS 401.055-.155 and ORS 401.260-.535, respectively.

The primary purpose of mutual aid is to supplement resources of a fire agency during a time of critical need. Mutual aid is based on reciprocal, non-reimbursed contributions for services rendered and is contingent upon a responding fire chief's approval. Mutual aid is given only when equipment and resources are available, and dispatch will not jeopardize local firefighting capabilities. Under the Emergency Conflagration Act, local firefighting forces will be mobilized when the state fire marshal believes that a fire is causing, or may cause, undue jeopardy to life and/or property and the act is invoked by the governor. For purposes of this plan, Oregon has been divided into fire defense districts. The Emergency Conflagration Act fire suppression resources of each fire defense district include the county, city, and rural fire protection agencies and districts, as well as any other resources available through mutual aid agreements.

8017 Local Response Policy

- **Aberdeen Fire Department:** The Aberdeen Fire Department responds to all fires at waterfront facilities and aboard vessels moored to those facilities. The local fire departments of Hoquiam, Cosmopolis, and Westport will also respond to waterfront fires. All four fire departments have entered into a mutual aid agreement and will pool their resources in the event of a significant emergency.
- **Astoria Fire Department:** The Astoria Fire Department will respond to all fires along the waterfront, as well as aboard ships. Firefighting personnel have received specialized training and equipment for shipboard firefighting from the Maritime Fire & Safety Association (MFSA). The fire department is an active participant in the MFSA.
- **Clark County Fire District 6:** Clark County Fire District 6 (CCFD6) responds to and supports land-based marine firefighting but has no on-water capability. Current staffing of 58 career and 20 volunteer firefighters are available to be utilized in execution of MFSA mutual aid agreements. There are a number of waterfront facilities within neighboring jurisdictions and automatic response exists to provide fire protection. CCFD6 is a member of FPAAC and has a mutual aid agreement with all other member agencies. CCFD6 will respond when requested if resources are available.
- **Clark County Fire and Rescue:** Clark County Fire and Rescue responds to all fires within its established boundaries, which include most waterfront facilities in and around the Port of Ridgefield and the 11 miles of Columbia River shoreline within the county (river miles 86–97). While Clark County Fire and Rescue has limited on-water emergency rescue and

support capabilities, it does not currently have a fireboat. It has a mutual aid agreement with other Fire Protection Agency Advisory Council (FPAAC) agencies that have fireboat capabilities. The fire district is an active participant in the MFSA and has 40 paid and 60 volunteer firefighters available upon request.

- **Clatskanie Rural Fire Protection District:** The Clatskanie Rural Fire Protection District responds to fire within the district's boundary, from the Clatsop County Line to approximately where the Bonneville power lines cross the Columbia River. Firefighting personnel have received MFSA specialized training and equipment for shipboard firefighting. The fire district is an active participate in the MFSA.
- **Columbia River Fire & Rescue:** Columbia River Fire & Rescue responds to and supports land-based marine firefighting, but has no on-water capability. Current staffing of 40 paid and 50 volunteer firefighters are available to be utilized in execution of MFSA mutual agreements. River frontage protected by Columbia River Fire & Rescue runs from its Southern Boundary, Scappoose Bay, to its Northern Boundary, Lord Island.
- **Coos Bay and North Bend Fire Departments:** The Coos Bay and North Bend Fire Departments will respond to all fires along the waterfront and aboard ships. Both fire departments have entered into a mutual assistance agreement with each other.
- **Cowlitz County Fire District #5:** The Kalama area has four major waterfront facilities: the Steelscape Terminal, Kalama Export Grain Terminal, Emerald Kalama Chemical, and Harvest States Cooperative Grain Terminal. No terminals are within the city limits; however, they have agreements with Cowlitz County Fire District #5 for fire protection of the facility. This fire district does not have the capability to respond to shipboard fires. Cowlitz County Fire District #5 is an active participant in MFSA and FPAAC, receiving training as well as equipment to assist in ship board fires. The terminals are within the fire district's normal jurisdiction, and as a member of MFSA/FPAAC, FPAAC and jurisdictional mutual aid agreements that the fire district has signed are in effect should a fire occur there.
- **Longview Fire Department:** The Longview Fire Department responds to fires within the city limits of Longview. This jurisdiction includes all of the Port of Longview piers. However, a number of waterfront facilities are not within the city limits, and special agreements are required and exist to provide fire protection. The jurisdiction of the Longview Fire Department ends at the Port of Longview pier 7, so vessels are not provided fire protection automatically. The Longview Fire Department has a contract template, which a Master or agent must sign prior to receiving firefighting assistance. The contract specifies the cost of services and states that the expense will be paid by the vessel's owner/ agent. The Longview Fire Department has mutual aid and inter-local agreements with Cowlitz 2 Fire & Rescue and Cowlitz County Fire District #5 and has mutual aid

agreements with all FPAAC agencies. These mutual aid agreements allow the signatory agencies to respond to areas within the jurisdictional boundaries of the department requesting assistance. The inter-local agreement allows signatory departments to respond to facilities that are not within the agency's jurisdiction. The inter-local agreement includes provisions for fire departments that respond to these facilities to be reimbursed for costs incurred.

- **Newport Fire Department:** The Newport Fire Department, with the assistance of the USCG Station Yaquina Bay, responds to all marine fires in the local area. Newport has a mutual assistance agreement with Toledo, Oregon.
- **Portland Airport Fire and Rescue:** The Portland International Airport Fire Department responds to waterfront, mid-stream, and shipboard fires on the Columbia River between the Interstate 5 Bridge and Washougal. The department maintains a rescue boat with limited firefighting capabilities that can be requested for mutual aid outside of the specified service area. The department also maintains a large amount of Aqueous Film Forming Foam that can be requested by agencies in the event of large flammable or combustible fuel fires. Additionally, the department is a member of FPAAC and has a mutual aid agreement with all other member agencies.
- **Portland Fire and Rescue:** The Portland Fire Bureau responds to all fires within the established boundaries of the city of Portland, Oregon. This area includes the Port of Portland piers/docks and most waterfront facilities. Facilities located in the "Rivergate" area have been annexed by the city and are now covered by Portland Fire Bureau protection. Sauvie Island now has a volunteer fire agency that falls under Multnomah County Fire District 30. Hayden Island is covered by the Portland Fire Bureau, except the area west of the railroad bridge. The lower Willamette River, North Portland Harbor, and the Columbia River from the shore to the center of the navigable channel constrained by the city's east/west boundary area are covered by the Portland Fire Bureau. Vessels moored to piers in protected areas are also provided firefighting services. Portland Fire and Rescue has mutual aid agreements with all other FPAAC agencies.
- **Scappoose Rural Fire District:** The Scappoose Rural Fire District responds to all fire within the district's boundaries. This area includes the Multnomah Channel tributary of the Columbia River from the area adjacent to the intersection of US Highway 30 and Cornelius Pass Road, to the Santosh Slough. The Scappoose Rural Fire District has signed mutual aid agreements with Columbia and Clatsop County Fire Agencies, Sauvie Island Fire District 30 in Oregon and Cowlitz County fire agencies in Washington. The district is currently working on a mutual aid agreement with Multnomah County fire agencies. The Columbia River from shore to center of the navigable channel, within the jurisdiction boundaries of these agencies, is covered by the Scappoose Rural Fire

District. The Scappoose Rural Fire District has a signed agreement with the Port of St Helens to provide a marine security presence to Port property along the Columbia River from river mile 44 to 96. The district is an active member of the MFSA.

- **Vancouver Fire Department:** The Vancouver Fire Department responds to fires within the city limits and surrounding areas, which includes most waterfront facilities. Vessels moored to piers at the Port of Vancouver are provided fire protection. Vancouver has a mutual aid agreement with Portland and all other FPAAC agencies to provide additional staffing power and equipment. Vancouver Fire operates a 52-foot fireboat with 3,500 GPM firefighting capability, purchased with Port Security Grant Program funds and subject to direction from the USCG COTP, and works in concert with fireboats from other agencies on the Columbia and Willamette Rivers. Vancouver's fireboat also has significant personnel and equipment transport capabilities to support shipboard firefighting operations when shore-based firefighting is not feasible.

8017.1 Maritime Fire & Safety Association

The purpose of the MFSA is to put into place a system to ensure an adequate, timely, and well-coordinated response to shipboard fires over the entire 110-mile channel of the Lower Columbia River. The MFSA established the FPAAC to coordinate this effort.

Multiple jurisdictions are involved: two states, seven counties, 14 cities, seven port districts, and 12 local fire agencies. These 13 agencies make up FPAAC. Compounding the complexity are the fire agency boundaries, in both Oregon and Washington. All members have agreed to work and train together, so that when an incident occurs, each fire agency will be familiar with the resources and capabilities of other fire agencies and can rely on their assistance through mutual aid agreements between all FPAAC agencies.

No single entity has responsibility for fighting marine fires on and along the river. While the USCG is commonly thought to be responsible for such fires, its authority and responsibility are not comprehensive and its resources are limited.

MFSA, through FPAAC, has developed a *Shipboard Fire Operations Guide,* which can be found on the MFSA website, http://www.mfsa.com/. It is a detailed guide used to coordinate fire response efforts among all the MFSA/FPAAC members along the Lower Columbia River. This document is possible due to mutual aid agreements between these fire agencies. It also serves as a resource guide for fire response efforts occurring within the MFSA's FPAAC agencies jurisdictional boundaries.

8017.2 Fire Protection Agency Advisory Council

The mission of the FPAAC is to set forth a comprehensive system that ensures fast, well-coordinated, and effective response to vessel fire incidents in the Lower Columbia Region. This council also serves to protect and enhance the quality of

life of the citizens within the region and to safeguard the health, safety, and welfare of the users of the waterway through agency coordination and loss prevention.

8018 Vessel/Facility Policy

A variety of federal regulations and USCG policies establish fire protection, detection, and response standards for waterfront facilities and vessels entering into the COPT zone. These requirements may be found in 33 CFR parts 154 and 155, 33 USC 13219(j)(5)(D), the USCG and Marine Transportation Act of 2004 and the implementation of NVIC 01-05 Change 1. Vessels and facilities in the COTP zone are to be in compliance with these policies and regulations and are to respond in accordance with their individual fire and response plans.

Facilities that transfer hazardous materials or oil in bulk are required by 33 CFR 154 to maintain a USCG approved Operations Manual. 33 CFR part 154.310 includes a comprehensive list of the contents of the Operations Manual. Some of the items required include: instructions for the safe handling of the cargo, the appearance and hazards of the cargo, a list of firefighting procedures and extinguishing agents effective with fires involving the cargo, and the name and telephone numbers of agencies that may be called in an emergency.

33 CFR 155 part 4035 requires tank vessel pre-fire plans to be in accordance with the National Fire Protection Association 1405 or another internationally recognized standard such as the requirements found in the Safety of Life at Sea Chapter II-2, Regulation 15. Additionally, 33 CFR Part 155, Subpart I requires tank vessel response plans (VRPs) to list Primary Resource Providers and other Resource Providers that can respond to the location of a vessel fire within specific timeframes. NVIC 01-05 requires similar planning standards for non-tank vessels. These references also require the respective response plans to indicate how commercial salvors and commercial firefighters would be incorporated into a response organization with local, state, and federal agencies.

8019 Captain of the Port Considerations and Area of Responsibility

8019.1 Coordinated Marine Firefighting Considerations

With any fire, the quickness and effectiveness of the initial response is the key to fire suppression. Today's fires may be very complex as they increasingly involve a number of hazardous materials ranging from bulk liquids to toxic solids. A closely coordinated effort is an essential factor in an effective marine firefighting response. The response organization will vary depending on the location of the fire and its severity. The level of USCG involvement will range from providing input on an advisory level to, if necessary, taking charge as the FOSC. The possibility of a spill of some type of pollutant always exists due to firefighting water runoff. The COTP will invariably be involved, especially if the USCG has to step in as On-Scene Commander. The following sections discuss some of the complexities involved in a coordinated response and provide guidelines for proper organization and action.

8019.2 Area of Responsibility

The level of USCG firefighting response will depend largely on the location of the fire within the Pacific Northwest region. For this reason, a discussion of the various areas of responsibility is in order.

The Sector Columbia River COTP zone is described in 33 CFR 3.65-15.

The Sector Columbia River SAR zone includes the navigable waters of the Willamette River from the mouth to river mile 183.2 (Eugene area). It also includes the Columbia River from river mile 48 to river mile 335 (Richland, Washington) and between the mouth of the Snake River and the Ice Harbor Lock and Dam (Snake River mile 9.7). Air Station Astoria has SAR responsibility on the lower Columbia River and portions of southern Washington, including Grays Harbor, and the northern Oregon coast. The remainder of the SAR zone along the Oregon coast is the responsibility of Air Station North Bend.

The Sector Columbia River COTP zone for response to a pollution incident is described elsewhere in this plan. It is possible that a fire with resulting pollution could occur where EPA has pollution response responsibilities. If this were to occur, it is possible that the Sector would respond to and assist with the fire and pollution response efforts at least until the EPA representative arrived on scene.

8019.3 Sensitive Areas

Maps and descriptions in the Geographic Response Plans identify environmentally sensitive areas throughout the COTP zone.

8020 Jurisdiction

8020.1 United States Coast Guard Action in a Fire Department's Jurisdiction within Sector Columbia River's Search and Rescue Zone and Captain of the Port Portland's Zone

The response action to be taken in any fire agency jurisdiction in Sector Columbia River's SAR zone follows:

a. Upon the receipt of a report of fire, the USCG Command Center watch stander shall notify the Command Duty Officer (CDO), who shall complete the Vessel Fire Action Checklist.
b. The CDO shall notify designated personnel on the appropriate quick response card (QRC).
c. USCG personnel shall respond as directed.
d. The appropriate fire bureau shall be contacted if they have not already been advised of the fire. Communications shall be established on Channels 16 or 22A between the responding small boats (if dispatched) and the fireboats.
e. If the fire occurs in the jurisdictional area of a fire agency that does not have a fireboat, it should be determined whether the local fire agency has sought any outside assistance. If no outside assistance has been sought, the

options available should be presented to the local fire agency, and a plan of action should be coordinated with the USCG if necessary.

f. Unless involved in a serious SAR case, the CDO shall dispatch a boat to the scene immediately. This should occur regardless of whether or not the fire department requests USCG assistance. The boat crew should be rapidly briefed concerning the extent of the fire.

g. Incident Management Division personnel and, possibly, marine inspectors acting as Federal On-Scene Coordinator's Representative (FOSCRs) shall be dispatched to meet with the Fire Agency Incident Commander in charge of shore side operations. This will provide a communications link between the COTP and the Fire Agency. Orders for coordination of USCG firefighting activities at the scene shall be passed through the USCG FOSCR or Marine Inspector. Communications shall be established between the shore response team (FOSCR), the Sector, and the small boats, on Channel 83 VHF-FM, or by cellular telephone.

h. Issue a safety broadcast, or Urgent Marine Information Broadcast to advise the maritime community of the fire and presence of waterborne firefighting units on scene.

i. As a general rule, Sector Columbia River will provide firefighting services as requested by the fire agency unless, in the opinion of the FOSCR or small boat coxswain, they are beyond the capability of the boat, either because of the boat's characteristics, inadequate personal protective equipment, or relative experience level of the crew. All actions shall be reported to the CDO at the time services are requested. USCG forces shall never take action without the approval or at the request of the FOSC or FOSCR. Where USCG firefighting services are not needed, the USCG small boat or other vessel shall remain on scene to direct marine traffic or provide such other services as appropriate.

j. If a fire is reported to be ashore at or on a ship at a grain elevator or oil terminal, the following actions will be taken:
    1. Unaffected vessels moored to the facility are to be moved immediately, with or without tugs and pilots, depending upon circumstances and prudent seamanship. A COTP order may be required.
    2. Movement of other vessels in the area will be considered based upon degree of risk.
    3. Pilots and tugs are to be deployed as early as possible.
    4. Vessels moored at other types of facilities involved in a fire may be moved based upon the degree of danger to the vessel.
    5. USCG personnel may board and/or communicate by other means with all vessels in a fire area, as conditions permit and inform the Senior Deck Officer, Security Officer or Master to secure ship operations and be prepared to get underway.
    6. Local agents will be informed of vessels involved in the incident and any anticipated movement of the vessels.
    7. Vessels to be moved are to be directed to a harbor, anchorage, or another dock away from the fire area.

8. If appropriate, a safety zone will be established for the protection of vessels, water, and shore areas.

8020.2 Considerations during Initial Notifications and Communications

a. The fire agency dispatcher should immediately call the Sector Columbia River Communication Center concerning any waterfront fire or incident. The communications watch stander shall alert the CDO and other appropriate personnel.
b. The first notification to the USCG may not originate from the fire agency dispatcher, as that person is often unable to complete all the notifications until additional help arrives. In those cases, the first notification may come from the fire boat en route to the scene via Channel 16.
c. Firefighting is the primary responsibility of the city government, operating through the fire department. Overall firefighting control will be under the direction of the shore-based fire Incident Commander on scene. Responding USCG small boats will have direct communications with all responding fire boats via Channels 16 or 22A. The USCG FOSCR, who is usually positioned with the shore-based Battalion Chief, will maintain communications with USCG small boats via Channel 83.

8020.3 United States Coast Guard Action for Grays Harbor, Coos Bay and Newport

a. Upon notification of a waterfront fire, verify the report and ensure the appropriate fire agency has been notified.
b. Complete the Vessel Fire QRC.
c. USCG SAR forces on scene shall:
    1. Keep Sector Columbia River COTP informed of the situation in accordance with CCGD13 standard operating procedure.
    2. Provide transportation for Sector personnel to the vessel, if necessary.
    3. Assess the situation as to potential water pollution threat. Gather pertinent information and pass to the Incident Management Department for action and creation of a Pollution Report.
    4. Report to the senior fire agency official and establish communications.
    5. Keep a log of times and key events of the incident.

8020.4 Fire Occurring outside a Fire Agency's Jurisdiction but within Sector Columbia River Captain of the Port Zone

There are numerous fire agencies and fire districts along the lower Columbia and Willamette Rivers. There are also a great number of districts along the coastal regions of the Sector Columbia River COTP zone. However, it is still possible that a vessel fire could occur in an area not within any fire agency's jurisdiction. (The jurisdiction of some fire agencies ends at the end of the dock or the high-water line).

If a vessel fire occurs outside one of these jurisdictions (i.e., upper Columbia and Snake Rivers, coastal waters, and certain portions of the lower Columbia River), it is possible that the Sector Columbia River COTP could assume FOSC responsibilities. The FOSCR would direct USCG resources and coordinate the response effort with other fire and emergency response agencies.

Under special circumstances, fire agencies that have boats may be dispatched to an area outside of their normal firefighting jurisdiction to assist other agencies. Requests for such assistance should normally be directed to the agency with the closest jurisdiction and the most capable resources. A strong argument for the Portland Fire Bureau's involvement in the lower Columbia River exists because of the capabilities of their fire boats and the drastic impact a blockage of that area would have on the Port of Portland.

Each fire agency will consult with its appropriate leader and governance structure to secure permission to respond. Additional means of obtaining equipment or assistance from one area of Oregon and providing it to another area would be accomplished by the invocation of the "State Conflagration Act" (ORS 476-510-476.610), which may be invoked by the Governor (Contact the Oregon State Emergency Services, at 1-800-452-0311).

8021 Command and Control

The person in charge of a fire response must be quickly identified and must be decisive in coordinating the response efforts. As a matter of maritime law and common practice, the Master of a vessel is presumed to be in charge of, and capable of, onboard ship operations, including shipboard firefighting. Merchant vessels are inspected to ensure the crew's competency, and seamen are required to be specially trained to respond to a shipboard fire. Only at the specific request of the Master, or when it becomes obvious that the vessel's condition threatens the port's safety or environment that relieving the Master of responsibility to conduct fire response operations should be considered. In cases where it is determined that the Master cannot or will not effectively take charge, the person in charge will be determined based on the area jurisdiction in which the fire occurs. For example, if a fire occurs in the Portland Fire Bureau's jurisdiction, then an official from the Portland Fire Bureau shall designate the Incident Commander. In the event that a marine fire occurs outside a fire agency's jurisdictional area, the USCG FOSC will become the Incident Commander. It is likely that, as the event unfolds and becomes more complex, a Unified Command will be needed.

USCG response personnel shall be organized under the Incident Command System (ICS). This is the system utilized by most local fire agencies and is well suited for events involving a multi-agency response

USCG personnel shall not be under the command of a non-USCG Incident Commander. Orders from such an Incident Commander shall be passed through and evaluated by the COTP, who is also the Commanding Officer for USCG Sector Columbia River. Only orders that will not create unwarranted risk for

USCG personnel and equipment shall be executed. It should be noted that the relationships among involved parties may change as the firefighting efforts progress. It should also be noted that regardless of who is in charge of the firefighting efforts, the COTP will carry out the duties as the FOSC.

8021.1 Command Interrelationships

The ICS is the accepted organization system used by most federal, state, and local agencies mitigating emergency situations and is designed to expand and contract to meet the needs of the incident. The USCG response organization is designed to be interactive with the ICS. The organizational structure for any given incident will be based upon the management needs of that incident.

8021.2 Command Structure – Unified Command

During incidents that involve several jurisdictions or in which several agencies have significant management interest, responsibility, and/or capabilities, a Unified Command with a lead agency designation may be more appropriate than a single command response organization. During these events, the lead agency within the Unified Command may change several times as the incident transitions from one phase to another.

8021.3 Federal On-Scene Coordinator's Representative and Marine Inspector

The FOSCR and/or the Duty Marine Inspector will serve as the primary on-scene liaison with the response organization during a marine fire. The Duty Marine Inspector usually has advanced understanding of shipboard fire suppression systems, fire control boundaries and closures and the ability to read detailed fire control plans. The FOSCR usually had advanced understanding of ICS and experience in incident management and oil spill response. These individuals are generally chosen from a cadre of active duty personnel. The specific selections will depend on the availability of personnel and the skill set required for that specific incident. The Sector Columbia River Marine Transportation Recovery and Salvage Specialist is the local USCG point of contact for development and coordination of marine firefighting and salvage planning, training, and exercises.

8021.4 Command Posts

When a fire breaks out aboard a vessel in port or if a decision is made to allow a burning vessel into port there is an immediate need for a coordinated/integrated firefighting effort. If this occurs, a Command Post will be established on scene by the responding fire agency. The USCG FOSC, FOSCR, or Marine Inspector should be on hand and maintain communications with the USCG resources involved. Other key personnel that may be on hand at the on-scene Command Post include the Marine Transportation Recovery and Salvage Specialist, vessel's officers or facility operators, the owner's representative, salvage and cleanup companies, a marine chemist, and port officials. The representatives present should have authority to make decisions to facilitate rapid and proper response.

8021.5 The National Incident Management System

Local fire agencies use the National Incident Management System for their response system, and the USCG has also adopted this system on a national level. The USCG typically refers to this as the ICS. Standard ICS forms can be found at https://homeport.uscg.mil

8022 Operations

8022.1 Emergency Notifications

The USCG COTP, Sector Columbia River, Oregon, is charged with ensuring the safety of vessels, waterfront facilities, bridges, and waterways for all coastal ports and waterways in the state of Oregon, those in Washington south of Queets, Washington (including Grays Harbor and Willapa Bay), and the Columbia/ Willamette River system. Any fires that threaten the safety of vessels, waterfront facilities, bridges, or the navigable waterways within this area shall be immediately brought to the attention of the COTP through the following methods:

a. Fire agencies, upon receiving notification of a fire that meets the conditions above, are requested to relay the report to the nearest USCG unit. The report is requested even when no USCG assistance is required or needed. This is necessary because the COTP has duties that extend beyond firefighting. Any USCG unit that has a command center consistently monitors VHF Channel 16. USCG Sector Columbia River maintains a 24-hour command center, which can be reached via telephone at 503-861-2242.
b. USCG units, upon receiving notification of a marine fire, shall immediately relay the information to Sector Columbia River in accordance with CCGD13 standard operating procedure. All units shall work closely with local fire agencies to maintain communication links and facilitate inter-agency coordination.

Sector Columbia River would typically be notified at the Command Center. The CDO will complete the QRC. It is extremely important to get sufficient accurate information about the incident. However, this should be balanced with the urgency of the situation. If the notifying party is actually involved in the incident, one should understand their urgency to respond to the fire. Questions to the notifying party should be relevant and sensitive to the situation. Relevant information includes name, type and location of vessel/facility, extent of fire, available firefighting equipment, hazardous material, amount of oil on board, response action taken so far, number of crewmembers or facility personnel, injuries/fatalities, vessels and/or facilities nearby, and what other parties have been notified.

8022.2 Activation of the Vessel's Response Plan

When a fire is discovered on a vessel, its VRP should be immediately activated by the crew. Each tank and non-tank vessel is required by 33 CFR 155 Subpart I and NVIC 01-05 CH-1, respectively, to develop a VRP. In addition to emergency procedures to be taken by the crew, these VRPs require the listing of resources that can be brought to the vessel's location within specific time frames. For tank

vessels, the requirements cover distances out to 50 miles from shore. Non-tank vessels must identify a company with firefighting capabilities that will respond to vessel fires within 24 hours to the port nearest to where the vessel operates. These resources may be commercial, municipal, or a combination of the two. However, the VRP must indicate how these resources will be organized within a cooperative response management system.

8022.3 Burning Vessel Movement Considerations

A crucial decision that must be made by the COTP is whether or not a burning vessel should be allowed to enter or move within the port. Types of vessel movements that may be required in an emergency include movement from sea to an anchorage or a pier; from an anchorage to a pier; from a pier to an anchorage; grounding a vessel; or scuttling a vessel offshore. These vessel movements should be thought out in advance and rehearsed as often as possible to ensure a rapid and considered response in the event of a real incident.

8022.4 Decision to Allow a Burning Vessel to Enter Port or Move within the Port

Due to the limited resources available to fight an offshore fire, the COTP may be forced to consider allowing a burning vessel to enter port. The numerous considerations that are part of this decision can be found below, as well as in Volume VI, Chapter 8, of the Marine Safety Manual (MI6000.11). Additionally, the Northwest Area Committee/ Regional Response Team (RRT) is developing a "Places of Refuge" decision matrix to serve as additional guidance while making these complex decisions. When it is completed, it will be placed in Section 9410, "Places of Refuge."

The amount of information and number of considerations may seem too complicated to resolve in an emergency, but it is important that an analysis of all major risks be conducted. A burning vessel is only a small part of all the resources and infrastructure (other ships, ports, facilities, personnel, and marine environment) that must be protected. The COTP should approach such an incident by considering the navigable waterways as a system used by various parties for transportation, recreation, and commerce. The most important consideration must be how the overall system functions. A burning vessel must be considered as only a single element within that system. The COTP must not jeopardize the other elements to save a single vessel if the risk to the system is too great. The possibility of having a ship sink in a key navigation channel, thus blocking it, or spreading the fire to a waterfront facility, must be evaluated.

There are numerous considerations that the COTP should evaluate when faced with the decision of whether to allow a burning vessel to enter or move within a port. The following information should be gathered and considered prior to making such a decision:

a. Location and extent of fire;
b. Status of vessel's structure, general emergency and shipboard firefighting equipment;

c. Class and nature of cargo (e.g., does it contain hazardous materials?);
d. Possibility of explosion;
e. Possibility of vessel sinking/capsizing;
f. Hazard to crew or other resources where vessel is present;
g. Forecasted weather (including bar conditions if applicable);
h. Maneuverability of the vessel (i.e., is it a dead ship, etc.);
i. Availability (and willingness) of assist tugs;
j. Effect on bridges under which the vessel must transmit;
k. Potential for the fire to spread to the pier or pier structures;
l. Firefighting resources available ashore and offshore;
m. Consequences/alternatives if the vessel is not allowed to enter or move;
n. Potential for pollution;
o. Adequacy and availability of the firefighting and salvage resources contained in the VRP per paragraph 8022.2.

The above considerations should be discussed by the Unified Command before the vessel is allowed to move or enter into port. If a Unified Command has not yet formed, this information should be considered by the respective jurisdictional fire agency chief and COTP prior to any movement. The COTP should make a decision only after consultation with the Unified Command. The Unified Command will typically be composed of the respective Fire Agency Chief; Port Director; local government officials (i.e., Mayor, Director of Emergency Services, etc.); vessel owner's agent; and other experts depending on the circumstances.

Entry to port or movement may be permitted when:
a. The fire is already contained or under control;
b. There exists little likelihood that the fire would spread;
c. A greater possibility exists that fire could and would be readily extinguished with available equipment in port before encountering any secondary hazards of explosion or spread of fire; or
d. All relevant parties consulted.

Entry to port or movement may be denied when:
a. There is a greater danger that the fire will spread to other port facilities or vessels;
b. The likelihood of the vessel sinking or capsizing within a navigation channel, and becoming an obstruction exists;
c. The vessel might become a derelict;
d. Unfavorable weather conditions preclude either the safe movement of the vessel under complete control or would hamper firefighting (look for high winds, fog, strong currents, etc.);
e. Risk of a serious pollution incident by oil or hazardous substances exists; the COTP, in conjunction with Thirteenth USCG District and the RRT, shall assess the pollution risks and determine whether they are to be ordered to proceed to sea to reduce the pollution hazards;
f. If the resources or services listed in the VRP per paragraph 8023.3 are not adequate or available.

Additional considerations:

a. Safety broadcast and Notice to Mariners,
b. Ordering the movement of other vessels or cargo that may be impacted, and
c. Locating the vessel to best facilitate the use of available resources.

8022.5 Offshore Firefighting Considerations

In addition to the problems associated with any shipboard fire, an offshore incident may be further complicated by the poor flow of information and difficulties in supplementing the vessel's firefighting resources. Reports from the vessel may be confusing due to the language difficulties or the fact that the crew is too busy fighting the fire to provide detailed information. Until additional resources can be brought to bear, the vessel's firefighting equipment and crew will be the only resources available.

Additional resources in the form of public or private vessels may not be close enough to respond in a timely manner and may be ill equipped to provide significant assistance, or the VRP and its listed resource may fail to perform as expected. Therefore, the farther offshore a burning vessel is, the less external aid it is likely to receive, but the less impact it has on vessel traffic and port operations. The closer to shore or a port a burning vessel is, the more aid it is likely to receive, while its impact on vessel traffic and port operations is greater. In both cases, SAR would be the USCG's most common initial response.

8022.6 Coast Guard Offshore Resources

During an offshore fire, ships and aircraft become important resources. Aircraft may provide a timely source of information during the early stages of a response and can be used for personnel or equipment transfers. USCG vessels are limited in their ability to assist in a shipboard fire, but are much better equipped than commercial vessels and have damage control teams that are drilled regularly in shipboard firefighting. In addition to improving communications, larger USCG vessels with flight decks can be used to stage equipment flown to the scene. Strike Force personnel and equipment can be useful in firefighting and dewatering evolutions. All requests for USCG equipment (including ships and aircraft) and supplies, whether from within the COTP Portland area or not, should be directed to the Thirteenth District Command Center.

8022.7 Department of Defense Offshore Resources

Firefighting equipment may be available from various Department of Defense (DOD) sources. From transportation capabilities to, aircraft and vessels that can be invaluable in an offshore fire situation for the same reasons discussed for USCG assets. The possibility of Naval or Army Corps of Engineers vessels operating in the vicinity which can assist should not be overlooked. All requests for DOD assistance should be made to the DOD representative on the RRT, via the Thirteenth USCG District.

8022.8 Other Offshore Resources

Any ship becomes a valuable resource during an offshore vessel fire, even those with small crews and minimal firefighting capability. At a minimum, another vessel can provide a means of escape for a burning vessel's crew should their efforts to control the fire fail.

Vessels in the area may be notified of a situation via the Automated Mutual-Assistance Vessel Rescue System, the Automated Information System, or with a Broadcast Notice to Mariners. Tug companies in the vicinity may assist in fighting the fire, moving a dead ship, or transporting equipment. While few vessel operators would be reluctant to assist in a life-threatening situation, vessel owners may not be willing to respond to a firefighting situation that could risk their vessels or crew to protect a ship or cargo once the crew is safe.

8022.9 Offshore Scuttling Area Selection

If a vessel cannot be safely moved to a port, and it is possible that the vessel and cargo could be lost (either intentionally or not) the vessel should be moved to an area where environmental damage will be minimized. The information in this section should be reviewed to identify the best area to move the vessel. The EPA should also be consulted on any decision concerning scuttling of a vessel. Scuttling must be conducted in accordance with COMDTINST 16451.5 and 40 CFR 229.3.

8022.10 Positioning a Vessel for Firefighting

No vessel on fire should be moved without the permission of the COTP, except under the most urgent conditions.

The success or failure of a shipboard fire response effort will, in large part, be determined by the vessel's location. The likelihood of successfully fighting a fire on a remotely located vessel is small compared to a vessel located near sufficient sources of firefighting resources

8022.11 Fire Suppression Berths

Several considerations must be considered when selecting piers, a locations for fire suppression berths:

- Proximity of populated areas;
- Cargo composition and wind direction;
- The combustibility/flammability of pier structures and contiguous facilities;
- Availability of high-pressure water;
- Access to response boats and vehicles;
- Minimizing risk of impeding navigation; and
- Risk to nearby vessels and facilities.

Much of the information needed to determine the suitability of a facility can be found in Section 9410, "Places of Refuge."

8022.12 Anchorage and Grounding Site Selection

When choosing anchoring or grounding locations, some of the same factors must be considered as for the selection of piers for fire suppression berths, including the location's effect on navigation. The possibility of the vessel sinking or becoming a derelict is very real and could prove a greater harm to the marine system than the loss of the single vessel. Other important considerations are:

- **Bottom material:** must be soft enough so that the ship's hull will not be ruptured;
- **Water depth:** must be shallow enough so that the vessel could not sink below the main deck level, yet deep enough so that fire boats, salvage barges, and tugs can approach; tides and other river level fluctuations must be considered;
- **Area weather:** do not choose areas known to have strong winds or currents that could hamper firefighting or salvage efforts.

The location and suitability of boat ramps and piers to be used as staging areas must also be evaluated when considering grounding or anchorage sites. Close consultation with Bar and River Pilots should be considered when selecting any anchoring or grounding site in the Columbia River system.

8022.13 Response Actions

The initial assessment is one of the first actions taken in response to a marine fire. This involves evaluation of available facts and probabilities. The initial assessment consists of six steps to rapidly form a deliberate plan of action:

- Gather facts,
- Assess probabilities,
- Determine resources
- Apply basic firefighting principles
- Decide a course of action, and
- Formulate a plan of operations.

Pertinent facts might include location of fire, location of crew/personnel, acquiring the VRP, the general arrangement plan, fire control plant, vessel/facility condition, vessel stability issues, type and condition of cargo, and response equipment available.

The COTP is responsible for USCG response efforts to a vessel fire. The COTP has overall control of all USCG forces and equipment involved in the response to a marine fire. However, a vessel fire may be initially treated as an SAR case under control of the assigned SAR Mission Controller until a determination of the situation has been made by on-scene forces as to the status of the vessel and its crew, the extent of the fire, ongoing response efforts, fire agency and other agency involvement, and other pertinent information. At this time, the Sector Columbia

River COTP may assume the duties of FOSC and carry out his or her responsibilities accordingly.

The choice among courses of action delineated below is based upon where the incident occurs with respect to the limits of the various fire agency jurisdictions, the COTP area of responsibility, the Sector Columbia River SAR zone, and the USCG policy as described in the Marine Safety Manual.

8022.14 Safety Zones

To secure the safety of waterfront facilities and vessels, the COTP may find it helpful to control or restrict traffic in the affected areas.

COMDINST 3170.3 describes the characteristics of limited access areas, including safety zones, security zones, restricted areas, and regulated navigation areas. Authority is granted to the COTP to establish safety zones by the Ports and Waterways Safety Act (33 USC 1221 et seq.). A safety zone could be established around a burning vessel to facilitate access for fire or rescue units and to protect uninvolved persons or vessels, or it could be used to ensure the safer transit of a vessel carrying a dangerous cargo. They should be established on a temporary, and usually, emergency basis to deal with a situation beyond the scope of normal safety and security measures.

8022.15 Stability

Vessel stability can be defined as a vessel's ability to right itself from an inclining position. During firefighting, excess water on board can create flooding and free surface effect. This could prove disastrous for the vessel, leading to list and even sinking. Calculations regarding damage stability for oil tankers and barges are required to be accessible 24 hours a day per 33 CFR Part 155.240. Additionally, 33 CFR Part 155.4030(b) requires that stability assessments on these vessels must begin no later than 3 hours after initial notification. NVIC 01-05 also provides similar voluntary guidance for non-tank vessels.

If this information is not provided by the vessel's Primary Resource Provider or other Resource Provider, the FOSCR or Marine Inspector is typically the USCG officer who would provide this advice with assistance from the USCG Salvage Engineering Response Team. Additionally, local naval architects, engineers, or a maritime service firm may be available for such advice. At a minimum, one should refer to National Fire Protection Agency 1405, Guide for Land-Based Fire Fighters Who Respond to Marine Vessel Fires. More detailed information regarding vessel stability issues during marine fires can be found in the International Fire Service Training Association manual, Marine Firefighting for Land Based Fire Fighters.

8023 Planning

USCG policy advocates extensive use of contingency plans as tools to assist local commanders in accomplishing their many tasks. However, the development of an Incident Action Plan in an Incident or Unified Command environment will

usually be necessary to plan for and implement specific firefighting tactics to meet the actual demand of specific incidents.

8023.1 Objectives

Some specific objectives of contingency planning are:

a. To prevent loss of life or personal injury, damage, and destruction of vessels, cargoes, structures, and facilities in United States ports and waterways, and damage to the marine environment, by reason of accidental, intentional means, or natural phenomena;
b. To maintain safe, secure, and orderly continuation of marine traffic and the acceleration of such traffic, if so required by national interests, in the face of accidental, intentional, or natural disasters;
c. To maintain adequate training through planning prior to a marine incident;
d. To maintain continual contact with local agencies having interest in or responsibilities for a specific event and maintain a check on their resource capabilities and limitations;
e. To outline Unit capabilities and limitations with respect to available resources through all phases of the event.

8023.2 Exercises/Drills

Because of the complexity and potential consequences of a major marine fire, it is critical that agencies and Primary Resource Providers understand each other's authorities, jurisdictions, capabilities, and limitations. Ample opportunities exist to develop this understanding through coordination of exercises and drills as required by the National Response Exercise Program for vessels and facilities, new requirements under 33 CFR 155.4052, state and local agency requirements, and those coordinated by the Marine Fire and Safety Association.

Regardless of the initializing requirement or agency the COTP should strive for at least one multiagency firefighting exercise per year. The results of these exercises should be used to further update and fine tune this plan.

8023.3 Training

Part of every effective contingency plan is the development and implementation of a training program. Few USCG personnel have extensive experience responding to actual fires, and few municipal fire agencies have extensive experience responding to vessel fires. Therefore, to overcome inexperience and apprehension, and to develop expertise, a systematic training program is essential.

There are some resident marine firefighting training providers in the Pacific Northwest. For certain USCG personnel, the following courses are particularly appropriate: Fremont Maritime in Seattle, Washington, provides classes ranging from one-day orientations to five-day advanced classes certified by the USCG and International Maritime Organization for ship's crews. Classes include a balance of classroom and simulation exercises. The USCG written exam for licensed officers is required in order to pass the five-day advanced course. These classes are relatively inexpensive and especially appropriate for USCG personnel.

Washington State's North Bend Marine Firefighting Center in North Bend, Washington, is a similar training provider with more extensive simulation facilities. This center is frequently used by fire agency personnel.

Southwestern Oregon and Clatsop Community Colleges both offer training in firefighting techniques that may be helpful to both USCG and fire agency personnel. For a catalog, including course and fee information, contact:

Southwestern Oregon Community College
Paul Reynolds,
Director Fire Services
1988 Newmark Ave.
Coos Bay, OR 97420
Phone (541) 888-7296

Clatsop Community College
Fire Response & Research Center
MERTS Campus
6550 Liberty Lane
Astoria, OR 97103
Phone (503) 338-7670

Additionally, there are numerous private and public training facilities and organizations that teach marine firefighting outside the Pacific Northwest. Examples of these include Texas A & M and Resolve Maritime Academy. Various Navy units throughout the United States offer advanced fire training, which is usually available to USCG personnel. In the past, this training has most often been reserved for ships' crews; however, there is clearly value in training Sector personnel as well. The quality of the schools is excellent, and they generally provide extensive practical experience. Navy courses would be especially appropriate for personnel serving as the senior FOSCR, Marine Inspector, or at the Sector Columbia River Command Center. This helps ensure appropriate USCG actions and direction to other response agencies. This is important, considering that one of the USCG's roles in marine fire response is to advise local fire agencies of the peculiarities of marine fire response as opposed to land-based fires.

The FPAAC offers training to member agencies covering Marine Fire Fighter Awareness, Operations, Technician, and Technician/Instructor levels. Training may occur annually, bi-annually, semi-annually, or when considered necessary by the FPAAC Planning Section. Agencies may also submit requests for training, which will be reviewed by the FPAAC Planning Section for approval. It will be the responsibility of the requesting agency to coordinate the dates and logistical requirements of the training.

Finally, there is a marine safety training guide for the FOSCR. This position is typically filled by a USCG marine safety officer from Sector Columbia River. A variety of individuals are available to serve in this capacity. The individual selected for specific FOSCR duties depends on personnel availability and the specifics of the incident. The FOSCR generally completes the training guide by studying reference material and completing certain tasks via on-the-job training. Additional resident training is strongly recommended for this assignment.

8024 Logistics

Equipment lists and contact points for various port areas are included in this document. Equipment lists can also be found at: http://www.wrrl.us/fmi/iwp/res/iwp_auth.html;jsessionid=025B0EF5327FC24212786E69.wpc1. (It is recommended that response team members print the equipment lists that pertain to their areas.)

8024.1 Communications

Communication between response team members and other agencies is critical. Mobile phone numbers and radio channels must be pre-assigned and periodically confirmed and tested during exercises. Consideration should be given to steel hulls inhibiting radio transmission with alternated communications planned ahead of time.

The Federal Communications Commission has assigned 154.126, 154.260, and 154.290 megahertz (MHz) as the Fire Mutual Aid Radio Systems frequencies for multi-agency response to a common incident.

Spare batteries, recharging capability, spare radios, and mobile phones should be available in case the incident lasts longer than anticipated or the number of response personnel is greater than expected.

8025 Finance

In general, funding for USCG firefighting activities must come from USCG Operating Expense funds. The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) Trust Fund, and the Oil Spill Liability Trust Fund may be available to reimburse firefighting expenses. CERCLA and Oil Spill Liability Trust Fund funds are only authorized for pollution related activities.

8026 Resources

8026.1 Fire Boat Fueling

In the event that a Fire Boat is on an MFSA incident and is unable to fuel at its normal fueling facilities, use the following guidelines:

- Foss Maritime Corporation, McCall Oil Company, and Wilcox and Flegel Oil Company will provide fueling services.

Astoria	
Wilcox and Flegel Oil Company	**(503) 325-3122**
Hours of availability:	24 hours
Foss Maritime Corporation	**(800) 882-4143**
(Make all requests for fueling through their dispatch office)	
Hours of availability:	24 hours

Longview	
Wilcox and Flegel Oil Company	**(360) 423-3300**
(Dockside only)	
Hours of availability:	24 hours
Fueling location:	The Port of Longview Berth
Portland	
Foss Maritime Corporation	**(503) 286-0631 or (800) 882-4143**
(Make all requests for fueling through their dispatch office)	
Hours of availability:	24 hours

8026.2 Maritime Fire & Safety Association Specialized Equipment Location and Activation Procedures

For more information on MFSA visit their website at www.mfsa.com

Foam Pods. It is MFSA policy to activate both foam pods unless it is specifically requested to activate only one. The closest pod and support team will be activated first. The specialized foam team for the second pod will not be activated unless requested by the initiating fire agency.

- Foam Pod Locations
  - Portland – Portland Fire & Rescue – (Foam Pod at Logistics Yard) Portland Fire & Rescue – Station 24 – Foam Unit
  - Kalama - Cowlitz County Fire District #5 (Port of Kalama – North Port Dock)

- Foam Pod Activation: Portland or Kalama The Chief on scene will contact MFSA (503) 220-2055, and MFSA will contact:
  1) NRC Environmental Services – 24 hours – (503) 283-1150
  2) Portland – Portland Fire & Rescue (floor supervisor) (503) 823-1901 to dispatch station 24., or Kalama – Cowlitz Co. Fire Dist. #5 911, (360) 577-3090 will page District Duty Officer

Carbon Dioxide (CO_2)/Slice Tool MFSA Response Units

- CO_2/Slice Tool Locations:
  - Portland Fire & Rescue – Station 24
  - Longview Fire Department

- Activation within the Portland area:
  - The Chief on scene will contact 911
  - 911 will contact Station 24 for dispatch
  - 911 will contact MFSA (503) 220-2055

- Activation outside of the Portland area:
  - The Chief on scene or area 911 will contact MFSA (503) 220-2055.
  - MFSA will contact either Portland Fire & Rescue or Longview Fire Department, depending on which is closer to the incident.
  - MFSA will call the Portland Fire Department (Floor Supervisor) at 911 or (503) 823-1901 or Longview Fire Department at (360) 578-5218.
  - Trained personnel will respond with equipment.

8026.3 Fire Agency Contact Information and Boat Capabilities

Astoria Fire Department **(503) 325-2345**
555 30th Street Astoria, OR 97103 **Emergency Number – 911**
Columbia River Mile 12

The Astoria Fire Department participates in mutual aid agreement with FPAAC. See the FPAAC Shipboard Operations Guide for a full listing of mutual aid resources.

Clark County Fire District #6 **(360) 576-1195**
8800 N.E. Hazel Dell Avenue **Emergency Number – 911**
Vancouver, WA 98665
Columbia River Mile 105

Clark County Fire District #6 participates in mutual aid agreement with FPAAC. See the FPAAC Shipboard Operations Guide for a full listing of mutual aid resources.

Clark County Fire & Rescue **(360) 887-4609**
911 N. 65th Avenue **Emergency Number – 911**
Ridgefield, WA 98642
Columbia River Mile 91

Clark County Fire & Rescue maintains two boats:

- *Alamar*:19 feet, top speed 30 knots, portable water pump with 1-inch hand line, Emergency Medical Services (EMS) equipment capable of basic life support (BLS)
- *Willy Predator*: 21 feet, top speed 40 knots, portable water pump with 1-inch hand line, EMS equipment capable of BLS.

Clark County Fire & Rescue participates in mutual aid agreement with FPAAC. See the FPAAC Shipboard Operations Guide for a full listing of mutual aid resources.

Clatskanie Rural Fire Department **(503) 728-2025**
280 S.E. 3rd Street **Emergency Number – 911**
Clatskanie, OR 97016
Columbia River Mile 50

The Clatskanie Rural Fire Department participates in mutual aid agreement with FPAAC. See the FPAAC Shipboard Operations Guide for a full listing of mutual aid resources.

Columbia River Fire & Rescue **(503) 325-4411**
270 Columbia Blvd **Emergency Number – 911**
St. Helens, OR 97051
Columbia River Mile 86

Columbia River Fire & Rescue participates in mutual aid agreement with FPAAC. See the FPAAC Shipboard Operations Guide for a full listing of mutual aid resources.

Cowlitz 2 Fire & Rescue **(360) 578-5218**
701 Vine Street **Emergency Number – 911**
Kelso, WA 98626
River Mile 65

Cowlitz 2 Fire & Rescue participates in mutual aid agreement with FPAAC. See the FPAAC Shipboard Operations Guide for a full listing of mutual aid resources.

Cowlitz County Fire District #5 **(360) 673-2222**
382 N.E. Frontage Road **Emergency Number – 911**
Kalama, WA 98625
River Mile 70 – 80

Cowlitz County Fire District #5 participates in mutual aid agreement with FPAAC. See the FPAAC Shipboard Operations Guide for a full listing of mutual aid resources.

Longview Fire Department **(360) 442-5503**
740 Commerce Avenue **Emergency Number – 911**
Longview, WA 98632
River Mile 65

The Longview Fire Department participates in mutual aid agreement with FPAAC. See the FPAAC Shipboard Operations Guide for a full listing of mutual aid resources.

Portland Airport Fire and Rescue **(503) 460-4600**
5250 NE Marine Drive **Emergency Number – 911**
Portland, OR 97218
Columbia River Mile 110

Portland Airport Fire and Rescue maintains one boat:

- 34 feet, top speed 43 knots, fire monitor at 400 gallons per minute (gpm) with foam capability, EMS equipment capable of advanced life support.

Portland Airport Fire and Rescue participates in mutual aid agreement with FPAAC. See the FPAAC Shipboard Operations Guide for a full listing of mutual aid resources.

Portland Fire & Rescue **(503) 823-3700**
55 S.W. Ash Street **Emergency Number: 911**
Portland, OR 97204
River Mile 105

Portland Fire & Rescue maintains three boats:

- *Fire Boat Campbell*: 87.5 feet with a draft of 6.5 feet, top speed 14 knots, three fire monitors with total capability of 14,000 gpm; foam capable.
- *Fire Boat 17 (Buss)*: 42 feet, 4.8-foot draft, top speed of 20 knots, two fire monitors with a total capacity of 4900 gpm; Aqueous Film Forming Foam capable with 50-gallon tank, EMS equipment capable of BLS.
- *Fire Boat Williams*: 40 feet, 3-foot draft, top speed 28 knots, two fire monitors with a total capability of 1,500 gpm, foam capable with 30 gallons on board, EMS equipment capable of BLS.

Portland Fire & Rescue participates in mutual aid agreement with FPAAC. See the FPAAC Shipboard Operations Guide for a full listing of mutual aid resources.

Scappoose Rural Fire District **(503) 543-5026**
52751 Columbia River Hwy
Scappoose, OR 97056
Columbia River Mile 93

The Scappoose Rural Fire District maintains one boat:

- 27 feet, top speed 15 knots; fire pump on boat at 1,500 gpm, no foam, EMS equipment capable of BLS or, with notice of medical emergency, advanced life support.

The Scappoose Rural Fire District participates in mutual aid agreement with FPAAC. See the FPAAC Shipboard Operations Guide for a full listing of mutual aid resources.

Vancouver Fire Department
7110 N.E. 63rd Street
Vancouver, WA 98661
River Mile 105

(360) 487-7212
Emergency Number – 911

The Vancouver Fire Department maintains one boat:

- *Almar:* 17 feet, top speed 11 knots, no firefighting capacity, EMS capability BLS.

The Vancouver Fire Department participates in mutual aid agreement with FPAAC. See the FPAAC Shipboard Operations Guide for a full listing of mutual aid resources.

8026.4 Miscellaneous Resources

Category	Company Name	Phone Number	Fax/ Alternate Phone	Address	City	Email/Website
Asbestos (Testing & Abatement)	AMEC Environment & Infrastructure, Inc.	503-639-3400	503-620-7892/ Fax	7376 SW Durham Rd 97224	Portland	troy.corbin@amec.com
	IRS Environmental	503-693-6388		777 SW Armco Ave. 97123	Hillsboro	www.irsenvironmental.com
	PBS Engineering and Environmental	503-248-1939	866-727-0140	4412 SW Corbett Ave. 97239	Portland	www.pbsenv.com
Barge & Tug Service	Bernert Barge Lines	503-656-8288	503-657-3922/ Fax	170 Harding Blvd 97045	Oregon City	www.business.gorge.net/digitaldesigner
	Brusco Corporation	360-636-3341	360-636-1521/ Fax	PO Box 1576 98632	Longview	www.bruscotug.com
	Foss Maritime	503-286-0631	503-289-7385/ Fax	9030 NW St. Helens Rd 97231/ PO box 83018	Portland	www.foss.com
	Foss Maritime	206-281-3810	206-281-4702/ Fax	660 W. Ewing St. 98119	Seattle	www.foss.com
	Fred Divine Diving & Salvage	503-283-5285	503-286-2871/ Fax	6211 N. Ensign St. 97217	Portland	www.freddevinedivingandsalvage.com
	Georgia Pacific	503-294-8200	503-294-8257/ Fax	3838 NW Front Ave. 97210	Portland	www.gp.com
	Larson Marine Services	503-286-0793	503-247-2556/ Fax	14452 NW Larson Rd 97231	Portland	www.larsonmarine.com
	Olympic Tug & Barge (Harley)	503-737-0124		7900 SW St. Helens Rd. 97210	Portland	http://www.harleymarine.com/
	Sause Bros. Ocean Towing	503-222-1811	503-222-2010/ Fax	3710 NW Front Ave 97210	Portland	www.sause.com
	Shaver Transportation	503-228-8847	503-274-7098/ Fax	4900 NW Front Ave. 97210	Portland	www.shavertransportation.com
	Tidewater Barge Lines	360-693-1491	360-694-8981/ Fax	6305 NW Old Lower River Rd. 98660/ PO Box 1210 (98666)	Vancouver	www.tidewater.com

Category	Company Name	Phone Number	Fax/Alternate Phone	Address	City	Email/Website
Boats, Engines, & Parts	Coastal Marine Engine	206-784-3703	206-784-8823/ Fax	4300 11th Ave NW 98107	Seattle	www.coastalmarineengine.com
	Hamilton Engine Sales, Inc.	503-288-6714	503-287-8289/ Fax	5540 NE Columbia Blvd 97218	Portland	www.hamiltonengine.com
	Kem Equipment, Inc.	503-692-5012	503-692-1098/ Fax	10800 SW Herman Rd 97062	Tualatin	www.kemequipment.com
	L & J Marine	503-248-0228	503-226-2220/ Fax	7435 NW Kaiser Rd 97229	Portland	www.landjmarine.com
	St. Johns Marine Center	503-289-2339	503-289-2339/ Fax	6729 N. Richmond 97203	Portland	
	Greg's Marine Services, Inc.	503-322-3643		490 E Garibaldi Ave 97118	Garibaldi	http://www.gregsmarineservice.com
	Staff Jennings Boating Centers	503-244-7505	503-244-7500/Fax	8240 SW Macadam 97219	Portland	
Catering	American Red Cross – Cascade Region	503-284-1234	503-284-2835	3131 N Vancouver Ave 97227	Portland	
	Danielle's 14 Ave Grill	360-575-8181		1203 14th Ave. 98632	Longview	
	Elephant's Delicatessen	503-224-3955	503-224-4097/ Fax	1611 S.E. 7th Ave. 97214	Portland	www.elephantsdeli.com
	Fred's Marina	503-286-5537	503-286-9317/Fax	12800 N.W. Marina Way 97231	Portland	www.fredsmarina.com
	Pig N' Pancake	503-738-7243		323 Broadway 97138	Seaside	www.pignpancake.com
	Rivers Edge Café & Catering	503-761-0314		200 SW Market St. 97201	Portland	www.riversedgecatering.com
	Subway	360-414-9199		94 Oregon Way, # 130	Longview	www.subway.com
	Subway	503-325-3322		11 W. Marine Dr.	Astoria	www.subway.com
	Vernie's Pizza	360-578-9561		900 Triangle Center 98632	Longview	www.verniespizza.com

Category	Company Name	Phone Number	Fax/Alternate Phone	Address	City	Email/Website
CO2 (Bulk)	Airco Industrial Gases	360-693-3608		4715 NE 78th St. 98665	Vancouver	
	Airgas	503-288-2527		3632 NE Columbia Blvd 97211	Portland	www.airgas.com
	Airgas	360-501-8100	360-577-6548/Fax	1165 Columbia Blvd 98632	Longview	www.airgas.com
	Air Products & Chemicals	503-692-4633		19955 SW Teton Ave 97062	Tualatin	www.airproducts.com
Cranes, Front Ed Loaders & Heavy Equipment Leasing & Rental	Coast Crane Company	503-288-8100	503-288-9669/ Fax	1601 NE Columbia Blvd. 97211	Portland	www.coastcrane.com
	Herc Equipment Rental	503-287-5789	503-287-4326	4939 NE Columbia Blvd. 97218	Portland	https://www.hercrentals.com
	Sunbelt Rentals	503-256-9800	503-255-7614/ Fax	7626 NE Killingsworth St. 97218	Portland	www.sunbeltrentals.com
	United Rental - Tigard	503-620-1235	503-620-2029/ Fax	14020 SW 72nd Ave. 97224	Tigard	www.unitedrentals.com
	United Rental	360-425-2350	360-425-3417/ Fax	1002 Tennant Way 98632	Longview	www.unitedrentals.com
	U.S. Crane & Hoist, Inc.	503-682-5881	503-682-1459/ Fax	29375 SW Kinsman Rd. 97070	Wilsonville	www.uscraneandhoist.com
CO2 (Hose & Fittings)	Unisource Manufacturing	503-281-4673	503-281-5845	8040 NE 33rd Dr. 97211	Portland	www.unisource-mfg.com
	US Cryogenics, Inc.	360-835-2475		12609 NE 95th St Ste B-101 98682	Vancouver	www.uscryogenicsinc.com
De-Watering Pump	L.N. Curtis & Sons	206-622-2875	206-622-2723/ Fax	6507 S 208th 98032	Kent	www.lncurtis.com
	NW Pump & Equipment	503-227-7867	503-227-4006/ Fax	2800 NW 31st Ave. 97210	Portland	www.nwpump.com
	Paco Pumps/ Grundfos CBS Inc.	503-224-6330	503-241-0399/ Fax	9400 SW Tualatin Sherwood Rd. 97062	Tualatin	www.pacopumps.com
	Clean Rivers Cooperative, Inc.	503-220-2040	503-295-3660/ Fax	200 SW Market St. #190 97201	Portland	www.cleanriverscooperative.com
Diving & Underwater Services	Advanced American Diving Service	503-445-9000	503-546-3031/ Fax	8444 NW St. Helens Rd. 97231	Portland	www.advanced-american.com

Category	Company Name	Phone Number	Fax/Alternate Phone	Address	City	Email/Website
	Fred Devine Diving & Salvage	503-283-5285	503-286-2871/ Fax	6211 N. Ensign St. 97217	Portland	www.freddevinedivingandsalvage.com
	Global Diving & Salvage, Inc.	206-623-0621	206-932-9036	3840 West Marginal Way SW 98106	Seattle	www.gdiving.com
	Ballard Marine Construction	866-782-6750	360-954-5539/Fax	727 S. 27th St. 98671	Washougal	www.ballardmarine.com
Env. Response Contractors	Cowlitz Clean Sweep	888-423-6316	360-423-6316/ alt phone	55 International Way 98632	Longview	www.pnecorp.com
	NRC Environmental Services	800-337-7455	503-283-1150/ alt phone	6211 N. Ensign St. 97217	Portland	www.nrces.com
	Marine Spill Response Corp (MSRC)	425-252-1300		1330 Industry St. # 100 98203-7121	Everett	www.msrc.org
	West Coast Marine Cleaning	360-696-3362		3501 Thompson Ave. 98660	Vancouver	www.westcoastmarinecleaning.com
Equipment Rental	Allrents Tool & Equipment, Inc.	503-738-7368	503-738-8077/ Fax	2525 Highway 101 N 97138	Seaside	http://www.allrentsinc.com/
	Coast Crane Company	503-288-8100	503-288-9669/ Fax	1601 NE Columbia Blvd. 97211	Portland	www.coastcrane.com
	Herc Equipment Rental	503-287-5789	503-287-4326/ Fax	4939 NE Columbia Blvd. 97218	Portland	https://www.hercrentals.com
	Peterson CAT	503-288-6411	503-281-9458	4421 NE Columbia Blvd 97218	Portland	www.petersoncat.com
	Sunbelt Rentals	503-256-9800	503-256-8494/ Fax	7626 NE Killingsworth 97218	Portland	www.sunbeltrentals.com
	United Rental	503-796-1235	503-224-8780/Fax	4621 NW St. Helens Rd. 97210	Portland	www.ur.com
	United Rental	360-425-2350	360-425-3417/ Fax	1002 Tenant Way 98632	Longview	www.ur.com
	United Rental	503-224-2000	503-254-3330/ Fax	5111 NE 82nd Ave. 97220	Portland	www.ur.com
	United Rental	503-620-1235	503-620-7979/ Fax	14020 SW 72nd Ave 97224	Tigard	www.ur.com
	US Crane & Hoist	503-682-5881	503-682-1459/ Fax	29375 SW Kinsman Rd. 97070	Wilsonville	www.uscraneandhoist.com

Category	Company Name	Phone Number	Fax/Alternate Phone	Address	City	Email/Website
Foam	3-M Corp	800-328-1687 (option 7)	651-733-6791/ Fax	Building 223-223-2N-20	St. Paul, MN	www.3m.com
	Fred Devine Diving & Salvage	503-283-5285	503-286-2871/ Fax	6211 N. Ensign St 97217	Portland	www.freddevinedivingandsalvage.com
	United Fire Health & Safety	503-249-0771	503-249-0572/Fax	4611 NE MLK Jr. Blvd. 97211	Portland	www.unitedfireandsafety.com
	Industrial Emergency Services, LLC	541-879-1809	800-862-0466	1312 Antelope Rd. 97503	White City	www.iesllc.com
General Contractors	Arrow Mechanical	503-692-1565	503-691-1879/ Fax	10330 SW Tualatin Rd. 97062	Tualatin	
	Ken Leahy Construction, Inc.	503-357-2193	503-357-3649/ Fax	915 S. 12th 97113	Cornelius	www.kenleahy.com
	MidMountain Contractors, Inc.	425-202-3600	425-202-3610/Fax	825 5th Ave. 98033	Kirkland	www.midmtn.com
Heat Testing Equipment	Branom Instrument Co.	503-283-2555	503-283-2652/ Fax	8435 N. Interstate Pl. 97217	Portland	www.branom.com
Helicopter Services	Columbia Helicopters	503-678-1222	503-678-5841/Fax	14452 Amdt Rd NE 97002 Lematta Field Aurora Airport	Aurora	www.colheli.com
	Hillsboro Aviation	800-345-0949	503-648-2831	3565 NE Cornell Rd. 97124	Hillsboro	www.hillsboroaviation.com
Hotels & Meeting Spaces	Best Western Inn at the Meadows	855-286-9600	503-286-9600/alt phone	1215 N Hayden Meadows Dr. 27217	Portland	www.bestwestern.com
	Comfort Suites Columbia River	503-325-2000		3420 Leif Erickson Dr. 97103	Astoria	www.comfortsuites.com
	Doubletree Hotel & Meeting Center	503-281-6111		1000 NE Multnomah 97232	Portland	www.doubletree.hilton.com
	Embassy Suites Portland - Downtown	503-279-9000		319 SW Pine 97204	Portland	www.embassysuites.hilton.com
	Holiday Inn Express Hotel & Suites	888-465-4329	503-325-6222/ alt phone	204 West Marine Dr. 97103	Astoria	www.holidayinn.com

Category	Company Name	Phone Number	Fax/Alternate Phone	Address	City	Email/Website
	Marriott Residence Inn Portland Downtown/Lloyd Center	503-288-1400		1710 NE Multnomah 97232	Portland	www.marriott.com
	Monticello Hotel & Restaurant	360-425-9900		1405 17th Ave 98632	Longview	www.themonticello.net
	Sheraton Portland Airport Hotel	503-281-2500		8235 Northeast Airport Way 97220	Portland	www.starwoodhotels.com
	Travelodge Longview	360-423-6460		838 15th Ave 98632	Longview	www.travelodge.com
Launch Services	Anchorage Launch Service	503-246-0535	503-246-0979/ Fax	PO Box 25357, 97298	Portland	www.anchoragelaunch.com
	Foss Maritime	503-286-0631	503-289-7385/ Fax	9030 NW St. Helens Rd 97231/ PO box 83018	Portland	www.foss.com
	Shaver Transportation	503-228-8850	503-274-7098/ Fax	4900 NW Front Ave. 97210	Portland	www.shavertransportation.com
	Ship To Shore Water Taxi	360-607-5719/ Cell		4601 E 18th St. 98661	Vancouver	
	Tidewater Barge Lines	360-693-1491	360-695-1572/ Fax	6305 NW Old Lower River Rd. 98660/ PO Box 1210 (98666)	Vancouver	www.tidewater.com
Marine Architects						
Marine Chemists	AMEC Environment & Infrastructure, Inc.	503-639-3400	503-620-7892/ Fax	7376 SW Durham Rd. 97224	Portland	www.amec.com
Medical Services (Ambulances)	AAA Advanced Air Ambulance	503-229-0500	800-633-3590/alt phone	12360 SW 132nd Court # 208 33186 (Services Portland Airport)	Miami	www.flyambu.com
	American Medical Response	360-750-4679	360-737-2525 (dispatch)	409 NE 76th St. 98665	Longview	www.amr.net

Category	Company Name	Phone Number	Fax/Alternate Phone	Address	City	Email/Website
Medical Services (Hospitals)	American Medical Response	503-231-6300 (dispatch)		One SE 2nd Ave. 98214	Portland	www.amr.net
	Medix	503-861-1990		2325 SE Dolphin Ave 97416	Warrenton	www.medix.org
	Wahkiakum County ER Mgmt.	360-795-3312		64 Main St.	Cathlamet	www.co.wahkiakum.wa.us
	Columbia Memorial Hospital	503-325-4321		2111 Exchange St. 97103-4321	Astoria	www.columbiamemorial.org
	Legacy Emanuel	503-413-2200	800-733-9959/alt phone	2801 N. Gantenbein 97227	Portland	www.legacyhealth.org/Emanuel
	Legacy Good Samaritan	503-413-7711		1015 NW 22nd Ave 97210	Portland	www.legacyhealth.org/goodsam
	OHSU	503-494-8311		3181 SW Sam Jackson Park Rd 97239	Portland	www.ohsu.edu
	Providence Portland	503-215-1111	800-833-8899/alt phone	4805 NE Glisan St. 97213	Portland	www.providence.org
	St. John Medical Center	360-414-2000		1615 Delaware St. 98632	Longview	www.peacehealth.org/st-john
	SW Washington Medical Center	360-514-2000		400 NE Mother Joseph Place 98664	Vancouver	www.swmedicalcenter.org

Category	Company Name	Phone Number	Fax/Alternate Phone	Address	City	Email/Website
Office Supplies	Abeco	800-856-6152		1332 Commercial St. 97103	Astoria	www.abeco.net
	Office Depot	360-578-7867		600 Triangle Center 98632	Longview	www.officedepot.com
	Office Depot	360-253-2048		11505 NE Fourth Plain Rd #H-1 98662	Vancouver	www.officedepot.com
	Office Depot	503-220-0148		930 NW 14th Ave 97209	Portland	www.officemax.com
Oil Recycling	Thermo Fluids	503-788-4612		12533 SE Carpenter Dr. 97015	Clackamas	www.thermofluids.com
	Oil Re-Refining Co.	503-286-8352	503-286-5027	4150 N. Suttle Rd. 97217	Portland	www.orrco.biz
Oil Spill Cooperatives	Clean Rivers Cooperative	503-220-2040	503-295-3660/ Fax	200 SW Market St. #190 97201	Portland	www.cleanriverscooperative.com
	Coos Bay Response Cooperative	541-297-5190		155 East Market Ave. 97420	Coos Bay	
	NRC Environmental Services	503-283-1150	503-289-6568/ Fax	6211 N. Ensign St. 97217	Portland	nrcc.com
	PNE Corporation	360-423-2245	360-423-2272/ Fax	1081 Colombia Blvd, 98632	Longview	pnecorp.com
	Tidewater Barge Lines	360-693-1491	360-693-1491	6305 NW Lower River Rd. 98660	Vancouver	
Pilotage	Columbia River Bar Pilots Assn.	503-325-2643	503-338-1266/ Fax	100 16th St. 97103	Astoria	www.columbiariverbarpilots.com
	Columbia River Pilots	503-289-9922	503-289-9955/ Fax	13225 N. Lombard St. 97203-6410	Portland	www.colrip.com
Pipefitters	Klinger IGI, Inc.	800-444-7157	866-236-6970/ Fax	9325 SW Ridder Rd. #420, 97070	Wilsonville	http://klingerigi.com
	IRC Aluminum &Stainless	503-228-7110	503-274-2852/Fax	9038 N. Sever Ct. 97203	Portland	www.ircalum.com
	Northwest Metal & Fab and Pipe, Inc.	503-692-0995	503-692-0218/Fax	18805 SW 108th Ave 97062/ 4500 SW Advance Rd 97070 (m)	Tualatin/ Wilsonville	www.nwmfp.com

Category	Company Name	Phone Number	Fax/Alternate Phone	Address	City	Email/Website
	Portland Windustrial	503-223-2202	503-223-2408/Fax	3615 NW St. Helens Rd. 97210	Portland	www.portlandwindustrial.com
	Samuel, Sons & Co.	800-648-8000	503-489-6211/Fax	704 W 8th St, 98660	Vancouver	www.samuel.com
Portable Lighting	United Rental	503-620-1235	503-620-7979/ Fax	14020 SW 72nd Ave. 97224	Tigard	www.ur.com
Safety Equipment	Cintas Fire Protection	360-695-9212	360-695-3286/ Fax	704 W. 8th St. 98660	Vancouver	https://www.cintas.com/local
	Mallory Safety & Supply	360-636-5750		2135 NW 21st Ave. 97209	Portland	www.malloryco.com
	Sanderson Safety & Supply	503-238-5700	503-238-6443/ Fax	1101 SE 3rd Ave. 97214	Portland	www.sandersonsafety.com
Sanitation	Honey Bucket Portable Restrooms	800-966-2371 (OR)	800-562-4442 (WA)			www.honeybucket.com
	Schulz Clearwater Sanitation	503-472-6958	503-691-1686/Fax	11655 SW Herman Rd. 97062-8033/ PO Box 1404	McMinnville	www.schulz-clearwater.com
	TPI	360-414-8161	360-414-8685/Fax	340 Oregon Way, #C	Longview	https://www.unitedsiteservices.com/about/acquisitions/tpi-toilets-sanitation-washington
	WM Port-O-Let	503-249-8078	503-331-2219	7227 NE 55 Ave. 97218	Portland	www.wm.com
Storage & Tanks	Bakercorp	503-775-7211	503-775-1176/ Fax	6400 SE 101st Ave 97266	Portland	www.bakercorp.com
	Bakercorp	425-347-8811	425-347-0369/ Fax	9715 24th Pl. W. 98204	Everett	www.bakercorp.com
	SEI Industries	604-946-3131	604-940-9566/ Fax	7400 Wilson Ave. V4G1E3 (Canada)	Delta, BC	www.sei-ind.com
	New Pig Corporation	855-493-4647	800-621-7447/ Fax	One Pork Ave. 16684/ PO Box 304	Tipton, PA	www.newpig.com

Category	Company Name	Phone Number	Fax/Alternate Phone	Address	City	Email/Website
	Tidewater Barge Lines	360-693-1491	360-695-1572/ Fax	6305 NW Old Lower River Rd. 98660/ PO Box 1210 (98666)	Vancouver	www.tidewater.com
Temporary Labor	TCB Industrial Corp.	503-788-8344	503-788-8348	2005 SE 82nd Ave. Ste. 7 97216	Portland	www.tcbindustrial.com
Truck Rental & Leasing	Brattain Idealease, Inc.	503-285-9300	503-289-4775/ Fax	61 NE Columbia Blvd. 97211	Portland	http://www.brattaininternational.com/
	Budget Truck Rental	503-249-6300		5856 NE Columbia Blvd. 97211	Portland	www.budgettruck.com
	Penske Truck Rental	503-219-9967		4110 NW St. Helens Rd. 97210	Portland	www.pensketruckrental.com
	Ryder Truck Rental	503-283-1121		310 N. Columbia Blvd. 97217	Portland	www.ryder.com
	Thrifty Truck Rental	877-283-0898		10800 NE Holman St. 97218	Portland	www.thrifty.com

8026.5 Radio Frequencies

Below is the MFSA radio template and nomenclature for the Columbia River mutual aid system.

Channel	Alias	Description	Operation	Analog Bandwidth	Mobile RX	Mobile RX CTCSS	Mobile TX	Mobile TX CTCSS
1	VCALL 10	National Interoperability Calling Channel	Simplex	Narrow	155.7525	Carrier Squelch (CSQ)	155.7525	156.7
2	VTAC 14	National Interoperability Tactical Channel 4	Simplex	Narrow	159.4725	CSQ	159.4725	156.7
3	VTAC 13	National Interoperability Tactical Channel 3	Simplex	Narrow	158.7375	CSQ	158.7375	156.7
4	VTAC 12	National Interoperability Tactical Channel 2	Simplex	Narrow	154.4525	CSQ	154.4525	156.7
5	VTAC 11	National Interoperability Tactical Channel 1	Simplex	Narrow	151.1375	CSQ	151.1375	156.7
6	MFSA CMD	Oil Spill Command and Control Repeater	Repeater	Narrow	150.9800	100.0	158.4450	100.0
7	MFSA 1P	Oil Spill Tactical Repeater-Portland/Market Street	Repeater	Narrow	159.4800	100.0	154.5850	100.0
8	MFSA 2G	Oil Spill Tactical Repeater-Green Mtn.	Repeater	Narrow	159.4800	100.0	154.5850	127.3
9	MFSA 3N	Oil Spill Tactical Repeater- Nicolai	Repeater	Narrow	159.4800	100.0	154.5850	141.3
10	MFSA 4M	Oil Spill Repeater- Megler	Repeater	Narrow	159.4800	100.0	154.5850	151.4
11	MARINE 21A	Marine Channel 21A- Coast Guard Tactical	Simplex	Wide	157.0500	CSQ	157.0500	CSQ
12	MARINE 22A	Marine Channel 22A- Coast Guard Tactical	Simplex	Wide	157.1000	CSQ	157.1000	CSQ
13	MARINE 23A	Marine Channel 23A- Coast Guard Tactical	Simplex	Wide	157.1500	CSQ	157.1500	CSQ
14	MARINE 81A	Marine Channel 81A- Marine Oil Spill	Simplex	Wide	157.0750	CSQ	157.0750	CSQ
15	REDNET	Fire and Communications Mutual Aid Channel	Simplex	Narrow	153.8300	CSQ	153.8300	127.3
16	Dispatch	Local Agency Dispatch Channel	TBD	Narrow	TBD	TBD	TBD	TBD

8026.6 VHF National Interoperability Channels and Marine Channels

The national interoperability channels are available for use throughout the nation. They are primarily used during an incident where multiple responders from different agencies and with different communications capabilities are involved.

VHF Channels **V-TAC Frequencies**

Channel Name	Frequency Transit & Receive	Continuous Tone-Coded Squelch System (CTCSS) Transmit Only	Bandwidth
VCALL10	155.7525 MHz	156.7 Hz	Narrow
VTAC11	151.1375 MHz	156.7 Hz	Narrow
VTAC12	154.4525 MHz	156.7 Hz	Narrow
VTAC13	158.7375 MHz	156.7 Hz	Narrow
VTAC14	159.4725 MHz	156.7 Hz	Narrow
VTAC17	161.8500 MHz	156.7 Hz	Narrow
REDNET-FIRECOM	153.8300 MHz	127.3 Hz	Narrow

Marine channels are primarily used for marine activities by marine based vessels. They may be useful to first responders when interacting with marine units.

VHF Channels **Marine Channels - Tactical Use**

Channel Name	Frequency Transmit & Receive	Continuous Tone-Coded Squelch System (CTCSS) Transmit & Receive	Bandwidth
Channel 16	156.8000 MHz	Carrier Squelch (CSQ) / none	Wide
Channel 21A	157.0500 MHz	CSQ / none	Wide
Channel 22A	157.1000 MHz	CSQ / none	Wide
Channel 23A	157.1500 MHz	CSQ / none	Wide
Channel 80A	157.0250 MHz	CSQ / none	Wide

VHF Channels **Marine Channels - Tactical Use**

Channel Name	Frequency Transmit & Receive	Continuous Tone-Coded Squelch System (CTCSS) Transmit & Receive	Bandwidth
Channel 81A	157.0750 MHz	Carrier Squelch (CSQ) / none	Wide
Channel 82A	157.1250 MHz	CSQ / none	Wide
Channel 83A	157.1750 MHz	CSQ / none	Wide

VHF Channels **Marine Channels - Monitored by MEX**

Channel Name	Frequency Transit & Receive	Continuous Tone-Coded Squelch System CTCSS Transit & Receive	Bandwidth
Channel 16	156.8000 MHz	Carrier Squelch (CSQ) / none	Wide
Channel 11	156.5500 MHz	CSQ / none	Wide
Channel 13	156.6500 MHz	CSQ / none	Wide
Channel 14	156.7000 MHz	CSQ / none	Wide
Channel 18A	156.9000 MHz	CSQ / none	Wide
Channel 80A	157.0250 MHz	CSQ / none	Wide
Channel 81A	157.0750 MHz	CSQ / none	Wide

Additionally, oil spill contractors on the Columbia River currently have all response vehicles and boats radio-equipped with MFSA communications capabilities and boats have 80 channels VHF-FM Marine Band radios operating on frequencies of 136–174 Mhz, channels 1–80.

Section 8100

Sector Puget Sound Marine Firefighting Plan

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Sector Puget Sound Marine Firefighting Plan

8110 Introduction

This chapter outlines the responsibilities and actions during a marine fire incident occurring within the Puget Sound Captain of the Port (COTP) Zone, which encompasses Puget Sound, the Strait of Juan De Fuca, and the northern Washington coast. The principal purpose is to explain the United States Coast Guard's (USCG's) role and the support that can be provided to local municipalities during marine firefighting incidents. Policies, responsibilities and procedures for coordination of on-scene forces are provided. It is designed for use in conjunction with other state, regional, and local contingency and resource mobilization plans.

8111 Definitions and Responsibilities

CCGD13 – Commander, United States Coast Guard District Thirteen: The USCG District Commander (Admiral) who exercises operational and administrative control over all USCG units assigned to the district (with some few exceptions) and acts as a direct representative of the Commandant.

USCG District Thirteen: The USCG District Thirteen's area comprises Washington, Oregon, Idaho, and Montana and extends out into the Pacific Ocean 200 nautical miles.

USCG Sector Puget Sound. USCG Sector Puget Sound is responsible for administering and directing all USCG activities relating to applicable navigation, shipping, transportation, and environmental laws and regulations within the COTP Puget Sound. In addition, the Sector Commander provides coordination and efficiency of achievement of the basic missions by all operating units in their geographical area. Sector Puget Sound was established in 2010 which merged Sector Puget Sound and USCG/Air Station Port Angeles into one command.

USCG Group/Air Station. Group commands are established to provide coordination and efficiency of achievement of the basic missions by all operating units in their geographical area.

Captain of the Port (COTP): The Commander, Sector Puget Sound is designated as COTP. The COTP is responsible for administering and directing all USCG activities relating to Port Safety and Security, Marine Environmental Response, and Waterway Management functions.

Federal On-Scene Coordinator (FOSC): The federal official predesignated by the United States Environmental Protection Agency (EPA) or USCG to coordinate and supervise federal responses under the National Contingency Plan.

Incident Commander. The person who is directly responsible for coordinating and directing a comprehensive response to the emergency situation. Designated by the responsible party or Lead Agency.

Industry: It is the responsibility of a vessel owner, agent, master, operator, or person in charge, in accordance with 46 Code of Federal Regulations (CFR) Subpart 4.05, to immediately notify the nearest USCG Sector Office, Marine Inspection Office or Coast Guard Group Office whenever a vessel is involved in a marine casualty after addressing the immediate resultant safety concerns. Marine causalities include an occurrence materially and adversely affecting the vessel's seaworthiness or fitness for service or route, including but not limited to fire, flooding, or failure of or damage to fixed fire-extinguishing systems, lifesaving equipment, auxiliary power-generating equipment, or bilge-pumping systems (46 CFR 4.05-1(a)(4)).

Joint Harbor Operations Center Command Duty Officer (JHOC CDO). The JHOC CDO directs operational responses at direction of Commander Sector Puget Sound, and holds ultimate responsibility for all operational decisions delegated to the watch, and determines which partners need to be informed concerning any particular incident or operation.

Lead Agency. A government agency responsible for ensuring adequate fire response. Normally a local fire agency.

Marine Firefighting Coordinator. The officer at Sector Puget Sound responsible to the COTP, for overall supervision of USCG marine firefighting support operations and for execution of this plan.

Marine Firefighting Scene Coordinator. Officer at Sector Puget Sound responsible for On-Scene execution of COTP Marine Firefighting support responsibilities.

On-Scene Commander. Designation per the National Search and Rescue (SAR) Plan. Prosecutes the SAR mission on-scene and has operational control of all SAR response units on scene. This is not to be confused with the National Incident Management System definition for "Incident Commander," who is the person responsible for all aspects of an emergency response, including quickly

developing incident objectives, managing all incident operations, application of resources, and having responsibility for all persons involved.

Primary Resource Provider. A resource provider listed in the vessel response plan as the principal entity contracted for providing specific salvage and/or marine firefighting services and resources, when multiple resource providers are listed for that service, for each of the COTP zones in which a vessel operates. The primary resource provider will be the point of contact for the plan holder, the FOSC and the Unified Command in matters related to specific resources and services as required in 155.4030(a).

Resource Provider. An entity that provides personnel, equipment, supplies, and other capabilities necessary to perform salvage and/or firefighting services identified in the vessel response plan.

Search and Rescue Mission Coordinator. Designation per the National SAR Plan. Responsible for planning and operational coordination and control of SAR missions. This position has overall responsibility for execution of SAR responsibilities normally designated by the Commander of the cognizant USCG Sector or CCGD13.

Puget Sound Vessel Traffic Service (VTS Puget Sound). VTS Puget Sound is a Branch of the Waterways Management Division of Sector Puget Sound. Its mission is to prevent groundings, collisions and environmental damage while supporting navigation safety mission goals.

Waterfront Facility. All piers, wharves, docks, and similar structures to which vessels may be secured; areas of land, water or land and water under and in immediate proximity to them; buildings on such structures and equipment and materials on or in such buildings.

8112 United States Coast Guard Authority

The USCG has no specific statutory responsibility to fight marine fires; but the local USCG COPT is charged by the Ports and Waterways Safety Act (33 United States Code [U.S.C.] 1221, et seq.) with the responsibility for navigation and vessel safety, safety of the waterfront facilities, and protection of the marine environment within the COTPs area of jurisdiction. This authority allows the COTP to:

- Direct the anchoring, mooring, or movement of a vessel;
- Specify times of vessel entry, movement, or departure to, from or through ports, harbors, or other waters;
- Restrict vessel operation in hazardous areas; and
- Direct the handling, loading, discharge, storage, and movement – including emergency removal, control, and disposition – of explosives or other dangerous cargo or substances, on any bridge or other structure on or

in the navigable waters of the United States or any land structure immediately adjacent to those waters.

The USCG under the Clean Water Act as amended by the Oil Pollution Act of 1990 (33 U.S.C. 1251, et seq.) may, whenever a marine disaster in the navigable waters or exclusive economic zone of the United States has created a substantial threat of pollution because of a discharge or an imminent discharge of large quantities of oil or a hazardous substance from a vessel, coordinate and direct all public and private efforts directed at removal or elimination of such threat and summarily remove and, if necessary, destroy such a vessel. Also, under section 4202 of the Oil Pollution Act of 1990 mandates that the USCG maintain an Area Contingency Plan of pollution response equipment (including firefighting equipment) within each port.

The Intervention on the High Seas Act (33 U.S.C. 1471, et seq.) extends the USCG's authority to take similar preemptive or corrective action upon the high seas (i.e., beyond the three-mile territorial sea). Specifically, it authorizes the Commandant of the USCG to take such measures on the high seas as may be necessary to prevent or mitigate circumstances when a vessel is threatening to spill crude oil, fuel oil, diesel oil, or lubricating oil into the sea. After consultation with the EPA Administrator and the Secretary of Commerce, the USCG is allowed to expand the list of substances to that which is beyond the Intervention Convention. This authority rests with the Commandant. The Sector Puget Sound Commander should relay any recommendation to take such action through the district commander to the Commandant.

42 U.S.C. 1856-1856(d) allows an agency charged with providing fire protection for any property of the United States to enter into reciprocal agreements with state and local firefighting organizations to provide for mutual aids. This statute further provides that emergency assistance may be rendered in the absence of a reciprocal agreement, when it is determined by the head of that agency to be in the best interest of the United States.

The USCG cannot delegate their statutory authorities and shall not delegate mission responsibilities to state or local agencies. Sector Puget Sound shall not be party to any agreement that relinquishes USCG authority, evades USCG responsibility, or places Sector military personnel under the command of any person(s) who is/are not a part of the Federal military establishment. USCG forces will be subject to no authority other than that of their superiors in the chain of command. Within the USCG, the COTP will delegate authorities as necessary.

8113 Federal Policy

Federal policy established in the Federal Fire Prevention and Control Act of 1974 (Public Law 93-498), states that fire prevention and control is and should remain a state and local responsibility, although the federal government must help to reduce fire losses. However, the ultimate responsibility is always with the vessel or facility owner and operator.

Additionally, provisions of the Oil Pollution Act of 1990 require tank vessels to maintain response plans, (33 CFR 155 Subpart I) and the Oil or Hazardous Material Pollution Prevention Regulations for Vessels also requires non-tank vessels to maintain vessel response plans (33 CFR part 155 Subpart J). These regulations clarify the responsibilities and enhance the preparedness of vessel owners and operators in regards to marine fires. They establish planning criteria requiring the identification of specific resources and specific time frames that these resources are brought to the scene of an incident.

The presence of local firefighters who respond to marine fires does not relieve the vessel's Master command of, or transfer the Master's responsibility for overall safety of the vessel. However, the Master should not normally countermand any orders given by the local firefighters on board the vessel, unless the action taken or planned clearly endangers the safety of the vessel or crew.

8114 United States Coast Guard Policy

The USCG has traditionally provided firefighting equipment and training to protect its vessels and property. Commanding Officers of USCG units (Sector Commanders, Cutters, etc.) are routinely called upon to provide assistance at fires on board vessels and at waterfront facilities. Although the USCG clearly has an interest in fighting fires involving vessels or waterfront facilities, local authorities are principally responsible for maintaining necessary firefighting utilities in United States ports and harbors.

The USCG renders assistance as available, based on the availability of resources and the USCG unit's training level. The Commandant intends to maintain this traditional "assistance as available" posture without conveying the impression that the USCG is prepared to relieve local fire departments of their responsibilities.

The USCG firefighting policy is set forth in the USCG Marine Safety Manual, Vol. VI, Chapter 8. A summary of this policy is as follows:

Although the USCG clearly has an interest in fighting fires involving vessels or waterfront facilities, local authorities are principally responsible for maintaining necessary firefighting capabilities in United States Ports and harbors. The involvement of USCG forces in actual firefighting shall be to a degree commensurate with our personnel training and equipment levels. The USCG intends to maintain its historic "assistance as available" posture without conveying the impression that we stand ready to relieve local jurisdictions of their responsibilities. Additionally, the response actions taken shall pose no unwarranted risk to USCG personnel or equipment.

<u>It is the Commandant's policy that USCG personnel shall not actively engage in firefighting</u>. The exceptions to this policy include the following:

- Individuals whose primary duty is firefighting;

- Isolated units located where there are no municipal fire departments and the commanding officer determines a fire brigade is necessary to carry out the mission of that unit;
- In order to save a life; and
- In the early stages of a fire that can be extinguished using a portable fire extinguisher.

8114.1 United States Coast Guard Action in a Fire Department's Jurisdiction within Sector Puget Sound's SAR Zone and COTP Puget Sound's Zone

The response action to be taken in any fire department jurisdiction in Sector Puget Sound's SAR zone follows:

a. Upon the receipt of a report of fire, the USCG JHOC watchstander shall notify the Command Duty Officer (CDO), who shall complete the Vessel Fire Quick Response Card (QRC).
b. The CDO shall notify designated personnel on the QRC.
c. USCG personnel shall respond as directed by JHOC CDO.
d. The appropriate fire bureau shall be contacted if they have not already been advised of the fire. If the fire is in the Seattle Fire Department's area of jurisdiction, one or more fireboats will likely be dispatched to the scene. Communications shall be established on Channels 16 or 22A between the SECTOR's responding small boat (if dispatched) and the fireboats.
e. If the fire occurs in the jurisdictional area of a fire department that does not have a fireboat, it should be determined whether the local fire department has sought any outside assistance from other Fire Departments. If no outside assistance has been sought, the options available should be presented to the local fire department, and a plan of action should be coordinated with the USCG if necessary.
f. Unless involved in a serious SAR case, the CDO shall dispatch a boat to the scene immediately. If available, the (Utility Boat Large) UTB and/or Response Boat Medium (RBM) should be selected. This should occur regardless of whether or not the fire department requests USCG assistance. The boat crew should be rapidly briefed concerning the extent of the fire.
g. Response team personnel, acting as the On-Scene Coordinator's (OSC's) representative shall be dispatched to meet with the Fire Department Incident Commander in charge of shoreside operations. This will provide a communications link between the COTP and the Fire Department. Orders for coordination of USCG firefighting activities at the scene shall be passed through the USCG shore response team (OSC's representative). Communications shall be established between the shore response team (OSC representative), the Sector, and the UTB, on VHF-FM Channels assigned by the JHOC CDO, or by cellular telephone.
h. Issue a safety broadcast, or Urgent Marine Information Broadcast to advise the maritime community of the fire and presence of waterborne firefighting units on-scene.

i. As a general rule, Sector Puget Sound will provide firefighting services if life is threatened, or as requested by the fire department unless, in the opinion of the shoreside USCG OSC or coxswain, they are beyond the capability of the boat, either because of the boat's characteristics, inadequate personal protective equipment, or low experience level of the crew. All actions shall be reported to the CDO at the time services are requested. USCG forces shall never take action without the approval or at the request of the shore-based Incident Commander. Where USCG firefighting services are not needed, the USCG boat shall remain on scene to direct marine traffic or provide such other services as directed by the OSC.

j. If a fire is reported to be ashore at or on a ship at a grain elevator or oil terminal, the following actions will be taken:
   1. The JHOC CDO will determine if unaffected vessels moored to the facility need to be moved immediately, with or without tugs and pilots, depending upon circumstances. A COTP order may be required.
   2. Movement of other vessels in the area will be considered based upon degree of risk.
   3. Pilots and tugs are to be deployed as early as possible.
   4. Vessels moored at other types of facilities involved in a fire may be moved based upon the degree of danger to the vessel.
   5. USCG personnel will board all vessels in a fire area and inform the Senior Deck Officer to secure ship operations and be prepared to get underway.
   6. Inform the local agents of vessels involved in the incident of the situation and any anticipated movement of their vessels.
   7. Vessels to be moved are to be directed to a harbor, anchorage, or another dock away from the fire area.
   8. If appropriate, a safety zone will be established for the protection of vessels, water, and shore areas.

8115 Related State Policy

The Washington State Fire Services Resource Mobilization Plan has been developed in support of Revised Code of Washington (RCW) 38.54, the State Fire Services Mobilization Act. In implementing this act, consistency will be sought with:

- RCW 76.04, which governs the Washington State Department of Natural Resources;
- RCW 43.43 and 38.52, which govern fire protection services and emergency management;
- RCW 52, governing fire districts; and
- RCW 35, governing cities and towns.

Authorization of state fire resources mobilization may be requested when (1) all local and mutual aid resources have been expended in attempting to control an emergency incident presenting a clear and present danger to life and property or

(2) a non-stabilized incident or simultaneous incidents presenting a clear and present danger to life and property and requiring in addition to local resources and mutual aid, the deployment of additional resources as established by the Region Fire Defense Plan approved by the State Fire Defense Committee.

Washington State law includes notification and response requirements for handling potential spill threats under the following provisions of law:

- RCW 88.46, which governs vessel oil spill prevention and response; and
- RCW 90.56, which governs oil and hazardous substance prevention and response.

State law requires the Washington State Department of Ecology to take all actions necessary to respond to a substantial threat of a discharge of oil or hazardous substances into the waters of the state. The Washington Department of Ecology Spills Program is responsible for these response activities and considers any disabled vessel situation involving significant marine firefighting or salvage operation as a potential spill and would participate in the unified command.

8116 Canadian/U.S. Cross Border Policy

An agreement is in place, which has been negotiated between the United States and Canada, which allows for cooperation in an emergency situation. Commander USCG D13 maintains this agreement.

8117 Non-Federal Responsibility

8117.1 Local Fire Departments

Local fire departments are responsible for fire protection within their jurisdictions. In a number of cities, this responsibility includes marine terminals and facilities. Some of these terminals and facilities have entered into mutual aid agreements with the surrounding fire departments.

Typical responsibilities of local fire departments include:

- Establish an Incident Command;
- Request necessary personnel and equipment in accordance with existing mutual aid agreements and Washington State Resource Mobilization Plan;
- Make all requests for USCG/federal personnel, equipment and waterside security through COTP; and
- Establish liaison with law enforcement for landside traffic and crowd control, scene security and evacuation.

8117.2 Master/Mate of the Vessel

The master is always in charge of the vessel, but **NEVER** in charge of firefighting efforts of non-vessel personnel.

8117.3 Owners/Operators of the Vessel

These individuals are always a critical source of vessel/facility information. Regardless of other response resources, the owner/operator of vessels and

facilities retain a fundamental responsibility for safety and security. Specific Firefighting and Salvage requirements are mandated for vessels that carries group I-IV oils, or vessels over 400 gross tons (GT) and are required to have a Vessel Response Plan, must be in accordance with 33 CFR Part 155.

8117.4 Primary Resource Provider

The Primary Provider will be the point of contact for the plan holder, the Federal On-Scene Coordinator (FOSC) and the Unified Command, in matters related to specific salvage and firefighting resources and services, as required for vessels carrying group I-IV oils, or vessels over 400 GT listed in the Vessel Response Plan.

8120 Command and Control

A major waterfront or shipboard fire in Puget Sound will probably involve response teams from federal, state and local agencies. The nature and location of the fire will be the deciding element in determining which agency assumes overall command or lead agency in a unified command. Overall command or lead agency must be determined as early as possible in the incident to ensure the effective use of personnel and equipment.

8121 Command Interrelationships

The Incident Command System (ICS) is the accepted organization system used by most federal, state and local agencies mitigating emergency situations and is designed to expand and contract to meet the needs of the incident. The USCG response organization is designed to be interactive with the ICS and the accepted Washington State response organization system. The organizational structure for any given incident will be based upon the management needs of that incident.

8122 Unified Command

In instances when several jurisdictions are involved or several agencies have a significant management interest or responsibility, a unified command with a lead agency designation may be more appropriate for an incident than a single command response organization. Generally, a unified command structure is called for when the incident occurs that crosses jurisdictional boundaries, involves various government levels (e.g., Federal, State, and Local), impacts functional responsibilities, or a combination thereof. Such circumstances would pertain for almost any fire at a facility or a vessel at pier side or anchorage located in Puget Sound because of the similar responsibilities of local fire departments, other emergency response organizations and the USCG for the saving of life, property and the environment.

8123 Transfer of Command

The presence of local fire fighters or USCG personnel does not relieve the master of command of, or transfer the master's responsibility for overall safety on, the vessel. However, the master should not normally countermand any orders given by the local fire fighters in the performance of firefighting activities on board the

vessel, unless the action taken or planned clearly endangers the safety of the vessel or crew.

8123.1 Vessel Underway

While the vessel is underway the lead agency is the COTP. If moved to, pier side, the lead agency shifts (with concurrence of the COTP and local fire department) to the fire department.

8123.2 Vessel at Pier

The lead agency will be from the local fire department.

8130 Operations

Marine firefighting is substantially different from standard structural firefighting requiring specialized equipment and training. The Incident Commander (IC) that does not have an organized marine firefighting team should follow some general guidelines for operational considerations:

- **Activation of the Vessel's Response Plan**. When a fire is discovered on a vessel, its vessel response plan (VRP) should be immediately activated by the crew. Each tank and non-tank vessel is required by 33 CFR 155 Subpart I and NVIC 01-05 CH-1, respectively, to develop a VRP. In addition to emergency procedures to be taken by the crew, these VRPs require the listing of resources that can be brought to the vessel's location within specific time frames. For tank vessels, the requirements cover distances out to 50 miles from shore. Non-tank vessels must identify a company with firefighting capabilities that will respond to vessel fires within 24 hours to the port nearest to where the vessel operates. These resources may be commercial, municipal, or a combination of the two.
- **Muster the crew.** Remove all nonessential personnel off the vessel and away from the scene. Make sure the master, mates and all engineering personnel remain where they can be used as an information resource.
- **Rescue.** Life safety must always be the first consideration in any fire or emergency situation. When lives are in danger, the IC must quickly assess whether the situation necessitates immediate removal of personnel, the number of persons that need to be extracted and the hazards to the rescue team.
- **Exposure.** The fire should be fought so as to prevent the spread of fire on or off the vessel. Typical exposures include flammable liquid or gas tanks, open stairways, explosives, or any other substance that would accelerate or aid the spread of the fire. Provided there is no danger of water reactivity, exposures are best cooled by application of a fog pattern until no visible steam is generated. For some two-dimensional surfaces foam may be an appropriate agent for exposure protection.
- **Confinement.** To accomplish proper containment, all closures and generally all ventilation (unless personnel are trapped inside the space) should be secured. Establish primary fire, smoke and flooding boundaries.

Primary boundaries are critical to the control of a fire. Monitor and cool the boundaries, as necessary, on all six sides of the fire (fore, aft, port, starboard, above and below).

- **Stability.** Vessel stability can be defined as its ability to right its self from an inclining position. During fire-fighting, excess water onboard can create flooding and free surface effect. This could prove disastrous for the vessel leading to list and even sinking. Since local fire services do not typically have training in this field, there is substantial risk that this could occur. This is the area of expertise that other response agencies will depend upon the USCG to contribute. The Salvage Engineering Response Team (SERT) is available 24/7 to provide professional advice and provide technical solutions. Tank vessels, or non-tank vessels over 400 GT or more, Primary Resource Provider is required to have the ability to determine vessel stability within the planning timelines listed in their vessel Response Plan. At a minimum one should refer to NFPA 1405.
- **Extinguishment.** The fuel source, amount of fuel/surface area and the location of the fire will determine the tactics and agents to be used.
- **Overhaul.** Ensuring that the fire will not re-flash and determining the point of origin and source of ignition. A detailed photographic record of the fire scene prior to commencing overhaul is a necessity to aid in post fire investigations.
- **Ventilation.** Generally, all ventilation on a vessel will initially be secured upon receipt of a fire alarm. Utilization of ventilation tactics to aid in extinguishment should not begin until a coordinated attack is staged.

8131 Burning Vessel Movement Considerations

A crucial decision that must be made by the COTP is whether or not a burning vessel should be allowed to enter or move within the port. Types of vessel movements that may be required in an emergency include movement from sea to an anchorage or a pier; from an anchorage to a pier; from a pier to an anchorage; grounding a vessel; or scuttling a vessel offshore.

These vessel movements should be thought out in advance and rehearsed as often as possible to ensure a rapid and considered response in the event of a real incident. Section 9410, Places of Refuge provide much of the details needed to determine moorage, anchorage, grounding or scuttling sites, and response efforts.

8131.1 Decision to Allow a Burning Vessel to Enter Port or Move within the Port

Due to the limited resources available to fight an offshore fire, the COTP may consider allowing a burning vessel to enter port. The numerous considerations that are part of this decision can be found below, as well as in Volume VI, Chapter 8, of the Marine Safety Manual (MI6000.11) and Section 9410. In addition, the Owner/Operator/Agent should be contacted concerning liability and surety bonds should be reviewed and considered as part of this decision.

The amount of information and number of considerations may seem too complicated to resolve in an emergency, but it is important that a thorough analysis of all risks be conducted. An overall perspective is needed to prevent concern for a single vessel from narrowing our vision. A burning vessel is only a small part of the resources (other ships, ports, facilities, personnel, and marine environment) that must be protected. The COTP should approach such an incident by considering the navigable waterways as a system used by various parties for transportation, recreation, and commerce. The most important consideration must be how the life safety and the effect on the maritime system. A burning vessel must be considered as only a single element within that system. The COTP must not jeopardize the other elements to save a single vessel, if the risk to the system is too great. The possibility of having a ship sink in a key navigation channel, thus blocking it, or spreading the fire to a waterfront facility, must be evaluated.

There are numerous considerations that the COTP should evaluate when faced with the decision of whether or not to allow a burning vessel to enter or move within a port. The following information should be gathered and considered prior to making such a decision:

a. location and extent of fire;
b. status of shipboard fire-fighting equipment;
c. class and nature of cargo (HAZMAT);
d. possibility of explosion;
e. possibility of vessel sinking/capsizing;
f. hazard to crew or other resources where vessel is present;
g. forecasted weather (including bar conditions if applicable);
h. maneuverability of the vessel (i.e. Is it a dead ship, etc.);
i. availability (and willingness) of assist tugs;
j. effect on bridges under which the vessel must transmit;
k. potential for the fire to spread to the pier or pier structures;
l. fire-fighting resources available ashore and offshore;
m. consequences/alternatives if the vessel is not allowed to enter or move;
n. potential for pollution.

The above considerations should be investigated by the fire department chief and COTP by examining the vessel and her cargo manifest before the vessel is allowed to enter port or move within the port. The COTP should make a decision only after consultation with the appropriate Fire Department Chief, Port Director, local government officials (i.e. Mayor, Director of Emergency Services), vessel owner's agent, and other experts depending on the circumstances.

Entry to port or movement may be <u>permitted</u> when:

a. the fire is already contained or under control,
b. there exists little likelihood that the fire would spread,
c. a greater possibility exists that fire could and would be readily extinguished with available equipment in port before encountering any secondary hazards of explosion or spread of fire

d. all relevant parties consulted.

Entry to port or movement may be denied when:

a. there is a greater danger that the fire will spread to other port facilities or vessels,
b. the likelihood of the vessel sinking or capsizing within a navigation channel, and becoming an obstruction exists,
c. the vessel might become a derelict,
d. unfavorable weather conditions preclude either the safe movement of the vessel under complete control or would hamper fire-fighting (look for high winds, fog, strong currents, etc.),
e. risk of a serious pollution incident by oil or hazardous substances exists; the COTP, in conjunction with USCG D13 and the Regional Response Team 10 (RRT10), shall assess the pollution risks and determine whether they are to be ordered to proceed to sea to reduce the pollution hazards.

Additional considerations:

a. safety broadcast and Notice to Mariners,
b. ordering the movement of other vessels or cargo that may be impacted,
c. locating the vessel to best facilitate use of available resources.

8132 Offshore Firefighting Considerations

In addition to the problems associated with any shipboard fire, an offshore incident is further complicated by the poor flow of information and difficulties in supplementing the vessel's fire-fighting resources. Reports from the vessel may be confusing due to the language difficulties or the simple fact that the crew is too busy fighting the fire to provide detailed information. Until additional resources can be brought to bear, the vessel's fire-fighting equipment and crew will be the only resources available. Tank vessels, or non-tank vessels over 400 GT or more, Primary Resource Provider is required to have firefighting and salvage assets and personnel on scene within the planning timelines listed in their vessel Response Plan. Additional resources in the form of public or private vessels may not be close enough to respond in a timely manner and may be ill equipped to provide significant assistance. Therefore, the farther offshore a burning vessel is the less external aid it shall receive, but the less impact it has on vessel traffic and port operations. The closer to shore or a port a burning vessel is the more aid it is likely to receive, while its impact on vessel traffic and port operations is greater. In both cases, SAR would be Coast Guard's most common response.

8132.1 United States Coast Guard Offshore Resources

During an offshore fire, ships and aircraft become important resources. USCG aircraft may provide a timely source of information during the early stages of a response and can be used for personnel or equipment transfers. USCG vessels are limited in their ability to assist in a shipboard fire, but are much better equipped than commercial vessels and have damage control teams that are drilled regularly in shipboard fire-fighting. In addition to improving communications, larger USCG vessels with flight decks can be used to stage equipment flown to the

scene. Strike Force personnel and equipment can be useful in fire-fighting and dewatering evolutions. All requests for USCG equipment (including ships and aircraft) and supplies, whether from within the COTP Puget Sound area or not, should be directed to the USCG D13 Command Center.

8132.2 United states Department of Defense Offshore Resources

Fire-fighting equipment may be available from various United States Department of Defense (DOD) sources. In addition to the transportation capabilities, DOD aircraft and vessels can be invaluable in an offshore fire situation for the same reasons discussed for Coast Guard assets. The possibility of Naval or Army Corps of Engineers vessels operating in the vicinity which can assist should not be overlooked. All requests for DOD assistance should be made to the DOD representative on the RRT 10, via the USCG D13 Chief of the Marine Safety Division.

8332.3 Other Offshore Resources

Any ship becomes a valuable resource during an offshore vessel fire, even those with small crews and minimal fire-fighting capability. At a minimum, another vessel can provide a means of escape for a burning vessel's crew should their efforts to control the fire fail.

Vessels in the area may be notified of a situation via Automated Mutual Assistance Vessel Rescue System or with a Broadcast Notice to Mariners. Tug companies in the vicinity may assist in fighting the fire, moving a dead ship or transporting equipment. While few vessel operators would be reluctant to assist in a life-threatening situation, vessel owners may not be willing to respond to a fire-fighting situation that could risk their vessels or crew in order to protect a ship or cargo once the crew is safe.

8132.4 Offshore Scuttling Area Selection

If a vessel cannot be safely moved to a port, and it is possible that the vessel and cargo could be lost (either intentionally or not) the vessel should be moved to an area where environmental damage will be minimized. The information in this section should be reviewed to identify the best area to move the vessel. The Environmental Protection Agency should also be consulted on any decision concerning scuttling of a vessel. Scuttling must be conducted in agreement with COMDTINST 16451.9.

8133 Positioning a Vessel for Firefighting

This section addresses the positioning of a vessel that is on fire while underway, or a vessel that is docked. No vessel on fire should be moved without the permission of the COTP, except under the most urgent conditions.

The success or failure of a shipboard fire response effort will, in large part, be determined by the vessel's location. The likelihood of successfully fighting a fire on a remotely located vessel is small compared to a vessel located near sufficient sources of fire-fighting resources

8133.1 Fire Suppression Berths

Several considerations enter into the selection of piers as a location:

- Paramount is the combustibility/flammability of pier structures and contiguous facilities,
- Availability of adequate volumes and pressure of fire protection water
- Access to response boats and vehicles,
- Minimizing risk of impeding navigation, and
- Risk to nearby vessels and facilities.

Much of the information needed to determine the suitability of a facility is in the facility file maintained by the Sector Puget Sound Prevention Department.

8133.2 Anchorage and Grounding Site Selection

When choosing anchoring or grounding locations, some of the same factors must be considered, as well as its effect on navigation and minimizing the risk to surrounding communities and to the environment. The possibility of the vessel sinking or becoming a derelict is very real and could prove a greater harm to the marine system than the loss of the single vessel. Commandant Instruction 16451.9 and Section 9410 provides additional considerations. The initial considerations are:

- **Bottom material.** soft enough so that the ship's hull will not be ruptured;
- **Water depth.** shallow enough so that the vessel could not sink below the main deck level, yet deep enough so that fire boats, salvage barges, and tugs can approach; tides and other river level fluctuations must be considered;
- **Area weather.** do not choose areas known to have strong winds or currents that could hamper fire-fighting or salvage efforts.
- **Location.** Accessibility to firefighting, spill response and salvage assets.

The location and suitability of boat ramps and piers to be used as staging areas must also be evaluated when considering grounding or anchorage sites.

8140 Planning

USCG policy advocates extensive use of contingency plans as tools to assist local commanders in accomplishing their many tasks. However, the development of an Incident Action Plan in an Incident or Unified Command environment will usually be necessary to plan for and implement specific firefighting tactics to meet the actual demand of specific incidents.

8141 Puget Sound Marine Firefighting Commission

The Puget Sound Marine Firefighting Commission (PSMFC) consists of Puget Sound area port and city fire departments, maritime industry and labor representatives, and maritime associations, with advisory members from the USCG, Washington State Fire Marshall, Occupational Safety and Health

Administration and other agencies. The PSMFC develops marine firefighting training, provides equipment caches, and works to expand marine firefighting response policies.

8150 Finance

The Washington State Resource Mobilization Plan will be followed for cost documentation and recovery. The COTP has the ability to request opening the United States Oil Spill Liability Fund or Comprehensive Environmental Response, Compensation, and Liability Act if a substantial threat to the environment, public health or welfare is determined.

8160 Logistics

Equipment lists and contact points for various port areas are included in this document. Equipment lists can also be found at: http://www.rrt10nwac.com/Equipment.aspx (It is recommended that response team members print the equipment lists that pertain to their areas.)

8161 Communications

Connecting interagency radio frequencies may and probably will require an exchange of radio equipment. Communication obstacles inherent in a multi-agency task will be minimized by strict radio discipline and adhering to the chain of command built into the ICS.

Landline and cellular phones can help facilitate communications between agencies. It is extremely important when relaying information through third and fourth parties by telephone that the information received is expeditiously forwarded to the appropriate agency or individual. All operational significant information received over this medium should also be forwarded to the IC.

8162 United States Coast Guard Frequencies and Resources

Refer to Communications Section 9501 in this plan.

8163 Resource Lists

COTP Zone: Sector Puget Sound, WA
Regional Marine Firefighting Resources

Port/Harbor Area: Anacortes, WA

Resource	Capabilities	Quantity	Owner/POC	Location	Phone No.	Comments
Fireboats						
PD Boat	250 gpm	1	Anacortes PD	Santa Marina	(360)428-3211	32-foot inner harbor
Swinomish Tribal PD	250 gpm	1	Swinomish Tribe	Shelter Bay / La Conner	(360)428-3211	32-foot inner harbor

Port/Harbor Area: Bellingham, WA

Resource	Capabilities	Quantity	Owner/POC	Location	Phone No.	Comments
Fireboats						
Salish Star	3000 gpm	1	Bellingham FD	Squalicum Harbor	(360) 676-6814	38ft, Draft 22in, 30-gal Foam Concentrate

Port/Harbor Area: Seattle, WA

Resource	Capabilities	Quantity	Owner/POC	Location	Phone No.	Comments
Fireboats						
Chief Seattle	10,000 gpm	1	Seattle FD	Station 3	(206) 386-1498	96.5ft, Draft 7ft, 700gal AFFF
Leshi	22,000 gpm	1	Seattle FD	Station 5	(206) 386-1498	108ft, Draft 10ft, 8 foam capable monitors, 6k gals Novacool
Fireboat 1	6,000 gpm	1	Seattle FD	Station 3	(206) 386-1498	50ft, Draft 26in, 204gals Foam Concentrate
Fireboat 2	6,000 gpm	1	Seattle FD	Station 5	(206) 386-1498	50ft, Draft 26in, 204gals Foam Concentrate
Fire Rescue boat 5	Water rescue	1	Seattle FD	Station 5	(206) 386-1498	28ft Safeboat, High speed water rescue

Seattle Firefighting Department may respond to maritime fires outside their jurisdiction as requested by USCG as a Regional Resource via a Mutual Aid request

Port/Harbor Area: San Juan County/Friday Harbor

Resource	Capabilities	Quantity	Owner/POC	Location	Phone No.	Comments
Fireboats						
Sentinel	1500 gpm	1	San Juan Island Fire and Rescue	Friday Harbor Marina	360-378-4141	38ft, Draft 3.5ft, Landing Craft. Available to Whatcom, Skagit, and Island Counties and the Canadian Gulf Islands

Port/Harbor Area: Tacoma, WA

Resource	Capabilities	Quantity	Owner/POC	Location	Phone No.	Comments
Fireboats						
Commencement	7100 gpm	1	Tacoma FD	Thea Foss Waterway	(253) 627-0151	70 feet, Draft 3.5 feet (on cushion), 2 under-dock monitors
Defiance	7000 gpm	1	Tacoma FD	Des Moines Marina	(253) 627-0151	50 ft Jet Drive, 100 gal AFFF
Destine	1750 gpm	1	Tacoma FD	PT Defiance	(253) 627-0151	30 ft Jet Drive, 15 gal AFFF

Other Resources
FEMA Comms Van
Major Airports – 50000 to 100000 gallons of AFFF foam. Tacoma Fire Dept, Mobile Cascade Air Recharging System.

Shortfalls Identified:

1. Regional shortfall of marine qualified firefighters.
2. Lack of MAA's. NONs or MOUs in place to share personnel or equipment.
3. Lack of MAAs to obtain materials from Boeing or Airports.
4. Lack of stable funding source for training, exercises, and response.
5. 24-Hour central information depository for vessel plans, manifests, personnel, vsl capability.
6. On-scene cross agency communications coordinated.

Puget Sound Salvage Resources:

	Barges	Cranes- Gantry (fixed)	Cranes - tracked, wheeled, mobile, telescoping	Cranes - floating	Cranes- Truck	Demolition, construction	Dewatering/pumping	Diving (commercial)	Lightering	Marine Construction Equipment, Marine Heavy Lift	Marine Firefighting	Towing – Rescue (Large- over 300 FT)	Towing- Rescue (Medium – commercial)	Towing – Rescue (Small)	Contact information & Comments
Able Clean-up Technologies POC: Jason Moline Kipp Silver							X	X							509-466-5255 Spokane, WA 2 Small Boat, 3 Vacuum Trucks, Divers, Dewatering Pumps, Boom. jmoline@ablecleanup.com
Anderson Island Fire											X			X	253-588-5217 (dispatch) Oro Bay, WA 44ft SAR/LE Boat 34ft and 32 ft boats for patient xfers
Ballard Diving & Salvage POC Eric Muller							X	X		X					Ph: 360-991-5226 Ballard, WA Divers, Small Boats, Hyperbaric Chamber, Lift Bags, Underwater Cutting and Welding, Boom. Eric.muller@ballardmc.com
Boyer Towing Inc. POC Boyer Halvorsen	X						X					X			206-763-8696 Seattle, WA 13 Tow Boats, 15 Barges boyerh@quest.net boyer@boyertowing.com jim@boyertowing.com
Cowlitz Clean Sweep POC William Kannelly							X								360-423-6316 888-423-6316 (24-hour) Longview/Astoria, OR Dewatering Pumps, Pressure Washer, Boom, wet/dry vacuum trucks william@pnecorp.com
Clean Rivers Coop POC Curtis Cannizzaro	X						X							X	503-220-2099 503-220-2040 (24-hour) Portland, OR Small Boats, Pumps, Skimmers, Shallow Water Barges cannizzaro@pdxmex.com

	Barges	Cranes- Gantry (fixed)	Cranes - tracked, wheeled, mobile, telescoping	Cranes - floating	Cranes- Truck	Demolition, construction	Dewatering/pumping	Diving (commercial)	Lightering	Marine Construction Equipment, Marine Heavy Lift	Marine Firefighting	Towing – Rescue (Large- over 300 FT)	Towing- Rescue (Medium – commercial)	Towing – Rescue (Small)	Contact information & Comments
Crowley Marine Services POC Scott Craig	X						X		X		X	X	X		206-332-8000 Seattle, WA 9 Tow Boats, 4 Barges normally avail. Scott.Craig@crowley.com
Des Moines Fire Dept.														X	253-839-6234 Des Moines, WA 30ft SAR Boat
Dunlap Towing POC Justin Avril	X						X				X	X	X	X	425-259-4163 La Conner, WA 14 Ocean Tugs, 17 General Tugs, 8 Barges javril@dunlaptowing.com
Foss Maritime Co POC Scott Merritt	X						X				X	X	X	X	206-281-3800 Seattle, WA 6-8 Harbor Tugs, 3-4 Ocean Tugs, 5 Barges avil daily jlecato@foss.com
General Construction Company POC Andrew Holt	X		X	X		X	X			X					206-938-6750 Seattle, WA 11 Heavy Lift Derricks (37 to 700 Tons) 14Land Cranes (40 to 230 Ton), 36 Dump Barges, 3 Spud Barges, 62 Sectional Barges gcc.info@kiewit.com
Gig Harbor PD Marine Patrol														X	253-851-2236 Gig Harbor, WA 16ft SAR/LE Boat
Global Diving and Salvage POC Sarah Burroughs						X	X	X	X						206-623-0621 SeaTac / Anacortes, WA Divers, Pumps, Boom, Manpower, Sorbent Pads sburroughs@gdiving.com
Islands' Oil Spill Association POC Jackie Wolf														X	360-378-5322 360-378-4151 sheriff dispatch San Juan Islands, WA Small Boat, Small Pumps, Boom qamar@rockisland.com

	Barges	Cranes- Gantry (fixed)	Cranes - tracked, wheeled, mobile, telescoping	Cranes - floating	Cranes- Truck	Demolition, construction	Dewatering/pumping	Diving (commercial)	Lightering	Marine Construction Equipment, Marine Heavy Lift	Marine Firefighting	Towing – Rescue (Large- over 300 FT)	Towing- Rescue (Medium – commercial)	Towing – Rescue (Small)	Contact information & Comments
Island Tug and Barge POC David Stauffer	X						X				X	X	X	X	206-938-0403 Seattle, WA 8 Harbor Tugs, 2Ocean Tugs, 14 Barges dispatch@itbco.com
King County Marine Dispatch														X	206-477-3790 Lake Washington 36ft SAR/LE boat
Manson Construction POC Randy Thorsen	X			X		X				X					206-762-0850 Seattle, WA Derrick 24 (400 ton) 3 & 6 pmcgarry@mansonconstruction.com
Marine Spill Response Corp POC Michael Miller											X			X	425-304-1529 Anacortes, WA Boat, Boom, Trailers, Oil Skimmers miller@msrc.org
Mercer Island PD														X	206-236-3500 Union Bay, WA 30/37ft SAR/LE Boats
Olympic Tug and Barge POC Sven Chritesen	X						X				X	X	X		206-628-0051 Seattle, WA 25 Tug Boats, 16 Black Oil Barges (19K to 80K) SvenChritesen@Harleymarine.com
Pierce Sheriff Dispatch														X	253-471-4990 option 3 Narrows Marina, WA 32ft SAR/LE Boat
Port of Olympia Harbor Patrol Bruce Marshall							X				X			X	360-828-8049 360-239-4271 (after Hours) Budd Inlet, WA 19/25/27/and 31ft SAR/LE Boats Brucem@portolympia.com

	Barges	Cranes- Gantry (fixed)	Cranes - tracked, wheeled, mobile, telescoping	Cranes - floating	Cranes- Truck	Demolition, construction	Dewatering/pumping	Diving (commercial)	Lightering	Marine Construction Equipment, Marine Heavy Lift	Marine Firefighting	Towing – Rescue (Large- over 300 FT)	Towing- Rescue (Medium – commercial)	Towing – Rescue (Small)	Contact information & Comments
Port of Seattle Police POC Pat Addison							X				X			X	206-433-5400 Bell Harbor Marina, WA 40 ft Almar, Divers
Puget Sound Marine Firefighting Consortium											X				206-386-1498 45ft box trailer, stored at Station 36, Seattle. Misc Equipment
Seattle PD Harbor Patrol POC LT Von Levandowski														X	206-684-4071/4072 Shilshole, Lake Union, WA 19 (2)/31/38 (2)/40/45ft Boats Sonar and ROV Capabilities
NRC Environmental Services POC Tiffany Gallo					X	X	X		X						800-337-7455 Puget Sound, WA & Portland, OR OSRVs (3, 110'-165'), Boom, Skimmers, Vacuum Trucks, 6 Shallow Water Barges and 32K Barge jriedel@nres.com tgallow@nrcc.com
Tidewater Barge Lines POC Bill Collins	X											X	X		360-759-0306 14 Tugs, Portable Storage Tanks and Various Types of Barges bill.collins@tidewater.com
US Navy Region Northwest														X	360-315-5123 360-315-4322 Bremerton, WA Small Boats, Boom, Storage Tanks
US Navy SUPSALV															360-315-5123 360-315-4322 Bremerton, WA Boom, Ground tackle, Anchors, Mooring Systems
Vashon Fire Dept.														X	206-463-2405 Vashon Island, WA 44/11ft SAR Boats

	Barges	Cranes- Gantry (fixed)	Cranes - tracked, wheeled, mobile, telescoping	Cranes - floating	Cranes- Truck	Demolition, construction	Dewatering/pumping	Diving (commercial)	Lightering	Marine Construction Equipment, Marine Heavy Lift	Marine Firefighting	Towing – Rescue (Large- over 300 FT)	Towing- Rescue (Medium – commercial)	Towing – Rescue (Small)	Contact information & Comments
Vessel Assist Lake Washington POC Jeffery Pollen							X				X			X	206-793-7375 26 (2) and 30 ft Boats Lake Washington, WA
Vessel Assist Seattle/Everett POC Robert Anderson							X				X			X	253-759-9915 206-300-0486 Seattle, Eagle Harbor, WA Yates_98110@yahoo.com
Vessel Assist Tacoma/Everett							X				X			X	253-312-2927 253-759-9915 253-677-4165 Tacoma, WA 24 and 26 ft Boats
Worldwind Helicopters POC Vince Lopardo															425-271-8441 Renton, WA Several Rotary Wing Helo's VLopardo@wwheli.com

Note: Resources for maritime salvage are listed. Numerous resources for boat repairs, firefighting supplies, launch services, marine architects/chemist, repair facilities, and related services exist within the COTP zone. Additional resources can be found in the Western Region Resource List site http://www.rrt10nwac.com/Equipment.aspx .

Chapter 9000

Response Tools

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Region 10 Response Team and Northwest Area Committee Charter

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9101

Region 10 Response Team and Northwest Area Committee Charter

Oil and hazardous material spill response is a unique regulatory field where public trust demands a rapid, aggressive, and well-coordinated response action by federal, state, and responsible parties.

9101.1 RRT 10 and Executive Committee Membership

The RRT 10 is jointly chaired by the EPA and the U.S. Coast Guard District 13. The members of the RRT 10 include:

- United States Coast Guard (USCG), District 13;
- United States Environmental Protection Agency (EPA), Region 10;
- United States Department of Commerce (DOC) (National Oceanic and Atmospheric Administration [NOAA]);
- United States Department of Defense (DOD) (United States Navy);
- United States Department of Energy (DOE);
- United States Department of Health and Human Services;
- United States Department of the Interior (DOI);
- United States Department of Justice;
- United States Department of Labor (Occupational Safety and Health Administration);
- United States Department of Transportation;
- Federal Emergency Management Agency (Department of Homeland Security);
- General Services Administration State of Idaho, Office of Emergency Management;
- State of Oregon, Department of Environmental Quality;
- Washington State Department of Ecology;
- Makah Tribe;
- Yakama Nation; and
- Confederate Tribe of Coos, Lower Umpqua, and Siuslaw Indians.

To facilitate decision making, an Executive Committee is also formed and is composed of the RRT members and these additional representatives:

- USCG, Sector Columbia River;

- USCG Sector Puget Sound;
- United States Army Corps of Engineers;
- Washington State Military Department – Division of Emergency Management
- Washington State Department of Health
- Oregon State Fire Marshall
- Oregon Public Health Division
- Idaho Department of Health and Welfare

9101.2 Northwest Area Committee Membership

The NWAC is jointly chaired by the Captains of the Port for Puget Sound and Columbia River and EPA's Emergency Response Program Manager. Washington, Oregon, and Idaho lead response agency representatives serve as co-vice chairs. Other member-representatives include the following:

- DOC (NOAA);
- DOI;
- Other federal agencies, such as the United States Fish and Wildlife Service, United States Navy, United States Food and Drug Administration;
- Other state agencies, such as the Oregon State Public Health Officer, Oregon State Fire Marshal, Washington Department of Health, Washington Military Department Division of Emergency Management, Idaho Department of Environmental Quality, and Idaho Department of Health and Welfare;
- Local government agencies;
- Tribes;
- Nongovernmental organizations;
- Nonprofit organizations;
- Industry; and
- Response contractors.

9101.1.2 RRT and Area Committee Function

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) is the rule book for implementing the Comprehensive Environmental Response, Compensation & Liability Act and Oil Pollution Act of 1990. All response actions by the federal agencies must be consistent with the NCP. Since inception, the NCP has required federal agencies to develop and maintain Regional Contingency Plans. After the enactment of the Oil Pollution Act of 1990 (prompted by lessons learned from the Exxon Valdez oil spill), the NCP was updated to require Area Contingency Plans and Area Committees across the United States.

Region 10 has developed a consolidated plan whereby the United States Coast Guard (USCG), United States Environmental Protection Agency (EPA), member tribes and three Pacific Northwest states in the region sign on to one plan that meets the requirements for both a Regional Contingency Plan and three Area

Contingency Plans. Previous state and federal Regional Contingency Plans were shelved for an area-wide focus on one consolidated plan. Then Region 10 combined the RRT meetings with the Area Committee meetings. The resulting RRT/Area Committee plan is written to apply to both organizations jointly.

9101.1.3 Relationship of RRT to NWAC:

The RRT has two roles specified in the NCP:

1. Support the Federal On-Scene Coordinator (FOSC) during incident-specific activations.
2. Ensure effective regional planning and preparedness.

The Northwest Area Committee is fully functional and effective at multi-agency joint planning and preparedness, and the RRT's primary focus is on preparing for incident-specific activations and planning for support of the FOSCs. RRT Co-Chairs and all RRT members are encouraged to attend the Area Committee meetings, in order to support and maintain familiarity with FOSC and State On-Scene Coordinator issues and concerns.

9101.1.4 RRT and Area Committee Meetings

The decision to form the joint Executive Committee and hold joint meetings was made around 2002. There are at least three joint meetings per year, each a day and a half long. The joint meetings are moved around the region in an attempt to maintain a presence and outreach to as many local responders as possible. The Northwest Area Committee Co-Chairs and Vice-Chairs hold additional meetings in their Sectors or subareas to supplement the three annual combined meetings. The objective of the meetings is to engage with local officials and responders from the local area where the meeting is held.

See a brief overview of the two-day combined meeting agendas below:

Day 1: Half day session with RRT 10/NWAC Executive Committee. The Executive Committee meeting is open to the NCP-designated RRT members, Area Committee Co-Chairs, and any other agency representatives invited by them. At the end of the half-day meeting, there is the option of a closed-door session for NCP-designated RRT members only, where sensitive issues may be discussed. Any NCP-designated RRT member may raise issues for discussion during the closed-door session. All RRT member agencies should have a representative at these half day Executive Committee and closed-door RRT sessions.

Day 2: Full day Area Committee meeting, hosted by EPA, USCG Captain of the Port, and States. The objective is to engage with local officials and responders from the local area where the meeting is held. This provides an opportunity for the EPA, Captain of the Port, and State that are hosting the meeting to create a meeting agenda that will be interesting and worthwhile for their local community. This meeting is open to everyone.

All members have voice and vote at all Area Committee proceedings. Robert's Rules of Order govern all meetings. Motions are carried by a simple majority of votes cast by member agencies, but most decisions are arrived at by consensus. The Area Committee meets as determined by the membership but at least semiannually. The Area Committee does not constitute a formal Federal Advisory Committee; therefore, each agency is responsible for funding its own participation.

9101.3 Steering Committee

The Steering Committee is responsible for ensuring that the NWACP/Regional Contingency Plan (RCP) remains a valuable response tool for local, state, and federal responders in the Northwest Area. At the direction of the RRT and NWAC, the Steering Committee shall undertake efforts to review and improve the NWACP/RCP, conduct outreach activities to increase the general understanding of the NWACP/RCP, and make recommendations to the RRT and Area Committee regarding planning and preparedness activities. The Steering Committee is also responsible for coordination of task forces and ensuring assigned tasks are carried out. The following is a list of the primary duties the Steering Committee is responsible for in coordinating the task forces:

- Work with the RRT/NWAC Executive members to identify work priorities and a schedule for completion;
- Assign projects and track task force progress;
- Review task force work plans to assure they reflect Steering Committee priorities and are kept up to date;
- Assure each task force has an appointed contact on the Steering Committee; and
- Coordinate the development of new task forces as needed and as directed.

The Steering Committee includes members from EPA; USCG (District 13, Sector Puget Sound, and Sector Columbia River); the States of Idaho, Oregon, and Washington; NOAA; DOI; the Navy and the Makah, and the Confederate Tribe of Coos, Lower Umpqua, and Siuslaw Indians, EPA and USCG District 13 currently co-chair the Steering Committee.

9101.3.1 Task Forces, Subcommittees and Work Groups

Task forces are formed for short-term projects addressing specific issues. They may be formed at the direction of the Executive Committee members or the Steering Committee as needed. Subcommittees and Work Groups may be established to work on longer-term projects. The NWAC/RRT Executive Committee sponsor one NWAC Summit each year in which Area Committee members gather and determine which planning priorities should be addressed for the upcoming NWACP update. A task force is formed for each planning priority. After a specified planning issue has been addressed, the task force is disbanded. The Steering Committee coordinates all task force work.

9101.4 Summary of RRT/NWAC Organizational Groups:

- Workgroups: Work in subject areas that require ongoing attention to improve both the NWACP and the function of the RRT/NWAC. Area planning developments should be memorialized in the NWACP if appropriate. The workgroups report to the Steering Committee.
- Subcommittees: Work in subject areas that require ongoing attention to improve both the NWACP and the function of the RRT/NWAC. Area planning developments should be memorialized in the NWACP if appropriate. May work for the RRT or the Area Committee, may be assigned a sponsor. Will work under a signed charter and report as assigned to either the RRT, Area Committee chairs and co-chairs or the Steering Committee.
- Task Forces: Work on specific issues that have a limited scope and a clear end point. The task forces report to the Steering Committee.
- Steering Committee: Guides the preparedness work of the Area Committee and the RRT task of preparing to support the FOSCs. Ensures that workgroup and task force efforts are meeting the needs of the Executive Committee. Frames decision points for the Executive Committee. Manages the annual update to the NWACP.
- RRT Coordinators: Designated to coordinate the work of the RRT, which includes preparedness and planning responsibilities. In R10, the RRT Coordinators from EPA and USCG District 13 also serve as the Co-Chairs of the Steering Committee.
- Area Committee Co-Chairs and Vice-Chairs: Acts as representatives for their agency and approve RRT/NWAC policy and procedures. Ensures that the steering committee, workgroups, and task forces are enhancing their ability to respond. Ensures that responses are conducted in accordance with the NWACP.
- RRT Co-Chairs: Ensures that the RRT is ready to fulfill its NCP obligations. Ensure that adequate area planning is conducted.
- Executive Committee Members: Ensures that NWACP policies and procedures appropriately incorporate the expertise and capabilities each agency provides.

Section 9105

Incident Specific Region 10 Regional Response Team Activation – Quick Response Guide

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Incident Specific Region 10 Regional Response Team Activation – Quick Response Guide

9105.1 Purpose

This document provides the process and guidelines for activation of an incident-specific Region 10 Response Team (RRT, in accordance with the National Contingency Plan (NCP).[1]

9105.2 Background

The RRT has duties, as outlined in the NCP, to provide support during a response to an oil or hazardous substance spill or release. The NCP provides information concerning what conditions should exist for the RRT to be activated and what services would likely be expected during activation.

> ***NOTE:*** This document provides guidelines on the procedures for activation of an incident-specific team and is not intended to inhibit or impede agency-to-agency requests. The role of the incident-specific team is determined by the operational requirements of the response to a specific discharge or release. Participation by RRT members will relate to the technical nature of the incident and its geographic location.

9105.2.1 Tasks Directed to the Regional Response Team

- Monitor and evaluate reports from the On-Scene Coordinator (OSC); advise the OSC on the duration and extent of response; recommend specific response actions;
- Request other federal, state, and local governments, or private agencies, to provide resources under their existing authorities;
- Help the OSC prepare information releases for the public and for communication with the National Response Team (NRT);
- Review major policy issues with regard to response actions for:
    - Dispersants usage in Case-by-Case areas

[1] National Oil and Hazardous Substance Contingency Plan (NCP), 40 Code of Federal Regulations, Part 300, September 15, 1994

  - *In-situ* burning
  - Use of surfactant cleaners
  - Use of solidifiers
  - Use of bioremediation
- If circumstances warrant, make recommendations to the regional or district head of the agency providing the OSC that a different OSC should be designated; and
- Submit reports to the NRT as significant developments occur.

RRT COMPONENTS:

Standing RRT - Role of the standing RRT includes evaluation of communication systems and procedures, planning, coordination, training, evaluation, preparedness, and related matters on a region-wide basis.

Incident-specific RRT- Formed from the standing team when the RRT is activated for response.

The role of an incident-specific RRT is determined by the operational requirements of the response.

- May be activated when response exceeds capabilities of the area where it occurs, transects state boundaries, or may pose a substantial threat to public health or welfare or the environment.
- May also be activated upon a request by the Federal On-Scene Coordinator (FOSC) or any RRT representative.
- May be used to assist the FOSC in obtaining additional federal resources.
- May also monitor and evaluate reports from the FOSC, advise the FOSC on the duration and extent of the response, recommend specific actions related to the response, assist the FOSC in preparing information for the public, and, if necessary, recommend the appointment of a different FOSC for the response.

	SECTION 1. Type of Situation:
□	Has there been a request by the Federal or State On-Scene Coordinator to the RRT Co-Chair lead agency (with jurisdiction) to activate the RRT?
□	Has there been a request by an RRT member to the RRT Co-Chair lead agency (with jurisdiction) to activate the RRT?
□	Has there been an oil discharge or hazardous material release that may pose a serious threat to the public health, welfare, the environment, or to regionally significant amounts of property?
□	Is the incident an oil discharge or hazardous material release that is or has the potential to be a worst case discharge,[2] (determined by the Responsible Person in Charge or other Unified Command member)?
□	Other:
	SECTION 2. Chairs of the Incident Specific RRT?
	Chaired by lead Agency (agency that provides FOSC for spill)
□	U.S. Environmental Protection Agency
□	U.S. Coast Guard
□	U.S. Department of Defense
□	U.S. Department of Energy

[2] Worst Case Discharge planning volumes are calculated using specific formulae depending on the source of the release outlined in relevant regulations, and are typically based on maximum storage, transfer and production volumes as well as pump rates or oil types: Vessels - 33 Code of Federal Regulations (CFR) 155 Appendix B; Onshore Storage and Production Facilities - 40 CFR 112, App D; Onshore Pipelines – 49 CFR 194.105; Offshore Facilities – 30 CFR 254.47

	SECTION 3. RRT Activation Process:	
□	Step 1: On-Scene Coordinator or designated representative provides a brief summary of issues to either U.S. Environmental Protection Agency (EPA) or U.S. Coast Guard (USCG) RRT Co-Chair (determined by jurisdictional boundaries).	
□	Step 2: The RRT Lead Agency Co-Chair, in consultation with others as needed, decides to activate the RRT and identifies participating agencies. Select participating agencies below:	
	Co-Chairs ☐ USCG District 13 ☐ EPA, Region 10 **Members** ☐ Department of Agriculture (United States Forest Service) ☐ Department of Commerce (National Oceanic and Atmospheric Administration) ☐ U.S. Department of Defense (Army Corps of Engineers) ☐ U.S. Department of Energy ☐ U.S. Department of Justice ☐ U.S. Department of Labor (OSHA) ☐ U.S. Department of Transportation ☐ Federal Emergency Management Agency ☐ U.S. Department of Health and Human Services ☐ U.S. Department of Interior	**Area Committee Members** ☐ United States Fish and Wildlife Service ☐ United States Navy ☐ Federal Highway Administration ☐ USCG Sector Columbia River and Sector Puget Sound ☐ Oregon State Public Health ☐ Oregon Emergency Management ☐ Oregon Office of State Fire Marshal ☐ Washington State Department of Health ☐ Washington Military Department ☐ Idaho Department of Health and Welfare **Tribes** ☐ _____ ☐ _____ **Other** ☐ _____

	☐ General Services Administration ☐ State of Idaho, Office of Emergency Management ☐ State of Oregon, Department of Environmental Quality ☐ State of Washington, Department of Ecology ☐ Food and Drug Administration ☐ Makah Tribe ☐ Yakama Nation	
□	Step 3: RRT Lead Agency Chair directs staff (RRT Coordinators/Command Centers) to set up a phone conference to formally initiate activation. (Using the National Response Center or other connection to set up teleconference line for number of members expected to call in, see Section 6). **Call-in Time,** **Number:**_____	
□	Step 4: RRT Lead Agency Co-Chair initiates an activation meeting for all participating members (see Section 7, "Points of Contact").	
	☐ Staff directed to **call and email** or fax all members expected to participate in the activation with the teleconferencing information and a short synopsis of the situation. (See attached example).	
	☐ All other members of the RRT and affected states are to be notified by e-mail with a general synopsis of the situation.	
□	Step 5: During the initial phone conference, the RRT Lead Agency Co-Chair has available and will provide the following information:	
	☐ Designation of lead agency Co-Chair for the activated RRT.	
	☐ Reason for and background of the activation;	
	☐ Status of the incident and the response, as known;	
	☐ Relevant RRT activities to date;	
	☐ The agencies/states involved and why they were selected;	

	☐ For all cases that involve dispersant decisions the following citation from the National Contingency Plan should be read for clarification: **40 Code of Federal Regulations (CFR) 300.915*(b)*** *For spill situations that are not addressed by the preauthorization plans developed pursuant to paragraph (a) of this section, the OSC, with the concurrence of the EPA representative to the RRT and, as appropriate, the concurrence of the RRT representatives from the states with jurisdiction over the navigable waters threatened by the release or discharge, and in consultation with the DOC and DOI natural resource trustees, when practicable, may authorize the use of dispersants, surface washing agents, surface collecting agents, bioremediation agents, or miscellaneous oil spill control agents on the oil discharge, provided that the products are listed on the NCP Product Schedule.*
	☐ For all cases that involve in-situ burning decisions the following citation from the National Contingency Plan should be read for clarification: **40 CFR 300.915 (c)** *The OSC, with the concurrence of the EPA representative to the RRT and, as appropriate, the concurrence of the RRT representatives from the states with jurisdiction over the navigable waters threatened by the release or discharge, and in consultation with the DOC and DOI natural resource trustees, when practicable, may authorize the use of burning agents on a case-by-case basis.*
□	Step 6: The Lead Agency Co-Chair of the activated RRT will lead discussions and decisions on the following:
	☐ Specific information and assistance requests to be made to other agencies and states by the incident-specific RRT and the point person for those activities.
	☐ Communication mechanism and schedule for briefing participating member agencies/states with planned response actions from Unified Command.
	☐ Identification of the Incident Command Center responsible for support of the activated RRT (i.e., EPA, Commander of USCG District13 or State Operations Centers).
	☐ Prioritization of requests and **established deadlines** for completion of tasks.
	☐ Identification of point of contact for providing updated information to each member agency/state.
	☐ Dissemination of Lead Agency Co-Chair's 24 hour contact information.
	☐ Establishment of schedule for future conferences.
□	Step 7: RRT Lead Agency Co-Chair continues to conduct and lead meetings, conferences, briefings, etc. as needed and take responsibility for action on requests to/from the RRT.

	Next Meeting(s) Date/Time:
	SECTION 4. Does the NRT Need to be Notified?
□	The decision to notify the NRT for advice/input will be determined by EPA and USCG RRT Co-Chairs. Conditions:
	☐ Insufficient national policy guidance on a response-related issue.
	☐ A technical matter requiring a solution, or a question concerning interpretation of the National Contingency Plan.
	☐ A disagreement on discretionary actions among RRT members that cannot be resolved at the regional level.
	☐ National Response Team notification is made through the National Response Center with the request for National Response Team notification (800) 424-8802)
	SECTION 5. Termination of Incident-Specific RRT:
	☐ Initiated by the lead Agency Co-Chair, in consultation with the RRT, and OSC/RPM, after assumed tasks have been completed and RRT involvement is no longer considered necessary.
	☐ Staff is directed to brief all members of RRT of incident-specific termination.
	SECTION 6. Conference Call Services
	The National Response Center is equipped and ready to provide conference call services. Simply call **1-800-424-8802**. You will need to provide a point of contact, number of participants, time, and duration of call. They will provide a phone number for the participants to call into ("meet-me" conference).
	SECTION 7. Points of Contact:
	Use Current Member Contact List on RRT 10 internet private site. (http://private.rrt10nwac.com/)

9105.3 RRT Activation Example E-Mail/Message

SUBJ: Activation of RRT 10 for EPA Thermo Fluids response in Portland, OR-TODAY @ 10 am Pacific

TO: ***Region 10 RRT*** –

EPA Region 10 Federal On-Scene Coordinators (FOSCs) Michael Szerlog and Dan Heister are requesting an activation of RRT 10 to discuss funding issues that have arisen during our response to the Thermo Fluids fire that occurred on Monday, March 15th in Portland, Oregon. The purpose of this Incident Specific RRT activation is to make the RRT aware of the funding issue and address the possibility that RRT 10 will need to inform the NRT of this issue, if necessary.

A conference call line has been set up for 10 - 11:30 am Pacific time today and the call in number is 202-267-2174.

While the entire Region 10 RRT is welcome to join in on the conference call, the specific agencies being requested for this activation are:
U.S. EPA
U.S. Coast Guard, District 13
U.S. Department of the Interior
U.S. Department of Commerce (NOAA)
State of Oregon
State of Washington
State of Idaho

Also, due to the EPA/USCG jurisdictional boundary on the Willamette River (Oregon City Falls), we would like to request that Associate RRT Member Sector Columbia River also be included in the activation (see below for further discussion).

Background:
After Oregon DEQ's request for assistance, EPA began its response to the fire and resulting oil release into Johnson Creek, a tributary to the Willamette River, on Monday afternoon, March 15th. The fire had broken out earlier in the day. Although the responsible party is conducting much of the response work, EPA is directing the response as required by the NCP. The Oil Spill Liability Trust Fund was opened to initiate EPA's response. A Pollution Removal Funding Authorization was also issued by the FOSC to U.S. Fish and Wildlife Service for assistance in protecting fish and wildlife species and habitat in the area.

Shortly into the response, the presence of hazardous substances (acid and asbestos) was also identified, and EPA has initiated a concurrent CERCLA assessment, with CERCLA funding, to evaluate the potential threat caused by these hazardous substances. The majority of the response efforts have been and continue to be focused on protection of Johnson Creek and the Willamette River from the impacts of the released petroleum products.

Although this is a waste oil facility, analytical results do not indicate significant amounts of any CERCLA hazardous substances in the oil.

Below is the email from the National Pollution Funds Center (NPFC) documenting the freezing of oil spill funds for this response.

EPA has set up a web site for the Thermo Fluids response. The web site also includes the POLREPS that have been developed to date. Please do not release this web site to the public at this time.

http://www.epaosc.org/site_profile.asp?site_id=763

Issue:
The NPFC, managed by the USCG, has capped the funding allowed for this response at the initial request of $46,000. With this amount of funding, EPA estimates that we will have to demobilize from the site beginning at approximately 12 noon today, Friday, March 19th. Due to the petroleum exclusion in CERCLA, EPA does not believe we have the statutory authority to continue the response without OSTLF/NPFC funding. The FOSC's on-scene estimate that EPA needs to remain in its oversight role for approximately an additional 5 days until the threat to Johnson Creek has been abated. Oregon DEQ is very concerned that if EPA leaves the site, the responsible party will not fulfill its responsibility to abate the impacts of the discharge of oil into the environment.

If the NPFC does not reverse its decision to cut off funding by 12 noon today, EPA would like RRT 10 to elevate this issue to the National Response Team.

Ancillary Issue:
The EPA/USCG jurisdictional boundary on the Willamette River is the Oregon City Dam/Falls, which is upstream of the confluence of Johnson Creek with the Willamette River. The geographic boundaries section of Chapter 1000, "Introduction," states:

"According to Section 300.140(b) of the NCP, if a discharge or release affects more than one zone, determination of the FOSC should generally be based on the area vulnerable to the greatest threat. If the area vulnerable to the greatest threat cannot be determined, the Unified Command may want to consider establishing an Incident Command System (ICS) that can adequately provide for effective response in both zones. If transition of the FOSC position from one agency to another is necessary, the transition will generally follow the guidelines outlined in Section 1410, 'National Response Structure.'"

EPA wants to confirm that USCG Sector Columbia River is aware of the response and supportive of EPA's role as the FOSC.

(for all cases that involve dispersant decisions add the following site from the National Contingency Plan for clarification: 40 CFR 300.915(b) *For spill situations that are not addressed by the preauthorization plans developed pursuant to paragraph (a) of this section, the OSC, with the concurrence of the EPA representative to the RRT and, as appropriate, the concurrence of the RRT representatives from the states with jurisdiction over the navigable waters threatened by the release or discharge, and in consultation with the DOC and DOI natural resource trustees, when practicable, may authorize the use of dispersants, surface washing agents, surface collecting agents, bioremediation agents, or miscellaneous oil spill control agents on the oil discharge, provided that the products are listed on the NCP Product Schedule*.)

(for all cases that involve in-situ burning decisions add the following site from the National Contingency Plan for clarification: 40 CFR 300.915 (c) *The OSC, with the concurrence of the EPA representative to the RRT and, as appropriate, the concurrence of the RRT representatives from the states with jurisdiction over the navigable waters threatened by the release or discharge, and in consultation with the DOC and DOI natural resource trustees, when practicable, may authorize the use of burning agents on a case-by-case basis.)*

Section 9106

Response Partner Roles and Contacts

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9106.1 Federal Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
U.S. Environmental Protection Agency (EPA)	- Provides FOSC for inland oil/HazMat incidents - Voting member of incident specific RRT activations for the use of alternative technologies - Permits ocean dumping - Can activate NCP Special Teams Emergency Response Team and Radiological Emergency Response Team	- Environmental sampling - Air and water monitoring - Human health impacts - Mitigating oil and hazardous material spills - WMD response	800-424-8802 www.epa.gov/oem www.epa.gov/aboutepa/region10.html
EPA: Environmental Response Team	- When requested by EPA or USCG FOSC - Personnel deploy from Las Vegas, NV	- Environmental sampling - Air and water monitoring - Human health impacts - Mitigating oil and hazardous material spills - WMD response	Via EPA or USCG duty officer www.ert.org
EPA: Radiological Environmental Response Team	- When requested by EPA or USCG FOSC - Personnel deploy from Las Vegas, NV	- Radiological assessment - Radiological human health impacts Mitigating radiological impacts	Via EPA or USCG duty officer www.epa.gov/radiation/rert/rert.html
Department of Homeland Security (DHS)			
U.S. Coast Guard (USCG)	- Provides FOSC for coastal oil/HazMat incidents - Voting member of incident specific RRT activations for the use of alternative technologies - Can activate Strike Teams	- Marine oil spill response operations - Mitigating oil and hazardous material spills - Vessel Safety and Navigation - Responder Safety - Incident Management	800-424-8802 www.uscg.mil/d13/ www.uscg.mil/d13/sectpugetsound/default.asp www.uscg.mil/d13/sectcolrvr/default.asp

9106.1 Federal Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
USCG: Strike Teams	- When requested by USCG or EPA FOSC - Personnel deploy from Novato, CA	- Marine oil spill response operations - Mitigating oil and hazardous material spills - Vessel Safety and Navigation - Responder Safety - Incident Management - Public Messaging (Public Information Assist Team)	Via USCG or EPA Duty Officer
USCG: Incident Management Assist Teams	- When requested by USCG FOSC	- Incident Management - ICS Process	Via USCG FOSC
Federal Emergency Management Agency (FEMA)	- FOSC requests advice or assistance on coordinating civil emergency planning and mitigation efforts - Mobile Emergency Response System (MERS) provides extensive rapid deployable mobile communications for use in oil/HazMat response. After a presidential disaster declaration, FEMA will coordinate all federal action, oil/HazMat activities will be coordinated via Emergency Support Function #10	- Communication - Interagency coordination	Region 10 Regional Response Coordination Center at (425) 487-4600 www.fema.gov
Department of Health and Human Services			
U.S. Department of Health and Human Services (HHS)	- HazMat or oil releases that have potential to impact public health	- Assessment of health hazards at a response - protection of response workers - Interpreting monitoring data and issuing public health warnings	By phone, go through the HHS (ATSDR) representative to the RRT. http://www.hhs.gov/about/agencies/regional-offices/index.html

9106.1 Federal Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
Agency for Toxic Substances and Disease Registry (ATSDR)	- Need for public health assessment of oil/HazMat incident - Need for health consultation regarding specific hazardous substances - Need to establish health surveillance and registries - Need to develop and disseminate information regarding human health impacts	- Toxicology - Public health impacts	By phone, go through the EPA Region 10 Duty Officer http://www.atsdr.cdc.gov/atsdrhome.html
Department of Commerce			
National Oceanic and Atmospheric Administration (NOAA)Office of Response and Restoration Emergency Response Division, NOAA Scientific Support Coordinator (SSC)	a. FOSC requests scientific support b. Notification of impacts, or potential Impacts, to endangered marine species, marine mammals or National Marine Sanctuaries c. ESA consultations d. Federal seafood safety issues/assistance with local seafood safety issues e. Usually lead coordinator for all NOAA involvement f. The NOAA SSC notifies NOAA's National Marine Fisheries Service (NMFS) – no other notification is required to DOC Trustees: DOC is the natural resource trustee for many marine resources under NMFS. In addition to providing scientific support NOAA needs notification because of natural resource trustee responsibilities.	a. Forecast of oil movement b. Forecast of oil fate and persistence c. Aerial overflight oil observations d. Tides e. Currents f. Weather g. Chemical information h. Chemical release air plume modeling i. Resources at risk j. Environmental sensitive areas k. Natural resource impact assessment l. Shoreline Cleanup Assessment Technique surveys m. Cleanup recommendations n. Best management practices to reduce environmental impacts o. Information management p. Common Operation Picture (Environmental Response Management Application - https://www.erma.unh.edu/northwest/erma.html)	(206) 526-6322

9106.1 Federal Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
		q. Liaison to NOAA's Seafood Inspection Program (for assistance with seafood safety testing procedures) r. Assistance with marine debris issues, such as in post natural disaster situations	
NOAA Office of Response and Restoration Assessment and Restoration Division (ARD)	- Responsible for evaluating and restoring coastal and estuarine habitats damaged by HazMat and oil spills, ship groundings	a. During cleanup of a spill ARD can provide guidance to the Unified Command b. Post spill, if ARD is involved, conducts a Natural Resource Damage Assessment (NRDA), which determines the extent of harm to natural resources and the type and amount of restoration required	Contact NOAA SSC for connection: (206) 526-6322
NOAA National Weather Service (NWS) Western Region Regional Operations Center (WR ROC)	- Need for weather and/or hydrologic forecast information for any event - Lead coordinator for all NWS involvement, including on-site support, on any scale in Washington, Oregon, and Idaho	a. Weather forecasts b. Hydrologic forecasts c. Atmospheric plume modeling	NWS WR ROC Duty Officer: (801) 524-7907
Department of Defense			
U.S. Department of Defense (DOD)	- Provides FOSC when HazMat release is on, or the sole source of the HazMat release is from any facility or vessel under DOD jurisdiction, custody or control. - Oil/HazMat incident requires additional response resources, and base commander agrees to provide support.	- WMD - Radiation	By phone, go through USACE representative to the RRT.
U.S. Navy Supervisor of Salvage and Diving (SUPSALV)	- FOSC requests support	- Ship salvage - Shipboard damage control - Diving	By phone contact the U.S. Navy representative to the RRT

9106.1 Federal Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
U.S. Navy, Region Northwest	- Provide FOSC when HazMat release is on, or the sole source is from a Naval Facility	- Oil spill response - HazMat spill response	By phone contact the U.S. Navy representative to the RRT
U.S. Army Corps of Engineers (USACE)	- Oil/HazMat incident impacts a river whose flow is controlled by USACE dams - Oil is discharged from a USACE dam	- Navigation channels - River level and current	By phone, contact USACE representative to the RRT.
- Department of Interior			
U.S. Department of the Interior (DOI)	- Release on land managed by DOI agencies - Trustee Agency/ Department support needed	- Coordinating among DOI agencies	(503) 720-1212
U.S. Geological Survey (USGS)	- FOSC requests geologic or hydrologic support	- Geology - Hydrology - Natural Hazards	Through DOI REO: (503) 720-1212
Bureau of Land Management (BLM)	- FOSC requests technical support - Release impacts BLM managed land	- Minerals - Soils - Vegetation - Wildlife habitat - Archaeology - Wilderness areas	Through DOI REO: (503) 720-1212
Bureau of Safety and Environmental Enforcement (BSEE)	- Release at offshore facility		Through DOI REO: (503) 720-1212
Office of Surface Mining	- Release from mining source	- Analysis and identification of inorganic hazardous substances and technical expertise in metals and metallurgy relevant to site cleanup	Through DOI REO: (503) 720-1212
National Park Service (NPS)	- Release from NPS Facility - Release Impacting NPS Lands	- Natural and cultural expertise, including wilderness, archaeology, Archaeological Resource Protection Act (, wildlife, fisheries, vegetation, air quality.	Through DOI REO: (503) 720-1212
Bureau of Reclamation (BOR)	- Release from BOR facility - Release Impacting BOR facility - FOSC requests change in water - Release from BOR managed dam	- Operation and maintenance of water projects in the west, engineering, hydrology, and reservoirs	Through DOI REO: (503) 720-1212

9106.1 Federal Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
Bureau of Indian Affairs (BIA)	- Release is impacting or has the - potential to impact Indian Lands, - Shellfish areas or cultural sites	- Identify tribal government officials for consultation	Through DOI REO: (503) 720-1212
U.S. Fish and Wildlife Service	- FOSC requests support for assessing or mitigating risks to fish or wildlife habitat	Anadromous and certain other fishes and wildlife, including endangered and threatened species, migratory birds, and certain marine mammals; waters and wetlands; containments affecting habitat resources; and laboratory research facilities	Through DOI REO: (503) 720-1212
- Other Federal Agencies			
Department of Energy (DOE)	- Provides FOSC for releases of HazMat when the release is on, or the sole source of the release is from any facility or vessel operated under the jurisdiction, custody or control of DOE. (This is typically nuclear power plants.) - When FOSC requests assistance with radiological detection and assessment	- Radiological detection and monitoring. - Radiological material handling and disposal	By phone, contact DOE representative to the RRT.
U.S. Dept. of Agriculture	- Oil/HazMat impacts to agriculture	- Measurement, evaluation and monitoring of soil, water, wildlife and vegetation for hazardous substance impacts.	- By phone, go through U.S. Forest Service representative who is official RRT member.
U.S. Department of Justice (DOJ)	- FOSC requests law enforcement or site security support - WMD or suspected WMD event	- Can provide expert legal advice on complicated legal questions arising from discharges or releases and federal agency responses.	- By phone, contact DOJ representative to the RRT
U.S. Department of Labor, Occupational Safety and Health Administration (OSHA)	- FOSC requests support assessing and mitigating the risk of responder health impacts.	- Review of health and safety plans - Review of work practices	- By phone, contact OSHA representative to the RRT

9106.1 Federal Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
U.S. Department of Transportation (DOT)	- Incident is impacting or has the potential to impact interstate highways	- Reconstructing and repairing interstate highways as a result of accidental, natural, disaster, or other emergency - Removing obstructions/encroachments from interstate highway rights of way - Closing interstate highways and restricting travel when there is danger to traffic	
Pipeline and Hazardous Materials Safety Administration	- Provides technical expertise when responding to pipeline spills - Approval required to resume use of damaged pipelines	- Pipeline operation - Pipeline repair	- By phone, call 202-366-4595

Key to Table 9106.1

ARD	Assessment and Restoration Division	HHS	U.S. Department of Health and Human Services
ATSDR	Agency for Toxic Substances and Disease Registry	ICS	Incident Command System
BIA	U.S. Bureau of Indian Affairs	MERS	Mobile Emergency Response System
BLM	U.S. Bureau of Land Management	NCP	National Contingency Plan
BOR	U.S. Bureau of Reclamation	NMFS	National Marine Fisheries Service
BSEE	Bureau of Safety and Environmental Enforcement	NOAA	National Oceanic and Atmospheric Administration
CA	California	NPS	National Park Service
DHS	U.S. Department of Homeland Security	NRDA	Natural Resource Damage Assessment
DOC	U.S. Department of Commerce	NV	Nevada
DOD	U.S. Department of Defense	OSHA	Occupational Safety and Health Administration
DOE	U.S. Department of Energy	RRT	Regional Response Team
DOI	U.S. Department of the Interior	SSC	Scientific Support Coordinator
DOJ	U.S. Department of Justice	SUPSALV	U.S. Navy Supervisor of Salvage and Diving
EPA	U.S. Environmental Protection Agency	USACE	U.S. Army Corps of Engineers
ESA	Endangered Species Act	USCG	U.S. Coast Guard
FEMA	Federal Emergency Management Agency	USGS	U.S. Geological Survey
FOSC	Federal On-Scene Coordinator	WMD	weapons of mass destruction
HazMat	hazardous material		

9106.2 Regional BIA Agency Superintendents and Tribal Officials in Idaho, Oregon, and Washington

Tribal leadership and contact information change regularly. Each state and federal On-Scene Coordinator Agency maintains their own tribal contacts list to be able to fulfill tribal notification requirements. This includes EPA, USCG, Washington State Department of Ecology, Oregon Department of Environmental Quality, and Idaho Office of Emergency Management. Please see below a list of federally recognized tribes in Washington, Oregon, and Idaho, as well as Bureau of Indian Affairs (BIA) agency contact information. The following BIA website provides a regularly Tribal Leadership Directory and Interactive Map that includes tribes' contact information, headquarters geographical locations, websites, and BIA regional and agency contact information: http://www.bia.gov/WhoWeAre/BIA/OIS/TribalGovernmentServices/TribalDirectory/index.htm.

Coeur D'Alene Agency: (503) 231-6702	Coeur D'Alene Tribe: (208) 686-1800
Colville Agency (509): 634-2316	Confederated Tribes of the Colville Reservation: (509) 634-2200
Flathead Agency: (406) 675-2700	Confederated Salish & Kootenai Tribes of the Flathead Reservation: (406) 675-2700
Fort Hall Agency: (208) 238-2301 **Fort Hall Irrigation Project: (208) 238-1992**	Shoshone-Bannock Tribes of the Fort Hall Reservation: (208) 478-3700
	Northwestern Band of Shoshone Nation: (435) 734-2286
Metlakatla Agency: (907) 886-3791	Metlakatla Indian Community Annette Island Reserve: (907) 886-4441
Northern Idaho Agency: (208) 843-9416	Kootenai Tribe of Idaho: (208) 267-3519
	Nez Perce Tribe of Idaho: (208) 843-2253
Northwest Regional Office: (503) 231-6702	Confederated Tribes of the Grand Ronde Community of Oregon: (503) 879-5211
	Klamath Tribes: (541) 783-2219
	Makah Indian Tribe of the Makah Indian Reservation: (360) 645-2201
Olympic Peninsula Agency: (360) 533-9100	Confederated Tribes of the Chehalis Reservation: (360) 273-5911
	Cowlitz Indian Tribe: (360) 577-8140
	Hoh Indian Tribe: (360) 374-6582
	Jamestown S'Klallam Tribe: (360) 683-1109
	Lower Elwha Tribal Community: (360) 452-8471
	Quileute Tribe: (360) 374-6163
	Shoalwater Bay Indian Tribe of the Shoalwater Bay Indian Reservation: (360) 267-6766
	Skokomish Indian Tribe: (360) 426-4232
	Squaxin Island Tribe of the Squaxin Island Reservation: (360) 426-9781

Puget Sound Agency: (425) 258-2651	Lummi Tribe of the Lummi Reservation: (360) 312-2000
	Muckleshoot Indian Tribe: (253) 939-3311
	Nisqually Indian Tribe: (360) 456-5221
	Nooksack Indian Tribe: (360) 592-5176
	Port Gamble S'Klallam Tribe: (360) 297-2646
	Puyallup Tribe of the Puyallup Reservation: (253) 573-7800
	Samish Indian Nation: (360) 293-6404
	Sauk-Suiattle Indian Tribe: (360) 436-0131
	Snoqualmie Indian Tribe: (425) 888-6551
	Stillaguamish Tribe of Indians of Washington: (360) 652-7362
	Suquamish Indian Tribe of the Port Madison Reservation: (360) 598-3311
	Swinomish Indian Tribal Community: (360) 466-3163
	Tulalip Tribes of Washington: (360) 716-4000
	Upper Skagit Indian Tribe: (360) 854-7090
Siletz Agency: (503) 231-6702	Confederated Tribes of the Coos, Lower Umpqua and Siuslaw Indians: (541) 888-9577, (888) 280-0726
	Confederated Tribes of Siletz Indians of Oregon: (541) 444-2532, (800) 922-1399
	Coquille Indian Tribe: (541) 756-0904
	Cow Creek Band of Umpqua Tribe of Indians: (541) 672-9405
Spokane Agency: (509) 258-4561	Kalispel Indian Community of the Kalispel Reservation: (509) 445-1147
	Spokane Tribe of the Spokane Reservation: (509) 458-6500
Taholah Agency: (360) 276-4850	Quinault Indian Nation: (360) 276-8211
Umatilla Agency: (541) 278-3786	Confederated Tribes of the Umatilla Indian Reservation: (541) 276-3165
Warm Springs Agency: (541) 553-2411	Burns Paiute Tribe: (541) 573-2088
	Confederated Tribes of the Warm Springs Reservation of Oregon: (541) 553-1161

Wapato Irrigation Project: (509) 877-3155	
Yakama Agency: (509) 865-2255	Confederated Tribes and Bands of the Yakama Nation: (509) 865-5121, (800) 859-5121
Western Nevada Agency: (775) 887-3500	Fort McDermitt Paiute and Shoshone Tribes of the Fort McDermitt Indian Reservation, Nevada and Oregon: (775) 532-8259
Eastern Nevada Agency: (208) 759-3100	Shoshone-Paiute Tribes of the Duck Valley Reservation, Nevada: (208) 759-3100

9106.3 Washington Agency Response Partners: Roles and Contacts

Agency Name	Role	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
Department of Ecology	- Provides SOSC for coastal and inland oil/hazardous materials incidents - Voting member of incident specific RRT activations	- Marine and inland oil spill response operations - Vessel Safety - Pipeline Readiness - Responder Safety - Incident Management	- Environmental sampling - Air and water monitoring - Human health impacts	Via Emergency Management Division 800-258-5990 https://ecology.wa.gov/About-us/Get-to-know-us/Our-Programs/Spills-Prevention-Preparedness-Response
Emergency Management Division	- Maintaining a 24-hour capability to receive notification of incidents and requests for assistance and initial notification to local, state, and federal response agencies	- Oil and hazardous material incidents	Activating the state Emergency Operations Center as needed to coordinate state resource identification and acquisition in support of Ecology response	http://mil.wa.gov/emergency-management-division
Department Fish & Wildlife	- Trustee of fish, shellfish, wildlife, and associated habitats; also trustee of wildlife management lands and public access sites.	- Potential impacts to trustee resources	- Environmental sampling - Identify Natural Resource Protection Needs - Oiled Wildlife Rescue - Natural Resource Damage Assessment.	By phone, contact Ecology representative on the RRT http://wdfw.wa.gov/conservation/habitat/oil_spill/

9106.3 Washington Agency Response Partners: Roles and Contacts

Agency Name	Role	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
Department of Natural Resources	- Trustee of state-owned aquatic lands and associated habitat, including kelp, eelgrass, sediment, and other elements of the near-shore and bedland environments.	- Potential impacts to trustee resources	- Natural Resource Damage Assessment. - Identification of aquatic habitat/state lands protection needs.	By phone, contact Ecology representative on the RRT http://www.dnr.wa.gov/
State Parks Commission	- Trustee of state park lands, including public recreation sites and associated natural resources.		- Maintaining the biological, cultural, natural, and structural resources of underwater parks, beach properties, mooring buoys, boat launches, and related recreational facilities. - Natural Resource Damage Assessment. Identification of state parks lands and property protection needs.	By phone, contact Ecology representative on the RRT
Department of Health	- Responsible for public health associated with shellfish beds. Has responsibility for beach closures for human health and safety purposes, utilization of contaminated food organisms, and general health-related matters for the safety of the public. - During radiological incident assumes responsibility as Incident	- Potential for seafood contamination - Radiological concerns	- Natural Resource Damage Assessment. - The Department of Health is to render all appropriate laboratory support and services to the SOSC.	Duty Officer 360-888-0838, hanalert@doh.wa.gov http://www.doh.wa.gov/

9106.3 Washington Agency Response Partners: Roles and Contacts

Agency Name	Role	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
	Commander, and acts as the lead agency.			
Department of Archaeology and Historic Preservation	Responsible for protection of historic and archaeological sites. Provides State Historic Preservation consultation		Natural Resource Damage Assessment. Identification of historic/archaeological resource protection needs.	By phone, contact Ecology representative on the RRT http://www.dahp.wa.gov/
Department of Agriculture			Laboratory testing and sampling for spills involving pesticides; and food product testing (e.g., milk, seaweed, etc.).	By phone, contact Ecology representative on the RRT
Labor and Industries: Washington Industrial Safety and Health Administration	- Primarily responsible for assuring that employers, including oil spill clean-up contractors, Ecology, and other state agencies are providing safe and healthful workplaces for their employees	Labor and Industries will evaluate the following safety and health program: - Site characterization and control; - Medical surveillance; - Decontamination procedures; Personal protective equipment requirements. Labor and Industries establishes and enforces safety requirements for emergency spill response, including for the use of volunteers.	- Labor and Industries establishes and enforces safety requirements for emergency spill response, including for the use of volunteers.	By phone, contact Ecology representative on the RRT
Department of Transportation	- May provide traffic control, equipment, and personnel for non-hazardous clean-up activities on state and interstate highways.			By phone, contact Ecology representative on the RRT

9106.3 Washington Agency Response Partners: Roles and Contacts

Agency Name	Role	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
Utilities and Transportation Commission	- Responsible for developing and enforcing safety standards for natural gas and hazardous liquid pipelines located within the state.			By phone, contact Ecology representative on the RRT http://www.utc.wa.gov/regulatedIndustries/transportation/pipeline/Pages/default.aspx
Washington State Patrol	- In the event of a spill occurring on a state highway, Ecology coordinates with the Washington State Patrol, which assumes responsibility as Incident Commander, and acts as the lead agency responsible for cleanup activities.			By phone, contact Ecology representative on the RRT

Key to Table 9106.3

Ecology	Washington State Department of Ecology
RRT	Regional Response Team
SOSC	State On-Scene Coordinator

9106.4 Oregon Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
Oregon Emergency Management (under the Oregon Military Department)	- Declared Emergencies - Activation of the State ECC - When coordination of state agency response activities within the state ECC is needed	- Emergency Management and Coordination of Response to disasters - Providing public information officer support to Joint Information Centers or Incident Command Posts, if needed.	In emergency, can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us For non-emergency contact: 503-378-2911
The Oregon Emergency Response System (OERS), under the Oregon State Police)	- All emergency response notification after first response (after 911 for police, fire, medical) - Emergency notification for hazardous materials incidents - Pass through notification for NRC reports	- Maintains 24-hour notifications to all state, county and city agencies responsible for emergency response throughout Oregon.	In emergency, can be reached 24/7 via OERS at: 1-800-452-0311 or 503-378-6377 (alternate number) oers.staff@state.or.us For non-emergency, contact: 503-378-6377
Office of the State Fire Marshal HazMat Teams	- Provides hazardous materials Incident response - Provides for access to Hazardous Substance Information System - Responsible for the duties of the State Emergency Response Commission under SARA Title III and Oregon statute. - Provides coordination and oversight for Local Emergency Planning Committees	- Regional HazMat Teams - Hazardous materials response guidance and guidance on emergency response procedures. - Hazardous materials response management - Incident Command System response (Type II Incident Management Team) - Training, equipment and response activities of the state's 14 regional HazMat response teams. - Maintenance and use of the statewide Fire Net/ hazardous materials microwave relay radio system.	911 for fire or hazardous materials response Also can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us For non-emergency contact: 503-931-5732 (24-hour Duty Officer) 503-378-3473 (State Fire Marshal)

9106.4 Oregon Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
Oregon Department of Environmental Quality (DEQ) Emergency Response Program	- Lead agency for coordination of oil or hazardous materials responses, except for spills or releases from chemical weapons at the Umatilla Chemical Depot and radiological incidents. - Oregon DEQ has also established a team of SOSCs and support personnel that provide field, command post, and office support to incidents as needed. - Provide SOSC support to assist the FOSC. - Provides guidance on the disposal of oily waste, identification, and prioritization of vulnerable resources, local geographic and environmental information, counsel on cleanup and restoration standards, toxicological information and identification of unknown pollutants. - Provides funding for emergency removals of abandoned chemicals or materials presenting public health and environmental risk if the owner, property owner, or responsible party is unable to act through the Oregon Hazardous Substance Remedial Action Fund - Provides for use of DEQ's Drug Lab Cleanup Fund if request comes through a law enforcement agency.	- Provides expertise on environmental effects of oil discharges or releases of hazardous materials, and environmental pollution control and remediation techniques. - Investigative support and expertise on environmental and public health issues related to oil and hazardous material incidents. - Assists with hazardous materials cleanup. - Develops comprehensive plans and programs for air and water pollution control and solid and hazardous waste disposal. - Coordinates with special teams (OSFM HazMat Teams, ODOT Incident Response Teams, USCG, EPA, local emergency responders and others).	In emergency, can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us For non-emergency contact: 503-229-5696
Oregon Health Authority/ Public Health Division	- Primary responsibility to respond to incidents involving radioactive materials and biological agents, and shares responsibility for coordination	- Control of environmental hazards through oversight of public drinking water systems, restaurants and other food service facilities.	In emergency, can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us

9106.4 Oregon Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
Office of Environmental Public Health Radiation Protection Services	of responses to incidents with the potential to impact public health. - Oregon Health Authority is the lead state agency for all radiation emergencies except for those delegated to the Oregon Department of Energy, and all human disease-related emergencies and drinking water emergencies. - Public Health Division coordinates with partners and provides any necessary assistance on all matters related to health hazards in response to any incident affecting public health and the health care system in Oregon.	- Monitors other hazards such as lead, toxic materials and household molds. - The Toxicology staff in the Office of Environmental Public Health protects the health and safety of the public from environmental hazards. - The Radiation Protection Services Section provides radiation monitoring expertise and is the state's primary radiological response organization. It also provides radiation monitoring training to local government emergency response agencies.	For non-emergency contact: 971-246-1789 (24hr Duty Officer cell) 503-938-6790 (24hr Duty Off. Pager) 971-673-1217 (Pesticide/Poison Prevention) 971-673-0494 (State Toxicologist) 971-673-0405 (Drinking Water Program) 971-673-0442 (Drug Lab Program) 971-673-0490 (Radiation Protection Svcs.)
Occupational Safety and Health Division	- Worker health issues	- Operate occupational health laboratory in Portland.	In emergency, can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us For non-emergency, contact: 503-378-3272

9106.4 Oregon Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
Oregon Department of Agriculture	- Impacts on agricultural resources including commercial shellfish - Incidents involving agricultural production (including pesticide application)	- Agricultural production facilities including confined feeding operations - Impacts on aquaculture - Pesticide Analytical Response Center	In emergency, can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us For non-emergency, contact: 503-986-4726 (Shellfish Program) 503-986-6470 (Pesticide Analytical Response Center)
Oregon Department of Energy	- Radioactive materials transportation incidents	- Directs response actions for releases of hazardous materials from its vessels, facilities and vehicles. - Identifies the source and extent of radioactive releases, and in the removal and disposal of those contaminants affected by radiological material. - Provides additional informational assistance to Oregon Public Health Authority and other medical services as needed.	In emergency, can be reached 24/7 via OERS at: **1-800-452-0311** oers.staff@state.or.us For non-emergency, contact: 503-378-4040
Oregon Department of Fish and Wildlife	- Oil and hazardous materials incidents and all other incidents that could degrade land or water to the point that fish or wildlife would be adversely affected, or their habitat degraded or destroyed. - Coordinates the activities of for the rescue and rehabilitation of wildlife injured during oil and hazardous substance spills and releases - Assists in reconnaissance and NRDA efforts.	- Assessing damage to natural resources. - Rescue and rehabilitation of injured wildlife - Assists in identification of fish and wildlife protection needs	In emergency, can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us For non-emergency contact: 503-947-6083 (NRDA) 503-947-6088 (Habitat) 541-867-0300x228 (Marine Issues)

9106.4 Oregon Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
Oregon Department of Forestry	- Incidents and all other incidents that could impact Oregon's timber and other forest resources - Need to implement the Oregon Forest Practices Act as a resource to direct forest operators and parties responsible for an oil or hazardous materials incident in clean up	- Assessing damage to natural resources. - Forest Practices Act implementation to direct hazardous materials cleanup	In emergency, can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us For non-emergency contact: 503-945-7200
Department of State Lands (DSL)	- Incidents involving or potentially impacting agricultural, grazing, forest, estuary, tidal, offshore, and submerged and submersible lands of the State's navigable waterways including the territorial sea managed by DSL		In emergency, can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us For non-emergency, contact: 503-986-5224
Oregon State Police (OSP)	- Need for Initial Incident Command during early phases of response - Need for incident site security and access control - Criminal investigation of environmental crimes	- Incident Command - OSP can provide for the protection of life and property, traffic control, crowd control, communications, emergency first aid and site security.	911 for emergency response Also can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us For non-emergency, contact: 503-229-5593
	- Incidents occurring on or having the potential to impact state highway transportation systems and aviation - Need for traffic control on state highways	- Provide highway maintenance workers and incident responders trained to the operations level for small amounts of operating fuels only (not cargo) for incidents on state highways.	In emergency, can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us For non-emergency contact: 503-229-5129 (HazMat) 503-378-8689 (Aviation)

9106.4 Oregon Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
Oregon State Historic Preservation Office	- Incidents which may impact or disturb historical and/or cultural resources	- Identification of historic/archaeological resource protection needs	In emergency, can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us For non-emergency contact: 503-986-0674
Oregon Parks Division	- Incidents impacting or involving State-owned parks.	- Knowledge of resources in coastal zone and in vicinity of inland state parks	In emergency, can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us For non-emergency contact: 503-986-0652 (Safety & Risk Manager)
Oregon Military Department (National Guard, Army, and Air)	- When authorized by the Governor,	- Provides site security in a major incident - Administers first aid and care for evacuees, transports specialists, and assists in the recovery, identification and disposition of the deceased.	
Oregon State University	-	- Operates the Extension Toxicology Network and the Oregon Toxicology Information Center which can provide specific information on toxicology.	(http://ace.orst.edu/info/extoxnet)
Oregon Department of Transportation	- Impact to state roadways - Incident access when traffic is disrupted	- Traffic management - Roadway safety	In emergency, can be reached 24/7 via OERS at: 1-800-452-0311 oers.staff@state.or.us For non-emergency contact: Greg Ek-Collins, State Emergency Operations Manager 503-569-2906

9106.4 Oregon Agency Response Partners: Roles and Contacts

Agency Name	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information

Key to Table 9106.4

DEQ	Oregon Department of Environmental Quality	ODOT	Oregon Department of Transportation
DSL	Oregon Department of State Lands	OERS	Oregon Emergency Response System
ECC	Emergency Coordination Center	OSP	Oregon State Police
EPA	U.S. Environmental Protection Agency	SARA	Superfund Amendments and Reauthorization Act
FOSC	Federal On-Scene Coordinator	SOSC	State On-Scene Coordinator
HazMat	hazardous materials	USCG	U.S. Coast Guard
NRC	National Response Center		

9106.5 Idaho Agency Response Partners:

See Idaho Hazardous Materials/Weapons of Mass Destruction (WMD) Incident Command and Response Support Plan
https://ioem.idaho.gov/Pages/HazardousMaterials/Plan.aspx

9106.6 Sector Puget Sound Emergency Operations Center Contacts

Agency Name	Role	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
Clallam County EOC	- Maintaining a 24-hour capability to receive notification of incidents and request for assistance.	- Oil and hazardous material incidents	- Activating the county Emergency Operations Center as needed to coordinate county resource identification and acquisition in support of the response.	(360) 417-2459 http://www.clallam.net/emergencymanagement/
Island County EOC	- Maintaining a 24-hour capability to receive notification of incidents and request for assistance.	- Oil and hazardous material incidents	- Activating the county Emergency Operations Center as needed to coordinate county resource identification and acquisition in support of the response.	(360) 679-9567 https://www.islandcountywa.gov/DEM/Pages/Home.aspx

9106.6 Sector Puget Sound Emergency Operations Center Contacts

Agency Name	Role	Triggers for Involvement	Areas of Expertise	24-Hour Contact Information
Jefferson County EOC	- Maintaining a 24-hour capability to receive notification of incidents and request for assistance.	- Oil and hazardous material incidents	- Activating the county Emergency Operations Center as needed to coordinate county resource identification and acquisition in support of the response.	(360) 385-3831 ext 1 http://www.jeffcoeoc.org/contacts.htm
King County EOC	- Maintaining a 24-hour capability to receive notification of incidents and request for assistance.	- Oil and hazardous material incidents	- Activating the county Emergency Operations Center as needed to coordinate county resource identification and acquisition in support of the response.	(206) 296-3830 http://www.kingcounty.gov/safety/prepare.aspx
Kitsap County EOC	- Maintaining a 24-hour capability to receive notification of incidents and request for assistance.	- Oil and hazardous material incidents	- Activating the county Emergency Operations Center as needed to coordinate county resource identification and acquisition in support of the response.	(360) 307-5871 http://www.kitsapdem.org/

Key to Table 9106.6
EOC Emergency Operations Center

Section 9202

Joint Information Center Manual

Communicating during Environmental Emergencies

Northwest Area: Washington, Oregon, and Idaho

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9202

Joint Information Center Manual

9202.1 Introduction

This guide is designed to help communicators during response to environmental emergencies that occur or may occur in the northwestern United States—Washington, Oregon, and Idaho. This Joint Information Center (JIC) Guide is based on and draws heavily from the National Response Team JIC model and serves as Section 9202 of the Northwest Area Contingency Plan (NWCP).

To ensure accurate and coordinated information dissemination during emergency responses, it is highly recommended that the Joint Information Center, whose roles and responsibilities are outlined in this manual, work closely with the Liaison Office, whose roles and responsibilities are outlined in Section 9210, the Liaison Manual. While the two units work with different audiences, they deliver the same messages about the response.

To facilitate this coordination, it is recommended that the JIC and Liaison Office be integrated as much as possible. This can be accomplished by locating the units in adjacent spaces and by working from the same communication documents such as press releases, talking points, FAQs, the response website, and social media. The two units should also collaborate on planning and implementing community events, conducting VIP tours, and preparing specialized communications for specific involved or interested parties like elected officials and community leaders. It is also recommended that once each day, the Public Information Officer and Liaison Officer jointly brief the JIC and Liaison Office staff to ensure they have current information and to enable a coordinated approach to their work. This briefing would be especially useful following the Command and General Staff meeting. Ensuring that this coordination is implemented is the responsibility of the JIC Manager and the Assistant Liaison Officer.

9202.2 Incident Management System

9202.2.1 Functional Units

The NWACP requires the use of the National Incident Management System to manage environmental emergencies. The organization of incident management is built around five major functions, described below.

9202.2.2 Command

Command sets objectives and priorities and has overall decision-making responsibility. The Public Information Officer (PIO) and the Liaison Officer (LNO) are appointed by and report directly to the Incident Commander.

9202.2.3 Operations

Operations conducts tactical operations to carry out response, develops tactical objectives, and directs all resources.

9202.2.4 Planning

Planning develops plans to accomplish objectives; collects, evaluates, and provides most incident information; and maintains resource status.

9202.2.5 Finance/Administration

Finance/Administration monitors and analyzes costs and provides accounting, procurement, and time recording.

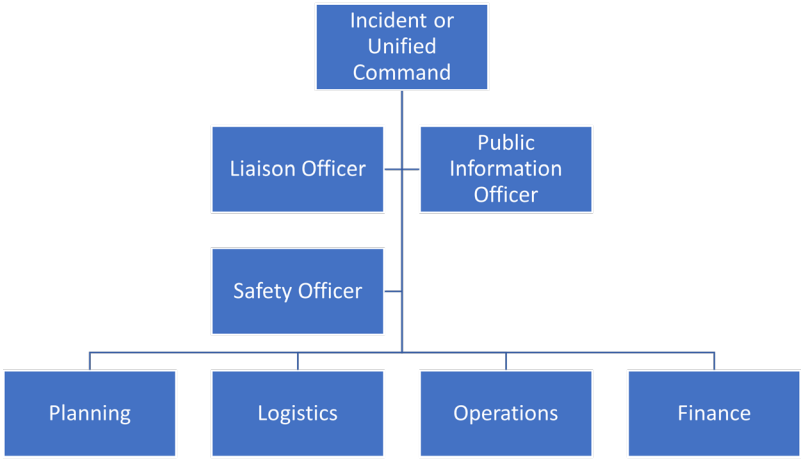


Figure 9202-1 Incident Command Structure

9202.2.6 Mandates

Certain federal laws require an incident response to be managed or co-managed by a Federal On-Scene Coordinator (FOSC) from the United States Environmental Protection Agency (EPA) or the United States Coast Guard

(USCG) and, in some cases, the United States Department of Defense or the United States Department of Energy.

Individual state mandates also contain requirements for designation of a State On-Scene Coordinator. For certain types of incidents, on-scene coordination may be delegated from a federal agency to a state counterpart. Federal on-scene coordination using the Incident Command System (a component of the National Incident Management System or NIMS) is required under these mandates or programs:

- National Oil and Hazardous Substances Pollution Contingency Plan;
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund);
- Oil Pollution Act (OPA 90);
- Clean Water Act; and
- Occupational Safety and Health Act.

9202.2.7 Unified Command

When multiple organizations are involved in a response, a Unified Command is established and may be composed of representatives from federal, state, tribal, and local jurisdictions, and the responsible party (RP), when known. A Joint Information Center (JIC) is activated when the Unified Command model is used.

9202.2.8 Joint Information System

In response to most routine or minor environmental incidents, public information activities are carried out by the lead response agency in coordination with other organizations. In these cases, the lead PIO usually conducts activities from their office or another remote location, as directed by the Incident Commander, via phone, virtual meetings, and email with agency counterparts. Early notification and coordination include timely review of draft news releases, social media, and other materials, and collaboration to determine other information needs. Major or complex incidents often require coordinating agencies to stand up a physical Joint Information Center for communications staff to coordinate together more efficiently and effectively.

9202.2.9 Public Records

Most information collected, generated, or distributed during incident response is part of the public record and may be potentially released to the media and public if requested. This includes all emails, text messages, virtual chats, and virtual meeting transcripts. There are some legal exceptions that may prevent the release of information about active enforcement, investigations, and security-sensitive matters. All response personnel should adhere to public trust responsibilities and ensure that copies of all official documents, such as news releases, communication plans, and ICS forms, are maintained and submitted daily to the Documentation Unit. Emails, text messages, virtual chats, and virtual meeting transcripts don’t need to be submitted daily but may need to be provided upon request.

9202.3 Initial Public Information Officer: Pre-Joint Information Center

When an incident occurs, there is a high demand for fast and accurate information. Public perception is often shaped by impressions formed in the first hours of a response.

When a state environmental or emergency management agency, the USCG, or the EPA first learn about a spill, the respective PIOs should quickly contact one another to share information in an effort to release a joint media statement. The goal should be to get this first release and/or social media post approved and issued within the first two hours after notification is received.

If a Responsible Party is named, PIOs should include the RP's lead response communicator in information sharing. The RP's response communicator should be identified in the RP's applicable Emergency Response Plan. The RP's response communicator will have access to detailed information regarding the RP's preparation and response that could be valuable in clearly describing the incident and response activities.

Until a JIC is established, communication with the media and other key audiences is carried out by a lead agency's public information office (which can also be called a communications or public affairs office), either remotely or on-site. The initial PIO carries out activities with or without assistance. The initial PIO should work virtually with assisting PIOs to create the initial joint media statement. Travel to the Command Post and physical setup of the JIC should not interfere with creation of the initial joint media statement. Respective agency PIOs should coordinate the transfer to a physical JIC or establish working protocols for supporting a hybrid JIC with both physical and virtual coverage and support.

The initial PIO is concerned with both communications (who to communicate with, both media and public) and logistics (how to communicate), if operating from the Command Post or remote locations.

To build trust with the public and among agencies responding to the incident, every press release should include a "cooperative response statement." This statement should include, by name, all the primary participating agencies responding to the spill incident.

9202.4 Activities of Initial Public Information Officer

The following includes tasks an Initial PIO should accomplish within the first hours of an incident response to set up a functional JIC:

- Share latest information immediately with other lead agencies. (Call the state environmental agency, the USCG and/or EPA, the city and/or county, and the RP);
- Sign in and receive necessary identification or clearance if operating on scene (consider having the federal Transportation Worker Identification Credential card see: https://www.tsa.gov/for-industry/twic);

- Contact the Incident Commander or Unified Command;
- Obtain objectives for the response;
- Establish a dedicated phone line, email address, and website, if possible, for inquiries from the media;
- Gather basic facts about the incident: who, what, when, where, and how;
- Contact the Situation Unit Leader and Environmental Unit Leader for incident information;
- Provide an initial incident communication assessment to the Incident Commander or Unified Command;
- Draft, spell-check, and proofread an initial news release and information released to a website;
- Obtain review and approval of initial news release by Incident Commander or Unified Command. (If significant changes are made, the release must be re-approved by the Incident Commander or Unified Command);
- Distribute initial news release to media, affected agencies, and other audiences;
- Establish an approval process that ensures rapid creation and posting of accurate response information;
- Attach or post factsheets, photographs, video footage, or other information if relevant to the incident;
- Contact other local agency communicators for assistance or information about their community;
- Respond to media calls and other requests for information;
- Conduct media interviews;
- Begin to develop a media plan, setting the next time and place for updates, briefings, news conference, etc. This should be closely coordinated with the Liaison Officer, the Incident Commander or Unified Command, and the Planning Section Chief;
- File copies or create a log of callers, time of calls, questions, and responses;
- Find answers to questions by the media or key audiences;
- Brief the next shift of PIOs; and
- Assess the need for community relations personnel and work with the Liaison Officer to ensure community outreach is well coordinated within the response team.

Resource Tools

- Incident Status Summary – ICS Form 209
- JIC Supplies Checklist
- News Release Sample – Initial

9202.5 Joint Information Center (JIC)

A JIC is created under Unified Command to effectively manage communication resources and public messages when multiple organizations are involved in incident response. The need to form a JIC is determined by the Incident

Commander or Unified Command as advised by the incident PIO. Ideally, a JIC should be located in or near the Incident Command Post and staffed by personnel from the participating organizations. If the JIC is located in the Command Post, it is imperative that any news media representatives be provided with a media staging area that is physically separated from working Command and General Staff personnel. This is to ensure that members of the media do not interfere with active response work or create a safety hazard for themselves or responders. Satellite or virtual JICs may be needed for response to major incidents involving large geographic areas, or due to COVID-related protocols. Virtual JICs should be accessible to all members, including those working in other sections throughout the Command Post.

9202.5.1 Primary Joint Information Center Objectives

- Gather, package, and release up-to-date information consistently over the course of the incident.
- Inform the public, primarily through the news media, social media channels, and a dedicated website.
- Analyze public perception and community expectations and make recommendations to UC managing messaging.
- Evaluate communications.

9202.5.2 Overall Joint Information Center Objectives

- Gather, analyze, produce, and distribute information about the incident.
- Ensure timely release of accurate information to media and other audiences.
- Establish and maintain the official incident website.
- Establish and maintain a social media presence and coordinate social media with other responding agencies.
- Review, for approval or revisions, any public information developed in response to the incident by other agencies.
- Capture digital images in video and photos for use by response organizations and media.
- Develop, recommend, and execute public information products, plans, and strategies.
- Coordinate closely with the incident Liaison Officer.
- Monitor and measure media content and public perception of the incident.
- Inform the Incident Commander or Unified Command regarding public reaction, attitudes, and needs.
- Prepare appropriate response personnel for news conferences and interviews.
- Identify and correct rumors and misinformation.
- Evaluate response communications when the JIC is deactivated.

- Produce a log and organize all JIC materials for distribution to the Documentation Unit each day.

9202.5.3 Joint Information Center Set-up and Logistics

A Logistics Section staff member, in consultation with local community leaders or a state emergency management agency, may help select a location for and set up the JIC. For virtual JICs, choose a platform that is accessible to all parties. A dedicated Information Technology Specialist may also be recruited. JIC space should:

- Be located in or as near the Command Post as possible;
- Be large enough to accommodate the anticipated number of JIC personnel and the Liaison Officer, if possible, working in any given shift;
- Have adequate numbers of tables, chairs, and electrical outlets or power strips approved within fire codes;
- Accommodate a phone bank with dedicated lines and computers connected to the Internet; and
- Provide quick access to printers.

Two things needed immediately are:

- A phone – this can be a dedicated landline or cell phone, depending on location, cellular signal strength, etc.; and
- A computer. Electronic distribution of news releases can be handled by the JIC or by an office of a participating agency.

Resource Tools

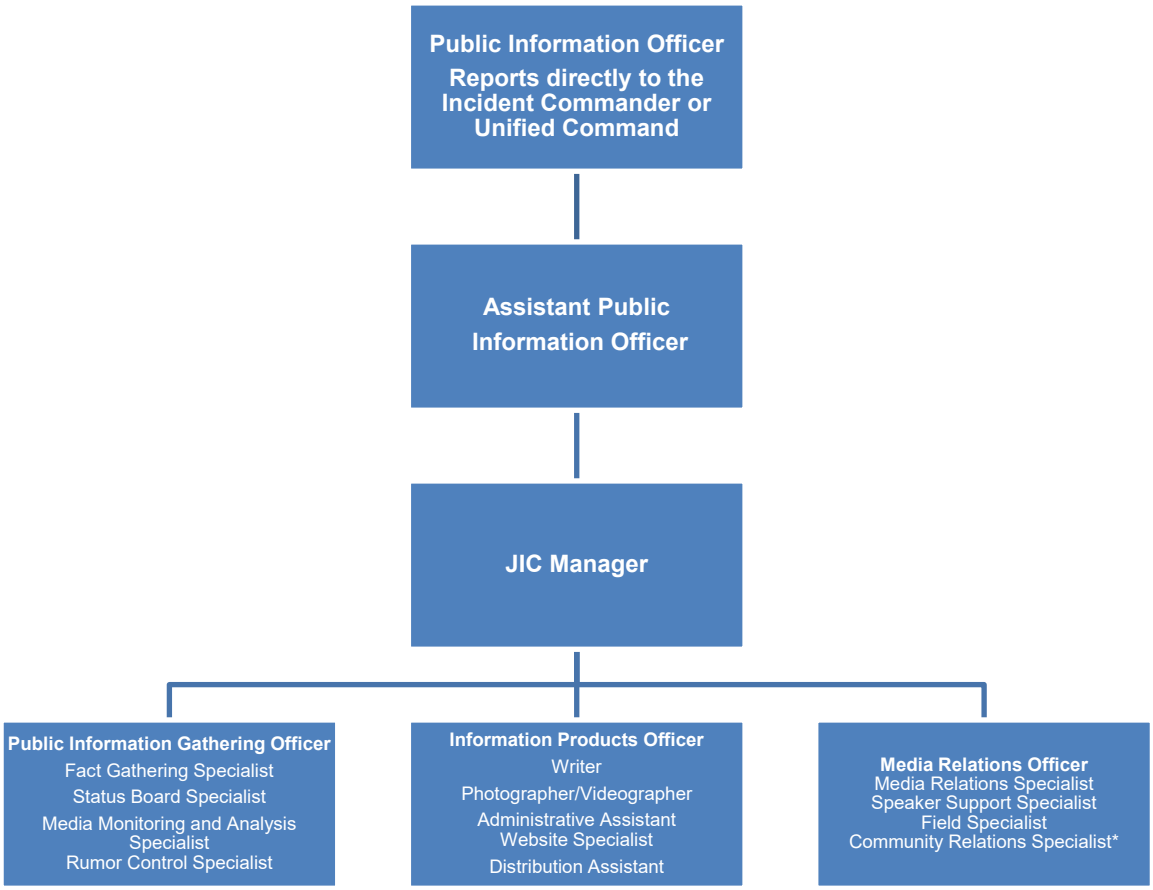
- JIC Supplies Checklist

9202.5.4 Joint Information Center Deactivation

The Incident Commander or Unified Command, with advice from the PIO, determines when to deactivate the JIC. When deactivating a JIC:

- Notify community and local officials about the closing and provide regional contact information;
- Notify media and agency communication managers about the closing and provide regional contact information;
- Prepare a deactivation news release and/or webpage or social media update for lead agency approval and distribution;
- Complete an after-action report and participate in evaluation discussions;
- Return equipment and supplies;
- Update list of equipment and supplies; and
- Inventory and replenish “go-kits.”

9202.6 Joint Information Center Organization, Positions, and Responsibilities



*An incident may require a significant community relations effort. In these cases, a separate Community Relations Unit should be formed.

Figure 9202-2 Joint Information Center Organization

9202.6.1 Joint Information Center Organization

A JIC is a flexible organization that can expand or contract, depending on the severity of an incident and number of available response communicators. Communicators in the JIC may be assigned to fill different roles from day to day, depending on priorities. While no two JICs are structured exactly the same, they should generally operate with key functional units filled by one or more personnel.

Early response communication activity often occurs with only a limited number of response communicators. During this stage of a response, available communicators will likely have to assume responsibilities for more than one of the recommended key functional units within the JIC structure until additional individuals become available.

Initial communicators will assume responsibility for all JIC functional units outlined in Plan Section 9202.6 until additional people become available to assume responsibility for assigned units. Until communicators are available for

every position, more than one functional unit will be assigned to each individual until additional individuals arrive at which time function responsibilities will be reassigned to the newly available communicators.

The following Functional Unit job descriptions (9202.6.3 – 9202.6.8.4) define specific responsibilities for each Unit when sufficient personnel are available.

When a staff member changes roles, the organization chart should be updated to reflect that.

9202.6.2 Incident Information Sources

The Situation Unit within the Planning Section generates and coordinates nearly all incident information. JIC personnel should review the job descriptions found in the Field Operations Guide for the Resource Unit Leader, Situation Unit Leader, and Environmental Unit Leader and be familiar with the information these groups can provide the JIC. A schedule must be established for information updates from these groups each day that conforms as closely as possible to the planning cycle established by the Planning Section Chief. JIC personnel determine what visual materials or displays are needed for a press conference, working with the Situation Unit Leader to produce maps or other display needs.

Examples of displays include:

- **Base Maps** – used in the field; these depict where an incident is, from a ground perspective, and where workers are;
- **Over Flight Maps** – used during over flights; these depict where oil and equipment actually are located;
- **Response Resource Status Map** – depict where the majority of response resources are operating;
- **Situation Maps** – depict where the oil is located; also can depict various Geographic Response Plans in the area, staging areas, Command Post, and other relevant materials;
- **Resources at Risk and Protection Strategy Maps** – show where natural, cultural, and economic resources at risk are located and where activities are being conducted to protect them;
- **Trajectory Maps** – depict where the Planning Section predicts that the oil will spread over time;
- **Road Maps** – depict road closures;
- **Nautical Charts**; and
- **Digital photographs and/or video**.

9202.6.3 Public Information Officer

The Regional Response Team (RRT) and the Northwest Area Committee (NWAC) prefer that the responsible party not fill the PIO position. This applies to both government agencies and private industry RPs. The PIO role is typically filled by a staff member from the lead state or federal environmental agency. However, the RRT/NWAC recognizes that Unified Command holds the discretion

to fill the position with whomever they choose. Unified Command should consider credibility with the media and public, as well as previous experience in drills or spills, familiarity with the Northwest Area plan tools and policies, and with Emergency Management Support Functions.

The NWAC encourages RPs to designate an Assistant PIO (see below) to participate in the JIC.

The PIO is appointed by and reports to the Incident Commander or Unified Command. The PIO should be trained in the Incident Command System (ICS), be familiar with the NWACP, and be experienced in public affairs, public speaking, crisis communication, media relations, and principles of JIC management.

The PIO will:

- Oversee JIC operations in accordance with this JIC Manual, ensuring adequate space, equipment, and available personnel;
- Ensure JIC activities are coordinated with recommended benchmarks in the 96 Hour Plan (see section 9220);
- Appoint personnel to key positions based on skill level and previous training;
- Coordinate with the Liaison Officer to assign responsibility for community outreach. See 9210.3.4 in the Liaison Manual for an outline of responsibilities related to community relations;
- Participate in Unified Command meetings and provide advice for handling public affairs issues;
- Develop public information plans, goals, and strategies for specific operational periods;
- Analyze public perceptions and make necessary strategic adjustments;
- Provide direction for handling controversial and sensitive issues;
- Establish daily schedules for news conferences, briefings, tours, and public meetings. These should be closely coordinated with the Planning Section Chief and Liaison Officer. This ensures that the PIO has the latest information available and that all scheduled public meetings and appearances are coordinated;
- Prepare Unified Command and other subject matter experts for news conferences;
- Moderate news conferences and assist with public meetings. The news conference moderator should be someone other than the RP's JIC member;
- Conduct media briefings;
- Develop plans for media tours and assist the Liaison Officer with very important person (VIP) tours and visits;
- Obtain approval from Unified Command to disseminate public information products;

- Seek general approval from Unified Command to post simple, factual updates to the incident website and social media without Unified Command review;
- Monitor traditional, electronic, and social media; correct misinformation and identify trends and issues;
- Coordinate exchange of information among other sections and participating agencies; and
- Resolve disputes among JIC personnel or organizations involved with public information.

Resource Tools

- JIC Supplies Checklist
- Daily Briefing Checklist (for IO or Designee)
- News Release Sample – Initial
- News Conference/Public Meeting Worksheet
- Moderator Script Outline
- Daily Unit Log – ICS Form 214
- Individual Log – ICS Form 214a

9202.6.4 Assistant Public Information Officer

The Assistant PIO helps the PIO by carrying out assignments and tasks. The Assistant PIO may attend all the same meetings as the PIO. The Assistant PIO should have the same level of technical capability and qualifications as the primary PIO and should be prepared to assume the duties if the PIO is unable to carry them out. Unlike a deputy, an assistant does not have decision-making authority unless specifically delegated by the PIO and cannot step in for the PIO in his or her absence.

9202.6.5 Joint Information Center Manager

When a JIC manager is required, this position is appointed by and reports to the PIO to supervise and coordinate activities of the Information Gathering, Information Products, and Media Relations Units. The position should be filled by an experienced public information specialist with a similar level of technical capability and qualifications as the primary PIO. This person must be familiar with ICS. Necessary skills include managing people and projects, writing, editing, proofreading, and community and public outreach skills.
The JIC Manager:

- Ensures that JIC operations and personnel are functioning well and promptly addressing emerging needs;
- Assigns JIC positions, work, and deadlines;
- Notifies agency communication managers when the JIC has been activated;
- Reviews and revises, when necessary, public information materials developed by government agencies prior to web posting or distribution;

- Sets staff work hours and the daily JIC operations schedule;
- Establishes internal communication processes within the JIC;
- Ensures that approved, spell-checked news releases adhere to Associated Press style and that other materials are distributed internally and externally;
- Requests information technology support from the Logistics Section to install and provide expertise in computers and telephone equipment or programs (JIC information technology support typically is most needed in the first days of incident response and for ongoing periodic troubleshooting thereafter);
- Completes daily unit log (ICS form 214);
- Ensures that all JIC costs are accounted for, including travel and other reimbursement vouchers, and provided to the Finance/Administration Section;
- Briefs JIC personnel at the beginning of each shift, in coordination with PIO; and
- Meets regularly with the Assistant Liaison Officer to ensure effective coordination and use of joint resources and tools. The JIC will be consulted during the development of the Liaison Communication Plan to ensure that planned activities described in the document are coordinated before seeking UC plan approval.

Resource Tools

- Agency Communication Managers E-List
- Daily Unit Log – ICS Form 214
- Individual Log – ICS Form 214a
- JIC Supplies Checklist
- LNO/PIO/JIC Discussion Checklist

9202.6.6 Information Gathering Unit

Information Gathering personnel are responsible for gathering, analyzing, and displaying up-to-date information about incident response. They also monitor and respond to traditional and social media coverage, and work with other JIC members to identify and address potential misinformation or rumors. Information Gathering positions should be assigned to people with any combination of skills in public affairs, crisis response, journalism, JIC operations, and project management.

Information Gathering personnel:

- Gather, manage, and analyze information from all parts of the JIC and Unified Command;
- Post and distribute incident information to JIC personnel and the Documentation Unit for posting in the Command Post;

- Respond rapidly to requests for information from Media Relations Specialists;
- Analyze and respond to media and social media reports; and
- Respond rapidly to breaking news and rumors.

9202.6.6.1 Fact Gathering Specialist

Fact Gathering Specialists gather, analyze, and distribute up-to-date information about incident response to other JIC personnel. A Fact Gathering Specialist essentially fills the role of "internal reporter" and must possess good listening, note-taking, and writing skills. Fact Gatherers should be familiar with ICS—especially the Planning Section Situation Unit—and have a working knowledge of key concepts, terminology, and subject matter. Fact Gathering Specialists must use critical resources, including Operations Section briefings and Planning Section meetings. Fact Gathering Specialists should also work closely with the Situation Unit Leader to obtain and confirm accurate information for the JIC.

The Fact Gathering Specialist:

- Routinely checks for new or updated information from various units within the UC;
- Quickly finds and provides answers to questions from JIC personnel; and
- Locates fact sheets, maps, aerial photos, and other resources to be attached to and distributed with news releases or posted on the incident website.

9202.6.6.2 Status Board Specialist

Status Board Specialists display incident information on status boards in the JIC. Status Board Specialists should work with the Planning Section's Situation Unit to maintain information boards in conspicuous areas of the Incident Command Post and in the field when possible. The Status Board Specialist should distribute copies of news releases, fact sheets, current command messages, and talking points to all members of the JIC.

The Status Board Specialist:

- Displays information on status boards in the JIC; and
- Provides a synthesis of status-briefing information to members of the Information Products Unit and other JIC personnel.

Resource Tools

- Incident Status Summary – ICS Form 209

9202.6.6.3 Media Monitoring and Analysis Specialist

Media Monitoring and Analysis Specialists evaluate the content and accuracy of news and social media reports and identify any trends or developing issues. People in this position should provide daily or more frequent coverage synopses

of prominent/sensitive issues, inaccuracies, and viewpoints and recommendations for corrections to the Media Relations Officer.

The Media Monitoring and Analysis Specialist:

- Monitors blogs and social media/networking sites;
- Monitors, clips, and distributes all incident-related news from print and electronic media;
- Gathers perspectives from the media, public, affected communities, and other involved parties about the progress of the response efforts; and
- Identifies potential issues of concern, problems, and rumors and reports information to the PIO, Rumor Control Specialist, and appropriate agency or staff.

9202.6.6.4 Rumor Control Specialist

Rumor Control Specialists receive, verify, and ensure that facts are disseminated to dispel false rumors regarding the incident.

The Rumor Control Specialist:

- Monitors online communities (blogs, social media platforms), and local print and broadcast media to evaluate/validate rumors;
- Receives rumor reports from others in response (e.g., Media Relations Specialist or Community Relations Specialist or those who work with media or the public in the field);
- Identifies and reports rumors that may cause greatest concern or problems to the Information Gathering Specialist, Information Products Specialist, Media Relations Specialist, and Community Relations Specialist; and
- Reports results of each rumor investigation to the JIC manager and PIO.

9202.6.7 Information Products Unit

Information Products personnel are responsible for developing, writing, and distributing information-based materials. Information Products positions should be assigned to people with some combination of skills in public information, journalism, photography, web management, and ICS and JIC experience.

9202.6.7.1 Writer

Writers produce news releases and nearly all other written materials. At least one, and often more, news releases are produced each day. Other products include fact sheets, talking points, website content, social media posts, and presentation materials. Depending on staffing levels and skills, writers may collaborate with Media Relations Specialists to produce radio feeds and visual material for media and others. They may also work closely with the Website Specialist (see below), who formats material for posting on the official incident website and provides that material to other organizations for posting.

Writers should possess a combination of skills in writing, editing, design, and layout.

The Writer:

- Develops communication and outreach products (e.g., news releases, talking points, briefings, fliers, fact sheets, public service announcements, etc.) based on the 96-hour plan and related templates;
- Uses publication-quality digital photographs in news releases and other products; and
- Develops briefing packets and handouts for news conferences, VIP tours, public meetings, and other venues.

Resource Tools

- News Release Sample – Initial

9202.6.7.2 Photographer/Videographer

The Photographer/Videographer shoots high-quality digital photos and video for release to the public and media. Personnel in this position should possess advanced skills and experience in digital photography, digital videography, and digital editing. In addition, it is possible that the Safety Officer may require Hazardous Waste Operations and Emergency Response **(**HAZWOPER) certification for the Photographer/Videographer to capture images from the hazard site. It's best practice to store the photos/videos in a central repository (shared-drive, online Dropbox, SharePoint site, etc.).

The Photographer/Videographer:

- Shoots and edits photographs of high (print) quality;
- Shoots and edits video of broadcast quality;
- Catalogs and manages all photos and videos;
- Provides approved photos and videos to the Website Specialist for the response website; and
- Obtains high-quality photos or video from responders when possible.

9202.6.7.3 Website Specialist

The Website Specialist ensures that all information posted on the incident website is timely, accurate, continuously updated, and approved by Unified Command. This position also provides material to other organizations for web posting and, if practical, monitors those websites. The position should be filled by a person with strong skills in creating and formatting web pages and working with digital images.

The Website Specialist may be located in the Command Post or in a response agency's office to:

- Maintain and update incident website;
- Route email inquiries to Media or Community Relations Specialists;

- Ensure appropriate approval of all items prior to posting on the incident website, blog, or social media accounts;
- Maintain a JIC blog if applicable; and
- Use the incident website and social media accounts as forums to address questions, concerns, or misinformation found on other websites, blogs, and chat rooms.

9202.6.8 Media Relations Unit

The Media Relations Unit is largely responsible for communicating with the media and the public. Personnel selected for these positions must possess experience in media relations, public affairs, public speaking, and crisis communications.

Media Relations personnel:

- Provide support for and assist in organizing news conferences, briefings, public meetings, tours, and other activities;
- Support development and modification of communications and outreach strategies;
- Support development of materials and logistics for VIP tours;
- Respond to inquiries from reporters. (Stay on message. Stick with facts approved by Unified Command);
- Manage query tracker – a chart to keep track of inquiries from the media - includes who to contact, their question/inquiry, which member of the JIC is assigned, resolution/answer, and status (open or closed);
- Serve as incident spokespersons in print, online, radio, and TV media;
- Coordinate with the Liaison Officer;
- Analyze news coverage and community feedback to determine the effectiveness of communication efforts;
- Recommend and develop strategies for providing information to news media;
- Escort reporters and others during tours;
- Identify and correct rumors or misinformation;
- Maintain records of media calls;
- Maintain contact lists of media; and
- Promote story and feature ideas to target media.

9202.6.8.1 Media Relations Specialist

Media Relations Specialists rely on Fact Gathering Specialists to provide and update information. Media Relations Specialists should have experience interacting with the media.

The Media Relations Specialist:

- Serves as the incident spokesperson;

- Staffs the media phone bank and responds quickly to information requests, using talking points, news releases, and fact sheets as resources;
- Conducts media interviews;
- Prepares speakers prior to interviews;
- Provides other Media Relations and JIC support as assigned; and
- As needed, plans and escorts members of the media on tours of the incident scene; coordinates with the Safety Officer to make sure that it is safe to escort people to the incident scene.

Resource Tools

- Media Content Analysis Worksheet

9202.6.8.2 Social Media Specialist

The Social Media Specialist works with other members of the JIC to post approved messages to incident social media pages, monitor social media platforms for incident-related information, and identify and address misinformation or rumors.

9202.6.8.3 Community Relations Specialist

Community Relations Specialists may be located in the JIC or Liaison Unit. A discussion between the PIO and LNO should determine where this position resides. In either case, this position coordinates between both teams. The Community Relations Specialist should possess skills in public involvement, community outreach, public speaking, listening, and strategy development.

The Community Relations Specialist disseminates site-specific information developed by the Information Gathering Unit to the local community by methods other than mass media. Dissemination methods include:

- Community and public meetings;
- Community bulletin boards;
- Community websites;
- Community web calendar(s);
- Walk-in or walk-up information centers;
- Central community phone hotline (part of the JIC; use “dispatchers” to take all initial calls from both media and public; information about wildlife or where spilled oil is located must be reported to the Operations Section);
- Recorded message information;
- Door-to-door canvassing;
- Use of volunteers to disseminate community information;
- Contacts with schools, churches, and community centers; and
- Contacts with nonprofit and service organizations, including neighborhood groups.

The Community Relations Specialist:

- Assists the Liaison Officer with arranging tour logistics for elected officials;
- Assesses public perception, summarizes public concerns, or analyzes content when requested by the PIO or JIC Manager;
- Elevates important community concerns or site-specific knowledge through the proper chain of command;
- Determines the need for and obtains interpreters or translators to communicate incident information for communities that speak a language other than English. Interpretation is for spoken language, translation is for written language;
- Provides background and context to the PIO and JIC Manager about affected communities, including information about local economic and cultural concerns, past impacts from spills or other disasters/emergencies, organizations that can provide community and individual support, and opinion leaders;
- Maintains records of public calls;
- Recommends and coordinates community outreach efforts or programs; and
- Determines need for and format of public meetings and other public gatherings.

Resource Tools

- Field Escort Equipment and Communications Checklist

9202.7 Joint Information Center Protocols and Procedures

A JIC is responsible for media relations and public information during incident response. The following protocols and procedures guide JIC activities.

9202.7.1 Unified Command Approves News Releases

Unified Command must approve all news releases prior to distribution. The Unified Command should review draft releases for factual accuracy while avoiding getting bogged down in copyediting.

The PIO is responsible for ensuring that Unified Command review and approval occur quickly. If approval is delayed because of disagreement about factual statements, the PIO should employ two tactics:

1) Re-word statements to satisfy Unified Command or,
2) Delete disputed statement(s) and try to resolve any issues before the next news cycle.

9202.7.2 Unified Command Approves Web Content, Publications, and Other Materials

Besides press releases, Unified Command also must approve other public information developed by individual agencies responding to an incident. Review and approval must occur prior to publication, Web posting, or distribution. The PIO or delegate will help facilitate this process. Whenever possible, review is completed as soon as practical, but no more than within two hours. In some instances, such as posting simple factual updates from the Situation Unit (ISC 209-OS), the PIO may negotiate with Unified Command whether these products need their prior review.

9202.7.3 Coordination of Public Information Among Other Agencies

Coordination of public information by other agencies is required when the PIO or JIC Manager notifies agency communication managers that a JIC has been activated. Coordination also occurs when public information specialists operate from their agency offices to form a "virtual JIC." Especially in the case of a virtual JIC, the PIO should ensure that news releases list points of contact from all organizations participating in the JIC. This coordination loop helps avoid surprises and aids Unified Command to speak with a consistent voice. The PIO, on behalf of the Unified Command, may be called upon to resolve any disagreements that may arise.

Resource Tools

- Agency Communication Manager E-List

9202.7.4 Coordination with the Liaison Officer

Coordination with the Liaison Officer is an important responsibility of JIC personnel. A Liaison Officer is appointed by and reports to the Unified Command. The Liaison Officer is the point of contact for federal, state, tribal, and local agency representatives and elected officials with a vested interest in the response. Calls received by the hotline may be directed to the Liaison Officer. The Liaison Officer coordinates all calls from public and private entities offering assistance or requesting information. The PIO is responsible for ensuring that the Liaison Officer's messages are consistent with those from the JIC.

9202.7.5 JIC Communication Plans

Communication plans for the JIC provide the context and tactics for achieving communication objectives. These plans should not be confused with the communication plan developed by the communications unit of the Logistics Section for the operational and tactical response. Plans are developed by the PIO for a specific operational period to help the JIC "get ahead of a story" or anticipate issues, pitfalls, problems, and opportunities. Personnel from various parts of Incident Command may be responsible for certain plan deliverables. Any response personnel affected by a communication plan should be included as early as possible.

In the early hours of the response, it is best practice to initiate an early release of information for social media. This is critical to establish an online presence for information. This initial plan will be incorporated into the larger JIC Communications Plan. See section 9202.7.6.2 for guidance.

Resource Tools

- JIC Communication Plan Outline
- Initial Request for Release of Information (Initial Comms Plan) and Social Media Policy for All Response Personnel

9202.7.6 Incident Website and Social Media Accounts

At the formation of a JIC, the PIO should provide a recommendation to establish an incident-specific website and use of social media accounts. The PIO should advise Unified Command of the options for hosting the incident-specific website, including the use of an agency-supported site or the purchase of a site hosting platform.

The incident website should include news releases, fact sheets, photographs, video clips, maps, links to relevant social media accounts, media feed embeds, and other approved documents that are available. The Website Specialist works closely with the JIC Manager to ensure that all information posted is accurate, updated, and approved.

A website becomes a useful tool when there are large amounts of information being released. It serves as a home base for all outward-facing visual, contextual, and written information regarding the incident and should work in conjunction with other forms of sharing. If a website is established, all single pieces of media released should reference the website as a resource to refer to. If an incident poses the possibility of needing a website the process should begin as soon as possible.

9202.7.6.1 Best Practices for Use of Websites

- The website should be the "flagship" for all official information on the response, and agency social media should drive people to this website.
- The name and URL for the website should have a neutral, recognizable brand that relates to the incident. How the public is referring to the response online should guide the website name as well as the name of the incident. The name and URL should be short enough for the public to remember and locate but long enough for them to recognize. This will vary depending on the incident and the reach of it.
- If it is decided that the incident will be large enough to require a website it ideally should be stood up within the first 24 hours.
- All press releases, social media posts, interviews, and other external-facing information should reference the website as a place to find further information. With that, it should have all of those pieces of external material on it or access to them.

9202.7.6.2 Timely Request for Unified Command to Approve Release of Information

As early as possible after the initial response, the PIO is advised to secure general consent from Unified Command to post simple, real-time factual updates on the website and via existing/established agency social media accounts without further Unified Command involvement/approval. Such approval is meant to help the JIC be the first and best source of timely information. This will also help the Information Products and Media Relations Units manage rumors, fact-check, and supply time-sensitive and vetted information from a single, official release point.

PIO should work with PSC to conduct an initial meeting with UC. Use the Initial Request for Release of Information (Initial Comms Plan) and Social Media Policy for All Response Personnel template. It is recommended that the PIO outline the documents they wish to pull information from throughout the response without approval, such as the 201, 202, 209, 232, etc., and emphasize the importance of this preapproval for efficiency and success. These policies should be signed off as soon as possible by the UC but no later than the Command and General Staff Meeting.

This request should also include guidance for responders and Command Post staff on the use of personal social media accounts. Personnel should not post any information regarding the response to their personal social media accounts. If they want to help share information about the response it should be reposts of what the JIC is releasing not original content.

Resource Tools

- Initial Request for Release of Information (Initial Comms Plan) and Social Media Policy for All Response Personnel

9202.7.6.3 Determining the Use of Social Media

Approval for the use of social media should be proposed by the PIO to the UC and granted as soon as possible. Use of social media will provide quick, efficient, and sharable information about the response directly from the UC to the public. Recommended social media channels include Facebook and X (formerly Twitter) with possible inclusion of Instagram if photos of the response are collected.

9202.7.6.4 Best Practices for Social Media

- The use of social media should support the IC/UC communication goals. As the PIO considers the affected communities who need information about the response, sometimes social media is a great way to communicate, but not always. The PIO should consider the affected communities who need information about the response and decide on the appropriate social media channels for use accordingly. Facebook reaches a large range of age groups and audiences. X is a dominating platform for the sharing of news both publicly and by media outlets. Both of these

platforms should be considered. Instagram is used by a younger audience and requires photos/videos. The use of it should be decided upon by the PIO if it seems relevant for the response.

- Social media is a dialogue with the public and an information dissemination and engagement tool. It should be used as a two-way communication tool as well as another way to further push information out to a greater audience. Be prepared with sufficient staffing to track engage and address concerns in a timely manner. Direct engagement with comments is not always appropriate though sometimes applicable. This should be outlined by the PIO but it is recommended that if reoccurring concerns begin to trend, responding to each inquiry may not be sustainable. For trending concerns pushing out a general update focused on them may be the best course of action. Comments seeking resources and/or the website are such that a direct response could be useful.
- Establish unique #hashtags for the incident to help with information identity and tracking as information is posted. This should also take into account what the public is already using to identify the incident. If they are using an appropriate hashtag widely, consider using it as well.
- Search out, amplify, cross-post, and tag incident partners to gain wider coverage and reach. Utilize agency platforms that have a large following and consider the spans of reach through the incident.
- Social media efforts should closely align with JIC operations so that information is being released online in concert with public and media interests. Therefore, the Social Media Specialist should be located in the JIC and work under the Assistant PIO for Community Relations.
- Use social media to drive audiences to an up-to-date incident website if applicable.
- Social media should be monitored regularly for incident-related posts, comments, and information to keep aware of public interest, public information needs, and any need for fact-checking or rumor control.

9202.7.6.5 Privacy Settings and Policy

- Official social media sites shall be publicly viewable to the full extent available. Site managers should set the site's privacy and account settings of official sites to ensure maximum public availability of content.
- This does not apply to personal social media sites. Personnel should be vigilant to protect their own privacy and the privacy of others online.

9202.7.6.6 Records Management

Each agency will need to determine its requirements for the management of social media and website content including photos, video, etc. The need for resource allocation and clear procedures for record retention should be communicated to JIC staff.

9202.7.6.7 Accessibility and the Website

Section 508 of the Rehabilitation Act of 1973 requires that federal websites be accessible to people with disabilities. The JIC's Webmaster should ensure that accessibility requirements are followed:

- Sites should have text equivalent for every non-text element.
- Each photo/graphic should be coded with Alternative Text.
- Video and multimedia need captions or transcripts.

9202.7.6.8 Correction Policy

Mistakes will happen. Consider the following procedure for correction:

- Timely corrections such as spelling and punctuation edits can be done immediately.
- Factual or contextual errors (names, dates, places) should be flagged with "CORRECTION" to post.
- Corrections to a tweet can be nested into the original tweet.
- Corrections to Facebook posts can be done via edits to the original post, though it is good practice to indicate in the post that a correction is being made, and what you are correcting.
- Minor updates can follow the same procedure as corrections.

Resource Tools

- Social Media Account Checklist

9202.7.6.9 Social Media Implementation Information in the Joint Information Center Communication Plan

This section outlines a content management plan for social media sites and outlines how content will be gathered, developed, repurposed, and released on social media.

Consider the following:

- How frequently will you post and what is the minimum number of posts per day/operations period?
- Posts should be real-time and timely, as much as possible.
- Is UC aware and approving of this?
- What effect are you trying to achieve by putting information out?
- What content can be posted?
- What content cannot be posted?
- Will you be considered as a source for breaking news?
- What content will be consistently and readily available?
- Generally, the JIC should not post other news media content on the incident's social media.
- When will you be including visuals and how will you be collecting them?
- Keep an open mind and seek other content to post online.

- Are you avoiding response jargon when communicating with the public (i.e., using gallons instead of barrels for spill measurements, spelling out acronyms, and further explaining complex response activities)?

9202.7.6.10 Review and Approval Process

- Outline who has release authority and how the chain of approval for publishing content will flow.
- This may require varying levels based on the type of content (i.e. original, repurposed, imagery, etc.). This section is essential to avoid unnecessary delays in the posting of information and ensures maximum disclosure and minimum delay.

9202.7.6.11 Evaluating and Analyzing Social Media Use

Determine how social media efforts will be evaluated. Social media can be used to create valuable reports for the response leadership. The following shall be considered:

- Analyze comments to determine gaps in public understanding and awareness of response operations and status. (See: Social Media Analysis Worksheet).
- Track trending topics, arising issues, and misperceptions ("Rumors"). Make recommendations to the PIO about how and when to respond to persistent "rumors" and how you will address or deal with fact-checking.
- Use the metric systems for each social media tool to produce quantitative and qualitative reports on engagement.

9202.7.6.12 Comment Moderation

The PIO should provide recommendations to Unified Command on comment moderation during the response. This refers to how the JIC should engage with comments posted on social media channels and website. To ensure public engagement and to set expectations for how comments are reviewed, moderated, and responded to, consider the following:

- Develop a comment policy, such as no profanity, no pornography, no threatening, and no offensive content. This policy should be posted as a disclaimer on the social media account or website.
- If comments violate the comment policy, they should not be deleted or hidden at the discretion of the Unified Command or their designee.

If needed, the JIC should explore technology that could be utilized to assist in moderating content.

9202.7.7 Documents to the Documentation Unit

All documents generated by the JIC must be provided to the Planning Section Documentation Unit at the end of each shift. These materials include:

- News releases,
- Fact sheets,
- Other material developed for the media or public,

- Talking points,
- Media query forms,
- Rumor forms,
- Phone messages,
- Copies of electronic messages, such as emails and social media entries, and
- Communication plans.

While electronic files may be kept, a hard copy is vital for overall documentation of incident response from all sections of Unified Command. The Administrative Assistant is responsible for collecting all documentation at the end of a shift and providing it to the Documentation Unit. This may also be collected through files on a virtual command post.

Resource Tools

- Daily Briefing checklist (for PIO or Designee)
- Incident Status Summary – ICS Form 209

9202.7.8 News Releases

A news release is a written document distributed to media via email within 2 hours of response activation and thereafter as needed. This refers to the first unified press release once a JIC has been formed. The JIC should strive to meet news cycles (10:30 to 11 a.m. and 3:30 to 4 p.m.) and provide up-to-date information as much as possible throughout each operational period. The process can be streamlined by following the following guidelines:

- Limit length to 250 to 300 words—about one printed page;
- Use 12-point Times New Roman or 11-point Arial fonts (universal for all computers);
- Use quotes judiciously, if at all. Deciding who is quoted and what they say can take considerable time, but quotes can be important statements of empathy. Early narrative news releases represent the best place opportunities for quotes—ongoing releases are largely quantitative in content and don't need quotes;
- Avoid logos or other layout flourishes that can keep press releases from getting past newsroom spam-blocking programs and complicate electronic transmittal;
- Summarize quantitative information; and
- Use an asterisk to indicate new information when updating frequently.

9202.7.9 Procedures for News Releases

- Write, edit, spell-check, and proofread a draft release.
- Obtain a review and approval from Unified Command or the Incident Commander. If significant changes are made, the news release must be re-approved by the Incident Commander or Unified Command.

- Proofread and finish the approved release.
- The news release should have "Joint Information Center" in the heading even though it may be distributed by a state agency, USCG, EPA, etc.
- Post on JIC tracking board. Distribute to Unified Command and the Planning Section Documentation Unit to ensure distribution within the Command Post.
- Use news releases as key information sources when responding to calls and conducting JIC briefings/tours.

The news release process should roughly follow this process:

- **Fact Gathering Specialist:** Attends briefings or meetings and obtains new information from Situation Unit; provides information to **Writer**.
- **Writer:** Writes news release, spell-checks, and proofreads; provides draft to PIO for approval by UC.
- **PIO:** Obtains approval from UC and returns to **Writer**.
- **Writer:** Incorporates changes and finishes the release. If changes are substantive, PIO resubmits to UC for approval.
- **Website Specialist:** Formats and posts on incident Website.
- **Distribution Assistant:** Distributes to **Media Relations Specialist**; externally via email and social media and internally to designated locations.

9202.7.10 News Release Distribution

Timely distribution is crucial. Electronic distribution can be handled by either the JIC or a response agency's office – whichever is most expedient and has an up-to-date list. News releases and updates should be distributed to:

- News media;
- Governor's Office;
- JIC staff and other interested personnel in the response organization;
- Response organizations' headquarters and/or regional offices;
- State and congressional elected officials from that area;
- Tribal officials;
- Local officials and local emergency management departments;
- Special publications;
- Environmental and other advocacy organizations;
- Social Media; and
- The response website.

The Community Relations Specialist and Liaison Officer are responsible for non-media distribution and jointly maintain those distribution lists.

9202.7.11 Handling Media Calls

The JIC's primary activity is handling media phone calls and electronic queries. News releases provide the basic reference for Media Relations Specialists who field calls from reporters or conduct on-camera interviews. It is essential that adequate personnel be assigned to the media phone bank. Media Relations Specialists should use Media Query forms to track all media calls, questions, and answers. As much as possible, incoming calls from reporters should not be transferred to voice mail.

Media position in the JIC – How to Communicate Guide

- Getting inquiries copied down and responding:
  - ☐ Use the prescribed platform for the response (MS Teams, Jetty, etc.).
  - ☐ Enter who is calling and the time.
  - ☐ Paraphrase the question.
  - ☐ Make a few notes about how you responded. There will likely be similar questions and doing this will help maintain consistent responses.
- Standard responses:
  - ☐ "We want to be sure we are getting the best information; I can call or email you the facts when we have them."
  - ☐ "We are gathering the facts right now. As soon we have facts on "how we are responding" and/or "how the response is going" we will release the information to you"
  - ☐ "I am not going to speculate" if there's pressure to answer.
- Okay to say:
  - ☐ Something has happened. "There's been a release of diesel fuel from (Source) from the (Company Name) property; we've reported it to responders and the National Response Center. (Talking points for the initial conversations - use the ICS-201 Objectives).
  - ☐ Follow up with "We want to have the best information".
  - ☐ "The UC are the ambassadors to get information to the public and as soon as we have 2the best information we will share it."
- Remember:
  - ☐ Agreement for release of information from **ICS-201** and **ICS-232** is the basis for key messages.
  - ☐ Utilize the Info Gatherer for fielding questions: "Please go to EU and find out: _____or "Please go to Logistics and ask them if: _____.
- If a conversation is controversial, have a conversation with the PIO.
- It is a good idea to explain what is happening and how it works: "I just want to take a minute to explain how this works. We've come together and have a command post at the (Location) and in that command post we have a command of example: (FOSC from USCG, SOSC from WA DOE, LOSC from King Co EMD TOSC and Fish and Wildlife). They are all

working together to develop a plan to carry out strategies to bring in the right equipment, and protect the public, responders, and environment.

9202.7.12 News Conferences

News conferences should be held when there is new, important information. A news conference is generally held within the first 12-24 hours of a response and thereafter daily for major incidents. The Incident Commander or Unified Command personnel are the main speakers at news conferences; however, technical specialists from other sections may also be needed. Personnel from nearly all positions in the JIC will play some part in preparation.

News conferences should not be held inside the incident Command Post due to security concerns and potential distractions to response personnel. Establish a consistent area to conduct media news conferences/interviews that will not impact response personnel. To hold a news conference:

- Select the appropriate time – typically about two hours before news deadlines (10 a.m. or 3 p.m.), or as soon as possible after a major development;
- Whenever possible, select and schedule a location that is easily accessible, has power and plenty of parking, minimal background noise, and a good backdrop;
- Set up space (audio-visual, chairs, public address system, etc.);
- Notify media about time, location for the news conference, including a map or driving directions;
- Produce briefing packets with news releases, fact sheets, FAQs, maps, etc.;
- Identify speakers' order of presentation;
- Schedule and conduct speaker preparation in advance of the news conference. Speaker preparation is essential. Time spent will depend on incident circumstances. Each speaker should have one to three main messages that contribute to a good overall picture;
- Develop or rehearse questions and answers (Q&A) for each speaker – not for distribution but to help each member of Unified Command think ahead about answers to questions that may be asked;
- Appoint a news conference moderator – usually the PIO – who will:
  - ☐ Greet the assembly,
  - ☐ Explain the purpose of the news conference,
  - ☐ Set the agenda,
  - ☐ Introduce the speakers,
  - ☐ Discuss format,
  - ☐ Call on reporters,
  - ☐ Provide sources for additional information,
  - ☐ Control the amount of time spent on any given subject, and
  - ☐ End the news conference on time.

- Sign in attendees;
- Call on local reporters first or early in the Q&A session;
- Assign a JIC staff person to record the event with a digital recorder or camera;
- Assign a JIC staff person to take written notes of each question asked (and by whom) and answers given;
- Assign a JIC staff person to livestream or Tweet the event if appropriate
- Arrange for language interpreters, if needed; and
- Assist reporters with any additional needs immediately following the news conference.

Resource Tools

- News Conference / Public Meeting Worksheet
- Audience Sign-in Sheet

9202.7.13 Moderators

Moderators set the tone for and facilitate news conferences and public meetings. Have a predetermined message for each news conference. Provide correct spellings and titles for any speaker or place names with peculiar spellings. State the speakers' organizations and positions in the Unified Command.

- Do not let any one speaker or reporter dominate the news conference. Limit each speaker to about three minutes. Stick to that time.
- Remain available after the news conference.

Resource Tools

- Moderator Script Outline

9202.7.14 Media Briefings

Media briefings are less formal than news conferences and are generally conducted by the PIO or designee. A media briefing quickly provides certain types of information, such as where cleanup crews will be working or where photographers and camera crews can get photos and video footage. They are a good way to also give reporters the day's general schedule and time of the next news conference, public meeting, etc. Send an advisory to reporters or make calls at least an hour in advance of JIC media briefings. All meetings and briefings should be scheduled on the daily meeting schedule, ICS Form 230, so that no conflicts occur.

Resource Tools

- Daily Meeting Schedule – ICS Form 230

9202.7.15 Tours for Media and VIPs

Tours for media and VIPs should be planned for early in major incidents. Several JIC personnel will be involved in logistics, preparation, and escort. Coordination

occurs with the Liaison Officer, Safety Officer, and Logistics Section to address protocol, safety requirements, transportation, and escort concerns. The Unified Command should be informed and may wish to accompany certain VIPs. To coordinate a tour:

- Work with the Operations Section to choose a few good vantage points for viewing incident effects and response work;
- Work with the Operations Section to make sure affected field personnel are alerted to tour schedules and that someone is designated to answer questions about their work;
- Work with the Logistics Section to arrange for group transportation;
- Obtain necessary safety gear and safety briefing for group members;
- Prepare information packets and talking points for tour guides, using only information approved by the Unified Command;
- Choose a technical responder, such as someone working in the Planning Section Environmental Unit, to accompany the tour and answer technical questions; and
- Drive and time the tour in advance.

Resource Tools

- Field Escort Equipment and Communication Checklist

9202.7.16 Media Pools

Media pools (for tours) may be necessary if access is restricted and should be used only as a last resort. Reporters generally do not prefer this method but will accept the decision if they understand the necessity. The PIO will determine the need for media pools. It is key that journalists selected for media pools understand that they are expected to supply copy, video, audio, or still photographs to all reporters requesting the material. Make sure local reporters are included in pools whenever possible. Follow the steps above for media tour preparation. A media pool should consist of:

- One TV video crew (camera operator, sound technician, and reporter);
- One still photographer from wire service, newspaper, or magazine;
- One print reporter from wire service, newspaper, or magazine; and
- One radio reporter.

9202.8 Community Relations Protocols and Procedures

9202.8.1 Public Meetings

Public meetings are necessary under a variety of circumstances. Many JIC personnel play a role in organizing and hosting public meetings. The JIC Manager works with the Community Relations Specialist and Liaison Officer as well as other JIC staff to determine the need and format of meetings. Options include open house events with multiple information displays, or more traditional venues featuring speakers with audience questions. The Liaison Officer coordinates with local elected officials who may—or may not—wish to participate. A

representative of the RP, if known, should consider using a public meeting as an opportunity to express regret about the incident.

Based on the PIO's recommendations, Unified Command will decide whether to hold public meetings and/or mobilize a Community Relations Specialist or Unit. PIO recommendations should be based on one or more factors, including:

- Injuries or deaths as a result of the incident;
- Potential health risks;
- Degree of community outrage, fear, or grief;
- Damage to the natural environment or potential harm to wildlife;
- Proximity of incident, command center, or staging areas to neighborhoods, schools, and other key community resources;
- Lack of local news and information sources or disproportionate media attention;
- Need for road detours and other emergency measures;
- Damage to or restriction from community resources like parks or public buildings;
- Damage to cultural resources;
- Response efforts continuing for several days or more;
- Widespread rumors and other unconfirmed or inaccurate information; and
- A community's or RP's history with a disaster or emergency response.

To prepare for a public meeting:

- Select a time and a location that is easily accessible and Americans with Disabilities Act (ADA) compliant, with plenty of parking, power, and minimal background noise. It is always best to conduct a meeting at the end of the workday to ensure adequate time for community members to arrive after getting off work;
- Determine meeting format (open house, audio/visual presentation, panel discussion, web conference);
- Ensure adequate set-up (tables, chairs, easels, displays, sound system, etc.);
- Identify speakers with technical expertise (health, wildlife, fish/shellfish, tribal interests, economic impacts, etc.);
- Schedule and conduct speaker preparation;
- Arrange for language interpreters, if needed;
- Develop talking points and internal Q&A for speakers;
- Develop and package handouts and presentation materials;
- Appoint a meeting moderator;
- Staff a sign-in table and information posts; and
- Handle inquiries from media and public.

Resource Tools

- News Conference/Public Meeting Worksheet
- Moderator Script Outline
- Audience Sign-in Form

9202.8.2 Community Bulletin Boards

Community bulletin boards can be placed at frequently visited locations in communities such as grocery stores, libraries, schools, churches, Chamber of Commerce offices, fire stations, ferry terminals, bus stops, park-and-rides, tourist information centers, public boat launches/marinas, coffee shops, community centers, and fishing license outlets.

These bulletin boards convey information that is especially pertinent to local residents or recreationists, including road closures, transportation detours, boating restrictions, health considerations, reporting oiled birds or wildlife, etc. Posted materials can include maps, fact sheets, news releases, and contact information. Bulletin boards must be updated frequently. Postings must be removed when information is outdated or no longer relevant.

9202.8.3 Community Websites

Community websites and community web calendars can also serve as credible communication tools for the same type of information posted on community bulletin boards. Some public access channels can also provide simultaneous webcasts and/or cable broadcasts of meetings.

9202.8.4 Information Centers

Walk-in or walk-up information centers should be considered when there is a high demand for public information due to circumstances such as evacuations, human health risks, property damage, and environmental damage.

9202.8.5 Telephone Hotlines

Telephone hotlines or recorded message lines can be a useful tool to provide residents with a phone number dedicated to community calls. This helps ensure that public calls are not preempted by other priorities and keeps the main JIC line reserved for media. Recorded messages may be appropriate to inform residents about rapidly changing conditions such as road closures, potentially harmful exposure to pollution, and progress in incident response. Recorded messages should be updated frequently to provide information to callers who might otherwise swamp incoming telephone lines. If a hotline is established, the Community Relations Unit needs to be adequately staffed to handle the volume of calls.

9202.8.6 Door-to-Door Canvassing

Door-to-door canvassing can be used when it is important to warn, instruct, or reassure residents. This method can help inform residents about what they are hearing, seeing, or smelling, and can correct rumors or misperceptions. If

evacuation is recommended and/or required, notification is generally the responsibility of the local sheriff's office and should not be initiated by the JIC.

9202.8.7 Elevating Information

Elevating information that may have value to the Unified Command or Incident Commander is a rare, but important, function of the Community Relations Specialist/Unit. For example, if a local citizen or group raises an issue or has knowledge that may aid or hamper the response, that information should be elevated through the proper chain of command.

9202.8.8 Interpretation and Translation

Interpreting or translating incident information into other languages may be needed in communities with a large community of non-English-speaking residents. For further information about non-English-speaking populations, go to the U.S. Census Website.

Some agencies maintain lists of employees with language skills who might be recruited for incident response. The Washington State Department of Ecology has four multi-lingual teams fluent in Spanish, Chinese, Korean, and Vietnamese. Some communities also have readily available resources for overcoming language barriers (such as the Immigrant and Refugee Organization in Portland).

Other resources that may have language services include community groups, community centers, and local churches. While community members may have credibility and trust within the community, they may lack the translation skills for technical information. It is good to keep in mind that many languages have different dialects, which can hamper interpretation.

9202.8.9 Using Volunteers

Using credible community volunteers to disseminate information door-to-door or staff an information center can be useful in building trust. Volunteers also can be a critical resource when many residents need to be individually contacted in a short amount of time. Unified Command must always approve using volunteers. They must be properly trained to understand the scope and limitations of their role. One source of well-trained emergency volunteers is the Community Emergency Response Teams found through emergency management departments in many counties. The Liaison Unit leads the process for the use of volunteers. The JIC should notify the Volunteer Coordinator if there is a request to use volunteers for JIC related activities.

9202.8.10 School Districts

Local school districts should be notified immediately. In addition to providing necessary safety precautions for students, schools have excellent systems for providing information to families. Schools are also good places for public meetings and other response assistance.

9202.8.11 Local Churches, Nonprofits, and Service Organizations

Local churches, nonprofits, and service organizations can provide communication networks to inform members and often have available meeting space or other types of support. These organizations have the additional value of credibility among their constituents.

9202.9 Analyzing Public Perception and Content

To provide Unified Command with the best possible communications guidance, a JIC must have accurate, ongoing analyses of public perception and media content. Given the quick pace of an incident response, this analysis may not be formal. The Community Relations Specialist and Media Monitoring and Analysis Specialist will play a big role in determining public perception and working with JIC personnel to:

- Monitor primary newspaper, radio, television, and websites;
- Attend town meetings;
- Conduct phone or door-to-door surveys;
- Coordinate and facilitate focus groups, depending on the magnitude of the incident;
- Track calls and requests from reporters and the public;
- Identify potential problems or rumors, and report them immediately to the PIO and appropriate agency or office; and
- Identify significant minority communities and determine the most effective ways to communicate with them.

9202.9.1 Content Analysis

Content analysis is the review of both media reports and community comments to help determine the effectiveness of JIC communication efforts. Areas for evaluation include visual images, information sources, factual statements, and key messages. In conducting an evaluation, consider:

- Overall themes or key messages in media reports and quotes by local citizens;
- Statements about confusion, fear, or anger;
- Visual images used by media or described by citizens, including metaphors, analogies, or stories;
- Information sources quoted by media reports or community members; and
- Accuracy of "factual" statements.

9202.9.2 Media Content Analysis

Media content analysis considers:

- Length of a news report, either as broadcast minutes, newspaper column inches, and number and tone of media blog entries;
- Placement of news articles—lead stories, front page, or placed elsewhere;
- Sources quoted in news reports;
- Accuracy of "factual" statements;

- Key messages stated by sources, quoted in the report, or implied as the overall theme of the report or interview;
- Visuals such as pictures, word analogies, or anecdotal stories that help explain environmental, health, or safety issues; and
- Negative words or phrases that might influence public perception or understanding of the issue.

Resource Tools

- Media Content Analysis Worksheet

9202.9.3 Community Feedback

Community feedback helps a JIC shape, modify, and target communication products and strategies—especially when there is a high degree of public outrage. Community feedback tools include questionnaires at public meetings or posted on websites and blog sites, surveys conducted door-to-door or by phone, and focus groups. Use of these methods depends on the magnitude of the incident.

9202.9.4 Telephone Surveys

Telephone surveys can be conducted randomly or targeted to elected officials, organization directors, church pastors, school principals or counselors, neighborhood association officers, police or fire department personnel, and others in the affected community.

9202.9.5 Focus Groups

Focus groups involve a moderator who interviews and facilitates a discussion among multiple people at the same time. Focus groups yield a great deal of qualitative information. The moderator should be skilled in interview techniques and facilitation, with good listening abilities.

Sometimes, specific concerns point to the need to target a distinct group, such as Indian Tribes or workers or residents directly affected by the incident. In other cases, a broad assessment is desired, with people representing different organizations, points of view, ethnic backgrounds, neighborhoods, incomes, professions, or other variables. The goal is to get as complete a picture as possible of the different perceptions regarding incident response.

Resource Tools

- Sample Questions for Focus Group of Interview
- Focus Group Preparation
- Audience Sign-in Form

9202.10 References and Resource Tools

9202.10.1 References

JIC Resource Tools (downloadable and fillable forms)
https://oilspills101.wa.gov/northwest-area-contingency-plan/incident-command-system-toolkit/joint-information-center-resources/
Aerial Photos of Washington's Shorelines
https://fortress.wa.gov/ecy/shorephotoviewer/Map/ShorelinePhotoViewer
Assessing Oil Spill Damage
https://fortress.wa.gov/ecy/publications/SummaryPages/0208004.html
Emergency Spill Response in Washington State
https://fortress.wa.gov/ecy/publications/SummaryPages/971165cp.html
EPA Emergency Response Program https://www.epa.gov/emergency-response
EPA Oil Program http://www.epa.gov/oilspill/
Exxon Valdez: Then and Now 2009 https://dec.alaska.gov/spar/ppr/response-resources/publications-conferences/exxon-valdez/
FAQ: Oil Pollution Act https://www.uscg.mil/Mariners/National-Pollution-Funds-Center/About_NPFC/OPA/
Geographic Response Plans http://www.oilspills101.wa.gov/northwest-area-contingency-plan/geographic-response-plans-grps/list-of-geographic-response-plans/
NOAA Office of Response and Restoration http://response.restoration.noaa.gov/
Oil Spills in Washington State: A Historical Analysis
https://apps.ecology.wa.gov/publications/SummaryPages/97252.html
The Pacific States - British Columbia Oil Spill Task Force
www.oilspilltaskforce.org/
RRT/NWAC www.rrt10nwac.com

9202.10.2 JIC Resource Tools, Templates, and Examples

The following pages are templates to aid in the development of JIC products. You can also find downloadable and fillable templates at
https://oilspills101.wa.gov/northwest-area-contingency-plan/incident-command-system-toolkit/joint-information-center-resources/

JIC Organization

Daily Briefing Checklist (for Public Information Officer or designee)

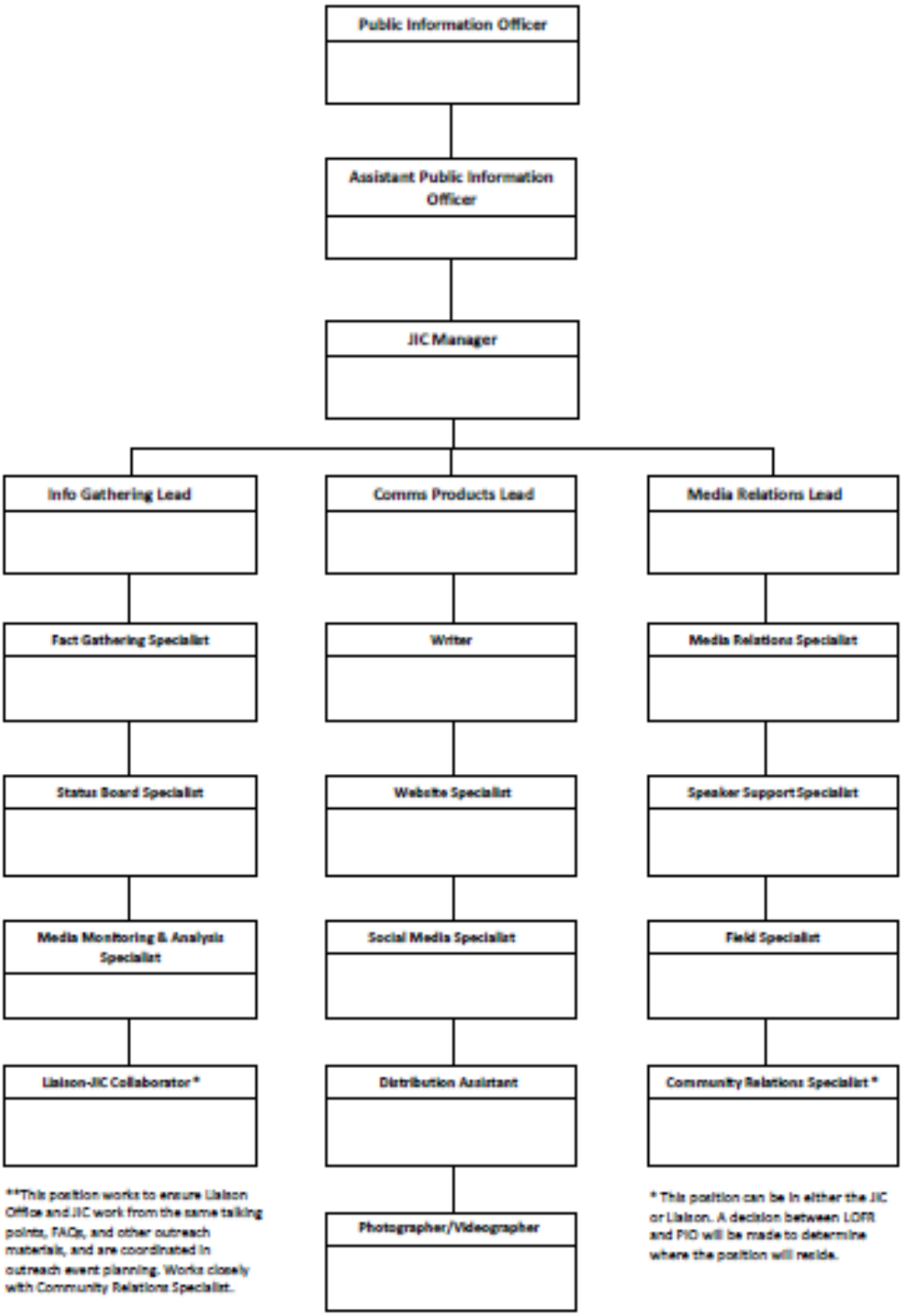
Purpose: Use this checklist to conduct team meetings

Date and Time:	
Name of lead Public Information Officer:	
Name of Joint Information Center Manager:	

Topics to discuss during check-in with the JIC team:

- Date/time of press conference
- Media Inquiries
- Name of field escorts
- Media analysis
- Speaker prep
- Community outreach
- Public meetings
- Community feedback
- Volunteer inquiries/organizations
- Protocol
- Tour support
- Escorting
- News releases
- Fact sheets
- Photo/video
- Audio/visual support

Example JIC Organization Chart



Situation Status – At a Glance

Incident/Drill Name: _____

Communication Information	Last updated:
JIC phone #	
Media relations phone #	
Liaison phone #	
Elected officials briefing phone #	
Claims phone #	
Wildlife reporting #	
Website	
Social media/hashtag	
Agencies/Organizations involved	
Closures	

Incident/Drill Name: _____

Response Information	Last updated:
Volume capacity (amount in boat, railcar, etc. that has potential to spill)	
Volume of oiled spilled (gallons)	
Oily water recovered (gallons)	
Number of personnel on scene (include field and command post personnel)	
Number of response vessels	
Number of oiled wildlife impacted (birds, fish, mammals, etc.)	
Reported personnel injuries	
Miles of impacted shoreline	
Boom deployed (# and location)	

Issue Tracker

Incident/Drill Name: _____

Issue/Hot Topics/Trends	Actions

Joint Information Center Supplies Checklist

[ ] Landline phone:
___Joint Information Center Hotline
___ Media Inquiry Hotline
___ Volunteer Hotline (as needed)

[ ] Cell phones:
___Public Information Officer
___ Assistant Public Information Officer
___ Joint Information Center Manager

[ ] Computers – at least 3 needed with external drive and software
[ ] Computer memory sticks (at least 8 GB memory each; virus scanned)
[ ] Computer software (Windows, Word, Adobe Acrobat Reader, Internet Explorer, Outlook)
[ ] Computer Wi-Fi card
[ ] Internet connectivity
[ ] Land phone (DSL and/or normal cords)
[ ] Phone / email lists with internal contacts
[ ] Phone / email lists with external state, federal contacts
[ ] Phone / email lists with JIC participants and ICS contacts
[ ] Media phone / email list
[ ] Printer/Copier

Supplies

[ ] Batteries, replacements for all equipment (AAA, AA, 9-volt, C, D, camera, lithium, etc.)
[ ] Binder clips, various sizes
[ ] Binders (3-ring) with dividers, several
[ ] Clipboards
[ ] Digital cameras (still and video)
[ ] Dry erase markers and eraser
[ ] Easels
[ ] Extension cords with 3 prongs – 4 20-foot cords
[ ] File folders
[ ] Flip chart paper, 4 pads
[ ] 3-hole punch
[ ] Name tags
[ ] Power surge protectors
[ ] Printer cartridges – at least 4
[ ] Printer paper – 6 reams (4 white, 2 colored)
[ ] Push pins
[ ] Radio, AM/FM
[ ] Staplers – with extra staplers
[ ] Scissors
[ ] Tablets (writing tablets)
[ ] Tape – clear, masking, blue, duct
[ ] White sheet (if A/V screen is unavailable)
[ ] Whiteboard

Initial Holding Statement

The following template is an example of an initial statement that can be used in the pre-JIC phase of a response, before Unified Command and a JIC have formed, and can be used after the JIC has been formed as the response effort is coming together. The template is designed to highlight initial coordination and participation among responding public and private entities, while providing some information that an incident has occurred during a time when details are still emerging.

A message like this can be used for social media and responding to inquiries. This is not to be confused with the initial press release.

Media contacts:

- Agency: contact name, media relations, phone number, email
- Other Agency: contact name, media relations, phone number, email

Agencies are responding to a [PRODUCT] spill from a [TYPE OF VESSEL/FACILITY] [AT/NEAR LOCATION] in [COUNTY/CITY]. [LEAD RESPONSE AGENCIES] are on scene with [RESPONSIBLE PARTY] and its spill response contractors. Their primary focus is to protect public health and minimize impacts to the environment.

This is a developing incident. More information will be provided as it becomes available.

Initial Request for Release of Information (Initial Comms Plan) and Social Media Policy for All Response Personnel

Incident name:	
Date:	
FOSC	
SOSC	
LOSC	
TOSC	
RPIC	

Release of information for timely communication: Finalized briefing forms may be used for public information
The Joint Information Center (JIC) requests permission from the Unified Command to release information from the following forms without seeking approval each time:

- 201 Briefing form
- 202 Incident Objectives
- 209 Incident Status Summary
- 232 Resources at Risk

The information will be used to answer questions and fulfill requests from the public, reporters, elected officials, and other interested parties, and to post online through a JIC-managed website and social media.

NOTE: Unified Command will still review and approve all press/news releases.

Approval process for press/news release
To ensure timely communication occurs, the JIC is requesting an expedited process for approval of press/news releases by UC.

Gallons, not barrels
When reporting volumes, the JIC will communicate in gallons, not barrels. This unit of measurement is easier to understand by the media, public and other interested parties. There are 42 gallons in a barrel.

Web presence and social media
The JIC will establish an incident website a maintain a presence on social media platforms. These will be primary sources of information about the response. The JIC will actively monitor social media related to the incident and will work to correct inaccurate information that may emerge over social media channels. Engagement on social media will be general messaging in response to identified trends, and not on a one-on-one basis with individuals.

Social media policy for all response personnel
The JIC asks approval from the Unified Command to establish the following social policy for all response personnel:

All public information about this response should flow from the Joint Information Center.

- Response staff may not post information about the incident on their personal social media accounts.
- Information, photos, and videos about the response will only be posted by the JIC using the JIC-managed social media and web accounts.

TEMPLATE FOR SOCIAL MEDIA POLICY ANNOUNCEMENT (General message ICS 213 form): https://response-jtti.s3.us-west-2.amazonaws.com/wp-content/uploads/sites/5/2021/08/24140741/GeneralMessageSocialMediaPolicy.pdf

Joint Information Center - External Communication Plan

Name of incident:
Date:

Signature Approval:

Unified Command	Name	Signature
FOSC		
SOSC		
RPIC		
LOSC		
TOSC		

Purpose and Goals of JIC External Communications Plan:
The JIC External Communication Plan is an outline of the activities that the JIC will conduct to ensure communications to the public, media, and other interested parties are accurate, timely, and well-coordinated. The JIC External Communication Plan is intended to work in conjunction with liaison outreach by the Liaison Officer. The plan covers key issues of the response, strategies for effectively communicating, and the tools that will be used. The goals of this plan are to increase the public's knowledge and understanding of the incident and the response, and to build public confidence in the Unified Command's operations. This plan is a living document intended to be changed as the incident evolves and new needs arise.

Unified Command Pre-Approvals for Information Release
The Unified Command has approved a social media policy stating that all information flows from the JIC and the use of information from the following forms does not need approval: 201, 202, 209, 232.

- Content created from Unified Command approved documents (FAQs, social media posts, photos) will be approved by the PIO before publication.
- Public information available from other sources will be approved by the PIO prior to posting on the JIC website or social media.

Objectives
Accurate, timely well-coordinated release of information about the incident:

- Keep members of the public, media, and other interested parties informed
- Emphasize safety information and closures
- Communicate major response activities, impacts to wildlife and the environment, and protection and prevention efforts
- Demonstrate partnership and coordination

Important information to share:

- Response information, milestones, impacts.
- Community air monitoring efforts and results.
- Road, waterway, public access closures and flight restrictions.

- Key phone numbers, including claims, wildlife reporting, and volunteer hotlines.
- Photos/videos from the scene.
- Wildlife information.

Audiences

- Media
- Local area residents (determine primary languages spoken and if translation is necessary)
- General public
- Local, state, and federal elected officials
- Tribal governments
- Community groups

Tools

- **Social media**: Use social media platforms to provide high-level information and direct reporters and the public to the website. Post photos, update daily or as new information is received from responders and/or UC.
- **Website**: Establish a unified command website to help distribute information. This page can be hosted on the state agency website or be its own entity. Actively update the site once established. Aim for a continuous flow of information or updates at a regular time.
- **Photos/video**: Obtain images and video of the incident at least once daily. Share these images on social media and post on the website. All photos/video should have captions and alt text to facilitate accessibility. Images should be available for the public to access and for media to distribute with their stories.
- **News releases, press conferences, media tours, and interviews:** The JIC will issue regular news releases, conduct press conferences, and provide opportunities for members of the media to gather imagery and interview subject matter experts.
- **Media response**: Respond to media inquires before deadline, provide accurate information about response operations, clarify difficult concepts, explain roles, correct misinformation.
- **Talking points**: Develop daily for JIC and Liaison to use in response to questions from media, elected officials, general public, and other interested parties. Develop as necessary for press conferences.
- **Frequently asked questions (FAQs)**: Develop to create consistent messaging between JIC and Liaison units. Other branches and individual agencies can also use FAQs.
- **Fact sheets**: Use for information about a specific topic. Develop as necessary for website, media and other audiences.
- **Media monitoring:** Track information published about incident on traditional media and social media.
- **Community information meetings/open houses** – in collaboration with the Liaison, which generally leads organization of these events.
- **Liaison conference calls and tours** for elected officials, Tribal governments, and other interested parties – Liaison leads, JIC supports with talking point/FAQ development.
- **Signage/flyers**: Develop signage for public places to keep public informed of closures, safety information, open houses, and other essential information. Consider if language translation is necessary.

Schedule

All media products are produced on schedule, or on an "as necessary" basis.

- Talking points: daily or as needed
- Social media posts: monitor throughout the day and post updates regularly as available.
- News releases and website updates to correspond with major operational updates.
- Press availability: daily until no longer needed.

Contacts

PIO:
JIC Manager:
Media relations lead:

Media Content Analysis Worksheet

Date of news:

Media outlet name:

Broadcast times:

Coverage synopses:

Issues:

Inaccuracies:

Viewpoints:

Fixes:

Who replied to:

Handling Media Inquiries

This information should be captured when media contacts the JIC. One method would be through a basic spreadsheet, or use of software like Jetty:

Person Calling:	
Date/Time of Call:	
Media outlet:	
Phone Number:	
Email Address:	
Inquiry:	
Response Time/Due Date:	
Person Taking the Call:	
Reply Made By:	
Reply:	
Date/Time of Reply:	

Website Checklist – How to Create a Website

Choose the right website builder - Using a website builder is the best option, as a website can be created quickly and easily without any technical knowledge. Hosting costs are included, website builders provide step-by-step instructions and are mobile friendly. Additionally, websites using a builder can be easily maintained by those with little to no experience. Common website builders:

- Squarespace
- Wix
- GoDaddy

Sign up for a website builder plan - Website builders offer multiple plans so you should consider your needs and the length of time you expect the website will need to be active.

- Be sure the selected website builder has high hosting capability. The response website will end up with lots of content including video, extensive traffic, multiple users. Hosting costs can end up higher than subscription costs.
- Response websites may need to be archived as a production log for the JIC. A response website in a major incident will likely have to be live for at least one year, possibly longer, to accommodate legal discovery, investigation and hearings, anniversaries and completion of recovery activities.
- When possible, disposition of website and content has to be considered: Can the provider capture or archive content and share it with multiple response partners.

Consider a proven and industry-standard response website tool such as Jetty or other crisis communication platforms.

- Jetty (https://www.responsegroupinc.com/jetty) provides all website creation and management needs, offered by trained and 24/7 available staff.
- Jetty services allow a resource-constrained JIC to use available people to manage content needs and inquiries while the website is prepared.

Choose and register a domain name - A domain name is the portion of the URL (the site address in a browser's search bar) that identifies a web page — in this case your website. You can register your domain name separately; however, website builders usually offer to do it for you when you sign up with them. This is something to consider when choosing a builder. A domain name is one of the main ways a site presents itself to the internet, so choosing a name is important. Things to consider:

- The ACP includes incident naming conventions.
- Make it relevant. Ensure the domain name is intuitive, something that can be easily searched for by users. The URL for the site should have a neutral, recognizable brand.
- Keep it short and specific. When choosing a domain name, keep it brief. Longer names are harder to remember and hinder searchability. Recommendation: a domain name no more than 14 characters in length.
- Avoid numbers, hyphens, double letters and words that are difficult to spell or easily misspelled. All of these elements are hurdles for users attempting to access the website.
- Focus on keywords.
- Use a .com extension.

- Using the name of the spill may seem the logical choice, however, keep in mind the above before making that decision. The name of the spill may not be intuitive and easily searched for by the user. Keep in mind what names and phrases the public is already using to reference the response even though it may not be any piece of the official name.

Once you're sure about a domain, register it as part of the signup process with your chosen website builder. Alternatively, you can register the domain using another system, such as Domain.com. If you use Domain.com you must ensure the domain gets pointed to your website and builder. Typically, you will receive pieces of information to copy from the domain host into the website builder under the "domain" section. This tells the domain where to go once it is clicked because just since you have the domain does not mean it is attached to a website. This pointing step can also take up to 24 hours to process and is something to keep in mind.

Choose a design template - Website builders offer a choice of various design templates so it's important to choose the correct one to meet your needs. Things to consider:

- Do you want to include a social media feed.
- Do you want to offer the option for users (such as the media) to download photos and video.
- Will you be augmenting content with visuals.
- Will you be uploading documents.
- Accessibility – see section 9202.7.6.7

Customize your template - Once you've chosen your template you will need to customize your layout and name your pages. Things to consider:

- Menu items and navigation.
  - ☐ What information will go on the homepage
  - ☐ Will there be a separate news section
  - ☐ What contact information be included
- Will photos and video be available for download
- Color pallet
- Inclusion of logos
- Usability, accessibility and the ability for users to quickly locate the information they are logging on to find.

What should be included:

- Unified Command Agencies list
- Links to Social Media accounts, links to relevant accounts, or feed embeds
- Any distributed news releases,
- Relevant phone lines for reporting oil, birds, claims, etc.
- Approved photos, maps, fact sheets, video clips if obtained
- Basic information about the response
- Safety announcements

Upload and format content - The Website Specialist works with the JIC manager to ensure that all information posted on the incident website is, timely, accurate, continuously updated and approved by Unified Command. Refer to section 9202.6.7.4 for the job description of the

Website Specialist. Refer to section 9202.7.2 for the protocols and procedures for the approval of web content.

Preview and test website - Always preview the website before publishing and be sure everything is working, including links and downloads. Also be sure to test on both desktop and mobile. Also, the website should be tested and reviewed by more than one person to ensure as many mistakes as possible are caught. Some things to look out for:

- Check all spelling and grammar.
- Test that all the menu buttons are working.
- Check for consistent formatting.
- Does the navigation make sense?
- Are you using heavy response jargon?

Publish and share - Once the website has been published it should be shared with all relevant parties within Unified Command. The website should also be shared on social media and the URL should be included on all information and media products moving forward.

Keep it updated - The website should be continually updated with new information as it becomes available and approved.

News Conference/Public Meeting Worksheet

Event:

Date:

Time:

Location:

Methods for notifying media or public:

Translation/Interpretation Needs:

Length of conference or meeting:

Audio/visual materials:

Moderator:

1. Presenter/Handout:
2. Presenter/Handout:
3. Presenter/Handout:
4. Presenter/Handout:
5. Presenter/Handout:

Refreshments:

Special needs arrangements:

Notes:

Initial Press Conference in the Event of an Oil Spill

PRESS CONFERENCE RUN OF SHOW EXAMPLE:

2:00p.m.	Introduction / format announcement by PIO
2:02p.m.	Explanation of spill and status update
2:05p.m.	Remarks from FOSC: Name
2:08p.m.	Remarks from SOSC: Name
2:11p.m.	Remarks from TOSC: Name
2:14p.m.	Remarks from LOSC: Name
2:17p.m.	Remarks from RPIC: Name
2:18p.m.	PIO moderates Q&A
2:28p.m.	PIO announces / takes last question
2:30p.m.	PIO concludes press conference
2:31p.m.	Subject matter experts available for further questions as needed

Talking points:

PIO-

- Welcome to the press conference for the (Name and Type of spill) Spill.
- My name is _____. I'm from [agency name] and I'm serving as lead public information officer for this incident.
- Federal, state, Tribal, and local government agencies are on-scene responding to the spill, along with representatives from the responsible party: [name of company]. These organizations have established a Unified Command to coordinate the response and cleanup to this [type of oil] release. The Unified Command members here with me today are:
  - ☐ the Federal State On-Scene Coordinator, [name] from [U.S. Coast Guard or U.S. EPA];
  - ☐ the State On-Scene Coordinator, [name] from [state agency];
  - ☐ the Tribal On-Scene Coordinator, [Name] from of [official name of Tribe];
  - ☐ the Local On-Scene Coordinator, [Name] from [local agency]; and
  - ☐ the Responsible Party, [Name], representing name of company or RP].
- Each member of this Unified Command will provide brief remarks. Following those remarks, we will take and respond to questions.
- I want to acknowledge that this is an active incident and each of our Unified Command members have a big job to do. So our goal here today is to get you all the information you need and then send our leaders back to their command post to continue moving this response forward.
- I will serve as the moderator of the Q&A session. We will conclude the Q&A no later than (time).

**** UC gives remarks then PIO moderates Q&A and gives closing remarks****

PIO - Q&A moderation and closing remarks

Format for our Q&A is as follows:

- Please raise your hand and I will call upon you.
- State your name and the media outlet you represent.
- To allow everyone a chance to ask a question, please limit yourself to one question at a time.
- We will conclude the Q&A no later than (time).
- We do have subject matter experts available to answer further questions as well.

CLOSING REMARKS

- Thank you all for joining us today, you're a really important partner in delivering important information to the public.
- Please continue to check [webpage/social media account] for the latest updates.
- Media: Please reach out to me/the Joint Information Center at [number] for follow-up questions.
- For general public inquiries: call the hotline at [number]. To make an insurance claim, call [number].
- Thank you again, take care.

Federal On-Scene Coordinator (FOSC) --
Talking points – press conference

Theme: federal resources being deployed, current operations, for effective, efficient operation. Waterway closures (if relevant). Any no-fly zones.

- The [EPA/USCG] was notified shortly after (time notified) of the (type of spill) from the (area of spill) and began response efforts immediately with our state, local, Tribal partners, and [the name of RP].
- Containment efforts are underway, with (briefly describe containment efforts, such as responders placing boom around the spill source and along shorelines)
- The source of the spill has been controlled, and no further leaking is occurring. We currently estimate that about [# gallons] of [product type] have been released. – OR – The estimated potential spill volume is [# gallons] of [product type]. Not all of this product has spilled – this is the maximum potential based on the amount the tanks/boat/railcars were carrying. We will provide updates on spill volume as we learn more and refine these estimates.
- Responders are working with urgency to contain and clean up this spill.
- [USCG/EPA] investigation teams are working to determine the cause of the [spill/collision/etc.]
- [If on boat]: We are planning to offload the remaining fuel to another vessel to contain further release.
- River miles [X to X] are closed as part of a safety zone for this response. The public should avoid this portion of the river to allow the cleanup to move forward safely.
- The response is working with the Federal Aviation Administration, or FAA, to create an exclusion zone for aircraft (including drones) to keep the response site safe.
- The combined effort is resulting in an effective, efficient operation that is focused on protecting public health and sensitive environmental areas.

State On-Scene Coordinator (SOSC) –
Talking points press conference

Theme: Environmental impact, prioritizing protection of public health and environment, air quality monitoring, fishing closures, proper notifications.

- [Agency] began response activities immediately after being notified of the spill.
- Oil spill response personnel from [agency] are on scene working collaboratively with other responding agencies to minimize impacts of this spill.
- Our responders are prioritizing the protection of environmentally and culturally sensitive areas. Oil containment and recovery operations are ongoing.
- Our goal is to protect the river/lake/bay and all the people and wildlife that rely on and cherish it.
- Professional oiled wildlife responders are on site to assess the risk to wildlife and recover any oil-impacted wildlife. Members of the public who observe oiled wildlife are asked to report the sighting using the wildlife reporting hotline number (insert number*) and leave a detailed message and contact number.
- [If air monitoring]: Community air monitoring is being conducted to ensure the safety of the community during the response.
- We do not have a need for volunteers at this moment. If you have an interest in volunteering, we request that you register at www.oilspills101.wa.gov. If there is a call for volunteers, we will use registered volunteers from this site.
- I would like to hand it over to our Tribal On-Scene Coordinator, [name, tribe]

*Note: if using the 800-22-BIRDS (this number only works in WA).

Tribal On-Scene Coordinator (TOSC)-
Talking points - press conference

Theme: Protection of environmentally and culturally sensitive areas.

- The (name of Tribe) have been participating in the response since [when, early this morning, etc.].
- Tribal environmental specialists have identified environmentally and culturally sensitive areas.
- These areas have been prioritized, and responders are working to deploy containment boom to protect these sensitive areas.
- [optional, for digging]: We do not expect any digging to occur in those areas, but if digging is necessary, we will have a qualified Tribal archeologist on site to observe these activities.
- We ask that all Tribal communities suspend fishing and boating activities in the area until further notice.
- Now I'll pass the microphone to the Local On-Scene Coordinator, [name, agency].

Local On-Scene Coordinator (LOSC)-
Talking points - press conference

Theme: Maximizing public safety and minimizing economic impact, locally closed areas, specific messages to local residents.

- The (name of local agency) is engaged in response efforts to oversee public safety and represent local interests.
- We ask that members of the public avoid visiting the area to ensure your own safety and that of the responders.
- [Include any road closures or other public access closures]
- River access and air space are closed in the affected area, including to drones.
- We'd like to thank our community for your support. Please know we're doing everything we can to protect our community and this town/river/etc. We won't stop working until this spill is cleaned up and people can go safely back to their daily lives.
- I will now pass the mic to [name] from [company].

Responsible Party Incident Commander (RPIC) –
Talking points - press conference

Theme: Demonstrate empathy and concern, commitment to accountability, seeing the response to the end, resources committed, claims number

- [Company] began responding to the release from [what] immediately after it occurred.
- We immediately notified emergency responders and agencies and established a Unified Command shortly thereafter.
- [Acknowledge injuries if they exist] -OR - There have been no reported injuries.
- The Unified Command priorities are to protect the safety of local residents and response personnel while protecting culturally and environmentally sensitive areas.
- If you have been impacted economically due to this incident, please call our claims hotline at [number].
- [Company] is committed to working with our agency partners to put all the right resources in place to address this spill.
- I'd like to thank our federal, state, Tribal, and local government personnel, as well as our spill response contractors for so quickly mobilizing to respond to this incident. Thank you.

Press conference logistics:

Visual Aids
- Maps
- XXX

Room Setup: (Place)

- Lectern for speakers
- Space for media mics and TV cameras
- Participants enter /exit through at back of room
- Security will be present to check media credentials

POTENTIAL QUESTION TOPICS

Incident
What caused this event?
How much has spilled?
How much has been recovered?
River reopening?
Timing for response?
How long was the tank leaking?
How soon did we discover it?

Environment
River- water for agriculture, fishing, recreation
Wildlife impacts
Air quality
Will there be lasting groundwater impacts?

Commercial impacts
Expected impact to local businesses?
Marine/roadway impacts
Expected impact to gasoline and diesel prices?
Fishing season?
Agricultural impacts?
Tourism?

(Name of Company) as an operator
Why was the source not secured during maintenance to prevent the spill?
What are you doing to prevent this from happening again?
How could this happen?
Is (Name of Company) an irresponsible operator?

Prevention
What safeguards were in place?
How did they fail?

Public safety / general / health
What should local residents do if they are impacted by the spill?
What health effects should local residents expect?

Press Conference Sign In

Please Sign In

NAME	ORGANIZATION	EMAIL/PHONE

9202.10.3 News Release Templates

Recommended Flow of Information for News Releases

1st News Releases (within 24 hours)

- Facts about the incident as known. List of responding agencies.
- Information on closures and evacuations.
- Initial estimated maximum potential spill volumes and methodology for determining an actual volume spilled.
- Air monitoring information. Public safety message. (Coordinated with local Emergency Managers)
- Public information sources, i.e. Social media, response website, etc.
- Equipment/resources deployed. Number of personnel responding.
- Wildlife message/hotline number and resources deployed.
- Claims line (if established).
- Status of public services, i.e. drinking water supply, medical services, etc.
- Any expected impacts to oil availability or gas prices (if applicable).
- Contact phone numbers for media.

Subsequent News Releases (24 +)

- Cause of the spill and status of investigation.
- Vessel/Facility/Pipeline/Railroad/Etc. information.
- Amount of product recovered.
- Injuries or casualties.
- Trajectory of the oil.
- Environmental and wildlife impacts.
- Beach closures.
- Fishery closures.
- Cleanup contractors and additional agencies responding.
- Actions taken, actions planned.
- Resources applied and numbers (equipment and people).
- Volunteer Registration Information (if applicable).
- Cost of the spill.

News Release Templates

The following templates are included as examples of news releases that might be issued once a JIC has been established under Unified Command. The templates are designed to highlight the immediate efforts to respond to the spill and coordination response and participation among responding public and private entities. Agency logos should be included on the releases.

Unified Command	Approvals
FOSC	
SOSC	
LOSC	
TOSC	
RPIC	

FIRST UNIFIED COMMAND PRESS RELEASE

For immediate release – XXX. XX, 202X
Contact: Joint Information Center (XXX) XXX-XXXX

Agencies respond to oil spill to [LOCATION]

(LOCATOR) -- (FEDERAL AGENCY), (STATE AGENCY), and XXX agencies are responding to an oil spill in (BODY OF WATER, near (LOCATION). Spill response teams are deploying protective booms to contain the spill and protect sensitive habitat. Crews are checking shorelines to determine the extent of the spill.

The spill occurred when a (INITIAL EXPLANATION). Crews from [RESPONDING AGENCY] immediately took action to (MITIGATION MEASURES) and report the spill to authorities.

(FEDERAL), (STATE), (LOCAL), and (RESPONSIBLE PARTY), have established a unified command to address this spill. Other responding agencies include (OTHER RESPONDING AGENCIES).

The cause of the spill is under investigation.

A joint information center has been established to for this incident. Further information on this incident will be released as available.

SECOND UNIFIED COMMAND PRESS RELEASE

Unified Command	Approvals
FOSC	
SOSC	
LOSC	
TOSC	
RPIC	

Incident update #2
For immediate release – XXX. XX, 202X
Contact: Joint Information Center (XXX) XXX-XXXX

Response continues to [NAME/LOCATION] spill

(LOCATOR) – Federal, state, local and industry partners continue to respond to the XXX spill near (LOCATION). Crews continue to (MITIGATION MEASURES). In addition (ADDITIONAL MITIGATION MEASURES) to protect sensitive habitat.

The spill occurred when a (INITIAL EXPLANATION). The cause of the spill is under investigation.

A safety zone has been established from [PARAMETERS]. Only responders are allowed to enter this area. The safety zone protects the public and responders. A flight restriction is in place for [PARAMETERS] around the response area. This includes drones.

Professional wildlife response crews are assessing impacts to wildlife. Wildlife professionals ask that the public **do not** attempt to capture any wildlife themselves. Please report any affected wildlife to 1-800-22-BIRDS, or 1-800-222-4737.

The unified command responding to the spill is composed of the [FEDERAL], [STATE], [LOCAL], and [RESPONSIBLE PARTY]. Other responding agencies include (OTHER RESPONDING AGENCIES).

A claims number has been established to assist those who may have incurred damage to their property or who are in need of temporary relocation. The hotline number is [XXX-XXXX].

Further information on this incident will be released as available.

WILDLIFE SPECIFIC UNIFIED COMMAND PRESS RELEASE

For immediate release – XXX. XX, 202X
Contact: Joint Information Center (XXX) XXX-XXXX

Wildlife crews responding to [NAME/LOCATION] spill
Professional oiled wildlife response contractors are on site and assessing the risk to wildlife. Wildlife is being closely monitored for effects from the (incident name). Wildlife response teams are active both on water and on land. (spill dependent). The following areas are being surveyed:

(List the areas)

Wildlife reconnaissance teams further afield (if correct and provide more generalized areas) are also looking for affected animals that may have left the immediate area of the spill.

XXX oiled animals have been recovered and are being stabilized at the oiled wildlife center in XXX. (Provide species if available and a generalized health update if available; if no animals have been recovered to date, state that information)

To reduce stress and minimize further injury to affected wildlife, wildlife professionals ask that the public **do not** attempt to capture any oiled wildlife themselves. This is not safe for the animals or for people. Instead, immediately report any affected wildlife to the oiled wildlife reporting hotline at XXXX. Please leave a detailed message with the following information:

- Your name and contact information
- Types and numbers of animals observed
- Time and location animals were last seen
- Whether the animals appeared to be obviously oiled and/or injured

Please give our trained teams space to allow them to do their work so that they can collect affected wildlife quickly and get them into care.

At this time, volunteer assistance is not requested. Any persons interested in potentially participating in wildlife volunteer efforts should register on [WA Dept of Ecology (http://www.oilspills101.wa.gov).]

9202.10.4 Media Advisory Templates

Media advisories do not need to be approved by Unified Command and can be sent out as soon as they are developed.

MEDIA ADVISORY

XXX. XX, 202X
Contact: Joint Information Center (XXX) XXX-XXXX

Press conference for incident name [date, time]

Members of the news media are invited to join leaders of the [incident name] spill response today for an update on cleanup and response activities.

WHEN: time, day

WHERE: building name, room number, exact location, street address, city, state – OR – virtual conferencing platform link and dial-in number.

SPEAKERS:
(name, agency), Federal On Scene Coordinator
(name, agency), State On Scene Coordinator
(name, agency), Local On Scene Coordinator
(name, representing) Tribal On Scene Coordinator
(name, agency), Responsible Party

BACKGROUND: Incident summary, something happened at some place someday. Typically can be the lead paragraph from previous release.

For the latest spill response updates, visit www.incidentwebsite.com, X, other social media platforms.

9202.10.5 Fact Sheet Templates

These templates can be used as informational handouts for public or media at press conferences or public meetings. These factsheets only need to be approved by Unified Command if they contain new information.

INCIDENT INFORMATION FACTSHEET TEMPLATE

(Unified Command logos/names here)

Date: Contact:
(XXX) XXX-XXXX

FACT SHEET: Incident name spill response near location, State

Members of the Unified Command continue to coordinate product type spill recovery operations in the location, dateline.

Incident summary
- Date, time, location
- Typically can be the lead paragraph from previous release.
- Cleanup operations for product released from the vessel name will continue and are being closely monitored until long term salvage or oil pollution mitigation plans can be finalized.

Unified Command:
- Members of Unified Command
- Other agencies contributing to the response.

Current activity:
- Responders continue oil/water mixture removal from the -------.
- Crews continue to tend the hard boom while removing and replacing the sorbent boom used to collect the oil.
- Responders have deployed skimmers.
- Responders place recovered oil into a temporary storage tank where it will decant, settle and separate, for later quantification.

Quantities:
- Vessel name had a max capacity of ------ gallons aboard at the time of the incident.
- ------ gallons of oil/water mixture recovered to date.

Equipment and personnel on scene:
- ---- skimmers
- ---- skiffs
- ---- temporary storage tanks for recovered oil
- ---- vacuum truck
- ---- personnel from -------
- ---- on scene recovery capacity compared to state requirements---- and federal requirements----

* Note: Only use this metric if the on scene capacity is greater than state and federal requirements.

Safety:

- The Coast Guard Vessel Traffic Service has requested vessel and recreational traffic inbound and outbound direction of ----- travel with no wake as a safety measure for responders working in and on the water.

Wildlife:

- X number of oiled birds/oiled mammals have been captured at this time and are being cared for by professional oiled wildlife responders. An oiled wildlife facility has been established in (city). Anyone seeing oiled wildlife should report it to XXX-XX-XXXX.
- Efforts to deter wildlife away from oil are being conducted at X site and X site. Search and capture crews are actively searching for wildlife on shore and on water. Anyone seeing oiled wildlife should report it to XXX-XX-XXXX. Members of the public should not attempt to capture or handle oiled wildlife.

Fishery Closure:

- Location

Ship Facts:

- Built in ----.
- Length -----
- Beam -----
- Draft -----
- ----- Flagged
- Max capacity of the tanks is approximately ------ gallons.

Unified Command

Joint Information Center

(Unified Command logos/names here)

FACT SHEET

Date: Contact:
(XXX) XXX-XXXX

FACT SHEET: Unified Command

Depending on the incident, a Unified Command (UC) may be formed to manage the response efforts. As a team effort, the UC is made up of Incident Commanders (IC) from agencies with jurisdictional authority and/or functional responsibility for the incident. For environmental incidents, the UC is often composed of:

- A federal agency – Often the U.S. Coast Guard or Environmental Protection Agency.
- A state agency – Typically the environmental agency for the state, but may also be an emergency management agency.
- A local agency – Such as a sheriff's office, or fire department.
- The Tribe in whose area the incident is affecting.
- The responsible party (RP) – The company or person who is assuming responsibility for the incident. The actual RP may change as the incident progresses.

An effective Unified Command is indispensable to response activities and requires a clear understanding of the roles and responsibilities of each participating organization. Success requires unity of effort, which respects the chain of command of each participating organization, while harnessing seamless coordination across jurisdictions in support of common objectives.

Use of the Incident Command System (ICS) is an important element across multijurisdictional or multiagency incident management activities. It provides a structure to enable agencies with different legal, jurisdictional, and functional responsibilities to coordinate, plan, and interact effectively on scene. Using the ICS process, each agency or IC can provide joint support through mutually developed incident objectives and strategies established at the command level. Each participating agency maintains its own authority, responsibility, and accountability, while the UC provides a forum for these agencies to make consensus decisions.

The need for UC arises when incidents:

- Cross geographic boundaries (e.g., two states, international boundaries);
- Involve various governmental levels (e.g., federal, state, local);
- Impact functional responsibilities (e.g., Search and Rescue, fire, oil spill, EMS); or
- Some combination of the above.

The UC is responsible for: (1) developing a single set of objectives; (2) using a collective, strategic approach; (3) improving information flow and coordination; (4) creating common understanding of joint priorities and restrictions; (5) ensuring that no agency's legal authorities

are compromised or neglected; and (6) optimizing the combined efforts of all agencies under a single plan.

UC representatives must be able to:

- Agree on incident objectives and priorities;
- Have the capability to sustain a 24-hour-7-day-a week commitment to the incident;
- Have the authority to commit agency or company resources to the incident;
- Have the authority to spend agency or company funds;
- Agree on constraints/limitations, priorities, decisions and procedures;
- Agree on an incident response organization;
- Agree on the appropriate Command and General Staff position assignments to ensure clear direction for on-scene tactical resources;
- Commit to speak with "one voice" through the PIO or JIC, if established;
- Agree on managing sensitive information and operational security issues;
- Agree on logistical support including resource ordering procedures; and
- Agree on cost-sharing and cost accounting procedures, as appropriate.

In general, a successful UC is a team. A UC is to skillfully use the strengths of each IC and acknowledges each representative's unique capabilities and authorities. A UC has a shared understanding of the situation and agrees on common objectives to bring the incident to closure. A UC is open to different perspectives and knows that contentious issues may arise, but that ICS inherently relies on the UC framework to provide the forum to resolve problems and find solutions.

Boom

Joint Information Center

(Unified Command logos/names here)

FACT SHEET

Date: Contact:
(XXX) XXX-XXXX

FACT SHEET: Boom

Spilled oil may be contained by using a floating physical barrier called boom. Boom floats on the surface, but parts may extend above and below it. Because oil floats on water, the boom needs only to prevent surface movement at the top of the water to be effective.

Boom length is measured in feet, and it is not unusual for thousands of feet of boom to be deployed for even a modest spill. Boom sizes are described in inches of freeboard and skirt. A 6-by-12 boom has a six-inch-high freeboard and 12-inch-deep skirt. Boom typically is manufactured in high-visibility colors, such as white, yellow or orange, for easy tracking by response teams and for the safety of vessels operating nearby.

Boom is not a perfect containment device. Waves can carry oil over a boom and a current may force oil under it. Boom is more effective directing oil which moves at a slight angle to the line of boom than as a barrier blocking the slick's movement. Such circumstances may require replacing light boom with boom having higher freeboard and deeper skirt. Multiple lines of boom are more effective at containing oil than a single line.

Limitations on the use of boom include the time required to get it to the scene, load it on boats, carry it to the spill, and deploy it. Boom also has to be stored within reasonable traveling distance of a potential spill. Once used, boom has to be de-contaminated of the waste oil or chemical before it can be stored. If sorbent boom is used, it has to be disposed of safely once it has been contaminated with oil or chemical waste. Some types of boom have operational limitations, such as the loss of ballast or buoyancy if the water- or air-filled sections are breached by abrasion or handling.

A single string of boom often will serve several purposes simultaneously. Typical tasks for boom include:

- Encirclement – laying one or more barriers of boom around the source of the spill to keep it from spreading or around a section of slick to hold it in place for recovery. Tankers transferring cargo may be encircled by boom as a precaution, even though there is no spill.
- Diversion – setting one or more lines of boom at angles into or across a moving slick’s path to guide it toward an area where it can be confined and recovered, or to let it safely

pass a sensitive area. Diversion is primarily used near shore on rivers. It is most effective where currents are weak and there is little wave action.
- Collection – towing boom in a "V," "U," "J," or teardrop configuration through or around a slick to gather oil together for recovery or burning.
- Recovery – placing sorbent boom where it will contact floating oil and absorb or adsorb some of it for later recovery, or similarly using weir boom to catch oil and transport it to a skimmer.
- Exclusion – stringing boom around un-oiled areas to keep oil out. The exclusion booming may also divert moving oil away from a sensitive area.

Although different types of boom may look different, virtually all boom has five common components:
- Flotation device – keeps the boom at the water's surface, where floating pollutants are.
- Freeboard – the part that rises above the water's surface and prevents waves from washing pollutants over the top.
- Skirt – similar to freeboard but below the surface, the skirt prevents the current from washing floating pollutants under the boom.
- Ballast – this is the weight at the bottom of the skirt that keeps it hanging vertically against a current.
- Tension line or strength member – cables, chains or lines extending the length of the skirt or freeboard and, like the main boom cable, chain or boom, attached at the end.

In general, boom with a high freeboard and short skirt is called fence boom, because it prevents the pollutant from moving across the surface. A boom with a longer skirt and shorter freeboard is a curtain boom, and is good to prevent pollutants from moving just below the surface. Some boom includes both characteristics.

Similar to fence and curtain boom is tubular containment boom. Tubular boom has at least two sections one or more air-filled tubes above the water, for flotation and to keep oil from crossing the boom on waves, and one or more water-filled tubes below the water for ballast and to keep oil from passing beneath the boom.

Sorbent boom made of absorbent or adsorbent material to collect and hold oil within the boom itself. It is most effective with thin layers of pollutants and light winds or currents. Once soaked to capacity, the boom can be recovered and the collected oil squeezed out. Sorbent boom requires strong supporting lines, chains or cables because of its tendency to break under pressure of wind or current. Once soaked, it is heavier than simple barrier boom and therefore requires extra effort to remove it from the water.

Recovery boom, such as three-weir boom, has four sections. An air-filled tube extending above the water for buoyancy and to keep oil from passing over the boom. A water-filled tube extending below the surface for ballast and to keep oil from passing beneath the boom. A discharge tube which collects oil from inlets between the air- and water-filled tubes and moves it the length of the boom to a recovery device. A smaller air-filled tube to keep the discharge tube afloat. Recovery boom not only holds floating pollutants in place, but is an active part in recovering pollutants from the water.

A frequent problem in the use of boom is the fact that each end of the boom must be anchored in place. On a small stream, it can be anchored to trees or rocks on land; in a harbor, it may be attached to piers or seawalls. On open water, however, the ends must be literally anchored, using lines attached to weights on the lake or sea bottom, or they must be attached to boats. The use of a boat to anchor one end of a boom means that boat cannot be used for any other assignment, and boats may be in short supply.

Sources: Department of Transportation, U.S. Coast Guard and Research and Special Programs Administration; Environmental Protection Agency; Department of the Interior, Minerals Management Service.

Oil Types

Joint Information Center

(Unified Command logos/names here)

FACT SHEET

Date: Contact:
(XXX) XXX-XXXX

FACT SHEET: Oil Types

Oil spills along coasts affect many parts of the environment, both non-living - such as water, ocean bottom, and shoreline; and living - like sea birds, marine mammals, shellfish, and people.

Major oil spills most commonly involve oils shipped in large quantities at sea, such as crude petroleum, No. 1 and No. 2 fuel oils, diesel oil, Bunker C oil, kerosene, and jet fuel. Oils are compounds, complex mixtures that vary widely in composition.

Oils can be described as belonging to one of five groups:

- I very light oils (jet fuel, gasoline);
- II light oils (diesel, No. 2 fuel oil, light crude, home heating);
- III medium oils (most crude oils);
- IV heavy oils (heavy crude oils, No. 6 fuel oil, Bunker C);
- V group (very heavy oils).

The different types of oils behave in different ways during a spill; therefore, the response to a spill varies, depending on the type of oil and quantity released.

Other important factors in a spill are:

- Weather and season (for example bird migration, nesting, or fish spawning);
- Type of shoreline (such as sand beach, tidal flat, rocky shore);
- Exposure to wave and tidal energy;
- Types, abundance, and sensitivity of living resources.

Most oil has a density less than water and floats. The natural tendency of oil is to spread in a thin layer on the surface of the water as a sheen or film. Such sheens are extremely difficult to recover and do not remain for long periods; however, they do represent a continued threat to fish and wildlife. Under turbulent conditions, oil is more likely to disperse into the upper layers of the water.

Oil changes rapidly once it is spilled into water. These changes are enhanced by the processes of evaporation, dilution and emulsification (when water incorporates into the oil, forming a stable mixture). Some changes help dissipate spilled oil, but others can make it linger in the water, on

the bottom, or on the shore. Evaporation tends to remove the more toxic components and reduces the toxicity of spilled oil. Emulsification, on the other hand, can slow degradation of spilled oil.

Weathering describes the physical, chemical, and biological changes that happen to crude oil and refined petroleum products once they begin to interact with the watery environment. Ultimately, the more toxic elements of oil products spilled in the marine, estuarine, or freshwater environment are broken down. Exposure to air, sunlight, wave and tidal action, and certain microscopic organisms degrades and/or disperses oil. The rate of degradation and dispersion depends on many factors like the type of oil, weather, temperature, and the type of shoreline and bottom.

Very light oils are highly volatile, which means they evaporate quickly, usually completely within one to two days after a spill. These oils are also flammable and contain high concentrations of soluble toxic compounds. Very light oils can mix with water and kill aquatic life that lives in the upper layers. Cleanup is usually not necessary, or possible, with spills of very light oil.

Light oils are moderately volatile, but can leave a residue of up to one-third of the amount spilled after a few days. These oils contain moderate concentrations of soluble toxic compounds. Light oils leave a film or layer on intertidal resources with the potential of long-term contamination. Cleanup can be very effective on spills of light oil.

Medium oils are less volatile, leaving a residue of about two-thirds of the amount spilled after 24 hours. These oils are less likely to mix with water, and oil contamination of intertidal areas can be severe and long-term. The impact of medium oils on waterfowl and fur-bearing mammals can also be severe. Cleanup is most effective with spills of medium oil if conducted quickly.

Heavy oils have far less evaporation or dilution potential, and they weather more slowly. These oils do not readily mix with water. Spills of heavy oils can cause severe contamination of intertidal areas and possible long-term contamination of sediments. Heavy oils have severe impacts on waterfowl and furbearing mammals. Shoreline cleanup in spills of this type is difficult and long-term under most conditions.

Group V oils, mostly very heavy oils, can float, sink, or hang in the water. These oils can become oil drops and mix in the water, or accumulate on the bottom, or mix with sand and then sink. As a rule, these oils are less toxic than lighter oils, however they pose significant problems to responders because they are extremely difficult to track or predict.
Spill response teams of federal, state and local agencies, organizations and industry representatives have prepared contingency plans for oil spill emergencies.

Oiled Wildlife

Joint Information Center

(Unified Command logos/names here)

FACT SHEET

Date: Contact:
(XXX) XXX-XXXX

FACT SHEET: Oiled Wildlife

Oil and Wildlife
One of the most important components in a spill response in regards to wildlife is the initial assessment. An efficient and thorough wildlife impact assessment will help to determine the scope and scale of the response and the resources required. A timely wildlife impact assessment sets the stage for a successful wildlife response.
The goal of oiled wildlife response is to provide the best achievable care to affected animals and to return normal, healthy animals to their native environment. Released wildlife should be indistinguishable from their native counterparts that were unaffected by a spill. Wildlife affected by an oil spill may be debilitated to varying degrees depending on several factors: species vulnerability, the type of product released into the environment, weather, time of contact, weathering of the oil, the degree to which the animal has been oiled, whether the animal has ingested oil, the length of time between the release of product to the time the affected animals were captured and stabilized and, the overall health of the animal at the time of the oil spill. Oil has numerous effects on the anatomical and biological systems of all species, including the disruption of the normal interlocking mechanism of feathers, disruption of the normal insulative properties of fur, damage and toxic effects to the lining of the gastrointestinal tract, liver and pancreas and, disruption in the normal behavior and reproductive ability of wildlife. The following will focus on the effects of oil on aquatic and pelagic bird species and their care during rehabilitation.

The Effect of Oil on Birds
Birds most commonly affected by oil spills are diving birds such as loons and grebes, those that spend a large portion of their lives on water (ducks, geese and gulls) and those that feed in or near water (herons and shorebirds). Environmental effects of oil are frequently the broadest and most difficult to quantify. Environmental effects may include long or short-term contamination of food sources, contamination of breeding and foraging habitat, and potential reduction in reproductive success due to oil contamination of adults and eggs. Colonial species with low reproductive rates are particularly susceptible to these effects.

External Effects
The external effects of oil are generally the most noticeable and have the most immediately debilitating effects on waterproofing and normal behavior patterns. Birds may be minimally, partially or completely oiled depending on the extent of contact and the type of contaminant. Even small areas of oil on a bird's feathers can disrupt normal behavior patterns, particularly for

obligate aquatic birds. The oil produced by the birds' uropygial (oil) gland and spread over the feathers during preening functions similar to a conditioner, keeping the feathers supple and in good condition. However, it is the architecture of the feather that gives the bird its waterproofing. Small spots of oil can temporarily damage the normal interlocking mechanisms of feather barbs and barbules leading to decreased waterproofing, decreased thermoregulatory ability leading to hypothermia and a decreased ability to hunt and dive. Birds that are completely oiled rapidly lose waterproofing and insulative properties, may become unable to dive, float or fly, and frequently succumb to hypothermia and starvation. Birds risk drowning when oiled or otherwise contaminated and will attempt to haul out of the water onto land. Those reaching shore are often unable to find food, because of the individual's inability to return to water to hunt or feed. On land, birds become dehydrated and hypoglycemic and are prone to predation. Abrasions to the feet, hocks and keel are commonly seen with diving birds such as loons and grebes that are physically adapted for diving and are unable to stand on land. Chemical burns from caustic petrochemicals, abrasions and irritation of the conjuctiva and corneal surfaces of the eyes, as well as the moist surfaces inside the mouth are also common. Trauma caused by scavenging/predation or rough weather washing birds ashore may also be seen.

Internal Effects

The internal effects of oil come mainly from ingestion through preening, feeding on oiled prey or vegetation, or drinking contaminated water. These effects can be from the physical presence of oil in the gastrointestinal tract, as well as the absorption of poisonous components of the petroleum product such as polycyclic aromatic hydrocarbons (PAHs). Ingested oil can cause ulceration and hemorrhage in the gastrointestinal tract, destruction of the microstructure of the actual tract, and have toxic effects on the pancreas and liver. This damage can prevent normal absorption of water and slow normal intestinal motility and processing of nutrients, leading to severe dehydration and hypoglycemia and further weakening an already debilitated bird. Dehydration may also result from decreased food consumption, increased metabolic demand due to hypothermia or hyperthermia, and fluid loss through diarrhea. Anemia, decreased production of avian blood cells and suppressed immune system function is common. Aspiration of oil can also occur as birds preen, leading to aspiration pneumonia. Inhalation of volatile fumes can damage lungs and cause inhalant pneumonias, as well as neurological impairment such as ataxia.

Rehabilitation of Oiled Birds

The rehabilitation of oiled wildlife begins with search and collection efforts. Both live and dead animals are collected and transported or labeled and preserved as evidence. Live oiled birds frequently require field stabilization prior to transport to an oiled wildlife facility. Upon arrival at the rehabilitation center, wildlife goes through a **processing** procedure. Processing is the means by which evidence is collected from each wild animal, dead or alive.

Following processing, the wildlife proceeds to **intake**, where they have a thorough medical examination, initial bloodwork is taken and a treatment plan is laid out for each animal. Triage also takes place at this point in the process whereby the medical condition of the animal will indicate (according to medical standards) that the individual will not be able to recover from its current condition to a degree that it will be able to survive the rehabilitation process and ultimately survive in the wild. At this point, the individual would be humanely euthanized.

After intake, the animal then moves onto **medical stabilization**, where it is appropriately housed, provided with medical, nutritional and husbandry support to address its condition, until it is deemed medically stable to proceed to wash. This stage of the rehabilitation process is crucial to the birds' overall survival. If a bird is moved through the cleaning process prior to it being medically cleared to do so, it may die during the cleaning process or it will not have the strength following the cleaning process to recondition for release to the wild.

During the **medical stabilization** phase of the rehabilitation process, wildlife is medically monitored on a regular basis including bloodwork, to determine its progress according to its treatment plan. Species-specific husbandry techniques are applied to the wildlife to extend the period of time (aka 'window of opportunity') they can remain in captivity before succumbing to secondary complications. Secondary complications can include, but are not limited to: aspergillosis (fungal respiratory disease, exacerbated by stress and ventilation of a captive environment); keel, hock and foot lesions caused by being off water-based environments (i.e. pressure lesions); feather damage; feather ball impactions for species that regularly ingest feathers. These secondary complications are often fatal to waterbirds. Thus, extremely specialized care, husbandry, caging and facility development are mandatory components of oiled wildlife rehabilitation. Humane euthanasia is a necessary component of this phase of the rehabilitation process for wildlife that is not medically able to meet criteria for ongoing rehabilitation.

All wildlife receives a "wash evaluation" prior to proceeding to the **cleaning** process. Only if wildlife meets strict medical criteria will they be approved for decontamination. The **cleaning** process may include pre-treatment to ready the contaminant for removal. The wildlife is then put through a series of specialized washes at specific temperature, specific detergent dilution and with specific technique to remove the contaminant. Once the contaminant is thoroughly removed, wildlife then receives a high pressure rinse treatment to ensure that all detergent residue (also considered a contaminant to bird feathers) is completely removed. Facility water volume, pressure and hardness requirements must be appropriate to the needs of the cleaning process. Then the wildlife moves to the drying area where they are fully dried and carefully monitored for overheating, shock and other complications.

Once fully dried, wildlife then moves into the **conditioning** phase of the rehabilitation process. During this phase wildlife is returned to water-based environments appropriate to their species requirements to allow them to regain their waterproofing, endurance, acclimation, nutritional status and medical status. Water volume, pressure and hardness requirements are mandatory for this stage of the rehabilitation process to ensure adequate conditioning. Each bird must enter the conditioning phase with a great deal of strength and health in order to reach potential for release. Due to the microscopic architecture of their feathers, they must preen each feather's microscopic barbs and barbules back into waterproof alignment during this time. They continue to be provided with veterinary medical and nutritional support as required by each individual. All wildlife is medically monitored on a regular basis to determine progress.

Each animal will receive a release evaluation prior to release to the wild, which includes a full medical examination, bloodwork and waterproofing assessment. Waterproofing assessment generally takes place up to 72 hours of conditioning pool access, species-dependent. Strict criteria must be met for wildlife to be considered for **release** to the wild. To ensure survivability,

only wildlife that meets these criteria will be released. Wildlife is released in a location appropriate to its species, time of year and migration status, and into a location that has minimal risk of re-oiling. Birds are federally banded and monitored by band return or radio telemetry post-release.

9202.10.6 Example Messaging During Spills

Initial Key Messages for Oil Spills

- In response to the _____ oil spill, a unified command has been established to oversee and direct cleanup activities. Representatives from the (*insert governing federal agency: United States Coast Guard, EPA, DOT, etc*), the state of (*insert state Washington, Oregon, and/or Idaho*), (*insert local community and/or tribe*) and (*insert Responsible Party*) will be working together in this effort.
- The unified command's top priorities are to protect public health and safety, limit environmental impacts, and contain and clean up the spill as quickly and efficiently as possible.
- The oil is a hazardous material and can present significant health hazards. The public is asked to stay away from area beaches and to not attempt to rescue wildlife.
- We are currently evaluating the situation and determining how much oil/material has been released. Initial estimates of the amount of oil/chemical spilled are almost always inaccurate. But, to be safe, we are prepared to respond to the maximum potential that could be released.
- We ask the public not to attempt to rescue oiled birds or other wildlife on their own. They should instead report any sighting of oiled wildlife to ------.
- The public is further advised to avoid contact with the oil and to keep pets on leashes and away from areas where the product has accumulated.
- The cause of the incident is under investigation.

Initial Key Messages for Public Safety

- The safety of the public and incident responders is our number one priority.
- The public is advised to avoid contact with the oil and to keep pets away from areas where the product has accumulated.
- Professional oiled wildlife responders are on site assessing the risk to wildlife and developing capture strategies for impacted animals. People should not attempt to rescue oiled wildlife. Untrained individuals who attempt to rescue wildlife may cause more harm than good and may injure themselves in the process. If oiled animals are scared back into the water by pets or people, their chances of survival decrease dramatically.
- If someone comes in contact with the oil, he/she should wash it off with warm water and soap. For any serious injury or illness, seek medical attention.
- The safety officer in the Unified Command will set up air monitoring equipment, as needed, to identify atmospheric hazards. Unified Command and the local public health department will evaluate the conditions and determine whether the human population is at risk of exposure. The community will immediately be informed of any subsequent recommended or required evacuation or sheltering actions.
- The oil is not expected to pose any threat to the public. Air monitoring has determined that the air quality is currently below OSHA occupational exposure limits.
- The local public health department is responsible for alerting the public if there is a health hazard. People may smell spilled petroleum product, even when there is no threat to public health. Some may experience headaches and/or nausea. If discomfort, such as headaches, develops, the affected person should consult his/her personal physician.
- The local Office of Emergency Services (OSE) will manage the evacuation of communities threatened during a spill. If the OES decides there is a risk to public health,

they will tell local radio and television stations to notify the public via the Emergency Broadcast System.
- Local law enforcement personnel would direct the evacuation, and possibly make public address announcements from vehicles being driven through the affected area.

Key Messages (Cleanup Methods and Considerations)
- It is important that only trained personnel conduct oil spill cleanup. Oil is a hazardous substance and highly toxic if handled improperly. It is important to stay off oiled beaches and keep children and dogs at a safe distance from a spill site. If someone comes in contact with the oil, he/she should wash it off with warm water and soap. For any serious injury or illness, seek medical attention.
- Initial spill response will generally focus on stopping the oil leak first, conducting on-water containment and recovery, and then shoreline protection. Efforts will be made to get oil off the water first so that continued re-oiling of shorelines is minimized.
- The main tools used to contain and recover spilled oil are booms and skimmers. Boom is a plastic barrier that floats on top of the water helping to keep oil contained. Boom is most effective in calm waters. If seas are too rough or currents are too fast, the oil will escape containment. Absorbent materials are also used to collect oil.
- Oil that is not recovered on water is likely to wash up on the shoreline causing further damage to wildlife and the environment. As a preventative measure, responders may place boom around sensitive areas to keep the oil at bay.
- Regional or local oil spill emergency plans have maps that identify environmentally sensitive sites. During an incident, a decision will be made, using spill movement data and local expert observations, about which of the sites are in imminent danger and will, therefore, receive the earliest efforts at protection.
- Once shorelines become oiled, cleanup crews must determine the best methods to remove the oil from the environment. Much research has gone into developing these strategies. Different sites require different approaches. For instance, for sandy beaches, using shovels and small excavation equipment may be the most effective approach. These decisions are best left up to the oil spill experts. The public should not attempt to employ their own strategies.
- Trained crews are instructed in how to dispose of the oil and oily materials. The recovered oil must be carefully quantified to determine how much was removed from the environment. Then it is transported to a hazardous materials landfill or recycled. When oil is disposed of improperly, such as in household or public receptacles, this may lead to contamination of municipal water supplies.
- Local beaches may remain closed during these cleanup activities. The local health department and/or the governing response agency have the authority to close beaches for public safety reasons.

Key Messages (Volunteers)
- An aggressive cleanup operation is underway to secure the source, recover spilled oil, and protect environmentally sensitive sites and respond to impacted wildlife.
- There has been a tremendous outpouring of support and offers to help from the community. We appreciate the public's desire to volunteer and understand their concern.

- The Unified Command will make the decision on whether or not to use affiliated and/or unaffiliated volunteers. It will depend on a variety of factors including the type of oil spilled, the location and size of the spill, and most importantly the safety of volunteers.
- In order to keep the public informed about the status of the cleanup and to provide information on possible volunteer opportunities, a Volunteer Hotline has been established at ---------.
- At this time, a decision has not been made to use volunteers, and the public is asked to stay off beaches where oil has accumulated and to not attempt to rescue oiled wildlife. The need for volunteers will be reassessed throughout the response.
- A volunteer can either be pre-trained or come forward during a spill event with no prior oil spill volunteer experience. Each spill response is unique, and the skills needed may be somewhat different each time.
- Volunteers must first register before participating in a spill response. They must be at least 18 years, in good health, capable of lifting 25-35 pounds and able to follow both written and oral directions. They must also be willing to attend any necessary training.
- Volunteering does not necessarily mean cleaning up oil. Oil is a toxic substance and dangerous if handled or disposed of improperly. Only trained personnel are authorized to conduct oil spill cleanup.
- The best way to become a volunteer is to contact your local community volunteer center, nonprofit environmental group, local humane society, service organization, faith-based organization, or government agency volunteer program. Some of these organizations train volunteers to be long-term environmental monitors or to work in various types of disaster management.

9202.10.7 Examples of Question & Answer During Spills

Q&A (Spill Response)

Q: How many gallons of oil are in a barrel?
A: 42

Q: How big is this spill compared to the 1989 Exxon Valdez, Alaska spill?
A: The Exxon Valdez spilled nearly 11 million gallons of crude oil. It carried 42 million gallons. No two responses are alike and caution should be taken when trying to compare them solely by the amount of product released.

Q: What is the Unified Command System? Who has authority?
A: When a significant event takes place the state, federal and local agencies establish a unified command to oversee the response. The unified command consists of the U.S. Coast Guard (the lead federal agency for marine spills) or the U.S. Environmental Protection Agency (lead federal agency for inland spills), State, and the responsible party. The incident commanders work together to plan and direct the response, using the best available technology. Experts from all of the entities involved work together in the planning, operations, logistics and finance sections, and fill command staff positions at the incident command post.

Q: Who investigates the spill?
A: The EPA/Coast Guard/DOT is investigating this incident and may assess fines and penalties according to state and federal laws and regulations. These investigations may lead to administrative penalties, or to civil and/or criminal charges.

Q: How do local government agencies fit in?
A: The state liaison officer, who is part of the unified command, establishes a multi-agency committee made up of local and tribal governments. Through the liaison officer, local government concerns and offers of assistance are reported to the incident commanders. If necessary, a local representative may serve in the unified command as the local incident commander.

Q: How do you know where the oil came from if nobody confesses to spilling it?
A: The Coast Guard Marine Safety Laboratory in Groton, Connecticut, as well as private analytical laboratories, use gas chromatography and mass spectrometry to produce a "fingerprint" of oil taken from wildlife or oiled habitat. Oil samples are also taken from vessels, pipelines or facilities that were in the area at the time of the spill. Matching or chemically consistent fingerprints between spill and source samples allow us to identify the responsible party.

Q: What is boom?
A: Boom is a floating physical barrier used to contain oil spills. Boom floats on the surface of the water, but parts may extend above and below it. Because oil floats on water, the boom needs only to prevent surface movement at the top of the water to be effective. Boom is not a perfect containment device. Waves can carry oil over a boom and a current may force oil under it. Boom

is more effective directing oil which moves at a slight angle to the line of boom than as a barrier blocking the slick's movement.

Q: How is boom allocated?
A: Boom is allocated based on priorities established by the Unified Command (UC). The UC is guided by protection strategies pre-identified in the Geographical Response Plans (GRPs) contained in the Northwest Area Contingency Plan (NWACP) and by spill trajectory modeling using real-time tide, wind, and current data . One main aspect of spill response contingency planning is to identify sensitive and important environmental, cultural, and economic sites and to develop response tactics to protect them in the event of a spill.. Containment and exclusion booming are the primary strategies included in the NWACP for protection of sensitive areas. The strategies are designed to: 1) protect human health and safety, 2) protect identified environmental and cultural resources of concern, and 3) protect economic resources of concern.

Q: What is in-situ burning?
A: "In-situ" is Latin for "in-place," so in-situ burning means burning something in place — where it is. In some cases, this may be the most effective way to remove oil from the environment and protect sensitive ecosystems, but, like all response methods, it has drawbacks. Burning oil creates a noxious plume of smoke and airborne particulate matter, so this method of removing oil from water would only be considered in an area and under weather conditions in which the smoke would not affect human populations, for example, offshore with only offshore winds.

For a burn to work, the oil must be a certain thickness on the water to ignite, and it must be ignited within a few hours of being spilled, before the high-end, volatile chemicals evaporate. Not all oil is burnable. Specialized equipment must be readily available, and weather and oceanographic conditions must be favorable.

Q: Can you use biological agents? What are they, and how do they work?
A: Biological agents, approved by the EPA and the State, can be used during spill response. Biological agents (i.e. bioremediation) are used primarily as a final or "polishing" process to remove the remaining oil following initial cleanup activities or in areas where the more commonly used cleanup procedures are not applicable. Biological cleanup agents are typically chemical fertilizers that are applied to an oiled area to stimulate the growth of existing oil degrading bacteria. These bacteria will in turn breakdown the oil into carbon and oxygen. The efficacy of this process will depend on the type of oil spilled and environmental conditions.

Q: What should the public do if they see oil in a place where it shouldn't be (a spill)?
A: Report it, by telephoning (toll-free) 800-OILS-911. This is a good reporting number for the entire U.S. Pacific coast. Spills in marine waters should also be reported to the U.S. Coast Guard, by calling 800-424-8802.

Q&A (Habitat and Wildlife)

Q: How does oil affect fish and wildlife?
A: Fish and wildlife can be harmed when their bodies contact oil or when they ingest oil. For aquatic birds and furred marine mammals, oil may cause feathers and fur to lose the ability to

trap air and keep water out. These animals are then susceptible to hypothermia and reduced buoyancy. Aquatic birds that are oiled will often attempt to come ashore to escape the cold water. When oil coats fish and invertebrates, it can lead to smothering or tissue damage. There are also toxic effects from ingesting or inhaling petroleum products. Depending on the amount and type of oil ingested, fish and wildlife may die or experience a variety of toxicological effects including immune and reproductive system effects and disrupted organ function. In addition to direct effects on fish and wildlife, oil can also contaminate and persist for long periods in the habitats upon which these animals rely.

Q: What process does the animal go through after capture?
A: The bird or other animal is handled very carefully, in order to reduce the animal's stress while it receives a medical examination and is then stabilized before being cleaned. Oiled wildlife must be kept warm, as oil disrupts the normal ability of fur and feathers to retain body heat. The animal is first stabilized in the field, and then medically evaluated once it arrives at a wildlife rehabilitation facility. Sick or injured animals are provided veterinary care at this point. Once the animal is medically stable (usually 48 hours or more after arrival) it will be washed using an oil-dispersing detergent, rinsed, dried and then undergo a conditioning phase to restore the waterproofing to its feathers or fur. All wildlife must be fully waterproof and ealthy enough to be released back to the wild. On average, this entire process lasts a minimum of 7-10 days.

Q: How successful is rehabilitation?
A: That depends on several variables, such as the animal's species, physical condition prior to oiling, the time of year and weather conditions in which it was oiled, the length of time between initial contact with oil and the animal's capture, the type of oil, and the availability of an oiled wildlife care facility with experienced oiled wildlife responders .

Q: Can people volunteer to help?
A: Yes, there are a variety of jobs that volunteers can safely do in response to an oil spill. Hazardous materials training may be required for some of these jobs. Each incident is unique, however, and whether or not volunteers are used during a spill response is the decision of the unified command.

Q&A (Public Health and Safety)

Q: What about public health?
A: The public is advised to avoid contact with the oil and to keep pets on leashes away from beaches or areas where the product has accumulated. In addition, they should not to attempt to rescue oiled wildlife. Untrained individuals who attempt to rescue wildlife may cause more harm than good and may injure themselves in the process. If oiled animals are scared back into the water by pets or people, their chances of survival decrease dramatically. If someone comes in contact with the oil, he/she should wash it off with warm water and soap, baby oil, or a widely used, safe cleaning compound such as the cleaning paste sold at auto parts stores.
The safety officer in the Unified Command will set up air monitoring equipment, as needed, to identify atmospheric hazards for spill responders. He will provide the data collected to the Unified Command and to the local public health department, which will determine whether the human population is endangered. The local public health department is responsible for alerting the public if there is a health hazard. People may smell spilled petroleum product, even when

there is no threat to public health. Some may experience headaches and/or nausea, as well. If discomfort, such as headaches, develops the affected person should consult his/her personal physician.

Q: Who would handle an evacuation of the community?
A: This is extremely rare; however, the local Office of Emergency Services (OSE) would handle the evacuation of communities threatened during a spill. If the OES decides there is a risk to public health, they will tell local radio and television stations to notify the public via the Emergency Broadcast System. Local law enforcement personnel would direct the evacuation, and possibly make public address announcements from vehicles being driven through the affected area.

Q: What should people do if they think they've been exposed to toxins?
A: Contact your local Public Health Department, and then get medical attention from your personal physician, just as you would for any illness or injury. Anyone without a personal physician will be advised on further action by the health department staff.

Q. What if you can't find a Responsible Party?
A. In the case of a "mystery spill" – where the spiller can't be identified, located, or is insolvent – a rapid response will be funded by either the State or Federal Oil Spill Liability Trust Fund. In many cases, the state fund can be reimbursed by the federal fund. If the state fund can not be reimbursed, and the amount is significant, a mechanism will be activated for the oil industry to replenish the account. Since the Oil Spill Prevention and Response Act of 1990 was enacted, the account has never had to be replenished with a higher fee.

Q&A (Dispersants)

Q: Why are dispersants used on an oil spill?
A: Dispersants are used to minimize the environmental impact of an oil spill. Dispersants do not eliminate the problem of an oil spill, but are intended as a means of reducing the overall environmental impact of an oil slick at sea. Dispersant use accelerates the weathering and biological breakdown of oil at sea and reduces the impact of oil on sensitive near shore environments. Dispersants are also highly effective in reducing exposure of sea birds and marine mammals to oil, as most sea birds are oiled by slicks on the surface of the sea or in near shore coastal habitats. Undispersed slicks and residual oils are a persistent threat to near shore, birds, mammals and intertidal communities due to the toxicity of, and contact with oil. Dispersed oil is less "sticky" than undispersed oil; therefore, the adhesion and absorption onto surfaces and sediments of dispersed oil is greatly reduced compared with the original oil slick.
In a spill incident, environmental trade-offs of protection and sacrifice will occur. These decisions are not taken lightly by response authorities and will be based on the best available advice and scientific data to achieve a net environmental benefit.

Q: What are oil spill dispersants?
A: Dispersants are chemical formulations with an active ingredient called surfactants. Surfactants are specifically designed chemicals that have both hydrophilic (water liking) and oleophilic (oil liking) groups in the chemical compound. These chemicals reduce the interfacial tension between the oil and water and help the creation of small oil droplets, which move into the water

column facilitating quicker natural biological breakdown (biodegradation) and dispersion. By decreasing the size of the oil droplets and dispersing the droplets in the water column, the oil surface area exposed to the water increases and natural breakdown of the oil is enhanced. This removes the threat of the oil from the water surface to within the water column.
Dispersion is a natural process that occurs in surface slicks as wind and wave action break up the surface slick. However, naturally dispersed oil droplets tend to recoalesce and return to the water surface and reform as surface slicks. The addition of chemical dispersants allows the wind and wave action to then carry the small oil droplets away and dilute the concentration of the droplets in the water column; these dispersed oil droplets are then targeted by indigenous oil-consuming microbes where they are broken down into the ultimate components, carbon dioxide and water.

Q: On what basis is the decision made to use dispersants in a spill incident?
A: The main basis for decision making in determining whether oil spill dispersant will be used is: Will the application of the chemical dispersant to the spilled oil minimize the overall environmental impact of the oil spill? Except for the impact on wildlife, the most damaging effect of oil spills is when the oil strands on shorelines or enters restricted shallow waters like estuaries. Dispersants are a prime and vital response tool to stop oil coming ashore or from entering sensitive near shore environments, especially when weather and sea conditions do not allow the use of oil containment and recovery equipment.
Dispersants are usually not applied to oil spills in "near shore areas," for example, where sea grass beds, oyster beds, mariculture or coral reefs are present. However, dispersant use may be authorized by the Region X Regional Response Team in these circumstances when there is a possibility of an impact of oil on a more sensitive near shore habitat, or wildlife impacts are possible. For example, when an approaching oil slick may impact sensitive marine mammal breeding areas, or endangered species such as migratory birds.

Q: What are the negative effects of dispersants on the environment?
A: The acute toxicity of dispersed oil generally does not reside in the dispersant but in the more toxic fractions of the oil. Dispersing oil into the water in situations where there is little water movement or exchange, such as shallow embayments, increases exposure of subsurface, benthic organisms and fish to the toxic components of the oil.
Fish and other marine life in the larvae stage or juvenile stages are more prone to the toxicity effects of oil and dispersants. Therefore, it is unlikely dispersants will be used near commercial fisheries, important breeding grounds, fish nurseries, shellfish aquaculture, etc., unless it is to protect a more important environmental resource.
Sea grasses and coral reef communities are particularly sensitive to dispersed oil because the oil/dispersant mixture in the water column will come into direct contact with these sensitive ecosystems. Generally, there is reluctance by spill responders to use dispersants in shallow waters less than 30 feet deep, although there may be situations where using dispersants could prevent impacts to near shore habitats and wildlife.

Q: Who authorizes the use of dispersants during an oil spill response?
A: Under the Oil Pollution Act of 1990, the Regional Response Team has authority over dispersant use for marine oil spills. The National Contingency Plan (NCP) provides that the Federal On-scene Coordinator, with concurrence from the U.S. EPA and the State representatives, may authorize the use of dispersants. However, only dispersants listed in the NCP and licensed for use by the state may be used.

Criteria detailed in the Northwest Area Contingency Plan (NWACP) must be met before the Federal On-scene Coordinator can authorize dispersant use in offshore areas designated as pre-approved in the NWACP. If it is determined that a spill does not meet the pre-approval conditions, then the final decision for a dispersant-use determination rests with the RRT.

Q: How effective are oil spill dispersants?
A: Chemical dispersants aid the natural dispersion of oil by reducing the oil/water interfacial tension and, along with the natural motion of the sea, allow the breakup of oil into very fine droplets. Effectiveness of oil dispersion by chemical dispersants at sea is governed by a range of conditions and include the type and chemistry of the oil, degree of weathering of the oil, the thickness of the oil slick, type of dispersant, droplet size and application ratio, prevailing sea conditions (wave mixing energy), and sea temperature and salinity. When dispersants are being considered for use or are put into use, a field monitoring program called SMART (Special Monitoring of Applied Technologies) is conducted to test the effectiveness of the dispersant on the spilled product and to continually monitor the adequacy of the dispersant application as the operation proceeds. If the monitoring results indicate the dispersant use is not meeting the objectives of the response, its use will be re-evaluated and/or ceased.

9202.10.8 Agency Communication Managers

Organization	Contact	Webpage or Email
Washington State Governor's Office	Communications Executive Director	https://governor.wa.gov/office-governor/office/office/executive-team
Idaho Office of Emergency Management	Agency Contacts	https://ioem.idaho.gov/about/contact/agency-contacts/
Idaho Department of Environmental Quality	Media Contacts	https://www.deq.idaho.gov/about-us/contact-us/media-contacts/
Idaho Department of Fish and Game	Directory	https://idfg.idaho.gov/about/directory
Idaho Department of Water Resources		IDWRInfo@idwr.idaho.gov
Oregon Department of Environmental Quality	Media Contacts	https://www.oregon.gov/deq/about-us/pages/media-contact.aspx
Oregon Department of Fish and Wildlife	News Media Contacts	https://www.dfw.state.or.us/agency/directory/contact_us.asp
Washington State Department of Ecology	Spills Program Communications Lead	https://ecology.wa.gov/About-us/Contact-us/Media-contacts
Washington State Department of Fish and Wildlife	Communications Division	https://wdfw.wa.gov/about/contact/media Communications@dfw.wa.gov
Washington State Parks and Recreation Commission	Communications Office	media@parks.wa.gov
Puget Sound Partnership	Communications Office	https://www.psp.wa.gov/contact.php
Washington State Department of Health	Media Contacts	DOH-PIO@doh.wa.gov
Emergency Management Division, Washington Department of the Military	Public Information Officers (activations only)	800-688-8955
Washington State Department of Agriculture	Communications Office	https://agr.wa.gov/about-wsda/news-and-media-relationsAbetts@agr.wa.gov
State of Washington Department of Community, Trade and Economic Development	Media Relations Office	https://www.commerce.wa.gov/media-center/

Organization	Contact	Webpage or Email
Washington State Patrol	General Media Contacts	https://www.wsp.wa.gov/media/pio-contacts/
Washington State Department of Transportation	Media Contacts	https://wsdot.wa.gov/about/contacts/media-contacts
Washington Utilities & Transportation Commission	General Contacts	https://www.utc.wa.gov/contact-us

9202.10.9 Field Escort Equipment and Communications Checklist

Personal Protective Equipment (to be determined by the Safety Officer), which may include:

- Hard hat
- Goggles
- Gloves
- Tyvek
- Rubber boots
- Personal flotation device
- Respirator
- Level A Suit
- Self-contained breathing apparatus

Communications:

- VHF radio
- Cell phone

Information:

- Assignment List: ICS Form 204
- Incident Status Summary: ICS Form 209
- Latest news release

Section 9203

Health and Safety Job Aid

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Health and Safety Job Aid

9203.1 Background

9203.1.1 Overview

This document was developed to provide federal and state health and safety guidance for oil/hazardous materials incidents in the Pacific Northwest.

The following table outlines the various Health and Safety Plan (HASP) element requirements for federal statutes and the Northwest Area Committee/Regional Response Team 10 member state statutes.

Table 9203.1 Health and Safety Plan Required Elements

HASP Element	Federal OSHA	WA	OR	ID
General Hazardous Operations	29 CFR 1910.120	WAC 296-843	OAR 437-002-0101*	Admin Cod 17.10.001**
Site-Specific HASP	29 CFR 1910.120(b)(4)	WAC 296-843-12005	29 CFR 1910.120(b)(4)	29 CFR 1910.120(b)(4)
Sampling of drums/cannisters of waste	29 CFR 1910.120(j)(7)	WAC 296-843-130	29 CFR 1910.120(j)(7)	29 CFR 1910.120(j)(7)
Site Control Measures	29 CFR 1910.120(d)	WAC 296-843-140	29 CFR 1910.120(d)	29 CFR 1910.120(s)
Decontamination Procedures	29 CFR 1910.120(k)	WAC 296-843-150	29 CFR 1910.120(k)	29 CFR 1910.120(k)
Emergency Response Plan	29 CFR 1910.120(l)	WAC 296-843-160	29 CFR 1910.120(l)	29 CFR 1910.120(l)
Spill Containment plans for drums/containers of waste	29 CFR 1910.120(j)(1)	WAC 296-843-180	29 CFR 1910.120(j)(1)	29 CFR 1910.120(j)(1)
Procedures for sampling, managing, handling drums and containers	29 CFR 1910.120(j)	WAC 296-843-180	29 CFR 1910.120(j)	29 CFR 1910.120(j)
Entry procedures for tanks or vaults (confined spaces)	29 CFR 1910.146	WAC 296-809	OAR 437-002-0146	29 CFR 1910.146

Table 9203.1 Health and Safety Plan Required Elements

HASP Element	Federal OSHA	WA	OR	ID
Trainings, briefings, information plans	29 CFR 1910.120(e)	WAC 296-843-200	29 CFR 1910.120(e)	29 CFR 1910.120(e)
Record keeping and information access	29 CFR 1910.120(f)(8)	WAC 296-843-220	29 CFR 1910.120(f)(8)	29 CFR 1910.120(f)(8)
Medical Surveillance Plan (site-specific requirements)	29 CFR 1910.120(f)	WAC 296-843-210	29 CFR 1910.120(f)	29 CFR 1910.120(f)
Sanitation	29 CFR 1910.120(n)	WAC 296-155-140	29 CFR 1910.120(n)	29 CFR 1910.120(n)
Lighting	29 CFR 1910.120(m)	WAC 296-800-210	29 CFR 1910.120(m)	`29 CFR 1910.120(m)
Excavations (trenching and shoring)	29 CFR 1926 Subpart P	WAC 296-155, Part N	29 CFR 1926 Subpart P	29 CFR 1926 Subpart P
Accident Prevention Program	29 CFR 1910.120 Appendix C	WAC 296-800-140	29 CFR 1910.120 Appendix C	29 CFR 1910.120 Appendix C

Note: * OAR 437-002-0101 adopts 29 CFR 1910-120 effective July 14, 1990.
** Idaho is not a "state-plan" state; that is, it does not have a federally approved occupational safety and health regulatory program. Private sector (business and non-profit organizations) employers are governed by federal OSHA's emergency preparedness regulations. The state has adopted safety and health rules for public sector (state and local government offices and operations) workplaces that are substantially less stringent than federal rules.

Key:
OSHA Occupational Safety and Health Administration
CFR Code of Federal Regulations
WAC Washington Administrative Code
OAR Oregon Administrative Rules
HASP Health and Safety Plan

9203.1.2 Purpose

The purpose of health and safety efforts conducted during an environmental emergency is to ensure the protection of responders, cleanup crews, and the public from possible hazards. The guidance contained in this document is intended to assist safety officers in establishing, managing, and operating a safe spill response to the report incident.

9203.2 Health and Safety

9203.2.1 Federal Health and Safety Guidance

Federal and state government employees, private industry employees, and other contract personnel involved in oil spill response activities must comply with all applicable worker health and safety laws and regulations. The Occupational Safety and Health Act was enacted on December 29, 1970, and granted authority to the Secretary of Labor to promulgate, modify, and revoke safety and health standards. The primary federal regulations for hazardous waste operations and emergency response are found in 29 Code of Federal Regulations (CFR)

1910.120. This regulation specifies the safety and health requirements for employees involved in cleanup operations at uncontrolled hazardous waste sites being cleaned up under government mandate and in certain hazardous waste treatment, storage, and disposal operations conducted under the Resource Conservation and Recovery Act of 1976 (RCRA). The regulations apply to both emergency response and post-emergency response cleanup of hazardous substance spills. The definition of hazardous substance used in these regulations is much broader than the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA), encompassing all CERCLA hazardous substances, RCRA hazardous waste, and all United States Department of Transportation hazardous materials listed in 49 CFR 172. Thus, most oils and oil spill response are covered by these regulations.

The federal Occupational Safety and Health Administration (OSHA) classifies an area impacted by oil as an uncontrolled hazardous waste site. The role of the site safety and health supervisor is to assess the site, determine the safety and health hazards present, and determine if OSHA regulations apply. If an OSHA field compliance officer is on scene, he or she should be consulted to determine the applicability of OSHA regulations. Disputes should be referred to the United States Department of Labor representative on the Regional Response Team.

One of the key provisions of the Occupational Safety and Health Act provided 50/50 funding to states that developed their own state programs that are at least as effective as the federal program in providing safe and healthful employment. Two of the three states involved with this plan, Oregon and Washington, have developed state managed programs that are discussed below. Site Safety and Health Plans must be written to follow both federal and state requirements. Idaho does not have a state managed program, and therefore, all workers involved with oil spill response activities in Idaho must comply with the federal regulations.

9203.2.2 Washington State Health and Safety Guidance

The Washington State Industrial Safety and Health Administration, a division of the Washington State Department of Labor and Industries (DLI), is responsible for ensuring that employers are providing safe and healthful workplaces for their employees. This responsibility is carried out through enforcement of rules promulgated under authority granted in RCW 49.17. The primary standard for Hazardous Waste Operations and Emergency Response, Washington Administrative Code 296-62-300, became effective in November 1989. Under these regulations, DLI can evaluate the safety and health program, site characterization, site control, emergency response procedures, and personal protective equipment requirements during oil spill cleanup operations. DLI may also provide technical assistance to the On-Scene Coordinator and responsible party and conduct inspections of employers involved in spill response efforts. As always, many other and safety and health regulations outside of Washington

Administrative Code 296-62-300 apply to Washington State Industrial Safety and Health Administration jurisdiction employers.

9203.2.3 Oregon State Health and Safety Guidance

The Oregon State Occupational Safety and Health Administration is a division of the Department of Consumer and Business Services and is primarily responsible for enforcing the health and safety regulations as they pertain to workers involved with an oil spill. The primary standard for Hazardous Waste Operations and Emergency Response, Oregon Administrative Rules 437-002-1910.120, came into effect in July of 1990.

9203.2.4 Idaho State Health and Safety Guidance

Federal regulations specify minimum training levels for responders to hazardous materials incidents. The OSHA enforces the requirements for federal and private workers (29 CFR 1910.120). State and local employees must follow the same regulations but are overseen by the United States Environmental Protection Agency (40 CFR 311).

9203.2.5 Safety Officer Advanced Planning

The incident Safety Officer will need personnel and equipment very quickly in the event of an incident. It would be beneficial, if possible, to have preset lists of resources, equipment, and personnel for a large incident that could be pared down for smaller incidents. This will allow the Safety Officer to get a request into the Logistics Section quickly while the Safety Officer begins to tackle the chaotic issues at the beginning of an incident. A go kit with information resource forms preprinted, or on a computer disk (laptop and personnel printer if available), and some safety and detection equipment would increase the response effectiveness of the Safety Officer. A good Site Safety and Health plan form (see below) with which the Safety Officer is familiar can serve as a useful guide/checklist to cover the safety issues of an incident and quickly develop the site plan. This type of preplanning is critical to allow the Safety Officer to quickly respond to the needs of the personnel responding to an incident.

9203.2.6 Site Safety and Health Plans

The following site safety and health plans can be used as a general guide to facilitate rapid development of site safety and health plans during spill response. They are non-mandatory guidelines intended to support appropriate site-specific site planning. They were developed for response personnel involved in emergency and/or post-emergency operations and may not provide sufficient detail for long-term remedial sites.

A generic site safety and health plan is provided for oil/chemical spill responses,. Both documents provide a set of attachments that provide more detail for supervisory personnel. These attachments should be used as needed. The generic and proposed ASTM standard site safety plans are not intended to satisfy all requirements for written procedures. A site-specific site safety and health plan must be backed up by other documents that add more detailed information that

may not necessarily be needed in the field (e.g., a site safety and health program, a respiratory protection program, or a medical monitoring program.)

Once the proposed ASTM standard is approved, this will replace the generic Site Safety and Health Plan in this document.

9203.3 Incident Command System Compatible Site Safety and Health Plan

9203.3.1 Purpose

The Incident Command System (ICS) form 208 – Compatible Site Safety and Health Plan ICS is designed for safety and health personnel that use ICS. It is compatible with ICS and is intended to meet the requirements of the Hazardous Waste Operations and Emergency Response (HAZWOPER) regulation (29 CFR 1910.120). The plan avoids the duplication found between many other site safety plans and certain ICS forms. It is also in a format familiar to users of ICS. Although primarily designed for oil and chemical spills, the plan can be used for all hazard situations. The most up to date ICS form 208 can be found at the United States Coast Guard (USCG) Homeport internet site. To access the form, go to: https://homeport.uscg.mil

9203.4 Emergency Safety and Response Plan (Form SSP-A)

9203.4.1 Purpose

The Emergency Safety and Response Plan provides the Safety Officer and ICS personnel a plan for safeguarding personnel during the initial emergency phase of the response. It is only used during the emergency phase of the response, which is defined as a situation involving an uncontrolled release. It is also intended to meet the requirements of the HAZWOPER regulation, 29 CFR 1910.120.

9203.4.2 Preparation

The Safety Officer, or his/her designated staff, starts the Emergency Site Safety and Response Plan. They initially address the hazards common to all operations involved in the response (initial site characterization). Outside support organizations must be contacted to ensure that the plan is consistent with other plans (local, state, other federal plans). Form SSP-G need not be completed if this form is used. When the operation proceeds into the post-emergency phase (site stabilized and cleanup operations begun), forms SSP-B and SSP-G should be used. For large incidents, the Emergency Site Safety and Response Plan complements the Incident Action Plan. For smaller incidents, the Emergency Site Safety and Response Plan complements ICS Form 201.

9203.4.3 Distribution

The Emergency Safety and Response Plan completed by the Safety Officer is forwarded to the Planning Section Chief. Copies are made and attached to the Assignment List(s) (ICS Form 204). The Operations Section Chief, Directors,

Supervisors, or Leaders get a copy of the plan. They must ensure that it is available on site for all personnel to review. The Safety Officer is responsible for ensuring that the Emergency Site Safety and Response Plan properly addresses the hazards of the operation. The Safety Officer accomplishes this through on-site enforcement and feedback to the operational units.

9203.4.4 Instructions

Item #	Item Title	Instruction
1	Incident Name	Print the name assigned to the incident.
2	Date/Time Prepared	Enter date (month, day, year) prepared.
3	Operational Period	Enter the time interval for which the assignment applies.
4	Attachments	Enter attachments. Material Safety Data Sheets are mandatory under 1910.120. Safe Work Practices may also be attached.
5	Organization	List the personnel responsible for these positions. Incident Commander and Safety Officer are mandatory.
6	Physical Hazards & Protection	Check off the physical hazards at the site. Identify the major tasks involved in the response (skimming, lightering, over packing, etc.). Check off the controls that would be used to safeguard workers from the physical hazards for each major task.
7	Chemicals	List the chemicals involved in the response. Chemicals may be listed numerically. Check off the hazards, potential health effects, pathway of dispersion, and exposure route of the chemical. Numbers corresponding to the chemical may be entered into the check blocks
8	Instruments	Indicate the instruments being used for monitoring. List the action levels adjacent to the instruments being used. Identify the chemicals being monitored. List the physical parameters of the chemicals. Use a separate form for additional chemicals monitored.
9	Decontamination	Check off the decontamination steps to be used. Numbers may be entered to indicate the preferred sequence. Identify any intervening steps necessary on the form or in a separate attachment.
10	Site Map	Draw a rough site map. Ensure that all the information listed is identified on the map.
11	Potential Emergencies	Identify any potential emergencies that may occur. If none, state so. Check off the appropriate alarms that may be used. Identify emergency prevention and evacuation procedures in the space provided or on a separate attached sheet.
12	Communications	Indicate the type of site communications (phone, radio). Indicate phone numbers or frequencies for the command, tactical, and entry functions.
13	Site Security	Identify the personnel assigned. Identify security procedures in the space provided or on a separate attached sheet. Identify the equipment needed to support security operations.
14	Emergency Medical	Identify the personnel assigned. Identify emergency medical procedures in the space provided or on a separate attached sheet. Identify the equipment needed to support security operations.
15	Prepared by:	Enter the name and position of the person completing the worksheet.
16	Date/time briefed:	Enter the date/time the document was briefed to the appropriate workers and by whom.

9203.5 Site Safety Plan (Form SSP-B)

9203.5.1 Purpose

The Site Safety Plan provides the Safety Officer and ICS personnel a plan for safeguarding personnel during the post-emergency phase of an incident. The post-emergency phase is when the situation is stabilized and cleanup operations have begun. SSP-B is intended to meet the requirements of the HAZWOPER regulation, 29 CFR 1910.120.

9203.5.2 Preparation

The Safety Officer or his/her designated staff initiates implementation of the Site Safety Plan. They initially address the hazards common to all operations involved in the response, a process known as initial site characterization. The plan is then reproduced and, at a minimum, sent to ICS Group/Division Supervisors. They amend it according to unique job or on-scene hazards with support from the Safety Officer and/or his/her staff (detailed site characterization). The plan is continuously updated to address changing conditions. During the first hours of the response, when most response functions are in the emergency phase, the Safety Officer may choose to use the Emergency Safety and Response Plan (SSP-A) in place of the Site Safety Plan. For large incidents, SSP-B complements the Incident Action Plan (IAP). For smaller incidents, SSP-B complements ICS Form 201. The Safety Officer is encouraged to use the HAZWOPER Compliance Checklist (Form SSP-K) to ensure the IAP and the 201 address the requirements and all other pertinent ICS forms (203, 205, 206, etc.) are completed.

9203.5.3 Distribution

The initial Site Safety Plan completed by the Safety Officer is forwarded to the Planning Section Chief. Copies are made and attached to the Assignment List(s) (ICS Form 204). The Operations Section Chief, Directors, Supervisors, or Leaders get a copy and make on-site amendments specific to their operation. They must also ensure that it is available on site for all personnel to review. The Safety Officer provides personnel from his/her staff to assist in the detailed site characterization. The Safety Officer is responsible for ensuring that the Site Safety Plan for each assignment properly addresses the hazards of the assignment. The Safety Officer must ensure that the safety plans on site are consistent. The Safety Officer accomplishes this through on-site enforcement and feedback to the operational units.

9203.5.4 Instructions

Item #	Item Title	Instructions
1	Incident Name	Print the name assigned to the incident.
2	Date/Time Prepared	Enter date (month, day, year) prepared.
3	Operational Period	Enter the time interval for which the assignment applies.
4	Safety Officer	Enter the name of the Safety Officer and means of contact.
5	Group/Division Supv Strike Team/TF Leader	The Supervisor/Leader who receives this form will enter their name here.
6	Location & size of site	Enter the geographical location of the site and the approximate size/area.
7	Site Accessibility	Check the block(s) if the site is accessible by land, water, air, etc.
8	For Emergencies Contact	Enter the name and way to contact the individual who handles emergencies.
9	Attachments	Enter attachments. Material Safety Data Sheets are mandatory under
10	Job/Task Activity	Enter Job/Task & Activities, list hazards, list potential injury and health effects, check exposure routes and identify controls. If more detail is needed for controls, provided
11	Prepared by	Enter the name and position of the person completing the worksheet.
12	Briefed on by	Enter the date/time the document was briefed to the appropriate workers and by whom.

9203.6 Site Map for Site Safety Plan (SSP-C)

9203.6.1 Purpose

The Site Map for the Site Safety Plan is required by 29 CFR 1910.120. It provides in one place a visual description of the site, which can help, ICS personnel identify hazards, evacuation routes, and places of refuge.

9203.6.2 Preparation

The Site Map for the Site Safety Plan can be completed by the Safety Officer, his/her staff, or ICS field personnel (Group Supervisors, Task Force/Strike Team Leaders) working at a site with unique and specific hazards. One or several maps may be developed, depending on the size of the incident and the uniqueness of the hazards. The key is to ensure that the workers using the map(s) can clearly identify the work zones, locations of hazards, evacuation routes, and places of refuge.

9203.6.3 Distribution

The Site Map for Site Safety Plan form must be located with the Site Safety Plan (SSP-B). It therefore follows the same distribution route.

9203.6.4 Instructions

Item #	Item Title	Instructions
1	Incident Name	Print the name assigned to the incident.
2	Date/Time Prepared	Enter date (month, day, year) prepared.
3	Operational Period	Enter the time interval for which the assignment applies.
4	Safety Officer	Enter the name of the Safety Officer and means of contact.
5	Supervisor/Leader	The Supervisor/Leader who receives this form will enter their name here.
6	Location & size of site	Enter the geographical location of the site and the approximate square area.
7	Site Accessibility	Check the block(s) if the site is accessible by land, water, air, etc.
8	For Emergencies Contact	Enter the name and way to contact the individual who handles emergencies.
9	Include	Ensure the map includes the listed items provided in this block.
10	Prepared by	Enter the name and position of the person completing the
11	Briefed on by	Enter the date/time the document was briefed to the appropriate workers and by whom.

9203.7 Emergency Response Plan (ICS Form 208D)

9203.7.1 Purpose

The Emergency Response Plan provides information on measures to be taken in the event of an emergency. It is used in conjunction with the Site Safety Plan (Form SSP-B). It is also required by 29 CFR 1910.120.

9203.7.2 Preparation

The Safety Officer, his/her staff member, or the Site Supervisor/Leader prepares the Emergency Response Plan. A copy of the Medical Plan (ICS Form 206) must always be attached to this form.

9203.7.3 Distribution

The Emergency Response Plan form must be located with Site Safety Plan (SSP-B). It therefore follows the same distribution route.

9203.7.4 Instructions

Item #	Item Title	Instructions
1	Incident Name	Print the name assigned to the incident.
2	Date/Time Prepared	Enter date (month, day, year) prepared.
3	Operational Period	Enter the time interval for which the assignment applies.
4	Safety Officer	Enter the name of the Safety Officer and means of contact.
5	Supervisor/Leader	The Supervisor/Leader who receives this form will enter their name here.
6	Location & size of site	Enter the geographical location of the site and the approximate square area.
7	For Emergencies Contact	Enter the name and way to contact the individual who handles emergencies.
8	Attachments	Enter attachments. ICS Form 206 must be included.

Item #	Item Title	Instructions
9	Emergency Alarm	Enter a description of the sound of the emergency alarm and its location.
10	Backup Alarm	Enter a description of the sound of the emergency alarm and its location.
11	Emergency Hand Signals	Enter the emergency hand signals to be used.
12	Emergency Personal Protective	Enter the emergency personal protective equipment that may be needed in the event of an emergency.
13	Emergency Notification Procedures	Enter the procedures for notifying the appropriate personnel and organizations in the event of an emergency.
14	Places of Refuge	Enter by name the place of refuge personnel can go to in the event of an emergency.
15	Emergency Decon & Evacuation Steps	Enter emergency decontamination steps and evacuation procedures.
16	Site Security Measures	Enter site security measures needed for emergencies.
17	Prepared by	Enter the name and position of the person completing the
18	Briefed on by	Enter the date/time the document was briefed to the appropriate workers and by whom.

9203.8 Daily Air Monitoring Log (Form SSP-E)

9203.8.1 Purpose

The Daily Air Monitoring Log provides documentation of air monitoring conducted during a spill. The log is a supplement to the Site Safety Plan (SSP-B). It is only required when performing air monitoring operations. The information used from the log can help update the Site Safety Plan.

9203.8.2 Preparation

Persons conducting monitoring complete the Daily Air Monitoring Log. Normally, these are air-monitoring units under the Site Safety Officer. If there is a decision not to monitor during a spill, the reasons must be stated clearly in the Site Safety Plan (SSP-B).

9203.8.3 Distribution

The Daily Air Monitoring Log when completed is copied and forwarded to the Site Safety Officer, who must review and sign the form. The original form must be readily available on site and briefed to all impacted ICS personnel.

9203.8.4 Instructions

Item #	Item Title	Instruction
1	Incident Name	Print the name assigned to the incident.
2	Date/Time Prepared	Enter date (month, day, year) prepared.
3	Operational Period	Enter the time interval for which the assignment applies.
4	Safety Officer	Enter the name of the Safety Officer and means of contact.
5	Location & size of site	Enter the geographical location of the site and the approximate square area.
6	Hazards of Concern	Enter the hazards being monitored.
7	Action Levels	Enter the action levels/readings for the monitoring teams.
8	Weather	Enter weather information. Ensure units of measure are listed.
9	Air Monitoring Data	Enter the instrument type and number, persons monitoring, results with appropriate units, location of reading, time of reading, and interferences and comments.
10	Safety Officer Review	The Safety Officer must review and sign the form.

9203.9 Personal Protective Equipment (SSP-F)

9203.9.1 Purpose

The Personal Protective Equipment form is a list of personal protective equipment to be used in operations. The listing of personal protective equipment is required by 29 CFR 1910.120.

9203.9.2 Preparation

The Personal Protective Equipment form is completed by the Site Safety Officer, or his/her staff. Personal protective equipment common to all ICS Operations personnel is addressed first. Jobs with unique personal protective equipment requirements (fall protection) are addressed next. When the form is delivered on site, the ICS Director, Supervisor, or Leader may amend the list to ensure personnel are adequately protected from job hazards. It must be completed prior to the onset of any operations, unless addressed elsewhere by Standard Operating Procedures.

9203.9.3 Distribution

The Personal Protective Equipment form must be located with the Site Safety Plan (SSP-B). It therefore follows the same distribution route.

9203.10 Decontamination

9203.10.1 Purpose

The Decontamination form provides information on how workers can avoid contamination and how to get decontaminated. It is a supplemental form to the Site Safety Plan.

9203.10.2 Preparation

The Decontamination Form can be completed by the Site Safety Officer, a member of his/her staff or by the Group/Division Supervisor, Task Force/Strike Team Leader on the site

9203.10.3 Distribution

The Decontamination form must be located with Site Safety Plan (SSP-B). It therefore follows the same distribution route.

9203.10.4 Instructions

Item #	Item Title	Instruction
1	Incident Name	Print the name assigned to the incident.
2	Date/Time Prepared	Enter date (month, day, year) prepared.
3	Operational Period	Enter the time interval for which the assignment applies.
4	Safety Officer	Enter the name of the Safety Officer and means of contact.
5	Supervisor/Leader	The Supervisor/Leader who receives this form will enter their name here.
6	Location & size of site	Enter the geographical location of the site and the approximate square area.
7	For Emergencies Contact	Enter the name and way to contact the individual who handles emergencies.
8	Hazard(s) Addressed:	Enter the hazards that need to be safeguarded.
9	Equipment	Enter the decontamination equipment needed for the site. If pre-designed Safe Work Practices are used, indicate here and attach to this form.
10	References consulted	List the references used in making the selection for personal protective equipment.
11	Contamination Avoidance Practices	Enter procedures for personnel to avoid contamination. If pre-designed Safe Work Practices are used, indicate here and attach to form.
12	Decon Diagram	Draw a diagram for the decontamination operation. If pre-designed Safe Work Practices are used, indicate here and attach to form.
13	Decon Steps	List the decontamination steps.
14	Prepared by	Enter the name and position of the person completing the worksheet.
15	Briefed on by	Enter the date/time the document was briefed to the appropriate workers and by whom.

9203.11 Site Safety Enforcement Log (SSP-H)

9203.11.1 Purpose

The Site Safety Plan Enforcement Log is used to help enforce safety during an incident.

9203.11.2 Preparation

The Safety Officer and/or his/her staff complete the Site Safety Plan Enforcement Log. The log is completed as Safety personnel are on scene reviewing the site. It should be completed at a minimum of once per day. The number of enforcement logs to be completed depends on the size of the

incident. Enough should be completed to ensure that site safety is being adequately enforced.

9203.11.3 Distribution

The Site Safety Plan enforcement log when completed is delivered to the Safety Officer. The Safety Officer can use the form to amend the Site Safety Plan (SSP-A or B).

9203.11.4 Instructions

Item #	Item Title	Instruction
1	Incident Name	Print the name assigned to the incident.
2	Date/Time Prepared	Enter date (month, day, year) prepared.
3	Operational Period	Enter the time interval for which the assignment applies.
4	Safety Officer	Enter the name of the Safety Officer and means of contact
5	Supervisor/Leader	The Supervisor/Leader who receives this form will enter their name here.
6	For Emergencies Contact	Enter the name and way to contact the individual who handles emergencies.
7	Attachments	List any attached supporting documentation.
8	Job/Task Activity	Enter only those Job/Task activities for which a deficiency is noted.
	Hazards	Enter the hazard not being sufficiently addressed.
	Deficiency	Enter the deficiency.
	Action Taken	Enter the corrective action taken to address the deficiency.
	Safety Plan Amended?	Enter whether the on-site safety plan was amended.
	Signature of Supervisor/Leader	Ensure the Supervisor/Leader signs the form to acknowledge the deficiency.
9	Prepared by	Enter the name and position of the person completing the worksheet.
10	Briefed on by	Enter the date/time the document was briefed to the appropriate workers and by whom.

9203.12 Worker Acknowledgement Form (SSP-I)

9203.12.1 Purpose

The Worker Acknowledgement form is used to document workers who have received safety briefings.

9203.12.2 Preparation

Personnel responsible for conducting safety briefings complete this form initially. Once the briefings are completed, workers who were briefed print their name, sign, date, and indicate the time of the briefing.

9203.12.3 Distribution

This form is returned to the Safety Officer or designated representative at the end of each operational period.

9203.12.4 Instructions

Item #	Item Title	Instruction
1	Incident Name	Print the name assigned to the incident.
2	Site Location	Indicate the location where the briefings are held.
3	Attachments	Indicate any attachments used as part of the briefings.
4	Type of briefing	Check the block next to the type of briefing.
5	Presented by	Enter the name of the person conducting the briefing.
6	Date	Enter the date of the briefing.
7	Time	Enter the time of the briefing.
8	Worker Name	Workers receiving the briefing print their name, sign, date and enter the time they acknowledge the briefing.

9203.13 Emergency Safety and Response Plan Compliance Checklist (SSP-J)

9203.13.1 Purpose

The purpose of Emergency Safety and Response Plan 1910.120 Compliance Checklist is to ensure that incident response operations are in compliance with 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. This form also identifies how form SSP-J can be used to satisfy the HAZWOPER requirements. This checklist is an optional form.

9203.13.2 Preparation

The Emergency Safety and Response Plan 1910.120 Compliance Checklist is to ensure that incident response operations are in compliance with 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. It also identifies how form SSP-J can be used to satisfy the HAZWOPER requirements. This checklist is an optional form.

9203.13.3 Distribution

The Safety Officer should maintain The Emergency Safety and Response Plan 1910.120 Compliance Checklist.

9203.13.4 Instructions

Item #	Item Title	Instruction
1	Incident Name	Print the name assigned to the incident.
2	Date/Time Prepared	Enter date (month, day, year) prepared.
3	Operational Period	Enter the time interval for which the assignment applies.
4	Supervisor/Leader	The Supervisor/Leader who receives this form will enter their name here.
5	Location of Site	Enter the site location.
	Cites	These are the regulatory cites within HAZWOPER 1910.120 Compliance Checklist 1910.120. The major headings are highlighted in bold. Informational cites and duplicative cites are not included.
	Requirement	This lists the requirements in a question format. Some require documentation or some form of action.
	ICS Form	Lists those requirements covered by SSP-A.
	Check Block	Enter the check if the site satisfies the requirement.
	Comments	This provides additional information on the requirement. The user may also enter comments.
6	Prepared by	Enter the name and position of the person completing the worksheet.

9203.14 HAZWOPER 1910.120 Compliance Checklist

9203.14.1 Purpose

The purpose of the HAZWOPER 1910.120 Compliance Checklist is to ensure that incident response operations are in compliance with 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response. It also identifies how other ICS forms can be used to satisfy the HAZWOPER requirements. This is an optional form.

9203.14.2 Preparation

The HAZWOPER 1910.120 Compliance Checklist is completed by the Safety Officer or his/her staff as frequently as necessary whenever the Safety Officer wants to ensure regulatory compliance. It is best used in conjunction with the Site Safety Plan Enforcement Log (SSP-H). The Site Safety Plan Forms (A-G) best meet some of the requirements in this checklist. The IAP is suited to address other requirements, and the Safety Officer should ensure that the IAP addresses them. Other requirements are performance-based and are best evaluated on scene by the Safety Officer or his/her staff.

9203.14.3 Distribution

The HAZWOPER 1910.120 Compliance Checklist should be maintained by the Safety Officer.

9203.14.4 Instructions

Item #	Item Title	Instruction
1	Incident Name	Print the name assigned to the incident.
2	Date/Time Prepared	Enter date (month, day, year) prepared.
3	Operational Period	Enter the time interval for which the assignment applies.
4	Supervisor/Leader	The Supervisor/Leader who receives this form will enter their name here.
5	Location of Site	Enter the site location.
	Cites	These are the regulatory cites noted in the HAZWOPER 1910.120 Compliance Checklist 1910.120. The major headings are highlighted in bold. Informational cites and duplicative cites are not included.
	Requirement	This item lists the requirement in a question format. Some require documentation or some form of action.
	ICS Form	Lists those ICS Forms that cover the requirement.
	Check Block	Enter the check if the site satisfies the requirement.
	Comments	This provides information on where else the requirement may be met. The user may also enter comments.
6	Prepared by	Enter the name and position of the person completing the worksheet.

9203.15 HAZWOPER 1910.120 Drum Compliance Checklist (SSP-L)

9203.15.1 Purpose

The purpose of the HAZWOPER 1910.120 Drum Compliance Checklist is to ensure that incident response operations are in compliance with 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response whenever drums are encountered during an incident. This is an optional form.

9203.15.2 Preparation

The HAZWOPER 1910.120 Drum Compliance Checklist is completed by the Safety Officer or his/her staff as frequently as necessary whenever the Safety Officer wants to ensure regulatory compliance. It is best used in conjunction with the Site Safety Plan Enforcement Log (SSP-H). The Site Safety Plan Forms (A- G) best meet some of the requirements in this checklist. Other requirements are performance based and are best evaluated on scene by the Safety Officer or his/her staff.

9203.15.3 Distribution

The HAZWOPER 1910.120 Drum Compliance Checklist should be maintained by the Safety Officer.

9203.15.4 Instructions

Item #	Item Title	Instruction
1	Incident Name	Print the name assigned to the incident.
2	Date/Time Prepared	Enter date (month, day, year) prepared.
3	Operational Period	Enter the time interval for which the assignment applies.
4	Safety Officer	Enter the name of the Safety Officer and means of contact.
5	Supervisor/Leader	The Supervisor/Leader who receives this form will enter their name here.
6	Location & size of site	Enter the geographical location of the site and the approximate square area.
7	For Emergencies Contact	Enter the name and way to contact the individual who handles emergencies.
8	Note	Tanks and vaults should also be treated in the same manner as described in the checklist (1910.120((j)(9)).
9	Cites	These are the regulatory cites within 1910.120. The major headings are highlighted in bold. Informational cites and duplicative cites are not included.
	Requirement	This lists the requirement in a question format. Some require documentation or some form of action.
	Check Block	Enter the check if the site satisfies the requirement.
	Comments	This provides information on where else the requirement may be met. The user may also enter comments.
10	Prepared by	Enter the name and position of the person completing the worksheet.

9203.16 Site Safety Plan Attachments (SSP-ATTACH 1-#)

9203.16.1 Purpose

The Site Safety Plan attachments provide ready-made safe work practices for the Safety Officer and ICS personnel. They are optional documents designed to assist the Safety Officer in communicating and enforcing control of safety hazards. They were derived from the USCG's National Strike Force's Guide for Developing Oil Spill Site Safety Plans (NSFCCINST M16465.2).

9203.16.2 Preparation

The SSP attachments require little to no preparation. Some of them have blank sections (due to information changing) that are required to be filled by the Safety Officer or his/her staff. The Safety Officer is encouraged to use the format presented by the attachments for developing his/her own additional safe work practices.

9203.16.3 Distribution

These forms must be located with Site Safety Plan (SSP-A). They therefore follow the same distribution route.

Site Safety and Health Plan ICS-208-CG (rev 9/06)

Incident Name: ____ **Date/Time Prepared:** ____ **Operational Period:** _____

Purpose: The ICS Compatible Site Safety and Health Plan is designed for safety and health personnel that use the Incident Command System (ICS). It is compatible with ICS and is intended to meet the requirements of the Hazardous Waste Operations and Emergency Response regulation (Title 29, Code of Federal Regulations, Part 1910.120). The plan avoids the duplication found between many other site safety plans and certain ICS forms. It is also in a format familiar to users of ICS. Although primarily designed for oil and chemical spills, the plan can be used for all hazard situations.

Questions on the document should be addressed to the USCG Office of Incident Management and Preparedness (G-RPP).

Table of Forms

FORM NAME	FORM #	USE	REQUIRED	OPTIONAL	ATTACHED
Emergency Safety and Response Plan	A	Emergency response phase (uncontrolled	X		
Site Safety Plan	B	Post-emergency phase (stabilized, cleanup)	X		
Site Map	C	Post-emergency phase map of site and hazards	X		
Emergency Response Plan	D	Part of Form B, to address emergencies	X		
Exposure Monitoring Plan	E	Exposure monitoring plan to monitor exposure	X		
Air Monitoring Log	E-1	To log air monitoring data	X*		
Personal Protective Equipment	F	To document PPE equipment and procedures	X*		
Decontamination	G	To document decon equipment and procedures	X*		
Site Safety Enforcement Log	H	To use in enforcing safety on site		X	
Worker Acknowledgement Form	I	To document workers receiving briefings		X	
Form A Compliance Checklist	J	To assist in ensuring HAZWOPER compliance		X	
Form B Compliance Checklist	K	To assist in ensuring HAZWOPER compliance		X	
Drum Compliance Checklist	L	To assist in ensuring HAZWOPER compliance		X	
Other:					

* Required only if function or equipment is used during a response.

EMERGENCY SAFETY and RESPONSE PLAN	1. Incident Name:	2. Date/Time Prepared:	3. Operational Period	4. Attachments: **Attach MSDS for each chemical/**
5. Organization IC/UC:	Safety: Div/Group Supv:	Entry Team:	Backup Team:	Decon Team:
6a. Physical Hazards and Protection:	6. ☐ Confined Space ☐ Noise ☐ Heat Stress ☐ Cold Stress ☐ Electrical ☐ Animal/Plant/Insect ☐ Ergonomic ☐ Ionizing Rad ☐ Slips/Trips/Falls ☐ Struck by ☐ Water ☐ Violence ☐ Excavation ☐ Biomedical waste and/or needles ☐ Fatigue ☐ Other (specify)			

6c. Task & Controls	6d. Entry Permit	6e. Ventilate	6f. Hearing Protection	6g. Shoes (type)	6h. Hard Hats	6i. Clothing (cold wx)	6j. Life Jacket	6l. Work/ Rest (hrs)	6m. Fluids (amt/time)	6n. Signs & Barricade	6p. Fall Protect	6q. Post Guards	6r. Flash Protect	6s. Work Gloves	6t. Other

7a. Agent	7b. Hazards		7c. Target Organs	7d Exposure Routes	7f. PPE	7g. Type of PPE
	Explosive ☐	Radioactive ☐	Eyes ☐ Nose ☐ Skin ☐ Ears ☐	Inhalation ☐	Face Shield ☐	
	Flammable ☐	Carcinogen ☐	Central Nervous System ☐	Absorption ☐	Eyes ☐	
	Reactive ☐	Oxidizer ☐	Respiratory ☐ Throat ☐	Ingestion ☐	Gloves ☐	
	Biomedical ☐	Corrosive ☐	Lungs ☐ Heart ☐ Liver ☐	Injection ☐	Inner Suite ☐	
	Toxic ☐	Specify Other: ☐	Kidney ☐ Blood ☐ Lungs ☐	Membrane ☐	Splash Suit ☐	
		_____	Circulatory ☐ Gastrointestinal ☐	_____ ☐	Level A Suit ☐	
		Bone ☐	Other Specify: ☐		SCBA ☐ APR ☐	
			_____		SAR ☐	
					Cartridges ☐	
					Fire Resistance ☐	

8. Instruments	8a. Action Levels	8b. Chemical Name(s)	8c. LEL/ UEL %	8d. Odor Thresh ppm	8e. Ceiling/ IDLH	8f. STEL/TLV	8g. Flash Pt/ Ignition Pt. (F or C)	8h. Vapor Pressure (mm)	8i. Vapor Density	8j. Specific Gravity	8l. Boiling Pt (F or C)
O2 ☐											
CGI ☐											
Radiation ☐											
Total HCs ☐											
Colorimetric ☐											
Thermal ☐											
Other ☐											

ICS-208-CG SSP-A Page 1 (Rev 9/06): Page ___ of _____

EMERGENCY SAFETY and RESPONSE PLAN	1. Incident Name:	2. Date/Time Prepared:	3. Operational Period	4. Attachments: **Attach MSDS for each chemical/**
9. Decontamination:				
Instrument Drop Off ☐	Suit Wash ☐	Bottle Exchange ☐	SCBA/Mask Rinse ☐	Intervening Steps ☐
Outer Boots/Glove Removal ☐	Decon Agent: Water ☐	Outer Suit Removal ☐	Inner Glove Removal ☐	Specify:
Suit/Gloves/Boot Disposal ☐	Other: ☐	Inner Suit Removal ☐	Work Clothes Removal ☐	
	Specify:	SCBA/Mask Removal ☐	Body Shower ☐	

10. Site Map: Include: Work Zones, Locations of Hazards, Security Perimeter, Places of Refuge, Decontamination Line, Evacuation Routes, Assembly Point, Direction of North,
☐ Attached ☐ Drawn Below:

11a. Potential Emergencies:	11b. Evacuation Alarms:	11c. Emergency Prevention and Evacuation Procedures:
Fire ☐	Horn ☐ # Blasts ☐	Safe Distance:
Explosion ☐	Bells ☐ # Rings ☐	
Other ☐	Radio Code ☐	
	Other:	

12a Communications:	12b. Command #	12c. Tactical #:	12d. Entry #
Radio ☐ Phone ☐ Other ☐			

13a. Site Security:	13b. Procedures:	13c. Equipment:
Personnel Assigned		
14a. Emergency Medical:	14b. Procedures:	14c. Equipment
Personnel Assigned		
15. Prepared By:	16. Date/Time Briefed:	**ICS-208-CG SSP-A Page 2 (Rev 9/06):** Page ___ of _____

CG ICS SITE SAFETY PLAN (SSP) HAZARD ID/EVAL/CONTROL	1. Incident Name:	2. Date/Time Prepared	3. Operational Period	4. Safety Officer (include method of contact)
5. Supervisor/Leader	6. Location and Size of Site Land ☐ Water ☐Air ☐ Comments:	7. Site Accessibility	8. For Emergencies Contact	9. Attachments: **Attach MSDS for each Chemical**

10a. Job Task/Activity	10b. Hazards * ⇨	10c. Potential Injury & Health Effects	10d. Exposure Routes	10e. Controls: Engineering, Administrative, PPE
			Inhalation ☐ Absorption ☐ Ingestion ☐ Injection ☐ Membrane ☐ _____ ☐	
			Inhalation ☐ Absorption ☐ Ingestion ☐ Injection ☐ Membrane ☐ _____ ☐	
			Inhalation ☐ Absorption ☐ Ingestion ☐ Injection ☐ Membrane ☐ _____ ☐	
			Inhalation ☐ Absorption ☐ Ingestion ☐ Injection ☐ Membrane ☐ _____ ☐	
			Inhalation ☐ Absorption ☐ Ingestion ☐ Injection ☐ Membrane ☐ _____ ☐	
11. Prepared By:	12. Date/Time Briefed:	***Hazard List:** Physical/Safety, Toxic, Explosion/Fire, Oxygen Deficiency, Ionizing Radiation, Biological, Biomedical, Electrical, Heat Stress, Cold Stress, Ergonomic, Noise, Cancer, Dermatitis, Drowning, Fatigue, Vehicle, & Diving		**ICS-208-CG SSP-B (rev 9/06):** Page ____ of _____

CG ICS SSP SITE MAP	1. Incident Name:	2. Date/Time Prepared	3. Operational Period	4. Safety Officer (include method of contact)
5. Supervisor/Leader	6. Location and Size of Site	7. Site Accessibility	8. For Emergencies Contact	9. Include:
		Land ☐ Water ☐Air ☐		- Work Zones - Locations of Hazards
		Comments:		- Security Perimeter - Places of Refuge
				- Decontamination Line - Evacuation Routs

10. Sketch of Site

☐ Attached ☐ Drawn Here

11. Prepared By:	12. Date/Time Briefed:	***Hazard List:** Physical/Safety, Toxic, Explosion/Fire, Oxygen Deficiency, Ionizing Radiation, Biological, Biomedical, Electrical, Heat Stress, Cold Stress, Ergonomic, Noise, Cancer, Dermatitis, Drowning, Fatigue, Vehicle, & Diving	**ICS-208-CG SSP-B (rev 9/06):** Page ____ of _____

CG ICS SSP: EMERGENCY RESPONSE PLAN	1. Incident Name:	2. Date/Time Prepared	3. Operational Period	4. Safety Officer (include method of contact)
5. Supervisor/Leader	6. Location and Size of Site	7. For Emergencies Contact:	8. Attachments: **INCLUDE ICS FORM 206 and EMT Medical Response Procedures**	
9. Emergency Alarm (sound and location)	10. Backup Alarm (sound and location)	11. Emergency Hand Signals	12. Emergency Personal Protective Equipment Required:	

13. Emergency Notification Procedures:	14. Places of Refuge (also see site map form 208B)	15. Emergency Decon and Evacuation Steps	16. Site Security Measures:

11. Prepared By:	12. Date/Time Briefed:	***Hazard List:** Physical/Safety, Toxic, Explosion/Fire, Oxygen Deficiency, Ionizing Radiation, Biological, Biomedical, Electrical, Heat Stress, Cold Stress, Ergonomic, Noise, Cancer, Dermatitis, Drowning, Fatigue, Vehicle, & Diving	**ICS-208-CG SSP-B (rev 9/06):** Page ___ of _____

CG ICS SSP: Exposure Monitoring Plan	1. Incident Name	2. Date/Time Prepared:	3. Operational Period:	4. Safety Officer (Method of Contact)

5.Specific Task/ Operation	6. Survey Location	7. Survey Date/Time	8. Monitoring Methodology	9. Direct-Reading Instrument	10. Air Sampling	11. Hazard(s) to Monitor	12. Monitoring Duration	13. Reason to Monitor	14. Laboratory Support for Analysis
			☐ Personal Breathing Zone Area Air Monitoring ☐ Dermal Exposure Monitoring ☐ Biological Monitoring: ☐ Blood ☐ Urine ☐ Other ☐ Obtain bulk samples ☐ Other	Model: Manufacturer Last Mfr Calibration Date	Sample/Analysis Method: Collection Media ☐ Charcoal Tube Silica Gel ☐ 37 mm MCE Filter ☐ 37 mm PVC Filter ☐ Other: _____			☐ Regulatory Compliance ☐ Assess current PPE adequacy ☐ Validate engineering controls ☐ Monitor IDLH conditions ☐ Other _____	
			☐ Personal Breathing Zone Area Air Monitoring ☐ Dermal Exposure Monitoring ☐ Biological Monitoring: ☐ Blood ☐ Urine ☐ Other ☐ Obtain bulk samples ☐ Other	Model: Manufacturer Last Mfr Calibration Date	Sample/Analysis Method: Collection Media ☐ Charcoal Tube Silica Gel ☐ 37 mm MCE Filter ☐ 37 mm PVC Filter ☐ Other: _____			☐ Regulatory Compliance ☐ Assess current PPE adequacy ☐ Validate engineering controls ☐ Monitor IDLH conditions ☐ Other _____	
			☐ Personal Breathing Zone Area Air Monitoring ☐ Dermal Exposure Monitoring ☐ Biological Monitoring: ☐ Blood ☐ Urine ☐ Other ☐ Obtain bulk samples ☐ Other	Model: Manufacturer Last Mfr Calibration Date	Sample/Analysis Method: Collection Media ☐ Charcoal Tube Silica Gel ☐ 37 mm MCE Filter ☐ 37 mm PVC Filter ☐ Other: _____			☐ Regulatory Compliance ☐ Assess current PPE adequacy ☐ Validate engineering controls ☐ Monitor IDLH conditions ☐ Other _____	
			☐ Personal Breathing Zone Area Air Monitoring ☐ Dermal Exposure Monitoring ☐ Biological Monitoring: ☐ Blood ☐ Urine ☐ Other ☐ Obtain bulk samples ☐ Other	Model: Manufacturer Last Mfr Calibration Date	Sample/Analysis Method: Collection Media ☐ Charcoal Tube Silica Gel ☐ 37 mm MCE Filter ☐ 37 mm PVC Filter ☐ Other: _____			☐ Regulatory Compliance ☐ Assess current PPE adequacy ☐ Validate engineering controls ☐ Monitor IDLH conditions ☐ Other _____	

15. Prepared by:	16. Date/Time Briefed:	**Hazard List:** Potential Health Effects: Bruise/Lacerations, Organ Damage, Central Nervous System Effects, Cancer, Reproductive Damage, Low Back Pain, Temporary Hearing Loss, Dermatitis, Respiratory Effects, Bone Breaks, & Eye Burning
18. Site Officer Review:	Reporting: Monitoring results shall be logged in the ICS-208-CG SSP-E-1 Form (Air Monitoring Log) and attached as part of a current Site Safety Plan and Incident Action Plan. Significant Exposures shall be immediately addressed to the IC and General Staff for immediate Correction.	**ICS-208-CG SSP-E (rev 9/06):** Page ___ of _____

CG ICS SSP: AIR MONITORING	1. Incident Name	2. Date/Time Prepared:	3. Operational Period:	4. Safety Officer (Method of Contact)
5. Site Location	6. Hazards of Concern:	7. Action Levels (include references):		8. Weather Temperature: Precipitation Wind: Relative Humidity: Cloud Cover

9a. Instrument ID Number Calibrated? Indicate below.	9b. Monitoring Person name(s)	9c. Results (units)	9d. Location	9f. Time	9g. Interferences and Comments

10. Safety Officer Review:	Potential Health Effects: Bruise/Lacerations, Organ Damage, Central Nervous System Effects, Cancer, Reproductive Damage, Low Back Pain, Temporary Hearing Loss, Dermatitis, Respiratory Effects, Bone Breaks, & Eye Burning	**ICS-208-CG SSP-E -1(rev 9/06):** Page ___ of _____

CG ICS SSP: PERSONAL PROTECTIVE EQUIPMENT	1. Incident Name	2. Date/Time Prepared:	3. Operational Period:	4. Safety Officer (Method of Contact)
5. Supervisor/Leader	6. Location and Size of Site:	7. Hazards Addressed:	8. For Emergencies Contact:	

9. Equipment:				10. References Consulted:

11. Inspection Procedures:	12. Donning Procedures:	13. Doffing Procedures:	14. Limitation and Precautions (include maximum stay time in PPE)

15. Prepared By:	16. Date/Time Briefed:	Potential Health Effects: Bruise/Lacerations, Organ Damage, Central Nervous System Effects, Cancer, Reproductive Damage, Low Back Pain, Temporary Hearing Loss, Dermatitis, Respiratory Effects, Bone Breaks, & Eye Burning	**ICS-208-CG SSP-F(rev 9/06):** Page ____ of _____

CG ICS SSP: DECONTAMINATION	1. Incident Name	2. Date/Time Prepared:	3. Operational Period:	4. Safety Officer (Method of Contact)
5. Supervisor/Leader	6. Location and Size of Site:	7. Hazards Addressed:	8. For Emergencies Contact:	

9. Equipment:				10. References Consulted:

11. Contamination Avoidance Practices:	12. Decon Diagram: ☐ Attached ☐ Drawn Below	13. Decon Steps

14. Prepared By:	15. Date/Time Briefed:	Potential Health Effects: Bruise/Lacerations, Organ Damage, Central Nervous System Effects, Cancer, Reproductive Damage, Low Back Pain, Temporary Hearing Loss, Dermatitis, Respiratory Effects, Bone Breaks, & Eye Burning	**ICS-208-CG SSP-G(rev 9/06):** Page ____ of _____

CG ICS SSP: ENFORCEMENT	1. Incident Name	2. Date/Time Prepared:	3. Operational Period:	4. Safety Officer (Method of Contact)
5. Supervisor/Leader		6. For Emergencies Contact:		7. Attachments:

8a. Job/Task Activity	8b. Hazards	8c. Deficiency	8d. Action Taken	8e. Safety Plan Amended?	8f. Signature of Supervisor/Leader

9. Prepared By:	10. Date/Time Briefed:	**HAZARD LIST:** Physical/Safety, Toxic, Explosion/Fire, Oxygen, Deficiency, Ionizing Radiation, Biological, Biomedical, Electrical, Heat Stress, Cold Stress, Ergonomic, Noise, Cancer, Dermatitis, Drowning, Fatigue, Vehicle, & Diving	**ICS-208-CG SSP-G(rev 9/06):** Page ____ of _____

CG ICS SSP WORKER ACKNOWLEDGEMENT FORM	1. Incident Name:	2. Site Location	3. Attachments:

4. Type of Briefing	5. Presented By:	6. Date Presented	7. Time Presented:
Safety Plan/Emergency Response Plan ☐			
Start Shift ☐ Pre-Entry ☐			
Exit ☐ End of Shift ☐			
Specify Other:			

8a. Worker Name (Print)	8b. Signature *	8c. Date	8d. Time

* *By signing this document, I am stating that I have read and fully understand the plan and/or information provided to me.*

ICS-208-CG SSP-I(rev 9/06): Worker Acknowledgement

Page _____ of ___

CG ICS SSP: Emergency Safety & Response Plan 1910.120 Compliance Checklist (Form A)	1. Incident Name:	2. Date/Time Prepared:	3. Operational Period.	4. Site Supervisor/Leader	5. Location of Site

6a. Cite: 1910.120	6b. Requirements (sections that duplicate or explain are omitted)	6c. ICS Form	6d. Check	5e. Comments
(q)(1)	Is the plan in writing?	SSP-A	☐	
(1)	Is the plan available for inspection by employees?	N/A	☐	Performance based.
(q)(2)(i)	Doe the plan address pre-emergency planning and coordination?	SSP-A	☐	
(ii)	Does it address personnel roles?	SSP-A	☐	
(ii)	Does it address lines of authority?	SSP-A	☐	
(ii)	Does it address communications?	SSP-A	☐	
(iii)	Does it address emergency recognition?	SSP-A	☐	
(iii)	Does it address emergency prevention?	SSPA-A	☐	
(iv)	Does it identify safe distances?	SSP-A	☐	
(iv)	Does it address places of refuge?	SSP-A	☐	
(v)	Does it address site security and control?	SSP-A	☐	
(vi)	Does it identify evacuation routes?	SSP-A	☐	
(vi)	Does it identify evacuation procedures?	SSP-A	☐	
(vii)	Does it address decontamination?	SSP-A	☐	
(viii)	Does it address medical treatment and first aid?	SSP-A	☐	
(ix)	Does it address emergency alerting procedures?	SSP-A	☐	
(ix)	Does it address emergency response procedures?	SSP-A	☐	
(x)	Was the response critiqued?	SSP-A	☐	Performance based
(xi)	Does it identify Personal Protective Equipment?	SSP-A	☐	
(xi)	Does it identify emergency equipment?	SSP-A	☐	
(q)(3)(ii)	All the hazardous substances identified to the extent possible?	N/A	☐	Performance Based
(ii)	All the hazardous conditions identified to the extent possible?	N/A	☐	Performance Based
(ii)	Was site analysis addressed?	N/A	☐	Performance Based
(ii)	Were engineering controls addressed?	N/A	☐	Performance Based
(ii)	Were exposure limits addressed?	N/A	☐	Performance Based
(ii)	Were hazardous substance handling procedures addressed?	N/A	☐	Performance Based
(iii)	Is the PPE appropriate for the hazards identified?	N/A	☐	Performance Based
(iv)	Is respiratory protection worn when inhalation hazards are present?	N/A	☐	Performance Based
(v)	Is the buddy system used in the hazard zone?	N/A	☐	Performance Based
(vi)	Are backup personnel on standby?	N/A	☐	Performance Based
(vi)	Are advanced first aid support personnel standing by?	N/A	☐	Performance Based
(vii)	Has the ICS designated safety official been identified?	SSP-A	☐	
(vii)	Has the Safety Official evaluated the hazards?	N/A	☐	Performance Based
(viii)	Can the Safety Official communicate with IC immediately?	N/A	☐	Performance Based
(ix)	Are appropriate decontamination procedures implemented?	N/A	☐	Performance Based

CG ICS SSP: 1910.120 COMPLIANCE CHECKLIST Form B	1. Incident Name:	2. Date/Time Prepared:	3. Operational Period.	4. Site Supervisor/Leader	5. Location of Site

6a. Cite: 1910.120	6b. Requirements (sections that duplicate or explain are omitted)	6c. ICS Form	6d. Check	5e. Comments
(b)(1)(ii)(A)	Organization Structure?	203	☐	
(B)	Comprehensive Workplan?	IAP	☐	Incident Action Plan
(C)	Site Safety Plan?	SSP-B	☐	
(D)	Safety and health training program?	N/A	☐	Responsibility of each employer
(E)	Medical surveillance program?	N/A	☐	Responsibility of each employer
(F)	Employer SOPs?	N/A	☐	Responsibility of each employer
(G)	Written program related to site activities?	N/A	☐	
(b)(1)(iii)	Site excavation meets shored or slope requirements in 1926?	N/A	☐	
(b)(2)(i)(D)	Lines of communication?	201 203 205	☐	
(b)3(iv)	Training addressed?	N/A	☐	Responsibility of each employer
(v)-(vi)	Information and medical monitoring addressed?	N/A	☐	Responsibility of each employer
(b)4(i)	Site Safety Plan kept on site?	N/A	☐	
(ii)(A)	Safety and health hazard analysis conducted?	N/A	☐	
(B)	Properly trained employees assigned to the right jobs?	N/A	☐	
(C)	Personnel Protective Equipment issues addressed?	SSP-F	☐	
(E)	Frequency and types of air monitoring addressed?	SSP-E	☐	
(F)	Site control measures in place?	SSP-B	☐	
(G)	Decontamination procedures in place?	SSP-G	☐	
(H)	Emergency Response Plan in place?	SSP-D	☐	
(I)	Confined space entry procedures?	SSP-B	☐	
(J)	Spill containment program?	SSP-B	☐	
(iii)	Pre-entry briefings conducted?	SSP-I	☐	
(iv)	Site Safety Plan effectiveness evaluated?	SSP-H	☐	
(c)(1)	Site characterization done?	N/A	☐	
(c)(2)	Preliminary evaluation done by qualified person?	N/A	☐	
(c)(3)	Hazard identification performed?	SSP-B	☐	
(c)(4)(i)	Location and size of site identified?	SSP-B	☐	
(ii)	Response activities, job task identified?	SSP-B	☐	
(iii)	Duration of tasks identified?	SSP-B	☐	
(iv)	Site topography and accessibility identified?	SSP-C	☐	
(v)	Health and safety hazards addressed?	SSP-B	☐	
(vi)	Dispersion pathways addressed?	SSP-B	☐	
(vii)	Status and capabilities of medical emergency response teams?	206	☐	
(c)(5)(i)(iv)	Chemical protective clothing addressed and properly selected?	SSP-F	☐	
(ii)	Respiratory protection addressed?	SSP-B and F	☐	
(iii)	Level B used for unknowns?	N/A	☐	

CG ICS SSP: 1910.120 COMPLIANCE CHECKLIST Form B cont.	1. Incident Name:	2. Date/Time Prepared:	3. Operational Period.	4. Site Supervisor/Leader	5. Location of Site

6a. Cite: 1910.120	6b. Requirements (sections that duplicate or explain are omitted)	6c. ICS Form	6d. Check	5e. Comments
(c)(6)(i)	Monitoring for ionization conducted?	SSP-E	☐	
(ii)	Monitoring conducted for IDLH conditions?	SSP-E	☐	
(iii)	Personnel looking out for dangers of IDLH environments?	N/A	☐	
(iv)	Ongoing air monitoring program in place?	SSP-E	☐	
(c)(7)	Employees informed of potential hazard occurrence?	SSP-B	☐	
(c)(8)	Properties of each chemical made aware to employees?	SSP-B	☐	
(d)(1)	Appropriate site control procedures in place?	IAP, SSP-B	☐	
(d)(2)	Site control program developed during planning stages?	IAP, SSP-B	☐	
(d)(3)	Site map, work zones, alarms, communications addressed?	IAP, SSP-B	☐	
(g)(1)(i)	Engineering, admin controls considered?	SSP-B	☐	
(iii)	Personnel not rotated to reduce exposures?	N/A	☐	
(g)(5)(i)	PPE selection criteria part of employer's program?	N/A	☐	Responsibility of employer
(ii)	PPE use and limitations identified?	SSP-F	☐	
(iii)	Work mission duration identified?	SSP-F	☐	
(iv)	PPE properly maintained and stored?	N/A	☐	Responsibility of employer
(vi)	Are employees properly trained and fitted with PPE?	N/A	☐	Responsibility of employer
(vii)	Are donning and doffing procedures identified?	SSP-F	☐	
(viii)	Are inspection procedures properly identified?	SSP-F	☐	
(ix)	Is PPE evaluation program in place?	SSP-F	☐	
(h)(3)	Periodic monitoring conducted?	SSP-E	☐	
(k)(2)(i)	Have decontamination procedures been established?	SSP-G	☐	
(ii)	Are procedures in place for contamination avoidance?	SSP-G	☐	
(iii)	Is personal clothing properly deconned prior to leaving the site?	SSP-G	☐	
(iv)	Are decontamination deficiencies identified and corrected?	SSP-H	☐	
(k)(3)	Are decontamination lines in the proper location?	SSP-C	☐	
(k)(4)	Are solutions/equipment used in decon properly disposed of?	N/A	☐	
(k)(6)	Is protective clothing and equipment properly secured?	N/A	☐	
(k)(7)	If cleaning facilities are used, are they aware of the hazards?	N/A	☐	
(k)(8)	Have showers and change rooms been provided, if necessary?	N/A	☐	
(l)(1)(iii)	Are provisions for reporting emergencies identified?	SSP-D	☐	
(iv)	Are safe distances and places of refuge identified?	SSP-B and C	☐	
(v)	Site security and control addressed in emergencies?	SSP-D	☐	
(vi)	Evacuation routes and procedures identified?	SSP-D	☐	
(vii)	Emergency decontamination procedures developed?	SSP-D	☐	
(ix)	Emergency alerting and response procedures identified?	SSP-D	☐	
(x)	Response teams critiqued and follow-up performed?	SSP-H	☐	
(xi)	Emergency PPE and equipment available?	SSP-D	☐	

CG ICS SSP: 1910.120 COMPLIANCE CHECKLIST Form B cont.	1. Incident Name:	2. Date/Time Prepared:	3. Operational Period.	4. Site Supervisor/Leader	5. Location of Site

6a. Cite:	6b. Requirements (sections that duplicate or explain are omitted)	6c. ICS Form	6d. Check	5e. Comments
1910.120(l)(3)(i)	Emergency notification procedures identified?	SSP-D	☐	
(ii)	Emergency response plan separate from Site Safety Plan?	SSP-D	☐	
(iii)	Emergency response plan compatible with other plans?	SSP-D	☐	
(iv)	Emergency response plan rehearsed regularly?	SSP-D	☐	
(v)	Emergency response plan maintained and kept current?	SSP-H	☐	
1910.165 (b)(2)	Can alarms be seen/heard above ambient light and noise levels?	N/A	☐	
(b)(3)	Are alarms distinct and recognizable?	N/A	☐	
(b)(4)	Are employees aware of the alarms and are they accessible?	SSP-D	☐	
(b)(5)	Are emergency phone numbers and radio frequencies clearly posted?	206	☐	
(b)(6)	Signaling devised in place where there are ten or more workers?	IAP	☐	
(c)(1)	Are alarms like steam whistles and air horns being used?	IAP	☐	
(d)(3)	Are backup alarms available?	IAP	☐	
(m)	Are areas adequately illuminated?	IAP	☐	
(n)(1)(i)	Is an adequate supply of potable water available?	IAP	☐	
(ii)	Are drinking water containers equipped with a tap?	IAP	☐	
(iii)	Are drinking water containers clearly marked?	IAP	☐	
(iv)	Is a drinking cup receptacle available and clearly marked?	IAP	☐	
(n)(2)(i)	Are non-potable water containers clearly marked?	IAP	☐	
(n)(3)(i)	Are there sufficient toilets available?	IAP	☐	
(n)(4)	Have food handling issues been addressed?	IAP	☐	
(n)(6)	Have adequate wash facilities been provided outside hazard zones?	IAP	☐	
(n)(7)	If response is greater than 6 months, have showers been provided?	IAP	☐	

7. Prepared by:	**ICS-208-CG SSP-K (rev 9/06) Page 3** Page _____ of ____

CG ICS SSP: 1910.120 DRUM COMPLIANCE	1. Incident Name:	2. Date/Time Prepared:	3. Operational Period	4. Safety Officer (include method of contact):
5. Supervisor/Leader	6. Location and Size of Site:	7. For Emergencies Contact:	8. Note: Tanks and vaults should also be treated in the same manner as described below [1910.120(j)(9)]. Many can also pose confined space hazards.	

9a. Cite: 1910.120	9b. Requirements (sections that duplicate or explain are omitted)	9c. Check	9d. Comments
(j)(1)(ii)	Drums meet DOT, OSHA. EPA regulations for waste they contain, including shipment?	☐	
(iii)	Drums inspected and integrity ensured prior to movement?	☐	
(iii)	Or drums moved to an accessible location (staging area) prior to movement?	☐	
(iv)	Unlabeled drums treated as unknown until properly identified and labeled?	☐	
(v)	Site activities organized to minimize drum handling?	☐	
(vi)	Employers properly warned about the hazards of moving and handling drums?	☐	
(vii)	Suitable overpack drums are available for addressing leaking and ruptured drums?	☐	
(viii)	Leaking materials from drums properly contained?	☐	
(ix)	Are drums that cannot be moved, emptied of contents with transfer equipment?	☐	
(x)	Are suspect buried drums surveyed with underground detection system?	☐	
(xi)	Are soil and covering material above buried drums removed with caution?	☐	
(xii)	Is the proper extinguishing equipment on scene to control incipient fires?	☐	
(j)(2)(i)	Are airlines on supplied air systems protected from leaking drums?	☐	
(ii)	Are employees at a safe distance, using remote equipment, when handling explosive drums?	☐	
(iii)	Are explosive shields in place to protect workers opening explosive drums?	☐	
(iv)	Is response equipment positioned behind shields when shields are used?	☐	
(v)	Are non-sparking tolls used in flammable or potentially flammable atmospheres?	☐	
(vi)	Are drums under extreme pressure opened slowly and workers protected by shields/distance?	☐	
(vii)	Are workers prohibited from standing and working on drums?	☐	
(j)(5)(i)	For shock sensitive drums, have all non-essential employees been evacuated?	☐	
(ii)	For shock sensitive drums, is handling equipment provided with shields to protect workers?	☐	
(iii)	Are alarms that announce start/finish of explosive drum handling actions in place?	☐	
(iv)	Are continuous communications in place between the drum handling site and the command post?	☐	
(v)	Are drums under pressure properly controlled for prior to handling?	☐	
(vi)	Are drums containing packaged laboratory wastes treated as shock sensitive?	☐	
(j)(6)(i)	Are lab packs opened by trained and experienced personnel?	☐	
(ii)	Are lab packs showing crystallization treated as shock sensitive?	☐	
(j)(8)(ii – iii)	Are drum staging areas manageable with marked access and egress?	☐	
(iv)	Is bulking of drums conducted only after the drum contents have been properly identified?	☐	

10. Prepared by:	**Form SSP-L (rev 9/06)** Page _____ of ____

Section 9210

Liaison Manual

Communication with Elected Officials, Agencies, Tribal Governments, Business and Community, and Involved Parties during Environmental Emergencies Northwest Area: Washington, Oregon, Idaho

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9210.1 – Liaison Manual

9210.1 Introduction

This manual establishes a common framework and provides tools for agency and responsible party communicators during environmental emergencies occurring in the Northwestern U.S. – Washington, Oregon, and Idaho. The Liaison Officer (LOFR) is responsible for proactively fostering good communication and cooperation within and outside of the Unified Command (UC). This position is essential for facilitating a close working relationship between people and organizations and is necessary to assist UC in establishing and maintaining unity of purpose, command, and message. The LOFR is responsible for being the external ears of the UC, listening to, documenting, responding to, and forwarding external concerns to the decision makers.

To ensure accurate and coordinated information dissemination during emergency responses, it is highly recommended that the Liaison Office, whose roles and responsibilities are outlined in this manual, work closely with the Joint Information Center (JIC), whose roles and responsibilities are outlined in Section 9202, the Joint Information Center. While the two units work with different audiences, they deliver the same messages about the response.

To facilitate this coordination, it is recommended that the Liaison Office and JIC be integrated as much as possible. This can be accomplished by locating the units in adjacent spaces and by working from the same communication documents such as press releases, talking points, FAQs, the response website, and social media. The two units should also collaborate on planning and implementing community events, conducting VIP tours, and preparing specialized communications for specific involved or interested parties like elected officials and community leaders. It is also recommended that once each day the Liaison Officer and Public Information Officer jointly brief the Liaison Office and JIC staff to ensure they have current information and to enable a coordinated approach to their work. This briefing would be especially useful following the Command and General Staff meeting.
Ensuring that this coordination is implemented is the responsibility of the JIC Manager and the Assistant Liaison Officer.

In staffing the Liaison function, these are the types of skills and abilities that are preferable as a best practice:

- Have superlative interpersonal skills and the ability to function calmly in a high-stress environment.
- Have previous oil spill response or drill experience and knowledge of spill terminology, the Northwest Area Plan policies and tools, and local community considerations during oil spills.
- Be familiar with the Incident Command System (ICS).

- Be trained in risk communication, consensus building, and public relations.

The Liaison function supports the UC's strategic goal of implementing a rapid, aggressive, and well-coordinated response. The LOFR and the liaison staff are specifically responsible to ensure the UC is the primary source of timely and credible information for agencies, the public, their elected officials, tribes, and others.

9210.2 Liaison Officer

One of the primary incident objectives is to keep government officials, agencies, tribal governments, the public, and other interested parties informed during a spill incident. Liaison staff are responsible for meeting this objective by ensuring elected officials and other key involved or interested parties are well informed of the status of the incident, the decisions made, and the actions planned and taken by the UC (see Section 1440).

The LOFR has the following major responsibilities:

- Establish the Liaison Team and review the 96-Hour Plan Tool Kit (Section 9220) and Liaison Job Aid Checklist on page 20.
- Meet with the PIO, JIC Manager, and Assistants to review Section 9210.2.3 and the Coordination Checklist tool.
- Be a contact point for Elected Officials, tribal governments, and assisting and cooperating Agency Representatives. Maintain a list of assisting and cooperating agencies and Agency Representatives, including name and contact information. Monitor check-in sheets daily to ensure that all Agency Representatives are identified.
- Assist in establishing and coordinating interagency contacts.
- Keep elected officials, tribal governments, and agencies supporting the incident, aware of the spill response and the Incident Action Plan (IAP).
- Monitor incident operations to identify current or potential inter-organizational problems.
- Develop the Liaison Communication Plan for UC review and approval and review the Liaison Job Aid Checklist on page 20 during each operational period.
- Brief Command on officials' and agency issues and concerns.
- Arrange consultations with tribal governments as appropriate.
- Supports development of Critical Information Requests in support of the UC.
- Participate in planning meetings, providing limitations and capabilities of assisting agency resources.
- Coordinate needs for Natural Resource Damage Assessment (NRDA) activities. Coordinate response resource needs for incident investigation activities.

- Coordinate activities of visiting dignitaries.
- Determine the need for a Volunteer Coordinator.
- Ensure that all required agency forms, reports, and documents are completed prior to demobilization.
- May be given responsibility for community outreach, in coordination with the Public Information Officer (PIO) and as determined by UC.
- Have a debriefing session with the IC prior to demobilization.
- Maintain Unit Log.

The goal of evaluation is to:

- Improve current and future dialogue and communication efforts.
- Assess changes in involved or interested parties' concerns, issues, and opinions.
- Change, modify, or enhance the Liaison Plan

The LOFR identifies the agency, elected official, tribal government, and involved or interested parties' perceptions and concerns regarding the response. This is important feedback that might alter the Liaison Plan to better meet the communication needs. To do this, the LOFR must continually evaluate the effectiveness of the dialogue and communication with all parties.

9210.2.1 Liaison and Natural Resources Damage Assessment

NRDA involves identifying the type and degree of impacts to public, biological, and cultural resources to assist in restoring those resources. NRDA may involve a range of field surveys and studies used to develop a monetary damage claim or may involve immediately developing a restoration plan with the responsible party. NRDA activities for small spills typically involve simplified assessment methods and minimal field data collection.

Given that the goals of NRDA are outside the sphere of most emergency spill response actions, NRDA activities generally do not occur within the structure, processes, and control of the ICS. However, particularly in the early phases of a spill response, many NRDA activities overlap with environmental assessments performed for the sake of spill response. Because NRDA is carried out by natural resource trustee agencies and/or their contractors, personnel limitations may require staff to perform NRDA and response activities simultaneously. Therefore, NRDA staff should remain coordinated with the spill response organization and need to work with the LOFR to coordinate with the UC, Environmental Unit, Wildlife Branch, and the National Oceanic and Atmospheric Administration Scientific Support Coordinator to resolve any problems or address areas of overlap. While NRDA resource requirements and costs may fall outside the responsibility of the Logistics and Finance sections, coordination is still important.

9210.2.2 Liaison and Incident Investigations

Civil and criminal investigators from federal and state agencies may not be a part of the UC, except to the extent that their expertise may help identify the cause(s) of the accident that resulted in the spill and determine immediate mitigating actions in coordination with the salvage group to deal with such issues. While investigations personnel may report to individuals who are part of the UC, the investigators are separate and should be clearly delineated as such so as not to introduce potentially polarizing forces into the UC where collaboration and cooperation are key to a rapid and well-coordinated response. Coordination with, and access to, the UC is conducted through the LOFR.

9210.2.3 Liaison Coordination and the Joint Information Center

Liaison and the Joint Information Center (JIC) require close coordination. The LOFR and PIO should discuss and decide on the delineation of closely aligned responsibilities. This coordination is essential because lines of jurisdiction overlap and the external message must be accurate and consistent. It is recommended the Liaison Unit be located adjacent to the JIC if possible. If not, a runner must be assigned to ensure consistent coordination and that information is shared in a timely manner. The JIC should be consulted during the development of the Liaison Communication Plan, before UC approval, to ensure planned activities described in the document are well-coordinated. An example of such delineation would be the following:

- LOFR is responsible for interaction with the assisting and cooperating agencies, and any public entity, namely involved parties or tribal governments, which have a vested interest and will be expected to provide input into the response process.
- PIO is responsible for interacting with and providing information to the public or community.

9210.3 Liaison Organization, Positions, Strategies, and Tactics

Below is an example of the Liaison Office organizational chart. Please see page 33 for a fillable version of the chart for use during incidents and events.

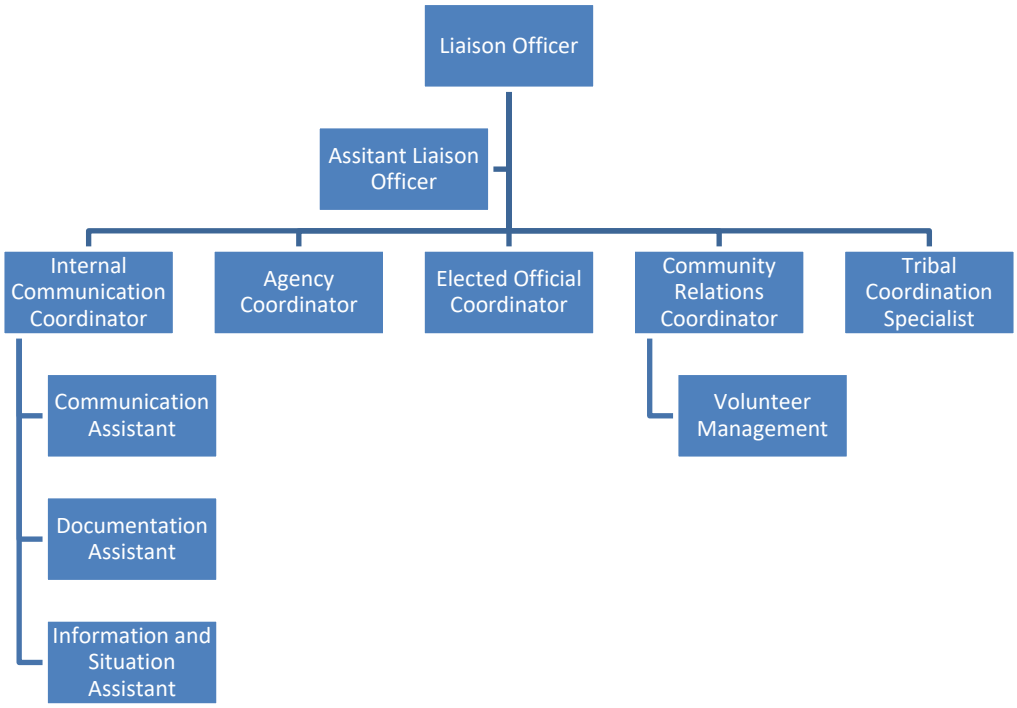


Figure 9210-1 Organization of the Liaison Officer

9210.3.1 Assistant Liaison Officer

- Assist the LOFR and provide overall direction and oversight of the Liaison Unit while the LOFR is in meetings, etc.
- Coordinate communications between the Liaison Unit and the LOFR. Holds regular meetings with the Liaison Unit staff to keep the group informed of incident status and overall Liaison taskings.
- Meets regularly with the JIC Manager to ensure effective coordination and use of joint resources and tools.
- Reviews Liaison Officer Effectiveness Checklist during each operational period.
- Handles routine team management, assigns tasks, and keeps staff and work moving. Tracks the status of all Open Action Items.

9210.3.2 Agency Coordinator

- Contacts and communicates with Assisting and Cooperating Agencies at the Incident Command Post (ICP) or other off-site locations (Emergency Operations Center [EOC], others).
- Establishes communication links and determines Agency concerns and addresses them appropriately.
- Maintain a list and contact information of assisting and cooperating agencies.
- Identify and track developing and potential issues of concern. Report these issues to the LOFR. Coordinates with Logistics for accessing local resources, including volunteer opportunities.
- Develop an action plan to ensure regular communication and coordination with appropriate involved parties and submit a draft of the plan to LOFR for review and approval.
- Keeps the LOFR up-to-date and informed of who is listed and what their roles and interests are.
- Contacts and coordinates the above activities with any affected tribal governments, unless a dedicated coordinator is assigned to liaise with tribes assisting and/or potentially affected by the incident.
- Ensures that all assisting and participating agencies receive acknowledgment and credit.
- Ensures that all agency representatives receive a copy of the IAP as appropriate.

West Coast states and British Columbia have signed a mutual aid agreement. The LOFR may be asked to work with other jurisdictions to request assistance for the response.

A best practice for daily updates for Agencies – when updating agencies and asking for their support of the IAP, the meeting should occur after the Planning Meeting to present the plan for the next operational period.

For incidents involving international trans-boundary issues where separate ICPs are established, ensure liaisons are integrated into the respective ICPS to optimize coordination between the international regimes.

Definitions:

- Assisting Agency – an agency that directly contributes resources to operations.
- Cooperating Agency – an agency that provides assistance outside of the response operation, in direct support of incident objectives.

Demobilization Brief with Agencies

The LOFR should be involved in demobilization planning, representing the agencies with respect to their needs and desires for the removal of agency resources from the incident. Once demobilization procedures and priorities have been established, the LOFR informs agencies on the demobilization plan.

9210.3.3 Elected Officials Coordinator

- Notifies and maintains close communication with elected and other officials. Coordinates closely with JIC and Agency Coordinator(s) to get consistent early messages out before media releases.
- Develops an action plan to ensure regular communication and coordination with appropriate elected officials and submit a draft of the plan to LOFR for review and approval.
- Leads the development of Elected Officials and VIP meetings.
- Manages VIP visits and tours at the ICP. Identifies and tracks developing and potential issues of concern. Reports these issues to the LOFR who will pass them on to the UC/JIC.
- Coordinates with the LOFR when arranging logistics for tours for elected officials.
- Identifies and maintains lists and contact information of elected officials and other key involved or interested parties.
- Keeps LOFR informed if any elected official adverse feelings/relationship challenges develop.

9210.3.4 Community Relations Coordinator

- This function may be staffed within the JIC. If it is staffed within the Liaison Unit, close coordination with the PIO and their staff is necessary.
- Establishes Community and public meetings.
- Determines the need for the following community outreach methods:
  - Community bulletin boards.
  - Community websites.
  - Community web calendar(s).
  - Walk-in or walk-up information center.
  - Recorded message information.
  - Social media
- Door-to-door canvassing. Provides information to the PIO and JIC Manager about affected communities including local economic and cultural concerns, past impacts from spills or other disasters/emergencies, organizations that can provide community and individual support, and opinion leaders.
- Identifies and maintains lists and contact information of communities and community organizations to update; including, schools, churches, community centers, and non-profit service organizations.

The State of Washington maintains a registration system for oil spill volunteers and vessel of opportunity volunteers should the need arise during a response. Contact a Department of Ecology representative to access this registration.

Check on claims and compensation process in order to communicate this information in messages.

- Establish contact with key business community leaders and local chambers of commerce to ensure information is shared and economic concerns are integrated.*
- Keeps the LOFR and other coordinators up-to-date and informed of who is listed and what their roles and interests are.

*May want to assign a Business Community Relations Coordinator, depending on the complexity of the incident.

9210.3.4.1 Volunteer Coordinator

If assigned, the Volunteer Coordinator is responsible for managing volunteers which includes the coordination of a volunteer reception process, ensuring volunteers are assigned to appropriate tasks and locations, and that volunteers have been provided the appropriate personal protective equipment and training to safely complete their assigned tasks. When there is significant volunteer participation, a Volunteer Unit may be established and the Coordinator duties will transition into the Volunteer Unit within the Planning Section. Volunteer Coordinators should be used to identify volunteer interest, availability, and capabilities, and work with the LOFR during large-scale incidents.

Major Volunteer Coordinator Responsibilities

The major responsibilities of the Volunteer Coordinator are:

- Work with Command Staff to assess current and upcoming volunteer resource needs.
- Coordinate with the JIC to assess the "chatter" regarding interest in volunteer opportunities.
- Meet with UC to discuss the need for volunteers.
- Work with Section Chiefs or their designees to identify any training, experience, credentialing, etc. prerequisites.
- Utilize Jetty to target and advertise the call(s) for volunteers (Note: Washington State Department of Ecology manages the site for volunteers).
- Work with Logistics to establish a volunteer reception area and onboarding process, if needed.
- Conduct volunteer screening, pre-briefs, and post-deployment debriefs.
- Coordinate with the Resource Unit Leader, Planning Section Chief, and On-Scene Coordinator to determine volunteer assignments.
- Attend Tactics Meetings as appropriate.
- Assist in the development of Assignment Lists (ICS 204-CG) for volunteers.
- Provide input for the Incident Status Summary (ICS 209) regarding volunteer usage.

9210.3.5 Internal Communications Coordinator

- Supervises the following staff, if needed:
  - Liaison Documentation Assistant.
  - Liaison Information & Situation Assistant.
  - Liaison Communications Assistant.

- Ensures staff complete tasks.
- Update LOFR on progress on a regular schedule.

9210.3.6 Liaison Documentation Coordinator

- Responsible for maintaining Liaison paper and electronic communications records and security. Maintains the Unit Log (ICS 214).
- Assists with the tracking documentation.
- Works closely with the Documentation Unit.
- Assists with documentation needs of the Liaison Information and Situation Assistant.

9210.3.7 Liaison Information and Situation Assistant

- Develops and maintains the Liaison situation board.
  - Work with the Situation Unit to get started.
  - Maintain updates, phone numbers, meeting schedules, web sites, and district maps.
  - Order maps and other tools from the Logistics Section.
- Communicates directly with the JIC and others at the ICP as directed by the internal communication coordinator.
  - Helps to develop documents that may be needed for local officials' briefings, VIP tours, or community meetings.
  - Ensures coordination on meetings.
- Identifies and establishes communication links with NRDA and Incident Investigators.

9210.3.8 Liaison Communications Assistant

- Receives calls and messages coming into the ICP. Deals with them directly or routes them appropriately.
- Works closely with the Agency Coordinator and the Elected Officials Coordinator.
- Keeps the Internal Communications Coordinator up to date on important communications.

9210.3.9 Liaison Internet Technology Assistant

- Immediately provide internet technology (IT) support to allow for external communication.
- Establish communications between laptops, printers, etc.
- Create an email account for liaison staff and external involved parties to exchange information.
- Set up virtual conferences for official meetings and communication sharing.
- Create an email account to share information between JIC and Liaison.

9210.3.10 Tribal Coordination Specialist

- Determine which tribe(s) are impacted, and have Usual and Accustomed rights, or interests in the spill.
    - Invite tribes with jurisdictional or Usual and Accustomed rights to participate in Unified Command.
    - Develop a complete list of all potentially impacted tribes using Bureau of Indian Affairs, federal, state, and local tools and agencies, and the directory in section 9106.2, Include at minimum the following information: contact name(s), email address(es), fax, and 24-hour number(s).
- Notify tribe(s) of incident and possible impacts to tribal resources. Be accessible and include contact information for the Liaison Unit where tribal representatives can have their questions and concerns addressed. Initial notification methods include:
    - Reach out to invite tribal representatives to take part in Unified Command or other roles in the response, depending on jurisdiction if applicable.
    - Utilize both general and tribal-specific forms and notification templates.
- Create a tribal communication plan (A-17-20). Continue to communicate with a tribal representative(s) regularly throughout the situation and consider the below tactics:
    - Establish a virtual or physical meeting e-schedule to provide tribal representatives with the latest information on the status of the response. Meetings will also provide opportunities for tribal representatives to give input on any priorities and make requests.
    - Capture tribes' concerns and priorities and inform Command of any priorities/requests.
    - Greet and log all tribes participating in the response, their individual levels of jurisdiction, and any representatives that visit the ICP.

Be the main contact for any needs the tribal representative(s) may have while in the ICP.

- Ensure Safety has completed a briefing for all tribal representatives at the ICP.
- If requested by the tribe(s), arrange for tours of field operations and/or ICP.
- Assess tribe's/tribes' interests and capabilities to support response efforts.

- Maintain a log of all activities (ICS 214).
- <u>As the response evolves, continue to evaluate which tribes are affected and/or interested and if jurisdictional or Usual and Accustomed rights have changed.</u>
- <u>Ensure all outgoing information/responses are approved.</u>

9210.4 Liaison Strategies and Tactics

9210.4.1 Coordinating with Local Emergency Managers and the Local Emergency Operations Center

- May have tools for issuing targeted emergency alerts to affected communities.
- Establish coordination quickly and if appropriate, invite them to participate in the response.

9210.4.2 Coordinating with Assisting and Cooperating Agencies

- Seek support for the IAP.
- Set meetings for the same time each day.

9210.4.3 Elected Officials Briefing

- Provide firsthand information on the spill.
- Opportunity to assess questions/concerns from constituents. Provide ICS process updates, if needed.

9210.4.4 Community Meetings

- Provide information on spill response.
- Platform to share information on specific response activities (e.g., wildlife plans, response technologies, SCAT, etc.).
- Public Health issues and evacuation plans.
- Claims and compensation process.
- Volunteer opportunities http://www.oilspills101.wa.gov/.

9210.4.5 Other Strategies and Tactics

- Utilize daily phone calls or emails to provide updates.
- Consider the use of virtual online meetings to maximize direct participation and interaction with key officials and involved or interested parties.
- Language Interpreters as needed.

VIP Tours

- May be given upon request or scheduled as appropriate. Can include a tour of the ICP or spill site by land, water, or air.
- Ensure you have someone professional and informed to conduct the tours.
- The UC should be notified and may be needed for upper-level representatives. Ensure you advise and schedule members of the UC for their participation.
- Coordinate with Safety and other units as necessary to arrange for necessary security and/or resources.

Use of Volunteers to Support a Response

Note: The Washington State Department of Ecology manages volunteers through the Jetty system. If volunteers are used, work with an Ecology personnel to have access.

- Work with Command Staff, and assess the need for volunteers in current or upcoming operational periods.
- Determine the experience, qualifications, and training required of any potential volunteers.
- Utilize the existing volunteer pool in Jetty to narrow down the search for appropriate volunteers.
- Send out a Jetty message to volunteers to request their availability to assist with the response.

Town Hall Meetings

- Assess the options for public meeting formats (Town Hall vs. Community Meeting; virtual vs. in-person). The best option will vary with each incident.
- Account for travel time for external meetings that involve the UC to ensure their availability at those meetings.

9210.5 Useful Incident Command System Forms for the Liaison Group.

The following is a list of the most commonly used ICS forms for the Liaison Unit.

ICS-214 Unit Log. Maintained by the Liaison Documentation Assistant or as directed by LOFR. This form is used to capture activities the unit has taken and staffing. It can be used as documentation for inclusion in any after-action reports.

ICS-214a Individual Log. Maintained by each member of the Liaison Unit. A personal log of activities and major events.

ICS-213 General Message. May be used by any members of the Liaison Unit. This form is used to capture information or requests and actions taken in response to requests. It is also used to announce significant event(s) to other members of the ICS organization. Each is reviewed by the LOFR or Assistant.

ICS-230 Daily Meeting Schedule. The Liaison Information, Situation Assistant, and Community Relations Coordinator are responsible for ensuring that significant liaison-related meetings are included on this form. The completed form will be available from the Situation Unit and will track all ICP meetings.

ICS-231 Meeting Summary. This form is used to capture notes from external meetings and Liaison Unit meetings.

ICS form 233 Open Action Tracker. This form is used to make assignments and track action items.

ICS-211p Check-In List Personnel. Made available by a Check-in/Status Recorder of the Resources Unit in the Planning Section. Entries are to be made by each Liaison Group member at the beginning and end of each work period.

ICS-202 Incident Objectives. This form describes the basic incident strategy, control objectives, command emphasis/priorities, and safety considerations for the respective Operational Period. This form includes general direction to the Liaison Unit from Command and may be useful as a presentation tool for involved and interested parties.

ICS-202b Critical Information Requirements. The Critical Information Requirements form supplements the ICS 202 form by documenting the IC/UC strategic direction and guidance through Critical Information Requirements for use during the next operational period.

9210.6 Liaison Tools

These tools are available in the Appendice for Liaison Tools. They are also available in fillable and downloadable formats located on the www.oilspills101.wa.gov website.

- Liaison Officer Punch List
- Liaison Job Aid Checklist Form
- Shift Relief Briefing Form
- Liaison/JIC Coordination Discussion Checklist
- Liaison Notifications Form
- Examples of Public Health Messages
- Example of Initial tribal Notification
- VIP/Visitor Tour Liaison Tools
    - Initial Calling Elected Officials Script
    - VIP Tour Ground Rules
    - Agenda for the VIP Tour Briefing
- Liaison Plan Templates
    - Liaison Communication Plan Template
    - Liaison Communication Plan
- Town Hall Meeting Logistics Worksheet

9210.6 – Appendices – Liaison Tools

Liaison Officer's Punch List

For all: Maintain a personal log, remember to convey milestone decisions/information to the keeper of the unit log. Add your name to our Unit's Organization List so we can assign you. Be clear of your role and your responsibilities. And while you are working this incident, be open to including and helping others in the Unit so we can be a strong team.

Be the Credible Voice – this means being responsive, timely, and accurate with information dissemination. We must be in sync with the JIC and coordinate consistent messaging.

Assistant Liaison – For all- the assistant will be managing the group while I am out. **P**lease write the overall plan for liaison work for the incident – this means what we are planning to do to be the credible voice. Meet with the JIC as soon as we are settled in.

Elected Officials Coordinator– Understand the key decisions where we want to make sure to inform elected officials before the JIC informs the media.

Agency Coordinator – Think about the jurisdiction of the agencies, and understand whether they simply need to be informed about the incident or whether they have resources to contribute or protect. The best time to inform agencies may be after the planning meeting, so we can brief on the next day's plans.

Tribal Coordinator – Develop an understanding of potential tribal interests/concerns and be able to steer them to a person or part of the ICS process where the interests or concerns can be addressed. We need to be prepared to help the tribes navigate the system.

Community Relations Coordinator – Let's establish a division of duties with the JIC. Volunteers should be driven to the OilSPills101 site.

Internal Communications Coordinators – For all – don't forget to look up and stay on top of the evolving situation. Work with the JIC to establish a shared situational board. Efficiencies can be gained for both JIC and Liaison when we share information.

Liaison Job Aid Checklist Form

INITIAL ACTIONS

- ☐ Organize staff and make position assignments, hold staff meeting - follow position assignment job aid and assign team appropriate to the complexity of the incident.
- ☐ Assign staffing based on needs of the response, and qualifications/experience of the staff.
- ☐ Initiate and maintain unit log and individual logs.
- ☐ Establish working phone line (s) for incoming calls and an email for email inquiries. Establish a team to answer phones and answer calls as they come in. Advertise phone number and email address with JIC/PIO and other outreach activities.
- ☐ Establish a location to store phone messages, notes, responses, and documents. Ensure all phone messages are documented with the time taken and whether the response was completed. Close the loop on everything if possible.
- ☐ Establish a situation board with key information for the Liaison Unit. Be sure to include an up-to-date meeting schedule at all times.
- ☐ Establish rapport and coordination with JIC, PIO, etc. Collocate Liaison and Joint Information Center if possible. Ensure a clear division of duties between LNO and PIO for community relations.
- ☐ Develop an immediate message to be broadcast to key elected and tribal governments and agency representatives. Coordinate closely with JIC to ensure messaging is consistent and timely provided. It is important to inform them early even if the information is very incomplete.
- ☐ Verify public health impact information with the safety officer, Unified Command, and local health authority and coordinate public health information with local governments, health agencies, and concerned citizens.
- ☐ Develop a “To Do” List using an Open Action Tracker (ICS-233).

AGENCY, ELECTED OFFICIAL, TRIBAL & INVOLVED PARTIES’ OUTREACH

- ☐ Monitor check-in sheets daily to ensure that all Agency Representatives in the command post are identified.
- ☐ Rapidly develop and maintain a list of elected officials, tribes, involved or interested parties, Non-government organizations (NGOs), and assisting and cooperating agencies, including name, phone number, and email address.
- ☐ Develop email distribution lists for key groups. Typically one for elected officials, one for tribes, one for NGOs, and one for agencies, etc.

- ☐ Provide detailed messages as the incident situation is clarified/verified. Ensure you highlight corrections to any prior information passed that may have been inaccurate or has been verified.
- ☐ Set a regular daily meeting/briefing/email update schedule for elected officials and key government agencies and Tribes. When scheduling a meeting, make sure it does not conflict with the commonly held meetings already listed, especially if you need to have members of UC present at your meeting.
- ☐ Consider daily call-ins for key elected officials, community officials, and Tribes.
- ☐ Develop templates for messages, meeting agenda announcements, etc. to facilitate timely and complete communications.
- ☐ Ensure key Agency Representatives are included whenever possible.
- ☐ Prepare for the possibility of command post tour requests from VIPs, Elected Officials, and Agency Representatives.
- ☐ Determine the need for volunteers to assist with the response.
- ☐ Record and address the tribes' concerns and priorities. Establish a meeting schedule to provide tribal representatives with the latest information on the status of the response.

LIAISON PLAN DEVELOPMENT AND ACTIVITIES

- ☐ Develop a liaison plan using the liaison plan template. The plan is to be developed and signed off by the UC. The plan must include a strategy for elected officials and citizen outreach. This takes a great deal of planning, scheduling, and resource ordering. Establish a good team to work on this product. Possibly employ resources from JIC/PIO and ensure all JIC/PIO activities are coordinated.
- ☐ Develop Liaison objectives that align with the UC incident objectives. Document in the plan.
- ☐ Scope for Local Elected Officials/VIP Briefings. The goal is to be ahead of key press briefings to ensure elected officials are updated ahead of public information. Ensure all information is documented in the Liaison Plan.
- ☐ Scope for public meetings to inform communities and concerned citizens about the response. Ensure all information is documented in the Liaison Plan. Use Template.
- ☐ Use templates in the NWACP for VIP/Meeting rules, messages, etc.
- ☐ Plan for Elected Officials/VIP tours to keep them informed.

NRDA and INVESTIGATIONS

- ☐ Ensure critical resource needs are met for Natural Resources and Damage Control Assessment and Restoration Activities.
- ☐ Ensure coordination with investigations if necessary.

Shift Relief Briefing Form

Situation/response status highlights:

Present staffing (supervisor and subordinates):

Deliverables & schedule (include products, briefings, and meetings)

HOT Items:

Prepared by:_____

Position:_____

Date and time prepared:_____

Liaison Notifications Form

Organization/ Person Contacted	Initials	Date/Time	Phone/e-mail contact information

Example of Public Health Messages

In concert with the PIO, to ensure consistent messaging and with approval of the UC, the Liaison officer should release the following information regarding public health to identified community members and organizations. Depending on the mode of delivery (reverse 911 calls, texts, emails, or voice mails), there may be limitations on the length of the message.

Example of boating alert:

The U.S. Coast Guard has issued a boater's alert and is recommending all boaters to vacate INSERT SPECIFIC TO GENERALIZED LOCATIONS (e.g., the Columbia River from the I-205 Bridge downstream to Longview, Washington.) Please refer to this (WEBSITE LINK) for updated information regarding boating alerts from the U.S. Coast Guard.

The INSERT APPLICABLE AGENCIES (e.g., Washington/Oregon Departments of Health and the Washington/Oregon Departments of Wildlife) are issuing an emergency closure for recreational and commercial fishing activities on INSERT LOCATION until further notice. This is to ensure public safety from the impacts of oil and to ensure responders are not interfered with in their response operations.

Example of health and safety alert:

Health and safety of the public and responders is the number one priority of Unified Command.

Health threats arising from the oil spill on the INSERT LOCATION near INSERT CITY, STATE may include air, water, and seafood contamination.

Area residents can face health risks if they come into contact with oil on shorelines, beaches, or other contaminated waterways. People are encouraged to avoid boating and other activities along INSERT SPECIFIC TO GENERALIZED LOCATIONS (e.g. the river beaches from the I-205 Bridge downstream.) and to stay away from oiled areas. If anyone has touched oil, we advise them to wash their hands immediately with soap and water. If you feel sick or are having any symptoms, consult your doctor. If an emergency, call 911 and seek immediate medical attention.

Please also refer to this (WEBSITE LINK) for updated information regarding public health and safety from the Washington State Department of Health.

Examples of air monitoring messages:

Response professionals are conducting Community Air Monitoring (CAM) to actively monitor air quality in real-time. Monitoring stations have been set up at (LOCATION) and mobile stations have been deployed to collect air samples in (LOCATIONS).

Under certain conditions, spills of (PRODUCT) can cause health effects. Inhalation of oil vapors or aerosolized particles (from wind-blown waves) can cause headaches, dizziness, nausea, vomiting, irritation of the eyes and throat, and difficulty breathing. People with asthma or other lung diseases could be more sensitive to these effects. Direct skin contact can cause various kinds of rashes, including generalized skin irritation.

At this time, there are no readings above levels that are a cause for concern. However, if you believe the (NAME) spill has caused you to feel ill or if you are experiencing any of the above side effects, please seek medical attention immediately. A claims number has been established at (NUMBER).

Benzene-specific example:

Responders are currently monitoring Benzene concentrations in the air using direct-reading meters which are capable of measuring benzene to a detection limit of approximately 1 ppm. One ppm is the occupational exposure limit for Benzene, above which we will be working in respiratory protection. As of this time, responders have not detected any high levels of Benzene.

At the same time, response crews are mobilizing specialized equipment capable of sampling the air and analyzing for benzene at low concentrations, to a level of approximately 1 part per billion. The turnaround time to obtain results will be in the timeframe of 24 to 48 hours.

Example of seafood alert:

According to the APPLICABLE AGENCIES, seafood in the marketplace has not been affected by the spill. If you have questions about whether it is safe to consume fish in your area, please contact the following agencies for more information: (insert relevant agencies and contact information).

***Note**: The details of this template may not be accurate for all incidents. Change words and details as appropriate to the specific incident and target audience.*

Initial Tribal Notification Template

Dear NAME OF RELEVENT TRIBE(S),

On DAY OF WEEK MONTH DAY YEAR at approximately TIME (AM or PM), NAME/DESCRIBE SITTUATION occurred near NAME CITY, STATE, AND TRADITIONAL TERRITORY.
The following organizations have formed a Unified Command at the LOCATION OF COMMAND POST in CITY, STATE.

- NAME of FOSC AGENCY
- NAME of SOSC AGENCY
- NAME of LOSC AGENCY
- NAME of PARTICAPATING AGENCY OR TRIBE
- NAME of PARTICAPATING AGENCY OR TRIBE
- RESPONSIBLE PARTY

LIST PREVIOUS AND CURRENT RESPONSE ACTIONS TAKEN TO DATE IF APPROPRIATE. LIST FUTURE/PLANNED RESPONSE ACTIONS IF APPROPRIATE.
INCLUDE A STATEMENT SHOWING RESPECT FOR TRIBES, REASSURANCE, AND CONCERN FOR THOSE EFFECTED.

We will send emails and host daily briefings to keep you informed as the situation develops. I am your point of contact for this incident. You can reach me at EMAIL ADDRESS and PHONE NUMBER. Response information is also available on our website and Twitter page: WEB LINK and TWITTER LINK.

Our first briefing for Tribal Representatives is DAY OF WEEK MONTH DAY YEAR at TIME (AM or PM). During the briefing we will provide you with the latest information and give you a chance to ask questions. Please CALL THIS PHONE NUMBER/USE THIS LINK to attend this briefing.

If you would like to be involved in the response, in addition to regular briefings, please let me know.

INSERT VOLUNTEER MESSAGE, CLAIMS, WILDLIFE MESSAGE, PUBLIC HEALTH MESSAGE ETC AS APPORPRIATE.

Sincerely,
YOUR NAME
ICS TITLE (LIAISON OR TRIBAL COORDINATION SPECIALIST)
YOUR EMAIL
YOUR PHONE NUMBER

Initial Elected Officials Message Template

Oil Spill Response Underway; Unified Command Established

Dear Elected Officials,

On DAY OF WEEK MONTH DAY YEAR at approximately TIME (AM or PM), ESTIMATED QUANTITY (GALLONS) AND TYPE OF PRODUCT was released to the NAME OF WATERBODY near CITY AND STATE. The spill occurred during a TYPE OF ACCIDENT/TRANSFER (VESSEL-TO-FACILITY, ETC) transfer at the NAME OF FACILITY/VESSEL/ETC. The tank held NUMBER OF GALLONS (OR OTHER DESCRIPTION OF THE WORST CASE VOLUME). It is not known how much of the product was discharged. The cause for the incident is currently unknown and an investigation is underway.

The following organizations have formed a Unified Command at the LOCATION OF COMMAND POST in CITY, STATE.

- NAME of FOSC AGENCY
- NAME of SOSC AGENCY
- NAME of LOSC AGENCY
- NAME of PARTICAPATING AGENCY OR TRIBE
- NAME of PARTICAPATING AGENCY OR TRIBE
- RESPONSIBLE PARTY

I am your point of contact for this incident. You can reach me at EMAIL ADDRESS and PHONE NUMBER. The Liaison Unit for this incident will send frequent emails detailing updates on the response and host daily virtual briefings for elected officials. Response information is also available on our website and Twitter page: WEB LINK and TWITTER LINK.

Our first briefing for elected officials is DAY OF WEEK MONTH DAY YEAR at TIME (AM or PM). During the briefing we will provide you with the latest information and give you a chance to ask questions. Please use THIS LINK to attend this briefing.

INSERT VOLUNTEER MESSAGE, CLAIMS, WILDLIFE, PUBLIC HEALTH MESSAGE, ETC AS APPORPRIATE.

YOUR NAME
Elected Officials Coordinator
YOUR EMAIL
YOUR PHONE NUMBER

VIP Tour Ground Rules

Before the tour begins, let's first go over some ground rules. You are being given a unique opportunity to observe an Incident Command Post during a spill/drill. This opportunity is not often extended. Please respect the responder's need to work the response/drill and stay within these ground rules.

During the tour if you have questions please direct them to the tour guide. We will also have a Q & A period at the end of the tour.

Work is not suspended during the tour or lunch. Responders should not be interrupted or distracted from their tasks.

Agenda for the VIP Tour Briefing

(Name of Incident)
VIP Tour
(Date)
(Location)

Agenda

11:00	Introductions (Name)
11:15	Overview of the response and Incident Command System (Federal, State, Responsible Party)
11:30	Situation Briefing
11:45	Drill Tour
12:15	Q & A
12:30	Adjourn / Lunch

VIP Packet (as applicable):

- Drill Program Overview
- Incident Command System Fact Sheet http://www.rrt10nwac.com/Files/FactSheets/130301055838.pdf
- Oil Spill Fact Sheet
- Geographic Response Plans Fact Sheet https://apps.ecology.wa.gov/publications/documents/1408012.pdf
- In-situ Burning Fact Sheet http://www.rrt10nwac.com/Files/FactSheets/20020722.pdf
- Dispersant Fact Sheet
- Dispersant White Paper http://www.rrt10nwac.com/Files/FactSheets/210730115016.pdf
- Elected Officials Reference Guide 151006043930.pdf (rrt10nwac.com)
- Other tools from the NWAC reference library: Regional Response Team Northwest Area Committee | RRT/NWAC Reference Library (rrt10nwac.com)

Town Hall Meeting Logistics Worksheet

TOWN HALL MEETING LOGISTICS WORKSHEET

SPOKESPERSON	
TOWN HALL MEETING TIME AND DATE	*Start:* *Stop:*
UC REPS ATTENDING	
OTHERS COMMAND POST REPS ATTENDING	

1. VENUE REQUEST

Requested	*Logistics Confirmed*	VENUE	*Seats*	*Venue* / *Equipment Provided*

2. *TRANSPORTATION REQUEST*

Requested	*Logistics Confirmed*	Transportation Type	Time	Details			
		VAN:		8 Pass	12 pass	15 Pass	Cargo
		HELO/PLANE:					
		BUS					
		PICKUP TRUCK					
		OTHER:					

3. ASSIST TEAM PERSONNEL REQUEST *(Personnel to help set-up & secure)*

# Requested	*Logistics Confirmed*	POC:
		Assist Team Names Below

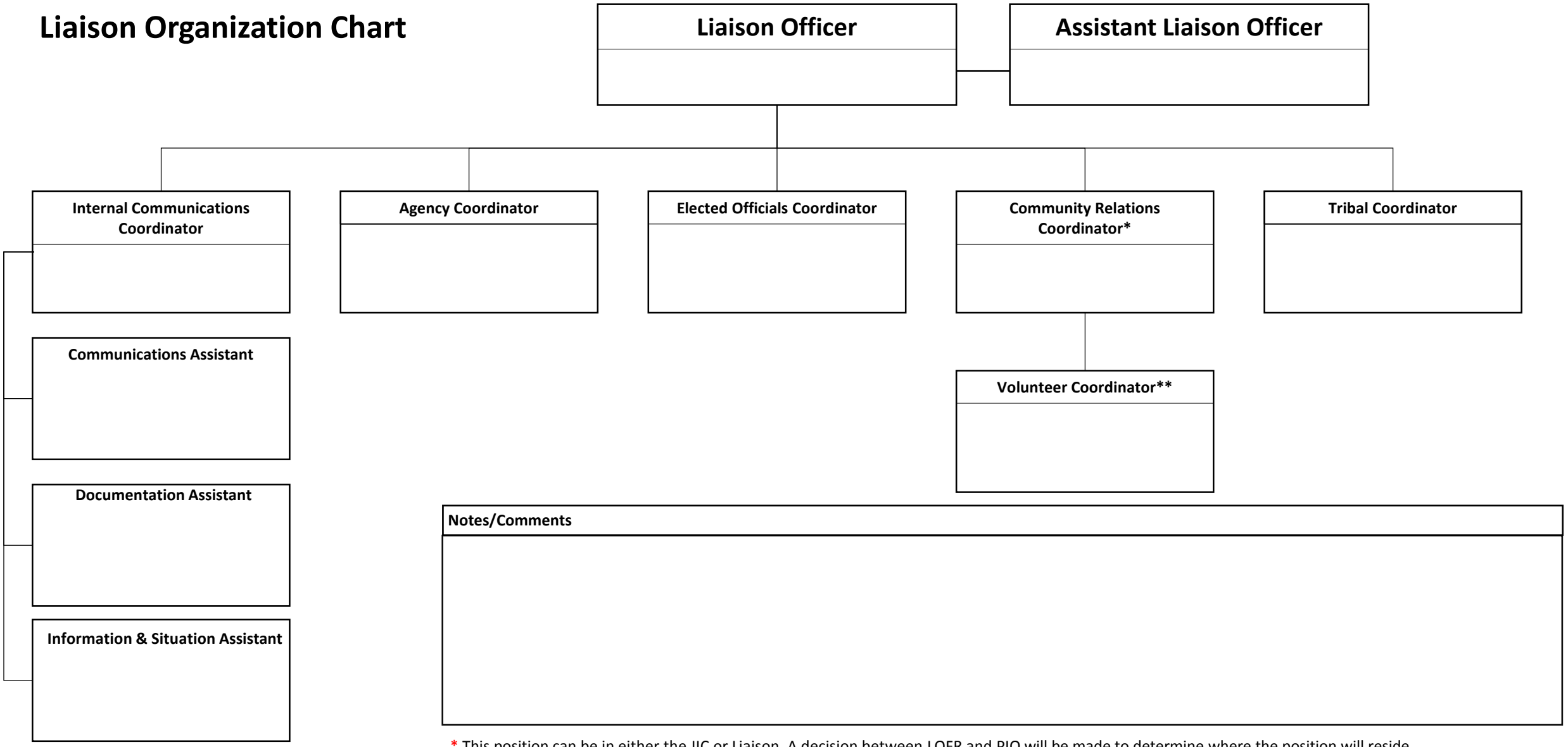
1.	5.	9.
2.	6.	10.
3.	7.	11.
4.	8.	12.

TOWN HALL MEETING LOGISTICS WORKSHEET

4. INITIAL VENUE SET-UP & PREPARATION			
Completed	**ITEM:**	**TIME**	**DETAILS**
	VENUE RESERVED & CONFIRMED		
	VENUE SET-UP		*Attach copy Of Venue Set-Up*
	Security for Venue		
Completed	**Transportation for:**	**TIME**	**DETAILS**
Completed	**Equipment:**	**Time**	**Details**

5. SECURE / BREAK-DOWN / WRAP-UP / RETURN TRANSPORTATION			
Completed	***ITEM***	**TIME**	**DETAILS**
	VENUE Cleaned and Secured		
	RETURN TRANSPORTATION FOR:		
	•		
	•		
	•		
	•		
	Equipment		
	•		
	•		
	•		
	•		

Liaison Organization Chart



* This position can be in either the JIC or Liaison. A decision between LOFR and PIO will be made to determine where the position will reside.

** This position starts in Liaison and may transition to Volunteer Unit if one is formed in Planning Section.

Liaison Manual:
Communication Plan

Name of Incident/Drill:

Liaison Unit Location:

Date:

Liaison Communication Plan

Name of Incident/Drill: Date:

This document is a working template for individuals to utilize in an incident or drill to ensure consistency and support approval processes. Please use the drop-down option in the footer to select *"THIS IS A DRILL"* when applicable.

How to use this template:

- The following is a template for producing a Liaison Communication Plan for an incident. It is a general format intended to help in starting to develop a plan.
- Write this plan for the next operational period(s). What will you be doing tomorrow and beyond?
- Additional templates have been developed to support modifications to institutions and organizations.
- Use the questions to help think through the issues and provide information on how the Liaison Unit will address them.

Best practices for drills:

- Coordinate with the Joint Information Center (JIC) and Public Information Officer to ensure activities are not in conflict with JIC.
- Once a plan has been developed and approved by the Liaison Officer, request a time to brief the Unified Command and make changes as needed.
- The plan is a living document intended to be changed as the incident evolves and new needs arise.

Liaison Communication Plan

Name of Incident/Drill: Date:

Liaison Plan: *Signature Approvals*

Unified Command	**Name**	**Signature**	**Date** *(MMDDYYYY)*
FOSC			
SOSC			
RPIC			
LOSC			
TOSC			
Additional Signatures*			

*** Use additional signatures as required*

TYPE: **APPROVED BY:** **APPROVED DATE:**

Liaison Communication Plan

Name of Incident/Drill: Date:

Liaison Plan: *Purpose and Goals*

The liaison communication plan is an outline of the activities that the Liaison Unit will be conducting to ensure communication with involved or interested parties are accurate and timely. The liaison communication plan is intended to work in conjunction with media outreach by the Joint Information Center. The plan covers key issues of the response, strategies for how to communicate to each involved or interested parties and tools that will be used. The plan is a living document intended to be changed as the incident evolves and new needs arise.

Purpose:
Goals:

TYPE: **APPROVED BY:** **APPROVED DATE:**

Liaison Communication Plan

Name of Incident/Drill: Date:

Liaison Unit Organization Contacts:

Role	Name	Contact Information	
		Phone:	
		Email:	
		Phone:	
		Email:	
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TYPE: **APPROVED BY:** **APPROVED DATE:**

Liaison Communication Plan

Name of Incident/Drill: Date:

Briefing Template:

Incident Summary		
Time *(24hr clock)*	**Overview**	**Notes**

TYPE: **APPROVED BY:** **APPROVED DATE:**

Liaison Communication Plan

Name of Incident/Drill: Date:

Activities and Tools:

A Liaison (LOFR) Unit will be established by Unified Command to be the primary point of contact for elected officials, agencies, and tribes. The unit should establish a regular notification process to ensure timely communication with identified constituencies. Below are activities and tools that can be used to engage with the identified stakeholders. Additional activities and tools can be added, as needed, and requested based on the incident type. Recommendation to coordinate with Public Information Officer (PIO) Unit as needed to support timely and open communication with involved and interested parties.

Initial & Daily briefing: Elected Official	*A conference hotline can be established to brief elected officials on response efforts and address any specific concerns from elected officials. It should be held at be at the same time every day.* • *When is this happening? What is the call number? Who is participating?* • *Prepared a script for the call and identify the facilitator.* • *Update on current status and open up for Q & A.*
Initial & Daily briefing: Tribal Leaders	*A conference hotline can be established to brief tribal officials on response efforts and address any specific concerns from tribal officials. It should be held at be at the same time every day.* • *When is this happening? What is the call number? Who is participating?* • *Prepared a script for the call and identify the facilitator.* • *Update on current status and open up for Q & A.*
Liaison Email Messages	*These can be used to send daily updates to elected officials, agencies, tribal governments, business and community members and other interested parties.*
Town Hall Meeting/ Press Conference	*These types of meetings can be conducted to address community concerns, inform, and educate.*
Door-to-Door Communication	*This may need to be done if communities are small, language is a barrier, at-risk populations, or economically and ethnically diverse.*
Mobile Claims Unit/Store Fronts	*This can be set up to establish a presence in the community to assist impacted community members with information on making claims, grocery vouchers and other necessities.*
VIP Tour	*This can be used to provide tours and site visits to local elected officials or important involved parties. These should be planned and coordinated with the JIC, UC, Security, Operations and conducted as requested or needed.* • *Give heads up to UC (this will likely be a reporting threshold to the UC)* • *Organize with Planning for scheduling.* • *Coordinate with Logistics, Security, and JIC.* • *Develop agenda and prepare the UC for the event.* • *Who is leading the tour, and what will they tour? Are you planning overflight?* • *Who needs to be present to give information*
Open House	• *Stations staffed by subject matter experts.* • *Translators* • *Where is the oil going? Do we need to organize another one downriver/elsewhere?*

TYPE: **APPROVED BY:** **APPROVED DATE:**

Liaison Communication Plan

Name of Incident/Drill: Date:

Involved or Interested Parties Communications

- *Who are the impacted involved or interested parties?*
- *What are their issues and concerns?*
- *When making the list, include a column to track their issues, whether they have resources that might be impacted, or they just want information updates.*
- *This list should be kept up to date as more involved or interested parties are contacted.*
- *Coordinate as needed with the Public Information Officer (PIO) Unit to provide timely information to community members and the public.*

Involved or interested parties to consider based on emergency type:

1. Elected Officials	2. Local Tribes
○ Governor's Office ○ U.S. Congressional Delegation ○ State Legislators ○ County Government officials ○ City Mayors	INSERT LINK OR SUPPORTING NOTE HERE
3. Agencies	**4. Involved or interested parties**
○ Relevant Health Authorities ○ Federal Emergency Management Agencies ○ Pipeline and Hazardous Materials Safety Administration ○ U.S. Army Corps of Engineers ○ U.S. Environmental Protection Agency ○ U.S. Fish & Wildlife Service ○ Washington Department of Ecology ○ Washington Department of Fish & Wildlife ○ Washington Department of Natural Resources ○ Washington Department of Health ○ Washington Governor's Office ○ Washington Utilities and Transportation Commission ○ Washington State Patrol ○ Other relevant government bodies	○ Local/Nearby Businesses ○ Local/Nearby residents ○ Landowners ○

EXCEL DOCUMENT TEMPLATE ATTACHED

TYPE: **APPROVED BY:** **APPROVED DATE:**

Liaison Communication Plan

Name of Incident/Drill: Date:

Concerns and Issues for Response - Overview

The following list are some of the issues that might be considered during the incident and can be populated into the supplied template with incident/drill specific details and or messaging.

Dispersant use or In-situ burn *(These issues are on the table until then are ruled out. It is very important to get a message about the possible use until it is determine not to be in use)*	• What are the possible use, when, where, and how will results be communicated. • Who will you work with to get technical information from, schedule for when application will occur? • Who are the impacted communities and who are we communicating with? • The EU will ask Liaison to communicate with specific involved or interested parties such as tribes or coordinating agencies to get input. • Coordinate the messages with JIC. • Use the decision process flow chart from the Northwest Area Plan Contingency Plan to identify when Liaison should communicate messaging.
Volunteers *(Liaison manages the issues. If volunteers are used, a volunteer unit under Planning Section will be established to implement the volunteer management plan)*	• Assess the need for volunteers from the other sections of the response. • If there is a need, develop a volunteer management plan. • Coordinate with Planning Section, Logistics, Finance and JIC.
Claims/Economic Impacts	• Work with Finance Unit to ensure process for claims is clearly communicated. • Who are the groups, associations, agencies and other organizations that might be used to help get messages out about claims process? • Do we need to setup a “store front” in impacted communities?
Salvage and Places of Refugee *(for vessel incidents)*	• This is a very visible activity and early communication to impacted communities, especially in the case of places of refugee, will help minimize concerns.
Community air monitoring *(early messaging about air quality is critical especially in densely populated cities)*	• Work with EU to get information about what assets are in place or on the way to conduct air monitoring in communities. • Work with operations for how to address if communities call to repot odors or fumes.

TYPE: **APPROVED BY:** **APPROVED DATE:**

Liaison Communication Plan

Name of Incident/Drill: Date:

Environmental Justice/Language Considerations	• Consider your audience and community at large for language considerations. • Most local municipalities will have a good idea of the languages that are most used in their communities. They may also have translation services. • Language Data
Tribal	• This should be priority for the Tribal Coordinator. • Identify which tribes are impacted, have treaty right or usual and accustomed rights or areas of interest. • How do they want to be involved? • Who do they represent?
Ferry/Road Traffic	• Closure issues?
Health Issues	• Food consumption issues are handled by county health departments. • Representatives from Dept of Health should be connected in Liaison to help with messages about food consumption.
Oiled wildlife	• Get messages out about oiled wildlife reporting. • Coordinate with Wildlife branch for possible use of volunteers. • Inform public to not approach wildlife
Public Health	• *Where to get medical aid if needed* • *Remain out of the area*
Other	• *Add any additional concerns/issues that are incident or drill specific. Suggested topics are: Fishing, boating and other recreational activity, traveling etc.*

ISSUES TRACKER - TEMPLATE

EXCEL DOCUMENT TEMPLATE ATTACHED

TYPE: **APPROVED BY:** **APPROVED DATE:**

ISSUES TRACKER - TEMPLATE

	Topic	Issue Overview	Issue Response	Owner	Received Date	Closed Date	% Completion Status
	TOPIC TYPE:						
	TOPIC TYPE:						

	TOPIC TYPE:						

	TOPIC TYPE:						

Section 9220

96-Hour Plan

Guiding Response Leadership in Identifying Priorities and Tasks within the First 96 Hours of a Major Incident

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96 Hour Plan for Major Incidents

9220.1 Introduction

The purpose of this 96 Hour Plan is to provide strategic guidance to support rapid, well-coordinated, extended and continuous operations for a major incident. To ensure success, response leaders (agencies and potential spillers alike) need to ask the right questions, engage all partners fully, refer to the right plans and set the right priorities for a major incident. This plan can help establish or accelerate operational momentum, build interagency coordination and earn public trust. This guidance reflects lessons learned, taken from spills and exercises, as well as input from northwest area committee members. The target audience for this plan is the key leadership positions at the command staff and section chief level. The target audience for this plan is the key leadership positions at the command staff and section chief level, not tactical operations.

This section contains a major incident response milestone checklist, a table on critical notifications and guidance for response leaders to enhance communication during a major response. The milestones presented in the 96 Hour Checklist are aspirational, intended to guide responders towards success. Not all checklist items are applicable to every incident and not all will be started or finished within the aspirational timelines. The checklist is a tool, designed to posture (not mandate) or refine response professionals' ability to simultaneously champion mission success and transparency, given the totality of the circumstances.

9220.2 Milestone Checklist

The purpose of this checklist is to guide response leadership in identifying major tasks, in a relative order of priority, to accomplish within the first 96 hours of a major incident response. Once leaders have determined the context of the situation and initial priorities, the checklist will then support them in establishing a work cycle for extended, continuous operations. Every response is different and therefore these milestones are aspirational, intended to guide responders towards success. The critical steps should be taken early to establish operational momentum, build interagency coordination and earn public trust.

It is understood that in the early hours of an incident, responding agencies and potential responsible parties may each take similar steps (for example, make notifications). It is also understood that initially a single individual may be performing multiple roles as the response organization builds. Some of these

tasks will be started prior to forming a unified command, until we begin to perform them together at an incident command post, under a unified command.

Major Incident Response Milestone Checklist

Use this form to record the time a task has been completed. Assume that proper notifications have initiated the response. The milestones/tasks mark the hours that certain activities should begin, though they may take several more hours or days to complete. Every response is different and therefore these milestones are aspirational, intended to guide responders towards success. Not all milestones are appropriate for every response.

Prior to Officially Forming a Unified Command
Day 1 Hour +2

√	Assigned To	Task
		Type and classify the incident to assess the risk.
		Begin federal/state/trustee/local stakeholder response partner notifications.
		Determine immediate responder and community risks including the need and resources for air monitoring.
		Establish safety/security zones. (must be done via Captain of The Port Order in marine zones)
		Consider the need to evacuation personnel or residents.
		Establish initial incident objectives.
		Begin ICS form 201.
		Develop initial hazard assessment worksheet and start work on initial site specific safety plan.
		Mobilize initial assessment teams (land, water and aerial, as necessary).
		Identify the PIO in each response agency and connect to other PIOs. Establish an initial conference call, or connect by e-mail.
		Issue initial joint (response agency) press release (between 30 minutes and 2 hours per area plan policy).
		Determine initial resources for responding.
		Begin resource tracking.
		Identify Unified Command (UC) members. Establish time for an initial conference call, connect by e-mail or set up a meeting.

Unified Command Has Formed, Is Not Yet Co-Located
Day 1 Hour +3

√	Assigned To	Task
		Request Scientific Support Coordinator assistance and order trajectories.
		Obtain Safety Data Sheet(s) or other data from spiller to identify oil / hazardous material properties.
		Establish overflight assessment and observation feedback loop to response partners.
		Identify Geographic Response Plan priorities. Communicate on priorities with response contractors. Begin compiling ICS Form 232, Resources at Risk form.

√	Assigned To	Task
		Determine port closure options/necessity (Captain of the Port decision).
		Establish contact with local Emergency Operations Center/City/County Emergency Managers, begin to share information.
		Assess whether the incident may impact a population with access challenges (disabilities, non-English speakers, etc.)
		Continue making broader tribal, elected official and stakeholder notifications.
		Locate and secure joint Command Post, as needed. Secure space based on scenario and scope of the incident. Consider space for a bullpen and breakout rooms.

Unified Command Has Formed, Has Plans and Timeframe to Co-Locate

Day 1 Hour +5

√	Assigned To	Task
		Transition to joint Command Post as necessary.
		Agree on common operating picture.
		Request Endangered Species Act emergency consultation, using information from the ICS Form 232 and the form provided in Section 9404.
		Identify and notify commercial / private fish and shellfish owners. Identify and notify downstream drinking, agricultural, and industrial water users. Communicate with the Environmental Unit.
		Determine need and establish temporary flight restriction, as necessary.
		Consider whether vessel of opportunity skimming systems, public equipment caches or U.S. Naval response resources (local or SUPSALV) are needed. Order as applicable.
		Engage with tribal enforcement and local health departments to open communication concerning shelter in place, fisheries closures and water user impacts.
		Coordinate to determine staging areas.
		Consider night operations, begin planning for staffing, support and shifts, as appropriate.
		For cross border incident (international or state boundaries), establish liaison between governments/Governors.
		Identify accommodations (hotels, motels, etc.) and food service companies to support responders.
		If appropriate to consider use of dispersants or in-situ burning, notify trustees and tribes to allow time to work through the decision process.
		Evaluate whether the spilled oil(s) have the potential to become submerged or sink. Inform UC immediately if so.
		If appropriate to consider use of dispersants or in-situ burning, mobilize necessary resources.

Unified Command Has Joined Together at an Initial Command Post Hour +10 Day 1

√	Assigned To	Task
		UC to establish overall incident objectives.
		Identify limitations and constraints, critical information requirements.
		Establish Situation Display and gather facts and data to support the response.
		Identify expanded list of resources at risk and complete an ICS form 232.
		Establish Communication Plan, including timing of media releases, social media and press conference protocols.
		Request a National Oceanic and Atmospheric Administration (NOAA) Spot forecast for localized weather.
		Begin drafting social media plan for UC approval.
		Establish Liaison Plan that includes a comprehensive list of coordination points in all appropriate agencies/organizations.
		Obtain source sample. Plan for sampling needs for the response.
		If appropriate, order "hot shot" SCAT resources for assessing extent of oiling and potential passive techniques to prevent re-oiling. Plan for long term SCAT.
		Expand staging areas as needed.
		Establish briefing schedule for elected officials and agencies.
		Conduct media briefings and consider updating the press release.
		Launch a unified, incident-specific web site.
		Consider whether the Command Post is suitable for a long-term response.
		Develop process of managing claims.

Day 2 Hour +24

√	Assigned To	Task
		The Information Officer and Liaison Officer together determine the need / timing for community meetings.
		Consider as a best practice, hosting or touring media on or near the scene.
		Assess wildlife impacts. Activate Wildlife Infrastructure as needed.
		Consult with cultural / historical resource specialists as needed.
		Stand up Maritime Transportation System Recovery Unit (MTSRU) and begin cargo prioritization, if appropriate.
		Develop long term staffing and demobilization plans, establish fatigue guidelines.
		Determine documentation management protocols.
		Evaluate the effectiveness of recovery tactics to maximize recovery.
		Plan for disposal, waste issues.
		Plan for decontamination of response / commercial / non-commercial vessels.

√	Assigned To	Task
		Consider salvage and transfer needs (lightering, etc.).
		Communicate the claims process to communities, municipalities and business owners.
		Implement west coast mutual aid agreement and begin cascading of resources from out of region, if necessary.
		Inform or otherwise convene the Regional Response Team (RRT) for assistance.
		Finalize, distribute, and brief safety plan.
		Establish a volunteer policy as necessary, and develop a volunteer management plan.
		Track all costs and communicate a burn rate to UC.

Day 3 Hour +48

√	Assigned To	Task
		Develop long term staffing and demobilization plans.
		Refine vessel traffic plan.
		Activate Volunteer Management Plan, as needed.
		Continue communication with the incident specific RRT.
		Adjust daily cycle of activities accordingly.

Day 3-4 Hour +96

√	Assigned To	Task
		Continue communication with RRT.
		Adjust daily cycle accordingly.

9220.3 Notification Matrix

The notification matrix identifies key notifications that federal and state officials and responsible parties have protocols or obligations for conducting. Multiple notifications to the same organizations are expected and are acceptable. It is a best practice for agencies to verify their notification lists at least annually.

Audience	Federal/State Authority	Incident Command Function/Connection
Federal and State Emergency Notification Call Centers		Responsible Party
International Partner Coordination (CCG, EC)	USCG/EPA	
Regional Response Team	USCG/EPA	UC
RRT X Executive Committee Agencies	USCG/EPA/STATES	UC/Liaison
USCG Strike Team	USCG/EPA	UC/Operations
Scientific Support Coordinator	USCG/EPA	UC/Environmental Unit (EU)
Federal Trustees including NOAA, DOI, Agriculture	USCG/EPA	EU/Liaison
State Trustees including Fish, Wildlife, Game, Parks, Health, Historic Preservation, Natural Resources	STATES	EU/Liaison
Tribes	USCG/EPA/STATES	EU/Liaison/UC
Public Health Agencies	STATES	EU/Liaison/UC
County and City Emergency Managers	STATES	UC/Liaison
White House Officials	USCG/EPA	Liaison
Governors	STATES	Liaison
Congressional Representatives	USCG/EPA/STATES	Liaison
State Legislative Representatives	STATES	Liaison
Local Elected Officials	STATES	Liaison
Affected Ports	USCG /STATES	MTSRU/Liaison
Municipal Government	STATES	UC/Liaison
County Government	STATES	UC/Liaison
State law enforcement and fire agencies	USCG/EPA/STATES	UC/Operations
Tribal law enforcement and local health authorities for fish closure	USCG/EPA/STATES	EU/Liaison/UC
Notification contained in Geographic Response Plans	USCG/EPA/STATES	EU/Liaison

9220.4 Enhance Communications

This Section provides guidance to response leadership that will enhance communications in a major incident in a way that establishes operational momentum, builds interagency coordination and earns public trust. These communication strategies should be incorporated by response leadership into training, internal procedures and practiced at drills.

Use Strategic Messaging

Communication should be at the epi-center of a major response. Federal, state, local, and responsible party leadership should employ rapid, aggressive and targeted strategic messaging to gain the confidence of the public, tribes and elected officials during a response.

- Strategic messaging means intentional planning for a flow of credible information over the course of an extended response, using all relevant modes of communication.

Strategic messaging should not be confused with routine public affairs outreach. It builds on strong existing relationships developed with the media and elected officials, and should be cultivated before spills occur on a routine basis. These relationships will result in communication that is clear and compelling, tailored to the local audience and focused on the key issues of risk communication, safety and environmental issues, and public safety and security during a response.

Examples of strategic messaging identified in this area plan are:

- Report the volume of the spill in terms of the potential maximum quantity or use a range of potential volumes if necessary. Be prepared to explain how the actual volume will be determined. Having to change an initially reported spill volume will diminish credibility, yet reporting a spill volume is a critical data point for the public.
- Get agreement in the most immediate manner possible about incident facts that can be spoken to in the early hours; for example, information on the ICS 201 form. It takes time to ascertain facts about a crisis. Waiting for "perfect" information does not help build trust.
- Be prepared to speak about the plans that we have in place, the national framework for response and the assets being brought to bear to the response.

Media Outreach

Federal, state, local, and responsible party Public Information Officers (PIOs) should conduct rapid and aggressive media outreach campaigns during a major response. Outreach should focus on demonstrating and conveying the capability of the unified command to manage the response. Failure to make this effort may result in competing media coverage that could send contrary or misleading information. Even in situations where information is incomplete, response leadership should hold daily press conferences.

Examples of effective outreach identified in this area plan are:

- Allowing the media escorted access to the command post, while still ensuring operational security.
- Allow the media direct access to the unified commanders, as the response allows.

Web-based Media, Television and Print

The public is now more apt to use television, internet, and social media for news. Failure to use these communication modes will result in an information void. In addition to televised press conferences, within 24 hours of a major crisis, responses should incorporate an incident specific web site that allows collaboration between all members of the Unified Command. PIOs should also use social media, including Facebook and Twitter, to deliver information such as scheduled press conferences, major response milestones, major successes, factual data, etc.

- Federal agencies and industry may have restrictions that prevent leadership from capitalizing on the power of social media. Therefore, incident commanders should partner with the state and local agencies to host incident specific web sites and communicate using social media, to effectively tell the operational story.
- The pace of social media requires establishing an early presence on social media. Incident Commanders should encourage and facilitate this this by asking for a social media plan and agreeing in the most immediate manner possible about incident facts that can be spoken to in the early hours; for example, information on the ICS 201 form.
- Incident commander should ask to be informed about conversation trends and rumors, and adjust and adapt the communication plans accordingly.

Risk Communication

Federal, state, local, and responsible party incident commanders should rapidly and continuously convey public safety, environmental concerns, security threats, and economic impacts to improve public trust.

Example of a best practice identified in this area plan:

- Consider asking recognized local, regional, or national experts (i.e. NOAA Scientific Support Coordinators, academic experts, local Emergency Managers, etc.) to deliver messages.

Congressional/State/Elected Official/Political Appointee Outreach

Elected officials are included in communications protocols for major responses. They require periodic operational briefs in order to inform their constituents. Response incident commanders should conduct elected official briefings early on in the response once they have gained reliable situational awareness. If response leadership does not maintain an aggressive political outreach program, they run the risk of having to publicly defend response actions in addition to trying to fill an information gap.

- If use of dispersants or in-situ burning are identified as an objective, communicate immediately on the decision process and timing. Commit to communicating again on the final decision.

Town Hall/Public Meetings

Town hall meetings should be coordinated with federal, state, local, and responsible party incident commanders. This has proven an effective method to reach out to the impacted community in a sensitive manner.

Examples of community outreach identified in this area plan are:

- Consider opening up space within communities ("store fronts") to maximize communication, trust and help communities move towards restoration.

Recommended Flow of Information for News Releases

1st News Releases (within 24 hours)

- Facts about the incident as known. List of Responding Agencies.
- Information on exclusion zones and evacuations.
- Initial estimated maximum potential spill volumes and methodology for determining an actual volume spilled.
- Air monitoring information. Public safety message. (Coordinated with local Emergency Managers)
- Public information sources, i.e. Twitter, Facebook, response website, etc.
- Equipment/resources deployed. Number of personnel responding.
- Wildlife message/hotline number.
- Claims line (if established).
- Status of public services, i.e. drinking water supply, medical services, etc.
- Any expected impacts to oil availability or gas prices (if applicable).
- Contact phone numbers for media.

Subsequent News Releases (24 +)

- Cause of the spill and status of investigation.
- Vessel/Facility/Pipeline/Railroad/Etc. information.
- Amount of product recovered.
- Injuries or casualties.
- Trajectory of the oil.
- Environmental and wildlife impacts.
- Beach closures.
- Fishery closures.
- Cleanup contractors and additional agencies responding.
- Actions taken, actions planned.
- Resources applied and numbers (equipment and people).
- Special considerations (dispersant use, place of refuge).
- Volunteer Registration Information (if applicable).
- Cost of the spill.

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Section 9301

Oil Spill Best Management Practices

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9301 Oil Spill Best Management Practices

9301.1 Introduction

This chapter provides a summary of the best management practices (BMPs) to protect resources put at risk due to the response to oil spills in Oregon, Washington and Idaho. The chapter introduces the response actions typically used, organized by the common response settings in which they occur, and followed by the BMPs associated with their implementation. Most BMPs address all kinds of resources to be protected, even if the majority of the BMPs prescribed are intended to assure compliance with the Endangered Species Act (ESA) as outlined in the Biological Assessment prepared by the NWAC and the Biological Opinions passed down from the US Fish and Wildlife Service and the NOAA - National Marine Fisheries Service. Additional BMPs, provided by tribes, address concerns for the protection of cultural resources at risk, as were BMPs described in the Inadvertent Discovery Plans utilized in Oregon and Washington. Finally, BMPs to address socio-economic resources placed at risk due to oil spills typically involve early notification so that protective measures can be put into motion. These notifications are detailed in the Geographic Response Plans or Geographic Response Strategies.

9301.2 Wildlife

The BMPs in this this section were developed as measures to reduce impacts to wildlife and their habitats during an oil spill response, and for responder safety. These should be considered general guidance during a spill response. Not all BMPs will be applicable to every response, which is why incident-specific guidance is developed through the ESA Section 7 consultation process and direction from the Wildlife Branch and Environmental Unit. Best available information and professional judgment should be used when determining how to implement these BMPs during each response.

General Best Management Practices for Wildlife

- Do NOT attempt to capture any live wildlife. A separate Wildlife Recovery and Rehabilitation Plan will be prepared and executed by the Wildlife Branch in the Operations Section.
- Report potentially impacted wildlife (including carcasses) to the Wildlife Branch or supervisor.
- Avoid operating equipment in close proximity to wildlife.
- Avoid transporting or introducing invasive species attached to equipment.

On-land Operation BMPs for Wildlife

- Ensure work areas are well-lit to minimize inadvertent impacts to wildlife or their habitat.
- Use existing access and egress areas and roadways.
- Minimize foot traffic through oiled areas on non-solid substrates (sand, mudflats, gravel, dirt, etc.) to reduce the likelihood that oil will be worked into the sediment. Creation of temporary pathways (matting, plywood, etc.) where necessary is recommended to further reduce this likelihood. Restrict foot traffic over sensitive

areas (shellfish beds, salmon redds, algal mats, bird nesting areas, dunes, etc.) to reduce the potential for wildlife disruption and mechanical damage to sensitive habitats.
- Minimize removal of clean (unoiled) sediments.
- Minimize the amount of sediment removed with any mechanical oil collection efforts.
- Staging areas, waste collection areas, and support infrastructure should be located away from sensitive habitats, including shorelines, scrub, riparian habitat, and other vegetated areas.
- Stage equipment only on hardened surfaces.
- All heavy equipment use should be as low on the beach as possible and avoid the high tide or wrack line while conducting clean-up activities.
- Ensure that personnel and equipment are removed from intertidal areas prior to flooding.
- Activities that require removal of riparian, forested, scrub, shrub, or other vegetated habitat require approval by the Environmental Unit.

On-water operation BMPs for Wildlife

- If marine mammals or birds become trapped or entangled in boom, anchor lines, or other response equipment, notify Wildlife Branch for instructions.
- Monitor underwater equipment and boom to ensure fish and wildlife are not trapped.
- Monitor passive sorbent materials deployed in the intertidal zone. Promptly remove any material as it becomes saturated. Remove or resecure sorbent if it breaks free from its moorings.
- Avoid blocking major wildlife egress points in channels, rivers, passes, and bays.
- Any device used for pumping water from fish-bearing waters must be equipped with a fish guard to prevent fish from being sucked into, or pinned against, the pump intake. The pump intake must be screened with material that has openings no larger than: 5/64 inch (for square holes), measured side to side OR 3/32-inch diameter (for round holes). In addition, the screen must have at least one square inch of functional screen area for every gallon per minute (gpm) of rated pump capacity. For example, a 100 gpm-rated pump would require at least a 100 square inch screen. Note: in Washington, pumping of ambient water requires a hydraulic project approval (HPA) permit from WDFW. In Oregon, pumping from Waters of the State may require emergency authorization with the Oregon Water Resources Division.
- Killer (Orca) Whales: Vessels must not approach within 300 yards of any killer whale and must stay out of the path of oncoming whales out to 400 yards. If your vessel is closer than 300 yards, place engine in neutral and allow whales to pass. Always approach and depart whales from the side, moving in a direction parallel to the direction of the whales. Stay on the offshore side of the whales when they are traveling close to shore. Reduce speed to less than 7 knots when within 400 yards of the nearest whale and avoid abrupt course changes.
- Nearshore Operations: Be cautious and quiet when around seal and sea lion haul-outs and bird colonies or concentrations. Reduce speed and minimize wake, wash

and noise, and then slowly pass without stopping. Avoid approaching closer than 100 yards to any marine mammals or birds. Do not disturb, move, feed or touch any marine wildlife, including seal pups.

- Wildlife Impacts: Contact the Wildlife Branch or your supervisor to report any bird or marine mammal impacted by operations or that has signs of oil impacts.
- Follow the carcass collection guidance established by the Wildlife Branch.

Air operation BMPs for Wildlife

- Adhere to the incident-specific flight restrictions over sensitive habitats and avoid hovering or landing either manned or unmanned aircraft in these areas.
- Adhere to flight altitude restrictions over wildlife management areas and other managed lands.
- The Environmental Unit (Planning Section) may recommend Flight Restriction Zones to minimize disturbance or injury to wildlife during an oil spill. By keeping a safe distance and altitude from identified sensitive areas, pilots/operators can decrease the risk of aircraft/bird collisions, prevent the accidental hazing of wildlife into oiled areas, and prevent abandonment of nests or marine mammal pupping areas.
- The Air Operations Branch (Operations Section) will manage all aircraft operations related to a response and will coordinate the establishment of any Flight Restriction Zones as appropriate. Environmental Unit (Planning Section) staff will work with the Air Operations Branch Director to resolve any conflicts that arise between flight activities and sensitive resources.
- Unmanned Aerial Systems (UAS): Biological resource incidents are more than just collisions, and include, but are not limited to; displacement of wildlife, nest or den abandonment, aggressive behavior towards the UAS by wildlife, and out-of-ordinary vocalization or alarm calling by wildlife. To reduce the risk of adverse interactions:
    - Do NOT launch UAS devices towards wildlife.
    - Do NOT approach wildlife vertically.
    - If using a fixed-wing drone do NOT make rapid banking maneuvers when waterfowl, shorebirds, or sea birds are observed.
    - Do NOT fly over observable active bird nests.
    - Cease flying immediately if the drone attracts attention from birds of prey (i.e. osprey, eagles, hawks).
    - To avoid an aggressive bird, the first option is to ascend rapidly. Birds cannot ascend as fast as a drone. If the drone is already at maximum altitude, move laterally away from the bird. Once clear of the bird, move laterally until enough distance has been created to safely descend and land the drone. Do not resume operations until the bird has left the area.

9301.3 Supporting Actions Common to Most Responses

9301.3.1 Use of Vessels

Vessels are vital to most spill responses. Vessel types range from small hand-launch watercraft to large ships. Smaller vessels provide access to shallow or narrow habitats. Larger vessels are associated with deep water and responses to large volumes of oil.

The use of vessel resources varies depending on the specific response. Vessels may be used as a component of the response itself (e.g., skimmers, platforms for applying dispersants, deploying or collecting boom), or as a mode of transportation to and from remote locations for response personnel. As a result, vessels and other watercraft may be used in shallow or deep water, nearshore or offshore, fresh water or marine environments, etc. Vessels are essential to both open water and shoreline spill responses.

Geographic Response Plans (GRPs) outline boat and watercraft use restrictions within 200 yards of offshore National Wildlife Refuge sites or other sensitive areas. As a standard practice, the response organization immediately requests a waiver from the National Marine Fisheries Service and/or United States Fish and Wildlife Service regarding approaching or hazing marine mammals inadvertently during open water response operations.

Best Management Practices for Use of Vessels

- Take in consideration sensitive habitats (e.g. nesting areas or spawning areas) based on presence and distribution of wildlife such as birds and mammals (to the extent that information is available in GRPs). Avoid these areas when possible.
- Observe instruction in GRPs that outline boat and watercraft use restrictions within 183 meters (200 yards) of National Wildlife Refuge sites or other sensitive areas.
- Do not stage boats such that shoreline vegetation is crushed. Boats should not rest on or press against vegetation at any time.
- Avoid anchor or prop-scarring of submerged vegetation.
- Follow BMPs for wildlife, as appropriate.

9301.3.2 Use of Vehicles or Heavy Machinery

During an incident, the types of vehicles used is determined based on its capabilities relative to spill-specific needs. Vehicle types range from small all-terrain vehicles (ATVs) to large earthmovers. Operation of vehicles may adversely affect shoreline habitats that are susceptible to erosion. When available, keep vehicles to durable surfaces to limit physical impacts to the environment.

ATVs may be used in support of open water and shoreline responses. The use of ATVs is often dependent upon the accessibility of the site (e.g., proximity of roads) to this kind of equipment and the type of shoreline in which they are to be used. It is possible to use ATVs on any accessible shoreline type in which an ATV can safely be driven; however, some shoreline types (e.g., marshes, vegetated low banks) are more sensitive to the use of motorized equipment (as well as human foot traffic) than other shoreline types, both in the presence and absence of oil. For example, it is recognized that the use of ATVs may adversely affect unoiled shoreline habitats that are susceptible to erosion. Some oiled shoreline types, such as marshes, are particularly vulnerable to the introduction and mixing of oil into subsurface sediments. As a result of these concerns

relating to shoreline damage, care is taken to weigh the tradeoffs of ATV use on a particular shoreline type, whether oiled or unoiled. Therefore, in a practical sense, ATV use may be limited to situations in which it is judged that the benefits of using ATVs outweigh any potential adverse effects of their use.

Generally, responders use ATVs on sand beaches and are restricted to transiting outside of oiled areas, along the upper part of the beach with the exception of areas where plovers nest in the foredune/upper beachface. The decision process for use of ATVs near sensitive aggregations of wildlife (e.g., sea lion rookery) is similar to that described for shoreline habitats discussed above. ATVs may be used for a variety of purposes, including the transportation of response personnel and for the collection and disposal of oil, oiled sediments, or oiled debris in support of response activities in nearshore open water and on shorelines.

Best Management Practices for Use of Vehicles or Heavy Equipment

- Minimize traffic through oiled areas on non-solid surfaces (e.g. sand, gravel, and dirt) to reduce the likelihood that oil will be worked into the sediment.
- Take into consideration sensitive habitats (e.g. nesting areas or spawning areas based on the presence and distribution of fish and wildlife in the areas. Avoid these areas when possible.
- Consult GRPs if they are established for the response area. Set staging areas in locations already identified in the GRP.
- On beaches, only transit outside of the oiled area along the upper part of the beach and away from the foredunes.
- Use vehicles near listed plants and wildlife only if the benefits outweigh potential impacts.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- Follow BMPs for wildlife, as appropriate.

9301.3.3 Staging Area Establishment and Use

Incident personnel and equipment report to staging areas to await tactical assignment. Staging areas may include on-site storage and transport of hazardous and nonhazardous materials. If possible, establish staging areas at existing large, paved areas that provide access to both the spill site and transportation networks. In areas with GRPs, staging areas are pre-determined for use during a response. For spills in navigable waters, established boat ramps and piers are used as staging areas if possible. When spills occur in remote areas, staging areas may need to be constructed on developed or undeveloped land (including points of access), but this is avoided when possible.

Best Management Practices for Staging Area Establishment and Use

- Use the same access points for repeat entries to the area.
- Construct new access points only when no other options are available to reach the location (emergency consultation may be necessary).

- If new access points area needed, conduct a preliminary survey to determine the best route.
- Locate staging areas and support facilities in the least sensitive area possible. Use areas identified in GRPs, if available.
- Conduct a survey prior to developing new staging areas and constructing access roads. Seek out developed areas, such as existing parking lots, rather than undeveloped environments.
- Establish special restrictions for sensitive areas where foot traffic and equipment operation may be damaging, such as soft substrates.
- Establish work zones and access in a manner that reduces contamination of clean areas.
- Observe species-specific buffer zones (100-300 yards) for marine mammals when planning and implementing response actions.
- Do not cut, burn, or otherwise remove vegetation unless specifically approved by the EU.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- Follow BMPs for wildlife, as appropriate.

9301.3.4 Foot Traffic at the Spill Site

Foot traffic can disturb or destroy habitat through soil compaction, erosion, trampling vegetation, and may include general impacts from human presence, such as increased noise and light. Walking on contaminated soil and sediment may cause the oil to mix and sink deeper into the substrate, making clean up more difficult. In areas with muddy sediments, such as sheltered tidal flats, the sediment can be very soft and may not support even light foot traffic in many areas. If entrance to an area with soft substrates is unavoidable, use walkways constructed from plywood or access the area on the seaward side using boats.

Foot traffic and other human-presence effects such as increased light and noise can disrupt wildlife. Oiled wildlife may avoid the shore, making capture for assessment and cleaning more difficult. Minimize human-related disturbances that may cause wildlife to stay at sea or search for a more isolated location to come ashore. Consider limiting public access, allowing only responders into the impacted area. There may be periods when shoreline access should be avoided, such as during bird nesting seasons. Foot traffic to and from the clean-up area should not disturb wildlife unreasonably.

Best Management Practices for Foot Traffic at the Spill Site

- Walk on durable surfaces to the extent practicable.
- Place plywood or other material on footpaths over sensitive areas to reduce compaction.
- Restrict foot traffic from sensitive areas (e.g. marshes, shellfish beds, salmon redds, algal mats, bird-nesting areas, dunes, etc.) to reduce the potential for mechanical damage.

- Restrict access to specific areas for periods of time to minimize impacts on sensitive biological populations (e.g. nesting, breeding, or fish spawning).
- Minimize foot traffic through oiled areas on non-solid substrates (sand, gravel, dirt, etc.) to reduce the likelihood that oil will be worked into the sediment.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- Follow BMPs for wildlife, as appropriate.

9301.3.5 Use of Aircraft in a Spill Response

Aircraft, such as airplanes and helicopters, may be used in open water and shoreline responses to support response activities. Aircraft may be used in many response activities, such as being a platform for applying dispersants or igniting floating oils, directing on-water recovery operations, or transporting workers. Aircraft is essential for pre- or post-response monitoring, such as wildlife surveys. Aircraft may be used over any aquatic or terrestrial environment. Before aircraft is used, consult the Environmental Unit on designated Flight Restriction Zones near sensitive wildlife and habitats, such as marine mammal rookery or bird breeding colonies. Flight restrictions are more likely to be imposed only during times of the year that species are most sensitive, but may be imposed year-round in some locations.

Typically, the area within a 1,500-foot radius and below 1,000 feet in altitude is restricted from flying in areas that have been identified as sensitive. This restricting may apply near national wildlife refuges and wilderness areas, such as the Olympic Coast National Marine Sanctuary and Olympic National Park. In addition to restrictions associated with wildlife, tribal authorities may also request notification when overflights are likely to affect culturally sensitive areas within reservations.

Best Management Practices for the Use of Aircraft

- Observe flight restriction zones specified in the GRPs including minimum ceiling height (altitude of 305 m (1,000 feet) above ground is advised) and distance from known or suspected wildlife areas (e.g. nesting areas) in order to reduce wildlife exposure to noise or presence of airplanes or helicopters.
- Follow BMPs for wildlife, as appropriate.

9301.3.6 Use of Uncrewed Aerial Systems (UAS) in a Spill Response

The use of uncrewed aerial systems (UAS) (e.g. drones) is becoming more common during spill responses. A UAS may be use for aerial photography, shoreline surveys, identifying the leading edge of the spill, and monitoring and recording response activities. Spill responders can use UAS photo, video, or remote sensing capabilities to look for moderate to heavy oil in inaccessible areas. When UAS are used, responders must follow all applicable Federal Aviation Administration (FAA) regulations. The FAA does not permit the operation of UAVs above 400 feet. A waiver can be obtained if the response requires flights above 400 feet. Only responders trained in the use of UAS should operate this equipment. Consult the NOAA Uncrewed Aircraft Systems Oil Spill Response

Job Aid for more information on UAS use during a spill response.

Best Management Practices for the Use of UAS

- Trained UAS operators must follow all FAA regulations.
- Consult the Wildlife Branch and Environmental Unit before using UAS in a spill response.
- Follow BMPs for wildlife, as appropriate.

9301.4 On-Water Response Actions

This section describes on-water response actions that may be used to contain and recover spilled oil or divert oil away from sensitive areas. We also discuss chemical dispersant use and in-situ burning, techniques that may be used to prevent shoreline oiling. On-water response actions are often most effective if implemented early in a response.

9301.4.1 Booming

Booms are flexible floating barriers that are placed on the surface of the water to control the spread of spilled oil and to protect ecologically sensitive areas. Oil spill containment booms generally have five operating components: flotation chamber, freeboard, skirt, tension member, and ballast. The overall height of the boom is divided between the freeboard (the portion above the surface of the water) and the skirt (the portion below the water surface). Boom heights range from approximately 6 inches to over 90 inches, to address different types of water bodies and environmental conditions. Flotation attached to the freeboard and ballast (e.g., chain, weights) attached to the skirt enable the boom to float upright in the water, with the plane created by the boom perpendicular to the surface of the water. Boom is typically made up of 50- or 100-foot sections; the sections, and the connectors between sections, provide flexibility both in boom length and shape. Depending on the specific booming strategy employed, the boom is towed through the water, anchored in place (typically in water less than 100 feet deep), or attached to the shoreline or to a vessel.

Responders in the Northwest Area may employ four basic booming strategies, either individually or in combination:

(1) Containment - boom used to contain and concentrate the oil until it can be removed;
(2) Deflection - boom used to re-direct floating oil away from sensitive areas;
(3) Diversion - boom used to re-direct floating oil toward recovery sites that have slower flow, better access for equipment and personnel, and a way to remove the oil;
(4) Exclusion - boom used to keep oil out of a sensitive area.

Boom may also be used to enhance recovery of oil by skimmers or to collect and concentrate a sufficient thickness of oil on the water surface to allow *in-situ* burning (both described in greater detail below). During a response, boom is typically in place for several days to a week, depending on the spill. During that time, boom may be moved and repositioned to maximize its effectiveness at containing, excluding, diverting, or deflecting oil, and to adjust to environmental conditions.

Boom can potentially be used in all open water habitats, depending on environmental conditions,

but boom placement may be constrained by water depth and boat accessibility (except in the cases of very small bodies of water, where a boom may be deployed by hand). Sorbent boom could also be used (see section 9301.4.2). A boom may come in contact with the substrate in shallow water or along shorelines. However, this is undesirable in most cases, as a typical floating boom that comes into contact with the substrate is likely to lie flat and lose its ability to contain oil. A boom designed for this specific purpose (i.e., to maintain containment after coming in contact with the substrate), known as intertidal or tidal seal boom, may be used for oil containment along shorelines. Like other boom, intertidal boom floats up and down over tidal cycles. However, the skirt is replaced by one or two continuous tubes filled with water, which forms a seal with the substrate. As a result, a vertical plane is maintained by the boom, which continues containing oil as the tide recedes. Traditional boom attached to the shoreline typically comes in contact with substrate along shorelines for only a short distance, usually less than 10 feet, depending on the slope of the shoreline. In addition to shallow water depths, the effectiveness of booming strategies can be significantly reduced by wind, currents, waves, and the presence of large quantities of floating debris. For maximum boom effectiveness, the depth of the water should be at least five times the draft of the boom. Once deployed, response personnel use small boats to check and reposition boom to maximize its effectiveness in changing environmental conditions.

Best Management Practices for Booming

- Monitor for the presence of marine mammals and seabirds. Ensure that EU provides information on possible presence and impacts to ESA-listed (protected) species or critical habitats.
- Evaluate need to restrict access to sensitive habitats (e.g., nesting areas or spawning areas) based on presence and distribution of wildlife such as birds and mammals.
- Arrange booms to minimize impacts to wildlife and wildlife movements.
- Locate boom anchor points using strategies identified in GRPs, if available.
- If cultural resources are known or suspected to be in the area use natural anchors (tie off boom to trees or boulders), rather than driving anchor points into the shoreline.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.4.2 Removal of Floating Oil – Sorbents

The objective of this response method is to remove floating oil by allowing it to adhere to pads or rolls made of oleophilic material. The dimensions of sorbent pads are typically 2 by 2 feet. Sorbent rolls are approximately the same width as pads and may be 100 feet long. Sorbents pads may also be strung with a rope (sweep) so that it can be fastened or anchored to stay in place, and sorbent material can be incorporated into a boom with a netted cover (sorbent boom or "sausage" boom). Finally, non-pourous polyethylene strands are bound into "pom-poms" for use in adsorbing heavier

oils. The use of sorbents is a passive oil collection technique that requires no mechanized equipment. Sorbents are left temporarily in the affected environment to adsorb oil in a specific locale.

Sorbents are most likely to be used to remove floating oil in nearshore environments that contain shallow water. They are often used as a secondary method of oil removal following gross oil removal, such as skimming. Sorbents may be used for all types of oil; lighter oils absorb into the material, and heavier oils adsorb onto the surface of sorbent material, requiring sorbents with greater surface area.

Retrieval of sorbent material is mandatory. At least daily monitoring is required to check that sorbents are not adversely affecting wildlife or breaking apart after lengthy deployments. As a best practice, sorbent materials generally should not remain in the environment for longer than one day.

Sorbents are also used to clean surface oil from the shoreline and land-based spills. Further discussion on the passive collection of surface oil using sorbents can be in section 9301.5.1.2.

Best Management Practices for Removal of Floating Oil – Sorbents

- Passive collection of oil using sorbent material may be used on all shoreline types but is most useful with light to moderate oiling.
- Retrieval of sorbent material, and at least daily monitoring to check that sorbents are not adversely affecting wildlife or breaking apart, are mandatory.
- Continually monitor and collect passive sorbent material deployed in the intertidal zone to prevent it from entering the environment as non-degradable, oily debris.
- Monitor passive absorbents placed in the mid- or lower intertidal zone for potential entrapment of small crustaceans; coordinate with the EU for corrective actions if entrapment is observed.
- Minimize (ground, seafloor, riverbed, lakebed, etc.) disturbances.
- Keep all equipment on hardened surfaces, if possible. Utilize existing hardened access paths and paved areas when approaching shorelines.
- If cultural resources are known or suspected to be in the area use natural anchors (tie off boom to trees or boulders), rather than driving anchor points into the shoreline.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.
- Follow BMPs for booming, as appropriate.

9301.4.3 Removal of Floating Oil – Skimmers

Floating oil may be removed from the water surface using mechanized equipment known as skimmers. There are numerous types or categories of skimming devices, including weir, centrifugal, submersion plane, and oleophilic, described below. Weir skimmers use gravity to drain oil from the water surface into a submerged holding tank. Once in the holding tank, oil may

be pumped away to larger storage facilities.

Centrifugal (also vortex) skimmers create a water/oil whirlpool in which the heavier water forces oil to the center of the vortex. Once in the center, oil may be pumped away from the chamber within the skimmer.

Submersion plane skimmers use a belt or inclined plane to push the oil beneath the water surface and toward a collection well in the hull of the vessel. Oil is scraped from the surface or removed by gravity and then flows upward into a collection well, where it is subsequently removed with a pump.

Oleophilic (i.e., having an affinity for oil) skimmers may take on several forms (e.g., disc, drum, belt, rope, brush), but the general principle of oil collection remains the same: oil on the surface of the water adheres to a rotating oleophilic surface. Once oil has adhered to the surface, it may be scraped off into containers or pumped directly into large storage tanks.

Skimmers are placed at the oil/water interface to recover, or skim, oil from the water surface. Skimmers may be operated independently from shore, be mounted on vessels, or be completely self-propelled. To minimize the amount of water collected incidental to skimming oil, booming may be used in conjunction with skimming to concentrate the floating oil in a wedge at the back of the boom, which provides a thick layer of oil to the skimmer head.

In shallow water, hoses attached to vacuum pumps may be used instead of other skimming devices described earlier in this section. Oil may be removed from the water surface using circular hose heads (4 to 6 inches in diameter); however, this is likely to result in the intake of a large water-to-oil ratio and inefficient oil removal. Inefficient oil removal of this kind may also result in adverse effects to organisms in the surrounding water. Instead, flat head nozzles, sometimes known as “duckbills” are often attached to the suction end of the hose in order to maximize the contact between the oil and vacuum, minimizing the amount of water that is removed from the environment. Duckbills (very much like an attachment to a vacuum cleaner) are typically 18 inches or less in width and less than 2 inches in height. In other words, duckbills are relatively small and designed to maximize the amount of oil removed from the water surface relative to the volume of water removed. Vacuum hoses may also be attached to small, portable skimmer heads to recover oil they have collected. Adequate storage for recovered oil/water mixtures, as well as suitable transfer capability, must be available.

Recovery systems that use skimmers are often placed where oil naturally accumulates in pockets, pools, or eddies. Skimming can be used in all water environments (weather and visibility permitting) for most oils. The presence of large waves, strong currents, debris, seaweed, kelp, and viscous oils will reduce skimmer efficiency.

Best Management Practices for Removal of Floating Oil – Skimmers

- Adequate storage for recovered oil/water mixtures, as well as suitable transfer capability, must be available.
- Protect nearby sensitive areas from increased oil runoff/sheening or siltation by the

proper deployment of booms, siltation curtains, sorbents, etc.; monitor for effectiveness of protection measures.

- Minimize (ground, seafloor, riverbed, lakebed, etc.) disturbances.
- Keep all onshore equipment on hardened surfaces, if possible. Utilize existing hardened access paths and paved areas when approaching shorelines.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.
- Follow BMPs for booming, as appropriate.

9301.4.4 Decanting

Efforts are made to minimize the amount of water collected during skimming (as discussed above). However, in some cases it may be impossible to avoid collecting water in addition to oil, which can fill up storage facilities prematurely. To maximize temporary storage space during removal operations, decanting may be used to drain off excess water captured during skimming. Decanting is the process of draining off recovered water from portable tanks, internal tanks, collection wells, or other storage containers. The liquid in the tanks is allowed to sit for a sufficient period of time to permit oil to float to the top of the tanks. Water is then drained from the bottom of the tank (stopping in time to retain most of the oil). The water removed from the bottom of the tank is discharged back into the environment, usually in front of the skimmer or back into a boomed area. When decanting is conducted properly, minimal oil is discharged back into the environment. The decanting process is monitored visually to ensure prompt detection of oil discharges in decanted water and that water quality standards set forth in the Clean Water Act are not violated.

Decanting may be allowed because of storage limitations; however, it may not be permitted in all cases. In these cases, The Northwest Area Contingency Plan (NWACP) Decanting Policy (see Section 4621) addresses “incidental discharges” associated with oil spill response activities. Incidental discharges include, but are not limited to, the decanting of oily water, oil, and oily water returns associated with runoff from vessels and equipment operating in an oiled environment and the wash down of vessels, facilities, and equipment used in the response. Incidental discharges, as addressed by this policy, do not require additional permits and do not constitute a prohibited discharge. See 33 Code of Federal Regulations 153.301, 40 Code of Federal Regulations 300, Revised Code of Washington 90.56.320(1), Washington Administrative Code 173-201A-110, Oregon Revised Statutes 468b.305 (2)(b). However, the NWACP advises the Federal On-Scene Coordinator (FOSC) to consider and authorize the use of decanting on a case-by-case basis, after an evaluation of the environmental tradeoffs of allowing oil to remain in

the environment (because of storage limitations) or discharging decanted water. The response contractor or responsible party will seek approval from the FOSC and/or State On-scene Coordinator (SOSC) prior to decanting by presenting the Unified Command with a brief description of the area in which decanting approval is sought, the decanting process proposed, the prevailing conditions (wind, weather, etc.), and protective measures proposed. The FOSC and/or SOSC will review such requests promptly and render a decision as quickly as possible. FOSC authorization is required in all cases and, in addition, SOSC authorization is required for decanting activities in state waters. See Section 9411 of the NWACP for more information (Decanting Response Tool).

Best Management Practices for Decanting

- Decanting shall be monitored at all times, so that discharge of oil in the decanted water is promptly detected.
- Liquid waste management must be addressed in the disposal plan. Follow standard protocols for waste management actions. Coordinate the locations of any temporary waste staffing or storage sires with the EU.
- The response contractor and/or responsible party will seek approval from the FOSC and/or SOSC prior to decanting.
- Minimize the amount of water collected during skimming.
- Conduct decanting actions in the designated response area: within a collection area, vessel collection well, recovery belt, weir area, or directly in front of a recovery system. Deploy containment boom around the collection area, where feasible, to prevent loss of decanted oil or entrainment of species in recovery equipment.
- Decanting operations cannot be conducted from the shoreline.
- Keep all equipment on hardened surfaces, if possible. Utilize existing hardened access paths and paved areas when approaching shorelines.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.
- Follow BMPs for booming, as appropriate.

9301.4.5 In-Situ Burning

The objective of in-situ burning is to remove oil from the water surface or habitat by burning it in place, or in situ. Oil floating on the water surface is collected into slicks a minimum of 2 to 3 millimeters thick and ignited. The oil is typically collected in a fire-resistant boom that is towed through the spill zone by watercraft or collected by natural barriers such as the shore. Although in-situ burning may be used in any open water environment, the environment dictates the specific procedure employed in a given burn. For example, in offshore and nearshore marine environments, bays and estuaries, large lakes, and large rivers, boom may be towed at 1 knot or less during the burning process to maintain the proper oil concentration or thickness. In rivers and small streams, oil carried by currents may be collected and concentrated in a stationary boom attached to the shoreline or other permanent structures (e.g. pilings). In small lakes and ponds the

body of water may be too small or shallow to tow a boom, and there may not be any consistent current. In a process known as "herding," wind or mechanically generated currents may be used to collect and concentrate oil along the shoreline or in a stationary boom attached to the shoreline.

Once an oil slick is sufficiently thick, an external igniter is used to heat the oil, generating enough vapors above the surface of the oil to sustain a burn. It is these vapors, rather than the liquid oil on the water surface, that actually burn. When enough oil burns, to the point that the remaining oil layer is less than 1 to 2 millimeters thick, the fire goes out. The fire is extinguished at this oil thickness because the oil slick is no longer sufficiently thick to provide insulation from the cool water. This insulation is necessary to sustain the heat that produces the vapors, which are subsequently burned. The small quantity of burn residue remaining in the boom is then manually recovered for disposal.

In-situ burning generates a thick black smoke that contains primarily particulates, soot, and various gases (carbon dioxide, carbon monoxides, water vapor, nitrogen oxides, sulfur oxides, and polyaromatic hydrocarbons). The components of the smoke are similar to those of car exhaust. Of these smoke constituents, PM2.5 (particulate matter with a diameter of 2.5µm or less) is considered to pose the greatest risk to the health of humans and wildlife as it can be inhaled deep into the lungs and may enter the bloodstream. For this reason, the In-situ Burn Policy does not allow for pre-approval of in-situ burning within 3 miles of a population, defined as >100 people per square mile (see Chapter 4000, "Planning"). All other areas are considered on a case-by-case basis (see the NWACP In-Situ Burning Policy Map).

Decisions to burn or not to burn oil in areas considered case-by-case are made based on the potential for humans to be exposed to the smoke plume, and pollutants associated with it. A cap on exposure to PM2.5 has been set in the NWACP at 35 micrograms per cubic meter averaged over a 24-hour period which also corresponds to the EPA's NAAQS (see Section 4619.2.2 for more details). Smoke plume modeling is suggested to predict which areas might be adversely affected. In addition, in-situ burning responses require downwind air monitoring for pollutants. Aerial surveys are also conducted prior to initiating a burn to minimize the chance that concentrations of marine mammals, turtles, and birds are in the operational area and affected by the response. Special Monitoring for Advanced Response Technologies (SMART) protocols are used. They recommend that sampling be conducted for particulates at sensitive downwind sites prior to the burn (to gather background data) and after the burn has been initiated. Data on particulate levels are recorded and forwarded with recommendations to the Unified Command. Readers interested in learning more about SMART protocols can visit the following site: https://response.restoration.noaa.gov/oil-and-chemical-spills/oil- spills/resources/smart.html.

It is possible for as much as 95% of the oil contained in a boom to be burned, depending on the thickness of the initial layer of oil and whether it is possible to ignite the oil. Burning drastically reduces the requirement for waste storage and disposal. Weathered and emulsified oils that contain more than 50% water are extremely difficult to ignite. Therefore, it is important to make the decision to burn within 24–48 hours of the spill. The NWACP requires that trade-offs between the effects of the emissions produced from in-situ burning, such as polyaromatic hydrocarbons, and the contamination that may result from floating oil or oil that washes ashore,

are carefully weighed in making the decision to conduct an in-situ burn.

Consult the NWACP In-Situ Burning Operations Planning Tool when considering in-situ burning in a response.

Best Management Practices for In-Situ Burning

- Monitor for the presence of wildlife and plants.
- Minimize erosion and runoff using engineered controls (to the extent practicable).
- Prior to an in-situ burn, an on-site survey must be conducted to determine if any threatened or endangered species are present or at risk from burn operations, fire, or smoke. A Net Environmental Benefit Analysis would be conducted to evaluate the possible risk to species in the area of the in-situ burn and compare it to the risk of not using in-situ burning.
- Protection measures may include moving the location of oil (in water) to an area where listed species are not expected to be present; temporary employment of hazing techniques, if effective; and physical removal of individuals of listed species only under the authority of the trustee agency.
- Provisions must be made for mechanical collection of burn residue following any burn(s) (e.g., collection with nets, hand tools, or strainers).
- SMART will be used to measure efficacy. SMART is a standardized program designed to monitor chemical dispersion and in-situ burning activities.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for aircraft, as appropriate.
- Follow BMPs for wildlife, as appropriate.
- Follow BMPs for booming as appropriate.

9301.4.6 Chemical Dispersion of Floating Oil

The objective of chemical dispersion is to reduce the impact of an oil spill to sensitive shoreline habitats and animals that use the water surface by chemically dispersing oil into the water column. Dispersants are chemicals that reduce the oil-water interfacial tension, thereby decreasing the energy needed for the slick to break into small droplets and mix into the water column. Specially formulated products containing surface-active agents (surfactants) are sprayed (generally at concentrations of 2–5% by volume of the oil) from aircraft or boats onto the slick. Agitation from wind and waves is required to achieve dispersion. Depending on the level of energy, very small droplets of oil (10–100 microns in diameter) are mixed in the upper meter of the water column, creating a sub-surface plume. This plume of dispersed oil droplets rapidly (within hours) mixes and expands in three dimensions (horizontal spreading and vertical mixing) down to as much as 10 meters below the surface (Lewis et al. 1998; Lunel 1995; Lunel and Davies 1996; NRC 1989). As a result of this mixing, oil concentrations decrease rapidly from the initial peak concentrations, for example from 10 or 100 parts per million (ppm) down to 1 ppm or less, within hours to a day.

Dispersion of oil and actual measurements of dispersed oil concentrations have been conducted and studied in several field studies (Cormack and Nichols 1977; McAuliffe *et al.* 1980; McAuliffe *et al.* 1981; Lichtenthaler and Daling 1985; Brandvick *et al.* 1995; Walker and Lunel

1995; Coelho *et al.* 1995). Dispersed oil concentrations were generally between 1 and 4 ppm within 1 hour after application of the dispersant in all of these studies.

Dispersing oil changes the trajectory of the oil plume from onshore to along- shore, as dispersed oil is no longer transported by the wind. Therefore, oil dispersion may help protect sensitive shoreline environments, as wind usually is the dominant environmental factor that carries floating oil ashore to strand. Dispersants and dispersant applications are rarely 100% effective, however, so some oil will likely remain floating on the water surface.

Due to the relatively short window of opportunity in which oil may be dispersed effectively, the decision to use and deployment of this response technique are time-critical. In order to be used on a spill, a dispersant must be listed on the National Oil and Hazardous Substances Pollution Contingency Plan Product Schedule maintained by the United States Environmental Protection Agency (see Section 4610, "Dispersant Use Policy").

Dispersant use zones are shown on the NWACP Dispersant Policy Map. The NWACP describes the dispersant review and authorization process in Section 9406, Dispersant Authorization Process and Decision Support Tools.

Best Management Practices for Chemical Dispersion of Floating Oil

- Requires Regional Response Team approval prior to use unless in a Pre-Authorization Zone.
- The EU would prepare a Net Environmental Benefit Analysis to evaluate the potential risk to animals and habitats in the area compared to not using dispersants.
- Aircraft should spray while flying into the wind and avoid spraying into strong crosswinds.
- Monitor wildlife; establish species-specific buffer zone(s); use in water with adequate volume for dilution; apply only under conditions known to be successful; use only chemicals that are approved for use; implement wildlife deterrent techniques as needed.
- SMART will be used to measure efficacy. SMART is a standardized program designed to monitor chemical dispersion and in-situ burning activities.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for aircraft, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.4.7 Barriers, Berms, Culverts Blocks, and Underflow Dams

The objective of using barriers, berms, culvert blocks, and underflow dams is to prevent entry of oil into a sensitive area or to divert oil to a collection area. A physical barrier is placed across an area to prevent moving oil from passing. Oil may be removed using sorbent material (placed in the water where oil is trapped by the barrier), skimmers, or vacuums. Barriers can consist of earthen berms, filter fences, boards, or other solid barriers. Because of the time and labor required to construct berms, they are likely to be in place for one to five weeks, depending on the specific event, if the decision is made to implement this response.

This response is more likely to be implemented in shallow and small water bodies than deep ones. Earthen berms are fortified with sandbags or geotextile fabric (fabric or synthetic material that enhances water movement and retards soil movement) to minimize the amount of siltation that may result from the structure. Silt fences and settling ponds (or a series of them) are used to contain any suspended sediments that may be mobilized in the water while the berm is being constructed in place or being removed. In-stream barriers may be removed using manual or mechanical means, or both, depending on the accessibility of the site, the size of the structure and stream, and the sensitivity of the area to the use of heavy machinery.

If it is necessary for water to pass the barrier because of water flow volume or down-stream water needs, underflow dams (for low flow rates) can be used. Underflow dams contain oil with a solid barrier (e.g., boards, earthen berms) at the water level, while a submerged pipe (e.g., polyvinyl chloride or opening along the bottom of the barrier) allows some water to flow beneath and past the barrier. This strategy is used in small rivers, streams, and drainage ditches or at the entrances to shallow sloughs when the flow of oil threatens sensitive habitats. The importance of maintaining water quality and sufficient flow downstream of barriers is recognized (this response is often used to protect sensitive habitats that are located downstream of the barrier), so these features of affected habitats are monitored. This type of response activity may require permitting and will require coordination with the appropriate trustee agency. Contact the Environmental Unit (EU) to determine if any permits are required.

Best Management Practices for Barriers/Berms and Underflow Dams

- Line the bottom of trenches that do not reach the water table (dry) with plastic to prevent the collected oil from penetrating deeper into the substrate.
- Minimize suspension of sediment to limit effects on water quality.
- Minimize erosion and sediment runoff using engineered controls (e.g., silt fences and settling ponds).
- Coordinate with the Services prior to constructing underflow dams.
- Coordinate with the EU to ensure all necessary permits are in place before work starts.
- Minimize (ground, seafloor, riverbed, lakebed, etc.) disturbances.
- Keep all equipment on hardened surfaces, if possible. Utilize existing hardened access paths and paved areas when approaching shorelines.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.4.8 Submerged Aquatic Vegetation Cutting

The objective of vegetation cutting is to remove oil trapped in the canopy of kelp beds to prevent

the oiling of wildlife or remobilization of trapped oil. Thick layers of oil may adhere to kelp fronds or collect under the kelp canopy. This response option may be used in nearshore marine areas along the outer coasts and in northern Puget Sound. The upper 1 to 2 feet of the kelp canopy is cut away by hand (bull kelp) or with a mechanical kelp harvester (*Macrocystis*). The oiled kelp cuttings are collected for disposal. Trapped tar balls in the kelp are freed and can be manually collected or flushed to a collection site. Submerged aquatic vegetation cutting is used when a large quantity of oil is trapped in the kelp canopy and the oil poses a risk to sensitive wildlife using the kelp habitat or when the remobilization of oil to other adjacent sensitive environments is likely to occur. *Macrocystis* kelp plants grow very rapidly and continue to provide protective habitat to marine fishes and invertebrates. Other types of kelp (such as *Nereocystis* or bull kelp) may be more sensitive to cutting and removal. Bull kelp fronds comprise one layer, so cutting may result in loss of protective habitat for associated fishes and invertebrates. If the reproductive cycle is not taken into account, the kelp forest may not return the following spring. Consult resource experts in the EU regarding these concerns prior to vegetation cutting activities.

Best Management Practices for Submerged Aquatic Vegetation Cutting

- Do not cut, burn, or otherwise remove vegetation unless specifically approved by the EU.
- Kelp is a natural resource for many tribes. EU should include tribes in decision-making processes.
- Monitor operations to minimize the degree of root destruction and mixing of oil deeper into the sediment.
- For plants attached to rock boulders or cobble beaches, sources of population recruitment must be considered.
- Concentrate on removal of vegetation and wood material that is moderately to heavily oiled. Leave lightly oiled and clean vegetation and wood material in place.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.5 Shoreline Response Actions

Within this section, response methods have been consolidated based on similarity of (1) the habitats in which they are used (e.g., sand beaches, rocky shorelines); (2) the types of effects that may potentially result from them (e.g., increases in water temperature, siltation); and (3) the overall activities associated with each (e.g., boat activity, use of machinery). Each type of response is described below.

9301.5.1 Removal of Surface Oil

The objective of this response method is to remove stranded oil on the shoreline while removing a minimum amount of sediment. Collected oil is placed in bags or containers and removed from the shoreline. No mechanized machinery is used, with the possible exception of all terrain vehicles (ATVs) that may be used to transport containers of collected oil to a staging area for retrieval. ATVs are generally used on sand beaches and restricted to transiting outside of the oiled areas

along the upper part of the beach, unless plover nesting areas are present.

The techniques used in the removal of surface oil can be used on most shoreline types, but they are most effective on sand or gravel beaches. Generally, removal of surface oil is not recommended on soft mud substrates where mixing oil deeper into the sediment might occur, unless this activity can take place from a boat when the substrate is under water. It is most appropriate for light to moderate oiling by medium to heavy oils. Light oils such as gasoline and diesel rapidly evaporate, spread out to very thin layers, and are not easily picked up. Removal of surface oil is not recommended for mud flats because of the potential for mixing the oil down into the soft sediments. For similar reasons, removal of surface oil is typically only used along the edges of sheltered, vegetated, low riverbanks and marshes, and must be closely monitored.

Best Management Practices for the Removal of Surface Oil

- Removal of surface oil may be performed on all shoreline types, with the exception of tidal flats; not recommended for these shorelines because of the likelihood of mixing oil deeper into the sediments.
- Cleanup should commence after the majority of oil has come ashore, unless significant burial (on sand beaches) or remobilization is expected; minimize burial and/or remobilization by conducting cleanup between tidal cycles. Consult with the EU before starting cleanup activities.
- Minimize the amount of sediment removed with the oil.
- Separate and segregate any contaminated wastes generated to optimize waste management/disposal and minimize what has to be sent to hazardous waste sites.
- Establish temporary upland collection sites for oiled waste materials for large spill events; collection sites should be appropriately lined and surrounded by berms to prevent secondary contamination from run-off.
- Keep all equipment on hardened surfaces, if possible. Utilize existing hardened access paths and paved areas when approaching shorelines.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

There are three primary methods used to remove surface oil during a response: (1) manual removal of oil, (2) passive collection of oil (sorbents), and (3) vacuum removal of oil. A brief description of each variation follows.

9301.5.1.1 Manual Removal of Oil

Using the manual method, surface oil is removed by using tools such as hand rakes, shovels, and

other manual means. Collected oil is placed in bags or containers and removed from the shoreline. This variation of the response can be used on most shoreline types except for tidal flats, where the threat of mixing oil deeper into sediments as a result of foot traffic is typically greater than the benefits gained through use of this method. Manual removal of oil is recommended for use on sheltered rocky shorelines and man-made structures and on sheltered rubble slopes. It is conditionally recommended on exposed rocky shorelines, sand beaches, gravel beaches, sheltered vegetated low banks, and marshes.

Best Management Practices for Manual Removal of Oil

- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- Do not remove clean, natural shoreline debris. Instead, move large accumulations of clean wrack and debris above the high-water line to prevent it from becoming contaminated. Consult with EU on the potential replacement of non-oiled shoreline wrack to the shoreface to provide habitat and forage after the threat of oiling has passed.
- Consult the EU before large woody material is moved. Large woody material is wood greater than four inches in diameter and over six feet long. Permits may be required before woody material is moved. Caution must be practiced when working around large woody material where they may be moved by incoming waves or tides.
- Minimize the amount of sediment removed with the oil. Sediments should be removed only to the depth of oil penetration.
- Keep all equipment on hardened surfaces, if possible. Utilize existing hardened access paths and paved areas when approaching shorelines.
- If cultural resources are known or suspected to be in the area use natural anchors (tie off boom to trees or boulders), rather than driving anchor points into the shoreside.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPS for wildlife, as appropriate.

9301.5.1.2 Passive Collection of Oil (Sorbents)

Passive collection of oil allows for oil adsorption onto oleophilic material placed in the intertidal zone or along the riverbank. Sorbent material is placed on the surface of the shoreline substrate, allowing it to adsorb oil as it is released by tidal or wave action. The sorbents most typically used for medium to heavy oils are snares (shaped like cheerleader pompoms) or sorbent sweep made of oleophilic material. Snares are attached at 18-inch intervals along a rope that can be tied, anchored, or staked along the intertidal shoreline. As the snares are moved about by tidal or wave action, they also help remobilize oil by rubbing across sediment and/or rock surfaces. Snare lines are monitored regularly for their effectiveness at picking up oil and to collect and replace oiled sorbents with new material. This method is often used as a secondary treatment method after

gross oil removal and along sensitive shorelines where access is restricted. Passive collection with sorbents can also be used in conjunction with other techniques (e.g., flushing, booming) to collect floating oil for recovery. Passive collection of oil using sorbents is recommended for sand beaches, gravel beaches, sheltered rocky shores and man-made structures, sheltered rubble slopes, sheltered vegetated low banks, and marshes. It is conditionally recommended on exposed rocky shores and on tidal flats.

Best Management Practices for Passive Collection of Oil

- Passive collection of oil using sorbent material may be used on all shoreline types but is most useful with light to moderate oiling.
- Retrieval of sorbent material, and at least daily monitoring to check that sorbents are not adversely affecting wildlife or breaking apart, are mandatory.
- Continually monitor and collect passive sorbent material deployed in the intertidal zone to prevent it from entering the environment as non- degradable, oily debris.
- Monitor passive absorbents placed in the mid- or lower intertidal zone for potential entrapment of small crustaceans; coordinate with the EU for corrective actions if entrapment is observed.
- Keep all equipment on hardened surfaces, if possible. Utilize existing hardened access paths and paved areas when approaching shorelines.
- If cultural resources are known or suspected to be in the area use natural anchors (tie off boom to trees or boulders), rather than driving anchor points into the shoreside.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for the use of sorbents, as appropriate.
- Follow BMPs for booming, as appropriate.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.5.1.3 Vacuum Removal of Oil

The objective of vacuum removal is to remove free oil that has pooled on the substrate. This method entails the use of a vacuum unit with a suction head to recover free oil. Equipment can range in size from small portable units that fill individual 55-gallon drums to large vacuum trucks (aka “supersuckers”) that are truck-mounted and have the capacity to lift large rocks. Vacuum trucks are primarily used when circumstances (e.g., the length or number of hoses used) require greater suction capacity. This system can also be used with water spray systems to flush the oil towards the suction head. Booming and associated equipment are often used to contain and direct oil to vacuum removal systems. This response variation is used when free, liquid oil is stranded on the shoreline (usually along the high-tide line) or trapped in vegetation that is readily accessible. Vacuum removal of oil is not recommended on any shoreline habitat. It is

conditionally recommended on exposed rocky shores, sand beaches, gravel beaches, sheltered rocky shores and man-made structures, sheltered rubble slopes, sheltered vegetated low banks, and marshes.

Vacuum removal of oil is not the preferred method in culturally sensitive areas.

Best Management Practices for Vacuum Removal of Oil

- Vacuum removal of oil may be used on any shoreline type where liquid oil has pooled, with the exception of tidal flats; not recommended for these shorelines because of poor access and potential for mixing oil deeper into the sediments.
- Closely monitor vacuum operations in wetlands; site specific restrictions may be required to minimize the impact to marsh plant root system, which could lead to erosion.
- Keep all equipment on hardened surfaces, if possible. Utilize existing hardened access paths and paved areas when approaching shorelines.
- If cultural resources are known or suspected to be in the area use natural anchors (tie off boom to trees or boulders), rather than driving anchor points into the shoreside).
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.
- Follow BMPs for booming, as appropriate.

9301.5.2 Oiled Debris Removal

The objective of this response is the removal of oiled debris (organic and man- made) from the shoreline. Debris (e.g., seaweed, trash and logs) is removed when it becomes heavily contaminated and when it is either a potential source of chronic oil release, an aesthetic problem, or a source of contamination for organisms on the shoreline. If time and resources permit, unoiled, man-made debris (e.g., trash, mooring lines, etc.) may be removed or placed above the high tide line prior to oil reaching a shoreline (based on oil spill trajectory) in order to minimize the amount of oiled debris generated by the spill. Oiled debris removal is recommended for sand beaches, gravel beaches, sheltered rocky shores and man-made structures, and sheltered rubble slopes. It is conditionally recommended on exposed rocky shores, tidal flats, sheltered vegetated low banks, and marshes.

Best Management Practices for Oiled Debris Removal

- Removal of oily debris may be used on all shoreline types; removal of oily debris from shorelines with soft mud substrates (mudflats, marshes) is usually restricted to debris stranded at the high tide line where debris can be recovered without grinding

oil into the substrate.
- Minimize foot traffic through oiled areas on non-solid substrates (sand, gravel, dirt, etc.) to reduce the likelihood that oil will be worked into the sediment.
- Minimize quantity of oiled vegetative debris removed by concentrating on debris that is moderately to heavily oiled; leave lightly oiled and clean stranded seaweed and wood material in place to provide habitat for small invertebrates and to help stabilize shoreline.
- Consult the EU before large woody material is moved. Large woody material is wood greater than four inches in diameter and over six feet long. Permits may be required before woody material is moved.
- Restrict foot traffic over sensitive areas (shellfish beds, salmon redds, algal mats, bird nesting areas, dunes, etc.) to reduce the potential for mechanical damage.
- Shoreline access to specific areas may be restricted for periods of time to minimize the impact of human presence/excessive noise on nearby sensitive biological populations (bird nesting, marine mammal pupping, breeding, fish spawning, etc.).
- Separate and segregate any contaminated wastes generated to optimize waste management/disposal and minimize what must be sent to hazardous waste sites.
- Establish temporary upland collection sites for oiled waste materials for large spill events; collection sites should be lined with asphalt pad and surrounded by berms to prevent secondary contamination from run-off.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.5.3 Mechanical Removal of Surface Oil and Contaminated Sediments

Mechanical removal with heavy equipment (e.g. bulldozers, backhoes, etc.) is usually implemented when the spill area or debris size exceeds the capacity of manual removal. Heavy equipment is typically used in sand, gravel, or cobble, where surface sediments are amendable to and accessible by heavy equipment.

Dredging of sediments is rare. Typically, it is only considered for sinking oils. Sediment reworking may be used on gravel beaches with high erosion rates or low sediment replenishment rates. It is also considered where the remoteness of the location or other logistical limitations make sediment removal unfeasible.

Best Management Practices for the Mechanical Removal of Surface Oil and Contaminated Sediments

- Implement after the majority of oil has come ashore, unless significant burial (sand beaches) or remobilization is expected; implement between tidal cycles to minimize burial and/or remobilization of oil.
- Protect nearby sensitive areas from increased oil runoff/sheening or siltation by the proper deployment of booms, siltation curtains, sorbents, etc.; monitor for

effectiveness of protection measures.

- Minimize the amount of oiled sediment removed by closely monitoring mechanical equipment operations.
- In areas prone to erosion, replace removed sediment or soil with clean sediment.
- Minimize erosion and runoff using engineered controls.
- Monitor for the presence of special status animals and plants.
- Keep all equipment on hardened surfaces, if possible. Utilize existing hardened access paths and paved areas when approaching shorelines.
- If cultural resources are known or suspected to be in the area use natural anchors (tie off boom to trees or boulders), rather than driving anchor points into the shoreside.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.5.4 Trenching/Recovery Wells

The objective of trenching or the use of recovery wells is to remove subsurface oil from permeable substrates. Trenches or wells are dug down to the depth of the oil (or water table) to intercept oil migrating through the substrate. The oil collected in the trench or well is then recovered by vacuum pump or skimmer and disposed of offsite. The oil must be liquid enough to flow at ambient temperatures. Water flooding or flushing the substrate can be used to speed up oil migration into the trench or well. If the trench or well is not deep enough to reach the water table, the bottom must be lined with plastic to prevent oil penetration deeper into the sediment. Trenches are not dug in the lower portions of the beach where attached plants and organisms may be abundant.

Trenching and recovery wells are conditionally recommended for sand beaches, gravel beaches (pebble- to cobble-size substrate), and sheltered vegetated low banks.

Best Management Practices for Trenching and the Use of Recovery Wells

- Trenching and recovery wells may be used on sand and gravel shorelines with grain sizes ranging from fine sand to pebble-size gravel.
- Line the bottom of trenches that do not reach the water table (dry) with plastic to prevent the collected oil from penetrating deeper into the substrate.
- Restrict trenches from the lower intertidal zone where attached algae and organisms are abundant.
- Collapse or fill in trenches/well when response action is completed; ensure that sides and bottom of trenches are clean before collapsing.
- Minimize foot traffic through oiled areas on non-solid substrates (sand, gravel, dirt,

etc.) to reduce the likelihood that oil will be worked into the sediment.
- Restrict foot traffic over sensitive areas (shellfish beds, salmon redds, algal mats, bird nesting areas, dunes, etc.) to reduce the potential for mechanical damage.
- Shoreline access to specific areas may be restricted for periods of time to minimize the impact of human presence/excessive noise on nearby sensitive biological populations (bird nesting, marine mammal pupping, breeding, fish spawning, etc.).
- Separate and segregate any contaminated wastes generated to optimize waste management/disposal and minimize what must be sent to hazardous waste sites.
- Establish temporary upland collection sites for oiled waste materials for large spill events; collection sites should be lined with asphalt pad and surrounded by berms to prevent secondary contamination from run-off.
- Remove structures and fill trenches once response action is completed.
- Coordinate with the Services prior to constructing underflow dams
- Underflow dams require an HPA in Washington. In Oregon emergency removal/fill authorizations or permits may be required by the Division of State Lands.
- Keep all equipment on hardened surfaces, if possible. Utilize existing hardened access paths and paved areas when approaching shorelines.
- If cultural resources are known or suspected to be in the area use natural anchors (tie off boom to trees or boulders), rather than driving anchor points into the shoreside.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.5.5 Removal of Oiled Sediment

In this method, oiled sediment is removed by either use of hand tools or use of various kinds of motorized equipment. Oiled sediment removal is restricted to the supratidal and upper intertidal areas to minimize disturbance of biological communities in the lower intertidal and subtidal zones. After removal, oiled sediments are transported and disposed of offsite. New sediments are not typically transported to replace those that were removed; however, a variation of this response that includes sediment replacement (described below) is used for beaches with low natural replenishment rates or high rates of erosion. This method of cleanup is most effective when there is a limited amount of oiled sediment that must be removed. Close monitoring is required so that the quantity of sediment removed, siltation, and the likelihood of erosion may be minimized in all cases. Such operations are generally restricted in fish spawning areas. Sensitive areas that are adjacent, and may be potentially affected by released oil sheens, must also be protected.

It should be noted that oiled sediment removal (and removal of adjacent sediment) may be used along riverbanks or other upland areas to prevent oil from leaching into the adjacent aquatic

environment. For example, this technique may be necessary when a tanker truck or rail car overturns and spills oil in an upland area adjacent to a stream. As a primary response, the source of the oil in the environment, including the sediment and/or adjacent soil into which it was spilled, is removed before it has a chance to remobilize into nearby water. The tools used to remove source sediment and/or adjacent soil vary with the scale of the spill and the accessibility of the site; however, both manual and mechanized removal tools are used regularly. In areas that are prone to erosion, contaminated sediment and/or soil that is removed is typically replaced with clean sediment.

Typically, oiled sediment removal is conditionally recommended for sand beaches, gravel beaches, sheltered rubble slopes, and sheltered vegetated low banks.

Best Management Practices for the Removal of Oiled Sediment

- Oiled sediment removal (without replacement) is used primarily on sand beaches not subject to high rates of erosion; small quantities of oiled sediment removal may be permitted on gravel beaches (pebble- to cobble- size gravel or riprap) and sheltered vegetated stream banks.
- Cleanup should commence after the majority of oil has come ashore, unless significant burial (sand beaches) or remobilization is expected; minimize burial and/or remobilization by conducting cleanup between tidal cycles.
- Consult with the EU when planning for the removal of oiled sediment.
- Restrict sediment removal to supra and upper intertidal zones (or above waterline on stream banks) to minimize disturbance of biological communities in lower intertidal and subtidal zones.
- Take appropriate actions to protect nearby sensitive environments (salmon spawning streams, shellfish bed, nursery areas) from the effects of increased oil runoff/sheening or siltation by the proper deployment of booms, siltation curtains, sorbents, etc.; monitor for effectiveness of protection measures.
- Minimize the amount of oiled sediment removed by closely monitoring mechanical equipment operations.
- Minimize erosion and runoff using engineered controls.
- Coordinate the locations of any temporary oiled sediment staging or storage sites near the shoreline with the EU.
- Minimize vehicle traffic through oiled areas to reduce the likelihood that oil will be worked into the sediment and contamination carried offsite by cleanup equipment.
- Restrict foot or vehicular traffic over sensitive areas (shellfish beds, salmon redds, algal mats, bird nesting areas, dunes, etc.) to reduce the potential for mechanical damage.
- Monitor for the presence of special status animals and plants
- Shoreline access to specific areas may be restricted for periods of time to minimize the impact of human presence/excessive noise on nearby sensitive biological populations (bird nesting, marine mammal pupping, breeding, fish spawning, etc.).
- Separate and segregate any contaminated wastes generated to optimize waste management/disposal and minimize what has to be sent to hazardous waste sites.
- Establish temporary upland collection sites for oiled waste materials for large spill

events; collection sites should be lined with asphalt pad and surrounded by berms to prevent secondary contamination from run-off.

- Keep all equipment on hardened surfaces, if possible. Utilize existing hardened access paths and paved areas when approaching shorelines.
- If cultural resources are known or suspected to be in the area use natural anchors (tie off boom to trees or boulders), rather than driving anchor points into the shoreside.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- An HPA may be required in Washington. In Oregon emergency removal/fill authorizations or permits may be required by the Division of State Lands.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for staging area establishment and use.
- Follow BMPs for wildlife, as appropriate.

9301.5.5.1 Oiled Sediment Reworking

The objective of this variation of oiled sediment removal is to re-work oiled sediments to break up oil deposits, increase surface area, and mix oxygen into deep subsurface oil layers; this activity exposes the oil to natural removal processes and enhances the rate of oil degradation. Oiled sediment is not removed from the beach. Instead, beach sediments are rototilled or otherwise mechanically mixed with the use of heavy equipment. The oiled sediments in the upper beach area may also be relocated to the mid-tidal portion of the beach. Relocation enhances natural cleanup during reworking by wave activity. This procedure is also known as surf washing, or berm relocation. Generally, sediment reworking is used on sand or gravel beaches where high erosion rates or low natural sediment replenishment rates are issues. Sediment reworking may also be used where remoteness or other logistical limitations make sediment removal unfeasible. Sediment reworking is not used on beaches near shellfish harvest or fish spawning areas because of the potential for release of oil or oiled sediments into these sensitive habitats. Sediment reworking is conditionally recommended for sand beach and gravel beach habitats.

Best Management Practices for Oiled Sediment Reworking

- Oiled sediment reworking (rototilling) breaks up oil crusts or aerates light surface oiling; used primarily on sand or mixed sand and gravel beaches, especially those prone to erosion.
- Berm relocation or surf washing may be used on sand, mixed sand and gravel, or gravel (pebble- to cobble-size) beaches exposed to at least moderate wave energy.
- Restrict rototilling to mid- and upper-intertidal zones to minimize disturbance of biological communities in lower intertidal and subtidal zones.
- Restrict berm relocation/surf washing in vicinity of sensitive environments (salmon spawning streams, shellfish bed, nursery areas, etc.) to prevent adverse effects from increased oil runoff/sheening or siltation.

- Keep all equipment on hardened surfaces, if possible. Utilize existing hardened access paths and paved areas when approaching shorelines.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- An HPA may be required in Washington. In Oregon emergency removal/fill authorizations or permits may be required by the Division of State Lands.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for staging area establishment and use.
- Follow BMPs for wildlife, as appropriate.

9301.5.5.2 Oiled Sediment Removal with Replacement

The objective of this response variation is to remove oiled sediment and replace it with cleaned or new material. Oiled sediments are excavated using heavy equipment on the beach at low tide. After removal of the oiled sediment, new clean sediment of similar composition is brought in for replacement. The oiled sediment may also be cleaned and then replaced on the beach. The sediments are loaded into a container for washing. Cleansing methods include a hot water wash or physical agitation with a cleaning solution. After the cleansing process, the rinsed materials are returned to the original area. Cleaning equipment must be placed close to beaches to reduce transportation problems. This variation is conditionally recommended on sand beaches, gravel beaches, and sheltered rubble slopes, although the beaches must be exposed to wave activity so the replaced sediments can be re-worked into a natural distribution.

Best Management Practices for Oiled Sediment Removal and Replacement

- Oiled sediment removal (with replacement) is used primarily on sand, mixed sand and gravel, gravel, and vegetated stream bank shorelines subjected to high rates of erosion.
- Restrict sediment removal and replacement to supra and upper intertidal zones (or above waterline on stream banks) to minimize disturbance of biological communities in lower intertidal and subtidal zones.
- Take appropriate actions to protect nearby sensitive environments (salmon spawning streams, shellfish bed, nursery areas) from the effects of increased oil runoff/sheening or siltation by the proper deployment of booms, siltation curtains, sorbents, etc.; monitor for effectiveness of protection measures.
- Coordinate the locations of any temporary oiled sediment staging or storage sites near the shoreline with the EU.
- Keep all equipment on hardened surfaces, if possible. Utilize existing hardened access paths and paved areas when approaching shorelines.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like.

When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.

- An HPA may be required in Washington. In Oregon emergency removal/fill authorizations or permits may be required by the Division of State Lands.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for staging area establishment and use.
- Follow BMPs for wildlife, as appropriate.

9301.5.6 Flushing with Ambient (Temperature, Salinity) Water

The objective of ambient water flushing is to remobilize oil stranded on surface substrate, as well as oil from crevices and rock interstices, to the water's edge for collection. Water is pumped from hoses onto an oiled beach, beginning above the highest level where the oil is stranded and slowly working down to the water level. The flow of water remobilizes oil stranded on the surface sediments and flushes it down to the water's edge. The remobilized oil is contained by boom and recovered for disposal. Increased water pressure may be needed to assist in the remobilization as the oil weathers and begins to harden on the substrate. Because of the potential for higher pressures to cause siltation and physical disruption of the softer substrates, flushing with higher pressures is restricted to rock or hard man-made substrates.

Intake and outflow hoses may range from 2 to 4 inches in diameter and, depending on the pump used, pump between 200 and 400 gallons of water per minute. Intake hoses are fitted with screens to minimize the extraction of debris, flora, and fauna. The pump intake must be screened with material that has openings no larger than: 5/64 inch (for square holes), measured side to side OR 3/32-inch diameter (for round holes). In addition, the screen must have at least one square inch of functional screen area for every gallon per minute (gpm) of rated pump capacity. For example, a 100 gpm-rated pump would require at least a 100 square inch screen. Intake hoses are propped off the bottom using rebar in about 3 feet of water to further minimize the amount of sediment and debris, and the number of organisms, taken into the hose and pump.

Best Management Practices for Ambient Water Flushing

- Cleanup should commence after the majority of oil has come ashore, unless significant burial (sand beaches) or remobilization is expected; minimize burial and/or remobilization by conducting cleanup between tidal cycles.
- Consult the EU when planning any ambient water flushing operations.
- Protect sensitive nearby environments (salmon spawning streams, shellfish bed, submerged aquatic vegetation, nursery areas, etc.) from the effects of increased oil runoff by the proper deployment of booms, sorbents, etc.; monitor for effectiveness of protection measures.
- Restrict foot or vehicular traffic over sensitive areas (shellfish beds, salmon redds, algal mats, bird nesting areas, dunes, etc.) to reduce the potential for mechanical damage.
- Shoreline access to specific areas may be restricted for periods of time to minimize

the impact of human presence/excessive noise on nearby sensitive biological populations (bird nesting, marine mammal pupping, breeding, fish spawning, etc.).
- An HPA may be required in Washington. In Oregon, pumping from Waters of the State may require emergency authorization with the Oregon Water Resources Division.Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for staging area establishment and use.
- Follow BMPs for wildlife, as appropriate.

9301.5.6.1 Ambient Water Flooding (Deluge)

The objective of this variation of ambient water flushing is to mobilize stranded oil from rock crevices and interstices. Ambient water is pumped through a header pipe at low pressure above and inshore from the fouled area of shoreline. The pipe is meant to create a sheet of water that simulates tidal washing over the affected area. Removing stranded oil may be particularly important when a more sensitive habitat is nearby and in danger of becoming fouled with oil after the intertidal zone is washed over the next tidal cycle, remobilizing oil. The effects of flooding may also be desired when a spring tide has deposited oil above the normal high water mark or when the wave energy of the adjacent water is not great enough to sufficiently wash the affected area over the following tidal cycle. After oil has been loosened from the substrate, it is collected and removed using a variety of mechanical, manual and passive methods. Ambient water flooding is recommended for use on gravel beaches. Ambient water flooding is conditionally recommended for sand beaches, sheltered rocky shorelines and man-made structures, sheltered rubble slopes, sheltered vegetated low banks, and marshes.

Best Management Practices for Ambient Water Flooding (Deluge)

- Ambient water flooding (deluge) could be used on all shoreline types, with the exception of fine- to coarse-grained sand beaches. Use in this habitat could mobilize contaminated sediment into the environmentally sensitive subtidal zone or cause excessive siltation.
- Closely monitor flooding of shorelines with fine sediments (mixed sand and gravel, sheltered rubble, sheltered vegetative banks, marshes) to minimize excessive siltation or mobilization of contaminated sediments into the subtidal zone.
- Ambient water flooding is not generally useful on exposed rocky shorelines or submerged tidal flats because these areas are naturally well flooded.
- Use the lowest pressure that is effective and prevent suspension of bottom sediments (do not create a muddy plume).
- An HPA may be required in Washington. In Oregon, pumping from Waters of the State may require emergency authorization with the Oregon Water Resources Division.Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for staging area establishment and use.

- Follow BMPs for wildlife, as appropriate.

9301.5.6.2 Ambient Water, Low-Pressure Flushing

The objective of this variation of ambient water flushing is to mobilize liquid oil that has adhered to the substrate or man-made structures, pooled on the surface, or become trapped in vegetation to the water's edge for collection. Low-pressure washing (<50 pounds per square inch) with ambient seawater sprayed through hoses is used to flush oil to the water's edge for pickup. Oil is trapped by booms and picked up with skimmers or sorbents. This variation may also be used in concert with ambient water flooding, which helps move the oil without the potential effects associated with higher water pressures. Low-pressure flushing is conditionally recommended for exposed rocky shores, sand beaches with coarser sediments (mixed sand and gravel), gravel beaches, sheltered rocky shorelines and man-made structures, sheltered rubble slopes, sheltered vegetated low banks and marshes.

Best Management Practices for Ambient Water, Low-pressure Flushing

- Ambient water, low-pressure flushing could be used on all shoreline types with the exception of sand beaches (fine- to coarse-grained) and mud flats (exposed or sheltered).
- In marshes conduct flushing at high tide, either from boats or from the high-tide line to prevent foot traffic in vegetation.
- Conduct all flushing adjacent to marshes from boats.
- Flushing on exposed rocky shorelines may be hazardous to response personnel; ensure presence of adequate safeguards and monitoring to ensure personnel safety.
- Prevent pushing or mixing oil deeper into the sediment by not directing the stream of water directly into the oil; direct hoses to place the stream of water above or behind the surface oil to create a sheet of water to re- mobilize and carry oil down the beach to a containment area for recovery.
- Closely monitor flushing of shorelines with fine sediments (mixed sand and gravel, sheltered rubble, sheltered vegetative banks, marshes) to minimize excessive siltation or contaminated sediments mobilization into the subtidal zone.
- Restrict flushing in marshes from boats or on shore above the high tide line during high tide to minimize mixing oil into the sediments or mechanically damaging the marsh plants.
- Use the lowest pressure that is effective and prevent suspension of bottom sediments (do not create a muddy plume).
- An HPA may be required in Washington. In Oregon, pumping from Waters of the State may require emergency authorization with the Oregon Water Resources Division.Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.5.6.3 Ambient Water, High-Pressure Flushing

The objective of this variation of ambient water flushing is to mobilize oil that has adhered to hard substrates or man-made structures to the water's edge for collection. It is similar to low-pressure washing except the water pressure may reach 100+ pounds per square inch, and it can be used to flush floating oil or loose oil out of tide pools and between crevices on riprap. Compared to the lower pressure spray, high-pressure spray will more effectively remove oil that has adhered to rocks. Because water volumes are typically low, this response method may require the placement of sorbents directly below the treatment area or the use of a deluge to carry oil to the water's edge for collection. High-pressure flushing is conditionally recommended for exposed rocky shores, gravel beaches, particularly those consisting of cobble- and boulder-size rocks, and riprap, sheltered rocky shorelines and man-made structures, and sheltered rubble slopes.

Best Management Practices for Ambient Water, High-pressure Flushing

- Ambient water, high-pressure flushing may be used on rocky (exposed and sheltered) and riprap shorelines.
- Flushing on exposed rocky shorelines may be hazardous to response personnel; ensure the presence of adequate safeguards and monitoring to ensure personnel safety.
- Prevent pushing or mixing oil deeper into the riprap by not directing the stream of water directly into the oil; direct hoses to place the stream of water above or behind the surface oil to create a sheet of water to re- mobilize and carry oil down to a containment area for recovery.
- If small volumes of high-pressure water are used to remobilize weathered oil from rocky surface, include larger volume of low-pressure water to help carry remobilized oil into containment area for recovery.
- Implement after the majority of oil has come ashore.
- Restrict use to certain tidal elevations so that the oil/water effluent does not drain across sensitive low-tide habitat. Closely monitor operations in sensitive habitats and report impacts to the EU.
- Monitor booms and oil collection methods to prevent transport of oil and oiled sediment away from site to near shores and down coast. Monitor wildlife such as birds and mammals. Evaluate the need for hazing and/or buffer zones between nesting areas, aquatic vegetation, spawning areas, etc.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- An HPA may be required in Washington. In Oregon, pumping from Waters of the State may require emergency authorization with the Oregon Water Resources Division.Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.5.7 Warm Water, Moderate-Pressure Washing

The objective of warm water, moderate-pressure washing is to mobilize thick and weathered oil that has adhered to rock surfaces, prior to flushing it to the water's edge for collection. Seawater is heated (typically between the ambient temperature and 90 degrees Fahrenheit [°F]) and applied at moderate pressure to mobilize weathered oil that has adhered to rocks. If the warm water is not sufficient to flush the oil down the beach, flooding, or additional low- or high- pressure washing may be used to float the oil to the water's edge for pickup. Oil is then trapped by boom and may be picked up with skimmers or sorbents.

Warm water, moderate-pressure washing is conditionally recommended for exposed rocky shores, gravel beaches (including riprap), and sheltered rocky shorelines and man-made structures. One variation of the response exists: hot water, moderate-pressure washing (described below).

Best Management Practices for Warm Water, Moderate-pressure Washing

- Warm water, moderate-pressure flushing may be used on heavily oiled gravel beaches, riprap, and hard, vertical, manmade structures such as seawalls, bulkheads, and docks.
- Restrict use to certain tidal elevations so that the oil/water effluent does not drain across sensitive low-tide habitats (damage can result from exposure to oil, oiled sediments, and hot water).
- Closely monitor operations in sensitive habitats and report observations to the EU.
- Flushing on exposed, rocky shorelines may be hazardous to response personnel; ensure the presence of adequate safeguards and monitoring to ensure personnel safety.
- If small volumes of warm water are used to remobilize weathered oil from rocky surface, include larger volume of ambient water at low pressure to help carry re-mobilized oil into containment area for recovery.
- Cleanup should commence after the majority of oil has come ashore. Consult the EU before starting flushing activities.
- Protect nearby sensitive environments (salmon spawning streams, shellfish bed, submerged aquatic vegetation, nursery areas, etc.) from the effects of increased oil runoff by the proper deployment of booms, sorbents, etc.; monitor for effectiveness of protection measures.
- Monitor booms and oil collection methods to prevent transport of oil and oiled sediment away from the site to near shores and down coast.
- Restrict foot traffic over sensitive areas (shellfish beds, salmon redds, algal mats, bird nesting areas, dunes, etc.) to reduce the potential for mechanical damage.
- Shoreline access to specific areas may be restricted for periods of time to minimize the impact of human presence/excessive noise on nearby sensitive biological populations (bird nesting, marine mammal pupping, breeding, fish spawning, etc.).
- An HPA may be required in Washington. In Oregon, pumping from Waters of the State may require emergency authorization with the Oregon Water Resources Division.
- Follow appropriate cleaning and waste disposal protocols and regulations.

- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.5.8 Hot Water Moderate-Pressure Washing

The objective of this variation of warm water, moderate-pressure washing is to dislodge and mobilize trapped and weathered oil from inaccessible locations and surfaces not amenable to mechanical removal, prior to flushing oil to water's edge for collection. Water heaters are mounted on offshore barges or on small land- based units. The water is heated to temperatures from 90°F to 170°F, which is usually sprayed in small volumes by hand using moderate-pressure wands. Used without water flooding, this procedure requires immediate use of vacuums (vacuum trucks or super suckers) to remove the oil/water runoff. With a deluge system, the oil is flushed to the water's edge for collection with skimmers or sorbents. This response is generally used when the oil has weathered to the point that even warm water at high pressure is ineffective for the removal of adhered oil, which must be removed due to the threat of continued release of oil or for aesthetic reasons. Hot water washing is conditionally recommended for exposed rocky shores, gravel beaches (specifically riprap), and sheltered rocky shorelines and man-made structures

Best Management Practices for Hot Water, Moderate-pressure Washing

- Hot water, moderate-pressure flushing is used only on heavily oiled hard, man-made structures such as seawalls, bulkheads, docks, and riprap, primarily for aesthetic purposes.
- Restrict use to certain tidal elevations so that the oil/water effluent does not drain across sensitive low-tide habitats (damage can result from exposure to oil, oiled sediments, and hot water).
- If small volumes of hot water are used to remobilize weathered oil from rocky surface, remobilized oil must be recovered using sorbent material at the base of the structure; or a second stream with ambient water can be used to flush the remobilized oil to the water's edge for recovery.
- Cleanup should commence after the majority of oil has come ashore. Consult the EU before starting flushing activities.
- An HPA may be required in Washington. In Oregon, pumping from Waters of the State may require emergency authorization with the Oregon Water Resources Division.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.5.9 Vegetation Cutting

The objective of vegetation cutting is the removal of oiled vegetation attached to the shoreline to prevent the oiling of wildlife or remobilization of trapped oil. Thick layers of oil may adhere to

plant leaves or pool on the substrate under a layer of overlapping plant leaves. The upper parts of the oiled plant are cut away using hand tools or "weed eater" type power tools. The oiled plant cuttings are raked up and removed for disposal. Any remaining oil pooled around the roots/stems can then be flushed out for recovery. These attached plants provide protective habitat to fish and invertebrate species, so cutting of this type will result in a temporary loss of habitat. Cut vegetation may or may not recover depending on the reproductive cycle of the plant and whether the plant roots are oiled or damaged in the cutting operation. Responders may cut invasive species (such as Himalayan Blackberry) or trim branches to access a site. For any cutting beyond what is necessary for site access, responders should consult resource experts in the EU prior to initiating vegetation cutting.

This response method is generally used when large quantities of potentially mobile oil are trapped in the vegetation or when the risk of oiled vegetation contaminating wildlife is greater than the value of the vegetation that is to be cut, and there is no less destructive method to remove the oil. When conducted in marshes, boards are generally laid down for workers to walk; this distributes the workers' weight to prevent damage to plant root systems and to avoid working oil deeper into the soft sediments. This response is conditionally recommended for exposed rocky shorelines, gravel beaches, sheltered rocky shorelines and man-made structures, sheltered rubble slopes, sheltered vegetated low banks, and marshes.

Best Management Practices for Vegetation Cutting

- Do not cut, burn, or otherwise remove vegetation unless specifically approved by the EU. Permitting may be required.
- Vegetation cutting may be used on marsh, rock, gravel (boulder/riprap), and vegetated riverbanks.
- Cleanup should commence after the majority of oil has come ashore.
- Strict monitoring of the operations must be conducted so corrective actions can be taken if there is harm to roots or if oil is mixing deeper into the sediment.
- Minimize foot traffic through oiled areas on non-solid substrates (sand, gravel, dirt, etc.) to reduce the likelihood that oil will be worked into the sediment.
- Minimize mechanical impacts on vegetation being cut by taking appropriate actions to ensure continued health and survival of the vegetative ecosystem.
- Restrict foot traffic over sensitive areas (shellfish beds, salmon redds, algal mats, bird nesting areas, dunes, etc.) to reduce the potential for mechanical damage.
- Shoreline access to specific areas may be restricted for periods of time to minimize the impact of human presence/excessive noise on nearby sensitive biological populations (bird nesting, marine mammal pupping, breeding, fish spawning, etc.).
- Separate and segregate any contaminated wastes generated to optimize waste management/disposal and minimize what must be sent to hazardous waste sites.
- Establish temporary upland collection sites for oiled waste materials for large spill events; collection sites should be lined with asphalt pad and surrounded by berms to prevent secondary contamination from run-off.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.

- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.6 Nutrient Enhancement and Microbial Enhancement

Nutrient enhancement and microbial enhancement may be used alone or together, along with other amendments to increase the in situ (or ex situ) remediation of petroleum hydrocarbons. Together, these enhancements, along with wetting agents/surfactants and other additives to increase their efficiency are known as bioremediation. They are described in more detail below.

The objective of nutrient enhancement is to increase the rates of natural degradation of oil by adding nutrients (specifically nitrogen and phosphorus). Microbial enhancement is the addition of microbes specifically designed or propagated from existing microbes to degrade oil and presumes that nutrients are the limiting factor. Microbial biodegradation is the conversion by microorganisms of hydrocarbons into oxidized products via various enzymatic reactions. Some hydrocarbons are converted into carbon dioxide and cell material, while others are partially oxidized or left unaltered as a residue. Oxygen is often a limiting factor as well for heavily impacted sediments, and addition of any microbes or nutrients should be considered only after the specific limiting factors are evaluated. If oxygen is in deficit in heavily impacted zones, the addition of microbes or nutrients is unlikely to be successful.

Nutrients are applied to the shoreline using one of several methods: (1) soluble inorganic formulations are dissolved in water and applied as a spray at low tide, requiring frequent applications; (2) slow- release formulations are applied as a solid to the intertidal zone and designed to slowly dissolve; and (3) oleophilic formulations that adhere to the oil itself and are sprayed directly on the oiled areas. This response method is limited to areas where the substrate can be penetrated by the application of liquid amendments. Nutrient and/or microbial enhancement is conditionally recommended on sand beaches, gravel beaches, sheltered rubble, slopes and marshes.

Some microbial or bioremediation amendments contain additives that may preclude safe use around waterways and therefore should be restricted to upland applications where deep penetration or runoff is not possible. Such additives include wetting agents/surfactants aimed at enhancing contact between the microbes and the impacted media, dispersants which break down the oil into smaller particles so that microbes or nutrients can be more effective, and perfumes meant to mask odors associated with the enhancement products or the breakdown of the petroleum. Without specific information about the safety of using enhancements that contain these additional products, they should not be approved in settings where surface water or groundwater used for beneficial uses (including surface water recharge) could be impacted.

Nutrient and microbial enhancement in areas that impact water bodies or shorelines requires Regional Response Team (RRT) approval on a case-by-case basis, as well as the development of a detailed operations and monitoring plan. Additionally, state regulatory programs may require permits for application of some enhancements.

Best Management Practices for Nutrient and Microbial Enhancement

- An assessment of the limiting factors (oxygen, nutrients, microbes) should be

conducted before addition of enhancements, and treatment aim to address the factors limiting natural biodegradation
- Nutrient and microbial enhancements must be approved by the RRT in areas where applications could impact surface water
- Enhancements may require state permitting for applications to land and/or water
- Enhancements containing nutrients should be conducted to minimize the potential for introducing nutrients to surface water or groundwater aquifers
- Enhancements containing wetting agents/surfactants and/or dispersants cannot be used near waterways without RRT approval
- Enhancements containing perfumes should not be used in areas where waterways may be impacted from runoff or breakdown products unless the safety/efficacy has been proven
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.7 Submerged Oil Detection and Recovery

Spills of non-floating oil pose a substantial threat to water-column and benthic aquatic resources, particularly where significant amounts of oil have accumulated on the substrate. When oils sink or become suspended in the water column, traditional oil recovery methods (booms, skimmers, etc.) are no longer effective. Specialized equipment and techniques can be used to detect and recover non-floating oil. Because some of these techniques have the potential to cause more damage than the original oiling, it is important to consider the benefits and trade-offs associated with a particular method when selecting a response option.

Methods used to detect non-floating oil include the use of sonar systems, underwater cameras, laser fluorosensors, induced polarization, bottom sampling, water-column sampling, diver observations, and visual observations. Non-floating oil recovery options include suction dredge, diver-directed pumping and vacuuming, mechanical removal, sorbent/ Vessel-Submerged Oil Recovery System (V-SORs), trawls and nets, manual removal, and agitation/refloat. These methods are further discussed in Section 9412 Non-Floating Oils Spill Response Tool.

Prior to recovery operations, consider conducting a Net Environmental Benefit Analysis (NEBA). The NWACP's Non-Floating Oils Spill Response Tool provides more information on NEBA and specific impacts to resources at risk during a non-floating oil response.

Best Management Practices for Non-Floating Oil Detection and Recovery

- Priority given to preventing, minimizing, and containing non-floating oils.
- Respond rapidly and aggressively to recover oils when on the surface (if safe to do so) before the oils start to sink.
- Systems should be designed and operated to minimize incidental water and sediment collection.
- Activity which spreads oil deeper into sediments or moves it further off site (e.g.

foot access through soft sediments or creating sediment plumes that leave site) should be avoided.
- Operation of suction systems through the water column should be minimized until the inlet is close to the surface of the bed to reduce potential for fish entrainment.
- Drive mechanisms (wheels, tracks, tires, etc.) of equipment should not enter the water.
- Water discharged from the treatment plant back into the environment shall be done in a manner that minimizes erosion of bank and bed sediments.
- Conduct a NEBA to determine if recovery techniques have the potential to cause more damage than the original oiling.
- Permits may be required for the selected method. Refer to the permit summary table in Section 9401.
- If operating in an archaeologically and/or culturally sensitive area, take measures to protect cultural resources. Understand what cultural resources might look like. When in doubt, assume the material is a cultural resource. Promptly notify the EU of any discoveries. EU should consult with the SHPO and local affected Tribes when planning response activities.
- Follow BMPs for decanting, as appropriate.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.8 Natural Attenuation (with monitoring)

Sometimes choosing not to respond to an oil spill is the best option. Under most conditions, spilled oil will degrade naturally in the environment over time. The rate of natural attenuation is a function of the oil's chemical and physical properties, as well as the character of the environment the oil was spilled. Light refined products like gasoline and diesel tend to degrade much faster than heavier, more persistent products. Oil spilled in high-energy environments (surf zones, rivers, etc.) or areas with high natural flushing mechanisms (tides and rain) will attenuate much faster than oil spill in calm, low-energy environments. Another factor to consider is the volume spilled. Consider if the mobilization of equipment, and waste generated from other response options would be a greater burden on the environment than the original spilled oil. Natural attenuation may not be appropriate for oiled areas that are heavily used by people or wildlife. Natural attenuation of spilled oiled should be monitored to confirm effectiveness. Monitoring should be done in a way that minimizes additional impact to the environment.

Best Management Practices for Natural Attenuation (with monitoring)

- Prepare monitoring plan with appropriate schedule and information on contacts/reports to be made if situation changes or impacts to wildlife/habitat are noted.
- Minimize presence of people and equipment.
- May consider relocation or hazing activities if appropriate.

- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

9301.9 Places of Refuge for Disabled Vessels

A ship in need of assistance may require a temporary place of refuge with adequate water depth for lightering or repairs to protect the marine environment from a significant accident. Ships may need to be brought into a harbor, anchored or moored in protected waters, or temporarily beached to safely make repairs and stop the loss of oil or other hazardous substances. Disabled ships need to be repaired to resume safe navigation and prevent an incident resulting in the loss of fuel or cargo. If leaking ships are not repaired, spilled oil and hazardous substances may affect health and human safety, natural resources, and shorelines. There is no single place of refuge for all ships and all situations. Decisions relating to places of refuge encompass a wide range of security, environmental, social, economic, and operational issues that vary according to each situation, including the environmental sensitivity and protected status of the areas within or adjacent to a potential place of refuge.

The initial decision to permit a ship to seek a place of refuge, as well as the decisions and actions implementing that decision, are inherently based upon an assessment of the risk factors involved and the exercise of sound judgment and discretion. Places of refuge are sites that could potentially be used for disabled or damaged ships needing shelter for repairs. While information on potential sites may be pre-surveyed, this does not imply that any of these sites will be the location of choice in a future event. Selection of a place of refuge by the United States Coast Guard (USCG) Captain of the Port (COTP) in consultation with other federal agencies, states, tribal and local governments, and other stakeholders will always be made on a case-by-case basis. If time allows, the COTP will activate a Unified Command under the Incident Command System (ICS) to address a request for a place of refuge.

Section 9410 of the NW Regional Contingency Plan and EPA Inland Area Plan provides additional background information, process and procedures for establishing an incident-specific Place of Refuge to avert a more significant incident from occurring. The NWAC and RRT have also gathered information of 4 specific areas (Pistol River Beach, Coos Bay, Yaquina Bay, and Grays Harbor) to help the USCG/COTP in the initial stages of identifying potential places of refuge. Datasheets on these four potential PORs can be found on the private side of the RRT10/NWAC website.

Best Management Practices for Places of Refuge for Disabled Vessels

- Early identification and monitoring of vessels in distress and in potential need of a places of refuge is crucial.
- Consult Section 9410 of the NW Regional Contingency Plan to understand the management structure and decision making process.
- Early request for a place of refuge and the development of options.
- Consult places of refuge datasheets on private RRT10/NWAC website; use information gathering template (Chapter 9410B) to develop alternatives as potential places of refuge.
- Involve and inform state and local authorities and stakeholders during the decision-

making process (see Attachment A in Chapter 9410 for starting list of potential stakeholders).
- Conduct Incident-Specific Consultation of Stakeholders.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.

9301.10 Decontamination

Decontamination prevents oil from re-contaminating clean areas. Proper decontamination procedures also protect worker health and safety, as well as the environment. A decontamination area should be established at each staging area and other work areas as appropriate. Decontamination operations may be different depending on the nature of the spill. The scope of the incident, oil type, weather, equipment used, and the number of response workers will dictate the methods, size, and type of decontamination operation. In the Northwest Region, decontamination procedures are included in the response's Site Health and Safety Plan, see Section 9203 for more information. BMPs for the decontamination of wildlife can be found in the Northwest Wildlife Response Plan, see Section 9310 for more information.

Best Management Practices for Decontamination

- Address decontamination areas for personnel and equipment in the disposal plan.
- Set up decontamination and exclusion zones in each staging area. Line the area with plastic to prevent pollution from oiled PPE and equipment. Collect oiled PPE and equipment in plastic barrels.
- Maintain adequate response equipment during decontamination to respond quickly and appropriately to re-release of pollution.
- Consider the placement of the decontamination area, containment of material, and safety controls to reduce the risk of oil re-entering the environment.
- Follow appropriate cleaning and waste disposal protocols and regulations.
- Follow BMPs for use of vehicles and heavy equipment, as appropriate.
- Follow BMPs for the use of vessels, as appropriate.
- Follow BMPs for foot traffic, as appropriate.
- Follow BMPs for wildlife, as appropriate.

Section 9302

Oil Response in Fast Water Currents: A Decision Tool

OIL RESPONSE IN FAST WATER CURRENTS: A DECISION TOOL

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2002

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RESEARCH AND DEVELOPMENT CENTER
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15. Supplementary Notes

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16. Abstract (MAXIMUM 200 WORDS)

This decision tool is a companion manual for the report, "Oil Response in Fast Currents, A Field Guide" (Report CG-D-01-02). This booklet provides tables, pictures and figures, mostly from out of the guide, that can be used to make decisions in the field or command post. Users should refer to the guide for additional details concerning decision methods, techniques and equipment.

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OVERVIEW OF THE OIL SPILL RESPONSE: FAST WATER DECISION TOOL

Purpose

This document provides oil spill response personnel with a job aid for organizing and implementing oil spill containment and cleanup measures in a fast water environment. Fast water refers to any situation where river, harbor or estuary surface current velocities are expected to exceed one knot. Experience and research have shown that special strategies and tactics are warranted in channeling, containing and recovering spilled oil, and safety should be a main concern.

This decision tool is a companion document to the more comprehensive report, "Oil Spill Response in Fast Currents, a Field Guide," published by the Coast Guard R&D Center in 2002, which is available from the National Technical Information Service in Springfield, VA. This decision tool assumes that the user will have read and understood the material contained in the parent Field Guide. This tool has been limited to essential graphics and tables to refresh the responder's memory, allow him/her to quickly assess the situation and formulate an action plan, and communicate this plan to other personnel.

Organization

The decision tool is organized to provide information for developing fast water response strategies. This process is depicted in the decision flow diagram in Figure 1. For each step in the process, the necessary input information and options are specified. Tables and figures provide the primary options open to the responder, and graphically depict various boom and skimmer tactics for oil exclusion, diversion and recovery. In addition, a set of easy to use graphics and tables is provided to allow the responder to compute key deployment parameters such as boom length, deflection angles, mooring line tension and the number of anchors required.

Relation to Other Spill Response Documents and Resources

In addition to familiarity with the Field Guide, responders should be familiar with the basic National Interagency Incident Management System/Incident Command System (NIIMS/ICS) spill response doctrine as outlined in the USCG Incident Management Handbook. The Area Contingency Plan should also be available and consulted for information on sensitive resource locations and environmental data such as anticipated current velocities, oil behavior and natural collection points. The responder should also consult with the NOAA Scientific Support Coordinator (SSC), local First Responders, as well as harbormasters and local mariners to gather information to verify the viability of the strategy and tactics arrived at using this decision tool.

Figure 1. Fast water response decision chart.

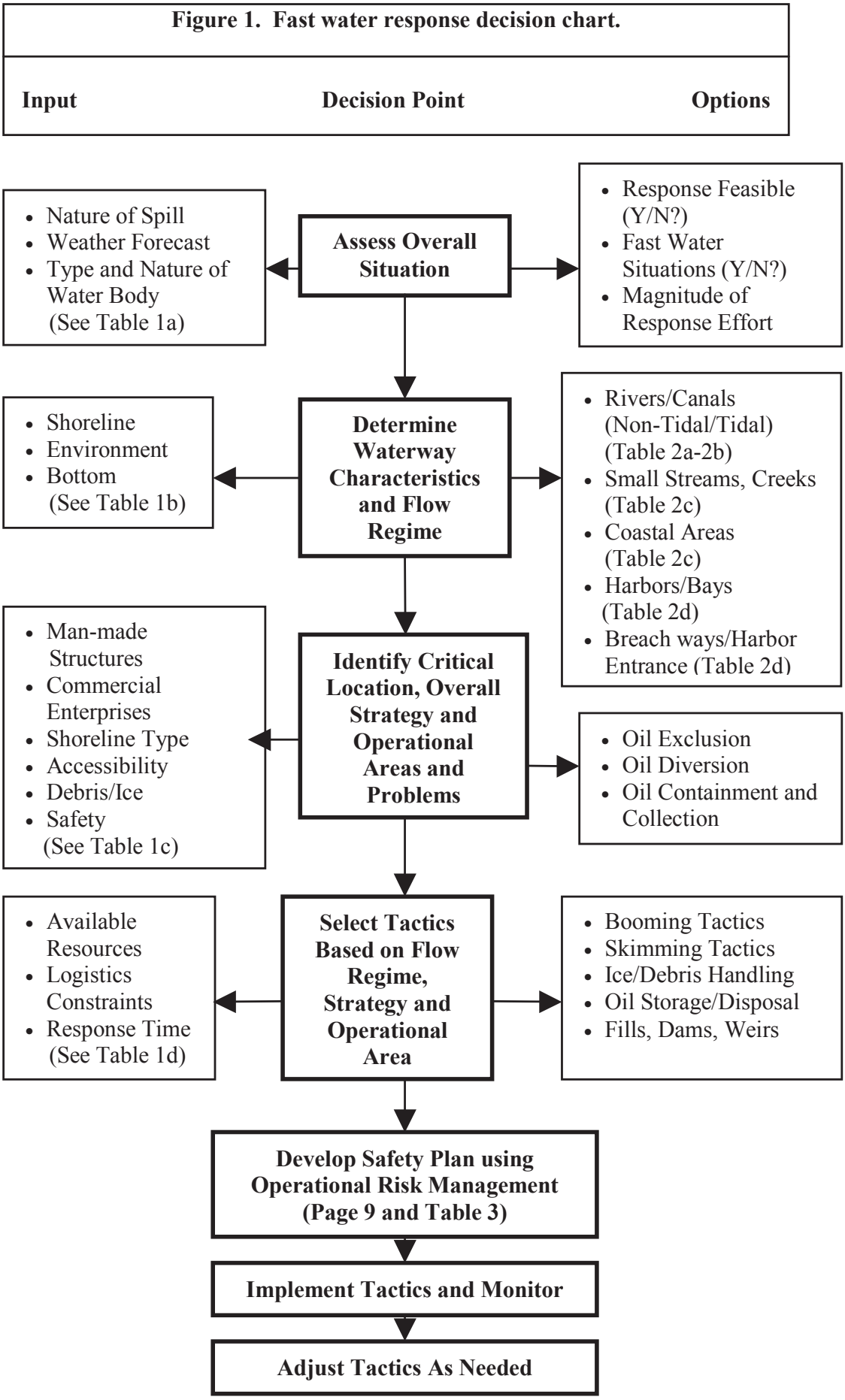


Table 1a. Assess overall situation.

Selection Factor	Related Sub-Factors	Info Sources
Nature of the spill	• Amount and type of oil • Time and place of oil impact (ETA) • Weathering/emulsion issues • History of spills	• PolReps • Area Contingency Plan • NOAA SSC
Weather forecast	• Wind affects oil drift and sea state • Rain affects currents in rivers and coastal areas • Temperature, oil evaporation rate and people endurance • Visibility	• On-Scene Observations • Local forecasts • Marine forecasts • NOAA SSC
Type and Nature of Water body	• River, lake, swamp, inlet, bay, ocean, etc. • Presence of debris or ice • Navigable or not, traffic type & density	• NOAA Charts • Local Responders

Table 1b. Determine waterway characteristics and flow regime.

Selection Factor	Related Sub-Factors	Info Sources
Shoreline	• River (winding, width, etc.), estuary, strait, headland, harbor, inlet, island, etc. • Natural collection points • Sensitive areas	• Area Contingency Plan • NOAA Charts/ ESI Maps
Environment	• Current speed and direction • Tidal action: height, cycle time, reversing currents, slack water, etc. • Waves: height, wave direction, period, breaking or non-breaking, etc.	• On-Scene Observations • Real-time Measurements • NOAA SSC
Bottom	• Water depth and contours • Bottom type (relating to habitat damage and anchoring potential)	• NOAA Hydro Charts • ESI Maps

Table 1c. Identify critical location, strategy, and operational areas and problems.

Selection Factor	Related Sub-Factors	Info Sources
Man-made structures and commercial enterprises	• Piers, breakwaters, bulkheads, bridges, etc. • Water intakes (drinking water, desalination, etc.) • Floating houses, casinos, commercial and recreational traffic • Commercial logs, fish hatcheries, etc. • High volume water traffic	• NOAA Hydro Charts • Local harbormaster • Port authority • Area Contingency Plan
Shoreline type	• Salt marshes and mangroves, sheltered tidal flats, sheltered rocky coasts, exposed tidal flats and vegetation, gravel beaches, beaches • Other threatened or historical areas	• Area Contingency Plan • NOAA SSC • ESI Maps
Accessibility	• Land accesses (bridges, roads, shoreline grade, shoreline vegetation, etc.) • Water access (boat ramps, marinas, fuel, boat draft, specialty vehicles such as jet boats, air cushion vehicles, airboats, etc. • Air accesses (airports and areas for helicopters) • Approval may be needed	• NOAA Hydro Charts • Local harbormaster • Port authority • Area Contingency Plan
Debris/Ice	• Collection and disposal procedures • Natural Collection Points	• First Responders • Area Cont. Plan
Safety	• Personnel Safety • Site specific issues such as accidental ignition sources	• First Responders • Area Contingency Plan

Table 1d. Select tactics based on flow regime, strategy and operational area.

Selection Factor	Related Sub-Factors	Info Sources
Available resources/ Logistics (Response Time to Plan and Deploy)	• Response organizations: On Scene Coordinator (OSC), Responsible Party (RP), Oil Spill Response Organization (OSRO), etc. • Estimated Time of Deployment (ETD) • Response equipment, locations and availability (effectiveness in the fast-water conditions) • Boats (HP for speed & towing in currents) • Response personnel, their training, location & availability (experience in swift currents) • Logistics support network & equipment • Repair and Maintenance facilities • Communications	• USCG Incident Management Handbook • Area Contingency Plan • Vessel/Facility Response Plan • Local OSRO

Table 2a. Fast current scenarios and tactics in rivers/canal (non-tidal).

Scenario	Amplifying Information	Tactics
Rivers/Canal (Non-Tidal): Depth is greater than typical boom skirt depth. May have tidal influence, but current always goes in same direction	Current speed dependent Vessel traffic dependent	• Single Diversion Boom (Figure 2) • Current < 2 knots use boom skirt of 12 inches • Current > 2 knots use boom skirt 6 inches or less
	Currents > 2 knots	• Cascading Diversion Boom (Figure 4) • Use short skirts, short boom lengths and sufficient overlap
	Collection areas available on both sides	• Chevron Booms (Figures 6-7) • Open for vessel traffic • Closed if no traffic
	Currents < 2 knots and river is wide	• Single Diversion Boom • Exclusion Boom for Sensitive Areas (Figure 5) • Encircle & Divert to Collection Area
	Sufficient room to maneuver	Skimmers for Collection (Figures 10-11)
	Vessels not available	Boom Vane or Flow Diverters (Figure 9)
	Special Conditions	Air and Water Jets
	Isolated Areas	Sorbents and Pom-Poms

Table 2b. Fast current scenarios and tactics in rivers/canals-(tidal).

Scenario	Amplifying Information	Tactics
Depth is greater than typical boom skirt depth Current reverses direction	Current speed dependent Vessel traffic dependent Special methods needed to compensate for tides	• Diversion Boom – need double set (Figure 2) • Current < 2 knots use boom skirt of 12 inches • Current > 2 knots use boom skirt 6 inches or less
	Currents > 2 knots	• Cascade Boom - may need double set (Figure 4) • Use short skirts, short boom lengths and sufficient overlap
	Collection areas available on both sides	• Chevron - may need double set (Figures 6-7) • Open for vessel traffic • Closed if no traffic
	Currents < 2 knots and river is wide	Encircling
	Isolated Areas	Sorbents and Pom-Poms
	Sufficient room to maneuver	Skimmers (Figures 10-11)
	Vessels not available	Boom Vane or Flow Diverters (Figure 9)
	Special Conditions	Air and Water Jets
	Isolated Areas	Sorbents and Pom-Poms

Table 2c. Fast current scenarios and tactics in small streams and coastal areas.

Scenario	Amplifying Information	Tactics
Small streams, creeks, culverts: Depth is less than boom skirt depth	Dependent upon flow rate	▪ Single Diversion for volume flow greater than about 10 cubic feet/second (Figure 2)
	Block for low volume flow	• Sealing • Fill • Dams (Figures 12-13) • Weirs
	Design for volume	▪ Overflow/Underflow dams
	Low Flow	▪ Sorbents and Pom-Poms
Coastal Areas: Near shore wave dependent Includes near shore and straits Various depths Usually tidal		▪ Single Diversion Boom Current < 2 knots use boom skirt of 12 inches if no waves
	Currents > 2 knots	• Cascade Boom (Figure 4) • Use short boom lengths and sufficient overlap
	Currents < 2 knots and river is wide	▪ Encircling
	Sufficient room to maneuver	▪ Skimmers (Figures 10-11)
		▪ VOSS/SORS
	Isolated Areas	▪ Sorbents and Pom Poms

Table 2d. Fast current scenarios and tactics in harbors/bays and harbor entrances.

Scenario	Amplifying Information	Tactics
Harbors/Bays: Near shore wave dependent Depth is usually greater than typical boom skirt depth	Use river techniques in specific areas Current speed dependent Vessel traffic dependent	• Single Diversion Boom (Figure 2) • Current < 2 knots use boom skirt of 12 inches if no waves • Current > 2 knots use boom skirt 6 inches or less if no waves
	Currents > 2 knots	• Cascade Boom (Figure 4) • Use short skirts, short boom lengths and sufficient overlap
	Currents < 2 knots and area is large	▪ Encircling
	Sufficient room to maneuver	▪ Skimmers (Figures 10-11)
	Special Conditions Isolated Areas	▪ Air and Water Jets ▪ Sorbents and Pom-Poms
Breach ways and Harbor Entrances: Various depths, Usually tidal	Current speed, vessel traffic and wave dependent	• Single Diversion Boom (Figure 2) • Current < 2 knots use boom skirt of 12 inches if no waves • Current > 2 knots use boom skirt 6 inches or less if no waves
	Currents > 2 knots	• Cascade Boom (Figure 4) • Use short skirts (if no waves), shorts boom lengths and sufficient overlap
	Collection areas available on both sides	• Chevron Boom (Figures 6-7) • Open for vessel traffic • Closed if no traffic
	Block for low volume flow	• Sealing • Fill • Dams • Weirs
	Vessels not available	▪ Boom Vane or Flow Diverters (Figure 9)
	Design for volume	▪ Overflow/Underflow dams (Figures 12-13)
	Isolated Areas	▪ Sorbents and Pom-Poms

SAFETY

Oil spill response is an inherently hazardous operation. It involves handling a hazardous material in a marine environment often under less than ideal sea and weather conditions. Deploying, operating and retrieving heavy and cumbersome oil spill response equipment routinely requires physical exertion and subjects responders to heat and cold stress. Responding to spills in fast water environments imposes additional hazards due to the extreme loads placed on equipment and the danger of personnel being swept away in the fast currents. Coast Guard personnel must perform Operational Risk Management (ORM) as outlined in COMDTINST M35003 before initiating response actions. (see process below).

Operational Risk Management Process

1. Identify Mission Tasks
2. Identify Hazards
3. Assess Risks
4. Identify Options Tables
5. Evaluate Risk vs. Gain
6. Execute Decision
7. Monitor Situation

Table 3 summarizes the major hazards, potential injuries and risk control measures associated with fast-water oil spill response. The water hazards are defined in some detail as these are the single most dangerous hazards associated with fast water response.

If an individual should accidentally fall in the water, there are a number of things that both the victim and rescuers should remember:

- Don’t swim against the current. Swim perpendicular.
- Swim on back, feet downstream.
- Use hands and feet to fend off obstructions.
- Do not tie rope around swimmer or rescuer.
- Angle rescue lines down current.
- Stay on upstream side of the line.
- Never clip into the line.

Table 3. Fast-water oil spill response hazard summary.

Hazard	Injury Potential	Control
Slips, Trips and Falls	Broken limbs, lacerations, head injuries	Awareness, protective clothing, safety lines
Ergonomic	Back injury, joint injuries, hernias	Proper lifting methods, lifting devices
Heat and Cold Stress	Frost bite, hypothermia, heat stroke	Proper clothing, nutrition, rest, & medical monitoring
Flammability – Fire & Explosion	Death, severe burns, broken limbs, loss of eyes	Awareness, proper ventilation, monitoring
Oil Toxicity	Eye/skin irritation, nausea, dizziness, long term effects	Air monitoring, respiratory protection, gloves, coveralls
Line Hazards	Death, loss of limbs & eyes, broken limbs	Adequate line strength, safety observer, knife available
Heavy Equipment Hazards	Damage to eyes, hearing loss, exhaust inhalation, cuts and abrasions	Eye and ear protection, secure loose clothing, stay clear of danger points/ exhaust
Water (drowning)	Critical - death, hypothermia **Consider the following:** • Don't swim against current, swim perpendicular • Swim on back, feet downstream • Use hands and feet to fend off obstructions • Do not tie rope around swimmer or rescuer • Angle rescue lines down current • Stay on upstream side of the line • Never clip into the line	• Buddy System • Life jackets • Cold weather gear • Fall restraints • Life rings, boat hooks • Rescue boats • Avoid waders • Bicycle helmets can be substituted for hardhats only if no overhead hazards exits • Avoid slip on fireman boots • Avoid loose clothing

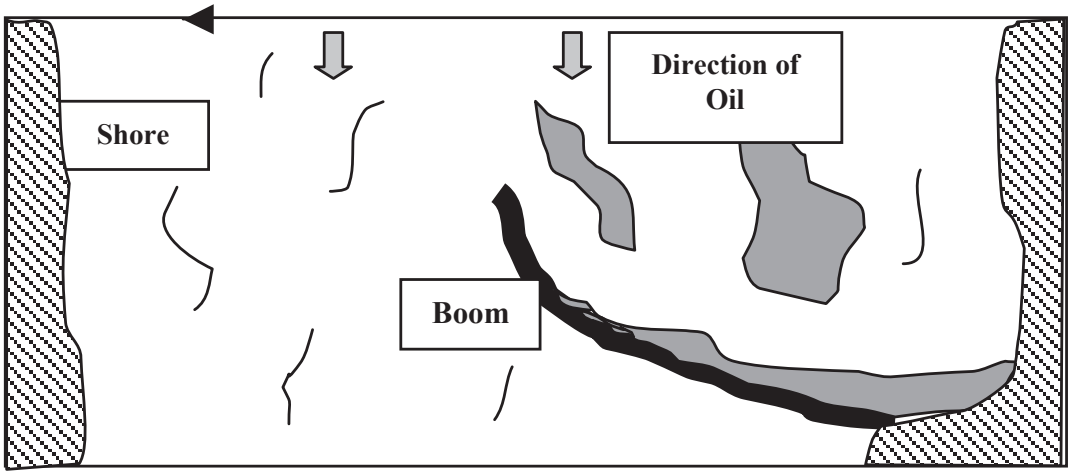


Figure 2. Single diversion boom.

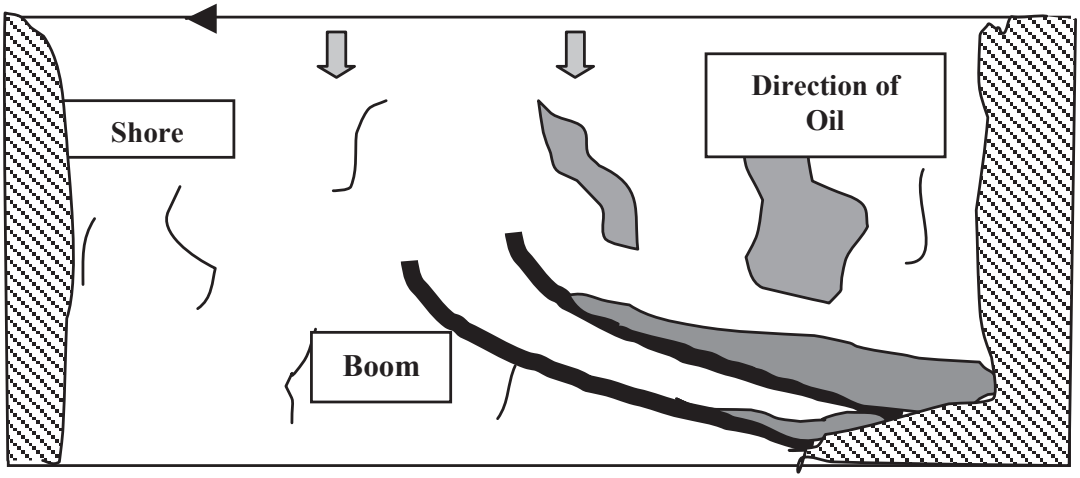


Figure 3. Double boom.

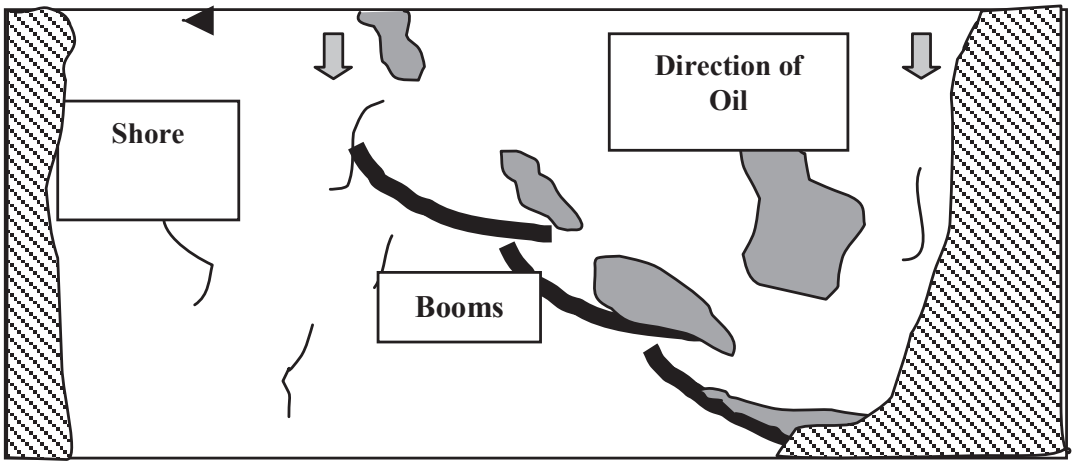


Figure 4. Cascade boom.

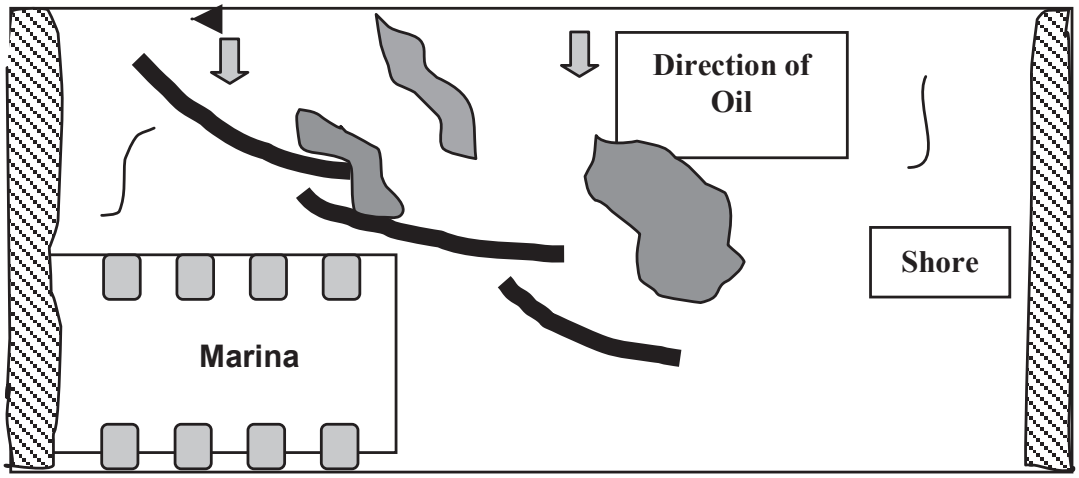


Figure 5. Exclusion boom.

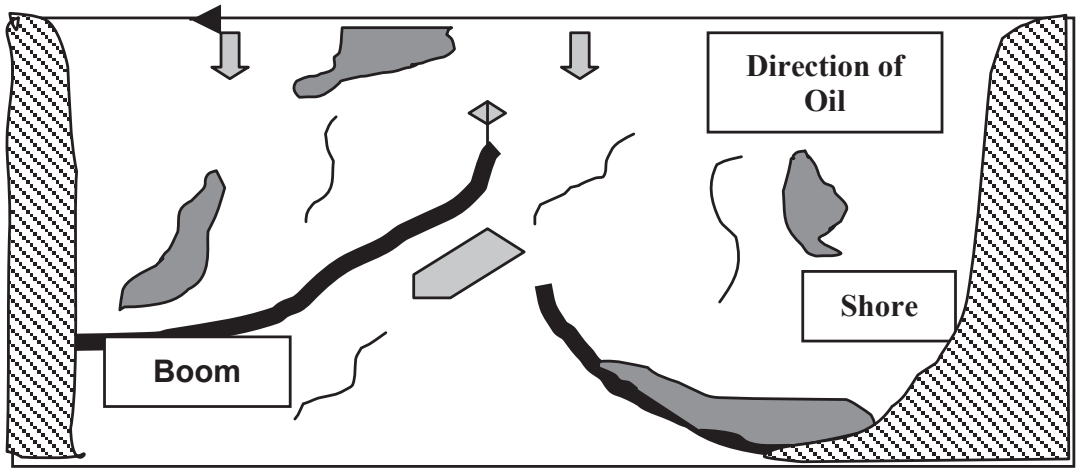


Figure 6. Open chevron boom.

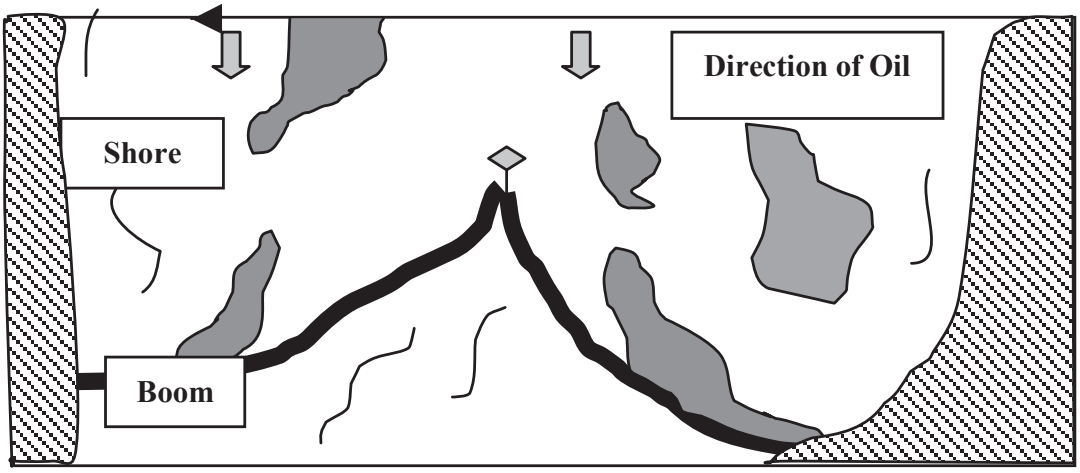


Figure 7. Closed chevron boom.

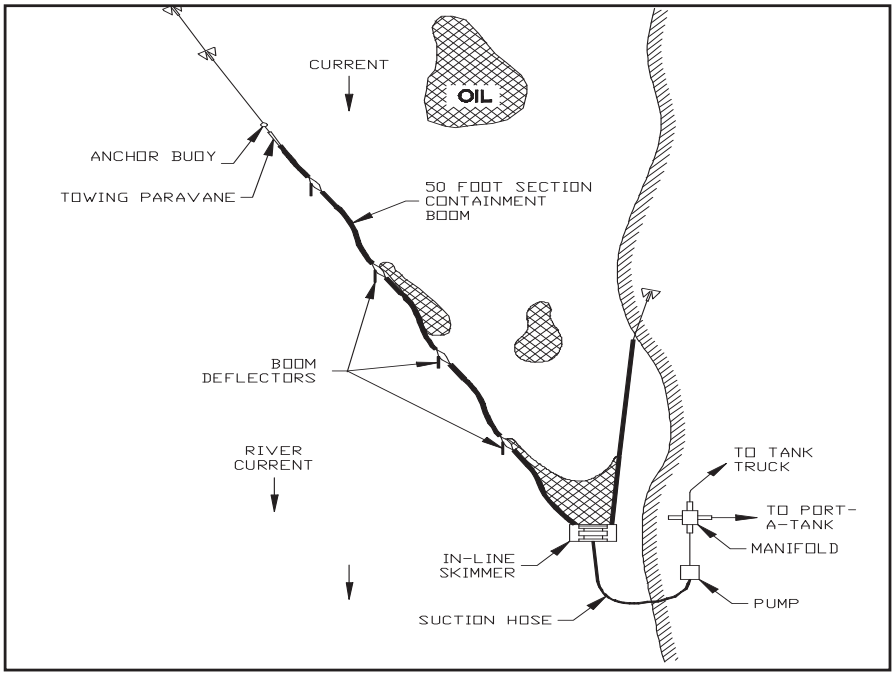


Figure 8. Boom deflectors can be used without multiple anchors.

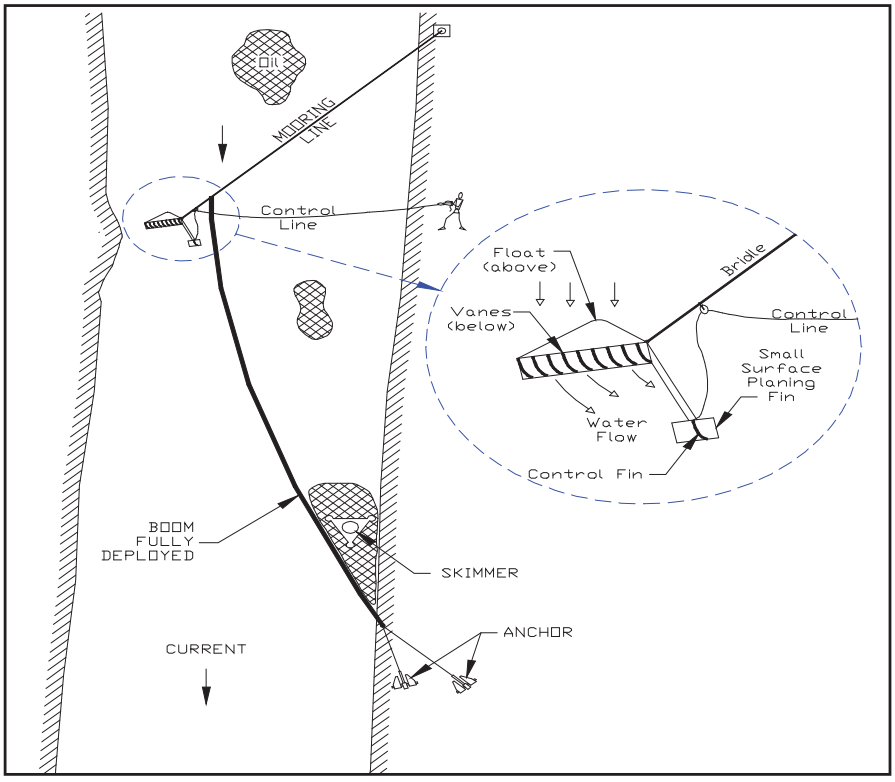


Figure 9. Boom vane deploys and retrieves deflection boom from shore to allow vessel passage.

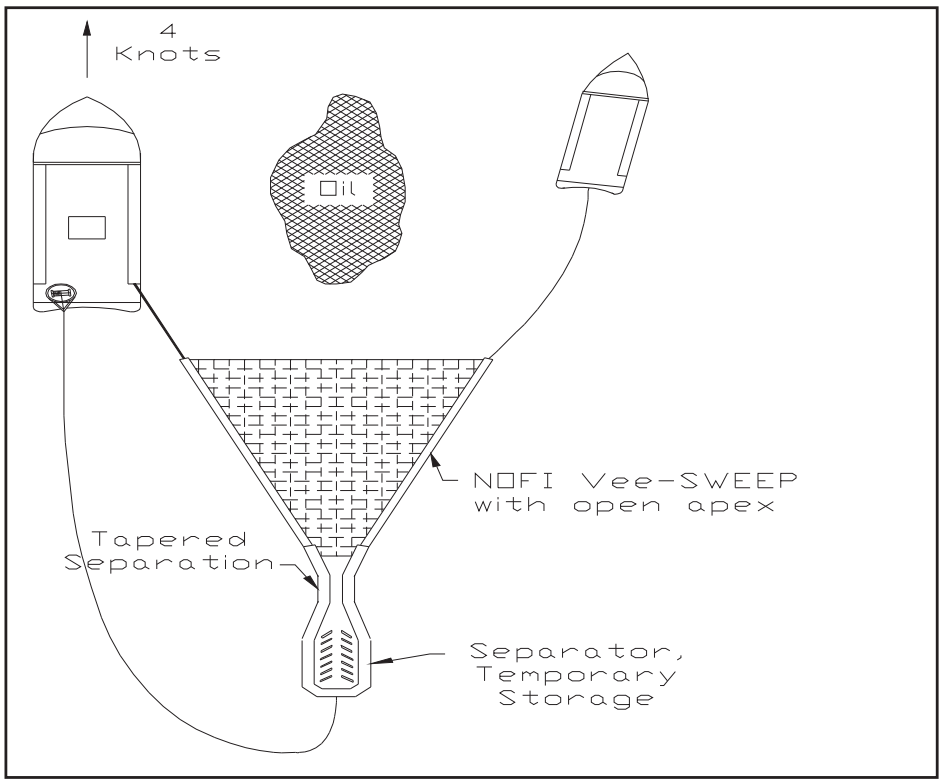


Figure 10. The NOFI Vee Sweep™ with tapered channel separator.

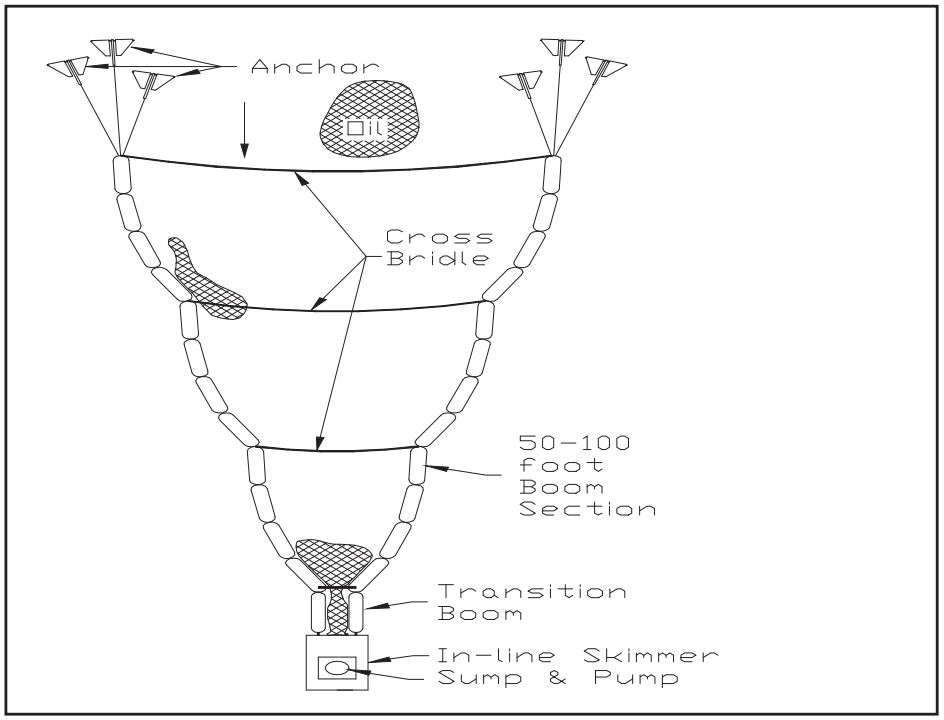


Figure 11. Wide-mouth V-shape boom with attached skimmer.

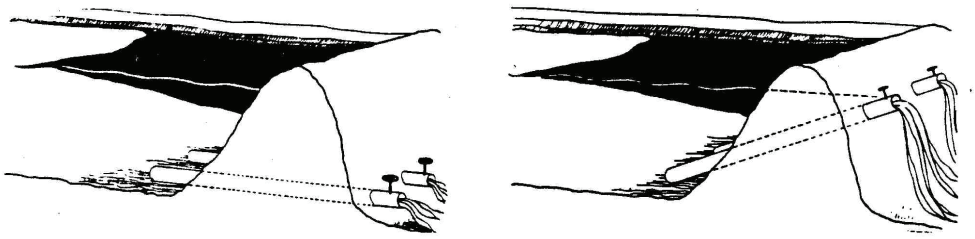


Figure 12. Earth underflow dam.

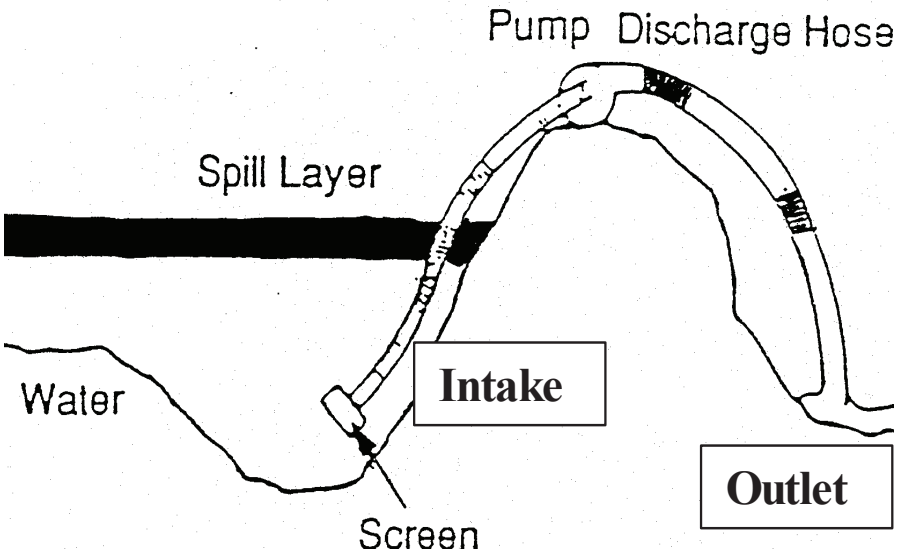


Figure 13. Overflow dam.

HYDRODYNAMIC CONSIDERATIONS AND BOOMING RESOURCES

In assessing the overall feasibility of implementing a fast water booming tactic, it is necessary to determine key hydrodynamic parameters and assess the adequacy of on-scene resources based on these parameters. The definition's process for accomplishing this is depicted in Figure 14, which outlines a procedure for determining the necessary parameters.

Definitions:

- Current Speed (V in knots) and Water Depth (D in feet)
- Profile Length-width that needs to be boomed: This is the value X in the bottom of figure 15.
- Maximum Deployment Angle of the boom (from Figure 15 or Table 4),
- Minimum Length of Boom required (Lboom from Table 4),
- Total Force exerted on the boom (Tboom from Table 4), and
- Number of Anchor Points (AP#) required assuming a minimum of 50 feet of spacing (AP# from Table 4).

Mooring Line:

A conservative estimate of the total length of mooring line (Lline) required per anchor point is D X 7. The tension on each mooring line is estimated by Tline = Tboom / AP#.

The tension on each mooring line should then be checked against the lines Nominal Breaking Strength (from Table 5) and the Holding Power of each anchor (from Table 6). The value of the Tline should be less than both these values.

Boat Horsepower:

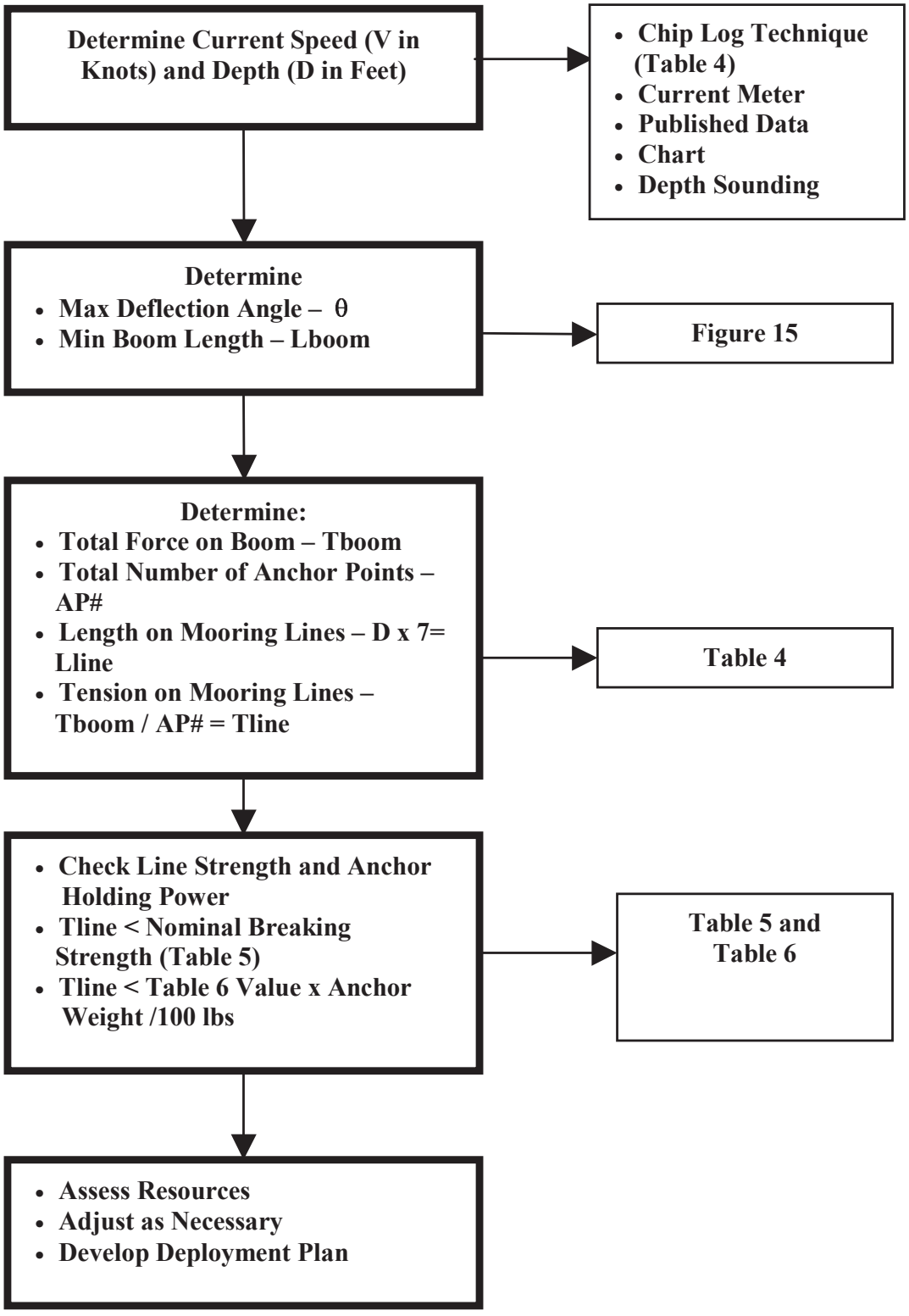
The horsepower required (HPmin) for a deployment vessel to maintain the boom at this deployment angle in the current can be estimated as follows:

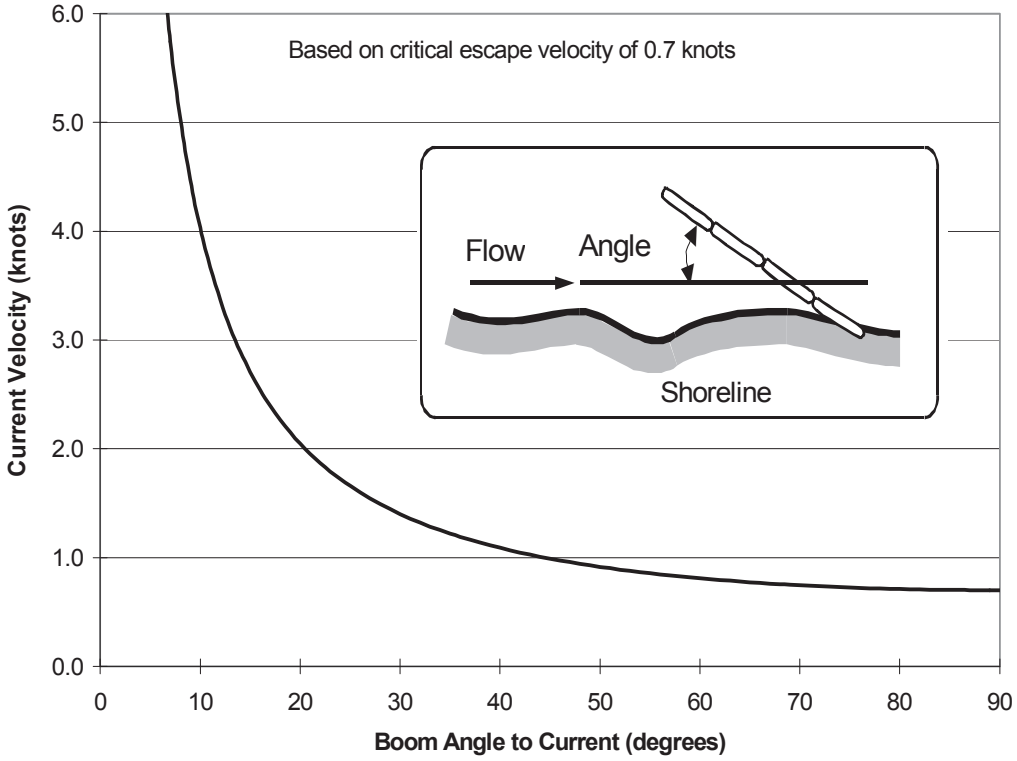
- For an outboard motor: HPmin = Tboom/15
- For an inboard motor: HPmin = Tboom/20
- For a jet drive motor: HPmin = Tboom/10

Anchoring:

Examples of anchoring techniques are shown in Figures 16-18.

Figure 14. Hydrodynamic considerations and booming requirements.





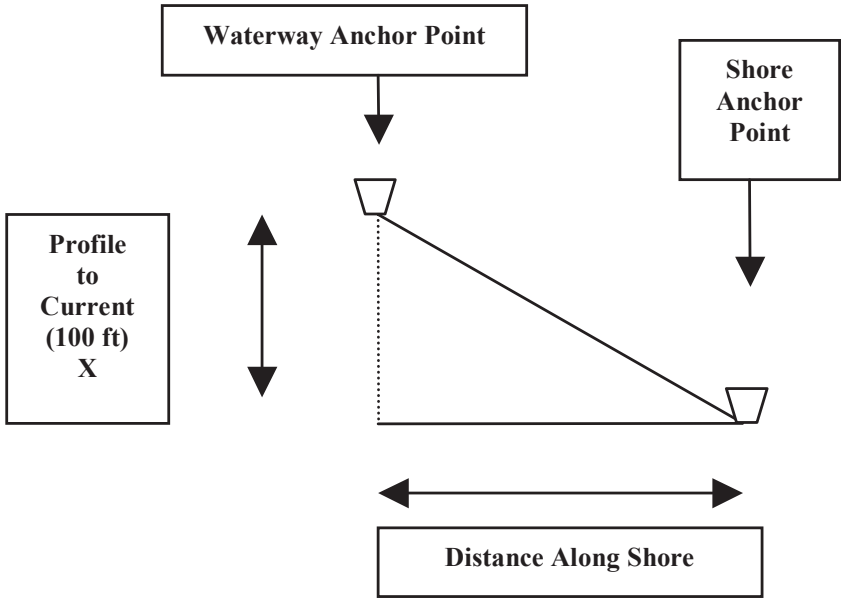


Figure 15. Maximum boom deployment angles required to prevent oil entrainment.

Table 4. Boom Hydrodynamics Table for 100 foot profile. (For larger values of X, values of Lboom, Tboom and AP# can be easily calculated by multiplying by the multiple of 100 feet (X feet/100 feet)).

Time to Drift 100 Feet (Seconds)	Velocity (Knots)	Max Boom Deflection Angle (Degrees)	Boom Length Required for 100 ft. Profile to Current (feet)	T=Total Force on Boom (pounds) (without Waves) K=2 per 100 ft. of boom length			Total Force on Boom (pounds) (with Waves) K=4 per 100 ft. of boom length			Anchors if Placed every 50 ft. or less
				6 inch boom draft	12 inch boom draft	18 inch boom draft	6 inch boom draft	12 inch boom draft	18 inch boom draft	
100	**0.5**	**90**	**100**	**25**	**50**	**75**	**50**	**100**	**150**	**3**
60	**1.0**	**45**	**150**	**71**	**141**	**212**	**142**	**282**	**424**	**4**
40	**1.5**	**30**	**225**	**112**	**225**	**338**	**224**	**450**	**676**	**6**
30	**2.0**	**20**	**300**	**137**	**274**	**410**	**274**	**548**	**820**	**7**
20	**3.0**	**13**	**450**	**202**	**405**	**607**	**404**	**810**	**1214**	**10**
15	**4.0**	**10**	**625**	**284**	**567**	**851**	**568**	**1134**	**1702**	**14**
12	**5.0**	**8**	**725**	**348**	**696**	**1004**	**696**	**1392**	**2008**	**16**
10	**6.0**	**7**	**875**	**438**	**877**	**1316**	**876**	**1574**	**2632**	**18**

Equations for Boom Force (Tboom) in Table 4

For a quick approximate load on a boom that is anchored at an angle of between 10 and 30 degrees to the current, use the following formula:

$T = K * A * V^2$ where: T = tensile force, lb_f
K = constant, $lb_f / (ft^2 \times knots^2)$
A = projected area of the submerged portion of the boom, ft^2
V = tow speed, knots

The projected area of the boom was calculated based on the boom draft, and the length of the boom normal to the water current (i.e., the direction of travel):

$A = d * L * \sin \theta$ where: A = projected area of the submerged portion of the boom, ft^2
d = boom draft, feet
L = boom length, feet (100 ft)
θ = diversion angle (10°, 20°, 30°)

Table 5. Nominal line breaking strengths (pounds).

Diameter (inches)	Manila	Polypropylene (Three-Strand)	Nylon (Triple Strand)	Nylon (Double Braid)	Polyester (Double Braid)
5/16	900	1700	2300	3400	2400
1/2	2380	3800	5600	8500	5750
5/8	3960	5600	8910	15200	9000
1	9000	13000	23000	26500	26800
2	22500	32000	60000	74000	69900

Table 6. Anchor holding power as a multiple of dry weight for 100 pounds.

Anchor Type	Soft Soils	Hard Soils
Danforth/LWT	12.6	31.6
STATO/NAVMOOR	27.7	25-33
Navy Stockless	3.5	11

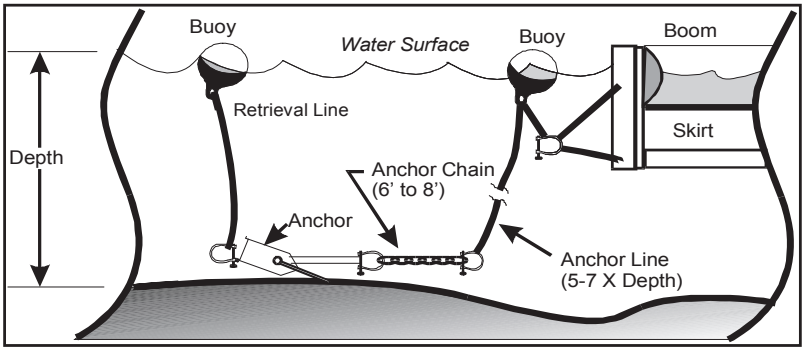


Figure 16. Typical boom mooring configuration.

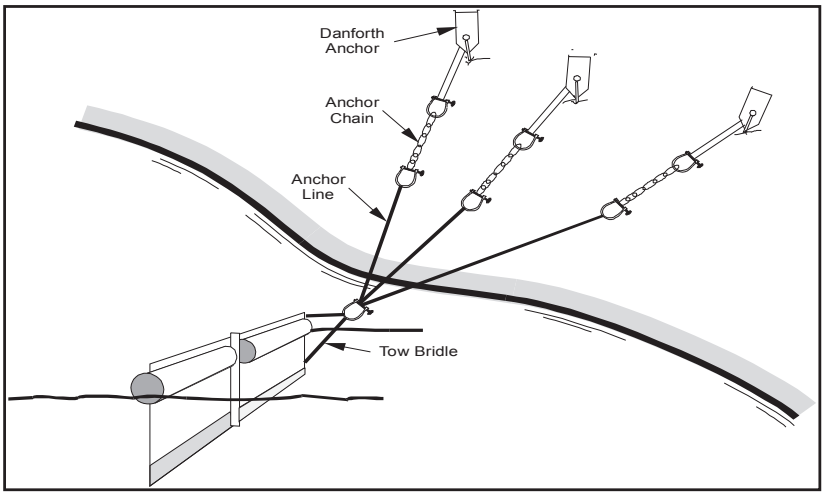


Figure 17. Mooring boom with multiple anchors.

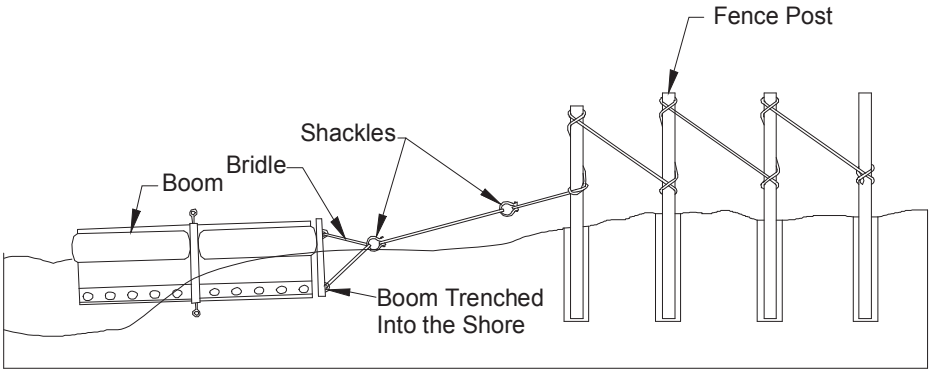


Figure 18. Typical shoreline boom mooring system using posts.

Table 7. Fast water worksheet.

FAST WATER WORK-SHEET	1.Incident Name:	2.Date/time prepared:	3.Operational Period	4.Attachments
5. Fast Water Type	Rivers/Canals (non-tidal) ☐ Rivers/Canals (tidal) ☐ Small Streams/Culverts/Creeks ☐ Coastal areas ☐ Harbors/Bays ☐ Breakwaters and Harbor entrances ☐ Other (specify):			

	Oil Type	Oil Amount	Temperature °F	Humidity %	Evaporation in 24 hours %	Wind (mph)	Visibility (Ft)	Rain, Sleet, Snow	Water (°F) Temperature	Other
6. Background Info										

7. Safety Hazards	Confined Space ☐ Noise ☐ Heat Stress ☐ Cold Stress ☐ Electrical ☐ Animal/Plant/Insect ☐ Ergonomic ☐ Ionizing Rad ☐ Slips/Trips/Falls ☐ Struck by ☐ Water ☐ Violence ☐ Excavation ☐ Biomedical waste and/or needles ☐ Fatigue ☐ Other (specify)
8. Personal Protection	Life Jackets ☐ Oil resistant gloves ☐ Shoulder length resistant gloves ☐ Level D ☐ Eye protection ☐ Cold WX Gear ☐ Level C ☐ Splash Suits ☐ Hearing protection ☐ Fall protection ☐ Water ☐ Sun screen ☐ Wet Suits ☐ Dry Suits ☐ Portable first aid kits ☐ Other (specify)

9. Potential Booming Locations	ETA Oil Impact	Natural Collection Point	Shoreline wave energy	Current Speed & Direction	Access	Water Depth	Tidal Influence	Bottom Amenable to Anchors	Debris, Ice	Shore Sensitivity	Historical Economic Concern	Nav Traffic	Strategy Selec-tion
		Yes ☐ No ☐	High ☐ Med ☐ Low ☐		Land ☐ Water ☐ Air ☐		High ☐ Med ☐ Low ☐	Yes ☐ No ☐	High ☐ Med ☐ Low ☐	High ☐ Med ☐ Low ☐	High ☐ Med ☐ Low ☐	High ☐ Med ☐ Low ☐	
		Yes ☐ No ☐	High ☐ Med ☐ Low ☐		Land ☐ Water ☐ Air ☐		High ☐ Med ☐ Low ☐	Yes ☐ No ☐	High ☐ Med ☐ Low ☐	High ☐ Med ☐ Low ☐	High ☐ Med ☐ Low ☐	High ☐ Med ☐ Low ☐	

10. Selection Strategies	Current < 2 Knots	Current > 2 Knots	Room to Maneuver	Collection Possible on Opposite Sides
Rivers/Canals (non-tidal)	Single Diversion Booming (Skirt < 12 inches) (SDB < 12) Sorbents (isolated areas) (SRB) Exclusion Booming (EXB) Encircle Booming (ECB)	Single Diversion Booming (Skirt < 6 inches) (SDB < 6) Cascade Booming (CSC)	Skimmers (SK)	Chevron Booming (CHV)
Rivers/Canals (tidal)	Double SDB < 12, ECB, SRB	Double SDB < 6, CSC	SK	CHV
Small Streams/ Creeks/Culverts	Fill, Dams, Weirs Underflow/Overflow Dams (UFD/OFD) SRB		SK (small)	
Coastal Areas	ENC, SDB < 12 (no waves), SRB	CSC	SK	
Harbor/Bays	SDB < 12, ECB, SRB	SDB < 6, CSC	SK	CHV
Breakwaters/ Harbor Entrances	SDB < 12, ECB, SRB, Fill, Dams, Weirs, UFD, OFD	SDB < 6, CSC	SK	CHV

Prepared by:	Page _____ of _____.	

Table 8. Conversion tables.

CONVERSIONS AND EQUIVALENTS

AREA (s=statute, n=nautical)

Multiply	by	to derive
meters^2	10.76	feet^2
feet^2	0.0929	meters^2
kilometers^2	0.386	s. miles^2
s. miles^2	2.59	kilometers^2
s. miles^2	0.7548	n. miles^2
n. miles^2	1.325	s. miles^2
kilometers^2	0.2916	n. miles^2
n. miles^2	3.430	kilometers^2

TEMPERATURE

Calculate	To derive
5/9(°F-32°)	°C
9/5°C+32°	°F

VOLUME

multiply	by	to derive
barrels	42	gallons
barrels	5.615	feet^3
barrels	158.9	liters
barrels	0.1589	meters^3
feet^3	7.481	gallons
gallons	3.785	liters

WEIGHT

multiply	by	to derive
kilograms	2.205	pounds
metric tons	0.984	long tons
metric tons	1,000	kilograms
metric tons	2,205	pounds
long tons	1,016	kilograms
long tons	2240	pounds
short tons	907.2	kilograms
short tons	2,000	pounds

DENSITY ESTIMATIONS

	Barrels/Long Ton		Notes:
	Range	Average	• 1 Long Ton equals 2,200 lbs.
Crude Oils	6.7 - 8.1	7.4	
Aviation Gasolines	8.3 - 9.2	8.8	• As a general approximation, use 7 bbl. (300 U.S. gallons) per metric ton of oil.
Motor Gasolines	8.2 - 9.1	8.7	
Kerosenes	7.7 - 8.3	8.0	
Gas Oils	7.2 - 7.9	7.6	
Diesel Oils	7.0 - 7.9	7.5	• 6.4 barrels/long ton is neutrally buoyant in fresh water. Open ocean neutral buoyancy values are generally in the 6.21-6.25 barrels/long ton range.
Lubricating Oils	6.8 - 7.6	7.2	
Fuel Oils	6.6 - 7.0	6.8	
Asphaltic Bitumens	5.9 - 6.5	6.2	

Specific Gravity of 1 or an API of 10 equals the density of fresh water.

Specific Gravity < 1 or an API > 10 indicates product is lighter than fresh water. API Gravity = (141.5/Specific Gravity) – 131.5		
Weight of Fresh Water: pounds/gallon	**8.3**	**Note: Exact weight depends on temperature and salinity.**
Weight of Sea Water: pounds/gallon	**8.5**	

OIL THICKNESS ESTIMATIONS

Standard Term	Approx. Film Thickness		Approx. Quantity of Oil in Film	
	Inches	Mm		
Barely Visible	**0.0000015**	**0.00004**	**25 gals/mile^2**	**44 liters/km^2**
Silvery	**0.000003**	**0.00008**	**50 gals/mile^2**	**88 liters/km^2**
Slight Color	**0.000006**	**0.00015**	**100 gals/mile^2**	**176 liters/km^2**
Bright Color	**0.000012**	**0.0003**	**200 gals/mile^2**	**351 liters/km^2**
Dull	**0.00004**	**0.001**	**666 gals/mile^2**	**1,168 liters/km^2**
Dark	**0.00008**	**0.002**	**1,332 gals/mile^2**	**2,237 liters/km^2**

Thickness of light oils: 0.0010 inches to 0.00010 inches.
Thickness of heavy oils: 0.10 inches to 0.010 inches.

COMMONLY-USED EQUATIONS

Circle: **Area = 3.14 x radius^2** **Circumference = 3.14 x diameter**	**Cylinder/Pipe/Tank** **Volume = 3.14 x radius^2 x length**
	Rectangle/Square **Area = length x width**
Sphere/Tank **Area = 4 x 3.14 x radius^2** **Volume = 1.33 x 3.14 x radius^3**	**Cube/Block/Tank** **Volume = length x width x height**

Section 9310

Northwest Wildlife Response Plan

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Acronyms

ACRONYMS

ACP	Area Contingency Plan
ATV	All-Terrain Vehicle
BMP	Best Management Practice
CFR	Code of Federal Regulations
DWBD	Deputy Wildlife Branch Director
ECY	Washington Department of Ecology
EPA	U. S. Environmental Protection Agency
ESA	Endangered Species Act
ENVL	Environmental Unit Leader
EU	Environmental Unit
FOSC	Federal On-Scene Coordinator
GIS	Geographic Information System
GPS	Global Positioning System
GRP	Geographic Response Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HPAI	Highly Pathogenic Avian Influenza
IAP	Incident Action Plan
IBR	International Bird Rescue
ICP	Incident Command Post
ICS	Incident Command System
IDEQ	Idaho Department of Environmental Quality
ISB	In-situ Burning
IWR	International Wildlife Research
JIC	Joint Information Center
MBTA	Migratory Bird Treaty Act
MOU/MOA	Memorandum of Understanding/Agreement
MRU	Mobile Rehabilitation Unit
NCP	National Contingency Plan
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRDA	Natural Resource Damage Assessment
NWAC	Northwest Area Committee
NWRCP	Northwest Regional Contingency Plan
ODFW	Oregon Department of Fish and Wildlife
OPA-90	Oil Pollution Act of 1990

Acronyms (cont.)

OAR	Oregon Administrative Rules
ORS	Oregon Revised Statutes
OSRO	Oil Spill Response Organizations
OWCN	Oiled Wildlife Care Network
PIO	Public Information Officer
PPE	Personal Protective Equipment
PRC	Primary Response Contractor
RAR	Resource at Risk
RCW	Revised Code of Washington
RP	Responsible Party
SOSC	State On-scene Coordinator
SOFR	Safety Officer
SRKW	Southern Resident Killer Whale
UC	Unified Command
USCG	U. S. Coast Guard
USFWS	U. S. Fish and Wildlife Service
WAC	Washington Administrative Code
WBD	Wildlife Branch Director
WDFW	Washington Department of Fish and Wildlife
WRRL	Worldwide Response Resource List
WRSP	Wildlife Response Service Provider

9310.1 PREFACE

Wildlife is put at risk or injured when oil is spilled into the environment. This Wildlife Response Plan (Plan) has been developed to support responses under the regional and area plans, ensuring a rapid, aggressive, and well-coordinated response to oil and hazardous substance incidents within Region 10 (Idaho, Oregon, and Washington).

The primary goal of the Plan is to ensure that oiled wildlife response in Region 10:

- Is conducted in a safe and effective manner for responders, animals, and the public.
- Is fully integrated into the overall spill response and ICS structure.
- Provides resources in timely manner to minimize the impacts of an oil spill to wildlife.
- Provides best achievable capture and care for spill impacted wildlife based on the specific objectives of the Unified Command for the incident.
- Addresses applicable state and federal wildlife requirements.

9310.1.1 Summary of Plan History, Revisions, and Process for Future Updates to the Wildlife Response Plan

The previous Wildlife Response Plan evolved over time with most of the content being adopted between 2003 and 2007, and the latest update occurring in 2012. Plan material was produced by representatives of government agencies and interested parties, including personnel from: Washington Department of Fish and Wildlife (WDFW), Washington Department of Ecology (ECY), U.S. Coast Guard (USCG), U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA), and the petroleum industry. This revision replaces the Northwest Wildlife Response Plan (NWRCP Sec. 9310). The material found within the adjacent sections of the NWRCP entitled “Northwest Area Wildlife Deterrence (formerly known as hazing) Resources” (Sec. 9311); “Oil Spill Marine Mammal Resources” (Sec. 9312); “Wildlife Branch Position Descriptions” (Sec. 9313); and “Potential Mobile Bird Rehabilitation Unit (MRU) Deployment Locations in Coastal Counties” (Sec. 9314) has been incorporated into this document and its appendices.

The Plan was developed to meet the NCP’s plan requirements for the protection of fish and wildlife resources as set forth in 40 Code of Federal Regulations (CFR) Part 300, Sections 300.210(c)(4), and to be used throughout WA, OR, and ID.

The 2023 revision of the wildlife plan includes:

- Format changes.
- Updated Wildlife Branch organizational structure to ensure consistency with current international standards.
- Sample templates and job aids, based on material developed by professional wildlife organizations and the states of California and Alaska.
- Simplified staffing guidance.
- General editing and simplification of text.

This document will be updated when policy changes occur, new protocols are developed, and in response to lessons learned from spills and drills.

9310.2 INTRODUCTION

The Plan contains descriptions of the oiled wildlife response organization, its interaction with other parts of the response structure, certain position descriptions, and miscellaneous job aids.

9310.2.1 Oil spill management – Incident Command System

When oil spills occur, the Incident Command System (ICS) is the organizational structure used to coordinate response actions. The response organization grows to fit the level of response necessary for a specific incident. ICS positions are staffed, as applicable to an individual's training and expertise. If a suggested ICS position is not filled, the responsibility for the unfilled position's duties falls to the next higher ICS position. Those tasks will be performed unless they don't apply to the particular response.

The ICS organizational structure in an oil spill response typically includes the Unified Command (UC) and the Operations, Planning, Logistics, and Finance Sections that report to it.

Response actions concerning the protection, identification, rescue, processing, and rehabilitation of oiled wildlife or at-risk-wildlife are performed by the Wildlife Branch (Figure 1). This Plan describes activation of a wildlife branch, responsibilities and capabilities of the Wildlife Branch, response procedures, personnel and equipment, and wildlife protection responsibilities of federal and state governments during a spill.

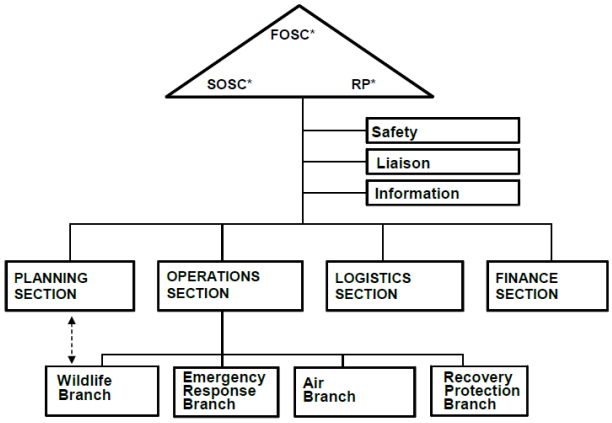

Figure 1. Wildlife Branch position within the UC/ICS Organization. The Wildlife Branch interacts closely with the Environmental and Situation Units within the Planning Section.

* Acronyms: FOSC = Federal On-Scene Coordinator (USCG or US EPA), SOSC = State On-Scene Coordinator, RP = Responsible Party

9310.2.2 ACTIVATING THE WILDLIFE BRANCH

A wildlife response is initiated when wildlife impacts are expected due to a reported spill.

To help assess and reduce potential wildlife impacts, it is important that an initial wildlife assessment be conducted by trained professionals in the vicinity of the incident site as soon as practicable. This assessment serves to identify already impacted wildlife, wildlife that is potentially at risk, and to determine whether specific strategies (such as deterrence) could be implemented to reduce wildlife impacts from occurring all together. This assessment will also help to determine the type and kind of resources that the Wildlife Branch will need to mobilize to address the needs of the incident, including which trustees may need to become involved in the Wildlife Branch.

Upon notification of a significant oil spill, the US Fish and Wildlife Service (USFWS), or their designee, will immediately assume the role of the Wildlife Branch Director (WBD) and will

initiate branch operations and the mobilization of wildlife response resources as appropriate. To ensure close coordination, the WBD will maintain communications with the UC and any contracted Wildlife Response Service Provider (WRSP). Early initiation of a wildlife assessment by the WRSP will ensure the timely mobilization of resources and will help to minimize adverse effects upon wildlife.

Initially, essential Wildlife Branch roles (Table 1) are likely to be filled by local personnel. As response actions become more involved, WRSP and trustee staff may be brought in from other locations to help fill Wildlife Branch roles. As soon as feasible, the WBD will direct the development of the Wildlife Plan, submit it for review and approval by the UC, and begin coordinating with professional wildlife response organizations and other trustee agencies for staffing needs.

The following conditions should be taken into consideration when activating Wildlife Branch operations:

- Product type (e.g., refined products are more acutely toxic).
- Extent of release, size of area impacted.
- Presence of federally and/or state listed species.
- Numbers and types of wildlife in the area.
- Habitat type (e.g., wetland).
- Seasonality (breeding season, migration period).
- Weather and sea state.

The WBD, in consultation with the State On-Scene Coordinator (SOSC) and the Environmental Unit Leader (ENVL), will coordinate with the permitted oiled wildlife response personnel and facilities and federal and state natural resource trustees (i.e., USFWS and NMFS). Early notification of the professional wildlife response personnel allows prompt assessment of the potential for oiled wildlife and determination of scenario-specific response resource needs (equipment and personnel).

9310.2.2.1 Washington State Wildlife Branch Activation

The Washington Department of Fish and Wildlife (WDFW) Oil Spill Team is typically notified of significant oil spill incidents by the Washington Department of Ecology Duty Officer. Based on its MOA with the USFWS, a WDFW representative will immediately assume the position of the WBD.

WDFW will sometimes receive direct notification about oiled wildlife in the absence of a reported spill. WDFW maintains internal guidelines for response to “mystery” incidents but, for the most part, the notification and activation activities listed below should still be followed. The decision about whether to activate the Branch will then be made by the appropriate WDFW representative (e.g., WDFW Oil Spill Team) in consultation with the SOSC.

9310.2.2.2 Oregon State Wildlife Branch Activation

Coordinator receives and triages incident notices and responds based on the specified scenario.

9310.2.2.3 Idaho State Wildlife Branch Activation

Coordinator receives and triages incident notices and responds based on the specified scenario.

9310.2.3 WILDLIFE RESPONSE ACTIONS

Activities associated with the activation of the branch will be appropriate to the size of the spill. Activation of personnel and equipment is based primarily on anticipated adverse effects on wildlife. Therefore, depending on the size of the incident, the Wildlife Branch may range in size from just the Branch Director position to full activation of the organization displayed in Figure 9310-1, including the associated equipment and personnel resources. Development of Wildlife Branch operations is an iterative, dynamic process that calls for accurate information, knowledge, experience, and judgment. It is important to understand that "activation" of the branch does not mean that a full-scale wildlife response will be mounted. The level of response is completely dependent on the number of animals that may potentially be impacted.

On every spill response, the first action of the Wildlife Branch must be to deploy skilled and experienced observers to the vicinity of spill location to conduct an initial wildlife impact assessment, to determine the extent of the initial and potential wildlife impacts in a timely manner. The ability to effectively determine the size and scale of the wildlife response is highly dependent on skilled observers arriving on scene quickly. These initial observers must be able to identify oiled wildlife behaviors because the impact of oil and other hazardous materials on wildlife is not always obvious to the average responder. Oiling from light petroleum products, unlike heavy petroleum products, can be especially difficult to determine without the use of a trained observer. Unless heavily oiled, impacted wildlife may be mobile and may not remain at the site of the initial oiling.

Results of the initial wildlife impact assessment will determine the initial size and complexity of the Wildlife Branch and the subsequent deployment of personnel and equipment. This involves establishing the Wildlife Branch organizational structure (Figure 2), contacting wildlife recovery and rehabilitation organizations, notifying the appropriate federal and state trustees, and determining rehabilitation facility needs. The number of animals affected, or potentially affected, will determine the number and type of personnel and equipment resources that are needed. The Wildlife Branch will work with Logistics to obtain and bring in resources, personnel, and equipment. Deterrence, search and recovery, field stabilization, rehabilitation, and release activities will proceed as deemed necessary and appropriate by the Wildlife Branch Director, with approval of the Unified Command.

Wildlife response actions can be summarized as discrete and separate actions, all with the goal of minimizing adverse effects of oil on wildlife and maximizing the release rate and survival of rehabilitated animals. The distinct components of wildlife response actions are as follows:

1) An initial Wildlife Impact Assessment: typically conducted shortly after a spill notification is received. This short-term operation (one to two days) gathers information about the potential types and numbers of oil-impacted wildlife—and the areas where they are located—to help establish the early operational needs of the Wildlife Branch (see Table 1 for staffing examples).

2) Wildlife Reconnaissance: conducted to obtain location information regarding oiled wildlife to direct search and recovery team efforts.

3) Oiled Wildlife Recovery (i.e., search and recovery): conducted to recover and transport oiled wildlife to the field stabilization unit or response rehabilitation facility as appropriate. Recovery teams may work by boat, all-terrain vehicle (ATV), vehicle or on foot, depending on the location of the spill.

4) Field Stabilization: the initial care provided to animals after recovery and prior to transport to the primary care (rehabilitation) center. Field stabilization generally occurs close to the point of recovery and is intended to ensure that recovered wildlife is sufficiently stable for transport. Initial care may include fluid therapy and warming (or cooling) the animal as appropriate. Field stabilization may not be utilized in all spills, depending on the location and circumstances of the incident.

5) Rehabilitation: involves providing specialized care to oiled animals with the goal of ultimately returning them to the wild. In general, the principal phases of the rehabilitation process include medical stabilization, the removal of the product, waterproofing, and pre-release conditioning.

6) Release into the wild after rehabilitation: all previously oiled animals must be completely cleaned of contaminants, be fully waterproof, and pass a standardized species-specific set of baseline medical and health criteria prior to being deemed ready for release. Release activities must be coordinated with USFWS and appropriate state trustees and media agencies. Wildlife will be released into approved sites, and release is to be considered only after the threat of re-oiling has been eliminated or minimized. USFWS may require or recommend that wildlife be banded, tagged, or otherwise permanently individually identified prior to release.

7) Deterrence: operations that utilize a variety of techniques to move animals away from areas where they are at risk of becoming oiled. The specific circumstances associated with any given response scenario will determine the need for, and ultimately the effectiveness of, any deterrence activities. The Wildlife Branch will coordinate all deterrence operations.

During oil spill responses involving wildlife, various state and federal agencies, nongovernmental organizations, and volunteers may become involved in wildlife-related activities. It should be noted, however, that most of any reconnaissance, search and recovery, and animal handling within the rehabilitation center will usually be conducted by personnel associated with oiled wildlife response organizations—especially during small to medium level responses. These professional organizations (which may or may not be “for profit”) have the training, experience, and personnel

required to provide the specialized services necessary for the successful recovery and care of oil impacted wildlife. Personnel that are not associated with these oiled wildlife response organizations will typically be used to fulfill more supportive roles within the Wildlife Branch.

The following sections describe the statutory basis for implementing an oiled wildlife response, along with the response structure, personnel, and equipment needed to conduct an oiled bird response, an oiled sea otter response, and killer whale deterrence and monitoring.

9310.3 STATUTORY BASIS FOR WILDLIFE BRANCH OPERATIONS

9310.3.1 Federal and State Law Mandates

The Federal Oil Pollution Act of 1990 (OPA-90) requires information about fish and wildlife and sensitive environments plans to be included in ACPs "in order to provide for coordinated, immediate and effective protection, rescue, rehabilitation of, and minimization of risk of injury to fish and wildlife resources and habitat." In 40 CFR Part 300, Section 300.210(c)(4), the requirements for this plan are set forth as an annex to the Area Contingency Plan. The Plan has been written in conjunction with other sections of the ACP to address these federal requirements.

9310.3.1.1 Washington Regulatory Framework

In most respects, the fish and wildlife provisions of Washington's Revised Code of Washington (RCW) 90.56 (Oil and Hazardous Substance Spill Prevention and Response**)** parallel the OPA-90 provisions for fish and wildlife protection during spill responses. Under RCW 90.56, and RCW 90.48 (Water Pollution Control) the Director of the Department of Ecology has several duties regarding living natural resources. The ECY Director is to:

- Develop contingency plans for the protection of fish and wildlife.
- Assess injuries to natural resources.
- Require restoration plans for wildlife resources including habitat following spills.

Within the state of Washington, pursuant to RCW 77 (Fish and Wildlife), the Washington Department of Fish and Wildlife (WDFW) is the lead state trustee agency for fish, wildlife, and their habitats.

9310.3.1.2 Oregon Regulatory Framework

Oregon Revised Statutes ORS_ 468B.060 and ORS468N.400 grants the Oregon Department of Fish and Wildlife (ODFW) the authority to investigate when pollution or a violation of an Oregon Department of Environmental Quality permit results in the injury, death, contamination or destruction of fish, wildlife, or habitat and defined wildlife rescue training programs. The statute also authorizes ODFW to recover the value of the fish or wildlife, & all costs associated with restoring the affected habitat. It also makes very clear that the responsible party is strictly liable for those costs.

Oregon Administrative Rules (OAR) 635-410 outlines ODFW's roles during an event. These include to:

- Promptly investigate to determine the cause & extent of damages.
- Seek compensation.
- Work with other agencies to eliminate sources of pollution, prevent losses & pursue violations.

9310.3.1.3 Idaho Regulatory Framework

Idaho code, 36-106 5 (A), 36-502, 36-701 – detailing the rights of the Director in the administration of wildlife under the Idaho Fish and Game Commission. Additionally, the Idaho Department of Fish and Game Wildlife Bureau, IDAPA 13.01.10 Rules Governing Importation, Possession, Release, Sale, or Salvage of Wildlife, and Wildlife Rehabilitation Permitting.

9310.3.2 Natural Resource Trustees for Wildlife

In any spill, the responsible party or spiller is responsible to federal and state resource trustees, to federally recognized Tribes, and to foreign trustees, all of whom are empowered to enforce remediation and seek compensation for injuries to natural resources that have been caused by a discharge (40 CFR Part 300, Subpart G, (WAC) 173-183, ORS 468B.060, and IDAPA 13.01.10).

Trustee agencies can provide input into the selection of response methods so that wildlife operations comply with each trustee's governing laws and their obligations to preserve and protect wildlife and habitat. During a spill response, the wildlife trustee agencies, and Tribes may work directly within the Wildlife Branch, the Environmental Unit, or remotely via the Liaison Officer to provide information about local wildlife resources, sensitive species or habitats, logistical considerations, and other issues of concern.

Federal trustee agencies that are most likely to participate in Wildlife Branch decisions and response activities are as follows:

- Department of Agriculture
    - U.S. Forest Service
    - Animal and Plant Health Inspection Service (APHIS) - Wildlife Services
    - U.S. Fish and Wildlife Service
- Department of Commerce
    - NOAA, Office of Response and Restoration
    - NOAA, Office of National Marine Sanctuaries
    - NOAA, National Marine Fisheries Service
- Department of Defense (military lands)
- Department of the Interior
    - Bureau of Indian Affairs

- Bureau of Land Management
- Bureau of Ocean Energy Management
- National Park Service

The United States Coast Guard (USCG) and the United States Environmental Protection Agency (EPA) are not trustee agencies for natural resources but are the primary lead federal agencies during spill response (in marine and inland waters, respectively), thus they participate fully in Wildlife Branch decisions as parts of the UC.

Washington, Oregon, and Idaho trustee agencies that are most likely to participate in Wildlife Branch decisions and response activities will vary by state and may include the following:

- Washington Department of Fish and Wildlife
- Washington Department of Natural Resources (tidelands and the bed lands of lakes and rivers)
- Washington Department of Parks and Recreation.
- Oregon Department of Fish and Wildlife
- Idaho Department of Fish and Game
- Idaho Department of Environmental Quality

Tribes retain sovereign authority to manage wildlife resource issues within reservation boundaries. Consultation and coordination are necessary with Tribal governments whose lands may be impacted by an oil spill. Regardless of whether an oil spill occurs directly on tribal lands or moves onto or through tribal lands, tribes have an important role in developing wildlife response actions affecting tribal resources. Tribes may also have additional natural resource interests related to retained rights outside of reservation lands. In such circumstances, the Wildlife Branch will work in coordination with affected tribes to develop appropriate wildlife response strategies to address wildlife and tribal concerns, in compliance with Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments), Department of the Interior Secretarial Order 3206, USFWS Native American Policy, and compliance with Section 1615 of the NWRCP.

9310.3.3 Interagency Agreements Regarding Joint Response Activities

Given that oil spills can cross state and national borders, the states of Alaska, California, Hawaii, Oregon, and Washington, and the Province of British Columbia formed the Pacific States/British Columbia Oil Spill Task Force and established a Mutual Aid Agreement to ensure effective coordination and resource sharing between the states and British Columbia in the event of a spill (https://oilspilltaskforce.org/).

International cooperation during spill responses is also enabled by the Pacific Geographical Annex (CANUSPAC) to the Canada – U.S. Joint Marine Pollution Contingency Plan (https://www.rrt10nwac.com/Files/CANUSPAC%20Annex_2016%20Update_signed.pdf), an accord signed by the United States and Canada. This accord also includes information needed for spill response personnel and equipment to cross the international border.

9310.3.4 Compliance with Federal and State Wildlife Regulations

There are four federal laws (discussed below) concerning the protection of wildlife relevant to spill response: the Migratory Bird Treaty Act (16 USC 703-712), the Marine Mammal Protection Act (16 USC Chapter 31), the Endangered Species Act (16 U.S.C. § 1531 et seq.), and the Bald Eagle and Golden Eagle Protection Act (16 USC 668-668d).

The WBD is responsible for ensuring that activities of the Wildlife Branch are conducted in compliance with federal laws, including implementation of all measures outlined in the Memorandum of Understanding/Agreement (MOUs/MOAs) and other agreements. In addition, the WBD will assist the Environmental Unit (EU) of the Planning Section to help ensure that laws and agreements pertaining to wildlife are complied with during other aspects of spill response.

9310.3.4.1 Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act (MBTA) prohibits anyone without a permit from pursuing, hunting, killing, possessing, or transporting most native birds in the United States (or attempting to do any of these things). The MBTA applies to live and dead birds, and active nests (nests with eggs or chicks). The trustee agency overseeing the MBTA is the USFWS.

Wildlife Response Service Providers (WRSP) operating within Washington are required to possess a Migratory Bird Rehabilitation Permit. In addition, incident-specific authorization from the USFWS is required for personnel (including volunteers) working under the WRSP to collect birds during oil spills. This includes dead birds and live oiled birds, as well as live un-oiled birds that may be captured "for the purpose of removing them from imminent danger." No federal permit is required for non-lethal deterrence of migratory birds. Birds captured or collected must be reported to the USFWS (typically through notification to the Situation Unit and UC), and any birds listed under the federal Endangered Species Act must be reported within 24 hours. Disturbance related to spill response activities that would result in the loss or abandonment of nests is not covered under the Migratory Bird Rehabilitation Permit; such disturbance should be avoided.

9310.3.4.2 Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) prohibits the "take" of marine mammals (including pinnipeds, cetaceans, and sea otters); with "take" being defined under the MMPA as "to harass, hunt, capture, kill or collect, or attempt to harass, hunt, capture, kill or collect." Under Section 109(h) of the MMPA, federal, state, and local government officials, or designees of the relevant Secretaries of the Departments of the Interior and Commerce, may take marine mammals during official response duties if such taking is for the protection or welfare of the mammal, the protection of public health and welfare, or the non-lethal removal of nuisance animals. Other exemptions to the take prohibition that are relevant to oil spill response include activities conducted under a permit or agreement issued by NMFS or USFWS.

9310.3.4.3 Federal Endangered Species Act

The federal Endangered Species Act (ESA) prohibits the take of species listed as threatened or endangered under the Act. “Take” under the ESA is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The USFWS oversees permitting authorization issues for the allowed take of listed terrestrial species, non-marine fish, birds, sea turtles (nesting), and sea otters; NMFS oversees permitting authorization of the allowable take of other marine mammals, sea turtles (in water), and marine and anadromous fishes.

In 2001, the USFWS and other federal agencies signed an MOU regarding oil spill planning and response activities related to the ESA. This MOU recognized that oil spill response is a federal action, and thus is subject to Section 7 of the ESA, which involves inter-agency consultations regarding threatened and endangered species. The MOU includes guidelines for pre-spill planning (including protocols for listed species, as included in this plan) and guidelines for emergency Section 7 consultations during and after spill response.

Sea otters, managed by the USFWS, are covered under this agreement, and are also addressed separately in the Sea Otter Contingency Plan (Appendix B). For issues related to take of listed pinnipeds, cetaceans, or sea turtles, the WBD should confirm that the Environmental Unit Leader (EUL) is working with NMFS and USFWS personnel to facilitate a federal ESA Section 7 Emergency Consultation, as necessary. The Services have issued recent programmatic Biological Opinion updates for the ESA Section 7 Emergency Consultation process (see NWRCP 9404).

The federal ESA does not specifically authorize deterrence and preemptive capture of ESA-listed species during oil spill response. The Wildlife Branch, in consultation with the appropriate trustee agencies, will develop response strategies, if appropriate, for deterrence and preemptive capture of listed species for a specific spill incident. Take of listed species resulting from approved response actions may be deemed incidental to the primary action of the spill response and will be covered by the ESA Section 7 Consultation process unless otherwise authorized by a permit. The Environmental Unit Leader should coordinate with the Services as soon as possible to determine which ESA consultation route may be most appropriate for the situation.

9310.3.4.4 State of Washington Wildlife Regulations

The endangered species provisions contained within Washington’s Fish and Wildlife Enforcement Code (RCW 77.15) prohibit the taking of fish or wildlife species that have been designated by the WDFW Commission as state-threatened and endangered; unless the taking of the fish or wildlife has been authorized per RCW 77.15.120 or if the person is an officer, employee, or agent of the department lawfully acting in the course of his or her authorized duties.

Wildlife rehabilitation permits issued by the state of Washington complement federal permit requirements and allow permitted rehabilitators to temporarily collect and hold injured (e.g., oiled) wildlife, including endangered species. Non-native restricted species cannot be released or transferred without written permission from WDFW (WAC 220-450). WDFW Wildlife Rehabilitation Permit (with an oiled-wildlife endorsement) authorizes recovery, temporary possession, transport, and rehabilitation of oiled threatened and endangered bird species. In addition, 50 CFR 17.21 and 17.31 allows any employee or agent of the WDFW to take listed species if such action is necessary to aid a sick, injured, or orphaned specimen (among other

things). Additionally, in regulations issued under the ESA Section 4(d) for threatened species including green sturgeon and several Distinct Population Segments of anadromous fish, take during an emergency may be allowed (see 65 Federal Register (FR) 42422 and 75 FR 30714). To aid in minimizing potential impacts to threatened and endangered species that could be encountered during spill response, special protocols have been established for key species, such as snowy plovers (Appendix B).

For the safety of the public (as well as of wildlife), WAC 220-450-070 generally prohibits members of the public from picking up disabled wildlife, although this WAC does contain a provision that allows members of the public to capture and transport injured wildlife to a rehabilitation facility. Specifically, "It is unlawful to take live wildlife, wild birds, or game fish from the wild without a permit issued by the (WDFW) director except as otherwise provided by department rule." Even with this provision, WDFW strongly recommends that members of the public do not attempt to capture injured wildlife on their own.

The WAC 173-182 and 173-186 require regulated industry oil spill contingency plans to cite approved Wildlife Response Service Providers that may conduct wildlife impact assessment, reconnaissance, deterrence, capture, stabilization, and rehabilitation operations.

Re: Treatment of non-native wildlife in Washington

Typically, wildlife-related spill response actions only focus on native wildlife. As a best practice, non-native wildlife (introduced, invasive, hybrid, feral, or peri-domestic animals) may be collected and treated during spill response only if:

- Care of non-native animals does not detract from care of native wildlife during the current spill response.
- Non-native animals are not released back into the environment unless specifically directed by the UC with concurrence from state and federal trustee agencies.
- Non-native animals might not be included in oiled wildlife logs and/or documentation/evidence that will be used for the purpose of a damages assessment.
- Costs associated with non-native wildlife care are specifically authorized by the UC.

9310.3.4.5 State of Oregon Wildlife Regulations

9310.3.4.6 State of Idaho Wildlife Regulations

Idaho Code 36-103 (a) Wildlife Policy. All wildlife, including all wild animals, wild birds, and fish, within the state of Idaho, is hereby declared to be the property of the state of Idaho. It shall be preserved, protected, perpetuated, and managed. It shall be only captured or taken at such times or places, under such conditions, or by such means, or in such manner, as will preserve, protect, and perpetuate such wildlife, and provide for the citizens of this state and, as by law permitted to others, continued supplies of such wildlife for hunting, fishing and trapping.

Idaho Code 36-502 No person shall possess, transport or ship in any manner, or accept for transportation or shipment any wildlife except as hereinafter provided.

(a) Possession and Transportation.

1. The possession and transportation of any legally taken wildlife shall be lawful when the same is in the possession of or is being transported by the taker of said wildlife and is accompanied by the appropriate licenses, tags, and/or permits attached and/or validated in the manner prescribed by the provisions of sections 36-409(d) and 36-410(a), Idaho Code.

(b) Unlawful Possession. No person shall have in his possession any wildlife or parts thereof protected by the provisions of this title and the taking or killing of which is unlawful.

(c) Release of Captured Wildlife. Any native wildlife, classified as predatory wildlife or unprotected wildlife, captured as the result of activity deleterious to human activity, may be released on private lands in the county of origin or on private lands in adjacent counties to the county of origin, with the written consent of the landowner of the property where the release occurs. The written consent shall include the date and the number of each species to be released.

Idaho Code 36-901 No person shall take by any method or means, at any place or time or in any amount, or to have in possession fish from any of the waters of the state of Idaho except as permitted by provisions of this title and commission rules or proclamations promulgated pursuant thereto.

Idaho Code 36-902 (a) Destructive Substances. Deposit, throw, place, allow or cause to pass into any of the waters of this state any deleterious drugs, toxicants, chemicals, poisonous substances, explosives, electrical current, or other material which may tend to destroy, kill, disable, or drive away fish.

Idaho Code 36-1102 (b) Migratory Birds.

1. No person shall hunt, take, or have in possession any migratory birds except as provided by federal regulations made pursuant to the federal Migratory Bird Treaty Act, as amended, and in accordance with related rules and proclamations promulgated by the commission.

Idaho Code 39-7102 Hazardous Substance Emergency Response Act.

(c) That the unexpected and uncontrolled releases or threat of releases of hazardous substances constitute a threat to the people and environment of Idaho; and

(d) That knowledgeable persons, governmental entities, and organizations should be encouraged to lend expert assistance in the event of a hazardous substance incident.

9310.3.5 How This Plan Relates to Other Plans

The Plan references and is consistent with additional federal wildlife plans, and industry contingency plans.

At the national level, the USFWS has prepared related plans, including: the *Best Practices for Migratory Bird Care During Oil Spill Response* (2003), and the *Fish and Wildlife Service National*

Oil Spill Contingency Plan (2005). Similarly, the NMFS's Marine Mammal Health and Stranding Response Program has developed the *Pinniped and Cetacean Oil Spill Response Guidelines, No. NMFS-OPR-52* (2015) and the *Oil Spill Emergency Response Killer Whale – Hazing Implementation Plan* (2014). These plans are consistent with the National Wildlife Rehabilitators Association and International Wildlife Rehabilitation Council's *Minimum Standards for Wildlife Rehabilitation* (4th edition 2012).

9310.4. WILDLIFE BRANCH RESPONSIBILITIES AND ORGANIZATION

9310.4.1 WILDLIFE BRANCH STAFFING

The positions within the Wildlife Branch will be staffed as appropriate to the incident and may include representatives of state and federal agencies, tribes, the responsible party, and professional oil spill response organizations. Activation of personnel and equipment is based on several variables, but primarily on the anticipated impacts to wildlife.

In Region 10, there are typically five Groups within the Wildlife Branch that report to the Wildlife Branch Director (WBD). These are:

- Reconnaissance Group (locating wildlife in the spill area)
- Deterrence Group (moving animals away from oil)
- Recovery Group (search and capture of oiled or at-risk animals)
- Field Stabilization Group (providing first aid until animals are fit for transportation), and
- Care & Processing Group (rehabilitation and collection of animal evidence).

Figure 2 shows the organization of these groups within the Wildlife Branch. The duties of these groups are highlighted in Section 5. Additional information regarding these groups and position descriptions can be found in Appendix A, Wildlife Branch Job Aids.

Table 1 (below) is a general guide to the Wildlife Branch management staffing needs for various sizes of spills. Three levels of Wildlife Branch response are shown in Table 1. Each response must be tailored on a case-by-case basis based on an assessment of risk to wildlife in the area. Some circumstances may justify Level 2 or 3 (highest) mobilization at the outset. The WBD will brief the appropriate UC representative (e.g., Operations Section Chief) on the deployment of personnel and equipment.

The rapid mobilization of personnel and equipment to support response needs is critical to the success of wildlife response operations.

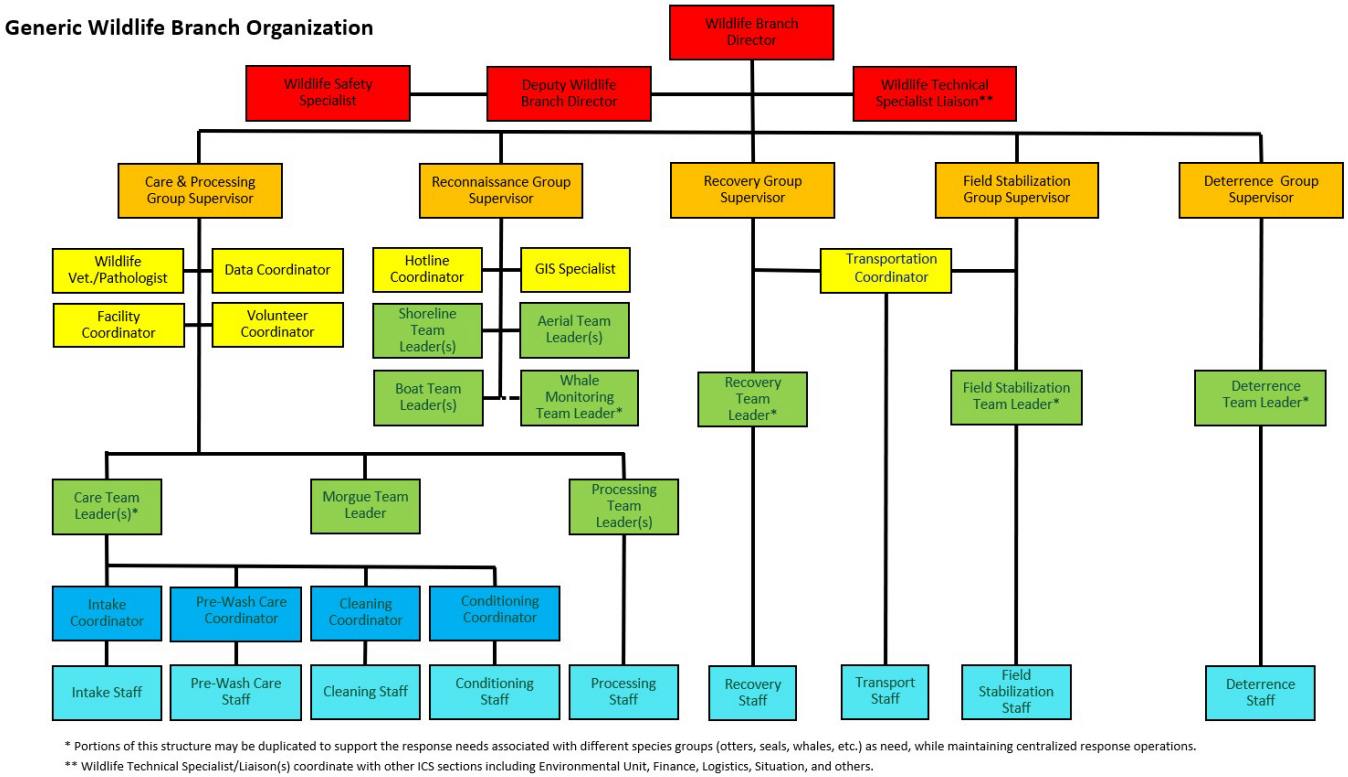

Figure 2. General Wildlife Branch Organizational Chart. Note that additional teams may be established within each Group if necessary.

9310.4.1.1 Wildlife Response Contractors - Equipment and Personnel Capabilities

The Wildlife Branch relies heavily upon permitted professional wildlife response organizations that are hired to provide expertise and equipment resources during responses.

Washington State has established contingency planning regulations for wildlife (see WAC 173-182 and 173-186). These regulations establish a baseline capability that the regulated oil industry (refineries, tank farms, pipelines, covered vessels, and railroads) needs to be able to provide during a response. Typically, equipment will be provided by the contracted Primary Response Contractor (PRC) and contracted personnel will be available via a state-approved Wildlife Response Service Provider (WRSP). WRSPs maintain the certifications necessary to conduct oiled wildlife rehabilitation.

Wildlife response equipment is listed along with other response equipment in the Worldwide Response Resource List (WRRL). The WRRL is a database that identifies owners and locations of potentially available response equipment. The WRRL list is located at https://wrrl.world/fmi/webd/WRRL and is searchable by response professionals as well as the public.

Appendix A contains a list of additional resources that may be useful during a wildlife response.

9310.4.1.2 Wildlife Branch Cetaceans and Otters Management

If there are significant cetacean or pinniped response impacts during an incident, representatives from the NMFS may fill the roles of the Whale Monitoring Team Leader within the Reconnaissance Group and the SRKW Deterrence Team Leader within the Deterrence Group. Likewise, the USFWS may fill the roles of the Sea Otter Recovery Team Leader within the Recovery Group and the Sea Otter Care Team Leader in the Care and Processing Group.

9310.4.1.3 Volunteers

During a spill, the WBD, with input from the Group Supervisors, will determine the need for volunteer assistance and will coordinate their training and participation with the Liaison Officer or the Planning Section as needed.

Wildlife Branch personnel may include "pre-trained" and "convergent" (previously untrained) volunteers. The training level of Wildlife Branch volunteers may range from none to highly skilled. It may be possible for "pre-trained" volunteers used in wildlife care activities to be hired temporarily during a response. The Liaison Officer typically manages the priorities/concerns associated with identifying the need for volunteers. Small numbers of pre-trained or highly skilled volunteers may be contracted directly by the professional wildlife response organization. If many convergent volunteers are used, a Volunteer Unit under the Planning Section will be established to implement a Volunteer Management Plan.

Volunteers must have proper health and safety training per the Site Safety Plan in addition to any additional training that may be required.

9310.4.2 Personnel Safety

Worker safety must be considered before any wildlife reconnaissance, protection or retrieval effort is conducted. Safety hazards that may confront Wildlife Branch personnel include toxic vapors, fire, hazardous weather and seas, unsafe footing, diseases, injuries inflicted by animals, and fatigue. All Wildlife Branch activities must conform to the Site Safety Plan for the response, and all personnel involved in Wildlife Branch operations must have appropriate job-specific safety training for the tasks to be performed. They must be adequately protected with the appropriate PPE.

Personnel conducting wildlife-related activities outside of "hot zones" (e.g., Care and Processing Center, Field Stabilization Facility, or transportation) may have less stringent hazardous material training if they are not encountering oil. The incident Safety Officer (SOFR) will approve Personnel Hazardous Waste Operations and Emergency Response (HAZWOPER) training requirements.

A spill-specific Site Safety Plan can be modified to address specific wildlife response operational needs. A sample wildlife-specific Site Safety Plan is provided in Appendix C; the wildlife portion of the Site Safety Plan is typically prepared by the Branch and is submitted to the SOFR for approval and incorporation into the Site Safety Plan. Wildlife Branch personnel are required to

read and sign the Site Safety Plan prior to commencing activities. In addition, task-specific field safety meetings should be conducted by the Supervisors/Team Leaders each day prior to daily activities.

Table 9310-1: Supervisory staffing example for the Wildlife Branch at three response levels. Non-supervisory staff are not included in this table. Actual staffing numbers may vary according to the actual needs of the spill response.

Supervisory Positions	Level 1 (<100 birds) (<10 otters)	Level 2 (100-500 birds) (10-50 otters)	Level 3 (>500 birds) (>50 otters)
General (ICP)			
Wildlife Branch Director	1	1	1
Deputy Wildlife Branch Director	1-2	1-2	1-2
Wildlife Technical Specialist Liaison	1	1	1
Wildlife Safety Specialist	0-1	1	1
Wildlife Reconnaissance			
Wildlife Reconnaissance Group Supervisor	1	1	1
Wildlife Hotline Coordinator	0-1	1	1
GIS Specialist	0-1	1	1
Aerial Team Leader	0-1	1	1
Boat Team Leader	0-3	3-5	5+
Shoreline Team Leader	0-3	3-5	5+
Whale Monitoring Team Leader	0-1	0-1	0-1
Wildlife Deterrence			
Wildlife Deterrence Group Supervisor	0-1	0-1	0-1
Wildlife Deterrence Team Leader	0-2	0-2	0-2
Wildlife Deterrence Team Leader (SRKW)	0-1	0-1	0-1
Wildlife Recovery			
Recovery Group Supervisor	1	1	1
Field Recovery Team Leader	0-3	3-5	6-8
Field Recovery Team Leader (otter)	0-1	0-3	0-5
Field Stabilization			
Field Stabilization Group Supervisor	0-1	1	1
Field Stabilization Team Leader	0-1	1-2	2-3
Transportation Coordinator	0-1	1	1
Wildlife Care and Processing			
Wildlife Care and Processing Group Super.	1	1	1
Wildlife Care Team Leader	0-1	1	1
Wildlife Care Team Leader (otter)	0-1	0-1	0-1
Wildlife Care Team Coordinators	0-4	4	4
Wildlife Veterinarian/Pathologist	0-1	1	1-3
Wildlife Processing Team Leader	0-1	1-2	1-2
Facility Coordinator	1	1	1
Volunteer Coordinator	0-1	1	1
Data Coordinator	0	0-1	1-2
Morgue Team Leader	0-1	1	1

9310.4.3 Interaction with Local Agencies

Interactions with local agencies and other groups are typically conducted through the Liaison Officer. Members of local government agencies and non-governmental organizations may be able to help staff the Wildlife Branch and provide logistical support. While representatives of local agencies may be able to provide expertise on environmentally sensitive sites they are typically integrated into the EU for this purpose. Depending upon their background and training, however, they may also be able to assist with things such as the staffing of the Wildlife Reporting Hotline, helping establish beach closures to reduce disturbance to wildlife, locating appropriate sites for the staging of wildlife equipment, or cetacean monitoring.

9310.5 Wildlife Branch Roles and Responsibilities

9310.5.1 Wildlife Branch Director

All Wildlife Branch operations during a spill response are directed by the Wildlife Branch Director (WBD), who reports to the Operations Section Chief and who supervises the five Groups described above. The WBD's duties include, but are not limited to:

- Overseeing all activities and safety of the Wildlife Branch personnel.
- Ensuring that the Branch is staffed appropriately.
- Ensuring the Wildlife response activities are detailed in the Incident Action Plan in coordination with the Planning Section Chief.
- Ensuring safety considerations for Wildlife Branch tactics are included in the Safety Plan and developed in coordination with the Safety Officer (SO).
- Ensuring that the waste streams generated by Wildlife response actions are detailed in the Waste Disposal Plan, developed in coordination with the EU.
- Providing the UC, Operations Chief, EU and Situation Unit (Planning Section), Joint Information Center (JIC), and Liaison Officer with spill-related wildlife information (e.g., numbers of dead/live oiled birds, deterrence activities implemented, impacts to protected species) as needed.
- Ensuring that the resource needs of the Branch are being met.
- Coordinating Branch activities with federal trustees.
- Coordinating Wildlife Branch operations with the various land managers and/or trustee agencies as needed.
- Working with the Environmental Unit to identify methods to minimize inadvertent impacts on wildlife from spill response activities.
- Coordinating with the Environmental Unit and Air Operations, as needed, for aerial reconnaissance.
- Coordinating with the NRDA process as appropriate.

Additional information related to the Wildlife Branch Director position can be found in Appendix B.

9310.5.2 Deputy Wildlife Branch Director

The Deputy Wildlife Branch Director reports to the Wildlife Branch Director and shares the roles and responsibilities of the WBD. This position typically ensures that Branch activities, particularly those occurring within the incident command post, continue to operate in the absence of the WBD.

9310.5.3 Wildlife Safety Specialist

The Wildlife Safety Specialist reports to the WBD and is responsible for ensuring the safety of Wildlife Branch personnel. This position coordinates with the incident Safety Officer (SOFR) and provides wildlife-specific information for inclusion in the incident Site Safety Plan. This position ensures that all Branch personnel receive all required training along with appropriate PPE.

9310.5.4 Wildlife Technical Specialist/Liaison

The Wildlife Technical Specialist/Liaison reports to the WBD and is responsible for assisting with the Branch planning activities and coordinating wildlife operations with other parts of the response (especially the EU and Operations Section).

A representative of the contracted Wildlife Response Service Provider (WRSP) typically fills this position.

Additional information related to the Wildlife Technical Specialist Liaison position can be found in Appendix B.

9310.5.5 Reconnaissance Group

This group is managed by the Reconnaissance Group Supervisor (RGS) and is primarily responsible for developing the general information about wildlife types, locations, and concentrations that are used for planning Branch activities.

Historical information on the status and distribution of wildlife and sensitive habitats is an important part of developing appropriate response actions and is available from the Resource at Risk Specialist in the EU. Changes from historic conditions due to the daily or seasonal movements of many animal species, however, dictate the need for rapid, real-time reconnaissance of wildlife concentrations in the spill area for accurate assessments. During spills, formal reconnaissance may also be supplemented with information from the public and spill responders about sightings of potentially oiled wildlife.

Reconnaissance activities also include the initial wildlife assessment, which should begin upon notification of a spill event as warranted. This assessment is an important step in determining the types and numbers of wildlife that the response will need to address as well helping to establish

the expected scale of the response. Entry into any public or private land should be coordinated with the appropriate land manager (refer to EU for land manager/trustee information).

The Reconnaissance Group may utilize Aerial, Boat, and Shoreline Teams to conduct their surveys. The main objectives of reconnaissance surveys are to evaluate the numbers, species, and locations of animals that have been or could be impacted by the spill. This information will be used by the Wildlife Branch to help direct Recovery Teams, by the Environmental Unit to develop operational response strategies for minimizing adverse effects on wildlife and will be provided to the Unified Command to inform them of potential wildlife impacts.

Experienced personnel are essential for conducting effective wildlife reconnaissance. Observers should be able to identify species, behavioral characteristics, and be knowledgeable about local ecological factors. At a minimum, personnel conducting wildlife reconnaissance for marine spills should be experienced at identifying species of marine mammals and coastal birds native to the response area. For inland spills, reconnaissance personnel should have knowledge of terrestrial species, freshwater fish, amphibians, reptiles, and sensitive habitats. Local trustee agency personnel, such as local USFWS refuge personnel, or state fish and wildlife agency personnel can be extremely valuable for timely reconnaissance. Ideally, these personnel should be able to determine, at a distance, whether a live animal is oiled.

If specialized surveys for listed state or federal threatened and endangered species are needed, additional wildlife specialists may be called in by the Reconnaissance Group Supervisor. These specialists will advise the WBD and the UC about threats to listed species, the locations and numbers of oiled animals, and the potential need for pre-emptive capture, deterrence, or other protection strategies.

Although mapping of sensitive resources will occur at the Command Post in the Situation Unit of the Planning Section, it may also be useful to have a dedicated Geographic Information System (GIS) Specialist working within the Reconnaissance Group to track wildlife observations.

Additional information related to the Reconnaissance Group and the Reconnaissance Group Supervisor position can be found in Appendix B.

9310.5.5.1 Reconnaissance: Wildlife Hotline

Observations from the public can supplement the information available to wildlife responders about the locations of oiled wildlife. For spills with the potential to impact moderate to large numbers of wildlife, a call-in number (aka “Wildlife Hotline”) will be established for the public to report observations of potentially oiled wildlife. Other media formats, such as a website, may also be established to augment the Wildlife Hotline.

Additional information related to the Wildlife Hotline can be found in Appendix B.

9310.5.5.2 Reconnaissance: Aerial Team

The Aerial Team Leader reports to the Reconnaissance Group Supervisor and is responsible for coordinating, conducting, and supervising aerial reconnaissance surveys of wildlife at the spill site and in areas at risk from the spill. The Aerial Team Leader reports observations to the Reconnaissance Group Supervisor who relays the information to the WBD and the Recovery

Group Supervisor. The Team Leader will coordinate flight planning with the Air Operations Branch, as well as trustees and landowners, to establish flight protocols as needed.

The Aerial Team characterizes the abundance, distribution, and species of on-water birds and mammals, and the Aerial Team Leader will supply this information to the Reconnaissance Group Supervisor following the completion of each survey. The Reconnaissance Group Supervisor is responsible for relaying this information to the WBD, other trustees and to the GIS Specialist for preparing maps of survey results.

These wildlife reconnaissance flights complement, but do not replace, operational overflights for mapping oil, directing operational resources, and documenting wildlife presence related to the application of dispersants. The use of a fixed-wing aircraft, helicopter, or UAS is scenario-dependent and will be discussed with the Air Operations Branch Director prior to the initiation of reconnaissance activities. Use of UAS will be in accordance with FAA part 107 certification requirements and state and federal trustee agency BMPs as appropriate for specific protected species.

9310.5.5.3 Reconnaissance Boat Team

The Boat Team Leader reports to the Reconnaissance Group Supervisor and is responsible for coordinating, conducting, and supervising boat reconnaissance surveys of wildlife at the spill site and in areas at risk from the spill. The Boat Team Leader reports observations to the Reconnaissance Group Supervisor who relays the information to the WBD and the Recovery Group Supervisor.

Boat-based surveys complement aerial surveys for wildlife and are used to help guide Recovery Group fieldwork. Boat-based surveys may provide more accurate estimates of abundance than aerial surveys and can be used to search for oiled wildlife on shorelines not accessible by land, or visible from the air. Dedicated reconnaissance boat surveys are intended to cover a larger area than boat-based recovery, whose primary focus is collecting oiled wildlife. Ideally, especially during larger spills, reconnaissance teams should not be used to collect any wildlife (live or dead) to facilitate surveying large areas quickly.

Observers will collect information on wildlife presence and their location and condition (alive, dead, oiled, and unoiled); basic weather and sea conditions; and any other notable information that may be useful for planning response efforts. Survey results should be transmitted to the Reconnaissance Group Supervisor using a standardized reporting form. The Reconnaissance Group Supervisor is responsible for relaying this information to the WBD and the GIS Specialist to prepare maps of survey results.

Boat reconnaissance surveys would most likely be conducted by contracted experts or resource agency personnel. The survey plan will be established prior to the survey to accommodate the specific areas, issues, and species of concern for a particular spill. Depending on the boat and search area, two persons are a minimum crew although for safety and search efficiency three persons are preferable. In all cases, at least one member of the team must be qualified to operate the boat, given the habitat, weather, and on-water conditions. Other personnel must be qualified to observe and identify wildlife and determine oiling status.

9310.5.5.4 Reconnaissance Shoreline Team

The Shoreline Team Leader reports to the Reconnaissance Group Supervisor and is responsible for coordinating, conducting, and supervising shoreline reconnaissance surveys of wildlife at the spill site and in areas at risk from the spill. The Shoreline Team Leader reports observations to the Reconnaissance Group Supervisor who relays the information to the WBD and the Recovery Group Supervisor. Duties also include coordinating with the other trustee agencies and land managers.

Survey teams should consist of a minimum of two people in addition to any vehicle operator for safety and expediency. Ideally, especially during larger spills, reconnaissance teams should not be used to collect any wildlife (live or dead) to facilitate surveying large areas quickly.

Depending on the terrain and the size of the area to be covered, four-wheel drive vehicles, or all-terrain vehicles (ATVs), can be used to reduce survey or search time. Prior to any activities using vehicles for surveys or collections, however, the Reconnaissance Group Supervisor must coordinate with the EU to obtain authorization from appropriate trustee agencies and/or landowners and abide by any special guidelines. Because motorized vehicles may frighten animals back into the water, caution must be exercised and there should be close coordination with the Recovery Group Supervisor.

9310.5.5.5 Reconnaissance: Whale Monitoring Team

The Whale Monitoring Team Leader reports to the Reconnaissance Group Supervisor and is responsible for coordinating, conducting, and supervising the detection and monitoring of whales, particularly Southern Resident Killer Whales (SRKWs). These monitoring efforts may involve surveying extensive areas beyond the immediate response area of a spill. Surveys are typically done via manned aerial surveys, although UAS or boat surveys may also be conducted. NOAA NMFS may fill the role of the Whale Monitoring Team Leader.

The Team Leader will also collect any whale presence information from sighting networks and by partnering with organizations that specialize in whale detection (e.g., Orca Network, the Pacific Whale Watch Association, and any hydrophone networks that are willing and able to share sightings data such as Orcasound). Duties include reporting observations to the Reconnaissance Group Supervisor to aid in response strategy development, as well as coordinating with the other trustee agencies as needed.

If deterrence operations are being planned this detection information will be provided to the deterrence group so that the team can take appropriate action.

See the Marine Mammal Plan (Appendix C.A) and SRKW Deterrence Plan (Appendix C.B) for additional descriptions of whale monitoring activities.

Additional resources for marine mammal monitoring may also be found on the WA Ecology Oil Spills 101 website (https://www.oilspills101.wa.gov/northwest-area-contingency-plan/incident-command-system-toolkit/contact-info-marine-mammal-monitoring-and-deterrence-options/).

9310.5.6 Deterrence Group

The Deterrence Group is overseen by the Deterrence Group Supervisor, who reports to the WBD.

Wildlife deterrence is intended to minimize injuries to wildlife by attempting to keep animals away from oil and cleanup operations. If warranted, deterrence activities may be implemented to prevent animals from establishing or continuing regular use patterns within a contaminated area.

The WBD and the Deterrence Group Supervisor will discuss deterrent options and ensure that the selected deterrence techniques are detailed in a deterrence plan that is included in the Incident Action Plan. The techniques considered are based on site- and species-specific factors present at the time of the spill and the availability of deterrence equipment and strategies.

Specific approval may be required under the MBTA depending on the particular species that are being deterred and the method of deterrence being proposed. In addition, a federal ESA Section 7 consultation with the USFWS and NMFS will be required to deter federally listed wildlife species. Separate deterrence teams may be established for birds and marine mammals.

Deterrence activities are typically considered for use in heavily oiled habitats, particularly when clean sites are present in the same vicinity. Deterrence is most likely to be effective where discrete areas such as coastal lagoons, estuaries, and bays have been oiled and where the potential exists to keep wildlife out of these areas. Contact USFWS and NMFS as soon as listed species are observed on the spill site or when changes to the response actions are needed to update consultation.

Deterrence is likely to be ineffective, or even counterproductive, when the spill area is too large to focus deterrent actions or when wildlife is likely to be pushed into oiled habitat. Wildlife that has already been oiled should not be dispersed because this can lead to the introduction of oiled wildlife into uncontaminated areas and populations. If appropriate, oiled wildlife should be captured as soon as practical.

The exclusion of wildlife (including fish with nets or other physical impediments), from an impacted area may also be an effective means of minimizing impacts.

Specialized deterrence equipment, deterrence techniques, and special deterrence considerations for birds are described in detail in the *Bird Hazing Manual: Techniques and Strategies for Dispersing Birds from Spill Sites,* published by OSPR and U.C. Davis (available online at: http://anrcatalog.ucdavis.edu/pdf/21638.pdf). Additional deterrence resources may be found listed on the World Response Resource List (WRRL) and in https://www.oilspills101.wa.gov/northwest-area-contingency-plan/incident-command-system-toolkit/contact-info-marine-mammal-monitoring-and-deterrence-options/.

Additional information related to the Deterrence Group and the Deterrence Group Supervisor role can be found in Appendix B.

9310.5.6.1 Deterrence General Team

The Deterrence Team Leader reports to the Deterrence Group Supervisor and is responsible for coordinating, conducting, and supervising the deterrence of wildlife (primarily birds) from oil-impacted, or likely to be impacted, areas. Duties also include reporting activities and observations to the Deterrence Group Supervisor to aid in response strategy development, as well as coordinating with the other trustee agencies as needed.

Deterrence usually includes deployment of acoustic or visual deterrence devices. A variety of deterrence devices are available and can be deployed to meet the situation, including aircraft, propane cannons, pyrotechnics, airboats, ATVs, sonic buoys, mylar tape, lasers, flags, distress and alarm calls, and effigies.

A representative of the contracted Wildlife Response Service Provider (WRSP) typically fills this position.

9310.5.6.2 Deterrence: Southern Resident Killer Whale Team

A specialized Killer Whale Deterrence Team may be established when there is concern that these animals could be impacted by a spill. Deterrence efforts should follow the Killer Whale deterrence implementation plan which is available in Appendix CB.

This team is supervised by the Killer Whale Deterrence Team Leader, who reports to the Deterrence Group Supervisor and who is responsible for coordinating, conducting, and supervising the deterrence of killer whales, with a focus on the endangered SRKWs, from impacted (or likely to be impacted) areas.

A representative of NMFS may fill the role of the Killer Whale Deterrence Team Leader.

For techniques related to general marine mammal deterrence, refer to NMFS's Pinniped and Cetacean Oil Spill Response Guidelines (No. NMFS-OPR-52 (2015)) available at: https://www.fisheries.noaa.gov/resource/document/pinniped-and-cetacean-oil-spill-response-guidelines

Additional deterrence resource information may also be found on the WA Ecology Oil Spills 101 website (https://www.oilspills101.wa.gov/northwest-area-contingency-plan/incident-command-system-toolkit/contact-info-marine-mammal-monitoring-and-deterrence-options/) and in Appendix CB.

9310.5.7 Recovery Group

The Recovery Group is managed by the Recovery Group Supervisor, who reports to the WBD.

Recovery may also be referred to as "capture" or "collection" and involves recovering both live oiled wildlife and dead wildlife carcasses. Under certain circumstances, this group may also engage in the pre-emptive capture of unoiled animals using special teams.

All wildlife recovery activities associated with a spill response must comply with state and federal agreements and permits issued by the appropriate management agencies (e.g., WDFW, NMFS, and USFWS).

Separate Recovery Teams may be established for birds and sea otters, and specialist teams may be established for certain species (plovers, raptors, etc.) and preemptive capture efforts.

The Recovery Group Supervisor will work closely with the Field Stabilization Group Supervisor and the Transportation Coordinator to ensure that recovered wildlife is transferred to stabilization units in a timely manner. The Group Supervisor will also work with the Operations Section Staging Area Manager to locate appropriate wildlife staging areas to support group activities.

Additional information related to the Recovery Group and the Recovery Group Supervisor Position can be found in Appendix B.

9310.5.7.1 Recovery General Team

The Recovery Team Leader reports to the Recovery Group Supervisor and is responsible for coordinating, conducting, and supervising the recovery of oiled wildlife (primarily birds) and dead animals that may be encountered. Duties include reporting activities and observations to the WBD through the Recovery Group Supervisor to aid in response strategy development, as well as coordinating with the other trustee agencies as needed.

A representative of the contracted Wildlife Response Service Provider (WRSP) typically fills this position. Specially trained personnel from approved contractors and government trustee agencies may be used to staff Recovery Team positions.

Systematic surveys for collecting affected wildlife will likely be conducted several times per day, including at least one survey as early as is safely possible after dawn. Successful captures will depend on the condition of the wildlife and upon the training and experience of the Recovery Team. Habitat and species-specific, techniques and strategies may be needed depending on the actual spill scenario.

Surveys are typically conducted using teams of at least two appropriately trained persons. These teams usually proceed on foot or by boat, although other types of transportation may be used to expedite searches.

Recovery teams collect information on all wildlife recoveries, utilizing appropriate data sheets and chain-of-custody forms.

Additional information for recovery teams may be found in Appendix B and Appendix C.

9310.5.7.2 Recovery Marine Mammals and Sea Turtle Teams

Specialized Marine Mammal and Sea Turtle Recovery Teams may be established if significant numbers of these animals are expected to be recovered during an oil spill response. NMFS and/or USFWS may fill the role(s) of recovery team leaders as appropriate.

Team Leader(s) report to the Recovery Group Supervisor and are responsible for coordinating, conducting, and supervising the recovery of the respective types of oiled wildlife and dead animals that may be encountered. Duties also include reporting activities and observations to the Recovery Group Supervisor to aid in response strategy development, as well as coordinating with the other trustee agencies as needed.

The WBD and the Recovery Group Supervisor should evaluate the need for marine mammal and turtle capture on a case-by-case basis in consultation with the trustee agencies that have specific regulatory authority: USFWS (sea otters), and NMFS (pinnipeds, cetaceans, and sea turtles). The WBD will coordinate with NMFS and/or USFWS regarding any incident-specific dead animal recovery and/or live marine mammal capture instructions.

Sea otters are a special case because they are listed as a threatened species in Washington State and they are extremely susceptible to oiling. Capture and treatment of sea otters is addressed

separately in the Sea Otter Oil Spill Contingency Plan (Appendix C). Sea otters that are not visibly oiled and are not displaying abnormal behavior will not be intentionally captured unless there is a substantial risk of oiling. Preemptive capture of animals at risk of oiling may be approved if wildlife response experts and natural resources trustee representatives judge the circumstances warrant the tactic. Implementation of this activity will require approval by the UC and ensuring that adequate resources for transport and holding are available.

During large oil spill events, separate Recovery Teams may be established for different types of wildlife being recovered (e.g., otters, seals) due to the differences in training and equipment that are required.

Standard protocols will be used to capture/recover marine mammals, in coordination with the NMFS or USFWS as appropriate. If dead marine animals are too large to collect, the Recovery Team will coordinate with the Care and Processing Group Supervisor to have a processing team deployed to collect information/evidence from the carcass as appropriate.

Additional information related to sea otter recovery can be found in Appendix C.

9310.5.8 Field Stabilization Group

The Field Stabilization Group is managed by the Field Stabilization Group Supervisor, who answers to the WBD.

The Field Stabilization Group provides initial care to impacted wildlife in the field prior to transportation to the Care and Processing Group. Stabilization facilities may be fixed or mobile units. Field stabilization is used to initiate wildlife care prior to its transport to the Care and Processing Group, especially when extended transport times are required. Stabilization typically includes warming (or in some cases cooling) oiled animals to normalize their body temperature and provide fluids. In some cases, it may be necessary to keep wildlife in a Stabilization Facility for an extended time prior to transport. Once medically stable, oiled wildlife should not be in transit for more than four hours without additional support.

Separate Field Stabilization Facilities may be established to address the needs of different types of wildlife (e.g., birds and sea otters).

The Field Stabilization Group Supervisor works closely with the Recovery Group Supervisor, the Care and Processing Group Supervisor, and the Transportation Coordinator to ensure the timely transport of wildlife from the field to the Field Stabilization Facility, and from the stabilization facility to the Care and Processing Center.

Additional information related to the Field Stabilization Group and Field Stabilization Group Supervisor can be found in Appendix B.

9310.5.9 Recovery Group and/or Field Stabilization Group Transportation Unit

This team is led by the Transportation Coordinator, who reports to the supervisor of either the Recovery or the Field Stabilization Groups.

The Transportation Team is responsible for moving animals (and small carcasses) collected by the Recovery Group to the field stabilization unit and/or the Care and Processing Center as needed.

This position may work with the DWBD and/or Volunteer Coordinator to obtain drivers. Early in the response the Recovery Group Supervisor and The Field Stabilization Group Supervisor will determine the preferred reporting structure for the Transportation Coordinator. This arrangement will be approved by the WBD and recorded on the organization chart.

Transport team members are responsible for ensuring that the data integrity for each collected animal is maintained by also transporting all information related to wildlife capture, chain-of-custody forms, samples, and other collected evidence as needed.

Additional information related to wildlife transportation can be found in Appendix B.

9310.5.10 Care and Processing Group

The Care and Processing Group is responsible for addressing the needs of impacted wildlife once it has been recovered from the field. The Group is directed by the Care and Processing Group Supervisor, who reports to the WBD.

There are two primary teams within the group: the Care Team and the Processing Team. The Care Team ensures that oiled wildlife receive the best achievable care by providing specialized care including veterinary care and rehabilitation. The Processing Team ensures that all necessary records related to oiled wildlife care are maintained and that appropriate intake information is collected. In addition to these teams, this group is also responsible for establishing a Morgue Team which, when necessary, maintains any dead wildlife that is collected during the response.

The wildlife data collected by these teams are used by the UC for a variety of purposes, such as developing response strategies and providing media updates. Intake and morgue data may also be used during the NRDA process.

The Group may also include a Wildlife Veterinary and/or Pathologist; a Facility Coordinator; a Data Coordinator; and a Volunteer Coordinator as needed.

Additional information related to the Care and Processing Group and Care and Processing Group Supervisor position can be found in Appendix B.

9310.5.10.1 Care and Processing Care Team

The Care Team is overseen by the Care Team Leader, who reports to the Care and Processing Group Supervisor.

The Care Team works within the primary Care and Processing Center and provides care to wildlife impacted by oil. Historically, this was referred to as the “rehabilitation” unit or team.

Historically, birds have been the most numerous animals affected during oil spills and so are likely to be the most abundant wildlife received at a primary Care and Processing Center. During spills where high numbers of marine mammals are being collected, entirely separate Care and Processing Teams may be established for birds and marine mammals.

The Care Team typically includes four coordinators (see Figure 2): Intake, Pre-Wash Care, Cleaning, and Conditioning. Note that the Intake Unit works closely with the Processing Team and the functions of the Processing Team may be merged into the Intake Unit for efficiency during smaller responses.

Specific specialized protocols for the care of oiled wildlife are not addressed here but can be found in the USFWS and NMFS best management practices (BMP) documents (See links to documents in Appendix 1.B).

The amount of time that animals spend in care can vary greatly and depend on many different factors, including:

- The spill location
- The type of petroleum product involved
- The effect of the product on a particular species
- Any pre-existing injuries that an animal may have
- The seasonal conditions
- Other logistical concerns including how long it takes to begin treatment

The Care Team Leader will coordinate with other trustees as appropriate to address any specific needs (BMPs, documentation, banding, etc.) that may exist.

Additional information related to the Care Team can be reviewed in Appendix B.

Contact information for organizations that possess wildlife rehabilitation equipment can be found in Appendix A. This equipment may also be found on the WRRL (https://www.wrrl.us/).

9310.5.10.2 Care and Processing: Processing Team

The Processing Team Leader reports to the Care and Processing Group Supervisor.

The Processing Team works within the primary Care and Processing Center and is the receiving point for wildlife transported to the center. This team ensures that documentation for animals entering the facility is in order and that samples are properly collected. This Processing Team works closely with the Care Team Intake Coordinator and may be merged with that position for smaller incidents. The Processing Team also works closely with the Morgue Team to ensure the processing of collected carcasses.

Oil impacting wildlife may be the evidence needed for legal proceedings and therefore certain protocols will be followed. In all spills, photographs and oil samples must be collected from impacted wildlife and preserved in case chemical fingerprinting of the oil becomes necessary. Species identification will be determined, and oiling information documented. All information necessary to complete the required intake documentation (see Appendix E) must be collected for each animal entering the care facility.

Information collected by the Processing Team can also be useful for making timely and accurate statements concerning effects on wildlife, to help determine if the animals collected are spill-

related, for directing recovery efforts, and for possible NRDA injury determination. Timely information on the number of wildlife affected each day is typically one of the most pressing issues for the UC and the JIC.

The Processing Team Leader ensures that all necessary forms are completed and stored (see Appendix E for forms). Summary information is provided daily to the Care and Processing Group Supervisor, for inclusion in the Wildlife Branch Daily Report Form developed for the UC. The Care and Processing Group Supervisor and WBD need to be briefed at least daily by the Processing Team Leader. The Processing Team Leader and Care Team Leader may be filled by the same person during small spills.

Ideally, all impacted wildlife (live and dead) is transported to the primary Care and Processing Center where the Processing Team is based. However, in instances where large dead marine mammals are found, a Field Processing Team may be deployed to the marine mammal's location. The Field Processing Team will be composed of trained and experienced marine mammal experts and may deploy in coordination with NMFS personnel.

During large-scale incidents, separate Live and Dead Processing Units within the Processing Team may be mobilized to efficiently process large numbers of animals.

9310.5.10.3 Care and Processing Morgue Team

The Morgue Team works closely with the Processing Team in the primary Care and Processing Center to ensure that wildlife carcasses transported to the center are appropriately documented (see Appendix E) and stored. In addition, carcasses of wildlife that do not survive the rehabilitation process will also be maintained by the Morgue Team.

Because of its connection to anticipated investigations, it is a best practice for the Morgue Team to be led by a member of USFWS Law Enforcement.

Necropsies may be useful in identifying pathogens in captivity-related diseases, to help guide corrective actions in wildlife care. For this reason, necropsies on selected birds or sea otters may be desired and conducted by Wildlife Veterinarians or Wildlife Pathologists during a spill response. The WBD must, however, obtain pre-approval from the UC and the USFWS prior to such examinations. Necropsies of other marine mammals (pinnipeds and cetaceans) are considered standard operating procedures for spill response, as gross examination cannot be used to determine whether apparently un-oiled animals have ingested petroleum products. Detailed sampling procedures for marine mammals can be found within NMFS's Pinniped and Cetacean Oil Spill Response Guidelines No. NMFS-OPR-52 (2015)
https://repository.library.noaa.gov/view/noaa/10479.

Following processing and documentation, all dead wildlife that have had appropriate evidence collected (photos, feather samples and fur/carapace/skin swabs) should be systematically packaged and stored in locked freezers in the morgue until the conclusion of the event. In certain instances when on-site storage capacity is exceeded, carcasses and samples can be transported, with appropriate chain of custody procedures, to a secure freezer for storage. This will protect the interests of trustees, Responsible Party (RPs), and EPA/USCG. If necessary, the carcasses can be re-examined to resolve any discrepancies or to secure additional samples for investigations. When

federal and state trustee agencies give the authorization, carcasses will be disposed of in accordance with federal and state laws.

9310.6 Interaction with other Incident Command System/Unified Command Sections

The Wildlife Branch coordinates its activities and information with the Operations Section, Planning Section, Logistics, Finance/ Administration, JIC, and Liaison Officer, as well as with NRDA.

The Wildlife Branch is responsible for developing wildlife plans and providing additional information for inclusion within the IAP. The plans and information reporting should include, but is not limited to:

- Wildlife Branch organization structure and contact information.
- Dissemination of oiled-wildlife hotline numbers or other media established for reporting observations.
- A description of any stabilization or rehabilitation facilities in use or being developed, including the number of personnel engaged at those locations.
- A description of any field reconnaissance, recovery, or deterrence operations underway or being planned, including the number of personnel deployed in those operations.
- A description of any use of volunteers that is being planned.
- A description of the process by which the UC will be kept informed of impacted wildlife.
- A description of the number of wildlife captured, cleaned, released, dead on arrival, euthanized, or in care. This is generally a daily update on the Situation Unit's ICS 209 form.
- Any wildlife-specific safety issues.

9310.6.1 Coordination with Situation Unit

The Wildlife Branch is responsible for reporting wildlife information to the Situation Unit. The Wildlife Branch only reports wildlife that has been admitted into care, including oiled/unoiled, live, dead, euthanized, and released animals.

This information is typically updated once per day to reduce confusion, although it can be provided to the UC as needed. The numbers reported to the Situation Unit for inclusion on the ICS 209 form do not include observations of uncaptured oiled wildlife or numbers of wildlife that are at risk of impact.

Additional monitoring or sightings information may also be provided to address concerns of specific species on a case-by-case basis and is often developed in coordination with the Environmental Unit.

9310.6.2 Coordination with Environmental Unit

Information developed by the EU, particularly from the resource at risk assessment (ICS 232) and overflight information, is used by the Wildlife Branch to help direct field resources.

Wildlife location information developed by Wildlife Branch field activities (and/or from public reports), especially as related to ESA-listed species, is shared with the EU. The EU will ensure that the WBD is briefed on any ESA (Section 7) consultations with federal trustees. See the ESA consultation form in the NWACP Section 9404.

The Wildlife Branch also provides the EU with information regarding waste issues associated with any wildlife care activities for inclusion in the Waste Disposal Plan.

9310.6.3 Coordination with the Liaison Officer and the Joint Information Center

The Branch provides information to the Joint Information Center (JIC) related to oiled-wildlife activities and background material for public announcements (see Appendix E). In addition, the Branch also works with the Liaison Officer when interaction with Tribes becomes necessary or when volunteers may be used during wildlife response activities.

9310.6.4 Coordination with Natural Resource Damage Assessment

The Wildlife Branch collects information and samples related to wildlife impacts that may be used as a part of an incident NRDA process. The Wildlife Branch will coordinate with any NRDA process to share relevant information as needed.

9310.7 Demobilizing Wildlife Branch Operations

The demobilization of Wildlife Branch operations occurs once wildlife activities are no longer needed for wildlife affected by the spill. This often happens after the demobilization of the rest of the response occurs as oil-impacted wildlife will typically continue to receive rehabilitative care for an extended time after they are captured. In general, the Care and Processing Center will continue to operate for approximately three weeks following admission of the last animal into rehabilitation.

The WBD, in consultation with the Wildlife Care Group Supervisor, the Recovery Group Supervisor, the Planning Section Chief, and trustee agencies, will determine when to discontinue recovery operations (this may occur at different times in given operational divisions). Typically, recovery will continue until field efforts result in no additional captures for some agreed-upon period. Note that the WBD may extend recovery efforts within a division or geographic area if warranted by a change in weather or sea state conditions (e.g., onshore winds, extreme tidal fluctuations, etc.) that are likely to bring more oiled wildlife ashore. “Hot Shot” Recovery Teams may be maintained on standby to respond to reports of oiled wildlife but would not conduct regional surveys. Where logistically feasible, these Recovery Teams would be placed on standby at the Care and Processing Center.

Wildlife Branch operations will continue while there is any recovery or rehabilitation activity underway. Upon conclusion of Wildlife Branch operations, demobilization will occur in accordance with any checkout procedures identified through the ICS and coordinated with the UC.

The WRSP personnel, equipment, and facilities used during the spill are often some of the last resources of an incident to be demobilized. Before closing, after the last animal leaves care, the Care and Processing Center and Field Stabilization Facilities will be decontaminated, sanitized, restocked, and prepared for the next response.

APPENDIX A

WILDLIFE BRANCH RESOURCES

A.1 Key Contact Information
A.2 Internet Resources
A.3 Mobile Facility Potential Deployment Locations
A.4 Marine Mammal Resources
A.5 Regional Wildlife Deterrence Resources

APPENDIX A.1
KEY CONTACT INFORMATION

Key Contact Information

Notifications

US National Response Center: (800) 424-8802

WA notifications

Washington Emergency Management Division: (800) 258-5990

WDFW Oil Spill Team (Pager): (360) 534-8233

USFWS (Pager): (360) 534-9313

OR notifications (Place Holder)

ID notifications (Place Holder)

WA Permitted Wildlife Response Service Providers (WRSPs):

- Focus Wildlife, 800-578-3048 (24/7), https://www.focuswildlife.org/
- International Bird Rescue (IBR), 888-447-1743 (24/7), https://www.birdrescue.org/
- Oiled Wildlife Care Network (OWCN),877-823-6926 (24/7), https://owcn.vetmed.ucdavis.edu/

Additional Wildlife Resources:

- CDFW-OSPR Marine Wildlife Veterinary Care and Research Center (MWVCRC), Santa Cruz, CA: 831-469-1719, https://wildlife.ca.gov/OSPR/Science/MWVCRC
- International Wildlife Research (IWR): 281-250-7839, http://wildliferesearch.com/
- NMFS - West Coast Marine Mammal Stranding Network: 866-767-6114, https://www.fisheries.noaa.gov/west-coast/marine-mammal-protection/west-coast-marine-mammal-stranding-network
- Oregon Coast Aquarium, Newport, OR: 503.226.1561 (Dr. Nicole Nicassia-Hiskey)
- Point Defiance Zoo and Aquarium, Tacoma, WA: 253-404-3800, https://www.pdza.org/
- Progressive Animal Welfare Society (PAWS), 425-412-4040, https://www.paws.org/
- Seattle Aquarium, Seattle, WA: 206-386-4300, https://www.seattleaquarium.org/

- SR3, Des Moines, WA: 206-413-5962, https://www.sealifer3.org/
- Tri-State, Newark, DE: 302-737-6543, https://tristatebird.org/
- US Fish and Wildlife Service (USFWS), Lacey, WA: 800.344.9543, https://www.fws.gov/
- Vancouver Aquarium Marine Mammal Rescue Society, 778.655.9554 (Dr. Martin Haulena or Lindsaye Akhurst)

Oil Spill Cleanup Contractors that own wildlife response equipment

- Clean Rivers Cooperative (CRC); 503-228-4361
- Marine Spill Response Corporation (MSRC): 1-800-645-7745
- Republic (aka US Ecology or NRCES): 800-883-4672/631-224-9141

APPENDIX A.2
INTERNET RESOURCES

GENERAL:

Region 10 Area Contingency Plan: https://www.rrt10nwac.com/NWACP/Default.aspx

AK Area Plan References and Tools: https://dec.alaska.gov/spar/ppr/contingency-plans/response-plans/tools/

CA Processing Strike Team Forms: https://data.pointblue.org/cadc2/research_tools_oil_spill.html

Worldwide Response Resource List (WRRL) https://wrrl.world/fmi/webd/WRRL.

USFWS: Effects of Oil on Wildlife https://digitalmedia.fws.gov/digital/api/collection/document/id/1728/download

Washington Dept. of Ecology Spills 101 website: https://www.oilspills101.wa.gov/northwest-area-contingency-plan/incident-command-system-toolkit/contact-info-marine-mammal-monitoring-and-deterrence-options/

BIRD RESOURCES:

Bird Hazing Manual: Techniques and Strategies for Dispersing Birds from Spill Sites, published by OSPR and U.C. Davis (available online at: https://anrcatalog.ucanr.edu/pdf/21638.pdf).

California Avian Data Center Spill Response Forms: https://data.pointblue.org/cadc2/research_tools_oil_spill.html

USFWS: *Best Practices for Migratory Bird Care During Oil Spill Response:* https://www.nrt.org/sites/2/files/1-best_practices_2003.pdf

MARINE MAMMAL RESOURCES:

WA Ecology: *Marine Mammal Monitoring and Deterrence Resource List* https://www.oilspills101.wa.gov/northwest-area-contingency-plan/incident-command-system-toolkit/contact-info-marine-mammal-monitoring-and-deterrence-options/

NOAA Office of Response and Restoration: Oil Spill Response and Killer Whales

https://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/oil-spill-response-and-killer-whales.html

NOAA: *Pinniped and Cetacean Oil Spill Response Guidelines* https://www.fisheries.noaa.gov/resource/document/pinniped-and-cetacean-oil-spill-response-guidelines

WDFW: *Washington Sea Otter Response Handbook (*http://wdfw.wa.gov/publications/pub.php?id=00302)

International Wildlife Research: *Emergency Care and Rehabilitation of Oiled Sea Otters*, IWR. http://wildliferesearch.com/iwr/docs/Emergency_Care_and_Rehabilitation_of_Oiled_Sea_Otters.pdf

OWCN UC-Davis Wildlife Healthcare: *Protocols for the Care of Oil Affected Sea Otters 2nd edition* 2020

APPENDIX A.3
PRIMARY CARE AND PROCESSING CENTER REQUIREMENTS

A combination of temporary structures is typically used to establish the primary Care and Processing Center during oil spills in this region. These structures allow for flexibility (e.g., Care and Processing Centers can be expanded with additional tents and pools as needed). Any existing permanent or purpose-built Care and Processing Centers used for wildlife rehabilitation during an oil spill response must meet minimum space requirements and incorporate all required aspects of wildlife treatment and rehabilitation. A wildlife rehabilitation facility should include:

- Adequate ventilation, hot and cold water, and climate control.
- Areas for intake, physical exam, and evidence processing that can be easily cleaned and disinfected.
- Locked storage for animal carcasses and data.
- Medical isolation capabilities.
- Indoor wildlife housing and caging.
- Food storage and preparation facilities.
- Wildlife washing, rinsing, and drying areas.
- Outdoor pool and pen areas.
- Pathology/necropsy facilities.
- Restroom, eating and volunteer training facilities.
- Administrative offices with multiple phone and conference space.
- General and secured storage.
- Access to a large parking area.
- Adequate security to restrict access.

Contact information for organizations that possess wildlife rehabilitation equipment can be found in Appendix A. This equipment may also be found on the WRRL (https://www.wrrl.us/).

Potential Deployment Locations for Mobile Facilities in Coastal Counties of Oregon and Washington

The following locations may be available for use in the deployment of the mobile oiled-wildlife rehabilitation units (MRUs). Note that not all locations may be suitable for drill deployments due to a lack of sufficient interior space.

Oregon	
County	**Possible deployment location**
Clatsop	Clatsop County Fair Expo Center 92937 Walluski Loop Astoria, OR 97103 Tel: 503-325-4600 LL: 46.15128, -123.7924 Web: http://www.clatsopfairgrounds.com/
Clatsop	Port of Astoria, Tongue Point 10 Pier 2 #103 Astoria, OR 97103 Tel: 503-325-2101 LL: 46.2034, -123.7651 Web: http://portofastoria.com Notes: Facility located 400 Railroad Astoria, OR 97103
Coos	Coos County Fairgrounds 770 4th Street Myrtle Point, Oregon 97458 Tel: 541-396-2200 LL: 43.0601, -124.1435 Web: http://www.co.coos.or.us/Departments/CoosCountyFair.aspx
Coos	Port of Coos Bay 125 Central Avenue, Suite 300 Coos Bay, OR 97420 Tel: 541-267-7678 LL: 43.3680, -124.2134 Web: http://portofcoosbay.com/ Email: portcoos@portofcoosbay.com
Lincoln	Lincoln County Fairgrounds 633 NE 3rd St. Newport, OR 97365 Tel: 541-574-1290 LL: 44.6382, -124.0447 Web: http://www.co.lincoln.or.us/fairgrounds.html

Oregon	
County	**Possible deployment location**
Lincoln	NOAA MOC-P 2002 SE Marine Science Drive Newport, OR 97365 Tel: 541-867-8700 LL: 44.6254, -124.0468 Web: http://www.moc.noaa.gov/MOC-P/mop-about.html
Lincoln	OSU Hatfield Marine Center 2030 SE Marine Science Drive Newport, OR 97365 Tel: 541-867-0100 LL: 44.6187, -124.0498 Web: http://hmsc.oregonstate.edu/
Lincoln	Port of Newport 600 SE Bay Boulevard Newport, OR 97365 Tel: 541-265-7758 LL: 44.6321, -124.0449 Web: http://www.portofnewport.com/index.php
Multnomah	Clean Rivers Facility 5882 NW Saint Helens RD Portland ,OR 987210 Tel: 503-220-2040 LL: 45.5643, -122.7464 Web: http://www.cleanriverscooperative.com
Multnomah	Port of Portland 7200 N.E. Airport Way Portland, OR 97218 Tel: 503-415-6000 LL: 45.5869, -122.5896 Web: http://www.portofportland.com Notes: Miscellaneous port facilities. Airport also managed by the port.
Wasco	Port of the Dalles 3636 Klindt Drive The Dalles, OR 97058 Tel: 541-298-4148 LL: 45.6255, -121.1988 Web: http://www.portofthedalles.com/ Email: info@portofthedalles.com Notes: Miscellaneous port facilities. Airport also managed by the port.

Oregon	
County	**Possible deployment location**
Wasco	Wasco County Fairgrounds (Hunt Park) 81849 Fairgrounds Road Tygh Valley, OR 97063 Tel: 541-483-2288 LL: 45.2541, -121.2056 Web: https://co.wasco.or.us/county/visitors_park_hunt.cfm Notes: Miscellaneous fairground buildings. Located ~30 miles south of The Dalles, OR
Washington	
County	Possible deployment location
Benton	Benton County Fair and Rodeo 1500 S. Oak Street Kennewick, WA 99337 Tel: 509-222-3749 LL: 46.1943, -119.0976 Web: http://www.bentonfranklinfair.com/ Email: info@bentonfranklinfair.com Notes: Miscellaneous fairground buildings
Chelan	Chelan County Expo Center 5700 Wescott Drive Cashmere, WA 98815 Tel: 509-782-3232 LL: 47.5218, -120.4991 Web: http://www.co.chelan.wa.us/ex/index.html Email: Karen.Welch@co.chelan.wa.us Notes: Miscellaneous fairground buildings
Chelan	Port of Chelan County 238 Olds Station Road, Ste. A Wenatchee, WA 98801 Tel: 509-663-5159 LL: 47.4627, -120.3312 Web: http://www.portofchelancounty.com
Clallam	Clallam County Fairgrounds 1608 West 16th Street Port Angeles, WA 98362 Tel: 360-417-2291 LL: 48.1178, -123.4764 Web: http://www.clallam.net/Fair/facilityrentals.html Notes: Managed by Parks, Fair and Facilities Department Office. Interior space available but does not meet indoor deployment criteria. Home Arts building is largest.

Oregon	
County	**Possible deployment location**
Clallam	Port of Port Angeles 338 W. First St. Port Angeles, WA 98362 Tel: 360-457-8527 LL: 48.1213, -123.4391 Web: http://www.portofpa.com/ Notes: Miscellaneous Port buildings. Airport also managed by the port. Inside deployment space available.
Clallam	Quillayute Airport 4183 Quillayute Road Forks, WA 98331 Tel: 360-374-5412 LL. 47.9335, -124.5614 Web: http://www.wsdot.wa.gov/aviation/AllStateAirports/Quillayute_Quillayute.htm Notes: Single hanger that has been previously used for wildlife deployment.
Clark	Clark County Event Center 17402 NE Delfel Rd Ridgefield, WA 98642 Tel: 360-397-6180 LL: 45.7476, -122.6644 Web: http://www.clarkcoeventcenter.com/ Notes: Miscellaneous fairground buildings
Clark	Port of Vancouver 3103 NW Lower River Road Vancouver, WA 98660 Tel: 360-693-3611 LL: 45.6437, -122.7041 Web: http://www.portvanusa.com/
Cowlitz	Port of Longview 10 Port Way Longview, WA 98632 Tel: 360-425-3305 LL: 46.1080, -122.9518 Web: http://www.portoflongview.com Notes: Warehouse space has been used successfully for drills.

Oregon	
County	**Possible deployment location**
Franklin	Port of Pasco 1110 Osprey Pointe Blvd., Suite 201 Pasco, Washington U.S.A. 99310 Tel: 509-547-3378 LL: 46.2176, -119.0815 Web: http://www.portofpasco.org/ Email: portofpasco@portofpasco.org Notes: Port buildings. Tri-cities airport also managed by the port.
Grant	Grant County Fairgrounds 3953 Airway Dr NE Moses Lake WA 98837 Tel: 509-765-3581 LL: 47.1451, -119.3105 Web: http://www.gcfairgrounds.com/ Email: grantcountyfairgrounds@co.grant.wa.us Notes: Miscellaneous fairground buildings
Grant	Port of Moses Lake 7810 Andrews N.E Moses Lake, WA 98337 Tel: 509.762.5054 LL: 47.1887, -119.3228 Web: http://www.portofmoseslake.com/ Notes: Warehouses associated with Grant County Airport
Grays Harbor	Grays Harbor Fair & Event Center 32 Elma-McCleary Rd. Elma, WA 98541 Tel: 360-482-2651 LL: 47.0144, -123.3783 Web: http://www.ghcfairgrounds.com/contact.aspx Notes: Appear to be several buildings that could work for deployments.
Grays Harbor	Port of Grays Harbor 111 S. Wooding Street Aberdeen, WA 98520 Tel: 360-533-9528 LL: 46.9670, -123.8459 Web: http://www.portofgraysharbor.com/index.php Notes: Miscellaneous Port buildings. Airport also managed by the port.

Oregon	
County	**Possible deployment location**
Jefferson	Jefferson County Fairgrounds 4907 Landes Street Port Townsend, WA 9836 Tel: 360-385-1013 LL: 48.1348, -122.7829 Web: http://www.jeffcofairgrounds.com/JeffCo_Site/Facilities.html Email: jeffcofairgrounds@olypen.com Notes: Notes: Miscellaneous fairground buildings. No indoor deployment space.
King	NOAA Sandpoint warehouse 7600 Sand Point Way NE Seattle, WA 98115-6349 Tel: 206-526-6015 LL: 47.6872, -122.2568 Web: http://www.wrc.noaa.gov/ Notes: Warehouse space and adjacent parking space. Good security. Contact Facility and Warehouse staff.
King	Port of Seattle 2711 Alaskan Way Seattle, WA 98121 Tel: 206-787-3000 LL: 47.6141, -122.3536 Web: http://www.portseattle.org/About/Contact/Pages/Contact-the-Port.aspx
Pierce	Frontier County Park 21606 Meridian E Graham, WA 98338 Tel: 253-841-8515 LL: 47.0601, -122.2955 Web: http://www.co.pierce.wa.us/index.aspx?nid=1321 Pierce County Fairgrounds. Managed by Pierce County Parks Department
Pierce	Port of Tacoma One East Sitcum Plaza Tacoma, WA 98421 Tel: 253-383-5841 LL: 47.2658, -122.4122 Web: http://portoftacoma.com/

Oregon	
County	**Possible deployment location**
Skagit	Fidalgo Bay Resort 4701 Fidalgo Bay Rd Anacortes WA 98221 Tel: 360-293-5353 LL: 48.4832, -122.5902 Web: http://www.fidalgobay.com/ Notes: Swinomish Conference Center parking lot. Inside space for personnel support available.
Skagit	Port of Anacortes 100 Commercial Ave. Anacortes, WA 98221 Tel: 360-293-3134 LL: 48.5216, -122.6136 Web: http://www.portofanacortes.com/ Email: events@portofanacortes.com Notes: Miscellaneous Port buildings. Airport also managed by the port.
Skagit	Skagit County Fairgrounds 479 W. Taylor Street Mount Vernon, WA 98273 Tel: 360-336-9414 LL: 48.4079, -122.3400 Web: http://www.skagitcounty.net/Departments/Fair/dept.htm Notes: Inside space available and inside deployment possible although will likely require multiple buildings.
Snohomish	Evergreen Fairgrounds 14405 179th Ave SE Monroe, WA 98272 Tel: 360-805-6700 LL: 47.8658, -121.9869 Web: http://www.evergreenfair.org/building-rentals.aspx Email: C.Munn@snoco.org Notes: Room for expansion. Inside deployment space available.
Snohomish	Port of Everett 1205 Craftsman Way, Suite 200 Everett, WA 98201 Tel: 425-259-3164 LL: 48.0032, -122.2172 Web: http://www.portofeverett.com/home/index.asp?page=1 Email: gen@portofeverett.com

Oregon	
County	**Possible deployment location**
Spokane	Spokane County Fair & Expo Center 404 N. Havana St, Ste 1 Spokane, WA 99202 Tel: 509-477-1766 LL: 47.6630, -117.3421 Web: http://www.spokanecounty.org/Fair/default.aspx Notes: Miscellaneous fairground buildings
Whatcom	COPAC Warehouse 6910 Salashan Parkway #A-1 Ferndale, WA 98248 Tel: 360-366-3357 LL: 48.8925, -122.6078 Web: http://www.copaccenter.com/copac.html Notes: Coast Pacific, Inc. warehouse facility. Room for expansion and inside deployment space available.
Whatcom	Northwest Washington Fair and Event Center 1775 Front Street Lynden, WA 98264 Tel: 360-354-4111 LL: 48.9375, -122.4768 Web: http://nwwafair.com/p/79 Email: info@nwwafair.com Notes: Expo, Ag, and Equine buildings have sufficient space for inside deployment and room for expansion.
Whatcom	Port of Bellingham – Airport 4255 Mitchell Way Bellingham, WA 98226 Tel: 360-671-5674 LL: 48.7959, -122.5329 Web: http://www.portofbellingham.com/index.aspx?NID=27
Whatcom	Port of Bellingham - Seaport and Marina 1801 Roeder Ave. Bellingham, WA 98225 Tel: 360-676-2500 LL: 48.7577, -122.4953 Web: http://www.portofbellingham.com/

APPENDIX A.4
REGIONAL MARINE MAMMAL OIL SPILL RESOURCES

NOTE: The content previously contained within this appendix was taken from the now repealed Section 9312 of the Northwest Area Contingency plan (v21, 2020); The content addressing Marine Mammal Oil Spill resources has been moved and is now located on the Ecology Oil Spills 101 website at Oil Spills 101 Wildlife Resources

APPENDIX A.5
REGIONAL WILDLIFE DETERRENCE RESOURCES

NOTE: The content previously contained within this appendix was taken from the now repealed Section 9311 of the Northwest Area Contingency plan (v21, 2020); The content addressing Northwest Area Wildlife Deterrence Resources has been moved and is now located on the Ecology Oil Spills 101 website at Oil Spills 101 Wildlife Resources

APPENDIX B

WILDLIFE BRANCH POSITION DESCRIPTIONS AND UNIT GUIDANCE

B.1 Wildlife Branch Director
B.2 Wildlife Technical Specialist/Liaison
B.3 Reconnaissance Group
B.4 Deterrence Group
B.5 Recovery Group
B.6 Stabilization Group
B.7 Transportation Unit
B.8 Care and Processing Group

APPENDIX B.1
WILDLIFE BRANCH DIRECTOR

Position Description

Reports to: Operations Section Chief
Scope: Responsible for directing branch staff to minimize wildlife losses during the response effort
Responsibilities 1. Direct and oversee all activities undertaken in the Wildlife Branch 2. Ensure the health and safely of wildlife responders 3. Ensure the oiled wildlife response is consistent with the guidelines provided by the plan 4. Ensure the integration of wildlife activities into the overall incident response 5. Ensure approval by wildlife authorities in coordination with the EU 6. Ensure information flows between the oil spill response team and the Wildlife Branch 7. Minimize wildlife casualties 8. Oversee recovery and rehabilitation of oiled wildlife 9. Ensure maintenance of appropriate documentation
Manages/supervises: Deputy WBD; Wildlife Technical Specialist, and all other functions in the Wildlife Branch
Immediate actions (0–72 hours)
Keep Personal Log (Form 214) and Unit Log (Form 214a)
Coordinate recommendations with the IMT or the Operations Section Chief. Confirm the extent of the threat to wildlife. Activate and mobilize the Wildlife Branch.
Obtain specific instructions from the Operations Section Chief, appoint a Deputy WBD as needed
Identify staff and prepare organizational chart for the Wildlife Branch
Coordinate initial wildlife assessment along with early aerial and ground reconnaissance of impacted wildlife. Collect relevant data on spilled oil and anticipate or monitor wildlife threats or impacts.
Determine level of operational response and identify resources required
Determine when personnel should arrive; notify and mobilize personnel; ensure their integration on arrival
Employ appropriate preapproved wildlife deterrence methods as authorized and recommended by the WRSP and EUL.
Meet with wildlife response team and delegate roles and responsibilities
Develop an incident specific Wildlife Response Plan to reduce wildlife casualties
Establish a wildlife hotline/reporting tool and determine effective flow of information between the Recovery and Reconnaissance Group Supervisors.
Identify initial process and site for stabilization of oiled wildlife before branch is fully operational
Identify and establish rehabilitation facility
Ensure all relevant documentation is in place to enable procurement of consumables, equipment, etc.
Determine if additional personnel and resources are required
Organize a first tactical meeting that plans for key actions for the next 24-48 hours
Ensure and chair other tactical meetings in the Wildlife Branch as appropriate
Provide a daily report on activities and achievements or as requested
Ongoing actions (after 72 hours)
Keep Personal Log (Form 214) and Unit Log (Form 214a)
Ensure the functioning of the Wildlife Branch and flows of information between WRSP and the OSC
Attend Operations Briefing
Ensure tactical meetings of the WRSP, chaired by the Deputy WBD
Define the criteria for downscaling and demobilization, determine the details of the demobilization plan
Recommend termination of wildlife response efforts to IMT when appropriate
Organize debriefing of personnel and collate final report for IMT

APPENDIX B.2
WILDLIFE TECHNICAL SPECIALIST/LIAISON

Reports to: Wildlife Branch Director
Scope: Evaluating and determining key components of oiled wildlife response
Responsibilities 1. Determine and report potentially affected wildlife species to Wildlife Branch Director 2. Identify experts to assess wildlife impacts, rescue, and rehabilitation 3. Ensure the integration of wildlife activities into the overall incident response 4. Ensure information flows between the field response team and the Wildlife Branch 5. Minimize wildlife casualties 6. Oversee recovery and rehabilitation of oiled wildlife 7. Ensure maintenance of appropriate documentation
Manages/supervises:
Immediate actions (0–72 hours)
Keep Personal Log (Form 214a)
Determine and report potentially affected wildlife species to Wildlife Branch Director
Coordinate air, land, and water reconnaissance of wildlife
Evaluate potential wildlife deterrence procedures and resources
Contribute to wildlife plan to recover and rehabilitate impacted wildlife
Implement protocols for collection of impacted wildlife
Coordinate transportation of wildlife to processing stations
Coordinate with liaison participation of volunteers and public at large
Make recommendations on the need for and feasibility of wildlife stabilization center, procurement of staff and equipment
Make recommendations on the need for and feasibility of wildlife rehabilitation center, procurement of staff and equipment, training and rehabilitation center management
Prepare ICS 213rr as appropriate
Coordinate with Staging Area Manager for stabilization and mobile response units
Work through Logistics Section to obtain necessary resources to construct and operate facilities for wildlife rehabilitation
Work with Safety Officer to provide for the safety of personnel engaged in wildlife protection and rehabilitation operations
Maintain accurate, up-to-date information on wildlife/habitat impacts and rehabilitation operations, including documentation of successes and mortalities; provide information to Wildlife Branch Director
Provide input to the EU's waste management plan
Develop an oiled wildlife rehabilitation plan for inclusion in the Wildlife Response Plan
Ongoing actions (after 72 hours)
Keep Personal Log (Form 214a)
Coordinate wildlife release protocols with trustee agencies
Coordinate with liaison participation of volunteers and public at large
Provide daily reports of potentially affected wildlife to Wildlife Branch Director

The Wildlife Technical Specialist is a critical position that provides valuable expertise to the EU on a myriad of wildlife and resources at risk issues. Additionally, the Wildlife Technical Specialist should serve as the liaison position, providing a critical link and coordination between the EU and the Wildlife Branch.

This position is expected to anticipate roadblocks or planning for events like migration that will impact current operational activities like timelines around oil cleanup or release of current patients during migration. The role may contribute to the development the of the IAP sections and work on logistics, but should be primarily focused on evaluating the priorities of Operations and EU to ensure they are not in conflict with regards to wildlife response operations.

Additional Tasks:

- q Collect and maintain spill general information such as tides, weather, trajectory, division boundaries, over-flight information, resources at risk information (ICS 232) staging areas, heliports, etc.
- q Contact Command Staff Liaison Officer and request that affected Indigenous communities are notified and invited to participate in oiled wildlife response effort (or get approval to do so directly). Determine if ongoing Indigenous community interaction can occur at the Branch level and if so, collect appropriate contact names and information.
- q Maintain communication and coordination with various federal and/or provincial agencies if they are not present in the Command Center:
- q Within the Command System serve as the primary liaison between the Wildlife Branch and:
    - o Environmental Unit (convey Branch planning activities, coordinate reconnaissance/over-flight, flight restriction zones, waste disposal efforts, etc.).
        - § Ensure EUL has a current understanding of Wildlife Branch activity.
        - § Ensure that the need for, and receipt of, the spill specific permit Authorization is articulated to the Environmental Unit.
        - § The wildlife plan will be submitted to the Planning Section (via the EU) for inclusion in the IAP after the Wildlife Branch Director and Operations Section Chief sign the cover or signature page. The Liaison will ensure this happens.
    - o Situation Unit (if any questions on the ICS 209 or other situations arise).
    - o Logistics/Resources (address logistical or procurement issues).
    - o JIC, general wildlife background documents, POC for JIC).
    - o Command Staff
        - § Liaison Officer (First Nations, stakeholder coordination, etc.).
        - § Safety Officer (ensure Branch has a safety plan, facilitate safety discussions, etc.).
- q Make sure all information from the above groups is circulated to the staff in the Wildlife Branch.
- q Maintain Individual log (ICS 214a)

APPENDIX B.3
RECONNAISANNCE GROUP

...1 Supervised by: Reconnaissance Group Supervisor

Reports to: Wildlife Branch Director
Scope: Responsible for coordinating large scale reconnaissance and monitoring of both oiled wildlife and unoiled species at risk in the greater spill area.
Responsibilities 1. Ensure the health and safely of assigned staff 2. Direct and oversee all field activities related to reconnaissance (monitoring), 3. Ensure all field activities are consistent with the guidelines provided by the Wildlife Response Plan and incident objectives established by IC 4. Establish and implement protocols for documentation of wildlife by oiling 5. Establish and implement protocols for documentation of wildlife impacted by response activity 6. Establish and implement protocols for documentation of at-risk wildlife within the greater spill area. 7. Review Group assignments and incident activities with Task Force and Unit Supervisors and assign tasks 8. Brief the Wildlife Branch Director on activities and status of resources within the Group 9. Respond to wildlife sightings reported to the Wildlife Hotline; report results to the Wildlife Branch Director 10. Coordinate activities with the Recovery, Deterrence, Field Stabilization and Rehabilitation Group Supervisors 11. Resolve logistical problems within the Group 12. Ensure maintenance and transfer of appropriate documentation
Manages/supervises: Assigned staff
Immediate actions (0–72 hours)
Keep Personal Log (Form 214); Unit Log (Form 214a); review Assignment List (Form 204a)
Attend Safety Meetings
Attend Operations Briefing
Attend OSRO Tactical Meeting
Determine if additional personnel and resources are required
Provide a report on activities and achievements at the end of each day

Wildlife Hotline

Observations from the public can supplement the information available to wildlife responders about the locations of oiled wildlife. For spills with the potential to impact moderate to large numbers of wildlife, a call-in number (aka “Wildlife Hotline”) will be established for the public to report observations of potentially oiled wildlife. Other media formats, such as a website, may also be established to augment the Wildlife Hotline.

During a spill response, the number will be provided to the JIC for use in press releases, and a Wildlife Hotline Operator(s) will be assigned to monitor the line. Ideally, the following information will be collected for each call:

- Date and time of call.
- Caller’s name and return phone number.

- Date and time of observation
- Location of oiled animal(s), as specific as possible
- Type of animal (species, if known)
- Whether the animal is alive or dead
- Whether the animal is in hand, on land, or in the water
- What degree of oiling is visible?

The operator should also inform callers that they should not attempt to capture oiled wildlife themselves, for the safety of both the caller and the animal. The Wildlife Hotline Operator should collate reports and provide this information to the Recovery and Reconnaissance Group Supervisors.

The hotline number may be an agency phone number, or the phone number for another organization or individual that will act as a Wildlife Hotline Operator. The operator may be any qualified individual, such as staff of a trustee agency, a wildlife contractor, or a qualified volunteer. Preferred qualifications include local area knowledge (e.g., local beach names), familiarity with local birds, and temporary bird storage needs. Coordination between the Wildlife Branch Director, Recovery Group Supervisor, and Reconnaissance Group supervisor will ensure timely and efficient sharing of hotline information for field action.

APPENDIX B.4
Deterrence Group

Supervised by: Wildlife Deterrence Group Supervisor

Reports to: Wildlife Branch Director
Scope: Responsible for coordinating hazing and deterrence operations to mitigate impacts to wildlife.
Responsibilities 1. Ensure the health and safely of assigned staff 2. Direct and oversee all field activities related to deterrence of unimpacted wildlife 3. Ensure all field activities are consistent with the guidelines provided by the Wildlife Response Plan and incident objectives 4. Establish and implement protocols for deterrence of wildlife 5. Deploy exclusion devices, visual and auditory wildlife deterrence equipment 6. Review Group assignments and incident activities with Task Force and Unit Supervisors and assign tasks 7. Brief the Wildlife Branch Director on activities and status of resources within the Group 8. Coordinate activities with the Wildlife Search and Capture Recovery Group Supervisor 9. Resolve logistical problems within the Group 10. Ensure maintenance and transfer of appropriate documentation
Manages/supervises: Assigned staff
Immediate actions (0–72 hours)
Keep Personal Log (Form 214); Unit Log (Form 214a); review Assignment List (Form 204a)
Attend Safety Meetings
Attend Operations Briefing
Determine initial deterrence priorities and opportunities
Attend OWRO Tactical Meeting
Ensure necessary permits for deterrence of wildlife
Determine if additional personnel and resources are required including incident specific specialists
Provide a report on activities and achievements at the end of each day

APPENDIX B.5
Recovery Group

Supervised by: Wildlife Recovery Group Supervisor

Reports to: Wildlife Branch Director
Scope: Responsible for coordinating search and capture of live oiled wildlife, collection of dead oiled wildlife, and coordinating transportation of oiled wildlife to field stabilization units or wildlife rehabilitation facilities.
Responsibilities 1. Ensure the health and safely of assigned staff 2. Direct and oversee all field activities related to capture, collection, and transport of dead and live oiled wildlife 3. Ensure all field activities are consistent with the guidelines provided by the Wildlife Response Plan and incident objectives established by IC 4. Establish and implement protocols for collection and documentation of impacted live and dead wildlife 5. In coordination with Field Stabilization Group Supervisor establish and implement protocols for transport of impacted wildlife; coordinate transport 6. Review Group assignments and incident activities with Task Force and Unit Supervisors and assign tasks 7. Brief the Wildlife Branch Director on activities and status of resources within the Group 8. Respond to wildlife sightings reported to the Wildlife Hotline; report results to the Wildlife Branch Director 9. Coordinate activities with the Deterrence, Field Stabilization and Rehabilitation Group Supervisors 10. Resolve logistical problems within the Group 11. Ensure maintenance and transfer of appropriate documentation
Manages/supervises: Assigned staff
Immediate actions (0–72 hours)
Keep Personal Log (Form 214); Unit Log (Form 214a); review Assignment List (Form 204a)
Attend Safety Meetings
Attend Operations Briefing
Attend OWRO Tactical Meeting
Ensure necessary permits for capture and collection of impacted wildlife
Develop initial plan for deployment of available recovery teams
Determine incident specific specialist personnel and equipment needs and if additional personnel and resources are required
Provide a report on activities and achievements at the end of each day

The Recovery Group is managed by the Recovery Group Supervisor, who reports to the WBD.

Recovery may also be referred to as “capture” or “collection” and involves recovering both live oiled wildlife and dead wildlife carcasses. Under certain circumstances, this group may also engage in the pre-emptive capture of unoiled animals by special teams.

All wildlife recovery activities associated with a spill response must comply with state and federal agreements and permits issued by the appropriate management agencies (e.g., WDFW, NMFS, and USFWS).

Separate Recovery Teams may be established for birds and sea otters, or specialist teams for certain species (plovers, raptors, etc.) and preemptive capture efforts.

The Recovery Group Supervisor will coordinate with the Field Stabilization Group Supervisor and the Transportation Coordinator to ensure that recovered wildlife is transferred to stabilization units in a timely manner.

The Group Supervisor will also work with the Operations Section Staging Area Manager to locate appropriate wildlife staging areas to support group activities. These staging areas would ideally include access to electricity, water, boat launch, and restrooms.

Recovery Team

Once wildlife is oiled, habitat-specific and species-specific strategies to recover and remove oiled live wildlife and all dead animals are required. Under the direction of the Recovery Group Supervisor, systematic surveys for capturing affected wildlife should be carried out several times per day, including at least one survey as early as is safely possible after dawn. Successful captures depend on the condition of the wildlife and on the training and experience of the Recovery Team, along with techniques and equipment used. All personnel should be appropriately trained prior to being assigned to these activities.

Surveys are often conducted on foot or by boat; however, the use of spotting scopes, ATVs, and four-wheel-drive trucks can expedite searches. Special considerations may be required to minimize additional injuries to wildlife and habitat when using vehicles, or when surveying on foot along wetlands, rivers, or streams, or on beaches that may support known concentrations of endangered or threatened species.

While conducting wildlife recovery during a response, it is important that dead animals are collected, documented, and retained (often for years) until disposal is approved by the trustees. It is not always feasible, reliable, or practical to attempt to discriminate in the field between spill-related and non-spill-related casualties; thus, all dead animals should be collected for transportation to the morgue using approved chain-of-custody methods.

In addition, the prompt removal of dead oiled animals from the environment can be critical to minimizing the risk of secondary oiling of predators and scavengers.

Recovery Group personnel should provide the following information (at a minimum) directly on each animal transport container (or on an Animal Collection Tag attached to the container):

- Collector's name (and phone number)
- Collection location: general name and GPS coordinates
- The date the animal was recovered from the location
- The time the animal was recovered from the location
- Species or common name of animal

APPENDIX B.6
Field Stabilization Group

Supervised by: Wildlife Field Stabilization Group Supervisor

Reports to: Wildlife Branch Director
Scope: Responsible for coordinating field stabilization of impacted wildlife and coordinating transport of stabilized wildlife to the wildlife rehabilitation facility.
Responsibilities 1. Ensure the health and safety of assigned staff 2. Direct and provide basic field stabilization of oiled wildlife to prepare animals for transport 3. Ensure all field activities are consistent with the guidelines provided by the Wildlife Response Plan and incident objectives established by IC 4. Establish and implement protocols for field stabilization of impacted wildlife 5. In coordination with the Recovery Group Supervisor and Care and Processing Group Supervisor establish and implement protocols for the transport of impacted wildlife; coordinate transport 6. Review Group assignments and incident activities with Task Force and Unit Supervisors and assign tasks 7. Brief the Wildlife Branch Director on the numbers, species, and status of impacted wildlife directed to the Field Stabilization Unit. 8. Brief the Wildlife Branch Director on activities and status of resources within the Group 9. Coordinate activities with the Search and Capture and Rehabilitation Group Supervisors 10. Resolve logistical problems within the Group 11. Ensure maintenance and transfer of appropriate documentation
Manages/supervises: Assigned staff
Immediate actions (0–72 hours)
Keep Personal Log (Form 214)
Attend Safety Meetings
Attend Operations Briefing (when possible)
Ensure necessary permits for stabilization and transport of impacted wildlife
Determine if additional personnel and resources are required
Provide a report on activities and achievements at the end of each day

APPENDIX B.7 Transportation Unit

The Transportation Coordinator arranges transportation of wildlife from the field to the Field Stabilization Facility and the Care and Processing Center. This position may work with the DWBD and/or Volunteer Coordinator to obtain drivers. Early in the response the Recovery Group Supervisor and The Field Stabilization Group Supervisor will establish the reporting structure for the Transportation Coordinator who may report to either the Recovery Group or the Field Stabilization Group Supervisor, clarity of the reporting structure is incident-specific and will be approved by the WBD and detailed on the organization chart to avoid confusion.

Transport of oiled wildlife from the field to the Care and Processing Center or Field Stabilization Facility, and/or to the primary care facility should be done as quickly and efficiently as possible. Transport of longer than 30 minutes requires wildlife to be provided with medical stabilization (hydration and thermoregulatory assistance) prior to transport. The interior of the transport vehicle should be maintained comfortably warm if animals are hypothermic or purposefully cooled if they are hyperthermic; the Field Stabilization Group Supervisor and/or the Transportation Coordinator will advise transport staff as to appropriate temperature control. Vehicles should be kept as quiet as possible (i.e., radios or stereos turned off, voices kept low). Drivers should ensure adequate ventilation for themselves to reduce exposure to fumes; fresh air vents should be open and directed at drivers' and passengers' faces.

Transporters must ensure that data for each animal is transferred with that animal. This includes information related to wildlife capture, Chain-of-Custody forms for live and dead animals, and other collected evidence. Transporters should maintain communication with the Transportation Coordinator. At a minimum, the Transporter Staff should notify the Transport Coordinator when they depart the field or staging area with oiled wildlife, and when they arrive at the Stabilization Facility or Care and Processing Center. The Transportation Coordinator should notify the Care and Processing Group Supervisor of the estimated time of arrival of oiled animals transported from the field.

APPENDIX B.8
CARE AND PROCESSING GROUP

Supervised by: Wildlife Care and Processing Group Supervisor

Reports to: Wildlife Branch Director
Scope: Responsible for receiving oiled wildlife at the wildlife rehabilitation facility, evidence documentation, carcass storage, and conducting triage, stabilization, treatment, transport, and rehabilitation of oiled wildlife.
Responsibilities 1. Ensure the health and safety of assigned staff 2. Process impacted wildlife, collect evidence, and maintain documentation 3. Direct and manage all aspects of wildlife rehabilitation and release 4. Ensure all rehabilitation activities are consistent with the guidelines provided by the Wildlife Response Plan and incident objectives established by IC 5. Establish and implement protocols for field stabilization of impacted wildlife (with Field Stabilization Group Supervisor) 6. Establish and implement protocols for the transport of impacted wildlife; coordinate transport 7. Establish and implement protocols for the rehabilitation and release of impacted wildlife, including euthanasia 8. Identify local veterinary services and wildlife rehabilitation groups in the area and develop relationships as needed 9. Review Group assignments and incident activities with Task Force and Unit Supervisors and assign tasks 10. Brief the Wildlife Branch Director on the numbers, species, and status of impacted wildlife brought to the Wildlife Rehabilitation Facility. 11. Brief the Wildlife Branch Director on activities and status of resources within the Group 12. Coordinate activities with the Search and Capture and Field Stabilization Group Supervisors 13. Resolve logistical problems within the Group 14. Ensure maintenance and transfer of appropriate documentation
Manages/supervises: Assigned staff; rehabilitation and veterinary staff and volunteers
Immediate actions (0–72 hours)
Keep Personal Log (Form 214)
Attend Safety Meetings
Attend Operations Briefing (when possible)
Ensure necessary permits for the rehabilitation of impacted wildlife
In coordination with wildlife trustees establish processing and chain of custody protocols
Determine if additional personnel and resources are required including incident-specific specialists
Provide a report on activities and achievements at the end of each day

The Care and Processing Group is responsible for addressing the needs of impacted wildlife once it has been recovered from the field. The Group is directed by the Care and Processing Group Supervisor, who reports to the WBD.

There are two primary teams within the group: the Care Team and the Processing Team. The Care Team ensures that oiled wildlife receive the best achievable care by providing specialized care including veterinary care and rehabilitation. The Processing Team ensures that all necessary records related to oiled wildlife care are maintained and that appropriate intake information is collected. In addition to these teams, this group is also responsible for establishing a Morgue Team

which, if necessary, maintains any dead wildlife collected during the response. For large spills where high numbers of marine mammals are collected, entirely separate Bird and Marine Mammal Care Teams and Processing Teams may be activated.

The Care Team is overseen by the Care Team Leader, who reports to the Care and Processing Group Supervisor.

The Care Team works within the primary Care and Processing Center and provides care to wildlife impacted by an oil. Historically, this was referred to as the "rehabilitation" unit or team. For large spills where high numbers of marine mammals are collected, entirely separate Bird and Marine Mammal Care and Processing Teams may be established.

Specific specialized protocols for the care of oiled wildlife are not addressed here but can be found in the USFWS and NMFS best management practices (BMP) documents.

The Care Team typically includes four coordinators (see Figure 2): Intake, Pre-Wash Care, Cleaning, and Conditioning. Note that the Intake Unit works closely with the Processing Team and the functions of the Processing Team may be merged into the Intake Unit for efficiency during smaller responses.

Historically, birds have been the most numerous animals affected during oil spills and so are likely to be the most abundant wildlife received at a primary Care and Processing Center. The amount of time that an animal spends in care can depend on many different factors, including:

- The spill location.
- The type of petroleum product involved.
- The effect of the product on a particular species.
- Any pre-existing injuries that an animal may have.
- The seasonal conditions.
- Other logistical concerns including how long it takes to begin treatment.

The Care Team Leader will coordinate with other trustees as appropriate to address any specific needs (BMPs, documentation, banding, etc.) that may exist.

Contact information for organizations that possess wildlife rehabilitation equipment can be found in Appendix A. This equipment may also be found on the WRRL (https://www.wrrl.us/).

When rehabilitated animals are ready for release, clean, non-oiled release sites should be chosen after consulting the appropriate trustee agency, or agencies, and the Environmental Unit of the Planning Section (typically through the WBD). While exceptions can be made during spill emergencies, some agencies may have specific requirements or policies regarding releasing animals on their properties. As a part of spill response actions, birds and mammals should be banded or tagged if possible and, in some cases, fitted with tracking equipment for post-release monitoring

APPENDIX C
SPECIAL PROTOCOLS AND PLANS

C.1 Guidelines for Spill Response Involving Marine Mammals

C.2 Killer Whale Deterrence Implementation Plan

C.3 Guidelines for Spill Response Involving Snowy Plovers

C.4 Guidelines for Preventing the Introduction of Invasive Species

C.5 Implementing Response Countermeasures (Offshore and Shoreline Oil Recovery and Applied Response Technologies)

C.6 Reducing Disturbance-related Impacts to Wildlife and Other Resources during spill response

C.7 Preemptive Capture of Wildlife

APPENDIX C.1
Guidelines for Oil Spill Response Involving Marine Mammals

This section provides general guidance for response to potential marine mammal impacts during oil spill response. While as many as 31 species of marine mammals may be found in the coastal waters of the Pacific Northwest, many of these species live primarily offshore and do not frequent nearshore habitats decreasing the likelihood of them staying in contact with surface oil. Several pinniped species (harbor seal, California sea lion, Steller sea lion, and northern elephant seal) and a few cetacean species (harbor porpoise, Dall's porpoise, killer whale, gray whale, and humpback whale) inhabit nearshore and inland waters either seasonally or year around. In addition, a reintroduced population of northern sea otters has been established on the outer coast of Washington. All of these species have the potential to become impacted during an oil spill, but perhaps the most vulnerable to negative impacts are southern resident killer whales and sea otters because of their small population size, distribution, and life history. Sea otters and killer whales are addressed in more detail below.

This section will inform marine mammal response activities within the Wildlife Branch. It is important that knowledgeable individuals with an advanced understanding of the biology and behavior of marine mammals be employed to evaluate the behavior and condition of the animals detected in or near oil spills and to determine the need for (and practicality of) conducting any deterrence, capture, and rehabilitation activities. All response activities related to pinnipeds and cetaceans will be conducted in accordance with the Pinniped and Cetacean Oil Spill Response Guidelines established by NOAA (https://www.fisheries.noaa.gov/resource/document/pinniped-and-cetacean-oil-spill-response-guidelines). Sea otter response activities will be conducted in accordance with the *Washington Sea Otter Response Handbook* (http://wdfw.wa.gov/publications/pub.php?id=00302)

Oil Spill Threats to Marine Mammals

The NOAA Guidelines document provided above gives a thorough introduction to marine mammals and their sensitivity to spilled oil. For pinnipeds, fur and blubber aid thermoregulation, and direct contact with oil may cause dermal injury and conjunctivitis. For sea otters, fur is used for thermal insulation and contact with oil can lead to dermal injury, hypothermia, and starvation. For all mammals, ingestion of oil may cause gastrointestinal ulcers, liver and kidney damage, reproductive failure, and behavioral abnormalities. Heavily oiled pinnipeds abandoned or moribund young pups of any species, and species that rely on fur for thermal insulation are the most likely candidates to require temporary care for cleaning or rehabilitation if they lack sufficient mobility to avoid capture.

Dead Marine Mammal Considerations

All carcasses found within a spill area must be treated as evidence and should be handled according to established chain of custody protocols. Each carcass should be labeled with the date, time, location, species, and collector's name. Large whale carcasses may be secured at the stranding site so proper data, measurements, and samples can be collected. A designated storage location will be identified by the Wildlife Branch, and each collected carcass will be logged. Necropsies should be performed within 24 hours if possible; if that is not feasible, the carcass should be frozen for later examination.

Collected oiled carcasses will be retained per appropriate chain-of-custody protocols until released for disposal by the Wildlife Branch.

Live Marine Mammal Rescue Considerations

Decisions to assist oiled and/or injured marine mammals are dependent on the size and type of the animals, the degree of perceived oiling, the location of the animals, and the available resources. See the table below for a summary of suggested response actions for oiled marine mammals. There are a limited number of facilities capable of working with marine mammals in Washington and Oregon and it is likely that temporary facilities may need to be established during a response. Any marine mammals identified as needing treatment and taken in by the Wildlife Branch will need to be transported, housed, and treated in accordance with accepted protocols.

Following treatment and rehabilitation, the attending marine mammal veterinarian (in conjunction with the appropriate trustee agencies) must determine whether individual animals are suitable for release. Considerations for the release of the animal include the risk to the wild population (potential to infect wild populations with diseases contracted during treatment), its health, behavior, ability to sustain itself in the wild, and the availability of suitable oil-free habitat.

Table 1: Summary of Suggested Response Actions for Oiled Marine Mammals

Type	**Monitor**	**Recover Carcass**	**Attempt intervention on oiled live**		**Deter**
			Stranded	**Free Swimming**	
Sea otter	Yes	Yes	Case-by-case	Not unless impaired	No
Pinnipeds					
Fur seals	Yes	Yes	Case-by-case	Not unless impaired	Case-by-case
Harbor seal	Yes	Yes	Case-by-case	Not unless impaired	Case-by-case
Northern elephant seal	Yes	Yes	Not unless exposed during molting or impaired juveniles	Not unless impaired	Case-by-case
Sea lions	Yes	Yes	Not unless impaired	Not unless impaired	Case-by-case
Cetaceans					
Small Cetaceans	Yes	Yes	Case-by-case	No	Case-by-case
Large Cetaceans	Yes	No	On-site treatment or euthanasia if appropriate	No	Case-by-case

Sea Otter Response

Sea otters can be found along the outer coast of Washington and (to a much lesser degree) within the western part of the Strait of Juan de Fuca. Any oil spill that reaches the near-shore environment in these areas may impact sea otters.

This summary provides an overview of how UC will respond to oiled sea otters in Washington State. More specific protocols and guidelines are maintained by WDFW for facility-specific issues, logistical concerns, and details of animal care. See the *Washington Sea Otter Response Handbook* (http://wdfw.wa.gov/publications/pub.php?id=00302) and the International Wildlife Research publication *Emergency Care and Rehabilitation of Oiled Sea Otters* (http://wildliferesearch.com/iwr/docs/Emergency_Care_and_Rehabilitation_of_Oiled_Sea_Otters.pdf) for additional information.

Protocols for the Care of Oil Affected Sea Otters 2nd edition 2020 OWCN UC-Davis Wildlife Healthcare

Agency Coordination

As noted previously, WDFW personnel will typically lead the Wildlife Branch during spill response in Washington, in coordination with the USFWS. For a spill response involving oiled sea otters, guidance from the USFWS will be particularly important. The WDFW has the authority to collect, transport, and rehabilitate oiled sea otters under the Marine Mammal Protection Act (50 CFR 18.22) and the Federal Endangered Species Act (50 CFR 17.21 and 17.31); however, explicit approval from the USFWS will be required prior to hazing otters or pre-emptively capturing unoiled otters at risk of becoming oiled. WDFW will also coordinate closely with the USFWS on evidence collection and possible necropsies.

Personnel and Organization

As with all aspects of Wildlife Branch activities, response to oiled sea otters will be conducted under the auspices of the UC. The decision to conduct any capture and rehabilitation effort for sea otters will be made by the WBD, typically in consultation with the USFWS. Only pre-trained personnel will be used for most activities, including field capture and most aspects of captive care and rehabilitation. Personnel used for these activities will have completed appropriate training and have appropriate experience working with sea otters. There are currently few trained personnel available within Washington State qualified to lead or assist with an oil spill response involving sea otters so there will be a significant reliance on out-of-state personnel to staff this part of a wildlife response. The WBD will coordinate activation of trained personnel as needed, including the potential use of volunteers for less skilled tasks. For spills involving numerous oiled sea otters, separate teams may be established within the Recovery, Stabilization, and Care and Processing Groups.

Facilities

There are no facilities within the Northwest capable of accepting and processing large numbers of oiled sea otters so the treatment of otters will rely heavily on participating wildlife rehabilitation, zoo, and aquarium facilities to be augmented with portable structures, equipment, and personnel at the time of a response to serve this purpose. The selection of a primary treatment facility (see Table 1, below) by the WBD will be based upon space availability and the number of animals being collected.

Portable, floating pens for holding larger numbers of clean rehabilitated or preemptively caught sea otters may be deployed in marine waters free of oil contamination (i.e., outside the spill-affected area).

Table 2. Potential Locations for Establishing Oiled-otter Primary Treatment Facilities follow on the next page.

Table 2. Potential Locations for Establishing Oiled-otter Primary Treatment Facilities

Facility	Location	Telephone	Contact
Point Defiance Zoo and Aquarium	Tacoma, WA	(253) 404-3800	
Seattle Aquarium	Seattle, WA	(206) 386-4300	
SR3	Des Moines, WA	(206) 413-5962	
Oregon Coast Aquarium	Newport, OR	(503) 226-1561	Dr. Nicole Nicassia-Hiskey
Vancouver Aquarium (Marine Mammal Rescue Society)	Vancouver, BC (Canada)	(778) 655-9554	Dr. Martin Haulena Lindsaye Akhurst

Capture, Transport, and Field Stabilization

Oiled sea otters could potentially be captured on shore (stranded animals) or on the water. On-water capture will occur only after consultation with the UC and the USFWS. On-water capture techniques may include dip-netting and (if approved by the UC and Trustee Agencies), tangle nets. SCUBA may be approved to capture sea otters outside of the "hot zone," but will not typically be used for capture of oiled animals. In Washington, sea otters will generally be captured by crews of experienced personnel from WDFW, USFWS, and IWR. All dead sea otters will also be recovered and transported to the primary care facility for processing.

Live sea otters that are not visibly oiled and are not displaying abnormal behavior will not be intentionally captured unless there is a substantial risk of oiling. Depending on circumstances, pre-emptive capture of animals at risk of oiling may be considered, if approved by the UC and the USFWS, and if adequate facilities for transport and holding are available.

Field stabilization may be implemented if deemed helpful (e.g., prior to a long transport to the Care and Processing Center). Every sea otter collected will be issued a unique identification number in the field. This number will be used to track the animal and associated field collection information until the animal is processed at the Care and Processing Center. Official chain of custody will be initiated upon processing at the primary Care and Processing Center.

Customized transport kennels will be used to reduce fur fouling and tooth damage. Freshwater ice (to combat hyperthermia and dehydration) and a chew toy or toys (to divert potential chewing on hard surfaces) are usually provided in transport kennels. Sea otters should not be taken into commercial veterinary facilities containing domestic pets due to potential disease issues.

Intake and Processing

Upon arrival at the Care and Processing Center each animal will be logged in as per response protocols to ensure proper information and evidence collection and to start official chain of custody records.

During the intake process, live sea otters will usually receive a subcutaneous thermistor PIT tag for monitoring body temperature. During the intake exam, the examining Wildlife Veterinarian will begin the animal's medical record and will determine if the animal requires additional

stabilization prior to washing. Euthanasia may be considered as an option for animals that are unlikely to recover.

Cleaning

Sea otters stable enough for washing will be anesthetized by an experienced Wildlife Veterinarian. Washing tables will be equipped with well aerated nozzles dispensing temperature controlled (80 to 110 F), softened (2-4 grains per gallon), fresh water. If tar or congealed products are involved, a vegetable oil (olive or canola) may be first used to solubilize the tar. Washing will consist of a cyclic wash, rinse, wash, rinse, process with a dilute solution of dishwashing detergent and water. Each animal will be rinsed thoroughly, for up to one hour upon completion of the washing cycle. Four to five people are required per washing table, one (with heavy gloves) specifically to hold the head-paws area. Depending on the degree of oiling, the entire washing procedure will usually take 1 to 2 hours.

Sea otters will then be towel-dried and moved to a drying table. Ideally, each drying table will be serviced by three or four air hoses with nozzles that deliver high-volume, dried, temperature-controlled air. Following drying, each animal will be reversed from the anesthetic and placed in a large, slat-floor kennel with a sliding top (intensive care cage) or other easy-access pen for intensive care monitoring.

When fully recovered from anesthesia, and if its medical condition allows, each otter will be moved to a small pool which will be serviced by abundant, clean, warm soft fresh water. As health and fur condition improve, otters may be moved to larger pools with warmed seawater within 24-48 hours, and if body temperature is stable, they can transition to pools with ambient seawater. It may take 2-4 days after cleaning and drying for an animal's fur to regain proper water repellency.

Oily equipment (e.g., cages and dip nets) should be wiped down thoroughly with oil sorbent pads then washed with detergent and water and disinfected with a chlorine solution. All oil-contaminated solid waste must be treated as hazardous waste and disposed of properly. Wastewater from animal and equipment washing will be diverted to a holding tank and tested to assess whether petroleum concentrations are low enough to discharge to the local sewer system.

Pre-release Conditioning

Animals will be retained in captivity until they meet accepted health guidelines for release (typically one to two weeks). Food will be offered every two to three hours around the clock for animals in intensive care and four or five times a day for animals once they enter a two-otter pool-pen or larger pool. Food offered will amount to 10 to 15 pounds per day per otter and consist of recently thawed clams, shrimps, sea urchins, market crabs, fish fillets, mussels, abalones, squids, etc. as available. Notes on the amount of food consumed and the behavior and coat condition will be kept on each sea otter. Data sheets will be filled out at regular intervals as per accepted protocols.

Prior to release, animals will receive standard flipper tags for post-release identification.

Release

If there is negligible danger of introducing disease into the wild population, and giving due consideration to possible quarantine protocols, rehabilitated sea otters will be released into the wild as soon as they are deemed physiologically and behaviorally normal pending USFWS approval. Sea otters will be released as near the original capture site as practicable, to reduce dispersal (and

thereby increase survival). Post-release tracking of cleaned and rehabilitated otters should be planned prior to release and implemented using the best available technology.

If identified release site is still contaminated by oil, sea otters may be held in captivity (seawater pools or floating net pens) until it is deemed safe to release them to the wild.

Pinniped Response

Seals and sea lions access shoreline sites in the Northwest Region. If an oil spill were to occur near a haulout, pinniped populations may be affected. Sea lions, harbor seals, and elephant seals rely on their thick blubber layer for insulation, making them less susceptible to hypothermia when they become externally oiled. Depending on the extent of exposure, toxicity, the volume ingested or inhaled, and clinical signs, some pinnipeds may not need to be captured and rehabilitated. For pinnipeds that regularly haul out, this is an opportunity for oil to be abraded, and many of these species do not preen their pelt, further reducing the risk of oil ingestion. Geographic response plans contain booming strategies to protect known haulouts when spill trajectories indicate likely impact at these sites. The *Washington Department of Fish and Wildlife Atlas of Seal and Sea Lion Haulout Sites* (2000) in Washington contains a thorough list of haulout sites https://wdfw.wa.gov/sites/default/files/publications/00427/wdfw00427.pdf. An updated (2019) GIS layer is available on the WDFW website at: Seal and Sealion Haul outs - Overview (arcgis.com). In Oregon, a list of seal and sea lion haulout sites can be obtained from the Oregon Department of Fish and Wildlife, Marine Mammal Program in Corvallis. If oil is likely to impact haulout sites, deterrence methods should be discussed with NMFS to keep animals from using the site. Little is known about the results of pinniped deterrence in the event of an oil spill, and this method will be considered on a case-by-case basis. Deterrence options for pinnipeds can be informed by NMFS guidance on seal and sea lion deterrence at: https://www.fisheries.noaa.gov/west-coast/marine-mammal-protection/deterring-nuisance-pinnipeds.

If haulouts are impacted, reconnaissance assets should be deployed to assess the impact of the oil on local pinniped populations. Priority should be given to minimizing beaching of oil at the haulout and secondarily to cleaning the haulout if immediate re-oiling will not occur. More information on individual species risk factors and treatment considerations are listed below.

Oiled Pinnipeds - Capture and Handling Techniques

In cases of light to moderate oiling of animals on shore, they should be monitored by individuals knowledgeable in pinniped biology and behavior to see if they can clear themselves of the oil or to detect deterioration in their health status that requires intervention. Moribund pinnipeds that have been impacted may be candidates for euthanasia, and this will be determined on a case-by-case basis. *In-situ* treatment on the beach can be considered if it is feasible to capture, anesthetize, clean, and release the animals on site. Pinnipeds should be considered for washing and immediate release at or near the capture sight if the threat of re-oiling is minimal (Gales and St. Aubin 1995) (Geraci and Lounsbury 2005). Pinnipeds generally tolerate short-term capture and transport and do not seem to be highly susceptible to capture myopathy (Gales and St. Aubin 1995). Heavily oiled and obviously oil-impaired pinnipeds may be considered for capture and cleaning. Temporary holding pens filled with absorbent sphagnum moss may be an option for heavily oiled pinnipeds; this would reduce handling, absorb oil from the pelt of the animal, and allow monitoring of the animal's overall health. In a large spill and/or when oil is expected to persist in the environment frequented by pinnipeds, it may be necessary to capture, rehabilitate, and hold pinnipeds until their health and the environmental conditions improve and re-oiling is unlikely.

The Marine Mammal Oil Spill Guidelines are a thorough guide to wildlife recovery and transportation and should be referenced when pinniped capture is being considered. A decision to capture should consider such factors as sex, age, reproductive state, size of the individual animal, and location with respect to other marine mammals. The potential benefits of capture must outweigh potential negative consequences, and capture is to be conducted in accordance with the Wildlife Recovery and Transportation section of the *Marine Mammal Oil Spill Response Guidelines* https://www.fisheries.noaa.gov/resource/document/pinniped-and-cetacean-oil-spill-response-guidelines. Top priority is personnel safety; capture and transportation of oiled marine mammals should be performed only by qualified personnel who have received the appropriate safety training, as well as marine mammal handling and restraint training. Local marine mammal stranding network responders and biologists are instrumental in this task, and a list of trained responders can be obtained from the Northwest Marine Mammal Stranding Network Coordinator within NMFS.

Pinniped handling and capture require communication equipment, specialized vehicles, boats, cages and transport boxes, herding boards, and PPE. A list of local resources for pinniped capture can be found in Appendix A.D of this document and on this Ecology webpage Oil Spills 101 (wa.gov). Permanent care and rehabilitation facilities are very limited in the Pacific Northwest, so for longer-term holding and/or treatment of large numbers of pinnipeds, temporary facilities may need to be identified or built at a suitable upland site. In general, no rescue will be initiated on free-swimming or stranded pinnipeds in the vicinity of an oil spill unless the animal is in obvious distress and the resources are available to intervene.

Cetacean Response

Small Cetaceans (Body length ≤ 10 feet)

Small cetaceans most likely affected by an oil spill in the Pacific Northwest include Dall's porpoise, harbor porpoise, and Pacific white-sided dolphins. Risk factors specific to these animals and special considerations for their treatment are provided below. Many additional small cetaceans frequent offshore waters in Washington and Oregon and may be impacted if a spill occurs in the open ocean. Deterrence of small cetaceans is unlikely but will be considered on a case-by-case basis.

Oiled Small Cetaceans - Capture, and Handling Techniques

Small cetaceans are highly mobile (traveling tens of miles per day), and apart from Harbor and Dall's porpoise, only frequent offshore water, which poses less likelihood of them staying in contact with surface oil. Most cetaceans are not highly sensitive to the mechanical or toxic effects of oil on the skin (Geraci 1990); thus, the value of intervention is greatly reduced compared to the stress and risk of injury associated with capture.

If a small cetacean strands alive, intervention and treatment should be considered. Beached cetaceans should not be pushed back out to sea without first being examined by an NMFS-approved marine mammal veterinarian and the action approved by NMFS. Responders should follow the Live Cetacean Stranding Protocol provided by the Northwest Marine Mammal Stranding Network within NMFS. This protocol outlines how to respond to a live cetacean stranding and options for release, how to keep the animal comfortable on shore if it cannot be moved, transport and rehabilitation options, and euthanasia considerations. Prior to being returned to the open ocean, cetaceans should be marked with an NMFS-approved brand or tag.

Intervention on free-swimming cetaceans will generally not be initiated because of the risks associated with capture. Due to their speed and maneuverability, small cetaceans are very difficult to catch and may suffer stress and exhaustion during the capture which could cause permanent injury or death. The social structure of these groups may also cause undue stress on healthy pod members when capture techniques are used to catch injured individuals. If special circumstances warrant intervention, the decision to capture should consider such factors as sex, age, reproductive state, and size of the individual animal, and the potential benefits of capture must outweigh potential negative consequences. Small cetaceans are physiologically adapted to be suspended in water at all times, requiring special handling procedures to capture and transport them. A holding facility must be identified prior to capture. With the exception of the Vancouver Aquarium, facilities with the capacity to treat and hold small cetaceans do not currently exist in the Northwest Region. If the capture of small cetaceans is attempted, it is to be conducted in accordance with the Wildlife Recovery and Transportation section in the Marine Mammal Oil Spill Response Guidelines.

The method of capture may vary according to species and situation, and each intervention will be assessed on a case-by-case basis. Personnel safety is the top priority; capture and transportation of oiled marine mammals should be performed only by qualified personnel who have received the appropriate safety training, as well as marine mammal handling and restraint training. Small cetacean handling and capture requires communication equipment, specialized vehicles, boats, transport boxes, slings, and PPE. A list of local resources and veterinarian contacts for cetacean capture can be found in Appendix 1D.

Large Cetaceans (Body length > 10 feet)

Large cetaceans most likely affected by an oil spill in the Pacific Northwest include killer whales, gray whales, humpback whales, and Minke whales. Many other large cetaceans frequent offshore waters in Washington and Oregon and are listed in the Supporting Information for the Marine Mammal section of the Northwest Wildlife Response Plan. Large cetaceans are highly mobile, and the likelihood of these animals staying in contact with surface oil is limited for most spill situations. If large cetaceans are reported to be moving through oiled areas, detailed observations and monitoring of the animals should take place. Deterrence of large cetaceans is unlikely but will be considered on a case-by-case basis. Deterrence options for large cetaceans may be informed by the supporting information for the Killer Whale Response section below.

Oiled Large Cetaceans - Capture, and Handling Techniques

If large cetaceans are found beached, responders should follow the Live Cetacean Stranding Protocol provided by the Northwest Marine Mammal Stranding Network within NMFS. This protocol outlines how to respond to a live cetacean stranding and options for release, how to care for the animal on shore if it cannot be moved, transport and rehabilitation options, and euthanasia considerations. Any beached cetacean should not be released without first being examined by an NMFS-approved marine mammal veterinarian and the action approved by NMFS. Prior to being returned to the open ocean, cetaceans should be marked with an NMFS-approved brand or tag. If a large whale strands in moribund condition (as determined by an NMFS-approved marine mammal veterinarian), euthanasia may be considered, and decision making should be coordinated with NOAA Protected Resources Division. Facilities to house large cetaceans are not available in the Pacific Northwest, and treatment options are limited, so euthanasia may be the most humane

option to reduce pain and suffering. In addition, capture of oil-impacted large cetaceans is not feasible for free-swimming individuals.

Killer Whale Response

The SRKW population is listed as endangered under the ESA and Washington rules. It is also protected under the MMPA. Evidence suggests that killer whales are unlikely to detect and avoid spilled oil, and exposure can result in population-level impacts). Deterrence and monitoring activities are the only mitigation measures possible during an oil spill, as capture and rehabilitation of killer whales is improbable. Whether or not killer whales can be deterred from entering an oil spill is directly related to the degree to which the whales are attracted to an area. Killer whale response activities will comply with guidelines in the document "Killer Whale Deterrence Implementation Plan" (see Appendix B.B). Additional information on deterrence techniques and the availability of equipment and trained personnel can be found at NOAA's Office of Response and Restoration webpage.

Killer Whale Deterrence Activities

Where immediate action is necessary to prevent SRKWs from entering oil, NMFS has issued pre-approval for the USCG as the Federal On-Scene Coordinator (FOSC) to implement the following deterrence tactics: the use of *Oikomi* pipes, the use of underwater firecrackers deployed from vessels, and the use of helicopters to attempt to direct whales away from an oil spill. The methods chosen to be used (if any) will be determined at the time of a spill depending upon the specific circumstances. The USCG will endeavor to coordinate with NMFS prior to initiating these methods, but it is recognized that this might not always be possible. Use of any deterrence mechanisms other than the three methods listed above will require consultation with NMFS prior to implementation. Any deterrence actions taken, as well as the results of those actions, will be reported to the NOAA Marine Mammal Health and Stranding Program as soon as possible. If the threat to killer whales is not imminent, the WBD and the Killer Whale Deterrence Team Leader will consult with the NOAA Marine Mammal Health and Stranding Program prior to acting.

The initiation of deterrence activity will be considered by the WBD any time that killer whales are reported within 50 miles of an oil spill. Spills that occur in the following areas and within the listed months are the most likely to pose the greatest risk to the SRKWs and where deterrence operations will be prioritized:

- Haro Strait and Strait of Georgia to Canadian border off Point Roberts: May through September;
- Admiralty Inlet and central Puget Sound: October through January; and
- Areas where an uncharacteristic presence of the SRKWs has been reported (e.g., the extended stay of southern resident killer whales in Dyes Inlet in 1997).

Trained killer whale deterrence teams will conduct on-water deterrence operations, each consisting of up to several vessels. These vessels may be provided and crewed by trustees, contractors, or registered vessels of opportunity.

During killer whale deterrence operations, wildlife observers will monitor killer whale activity to document whale behavior and to evaluate the effectiveness of deterrence activities. Any interactions between the whales and oil should also be recorded. These observers, coordinated by the Deterrence Group Supervisor, should be familiar with the differences between the behavior of

the transient and resident whale populations to better predict their potential movements. Observers should photographically document all whales that are observed. Photos should be taken from the side with a clear view of the dorsal fin and saddle patch to identify the individual animal.

Killer Whale Monitoring Activities

The Whale Monitoring Team, within the Reconnaissance Group, is responsible for collecting information on the location and direction of travel of killer whales within 50 miles of the spill location. This can be done by contacting Orca Network, the Pacific Whale Watch Association (proprietary app) the Orcasound Hydrophone network, and Fisheries and Oceans Canada to detect and monitor whales (particularly SRKWs) that may be outside the immediate response area of a spill but that may be ultimately at risk from the spill. The Whale Monitoring Team will report whale observations to the WBD through the Reconnaissance Group Supervisor to aid in response strategy development (e.g., deterrence) as well as to facilitate coordination with the other trustee agencies.

Killer Whale Strandings and Mortalities

Regional marine mammal stranding networks should be alerted by NMFS when a spill occurs that may impact killer whales. If a carcass is found and NMFS authorizes a necropsy, the necropsy should follow the established killer whale necropsy protocol (Raverty and Gaydos 2014) and NOAA's *Marine Mammal Oil Spill Response Guidelines* and be coordinated with NMFS.

APPENDIX C.2

Oil Spill Emergency Response Killer Whale – Deterrence Implementation Plan
(NMFS, 1/12/12 updated 2023)

Also available at: https://response.restoration.noaa.gov/sites/default/files/Hazing-Implementation-Plan.pdf

Introduction and Background

This implementation plan provides guidance for killer whale monitoring and deterrence activities as part of the Northwest Area Contingency Plan. Deterrence activities during emergency oil spill response is authorized under MMPA/ESA Research and Enhancement Permit 24359 issued to the NMFS Marine Mammal Health and Stranding Response Program (MMHSRP), Sarah Wilkin. The Federal On-Scene Coordinator in the Unified Command has been delegated authority as a Co-investigator under Permit 24359 and may initiate certain pre-approved hazing activities to minimize killer whale exposure to oil or other emergency spill response activities.

The Southern Resident killer whale population is listed as endangered under the U.S. Endangered Species Act (ESA) and is also protected under the Marine Mammal Protection Act (MMPA). Oil spills have been identified as a primary threat to this population and the *Recovery Plan for Southern Resident Killer Whales* calls for developing strategies to deter killer whales from entering spilled oil (NMFS 2008). Evidence suggests that killer whales are unlikely to detect and avoid spilled oil, and exposure can result in population-level impacts (Matkin et al. 2008). During the initial phases of a spill response the Unified Command will take appropriate action to monitor and/or haze killer whales to minimize their exposure to spilled oil. Prior to the full mobilization of the Unified Command and the field response effort under its direction, NMFS has pre-approved monitoring activities and three hazing actions for consideration and emergency implementation by the Command. Deterrence activities that have not been pre-approved must be coordinated with and authorized by NMFS (see section V. below).

Monitoring

Beginning with notification of a spill, the Wildlife Branch Director will ascertain whether killer whales have been observed or are likely to be within 50 miles (8-10 hours) of the spill event. If killer whales have been observed or are likely to be within 50 miles, the Branch Director will designate a killer whale liaison to initiate communications with killer whale experts, researchers, sighting networks and advocacy groups to monitor/track the whale's movements relative to clean- up activities and the spill trajectory. Once whales have been located, the Branch Director (or designee) will determine whether it is safe to dispatch a trained whale observer to the scene to identify the type of killer whales (residents or transients) and, if residents, which members of the Southern Resident killer whale population are present. If dispatch of a trained observer to the scene is not safe or feasible, the Branch Director (or designee) should order appropriate resources to collect high-definition digital photographs of individual whales at the surface for use by identification experts off scene to identify which whales are present (see photo instructions below). The Branch Director (or designee) will

order real-time reconnaissance (vessels or aircraft) for continuous monitoring if killer whales appear to be moving toward the spill, the spill trajectory, or clean-up activities and/or are found within 20 to 30 miles (6 hours) of oil or trajectory. Once monitoring begins, the Branch Director (or designee) will consider deterrence activities to deter the whale's progress toward the spill and will identify available assets to conduct deterrence. Monitors that are tracking whales in the field must provide periodic location updates for comparison with spill location and trajectory forecast information to ascertain if the whale's path may intercept the spill trajectory. If deterrence assets have been identified they should be readied for deployment and staged to be on scene if whales are expected to approach within 10 miles (2 hours) of oil or spill trajectory. The following deterrence techniques have been pre-approved for consideration and emergency use without prior consultation if NMFS staff are unavailable (see section III below). Unless the USCG is directly implementing the pre-approved deterrence methods, the Branch Director must consult with NMFS marine mammal resource specialists, prior to deterrence implementation.

Regardless of whether deterrence is implemented, real time monitoring of whale movements within 20 to 30 miles (6 hour reconnaissance buffer) relative to the spill or spill trajectory should be conducted to a) determine if whales have been or are likely to be exposed to oil; and b) to remain prepared for the potential of killer whales encountering oil or spill response activities.

Pre -approve d Methods

In situations where immediate action is necessary to prevent killer whales from entering oil NMFS has pre-approved; *helicopters, oikomi pipes, and underwater firecrackers* (*seal bombs) deployed from vessels;* for use by response personnel under the direction of the Branch Director and Unified Command to attempt to herd/move whales. Pre-approved deterrents should be deployed if the risk of entering oil exceeds the risk of disturbing the whales through hazing techniques. Risk to the whales should be assessed based on the proximity of the whales to the oil and their likelihood of entering the oil as well as the type and condition of the oil. The Branch Director will determine whether to activate the Killer Whale Deterrence Team to implement deterrence activities or, if exposure is imminent, to order "on-scene" personnel to attempt deterrence. Selection of the most appropriate deterrence technique will depend on the particular spill conditions, location of whales, level of risk to the whales, and available assets. Helicopter hazing may be the most immediately available technique, particularly if there are aircraft available and in use for Reconnaissance. Multiple pre- approved techniques may be implemented in combination (i.e., oikomi pipes and firecrackers deployed from the same vessels) or in sequence based on observations of the whales and time needed to mobilize deterrence teams. Deployment of pre-approved deterrence methods will be directed by the following decision tree (Figure 1).

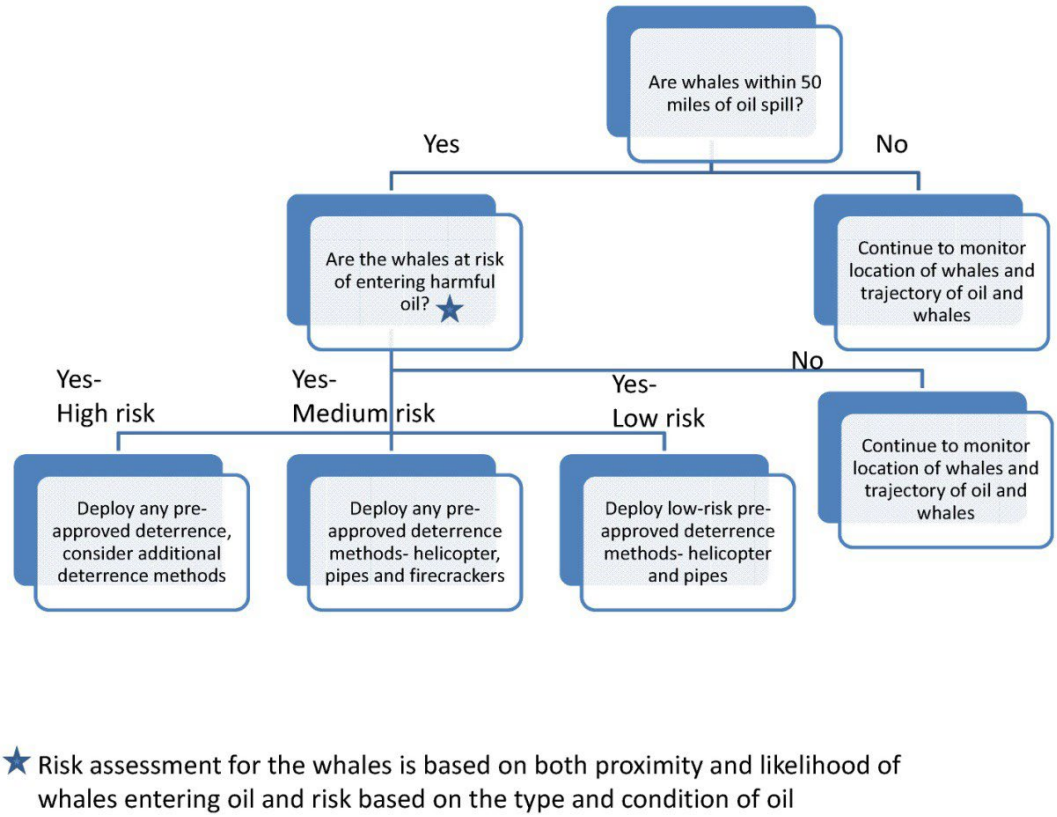

Figure 1. Decision Tree for immediate deployment of pre -approve d hazing technique s

Helicopter

Background - Helicopters are effective tools for herding livestock in open terrain. There have been observations and reports of killer whales diving and changing direction when confronted by a helicopter hovering in their path. This technique is considered experimental and should be accompanied by detailed monitoring and observations of whale behavior (direction of travel, rate of speed, pod cohesion etc.) before close approach and during hazing by the helicopter. The expected response is aversion or avoidance of the helicopter. The stimulus that triggers the response is unknown but may be visual (approach from overhead), surface disturbance from prop wash (whales detect approaching change in surface condition (turbulence)), or acoustic engine or propeller noise transmitted to the water below the helicopter. Noise transmission into the water is most efficient in a circle below the helicopter roughly ½ the diameter of the flight altitude (for altitudes below 1000 feet).

Safety First – For personnel - Deterring whales with a helicopter requires low altitude maneuvering and hovering low over the water. Pilots should assess environmental conditions (visibility, turbulence etc.), surrounding air traffic (search and rescue, media), and surface vessel proximity to determine if it is safe to proceed with this technique. *For the whales* – The potential for whale injury using this technique is low. Helicopter sound levels transmitted into the water are not sufficient to injure whale hearing even in the most intense area directly below the aircraft. No physical contact with whales is anticipated. There is some potential that aerial deterrents could affect pod cohesion if different whales in the group respond differently to the helicopter. If the helicopter gets too close to the whales the potential for pod scattering may increase so

cautious approach to the whale's position while monitoring for behavioral response is advised. If the pod breaks apart monitoring may become more difficult and require additional resources.

Operational Instructions – The optimal personnel complement aboard the aircraft during hazing is three: 1) the pilot, 2) a lead observer to continuously monitor the animals, provide whale information to the pilot and direct maneuvering, and 3) a data recorder/photographer to record notes of the encounter including pre- and post-deterrence observations and take identification photographs. If fewer personnel are used, the observer can assume data collection and photography duties. To attempt a herding maneuver to divert the whale's path, the pilot should position the helicopter so that it will approach the whales from the direction of the spill. If safe to do so the helicopter should begin maneuvering at an altitude of 300 to 500 feet approximately ¼ to ½ mile from the whales maintaining its position between the whales and the direction of the oil, gradually reducing the distance to the whales and altitude. Observers should monitor closely for a response from the whales and pilots should continue to maneuver as necessary to obstruct paths to the oil. Pursuing the whales and closing the distance to the whales is permissible to maintain their retreat with aircraft maneuvering (hovering, zigzagging, and adjusting altitude) to reinforce the direction of travel away from the oil. Once whales have established, and are maintaining, a path away from the spill hazard, gradually increase distance from the whales (retreating toward the spill), increase altitude and continue monitoring effort. If the whales do not respond to the helicopter and continue travel along their original path unimpeded, notify the WBD of the whales' last position, direction and proximity to spill before leaving the whales to arrange for continued monitoring as whales approach the oil and/or deployment of alternate deterrence resources. If the pod fragments when the helicopter approaches, notify the WBD and pass along the available information to inform subsequent deterrence activities. If whales do not respond to helicopter hazing and enter the oil, monitoring should continue if possible to document the exposure of whales to the oil (record individuals in oil and length of exposure to oil).

Reporting – Aerial deterrence is harassment and any animals subjected to this technique must be included in a take report to be delivered to the NMFS representative in the Wildlife Branch. Reports should include the number of animals subjected to the deterrent, date, location, information on any photos taken, and response of the animals to the deterrent. Take reports will be compiled by NMFS and communicated to the Branch Director for use by the Unified Command and for use in reporting activities under Permit 24359 and for emergency consultation under Section 7 of the ESA. Monitoring information on exposure of individuals to oil should be reported to the Natural Resource Damage Assessment team.

Oikomi Pipes

Background - Oikomi pipes, reverberating pipes suspended from a vessel into the water and struck with a hammer, have been effective tools for herding/moving small cetaceans and killer whales in near-shore or enclosed waters. This technique should be accompanied by monitoring and observations of whale behavior (direction of travel, rate of speed, pod cohesion etc.) and vessel deployment configuration. The expected response is aversion or avoidance of the approaching line of noisy vessels. The stimulus that triggers the response is sound from the pipes, but vessel presence and engine noise may contribute to the effect. Sound transmission

from the pipes is assumed to be omni-directional but killer whales are capable of resolving the position of the source, so orientation and spacing of the vessels and pipes is likely to be important.

Safety First – For personnel - Oikomi pipes are deployed over the side of small boats and operated manually by striking with a hammer or rounded metal bar. The pipe can be struck on top or on the side of the pipe exposed above the water. Vessels selected as platforms should be large enough for safe operation under the existing environmental conditions, while providing a stable platform that is close enough to the water so that personnel can work safely at the gunnel for extended periods. Caution should be used when deploying vessel less than 18 feet in length or with very low freeboard to ensure stability with the pipe deployed in the anticipated sea conditions. Vessels need to be equipped with a means of suspending the oikomi pipes far enough over the side of the vessel that they do not touch the hull. The top 1.5 to 2 feet of the pipe should remain above the water's surface and care should be taken to avoid flooding the pipes. Flooded pipes need to be recovered and drained prior to redeployment. Crew members aboard deterrence vessels must be equipped with appropriate personal protection equipment for the level of spill exposure that may be encountered during deployment this should include PFDs for all crew and hearing and eye protection for the pipe striker. Since deterrence operations may need to be sustained for extended periods of time the person striking the pipe should be positioned in an ergonomic way that minimizes reaching and stretching to strike the pipe. Movements of multiple vessels should be closely coordinated for safe operation. *For the whales* - The potential for whale injury using this technique is low. Sound levels from the banging pipes transmitted into the water will be most intense within a few yards of the pipes but source levels are not sufficient to injure whale hearing. No physical contact with whales is anticipated. Vessels deploying pipes should be operated at slow displacement speed when in proximity to whales to minimize the risk of collision.

Engines should be shifted to neutral (no spinning prop) within 100 yards of whales.

Operational Instructions – The minimum operating unit for oikomi pipe hazing is three vessels each deploying a single pipe and the minimum personnel complement for this unit is seven. A best practice would involve five vessels with one to two pipes deployed per vessel. During deterrence operations, each vessel should have a driver and a pipe banger. A deterrence team leader will accompany the unit to coordinate vessel maneuvers within the unit, maintain communications with other units, and serve as an observer/data recorder to monitor the animals, record notes of the encounter including pre-, during, and post-deterrence observations, and take identification photographs. Additional pipe bangers can be assigned to vessels for relief of the pipe banger or if multiple pipes are deployed from each boat. A field deterrence supervisor should be assigned to coordinate maneuvers if more than one deterrence unit is deployed.

It is vital to establish an effective means of communication between the field deterrence supervisor, the deterrence team leader(s) and all participating vessels. The use of VHF radio on an appropriate working frequency is recommended. It is further recommended that all vessels be identified with a visible number/letter for easy field identification and that, when possible, the vessels be deployed in numerical or alphabetical order. This will facilitate the field deterrence supervisor with providing effective direction to the vessel for maintain the position of the vessels.

To attempt a herding maneuver to divert the whale's path, the deterrence team(s) should approach the whales from the direction of the spill and intercept the whales' path. Vessels should be positioned beam to beam at no more than 200-yard intervals. To establish the initial position and orientation of the deterrence barrier, vessels may be assigned a specific latitude and longitude and be directed to maintain that position using GPS. Banging should commence in unison but does not need to remain synchronized when vessels are in position approximately 800 yards (1/2 mile) ahead of the whales. The recommended strike interval is two seconds but may be altered as dictated by the whale's response. The distance to the whales may gradually be reduced while assessing their direction of travel and response behavior.

The team leader should monitor closely for a response from the whales and coordinate vessel maneuvers as necessary to obstruct paths to the oil. Pursuing the whales and closing the distance to the whales is permissible to maintain their retreat with vessel maneuvering (circling, zigzagging) and occasional banging as required to reinforce the direction of travel away from the oil. Banging should cease immediately if the whales cross the line of vessels (penetrate the barrier). If whales penetrate the barrier, teams should be repositioned in the path ahead of the whales between the whales and the oil. Vessels should retrieve their pipes before getting underway and stay at least ½ mile away from the whales while enroute to the next deployment location. Once whales have established a path away from the spill hazard, gradually increase distance from the whales (remaining stationary or retreating toward the spill) and continue monitoring effort. If the whales do not respond to the deterrents and continue travel along their original path unimpeded, notify the Branch Director of the whales' last position, direction, and proximity to spill before leaving the whales to arrange for continued monitoring as whales approach the oil and/or deployment of alternate deterrence resources. If the pod fragments during deterrence activities, notify the WBD and pass the available information to inform subsequent deterrence activities. Vessels involved in deterrence/monitoring should remain on scene with the whales until they are a) directed to leave; b) replaced by other deterrence/monitoring teams; or c) the whales are more than 20 miles from the oil or trajectory (reconnaissance buffer); or conditions are unsafe for continued activity. If whales do not respond to deterrence and enter the oil, monitoring should continue, if possible, to document the exposure of whales to the oil (record individuals in oil and length of exposure to oil).

Reporting – Oikomi pipe hazing is harassment and any animals subjected to this technique must be included in a take report to be delivered to the NMFS representative in the Wildlife Branch. Reports should include the number of animals subjected to the deterrence activities, date, location, information on any photos taken, and response of the animals to the deterrent. Take reports will be compiled by NOAA Fisheries and communicated to the Branch Director for use by the Unified Command and for use in reporting activities under Permit 24359 and for emergency consultation under Section 7 of the ESA. Monitoring information on exposure of individuals to oil should be reported to the Natural Resource Damage Assessment team.

Underwater Firecrackers

Background - Underwater firecrackers (or seal bombs) are primarily used as an intentional form of harassment for pinnipeds but have also been effective tools for herding small cetaceans and

killer whales. This technique should be accompanied by monitoring and observations of whale behavior (direction of travel, rate of speed, pod cohesion etc.) and detailed descriptions of deployment. The expected response is aversion or avoidance of the vicinity where detonations are occurring. The stimulus that triggers the response is sound from detonation that propagates well over a long distance. Sound transmission from a detonation is omni-directional but the intense sound may be subject to reverberation or reflection from sub-surface topography.

Safety First – For personnel - Seal bombs are Class 1.4E explosives, UN number 0471, marketed as explosive pest control devices, and controlled as "high explosives" under the authority of the Bureau of Alcohol, Tobacco, and Firearms. Seal bombs have a charge similar to an "M-80" firecracker and detonate with an **explosive force capable of causing severe injury or death** to personnel. Personnel must attend a safety briefing before going to the field to familiarize them with the units and with safe handling procedures. While in the field, seal bombs should be kept in a container away from ignition sources and accessed one at a time to avoid accidental ignition. Hearing protection should be worn to avoid direct exposure to "in air" detonation that may cause permanent hearing loss. Once ignited, seal bombs should immediately be thrown overboard into the water on the downwind side of the vessel. Ignition torches should be extinguished when not in use. Avoid using sources of ignition near fuel storage tanks or vent lines or in locations where explosive fumes or flammable spilled product may be concentrated. Crew members aboard deterrence vessels must be equipped with appropriate personal protection equipment for the level of spill exposure that may be encountered during deployment. *For the Whales* – There is some potential for whale injury using this technique. Seal bombs produce intense sound pressures (200 -220dB re 1 µPa or more at 1 meter from the source) and have the potential to damage whale hearing at close range (within a few meters). Seal bombs should not be deployed within 200 yards of killer whales to avoid inducing long-term hearing impairment.

Operational Instructions – The minimum operating team for deploying seal bombs is two vessels and the minimum personnel complement for this team is five. During deterrence activities each vessel should have a driver and a bombardier that will deploy bombs. A deterrence team leader will accompany the team to coordinate vessel maneuvers within the team, maintain communications with other teams, and serve as an observer/data recorder to monitor the animals, record notes of the encounter including pre-, during, and post-deterrence observations, and take identification photographs. A field deterrence supervisor should be assigned to coordinate maneuvers if more than one deterrence team is deployed. To attempt a herding maneuver to divert the whale's path, position the deterrence team(s) to approach the whales from the direction of the spill and intercept the whales' path. Vessels should be positioned beam to beam at 200-yard intervals. The first bomb should be deployed at a distance greater than 1/2 mile ahead of the whales. (Note: The acoustic harassment threshold for disturbance is approximately 1000 yards from the point of detonation.) It is recommended that bombs be used sparingly. After the initial detonation, the deterrence team leader should observe the reaction of the whales to determine whether they have responded by changing direction, if the pod has coalesced or scattered. While an orderly retreat from the area is the desired response, it is possible that the bombs could cause panic flight of whales in multiple directions.

Once the initial reaction has been determined the deterrence team should move to intercept and obstruct paths to the oil. Pursuing the whales and closing the distance to the whales is permissible to maintain their retreat with vessel maneuvering (circling, zigzagging) and occasional detonations as required to reinforce the direction of travel away from the oil. Vessels should avoid deploying bombs within 400 yards of whales unless the whales exhibit growing tolerance or reluctance to maintain a course away from the oil. Bombs should not be deployed within 200 yards of the whales. Bombing activity should cease immediately if whales penetrate the deterrence line and are seen between the deterrence teams and the oil. If whales evade the deterrence team and are on course toward the oil, deterrence teams should be repositioned in the path ahead of the whales between the whales and the oil. Vessels should stay at least ½ mile away from the whales while enroute to the next deployment location. Once whales have established a path away from the spill hazard, gradually increase distance from the whales (remaining stationary or retreating toward the spill) and continue monitoring effort. If the whales do not respond to the deterrents and continue travel along their original path unimpeded, notify the WBD of the whales' last position, direction, and proximity to spill. Vessels involved in deterrence/monitoring should remain on scene with the whales until they are a) directed to leave; b) replaced by other deterrence/monitoring teams; or c) the whales are more than 20 miles from the oil or trajectory (reconnaissance buffer); or conditions are unsafe for continued activity. If whales do not respond to deterrents and enter the oil, monitoring should continue, if possible, to document the exposure of whales to the oil (record individuals in oil and length of exposure to oil).

Reporting – Deploying seal bombs within 1000 yards of a marine mammal may constitute harassment and any animals subjected to this technique must be included in a take report to be delivered to the NMFS representative in the Wildlife Branch. Reports should include the number of animals subjected to the deterrent, date, location, information on any photos taken, and response of the animals to the deterrent. Take reports will be compiled by NOAA Fisheries and communicated to the Branch Director for use by the Unified Command and for use in reporting activities under Permit 24359 and for emergency consultation under Section 7 of the ESA. Monitoring information on exposure of individuals to oil should be reported to the Natural Resource Damage Assessment team.

Deterrence Team Instructions

This section contains deterrence team instructions for implementing each of the three pre-approved techniques described above are attached to this implementation plan. The instructions are short outlines include brief description of each deterrence activity, safety precautions for personnel and whales, deterrence team staffing recommendations, abbreviated operational instructions, and reporting formats. Copies of the instructions should be given to each field team, during the pre-deployment and safety briefing, to be carried into field as a ready reference.

Deterrence Team Instruction - Helicopter Deterrence

The purpose of helicopter hazing is to intercept whales that are approaching the oil and change their direction to avoid oil exposure. The desired outcome is that maneuvers result in an orderly change in the whale's direction of travel and that as a result they move a sufficient distance from the oil to allow re-engagement by hazing assets as necessary to block the whale's path to the oil. If whales are already in the oil slick, maintain altitude greater than 500 feet, collect photographs of the whales that are present in the oil, for later identification. Contact the Branch Director (or designee) to report observations and receive instructions before attempting hazing maneuvers.

Human Safety Precautions

Deterring whales with a helicopter requires low-altitude maneuvering and hovering low over the water. Assess environmental conditions (visibility, turbulence, etc.), surrounding air traffic (search and rescue, media), and surface vessel proximity to determine if it is safe to proceed with this technique.

Whale Safety Precautions

The potential for whale injury using this technique is low sound levels from the helicopter will not be sufficient to injure whale hearing. No physical contact with whales is anticipated. Aerial hazing could affect pod cohesion if different whales in the group respond differently to the helicopter and group information should be recorded to assess impacts to the whales.

Operating Unit Size and Configuration

Optimum unit size: three

1) pilot,
2) lead observer to continuously monitor the animals, provide whale information to the pilot and direct maneuvering, and
3) data recorder/photographer to record notes of the encounter including pre and post-deterrence observations and identification photographs.

If fewer personnel are used, the observer will assume data collection and photography duties.

Beginning Position

Position the helicopter to approach the whales from the direction of the spill. If safe to do so the helicopter should begin maneuvering at an altitude of 300 to 500 feet approximately ¼ to ½ mile from the whales. Noise transmission into the water is most efficient in a circle below the helicopter roughly ½ the diameter of the flight altitude (for altitudes below 1000 feet).

Approach to dive rt path of the whales

Maintain a position between the whales and the oiled area, gradually reducing the distance to the whales and altitude.

Once whales have established and are maintaining a path away from the spill hazard, gradually increase distance from the whales (retreating toward the spill), increase altitude, and resume monitoring effort to document post-deterrence movements. If possible, avoid leaving the whales in the vicinity of the spill if other monitoring/deterrence assets are not available to intercept the whale's path should they turn again toward the spill. Contact the Branch Director (or designee) to determine the availability of other monitoring assets prior to leaving the area.

Contingencies

If the whales do not respond to the helicopter and continue travel along their original path unimpeded, notify the Branch Director (or designee) before leaving the whales to arrange for continued monitoring as whales approach the oil and/or deployment of alternate deterrence resources. If the pod fragments when the helicopter approaches, record the response and notify the Branch Director (or designee) to pass along the available information. If whales do not respond to hazing and enter the oil, monitoring should continue if possible, to document the exposure of whales to the oil (record individuals in oil and length of exposure to oil).

Monitoring and Take Reports

Monitoring of whale's position and exposure:

Date/time	# whales	Location of whales	Whale heading	Group spread	Photos taken	Whales in oil?

When deterrence is initiated:

Date/time	# whales	Location of deterrence team	Distance to whales	Response of whales	Photos taken

Deterrence Team Instruction - Oikomi Pipes

The purpose of oikomi pipe hazing is to intercept whales that are approaching the oil and change their direction to avoid oil exposure. The desired outcome is that maneuvers result in an orderly change in the whale's direction of travel and that as a result they move a sufficient distance from the oil to allow re-engagement by deterrence assets as necessary to block the whale's path to the oil. If whales are already in the oil slick, vessels should maintain a distance greater than 200 yards, collect photographs of the whales that are present in the oil, for later identification. Contact the Branch Director (or designee) to report observations and receive instructions before attempting deterrence maneuvers.

Human Safety Precautions

Oikomi pipes are deployed over the side of small boats and operated manually by striking with a hammer. Vessels selected as platforms should be large enough for safe operation under the existing environmental conditions while providing a stable platform that is close enough to the water so that personnel can work safely at the gunnel for extended periods.

Whale Safety Precautions

Sound from the banging pipes and transmitted into the water will be most intense within a few yards of the pipes but will not be sufficient to injure whale hearing. No physical contact with whales is anticipated. Vessels deploying pipes should be operated at slow displacement speed when in proximity to whales to minimize the risk of collision.

Engines should be shifted to neutral (no spinning prop) if within 100 yards of whales.

Operating Unit Size and Configuration

Deterrence Team size: three vessels
Optimum crew size per unit: seven

4) three boat drivers (one per boat),
5) three pipe bangers (one per boat),
6) one deterrence team leader, coordinate vessel maneuvers within the team, maintain communications with other teams, and serve as an observer/data recorder to monitor the animals, and to record notes of the encounter including pre and post deterrence observations and identification photographs.

Additional pipe bangers can be assigned to vessels if multiple pipes are deployed from each boat. A field deterrence supervisor should be assigned to coordinate maneuvers if more than one deterrence team is deployed.

Beginning Position

Position the deterrence team(s) to approach the whales from the direction of the spill and intercept the whale's path. Vessels should be positioned beam to beam at 200-yard intervals. Banging should commence in unison when vessels are in position approximately 800 yards (1/2

mile) ahead of the whales. The recommended strike interval is two seconds but may be altered as dictated by the whale's response.

Approach to Divert Path of the Whales

The distance to the whales may gradually be reduced while assessing their direction of travel and response behavior. Monitor closely for a response from the whales and maneuver as necessary to obstruct paths to the oil. Pursuing the whales and closing the distance to the whales is permissible to maintain their retreat with vessel maneuvering (circling, zigzagging) and occasional banging as required to reinforce the direction of travel away from the oil.

Once whales have established a path away from the spill hazard, gradually increase distance from the whales (remaining stationary or retreating toward the spill), and resume monitoring effort to document post-deterrence movements. If possible, avoid leaving the whales in the vicinity of the spill if other monitoring/deterrence assets are not available to intercept the whale's path should they turn again toward the spill. Contact the Branch Director (or designee) to determine the availability of other monitoring assets prior to leaving the area.

Contingencies

Banging should cease immediately if the whales cross the line of vessels (penetrate the barrier). If whales penetrate the barrier, teams should be repositioned in the path ahead of the whales between the whales and the oil. Vessels should retrieve their pipes before getting underway and stay at least ½ mile away from the whales while enroute to the next deployment location.

If the whales do not respond to the deterrent and continue travel along their original path unimpeded, notify the Branch Director (or designee) before leaving the whales to arrange for continued monitoring as whales approach the oil and/or deployment of alternate deterrence resources. If the pod fragments, record the response and notify the Branch Director (or designee) to pass along the available information. If whales do not respond to deterrence activities and enter the oil, monitoring should continue if possible, to document the exposure of whales to the oil (record individuals in oil and length of exposure to oil).

Monitoring of whale's position and exposure:

Date/time	# whales	Location of whales	Whale heading	Group spread	Photos taken	Whales in oil?

When hazing is initiated:

Date/time	# whales	Location of deterrence team	Distance to whales	Response of whales	Photos taken

Deterrence Team Instruction – Underwater Firecrackers

The purpose of underwater firecracker hazing is to deter whales from entering the oil and drive them away from the oil to avoid oil exposure. The desired outcome is aversion or avoidance of the vicinity where detonations are occurring. (Panic flight is a less desirable response from the whales than orderly retreat from the area.) The stimulus that triggers the response is intense sound from detonation that propagates well over a long distance. If whales are already in the oil slick, vessels should maintain a distance greater than 200 yards, collect photographs of the whales that are present in the oil, for later identification. Contact the Branch Director (or designee) to report observations and receive instructions before attempting deterrence maneuvers.

Human Safety precautions

Seal bombs have a charge similar to an "M-80" firecracker and detonate with an **explosive force capable of causing severe injury or death** to personnel. Personnel should be given a safety briefing before going to the field to familiarize them with the units and with safe handling procedures.

Whale Safety Precautions

Seal bombs produce intense sound pressures (200 -220dB re 1 µPa or more at 1 meter from the source) and have the potential to damage whale hearing at close range. Seal bombs should not be deployed within 200 yards of killer whales to avoid inducing temporary hearing impairment.

Operating Unit Size and Configuration

Deterrence unit size: two vessels
Optimum crew size per unit: five

7) two boat drivers (one per boat),
8) two bombardiers (one per boat),
9) one deterrence team leader, coordinate vessel maneuvers within the team, maintain communications with other teams, and serve as an observer/data recorder to monitor the animals, and to record notes of the encounter including pre and post deterrence observations and identification photographs.

A field deterrence supervisor should be assigned to coordinate maneuvers if more than one hazing unit is deployed.

Beginning Position

Position the deterrence team(s) to approach the whales from the direction of the spill and intercept the whales' path. Vessels should be positioned beam to beam at 200-yard intervals. The first bomb should be deployed at a distance greater than 1/2 mile ahead of the whales. (Note: The acoustic harassment threshold for disturbance is approximately 1000 yards from the point of detonation.) It is recommended that bombs be used sparingly.

Approach to Divert Path of the Whales

After the initial detonation, the deterrence team leader should observe the reaction of the whales to determine whether they have responded by changing direction, if the pod has coalesced or scattered. Once the initial reaction has been determined the deterrence team should move to intercept and obstruct paths to the oil. Pursuing the whales and closing the distance to the whales is permissible to maintain their retreat with vessel maneuvering (circling, zigzagging) using occasional detonations as required to reinforce the direction of travel away from the oil. Vessels should avoid deploying bombs within 400 yards of whales unless the whales exhibit growing tolerance or reluctance to maintain a course away from the oil.

Once whales have established a path away from the spill hazard, gradually increase distance from the whales (remaining stationary or retreating toward the spill), and resume monitoring effort to document post-deterrence movements. If possible, avoid leaving the whales in the vicinity of the spill if other monitoring/hazing assets are not available to intercept the whale's path should they turn again toward the spill. Contact the Branch Director (or designee) to determine the availability of other monitoring assets prior to leaving the area.

Contingencies

Bombing activity should cease immediately if whales are seen between the deterrence teams and the oil. If whales evade the deterrence team and are on course toward the oil, hazing units should be repositioned in the path ahead of the whales between the whales and the oil. Vessels should stay at least ½ mile away from the whales while enroute to the next deployment location. If the whales do not respond to the deterrent and continue travel along their original path unimpeded, notify the Branch Director (or designee) before leaving the whales to arrange for continued monitoring as whales approach the oil and/or deployment of alternate deterrence resources. If the pod fragments during deterrence, notify the Branch Director (or designee) and pass the available information. If whales do not respond to deterrent and enter the oil, monitoring should continue if possible, to document the exposure of whales to the oil (record individuals in oil and length of exposure to oil).

Monitoring and Take Reports

Monitoring of whale's position and exposure:

Date/time	# whales	Location of whales	Whale heading	Group spread	Photos taken	Whales in oil?

When hazing is initiated:

Date/time	# whales	Location of deterrence team	Distance to whales	Response of whales	Photos taken

Other Deterrence Methods (Not Pre -approved)

As explained above, if NMFS cannot be reached or the emergent nature of the event requires immediate intervention to protect endangered whales from oil exposure, the Wildlife Branch Director will coordinate with the Federal On-Scene Coordinator to implement deterrence activities as authorized in the delegation letter issued under MMPA/ESA Research and Enhancement Permit Number 24359. Only pre-approved deterrence techniques will be considered in this case. In the event that other forms of take, (harassment (deterrence using non pre-approved techniques), capture (rescue), or humane euthanasia) are considered, the Unified Command (Wildlife Branch Director, Federal On-Scene Coordinator) will consult with NMFS Regional Marine Mammal Staff and/or the Permit Holder (Sarah Wilkin, Marine Mammal Health and Stranding Response Program) to identify and plan for alternative marine mammal response activities. NMFS concurrence with proposed response plans is required before take can be authorized under Permit 24359.

If NMFS marine mammal staff are assigned to the spill response, all marine mammal take activities including pre-approved and alternative deterrence strategies will be discussed between the Wildlife Branch Director and NMFS marine mammal staff before initiating field activities. Alternative deterrence strategies, monitoring guidance, and resources lists can be found in the

Northwest Area Contingency Plan Appendix, Killer Whale – Monitoring and Deterrence Plan for Oil Spill Response in Washington and Oregon State.

References

Matkin, C.O., E. L. Saulitis, G. M. Ellis, P. Olesiuk, and S. D. Rices. 2008. Ongoing population-level impacts on killer whales *Orcinus orca* following the 'Exxon Valdez' oil spill in Prince William Sound, Alaska. Marine Ecology Progress Series, Vol. 356: 269-281.

National Marine Fisheries Service. 2008. Recovery Plan for Southern Resident Killer Whales (*Orcinus orca*). National Marine Fisheries Service, Northwest Region, Seattle, Washington.

APPENDIX C.3

Guidelines for Spill Response Involving Snowy Plovers in Oregon and Washington

The Pacific Coast population of the Western snowy plover (*Charadrius alexandrinus nivosus*) is listed as threatened under the Federal Endangered Species Act. There is a strong possibility that snowy plovers could be affected during oil spill response. The guidelines here are provided to reduce negative impacts to snowy plovers as much as possible. It is important to consider potential collateral damage associated with spill response, and to balance the need for effective response with the need to not cause further harm to listed, rare, and declining species.

Background Natural History

The Western snowy plover is a small shorebird that nests on beaches, salt flats, levees around salt ponds, river gravel bars, and other similar habitats. Western snowy plovers nest in Oregon and Washington between February and September (primarily between late March and late August), and occur statewide in Oregon and Washington on coastal beaches year-round. Nests consist of three well-camouflaged eggs laid in a small depression directly on the sand. Adult plovers share incubation duties for approximately 30 days until the eggs hatch; after hatching, the precocial chicks leave the nest within a few hours, and are attended by the male parent for the next month until they are able to fly.

Females usually leave to breed with another male; both males and females typically nest at least twice per breeding season. Adults and chicks feed on flies and other invertebrates, often associated with kelp wrack. In Oregon, we have both resident and migrant Western snowy plovers; in winter, some local breeders migrate south (e.g., to California or Mexico), and at the same time, wintering populations are augmented with migrants from inland-breeding populations.

Distribution

Western snowy plovers nest on many beaches along the Oregon coast, but they are most abundant from Florence (Lane County) to Floras Lake (Curry County). Nesting sites may vary from year to year; thus, it is important to check with local experts regarding the status of Snowy Plovers in any given area. USFWS in Arcata Field Office, CA (Tel: 707-822-7201, or Micah Ashford 707-825-5134) and the Newport Field Office, OR (Tel: 541-867-4550; or Cheryl Strong 541-786-3648) maintain a list of experts for each Recovery Unit throughout the range of the listed population. These experts, who conduct intensive monitoring of nesting sites, are typically contractors or non-profit groups, and hold section 10(a)(1)(A) recovery permits for monitoring Western snowy plovers. The USFWS in Arcata or Newport should be contacted to determine who the current local experts are for a given area, and those experts should be contacted to get information on the current status of snowy plovers in that area.

Seasonal Considerations

The primary concern regarding collateral damage during spill response is during the nesting season, which should be considered to run from March15 through September 15. Most nesting occurs from April through July, with chicks present through August, but nests have been recorded as early as February, and pre-fledging chicks may be present through September.

During the nesting season, there is concern that eggs or chicks may be harmed through excessive disturbance and crushing.

During the non-breeding season (September 15 through March 15), snowy plovers may be disturbed by response activities, but the primary concern for harm is potential interactions with fast-moving vehicles. There are records of adult plovers being struck by vehicles, especially at night or during low-light conditions.

Disturbance Associated with Spill Response

Human activity during the breeding season (March through September) near snowy plover nests or chicks can lead to abandonment of those nests or chicks. Before any activities are planned within potential snowy plover habitat, the local experts (see Distribution, above) should be contacted regarding the species' status locally. Based on the locations of active nests or young broods (chicks with an adult), responders will be directed to reduce disturbance as much as possible.

Disturbed adults may leave a nest and may even abandon a nest if disturbance persists for an extended period (e.g., more than 30 minutes). Drifting windblown sand may cover unattended nests, also resulting in abandonment by the adult, and unattended eggs may be exposed to inclement weather and predators. Adults with chicks may respond to disturbance by attempting to lure humans away from the chicks, which can result in separation and loss of the chicks from attending adults.

Responders should keep in mind that not all nests or chicks will be within fenced areas. In particular, chicks and adults often feed near the high-tide wrack line, outside of fenced areas. When disturbed, chicks may crouch and hide on the lower beach. Eggs and chicks can be inadvertently crushed by trampling and by vehicles. Thus, it is extremely important to be aware of the potential presence of Snowy Plovers when operating vehicles on the beach.

Impact Minimization

If local experts have indicated that snowy plover nests or chicks may be of concern during spill response, the following guidelines should be followed:

Nesting Season (March 15 through September 15)

1. All responders will be informed of the potential for snowy plovers to be impacted, and of measures (below) intended to reduce potential impacts.
2. Local experts (identified through the Newport or Arcata Field Offices or the local land managers) will convey which areas may contain nests or chicks.
3. If possible, all response personnel that could have nesting snowy plovers should be accompanied by a permitted (with a Section 10 recovery permit) local snowy plover monitor who would be able to direct non-essential activities away from nests or chicks.
4. All activities near Snowy Plover nests or chicks should occur on the lower beach (wet sand), if possible.
5. If vehicles are used near snowy plover nests or chicks, speed should be kept to less than 15 mph, and vehicles should remain on the lower beach (wet sand), if possible. If it is not possible to remain on the lower beach (e.g., it is high tide), responders should stop every 100 m and scan ahead with binoculars to look for Snowy Plovers adults that may be attending chicks. The number of vehicles and number of vehicle trips should be reduced to the maximum extent practicable.
6. If chicks, adults tending chicks, or "broody" adults (adults with chicks will often try to lure threatening intruders away with broken wing or tail-drag displays) are seen, responders should move cautiously away from that area, if feasible, to avoid separating chicks from parents.
7. Responders should remain outside of any fenced area, or any other area marked as closed for snowy plovers, unless they are told by local experts that there is no concern in that particular area.
8. Any snowy plover nest or individual inadvertently harmed during spill response should be collected by a wildlife professional, and the situation should be reported to the Wildlife Branch Director and the USFWS.

Non-breeding Season (September 15 through March 15)

During winter, snowy plovers roost and feed on coastal beaches, but there is substantially less concern regarding their disturbance during emergency spill response. If disturbed, they may move out of the way, but will likely not suffer long-term harm (although repeated disturbance during cold/inclement weather may affect body condition, particularly if plovers are oiled). Wintering plovers are often grouped, and use micro-features such as footprints and vehicle tracks to stay out of the wind; this behavior also makes them more cryptic and increases the chance that they will be run over by vehicles (particularly in low-light conditions). Between *September 15 through March 15*, and/or if local experts state that no local nesting is occurring, responders are still required to drive slowly on the beach to avoid running over roosting plovers.

<u>Response for Oiled Snowy Plovers</u>

Snowy plovers generally occur higher on the beach than other shorebirds, and are thus somewhat less susceptible to oiling. However, snowy plovers are regularly oiled during large spills, usually on their legs and bellies. In most cases, local experts (see above) will be contracted for reconnaissance of snowy plovers, to determine if any have become oiled. If any oiled Snowy

Plovers are detected, the land managers will consult with local experts and/or the USFWS regarding response actions. In some cases, capture and rehabilitation may cause more stress to the bird than a small amount of oiling. Factors that should be considered in the decision of whether to trap a bird for rehabilitation include:

- Degree of oiling
- Behavior (e.g., excessive preening; lethargic behavior)
- Nesting status

During the nesting season, oiled adults may pass the oil on to eggs or chicks, compounding the problem; however, capture of adults during the nesting season could also lead to the loss of that bird's active nest or dependent chicks. Ideally, local experts will know the nesting status of snowy plovers to aid in such decisions; in some cases it may be possible to collect eggs or chicks for hatching and rearing in captivity (with prior approval of the USFWS).

If it is determined that adults should be captured for cleaning and rehabilitation, the capture must be conducted by an expert with a section 10(a)(1)(A) permit for capturing and handling Western snowy plovers. Snowy plovers are typically captured using carpet mats (segments of hardware cloth with multiple monofilament strings attached), although mist nests or other methods may be used in some instances. Banding and monitoring may be warranted to determine survivorship and potential sub-lethal effects (e.g., reproductive effects) related to the spill.

APPENDIX C.4

Guidelines for Preventing the Introduction of Aquatic Invasive Species

Invasive species can cause harm to the environment, economy, and human health. They are non-native plants (or plant parts such as seeds), animals, or microbes with characteristics that include the ability to quickly establish, reproduce, and spread. During spill response, the introduction of an invasive species via a responder or equipment can cause more damage to wildlife and habitat than the oil spilled. It is far more cost effective to prevent the arrival of introduced species than to attempt to eradicate them after arrival. In many cases, it may be impossible to eliminate an invasive pest species once it has arrived. WDFW and ODFW have entire programs dedicated to preventing the introduction of quagga mussels and zebra mussels in Washington and Oregon State waters. WDFW Guidelines for preventing the spread of aquatic invasive species can be found here: https://wdfw.wa.gov/species-habitats/invasive/prevention. ODFW's guidelines accessible at https://www.dfw.state.or.us/conservationstrategy/invasive_species.asp

To reduce the risk of inadvertently introducing invasive species or zoonotic diseases Washington State prohibits the cross-border transportation of certain species. Separate Care and Processing Centers and Field Stabilization Facilities may need to be set up on opposite sides of state or international borders to prevent cross-border transportation of certain species where prohibited by law.

APPENDIX C.5

Implementing Response Countermeasures (Offshore and Shoreline Oil Recovery and Applied Response Technologies)

The primary objective of the Wildlife Branch is to minimize wildlife impacts, which includes helping to prevent injury to wildlife or habitats from both the oil and from the implementation of response countermeasures, as well as providing the best achievable care to impacted wildlife. Response countermeasures include mechanical on-water recovery methods, applied response technologies, and shoreline recovery techniques. The application of these countermeasures, whether for wildlife protection or for other aspects of spill response, should be guided by the sensitivity and vulnerability of wildlife and habitats in the spill response area. Similarly, staging areas and site access for equipment and response personnel should be selected carefully to avoid collateral impacts. The Wildlife Branch is responsible for preventing injury to wildlife or habitats not only from oil but also from the implementation of response countermeasures themselves.

The most effective means of protecting wildlife from an oil spill is to prevent oil from reaching areas where wildlife is concentrated. In many cases, this can be accomplished by tailoring the use of standard spill response equipment and techniques to increase protection of wildlife. The EU, with input from the Wildlife Branch, will evaluate spill response countermeasures for their potential to cause collateral harm to wildlife, and propose the alternative that is least harmful to wildlife and habitats.

The Resources at Risk (RAR) Specialist in the EU, in close coordination with local experts and the WBD, should identify known wildlife concerns (e.g., areas containing threatened and endangered species and their habitats) and use available wildlife reconnaissance data (e.g., identification of large flocks of birds) to help the EU evaluate environmental tradeoffs from different response strategies. This must be accomplished quickly but must also be consistent with the overall response needs.

Anytime dispersants or *in-situ* burning are considered, special attention should be paid to their potential effects on wildlife, their method of application, and monitoring during application. Dispersants should never be applied directly to concentrations of birds or marine mammals. The Dispersant Use Plan (section 9406 of the Region X ACP) details conditions and constraints for dispersant use, including pre-application wildlife reconnaissance. If *in-situ* burning is considered (section 9407 of the Region X ACP), the plan should include wildlife deterrence within the burn area. During a spill response, approval to use dispersants or *in-situ* burning would be evaluated and approved by the Regional Response Team and UC per the decision process outlined in the ACP. Under the approved dispersant or *in-situ* burning plan, the EU would coordinate wildlife reconnaissance (“wildlife spotters”) and wildlife deterrence, with assistance from the Wildlife Branch.

APPENDIX C.6

Reducing Disturbance-Related Impacts to Wildlife and Other Resources During Spill Response

The public should also be alerted (via the JIC) to leave both live stranded (hauled out) wildlife as well as any observed dead animals in place and undisturbed so that trained recovery personnel may retrieve them. It is particularly important to keep dogs away from wildlife. In addition, response personnel working outside of the Wildlife Branch should be instructed to report any observations of oiled wildlife to the Wildlife Branch and to not attempt to capture, disturb, or dispose of them in any way without specific instruction from the Wildlife Branch. The locations of stranded wildlife can be flagged by cleanup personnel to Recovery Teams to expedite recovery.

Spill-impacted marine and aquatic wildlife are often recovered along shorelines. In order to recover as many of these as possible, the WBD (in coordination with the EUL) should develop response guidelines to reduce human-related disturbances of wildlife along oiled beaches, shorelines, and known stranding areas. When feasible, it is advisable for the UC to have the Liaison Officer work with trustees or local jurisdictions to close public areas (especially to off-leash dogs), and to restrict access to response personnel only. Enforcement officers and/or volunteers may be used to help direct the public away from impacted areas.

It is important that response activities do not adversely affect wildlife or sensitive habitats. To reduce or eliminate inadvertent damages to natural resources during response efforts, the WBD and the RAR Specialist in the EU should work with other trustee agencies and land managers (e.g., departments of natural resources, fish and wildlife, state and national parks, marine sanctuaries, and wildlife refuges) to identify areas and species of particular concern. The EUL can use this information to develop Special Instructions (block 8) for inclusion on ICS-204-CG Work Assignments, or to develop maps and detailed instructions to alert response personnel to the presence of nesting birds, pinniped pupping and haul-out areas, listed critical habitat, and other sensitive habitats. When possible, sensitive habitats should be posted, and access should be restricted, prior to field deployments. To avoid potential adverse impacts to cultural resources, the RAR Specialist and the WBD should also coordinate with the Historical/Cultural Resources Specialist (see ACP 4313).

Special protocols have been developed for response within potential habitat for snowy plovers (see BMP Section of the ACP).

APPENDIX C.7

Pre-emptive Capture of Wildlife

In rare cases, pre-emptive capture of wildlife may be considered in situations when significant numbers of species of high conservation value are at risk. Pre-emptive capture can be problematic though as it is, by definition, an attempt to capture healthy, unimpacted wildlife and represents the potential for significant injury to both field crews and the wildlife.

Pre-emptive capture may be prioritized for certain special-status species for which the loss of even a few individuals could have population-level consequences, or for birds that are flightless during wing-feather molt (e.g., alcids during late summer/fall). For special-status species, pre-emptive capture may include the collection of eggs or chicks for captive rearing.

An additional factor limiting the efficacy of this technique is the necessity to be able to successfully care for these animals once they are captured. *The Sea Otter Contingency Plan*, allows for this technique, if adequate facilities exist (including mobile floating net pens) in which otters can be housed for the duration of a spill event. Since Care and Processing Centers may become filled with oiled birds and mammals during larger spills, separate facilities/sites for relatively long-term care of pre-emptively captured animals should be identified prior to initiating such activity.

Pre-emptive capture would be conducted by a special team within the Recovery Group and would require prior approval from the UC and relevant trustee agencies (and possibly special permits) prior to implementation. As with the release of rehabilitated animals, the release of any pre-emptively captured animals will need to be coordinated with the appropriate trustee agencies.

APPENDIX D

WILDLIFE BRANCH INITIAL TASKING

D.1 Wildlife Branch Objectives

D.2 General Initial Tasks

D.3 Work Analysis Matrix (ICS 234)

D.4 Day 1 Wildlife Plan

APPENDIX D.1

Initial Wildlife Branch Objectives

- Develop incident-specific Wildlife Response Plan
- Identify and mobilize equipment/facilities
- Identify and mobilize personnel and support
- Complete incident notifications: internal and external
- Establish Wildlife Branch communication plan: internal and external
- Develop Wildlife Branch Demobilization Plan

APPENDIX D.2

Wildlife Branch General Tasks

Products to be developed by the Wildlife Branch:

- ❑ Organizational Chart
- ❑ Impact Assessment/Reconnaissance Plan
- ❑ Incident-specific Wildlife Response Plan
- ❑ Initial Deterrence Plan
- ❑ Press kit
- ❑ ICS forms (various)

Important decisions to be made early

- What rehab facilities needed and where to locate?
- Where to establish Field Stabilization Unit?
- Where will equipment and personnel be staged/deployed?
- How many people are needed and with what qualifications and skill sets?
    - Professional contractors
    - Agency
    - Security
    - Primary activities: search and collection, transport, rehabilitation, release, security, rehab facility/field stabilization equipment management (fuel, trouble shooting, setup/takedown, etc.), command post, etc.

Initial steps (complete these in this order and on Day 1 when possible):

- Notify Command (as appropriate) that Wildlife Branch is up and running and making plans:
    - Notify Operations Section Chief
    - Notify Environmental Unit
    - Notify trustee agencies (e.g., federal and state lands and resources).
- Begin Unit Log ICS 214
- Identify Branch staff and assignments. Use the list of positions and tasks below to identify tasks and who will be doing them. Remember, the number of personnel expands and contracts as appropriate to the event so it may be one person doing everything or there may be a full contingent of staff. (Provide an organization chart (ICS207) and contact information to resources).
- Estimate equipment (facility) and personnel needed based on the estimated number and type of animals anticipated. This will be an educated guess, it's easier to send resources back than not have resources when needed.
- Identify deployment locations for equipment and personnel. Equipment locations need to be available for a long enough time to handle entire (anticipated) response AND rehabilitation to avoid having to move during the process. Refer to the NWACP Chapter with potential staging areas…

- Submit ICS 213s for facilities, equipment, personnel, and personnel support resources such as break areas and restrooms. If possible, establish the equipment delivery area as a staging area as it will make the ordering and delivery aspect easier, otherwise you may have to have it delivered to a staging area then redeployed to the requested location.
- Develop reconnaissance plan or 'animal location' needs (on Day 1 this will be a very brief plan, if one at all). Coordinate with EU, work with Flight Operations, etc. (ICS 213s)
- Develop search and collection and transportation plans (Day 1 there may not have formal plans, Day 2 will). Identify search areas, number of crews, support needs, etc. (ICS 204; ICS 204a)
- Develop a plan to care for birds that are captured before field stabilization is operational.
- Develop a wildlife rehabilitation plan.
- Begin drafting Wildlife Plan for the IAP (include decisions from above and below). The plan may just be an outline at first but it needs to be started quickly so as to document work/activities and so that it's ready for the IAP. Submit with an ICS 213
- Submit ICS 231 to announce the Wildlife Hotline. Walk this through JIC so that they issue it early and understand it.
- Submit ICS 213 to provide "opportunistic" carcass collection protocol for the primary responders. This protocol is only for responders who come into incidental contact with carcasses and have the time for recovery. This "opportunistic" protocol is separate from the "formal" carcass collection protocols that will be undertaken by workers specifically tasked with carcass collection tasks.
- Provide JIC with general Wildlife Branch overview, oil effects documents, etc.

APPENDIX D.3

Work Analysis Matrix

Incident Objective (typical): Recover and rehabilitate impacted wildlife.		WORK ANALYSIS MATRIX ICS 234-CG
1. Incident Name		2. Operational Period From: To:
3. Operations Section – Wildlife Branch Objectives	4. Optional Strategies (How)	5. Tactics/Work Assignments (Who, What, Where, When)
A. Assess the locations, numbers, and types of potentially impacted wildlife.	A1. Conduct field surveys to detect and identify impacted wildlife.	A1a. Use aircraft w/ 1-2 wildlife observers to locate and identify impacted wildlife.
		A1b. Use small vessels w/ 1-2 wildlife personnel (plus vessel operator) to conduct on-water surveys to locate and identify impacted wildlife.
		A1c. Use shore teams w/ 2-3 wildlife personnel to conduct shoreline surveys to locate and identify impacted wildlife.
B. Recover, stabilize, and transport impacted wildlife.	B1. Locate and recover impacted wildlife as appropriate.	B1a. Use small vessels w/ 2-3 wildlife personnel (plus vessel operator) to conduct on-water/shoreline recovery of impacted birds.
		B1b. Use shore teams w/ 2-3 wildlife personnel to conduct shoreline/terrestrial recovery of impacted birds.
		B1c. Use small vessels w/ 2-3 wildlife personnel (plus vessel operator) to conduct on-water/shoreline recovery of impacted marine mammals (otter/pinniped).
		B1d. Use shore teams w/ 2-3 wildlife personnel to conduct shoreline/terrestrial recovery of impacted marine mammals (otter/pinniped).
	B2. Stabilize recovered wildlife.	B2a. Use bird stabilization unit(s) w/ 2+ wildlife personnel each to prepare recovered birds for transporting to rehabilitation center.
		B2b. Use marine mammal stabilization unit(s) w/ 2+ wildlife personnel each to prepare

Incident Objective (typical): Recover and rehabilitate impacted wildlife.		WORK ANALYSIS MATRIX ICS 234-CG
1. Incident Name		2. Operational Period From: To:
3. Operations Section – Wildlife Branch Objectives	4. Optional Strategies (How)	5. Tactics/Work Assignments (Who, What, Where, When)
		recovered marine mammals (otter/pinniped) for transporting to rehabilitation center.
	B3. Transport recovered wildlife to a rehabilitation center	B3a. Use vehicle w/ 1-2 personnel to transport impacted/stabilized wildlife to the rehabilitation center.
C. Rehabilitate impacted wildlife as appropriate and return them to their environment.	C1. Provide rehabilitation treatment to impacted wildlife as appropriate.	C1a. Establish/deploy a bird rehabilitation facility at an appropriate location using 6-10 personnel each.
		C1b. Conduct bird rehabilitation operations as appropriate.
		C1c. Establish a marine mammal (otter/pinniped) rehabilitation facility at an appropriate location.
		C1d. Conduct marine mammal rehabilitation operations as appropriate.
D. Protect un-impacted wildlife as appropriate.	D1. Conduct wildlife deterrence operations as appropriate.	D1a. Use shore teams w/ 2-3 wildlife personnel to conduct shoreline/terrestrial deterrence of birds.
		D1b. Use small vessels w/2-3 wildlife personnel (plus vessel operator) to conduct on-water deterrence of birds.
		D1c. Use small vessels fitted with noise makers w/ 2-3 wildlife personnel (plus vessel operator) to conduct on-water deterrence of whales.
		D1d. Use helicopter w/ flight crew to conduct aerial deterrence of whales.
6. Prepared by: (Operations Section Chief)		7. Date/Time:

APPENDIX D.4

Initial Wildlife Plan

Initial Wildlife Plan

Incident:

Date/Time:

Operational Period:

Approved

FOSC _____

SOSC _____

RPIC _____

LOSC _____

_____

_____

Initial Wildlife Branch Plan

Incident: **Date:**

Primary Contacts

Wildlife Branch Director
Name:
Affiliation:
Phone:
Email:

Deputy Wildlife Branch Director
Name:
Affiliation:
Phone:
Email:

Wildlife Response Service Provider (WRSP)
Name:
Affiliation:
Phone:
Email:

Summary

- **Wildlife Branch:** established within the Operations Section per the NWACP as part of this oil spill response under the direction of WDFW.
- **Trustees and stakeholders:** WDFW, (INSERT WRSP), (INSERT RP), and (INSERT OTHER) are involved in the Wildlife Branch at this time.
- **Notifications:** USFWS was notified of the incident at (INSERT TIME) and (HAS/HAS NOT) issued the appropriate authorizations to the (INSERT WRSP). (INSERT ANY ADD. INFO)
- **Oiled Wildlife Reporting Hotline (800-22BIRDS/800-222-4737)**: Activated. Information received at this number will be routed to search and recovery personnel. Oiled wildlife may also be reported online at https://arcg.is/4T49X. Hotline is being monitored by (INSERT AFFILIATION).
- **Field stabilization:** (INSERT NUMBER) unit is being established at (INSERT LOCATION) and will be fully operational by (INSERT TIME / DATE). The unit is being staffed by (INSERT NUMBER OF PERSONS AND AFFILIATION). Personnel may be rotated to other positions as unique needs arise.
- **Wildlife rehabilitation center:** The center is being established at (INSERT LOCATION) and will be fully operational by (INSERT TIME / DATE). (INSERT ANY OTHER EQUIPMENT BEING DEPLOYED TO THIS LOCATION). The facility is being staffed

by (INSERT NUMBER OF PERSONS AND AFFILIATION). Personnel may be rotated to other positions as unique needs arise.

- **Wildlife assessment:** An initial wildlife impact assessment is underway by (INSERT NUMBER OF TEAMS AND AFFILIATION). This may include both shoreline and on-water efforts. These personnel are also available to be directed as a result of information received from the public or response workers.
- **Wildlife deterrence**: Deterrence opportunities are being evaluated. (INSERT A BRIEF DESCRIPTION OF ANY ONGOING / ANTICIPATED ACTIVITIES). There will be (INSERT NUMBER OF PERSONS / AFFILIATION) engaged in these activities.
- **Wildlife recovery:** (INSERT NUMBER OF TEAMS) conducting search and recovery activities in the field by (INSERT DATE / TIME). These activities will be occurring in the vicinity of (INSERT GEOGRAPHIC AREA) and will consist of (INSERT NUMBER / TYPE OF TEAMS). The total number of people on these teams will be (INSERT NUMBER OF PERSONS / AFFILIATION). Personnel may be rotated to other positions as unique needs arise.
- **Recovered wildlife:** The Wildlife Branch will report wildlife impacts in compliance with Unified Commands CIRs. For current information, refer to the Incident Status Summary form (ICS 209). This information will be updated daily at the end of daily operations or as requested by the UC. Only oiled wildlife (dead or alive) that has been collected and confirmed by Branch personnel will be reported.
- **Resources at risk:** For information related to resources at risk in the response area, please refer to the Resource at Risk form (ICS 232) and recent overflight information – available from the Environmental Unit (Planning Section).
- **Volunteers:** No volunteers are being used at this time. For current information related to volunteer participation, please contact the Liaison Officer.

APPENDIX E

SAMPLE WILDLIFE RESPONE FORMS

E.1 Wildlife Safety Plan
E.2 Wildlife Reconnaissance
E.3 Collection and Documentation of Carcasses
E.4 Carcass Collection Job Aid for Small Carcasses
E.5 Transport Log for Carcasses
E.6 Live Animal Capture Form
E.7 Capture Log for Live Animals
E.8 Transport Log for Live Animals
E.9 Search Effort Lo
E.10 Wildlife Branch Daily Report Form
E.11 Care and Processing Group Information (Summary?) Form
E.12 Carcass Data Log
E.13 Oiled Animal Data Log
E.14 Post-Intake Mortality Log
E.15 Wildlife Branch Initial Task List
E.16 PIO Wildlife Information Summary

APPENDIX E.1

Wildlife Specific Safety Plan Template

A link to the California safety plan is provided below as an example:

"Wildlife Specific Safety Plan" (Appendix B(g)) in the CA WILDLIFE RESPONSE PLAN available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=16207&inline

APPENDIX E.2

Wildlife Reconnaissance (Recon)

A link to the Alaska job aid is provided below as an example:

"Tactic-Wildlife-Recon-WPGv2020.1.pdf" that is available on the ADEC Area Plan References and Tools web page. Please check this website for the most recent version.

APPENDIX E.3

Wildlife Collection and Documentation of Carcasses

A link to the Alaska Tactic is provided below as an example:

"Tactic-Carcass-Collection -WPGv2020.1.pdf" that is available on the ADEC Area Plan References and Tools web page. Please check this website for the most recent version.

APPENDIX E.4

Carcass Collection Job Aid for Small Carcasses

A link to the Alaska Carcass Collection Job Aid is provided below as an example:

Carcass-Collection-JOB AID-WPGv2020.1.pdf" that is available on the ADEC Area Plan References and Tools web page. Please check this website for the most recent version.

APPENDIX E.5

Transport Log for Carcasses Form

A link to the Alaska carcass transport log is provided below as an example:

"Transport-Log-CARCASSES-WPGv2020.1.pdf" that is available on the ADEC Area Plan References and Tools web page. Please check this website for the most recent version.

APPENDIX E.6

Live Animal Capture Form

A link to the Alaska Capture form is provided below as an example:

"LIVE-Animal-CAPTURE-Form -WPGv2020.1.pdf" that is available on the ADEC Area Plan References and Tools web page. Please check this website for the most recent version.

APPENDIX E.7

Capture Log for Live Animals Form

A link to the Alaska Capture log is provided below as an example:

"CAPTURE-LOG-LIVE-Animals-WPGv2020.1.pdf" that is available on the ADEC Area Plan References and Tools web page. Please check this website for the most recent version.

APPENDIX E.8

Transport Log for Live Animals Form

A link to the Alaska Transport Log is provided below as an example:

titled "TRANSPORT-LOG-LIVE-WPGv2020.1.pdf" that is available on the ADEC Area Plan References and Tools web page. Please check this website for the most recent version.

APPENDIX E.9

Wildlife Search Effort Log

The Wildlife Search Effort Log documents the search effort associated with finding live and dead birds. This assists WDFW in analyzing the effectiveness of the response and estimating the full impacts of the spill.

A link to the California log is provided below as an example.

"Wildlife Search Effort Log" - Appendix C(a) - in the CA WILDLIFE RESPONSE PLAN available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=16207&inline

APPENDIX E.10

Wildlife Branch Daily Report Form

A link to the California log is provided below as an example:

"Wildlife Branch Daily Report Form" - Appendix C(c) - in the CA WILDLIFE RESPONSE PLAN available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=16207&inline

APPENDIX E.11

Care and Processing Group Information Form

A link to the California log is provided below as an example:

"Care and Processing Group Information Form" - Appendix C(c) - in the CA WILDLIFE RESPONSE PLAN available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=16207&inline

APPENDIX E.12

Carcass Data Log

Used to summarize data from carcass collection forms delivered to facility. A link to the California log is provided below as an example.

"Oiled Animal Data Log: Dead Animals Form" - Appendix C(c) - in the CA WILDLIFE RESPONSE PLAN available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=16207&inline

Add instructions for the log from "Code Key for OWCN/Wildlife Processing Unit Live & Dead Oiled Animal Data Logs" found in the same appendix

APPENDIX E.13

Oiled Animal Data Log

Used to summarize data from animal collection forms delivered to facility. A link to the California log is provided below as an example.

"Oiled Animal Data Log: Live Animals Form" - Appendix C(c) - in the CA WILDLIFE RESPONSE PLAN available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=16207&inline

Add instructions for the log from "Code Key for OWCN/Wildlife Processing Unit Live & Dead Oiled Animal Data Logs" found in the same appendix.

APPENDIX E.N

POST-INTAKE MORTALITY LOG

For the tracking of animals that die while in care. A link to the California log is provided below as an example.

"The Post Intake Mortality Log" - Appendix C(c) - in the CA WILDLIFE RESPONSE PLAN available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=16207&inline

APPENDIX E.14

Wildlife Branch Initial Task Summary

Typical Incident Objective (from UC): Recover and rehabilitate impacted wildlife

Typical Operational Objectives:

A. Assess the locations, types and numbers of potentially impacted wildlife.

B. Recover impacted wildlife and/or protect un-impacted wildlife as appropriate.

C. Rehabilitate impacted wildlife as appropriate.

Branch Staff (* as needed):

Branch Director (command post).

Deputy Branch Director (command post).:

Wildlife Technical Specialist Liaison (WSRP)

*Care & Processing Group Supervisor

*Recovery Group Supervisors (bird/marine mammal):

*Reconnaissance Group Supervisor:

* Field Stabilization Group Supervisor

* Deterrence Group Supervisor

*IAP Specialist:

*Wildlife Volunteer Coordinator:

*Documentation:

*Other:

Task list

Establish roles and responsibilities within Branch. Provide Branch Org Chart to Planning Section. Assign scribe role to maintain Branch Log (214).

Make incident notification to USFWS. Initiate request for both USFWS spill-specific permits required to conduct oiled-wildlife operations (oiled-bird rehabilitation + oiled bird carcass collection and possession) on behalf of primary wildlife contractor.

Establish early communications and reporting schedules within the ICP as needed.

Operations Section (SC): Establish 232RR process and other requirements.

Planning Section (SitStat UL): Obtain information re: incident scenario, weather, tides, trajectory, etc. Discuss 209 information flow process and update schedule.

Planning Section (EUL): Coordinate initial wildlife observation activity with EU. Discuss providing content for waste management plan. Due:

Planning Section (Deputy): Discuss wildlife plan for Incident Action Plan. Due:

JIC/Liaison: Provide wildlife response/rehabilitation background packet.

Safety Officer: Discuss wildlife content for site safety plan. Due:

Work with WRSP to communicate with additional wildlife response contractors, rehabilitation centers, and volunteers to assess their potential for involvement as needed.

Initiate monitoring of the oiled-wildlife reporting hotline.

Provide a press release (213) for the JIC/Liaison that includes references to the hotline, initial wildlife response, volunteer usage, and wildlife cautions.

Request tribal contacts for field operations through Liaison Officer as appropriate (213).

Develop initial wildlife/carcass encounter/collection policy (213). Distribute to OPS/SC/Shoreline/On-water.

Develop a Wildlife Plan for the ***initial*** operational period (OP1). The following should be considered:

Wildlife assessment

Wildlife search and recovery, field stabilization, and transportation

Deterrence

Rehabilitation

Volunteer usage

Summarize initial plan and brief OP Section Chief/UC as appropriate.

Establish necessary wildlife work area(s) with OPS Staging Area Manager (213).

Wildlife stabilization location(s). Address(s):

NAME/ADDRESS:

Wildlife rehabilitation center location. Address:

Order/obtain personnel and resources necessary (ICS 213RRs) to support the initial Wildlife Plan. Track orders as needed.

Develop the Wildlife Plan for the ***next*** operational period (OP2). This should address the following as appropriate:

Wildlife reconnaissance.

Wildlife search and recovery, field stabilization, and transportation

Deterrence

Rehabilitation

Volunteer usage

Safety plan

Initiate orders for personnel and resources (213RR) as necessary to support the Wildlife Plan for the next operational period (OP2). Track orders as needed.

Prepare Branch 234 prior to pre-Tactics meeting (and Branch 215 development). Provide to OPS Section Chief as requested. Note: 234 should include resources acquired for the first day's operation. Note: If spill management software is being used establish process for importing this information prior to pre-tactics meeting if possible.

Prepare Branch 215 prior to pre-Tactics meeting. Provide to OPS Section Chief as requested.

Provide completed Wildlife Plan to Planning for evaluation and inclusion within the IAP. Note: this may require obtaining signatures from other Section Chiefs prior to submission.

Develop waste stream estimates and provide text to Planning/EU for inclusion in the EU Waste Plan (213).

Develop wildlife related safety plan and provide to Safety Officer for inclusion in Site Safety Plan (213).

Develop Branch 204 & 204a as necessary.

Attend meetings as needed:

Pre-tactics:	TIME:
Tactics:	TIME:
UC Plan Brief:	TIME:
UC Press Conference Brief:	TIME:
Press Conference	TIME:
Critical Information Report (CIR)	TIME:

APPENDIX E.15

Wildlife Branch Summary Information for PIO / JIC

Wildlife Branch Information

Incident: **Date:**

Primary Contacts

Wildlife Branch Director
Name:
Affiliation:
Phone:
Email:

Deputy Wildlife Branch Director
Name:
Affiliation:
Phone:
Email:

Wildlife Response Service Provider (WRSP)
Name:
Affiliation:
Phone:
Email:

Summary

- **Wildlife Branch:** established within the Operations Section per the NWACP as part of this oil spill response under the direction of WDFW.
- **Trustees and stakeholders:** WDFW, (INSERT WRSP), (INSERT RP), and (INSERT OTHER) are involved in the Wildlife Branch at this time.
- **Notifications:** USFWS was notified of the incident at (INSERT TIME) and (HAS/HAS NOT) issued the appropriate authorizations to the (INSERT WRSP). (INSERT ANY ADD. INFO)
- **Oiled Wildlife Reporting Hotline (800-22BIRDS/800-222-4737)**: Activated. Information received at this number will be routed to search and recovery personnel. Oiled wildlife may also be reported online at https://arcg.is/4T49X. Hotline is being monitored by (INSERT AFFILIATION).
- **Field stabilization:** (INSERT NUMBER) unit is being established at (INSERT LOCATION) and will be fully operational by (INSERT TIME / DATE). The unit is being staffed by (INSERT NUMBER OF PERSONS AND AFFILIATION). Personnel may be rotated to other positions as unique needs arise.

- **Wildlife rehabilitation center:** The center is being established at (INSERT LOCATION) and will be fully operational by (INSERT TIME / DATE). (INSERT ANY OTHER EQUIPMENT BEING DEPLOYED TO THIS LOCATION). The facility is being staffed by (INSERT NUMBER OF PERSONS AND AFFILIATION). Personnel may be rotated to other positions as unique needs arise.
- **Wildlife assessment:** An initial wildlife impact assessment is underway by (INSERT NUMBER OF TEAMS AND AFFILIATION). This may include both shoreline and on-water efforts. These personnel are also available to be directed as a result of information received from public or response workers.
- **Wildlife deterrence**: Deterrence opportunities are being evaluated. (INSERT A BRIEF DESCRIPTION OF ANY ONGOING / ANTICIPATED ACTIVITIES). There will be (INSERT NUMBER OF PERSONS / AFFILIATION) engaged in these activities.
- **Wildlife recovery:** (INSERT NUMBER OF TEAMS) conducting search and recovery activities in the field by (INSERT DATE / TIME). These activities will be occurring in the vicinity of (INSERT GEOGRAPHIC AREA) and will consist of (INSERT NUMBER / TYPE OF TEAMS). The total number of people on these teams will be (INSERT NUMBER OF PERSONS / AFFILIATION). Personnel may be rotated to other positions as unique needs arise.
- **Recovered wildlife:** The Wildlife Branch will report wildlife impacts in compliance with Unified Commands CIRs. For current information, refer to the Incident Status Summary form (ICS 209). This information will be updated daily at the end of daily operations or as requested by the UC. Only oiled wildlife (dead or alive) that has been collected and confirmed by Branch personnel will be reported.
- **Resources at risk:** For information related to resources at risk in the response area, please refer to the Resource at Risk form (ICS 232) and recent overflight information – available from the Environmental Unit (Planning Section).
- **Volunteers:** No volunteers are being used at this time. For current information related to volunteer participation, please contact the Liaison Officer.

Oiled Wildlife

Background Information

This document was developed by the State of Washington Department of Fish and Wildlife Oil Spill Team to assist Public Information Officers with media questions in the context of impacts to fish, wildlife, and their habitats during an oil spill event.

REPORTING OILED WILDLIFE NUMBERS

The Wildlife Branch will only release the number of oil-impacted wildlife (live or dead) once it has been recovered – and this means once the "intake" process at a rehabilitation center has been completed. **Information regarding the number of animals that have been "reported" as oiled (via the hotline or other means) but have not been recovered will not be supplied by the Branch.** In general, it is felt that disseminating "reported" wildlife impacts rather than "recovered" wildlife tends to artificially inflate the impacted wildlife numbers and may establish unrealistic expectations regarding recovery rates, e.g.:

- It is not uncommon to receive reports of oiled birds only to find that they were not oiled, but merely dark colored species such as crows, cormorants, or brant geese.
- In a populated area, it is likely that multiple reporting parties may be referencing the same animals – especially if the animals are still mobile.
- Recovery rates of oil-impacted wildlife can vary widely depending upon such things as the species, the animal's initial physical condition, the environment, as well as the degree of oiling, weather, time of day, skill of field crews, etc.

We appreciate your patience and ask for your assistance in helping us provide correct and accurate information to avoid confusion during oil spill responses. Numbers of animals processed into the rehabilitation center will be recorded on the Incident Status Summary (ICS form 209) at regular intervals but please contact Branch personnel if updates are required for specific briefings, etc.

MEDIA PICTURES, SITE VISITS, AND IMBEDDING

The Wildlife Branch often receives requests to allow press access to the rehabilitation center or field operations. While understandable, granting such access can create significant risks to the animals that are being recovered or that are already in care. Any requests for media access to wildlife operations will be evaluated by the Wildlife Branch Director in consultation with the incident veterinarian and other staff.

It is well established that increased stress levels in wildlife undergoing care can greatly reduce an animal's chances of surviving the rehabilitation process. Crowds, sudden movements, loud noises, bright lights, may all serve to increase the stress levels of animals in care - which may reduce their survival rate and thus negate all of the effort that has gone into their recovery.

OILED WILDLIFE REPORTING HOTLINE

The Wildlife Branch requests the Joint Information Center (JIC) include the following information in any press release or public service announcements related to this incident.

An **Oiled Wildlife Reporting Hotline (800-22BIRDS/800-222-4737)** has been established for this incident and the public is asked to report any oiled-wildlife observations at this number. Reports received from the public will be routed to search and recovery personnel.

Please note that this is a message-only line. Callers are requested to:

- Leave their callback information
- The kind of oiled animals observed (such as ducks, seabirds, seals)
- Include the number of oiled wildlife observed
- The location of the animals
- The degree of oiling on the animal observed
- Whether or not the animal appeared mobile or incapacitated.

It is strongly recommended that members of the public **do not** approach (or attempt to capture) any oiled wildlife. Such efforts are extremely stressful to the animals and can endanger the safety of both the public and the animals that they are trying to help.

OILED WILDLIFE VOLUNTEERS

The Wildlife Branch does not currently have a need for any additional volunteers. It is recommended, however, that anyone interested in volunteering to participate in the response efforts associated with this incident register at the Washington Department of Ecology website: http://www.oilspills101.wa.gov/volunteer-registration/

If it is determined that volunteer assistance is required to conduct wildlife operations, the Wildlife Branch will work with the incident Liaison Officer to contact those persons that have registered on the Ecology volunteer website.

HOW OIL INJURES WILDLIFE

Oil can cause both long- and short-term harm to wildlife through physical contact, ingestion, inhalation and absorption. The severity of these impacts will depend, somewhat, on the type of oil.

- **Crude oils** (e.g., Alaska North Slope, Bakken, or "Dilbit") tend to impact wildlife in the short-term either by limiting an animal's ability to function physically (i.e., flying and staying warm) or by overcoming the animal with volatile vapors. If the animal survives their initial exposure to the oil, toxins within the oil may cause secondary effects over time as internal organs are affected. Crude oils and the residual products also tend to persist longer in the environment than the more refined products, and will therefore have the potential to cause more long-term contamination issues for wildlife.
- **Refined products** (e.g. gasoline, diesel fuel, jet fuel) will tend to have less of a physical impact to wildlife than crude oils (e.g. birds may still be able to fly), but they will also have a greater tendency to impact an animal via their volatile vapors. These products will also tend to cause a higher incidence of chemical burns to an animal's skin than will crude oils.
- **Residual products** (e.g., bunker fuels) will tend to have similar physical impacts to wildlife as the crude oils but, because the volatile compounds have been largely removed by the refining process, will tend to cause less respiratory distress and chemical burns than the refined products.

IMPACTS TO WILDLIFE TYPES

BIRDS

Historically, marine birds are the most likely (and most numerous) wildlife impacted by oil spills in Washington State. In general, those species that spend a lot of time on the water's surface (e.g., seabirds such as murres and scoters and waterfowl such as geese and ducks) are the most likely species to be impacted by floating oil. Being exposed to oil can negatively affect birds both physically and toxicologically:

- Physically, oil interferes with the inherent water repellency of a bird's feathers. As a bird becomes less waterproof a bird loses its ability to maintain its body temperature – ultimately becoming hypothermic. As a bird becomes colder, it loses its ability to fly, forage for food, float on the surface and eventually dies. If the spill occurs during nesting season, breeding adults that have become oiled may inadvertently transfer oil from their feathers to their eggs – rendering them nonviable.

- Oil is also toxic to birds. As birds attempt to restore the waterproofing of their feathers by grooming, they can ingest and inhale the oil collected on their feathers. While this ingestion/inhalation can kill the birds immediately, it more often results in long-term damage to the animal. Oil ingestion suppresses the immune system, causes organ damage, skin irritation, ulceration, and behavioral changes. Damage to the immune system can lead to secondary infections that cause death and behavioral changes. This damage may affect an animal's ability to find food or avoid predators. Long-term consequences can include impaired reproduction potentially impacting population levels.

MAMMALS

Marine mammals (e.g., whales, porpoise, seals, sea lions, sea otters) are the most likely mammals to be exposed to oil during a spill, although land-based scavengers such as coyotes, raccoons, and skunks may also exposed to oil by feeding on carcasses of contaminated fish and wildlife.

With regard to how they are impacted by oil spills, marine mammals fall into two categories: those that are fur-bearing and those that are not. Fur-bearing animals (e.g., sea otters) rely on their fur to keep them warm and buoyant – similar to the way in which seabirds rely on their feathers. As it does with feathers, oil also interferes with the inherent water repellency of an otter's fur. As an otter becomes less waterproof, it loses its ability to maintain its body temperature – ultimately becoming hypothermic. As the otter becomes colder, it loses its ability to forage for food, float on the surface, and eventually dies.

Non-fur bearing marine mammals (such as seals, sea lions, porpoises, and whales) rely on a blubber layer to maintain their body temperature and are not affected in the same way as sea otters. They may, however, suffer from skin irritation and ulceration as a result of contact with spilled oil.

All marine mammals are also at risk to respiratory issues associated with inhaling volatile fumes. They are subject to long-term impacts of oil exposure including suppression to the immune system, organ damage, and potentially behavioral changes. Damage to the immune system can lead to

secondary infections that cause death. Behavioral changes may affect an animal's ability to find food or avoid predators. Long-term consequences can include impaired reproduction potentially impacting population levels – particularly in those populations already at risk of extinction such as southern resident killer whales.

FISH

Fish are less likely to be physically impacted by an oil spill, but they can be impacted by the more toxic fractions of oil through by their gills, by ingestion of the oil or oiled prey, and/or changes in the ecosystem that support the fish. The eggs and larvae of many fish species are highly sensitive to the toxic effects of oil. Juvenile and adult fish may experience reduced growth, enlarged livers, changes in heart and respiration rates, fin erosion, and reproductive impairment when exposed to oil.

CRUSTACEANS/BIVALVES

Oil can be toxic to crustaceans (i.e., shrimp, crabs, etc.) and the bivalve species (i.e., clams, oysters, etc.). These latter species may be particularly vulnerable when oil becomes highly concentrated along the shoreline and smothers those animals that cannot move away. Shellfish that survive exposure to oil may accumulate high levels of contaminants in their bodies that can be passed on to predators (including humans).

PLANKTON

Planktonic species (like algae, fish eggs, and the larvae of various invertebrates) are likely to die or be severely impacted by contact with oil. Fish feeding on these impacted organisms can subsequently become contaminated themselves as they ingest their contaminated prey. Larger animals further up in the food chain (including humans) may then be exposed to these toxic compounds as they feed on the contaminated fish.

HABITAT IMPACTS

Floating and intertidal marine algae (kelps and seaweed) are likely to die as they contact spilled oil. Although oil can prevent the germination and growth of marine algae, most vegetation of this type appears to recover after cleanup assuming that the sporophytes are still viable and that the substrate has remained intact. Marine plants in the intertidal areas (i.e., eelgrass) may be negatively impacted by oil spills. Intertidal plants routinely shed leaves and the plant itself will likely die if oil collects heavily on the sediments, smothering the rhizomes. These plants are also susceptible to response activities that occur in these areas as a part of cleanup efforts (trampling, boat operations, *in-situ* burning, etc.).

Oil may persist in the environment long after a spill event. In some cases, oil has been detected in sediments 30 years after a spill. Much of oil's persistence after a spill depends upon the sediment type, that was impacted and the wave energy associated with a given beach. On porous gravel beaches, oil can sink deep into the sediments. High energy sandy beaches may bury oil deposits. Within tidal flats and salt marshes, oil may seep into the muddy bottoms. The effect of oil in any of these systems has the potential to create long-term persistent impacts on fish and wildlife populations.

FISHING/SHELLFISHING CLOSURES

Emergency fishing and shell fishing closures to protect human health generally fall under the authority of the Washington State Department of Health.

ABOUT US

More information about the State of Washington Department of Fish and Wildlife's Oil Spill Team may be found online at: https://wdfw.wa.gov/species-habitats/habitat-recovery/spill-prevention

GLOSSARY OF TERMS IN THE CONTEXT OF OILED WILDLIFE

Convergent volunteer: a volunteer with no prior oil spill response training or HAZWOPER certification.

Hazing: (aka "Deterrence") the act of frightening or actively discouraging wildlife from a specific location.

Intake: A process that involves identifying, evaluating, and documenting injured wildlife generally at a licensed rehabilitation center.

Larval or larvae: an immature form of certain animals that undergo some metamorphosis. For instance, tadpoles are the larval form of frogs.

Marine bird: birds that live most of their life in the ocean such as common murre, scoters, and puffins.

Mobile Rehabilitation Unit (MRU): Temporary structures that can be rapidly deployed to treat and care for oiled wild animals until they are released back to the wild.

Pre-trained volunteer: a volunteer that has previously received HAZWOPER training related to oil spill responses.

Reconnaissance team: A designated group of trained and qualified individuals (usually HAZWOPER certified) operating under the direction of the Wildlife Branch in the ICS that can determine the location of wildlife or habitats at risk of oiling from a spill and report back to the Wildlife Branch.

Rehabilitation center: A rehabilitation center can be thought of as a hospital, or intensive care unit where wildlife receive treatment for injuries related to oil spills. Rehabilitation centers may be a temporary structure (such as MRUs) or they may be a more permanent structure such as an established wildlife rescue center.

Search and recover team: A designated group of trained and qualified individuals (usually HAZWOPER certified) operating under the direction of the Wildlife Branch in the ICS authorized to find and recover live and/or dead wildlife during an oil spill event.

Shorebird: birds that spend most of their time along the shoreline foraging such as sandpipers, dunlins, and plovers.

Stabilization center: Stabilization centers are a temporary facility that can be rapidly deployed to a remote location where they evaluate and provide an initial assessment of oiled wildlife to determine if they are suitable for transfer to a rehabilitation center.

Waterfowl: birds that spend most of their time swimming in freshwater such as Canada geese, mallard ducks and common mergansers.

Section 9315

Operations Section Organizational Guidance

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9315

Operations Section Organizational Guidance

This tool provides guidance on how to organize the Operations Section based on minor, medium, and major inland or coastal spills.

Example organization charts are intended to assist with staffing for the initial Incident Action Plan (24 to 48 hours timeframe). All of the scenarios assume the response will be managed by one individual to give a central location for accountability of resources. The span of control provided on the organization charts is based on the asset number and not the number of personnel.

Situation status maps were developed to assist in developing the operations plan.

9315.1 Minor Inland Spill Scenario

This spill scenario if based on an inland spill of less than 1,000 gallons.

Original Report: An above ground storage tank failed resulting in a sheen seen several miles from the source in a nearby river. The spill occurred at a former feed lot property. The property owner is participating in the response. The property owner is unsure how much fuel was in the tank but an estimated 1,000 gallons of used motor oil is presumed to be the maximum potential released.

Update: The property is connected to an irrigation system and an irrigation waste way. Spill product migrated through the irrigation pipes and vaults under the property through a creek that empties into a nearby river. A over flight showed the majority of the oil released remains in a 4 mile stretch of a narrow creek. Minimal sheening has been seen on the river. A contractor has been hired to manage the containment and recovery operations. There are several waterfowl wintering in the area. Reports of oiled wildlife in the creek and oxbow lakes has been confirmed.

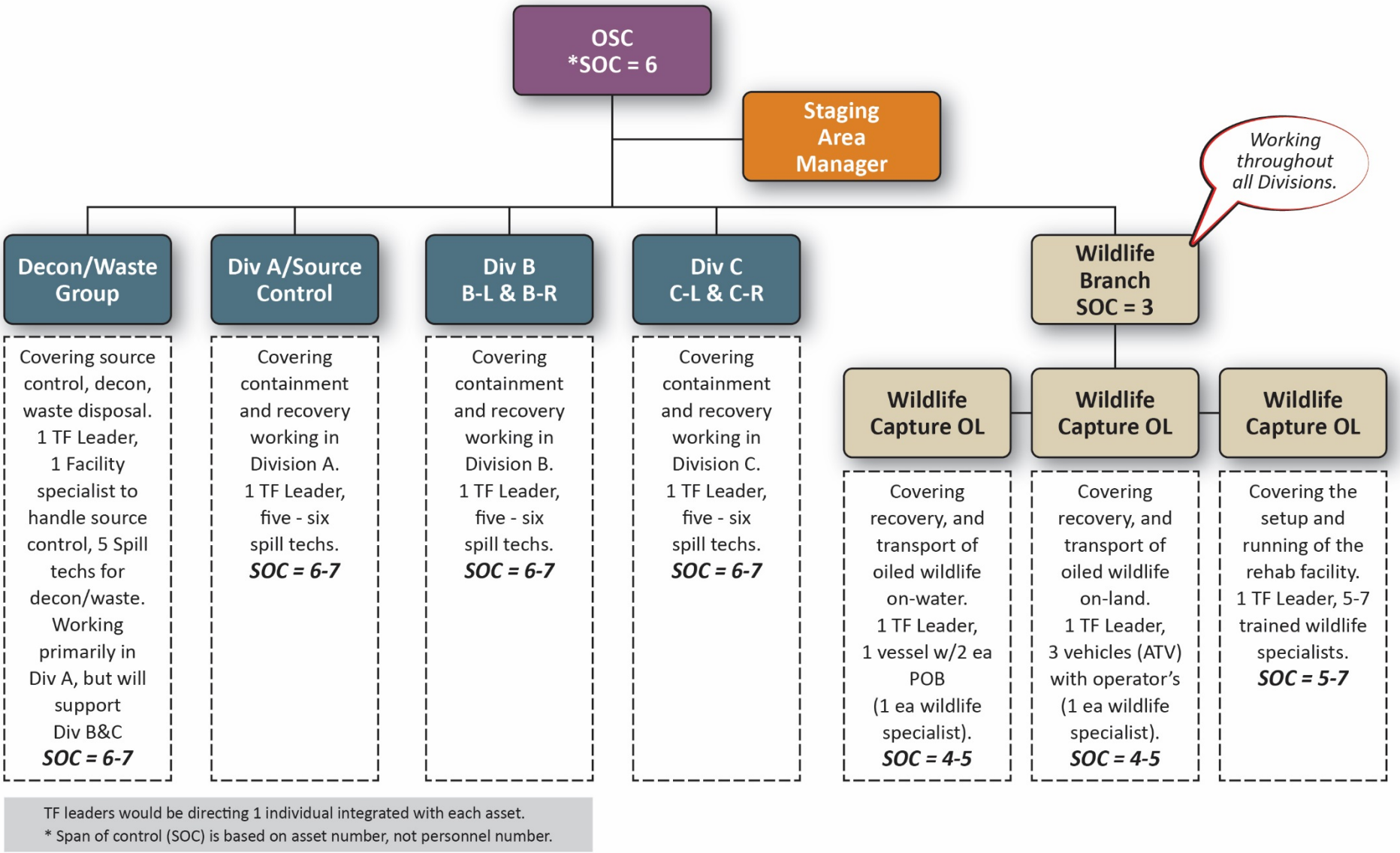

Figure 9315-1 Minor/Inland Spill Scenario Org Chart <1,000 Gallons

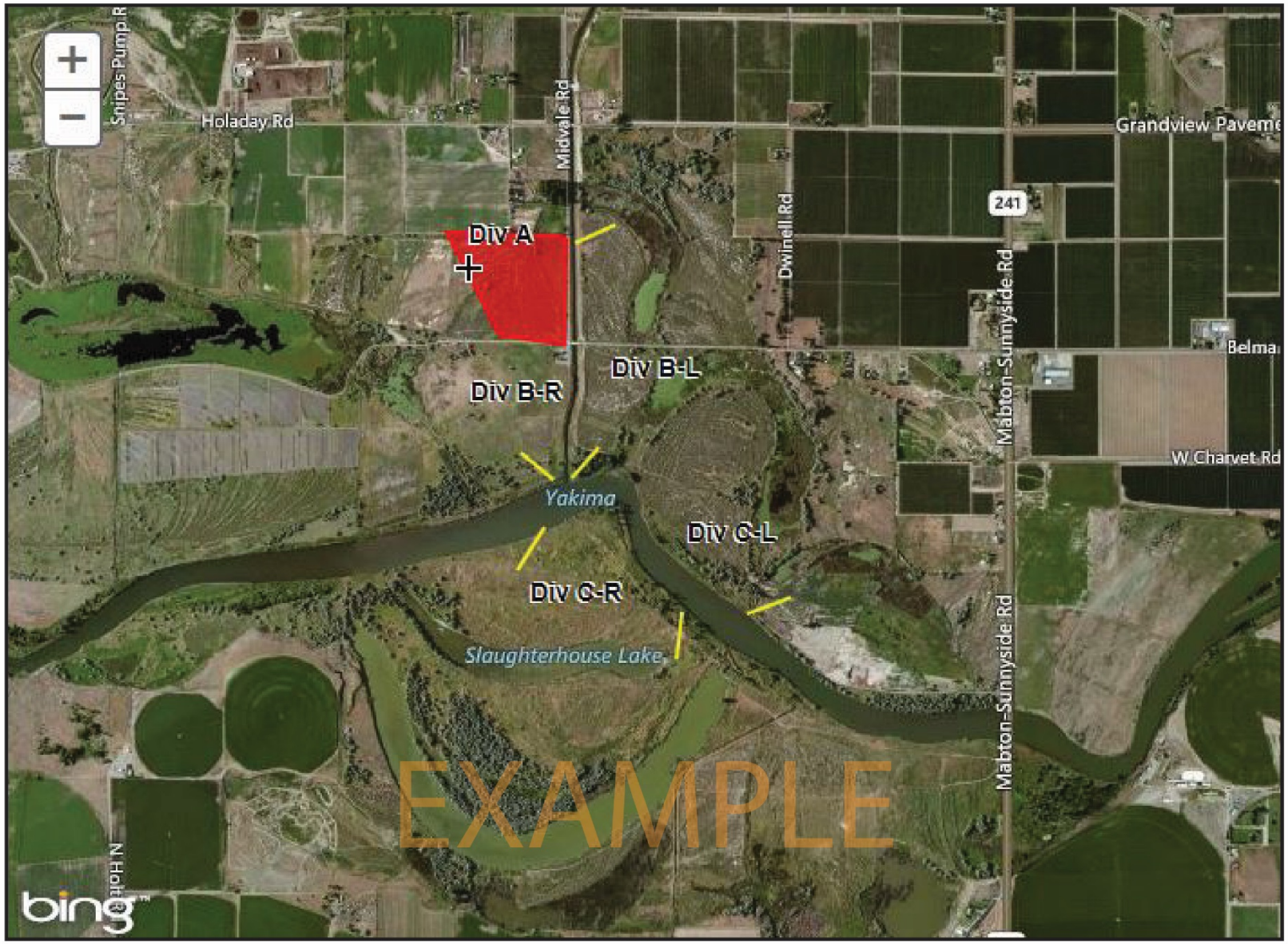

Figure 9315-2 Aerial Photograph Showing Spill Scenario

9315.2 Minor Coastal Spill Scenario

This spill scenario is based on a coastal spill of less than 10,000 gallons.

Original Report: A 70-foot commercial fishing vessel (F/V), the F/V Bad Day ran aground in a remote area of Puget Sound, Washington and was taking on water. Initially, the F/V pumps were keeping up with the water. There are 5 people onboard the vessel all with personal flotation devices. The weather is calm with no fog. The actual spill volume is unknown but an estimated 1,000 gallons of diesel fuel and an unknown amount of lube oil are onboard.

Update: The F/V listed as the tide went out and is now completely submerged. The persons onboard have all been removed from the F/V and taken to the hospital. The F/V owner reported only 500 gallons of diesel fuel onboard at the time of the grounding with a potential up to 1,000 gallons. As the tide came in, the vessel was submerged and sheen was reported.

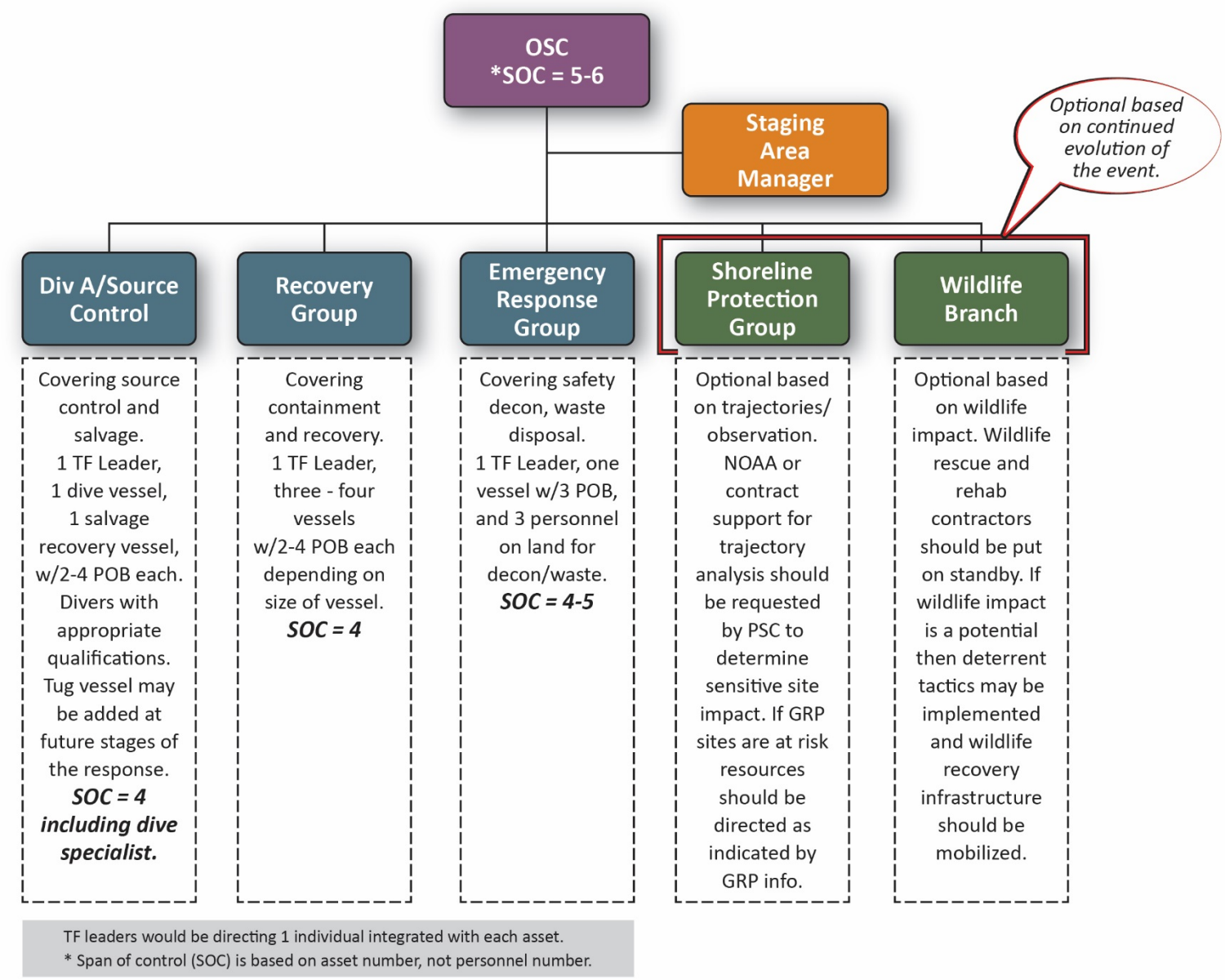

Figure 9315-3 Minor/Coastal Spill Scenario Org Chart <10,000 Gallons

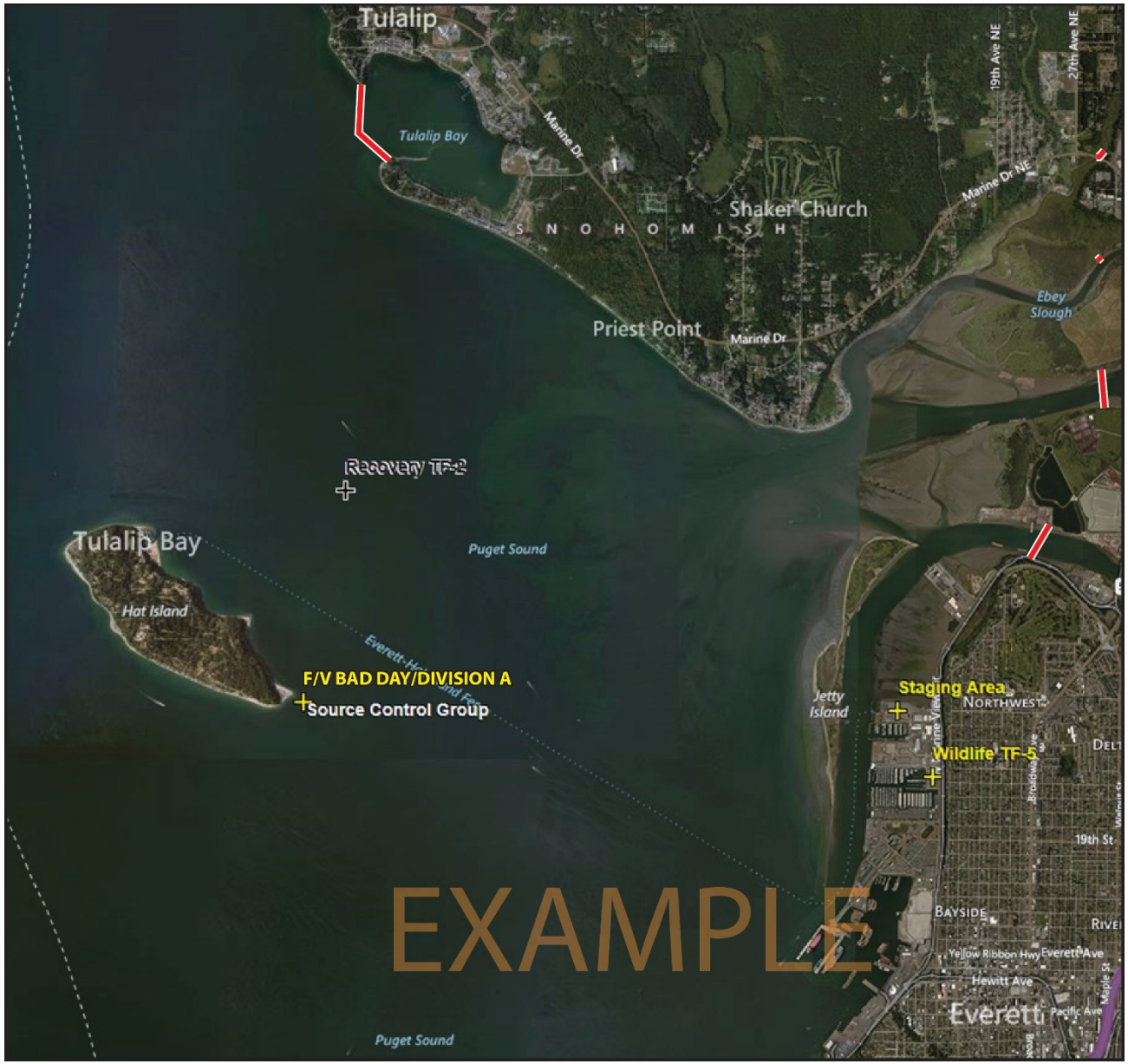

Figure 9315-4 Aerial Photograph Showing Spill Scenario

9315.3 Medium Inland Spill Scenario

This spill scenario is based on an inland spill of greater than 1,000 gallons but less than 10,000 gallons.

Original Report: A tank truck and trailer overturned along the highway in the Willamette National Forest. The tank truck landed on its side and the cargo remained in its tank. The trailer landed upside own in a ditch that drains to a creek that flow to the Middle Fork of the Willamette River less and ¼ mile downstream. The driver survived with minor injuries. First responders estimated a full load of gasoline and diesel at approximately 10,000 gallons was released from the trailer. Residential communities below the spill depend on groundwater for domestic use. The area where the spill occurred has no established Geographic Response Plans so strategies mu be developed during the response.

Update: The truck owner reported there were 4,000 gallons of gasoline and 3,500 gallons of diesel fuel in the tank of the trailer. Recovery work resulted in preserving 900 gallons of gasoline and 1,000 gallons of diesel from the tank. Estimates are that 3,100 gallons of gasoline and 2,500 gallons of diesel spilled onto the ground and into the creek.

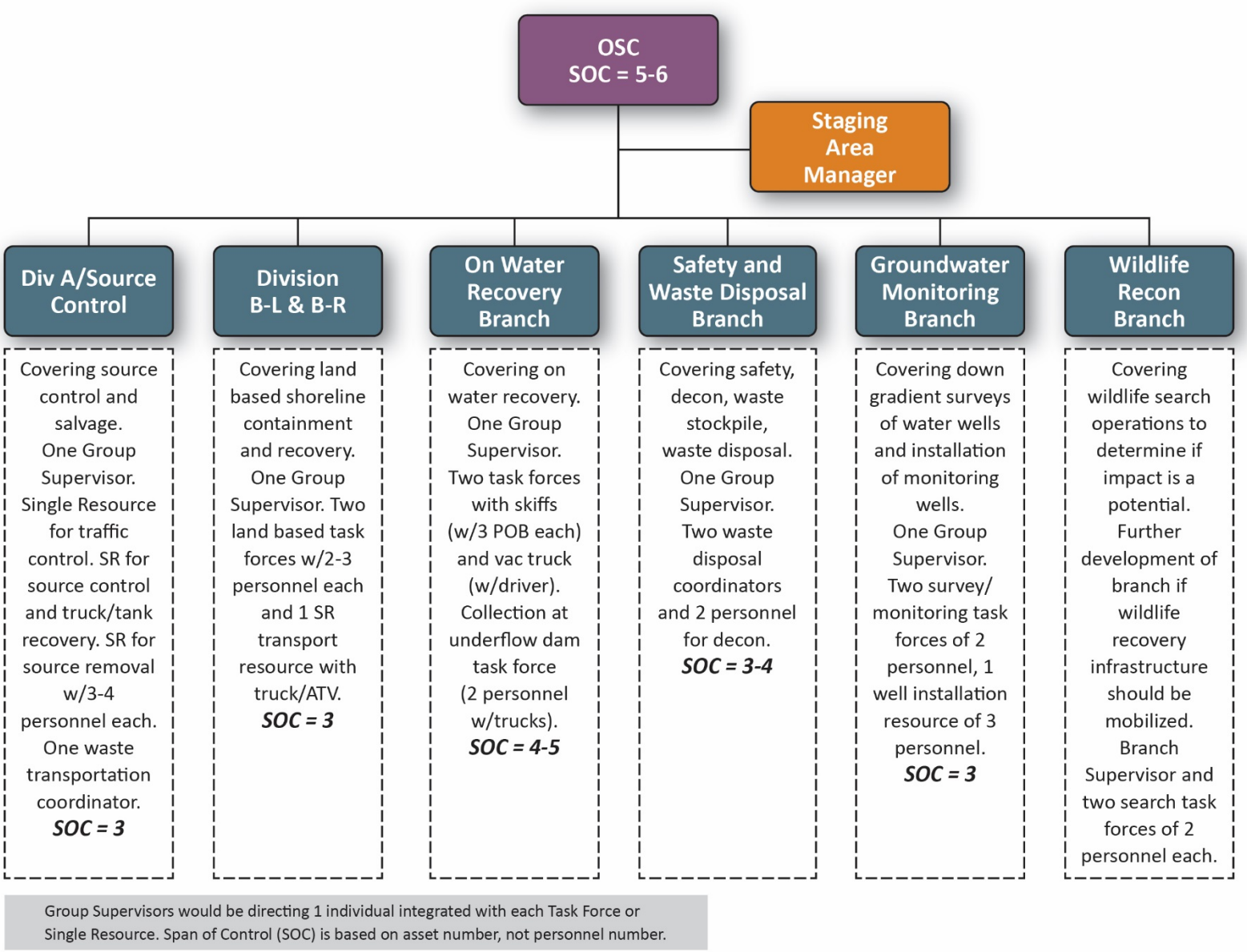

Figure 9315-5 Medium Inland Spill Scenario Org Chart >1000 and <10,000 Gallons

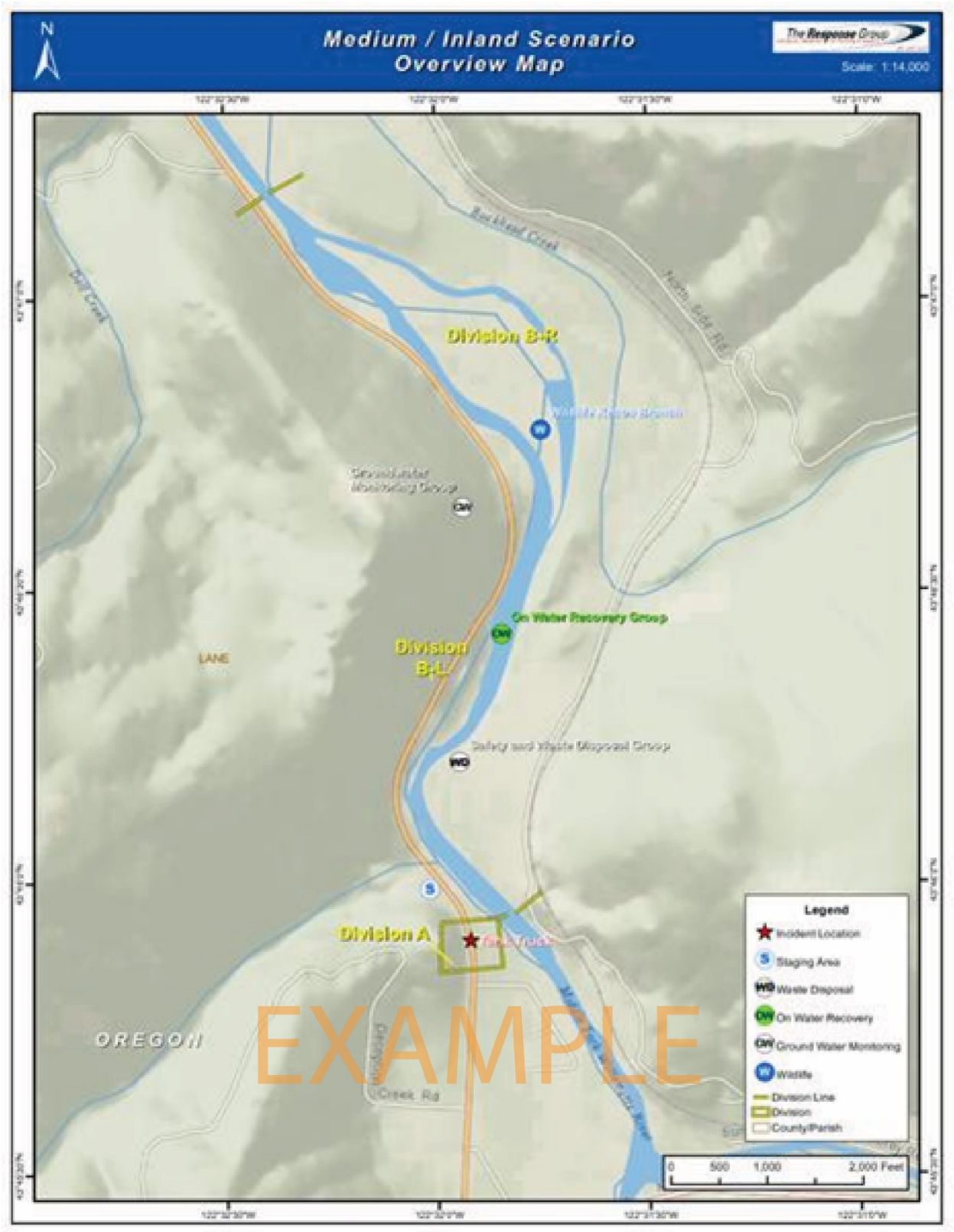

Figure 9315-6 Medium/Inland Scenario Overview Map

9315.4 Medium Coastal Spill Scenario

This spill scenario is based on a coastal spill of more than 10,000 gallons but less than 100,000 gallons.

Original Report: A 100,000 gallon storage tank owned by Acme, Inc. split apart and collapsed at the company's tank farm located near Puget Sound, Washington. The tank split while being filled to capacity for the first time after it had been dismantled and moved to its new location. The split released diesel oil over the tank's containment dikes, across the parking lot, onto an adjacent property, and into an uncapped storm drain that emptied directly into Puget Sound. Within minutes, the oil slick moved miles from shore, naturally dispersing throughout the width and depth of the waterway. The oil carried by the currents impacted wildlife, damaged private property, and adversely affected shipping and businesses in the area.

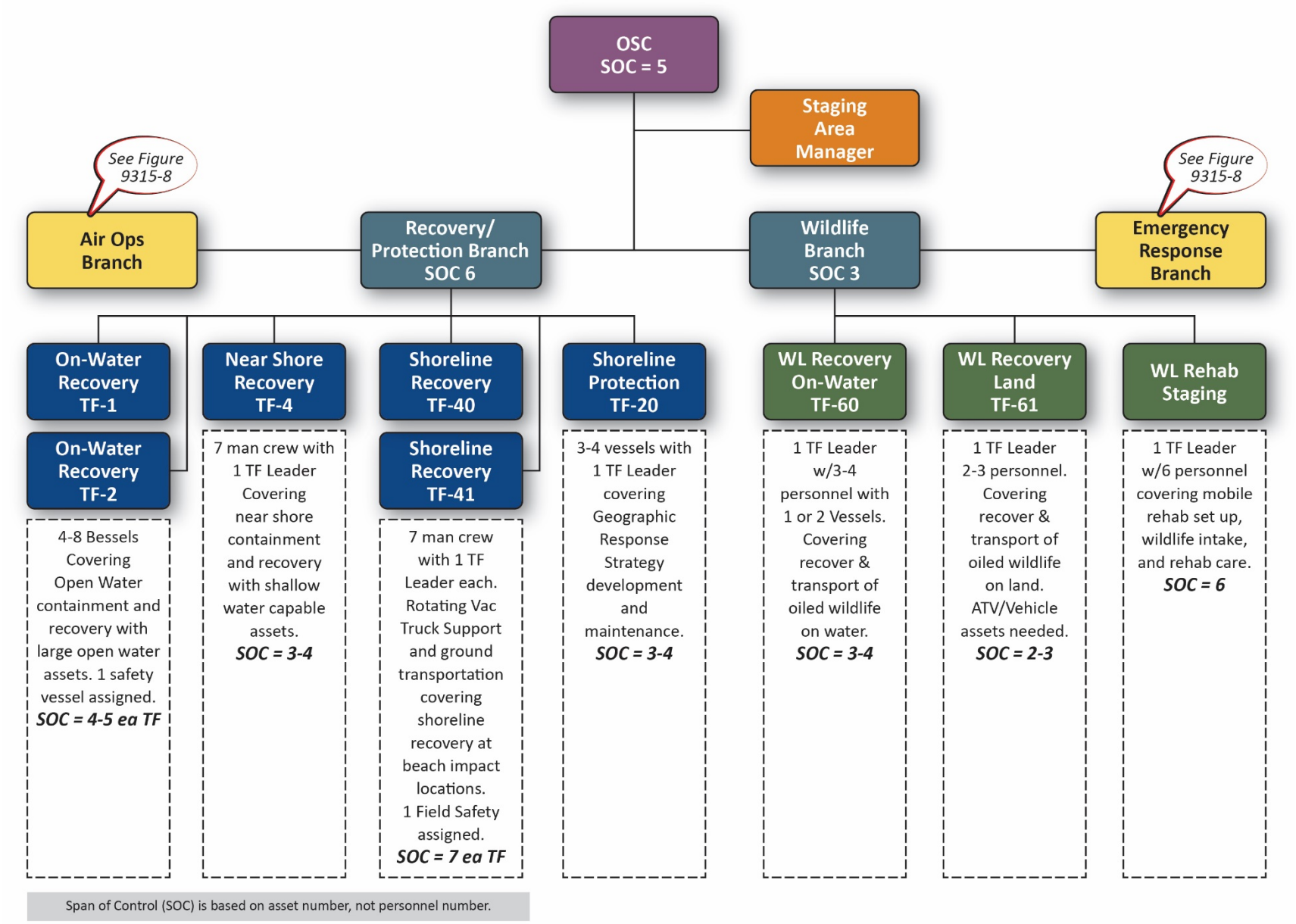

Figure 9315-7 Medium Coastal Spill Scenario Org Chart 10,000 >100,000 Gallons

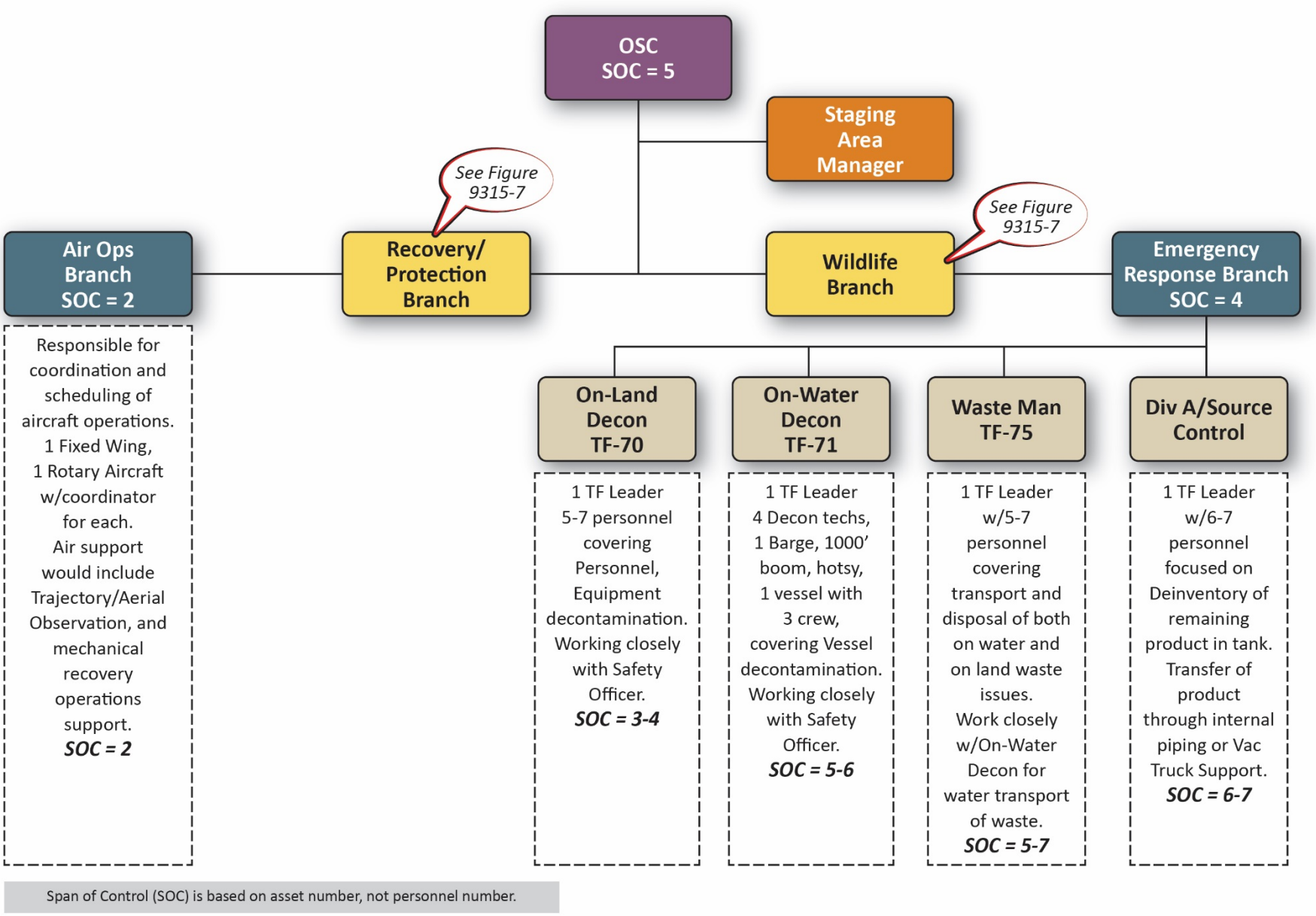

Figure 9315-8 Medium Coastal Spill Scenario Org Chart >100,000 Gallons

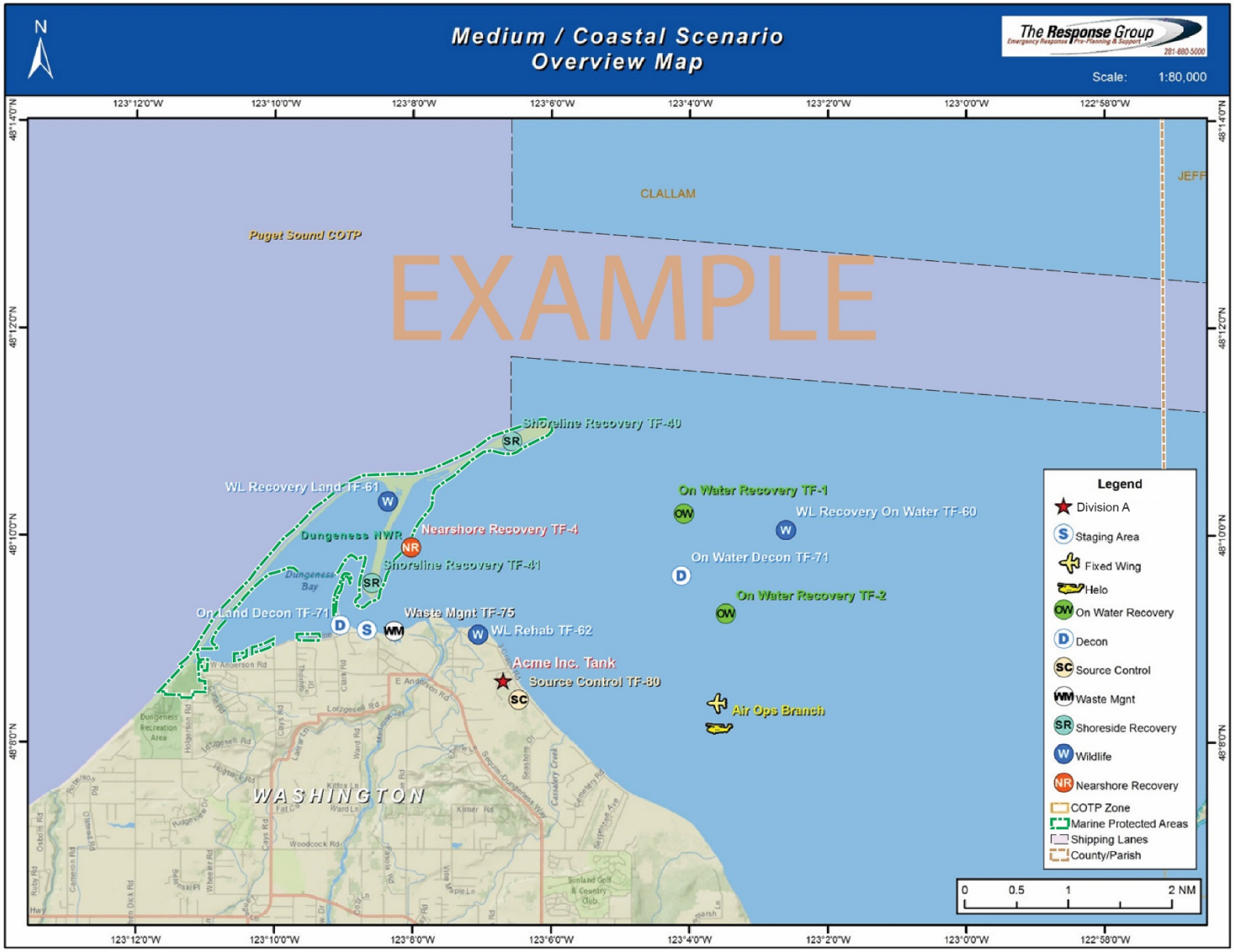

Figure 9315-9 Medium/Coastal Scenario Overview Map

9315.5 Major Inland Spill Scenario

This spill scenario is based on an inland spill of greater than 10,000 gallons.

Original Report: A minor landslide occurred along the Columbia River east of White Salmon, Washington near Rowland Lake. Approximately 12 rail cars, part of a 100-car unit train carrying Canadian crude oil, derailed. Some of the cars ruptured and are leaking oil. First responders' initial assessment report indicates a breach in four of the cars.

Update: The railroad reports that the crude oil is Access Western Blend Dilbit. The material balance survey indicates that almost 70,000 gallons remains in the breached tank cars and will have to be removed. Approximately 46,000 gallons leaked onto the ground and into the Columbia River. Initial reports of oil floating on the water is confirmed; however, responders should take into consideration that weathering of the oil may occur and watch for evidence of submerged oil.

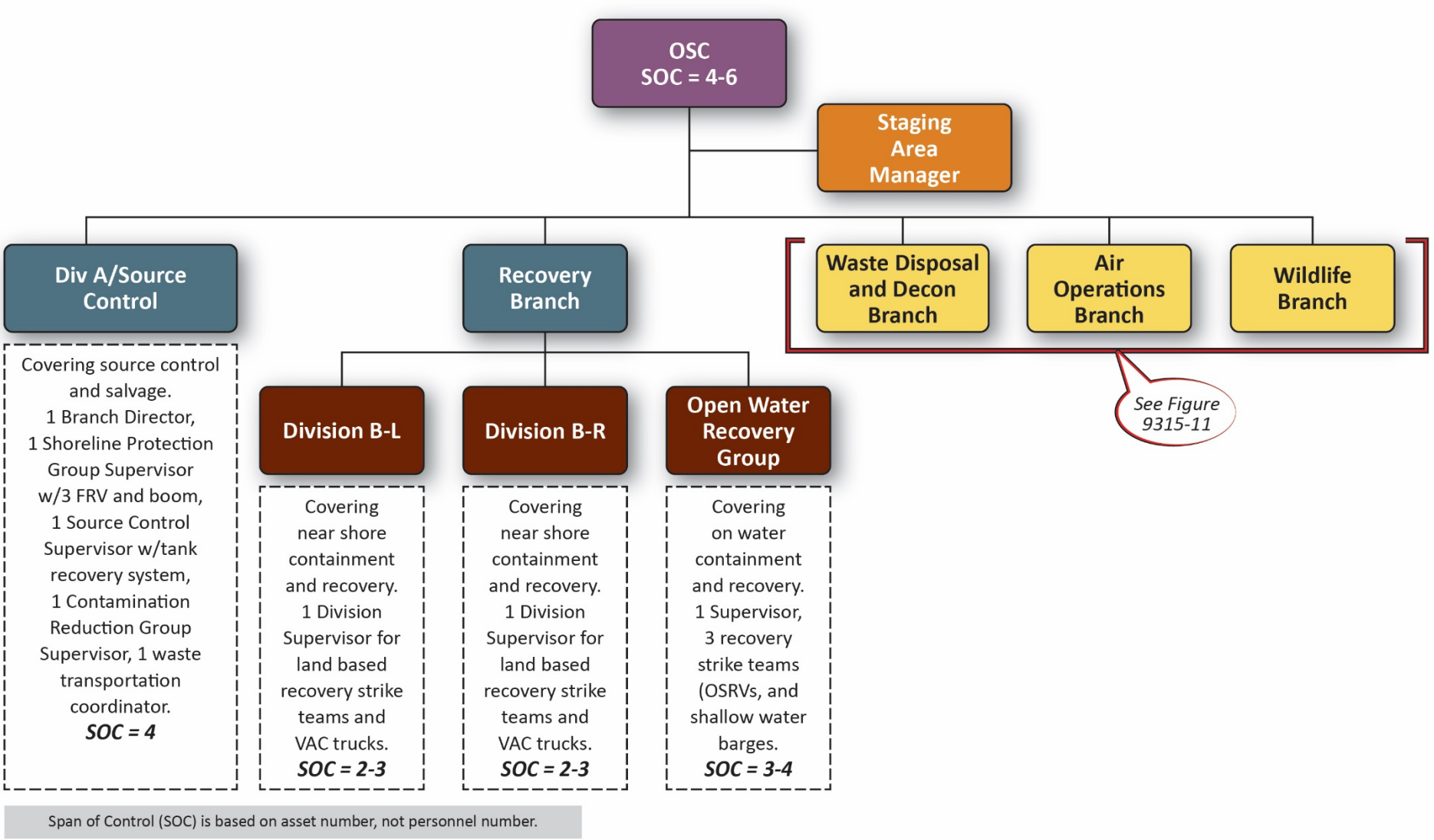

Figure 9315-10 Major Inland Spill Scenario Org Chart <10,000 Gallons

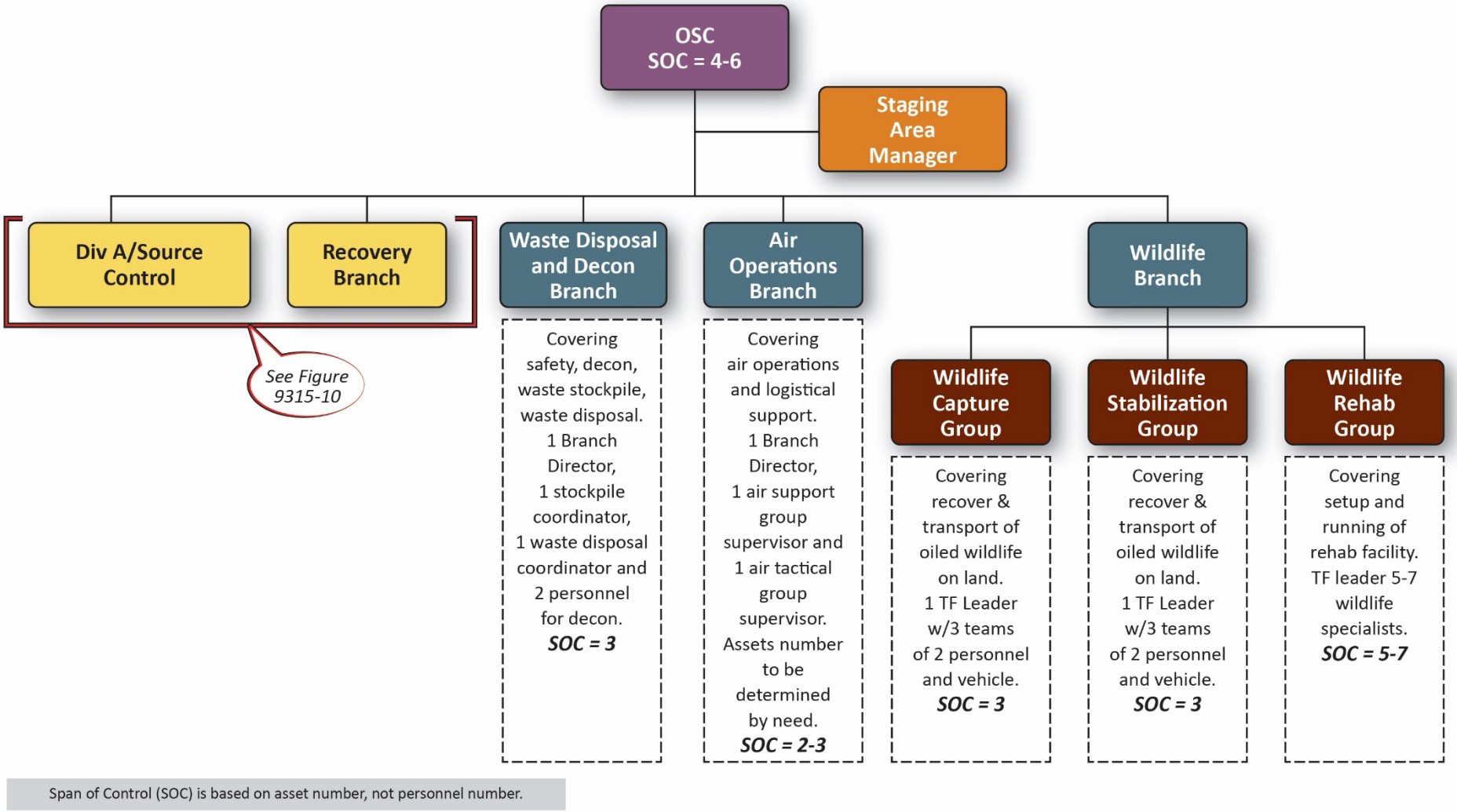

Figure 9315-11 Major Inland Spill Scenario Org Chart <10,000 Gallons

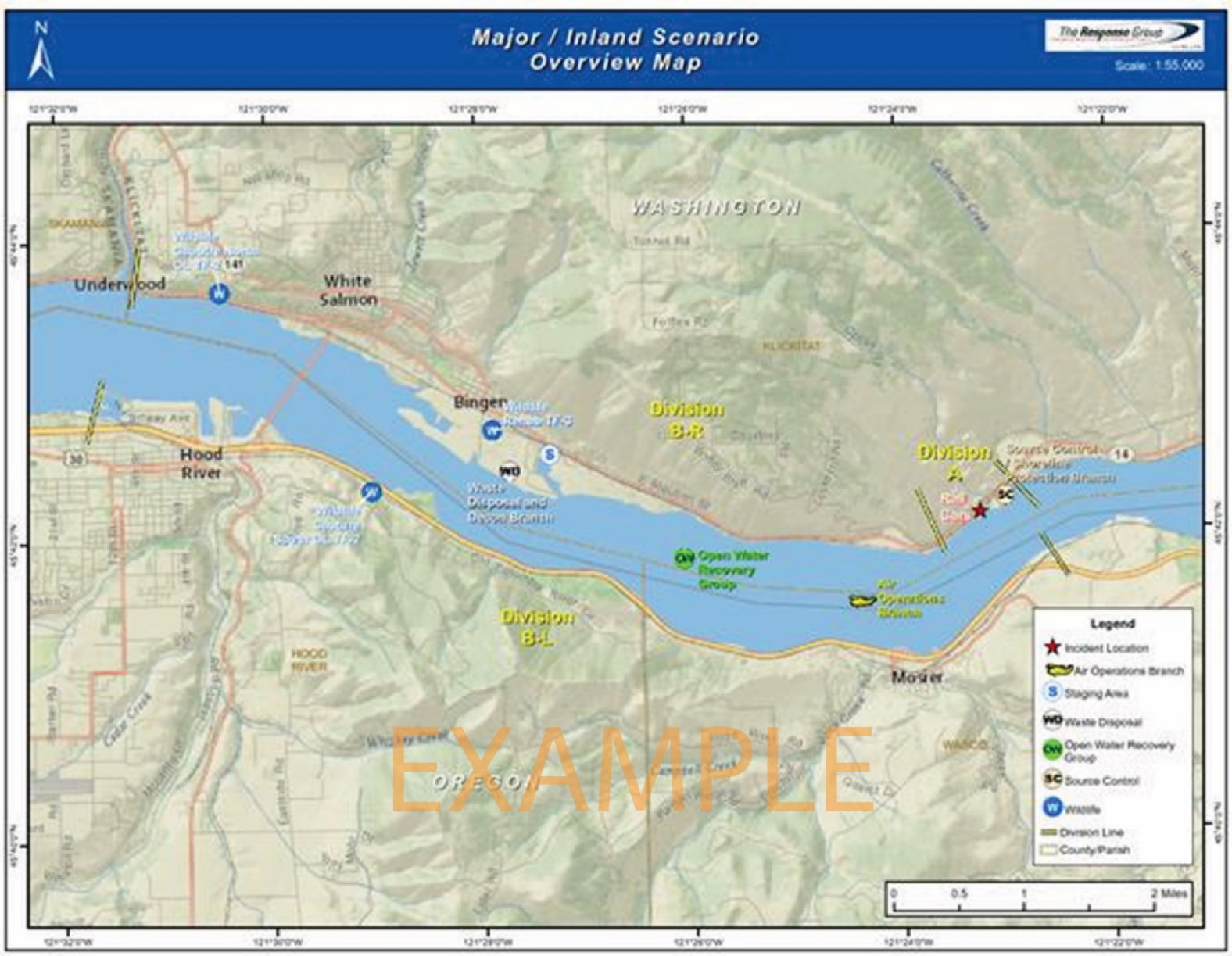

Figure 9315-12 Major/Inland Scenario Overview Map

9315.6 Major Coastal Spill Scenario

This spill scenario is based on a coastal spill of greater than 100,000 gallons. An additional potential organization chart is provided in Figure 9315-16 and is based on best practices from recent drills and exercises.

Original Report: The tanker vessel (T/V) Acme, carrying almost 7.9 million gallons of fuel oil, lost control of its steering near the entrance to Rosario Strat. Unable to adjust its course, Acme crossed into the intended path of another outbound T/V Bubba. Crews were not able to restore steering and the T/V Acme collided with the side of the T/V Bubba. Four tanks on the port side of the T/V Bubba were damaged with an initial release of 1.5 million gallons (approximately 35,000 barrels) with potential of approximately 2.9 million gallons of Alaska North Slope Crude from the T/V Bubba. No oil was released from the T/V Acme.

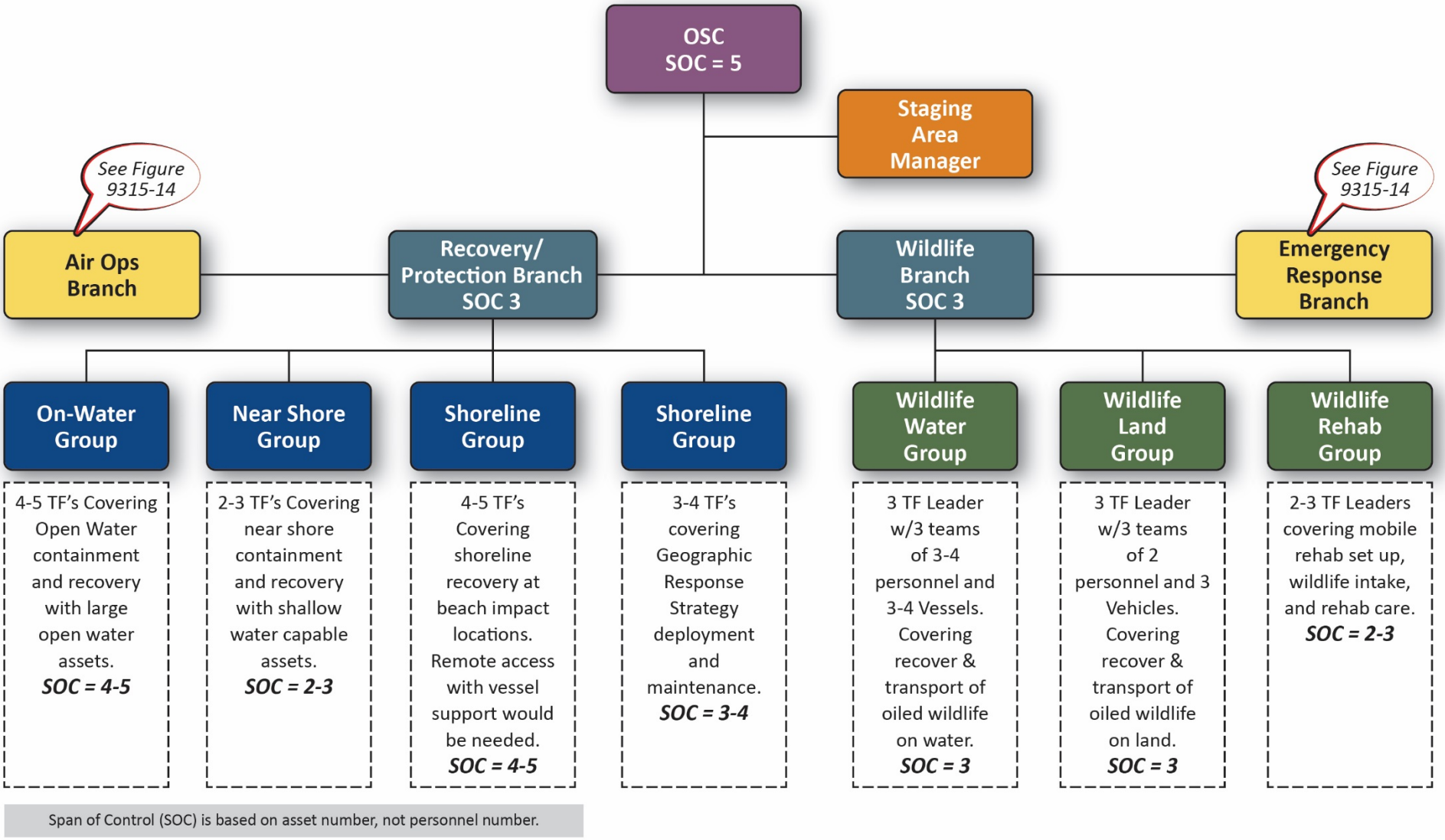

Figure 9315-13 Major Coastal Spill Scenario Org Chart >100,000 Gallons

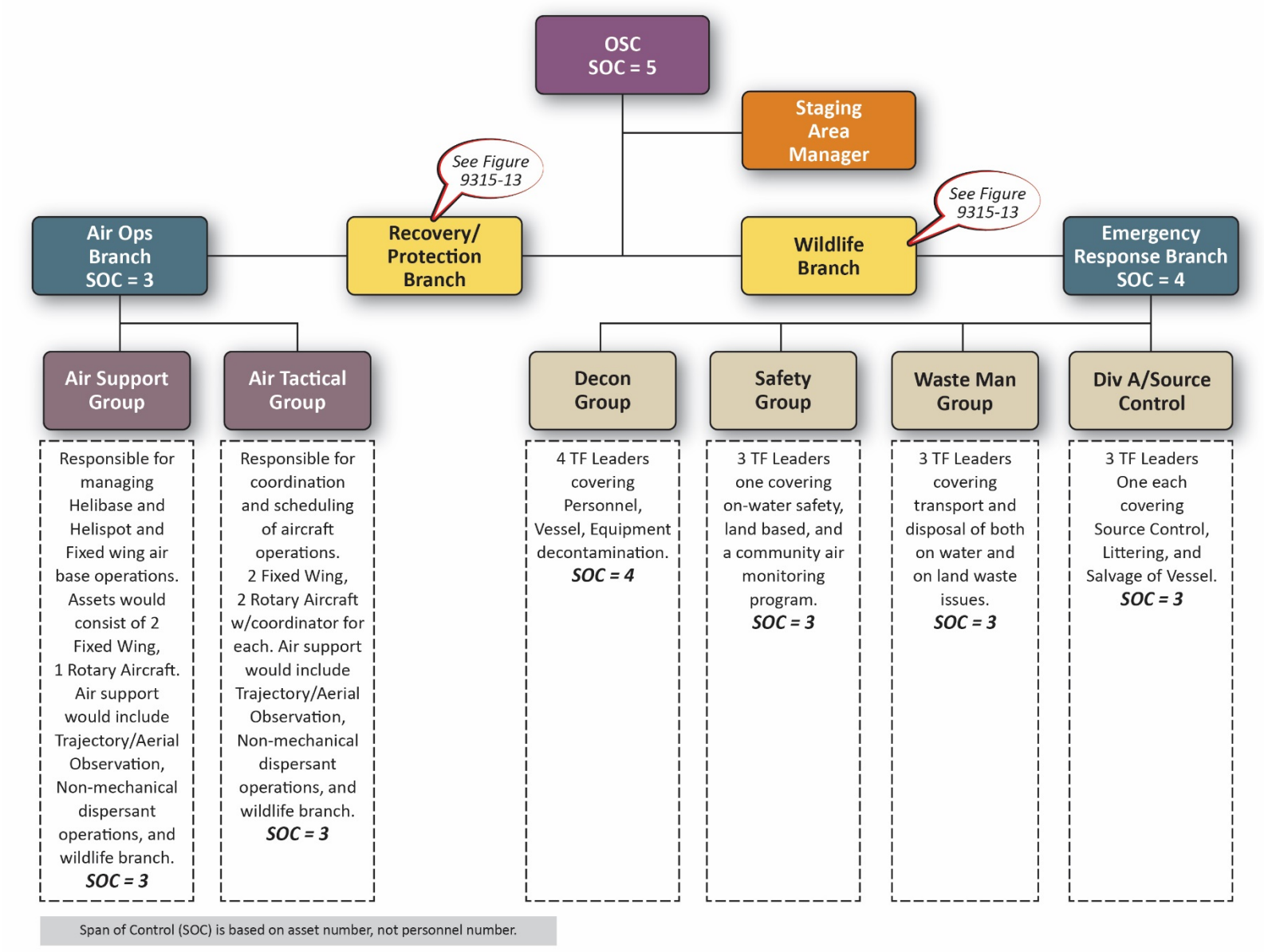

Figure 9315-14 Major Coastal Spill Scenario Org Chart >100,000 Gallons

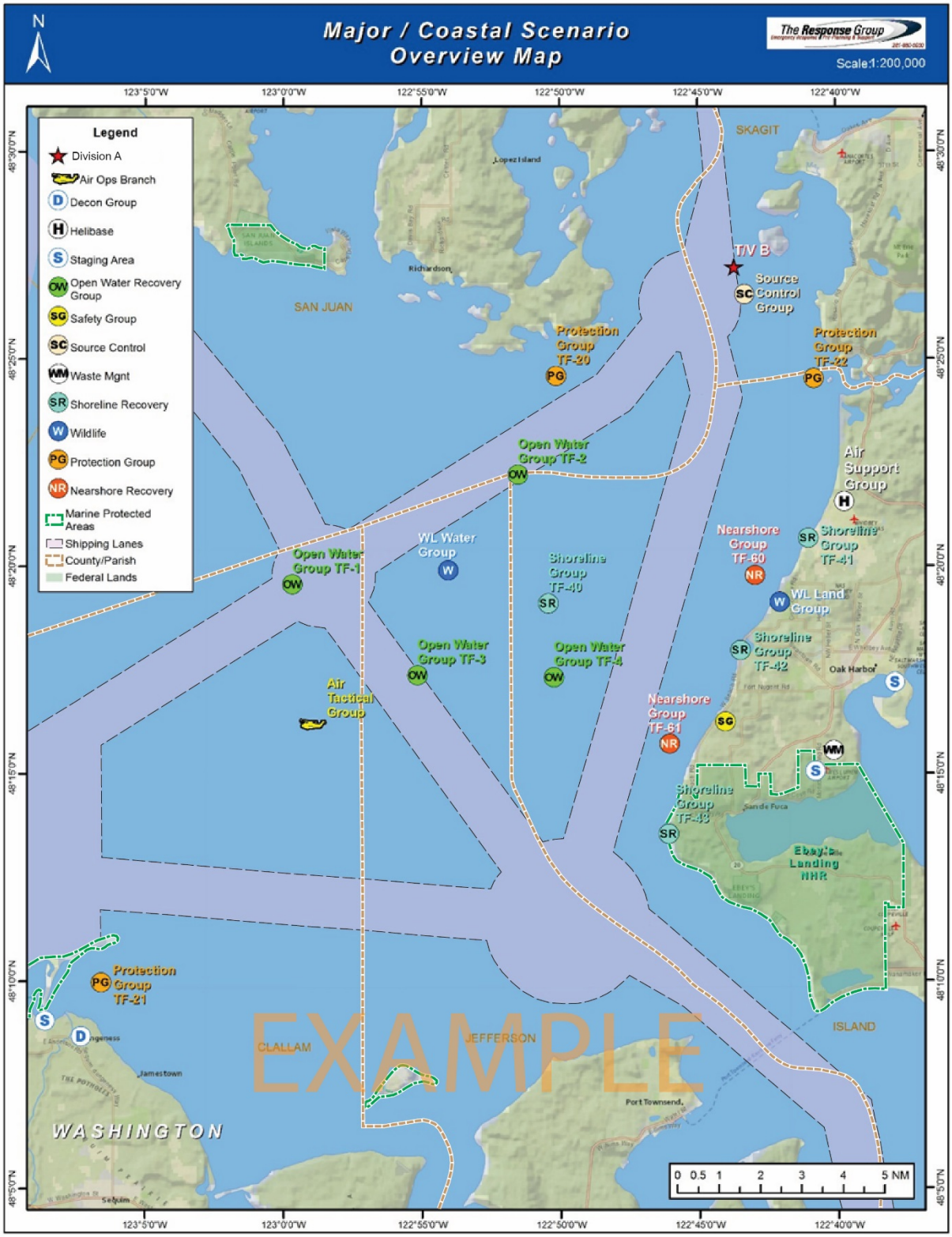

Figure 9315-15 Major/Coastal Scenario Overview Map

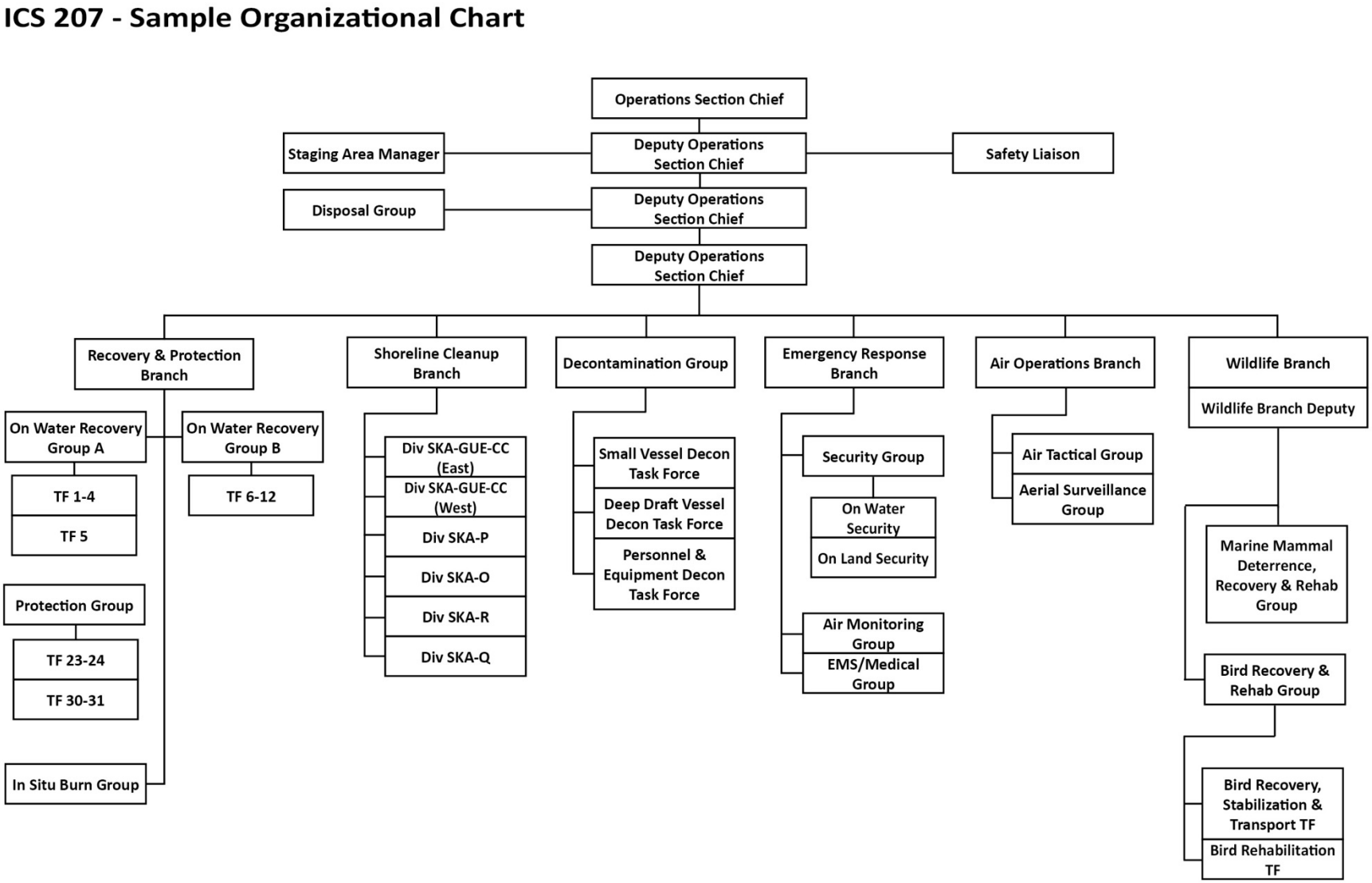

Figure 9315-16 Major/Coastal Scenario Alternative Org Chart >100,000 Gallons

Section 9330

Abandoned and Derelict Vessel Best Management Practices

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Abandoned and Derelict Vessel Best Management Practices

9330

9330.1 Purpose

The purpose of this plan is to outline the regulatory and policy authority of each agency with a nexus to abandoned vessels and to establish best practices available for the mitigation of imminent pollution and navigation threats from derelict vessels, barges, and houseboats.

9330.2 Definitions

In many cases, agencies have codified definitions of terms related to abandoned and derelict vessels which may conflict with other agencies' definitions. Furthermore, an agency may define a term a certain way in one context and a different way in another context or decide not to define a certain term in regulations. This section serves to highlight some of the discrepancies amongst participating agencies and to emphasize the importance of specificity in communications regarding this subject. While abandoned and derelict vessels may be discussed in general terms using the common understanding of terms, it is important to understand that agency-specific definitions may influence the policy decisions within that agency.

Abandoned Vessel:

Federal:

- *Commandant, United States Coast Guard Instruction M16465.43*: "Any craft designed for navigation that has been moored, stranded, wrecked, sunk, or left unattended for longer than 45 days that is not on private property with the permission of the owner."

Oregon:

- *Oregon Revised Statutes [ORS] 830.908(1)*: "Means a vessel that has been left without authorization on public or private land, the waters of this state, or any other water."

Washington:

- *Revised Code of Washington 79.100.010*: A vessel less than 200 ft that has been left, moored, or anchored in the same area without the express consent, or contrary to the rules of, the owner, manager, or lessee of the aquatic lands below or on which the vessel is located for either a period of more than thirty consecutive days or for more than a total of ninety days in any three hundred sixty-five-day period, and the vessel's owner is: (a) Not known or cannot be located; or (b) known and located but is unwilling to take control of the vessel. For the purposes of this subsection (1) only, "in the same area" means within a radius of five miles of any location where the

vessel was previously moored or anchored on aquatic lands.

Idaho:

- Currently, Idaho does not have specific statutes or rules addressing abandon or derelict vessels. Through Idaho Code, Title 67, Chapter 70, the Idaho Department of Parks and Recreation oversees the registration of all vessels operated on waters of the state. There is no existing statue that defines ADVs, however for cases arising in Idaho where hazardous materials are released or a release is likely to occur, reporting through 911 is the recommended. 911 calls involving hazardous materials are routed to Idaho's State Communications.

Authorized Public Entity includes any of the following: The department of natural resources; the department of fish and wildlife; the parks and recreation commission; a metropolitan park district; a port district; and any city, town, or county with ownership, management, or jurisdiction over the aquatic lands where an abandoned or derelict vessel is located. (WA RCW 79.100.010)

Derelict vessel:

Federal:

- *National Response Team Abandoned Vessel Authorities and Best Practices Guidance, Version 10*: "A vessel with an identifiable owner that has been left unattended and is in significant disrepair."

Oregon:

- *Oregon Revised Statutes [ORS] 830.908(3)*: "Means a vessel that is on the waters of this state and that is:
  a) Sunk or in imminent danger of sinking;
  b) Obstructing a waterway;
  c) Endangering life of property; or
  d) In such a dilapidated condition that it is in danger of becoming a significant environmental hazard as evidence by repeated and documented instances of leaking fuel, sewage or other pollutants."

Washington:

- *Revised Code of Washington 79.100.010*: "The vessel's owner is known and can be located, and exerts control of a vessel that:
  (a) Has been moored, anchored, or otherwise left in the waters of the state or on public property contrary to RCW 79.02.300 or rules adopted by an authorized public entity;
  (b) Has been left on private property without authorization of the owner; or
  (c) Has been left for a period of seven consecutive days, and:
  (i) Is sunk or in danger of sinking;
  (ii) Is obstructing a waterway; or

(iii) Is endangering life or property

A boathouse is defined as a covered structure on floats or piles used for the protected moorage of boats (ORS 830.700).

A confined space is defined as a compartment of small size and limited access such as a double bottom tank, cofferdam, or other space which by its small size and confined nature, can readily create or aggravate a hazardous exposure (29 Code of Federal Regulations [CFR] 1915.4).

An Enforcement Agency is defined as a law enforcement agency, a federal agency, the State Marine Board or any other public body that has responsibility for land or water on which an abandoned or derelict vessel is located. (ORS 830.908 (4)).

A floating home is defined as a moored structure that is secured to a pier or pilings and is used primarily as a domicile and not a boat (ORS 830.700).

Owner

Federal:

- *40 Code of Federal Regulations [CFR] 300.5:* Responsible Party (1) "In the case of a vessel, any person owning, operating, or demise chartering the vessel."

Oregon:

- *Oregon Revised Statutes [ORS] 830.908(5)*: "Means a person who has a property interest in a vessel."

Washington:

- *Revised Code of Washington 79.100*:"Owner" means any natural person, firm, partnership, corporation, association, government entity, or organization that has a lawful right to possession of a vessel by purchase, exchange, gift, lease, inheritance, or legal action whether or not the vessel is subject to a security interest.

Idaho:

- *Idaho Code § 39-7003(17)*; "Owner" means any person having a property interest in or entitled to the use or possession of a vessel, including a person entitled to the use or possession subject to the interest in another person reserved or created by agreement and securing payment of performance of an obligation, but not including a lessee under lease not intended as security.

Removal means the act of removing and cleaning up an abandoned boat, floating home, or boathouse.

Responder for the purposes of this document alone means any federal, tribal, state, or local personnel that may be involved with response to or investigation of abandoned and derelict vessels (ADVs) or vessels of concern.

Ship breaking means any breaking down of a vessel's structure for the purpose of scrapping the vessel, including the removal of gear, equipment, or any component part of a vessel (29 CFR 1915.4).

Vessel

Federal:

- *29 CFR 1915.4*: "A vessel includes every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, including special purpose floating structures not primarily designed for or used as a means of transportation on water."

Oregon:

- *Oregon Revised Statutes [ORS] 830.908(a)*: "means a boat, a boathouse as defined in ORS 830.700 (Definitions for ORS 830), or any other floating structure that is normally secured to a pier of pilings.
  b) "Vessel" does not include a dock as defined in ORS 307.120 (Property owned or leased by municipalities, dock commissions, airport districts or ports)."

Washington:

- *Revised Code of Washington 79.100.010*: "Every species of watercraft or other mobile artificial contrivance, powered or unpowered, intended to be used for transporting people or goods on water or for floating marine construction or repair and which does not exceed two hundred feet in length. "Vessel" includes any trailer used for the transportation of watercraft, or any attached floats or debris.

Idaho:

- *Idaho Code § 39-7003(28):* "Vessel" means every description of watercraft, including a seaplane on the water, used or capable of being used as a means of transportation on water, but does not include float houses, diver's aids operated and designed primarily to propel a diver below the surface of the water, and nonmotorized devices not designed or modified to be used as a means of transportation on the water, such as inflatable air mattresses, single inner tubes, and beach and water toys.

9330.3 Background

ADVs have the potential to become significant threats to the environment, navigation, and human health and safety. These vessels typically include harbor and coastal working vessels, such as tugs, fishing vessels, and pleasure craft that have been abandoned due to repair cost, economic conditions, or the decline of

fishing industries and scrap metal values. While there is currently no national database tracking these vessels, they remain a problem in virtually every commercial and recreational harbor throughout the United States. Regional databases are available and cited in Appendix E. In addition to the potential for oil pollution, these vessels may present significant environmental concerns and public health hazards due to their location, condition, and the potential presence of other hazardous substances and wastes.

Abandoned vessels, including those found in the coastal environment, inland rivers, and Great Lakes, are often intertidal or lie in shallow waters and may pose serious hazards by creating obstructions that restrict, endanger, or interfere with navigation. Even vessels that contain no hazardous materials and pose no immediate navigation hazard may shift during storms or become dump sites for other vessels looking to discard bilge waste.

In United States waters, there are countless abandoned or derelict vessels. Proactive mitigation of wrecks and abandoned vessels is difficult but preferred over responding to uncontrolled spills due to hull breaches, or vessel recovery operations following floods or hurricanes. The United States Coast Guard (USCG) has the primary responsibility for responding to pollution threats in the coastal zone, including making the determination of a substantial threat of discharge, whereas the United States Environmental Protection Agency (EPA) retains those authorities in the inland zone. The United States Army Corps of Engineers (USACE) has the primary responsibility for maintaining an obstruction-free navigational waterway. If a vessel is determined to be a substantial pollution threat or navigational hazard and no action has been taken by a responsible party (RP) to mitigate the threat, federal resources may be available under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) or other federal authorities. In most cases, removal of the threat requires an interagency response by federal, tribal, state and local agencies.

9330.3.1 Columbia River Derelict Vessel Task Force

In May of 2011, the Columbia River Derelict Vessel Task Force was formed following a $23 million response to the ex-Liberty Ship turned derelict barge Davy Crockett and a perceived growing threat of derelict and abandoned vessels. The task force mission is to recommend policy, share information, and foster collaborative and shared efforts of task force members to identify and mitigate the harmful effects of derelict vessels, barges, and houseboats along the middle and lower Columbia and Willamette Rivers. The Task Force also collaborates with coastal ports as well as Puget Sound on derelict vessel issues. Regular contributors to the task force include representatives from the USCG, EPA, USACE, National Oceanic and Atmospheric Administration (NOAA), Oregon Department of Environmental Quality, Oregon State Marine Board, Oregon Department of State Lands, Oregon Department of Justice, Washington State Department of Ecology, Washington State Department of Natural Resources, and Columbia County and Multnomah County Sheriff's Offices. Task force objectives include:

1. Inventory derelict vessels, barges, and houseboats along the Columbia

and Willamette Rivers.

2. Determine derelict vessels, barges, and houseboats that pose actual or potential pollution threats and hazard to navigation.
3. Prioritize and remove all pollution, hazardous materials, and navigational threats from identified derelict vessels, barges, and houseboats.
4. Conduct regular, intense, coordinated surveillance for prevention of pollution, hazardous materials, or navigational threats stemming from derelict vessels, barges, and houseboats.
5. Develop a list of law and policy areas for investigation where existing rules and policies could be changed to facilitate the reduction of current and future derelict and abandoned vessels.
6. Identify opportunities to align Washington and Oregon laws addressing derelict vessels with the goal of moving toward a consistent regulatory regime on the Columbia River.
7. Maintain effective communications with state and local agencies, USCG Auxiliary, and federal partners.

9330.3.2 Pacific States / British Columbia Oil Spill Task Force

In 2020, this task force created an "Abandoned and Derelict Vessel (ADV) Blue-Ribbon Program For Western U.S. States (AK, CA, HI, OR and WA)." The purpose of this report is to provide Task Force member jurisdictions with a model or "blue-ribbon" ADV program to advance their efforts to comprehensively address the many challenges posed by ADVs. This program is another great tool responders can use to build ADV programs or make changes to existing ones.
Oil Spill Task Force | The Pacific States – British Columbia

9330.3.3 Authorities Matrix

An objective of the task force was to develop a list of laws and policy that could be analyzed for possible changes. The task force members found that the authorities, jurisdictions, and funding to mitigate the consequences of derelict and/or abandoned vessels are very complex. As a result, two versions of an Authorities Matrix have been developed and are provided in Attachments A and B. The first is an abbreviated version that is suitable for use by the general public or others who simply want a summary of regulations that may apply. The other is more in-depth and appropriate for program managers.

The causes of dereliction and abandonment are also complex. The reverse side of the abbreviated Authorities Matrix is an attempt to depict the complex life cycle of a vessel leading up to abandonment.

9330.3.4 Authorities Decision Tree

In a further effort to identify and align the complex authorities of each agency, a basic decision tree has been developed.

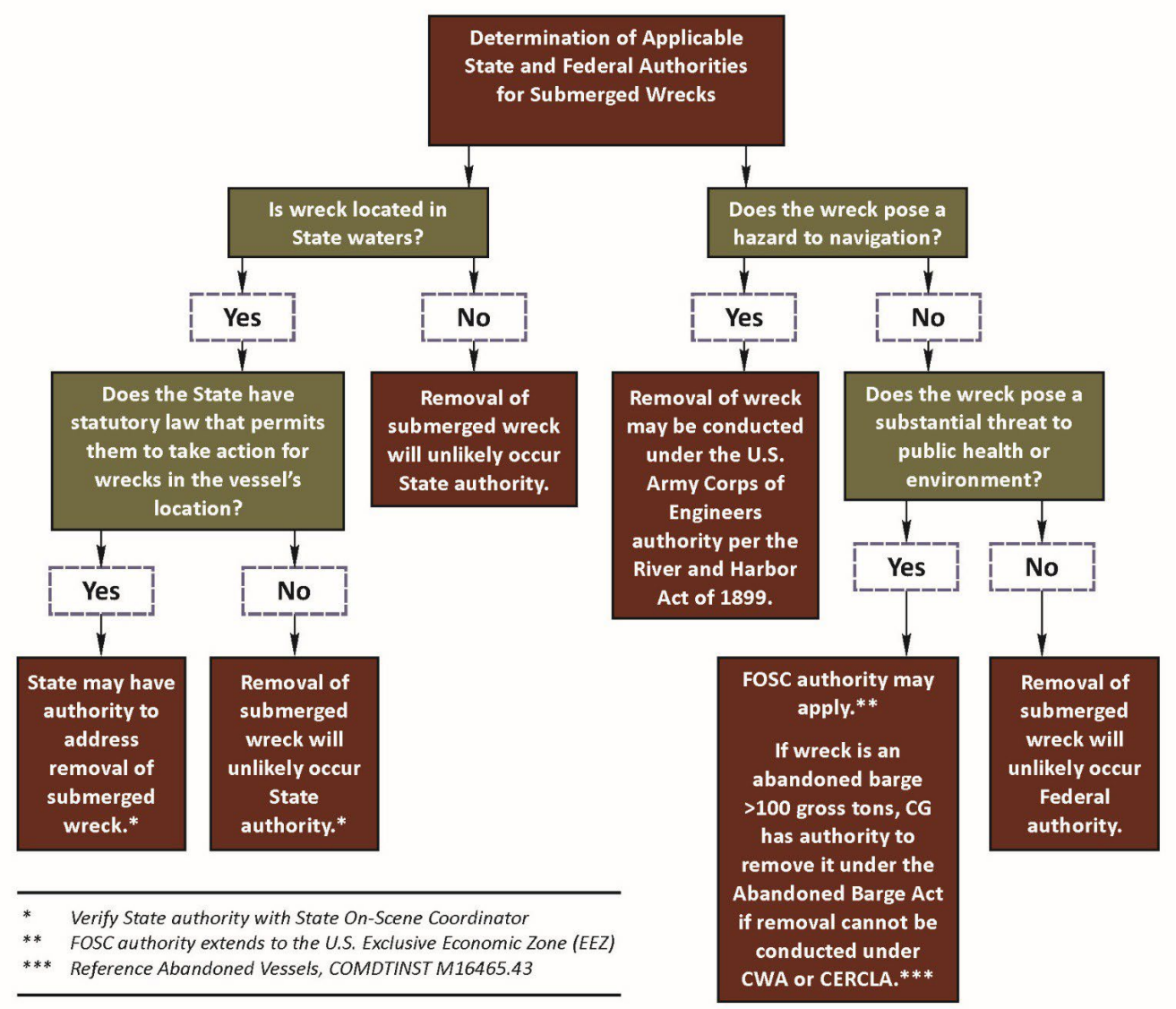


Figure 1 - Derelict Vessel Authorities Decision Tree

9330.4 Federal and State Authorities

There are several federal and state statutes that govern the mitigation of pollution from and the removal of abandoned vessels and wrecks that pose significant threat to the navigable waters of the United States.

9330.4.1 National Marine Sanctuaries Act

Under the National Marine Sanctuaries Act, the Secretary of Commerce has the authority to designate and protect areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archaeological, educational, or aesthetic qualities as national marine sanctuaries. The primary objective of the National Marine Sanctuaries Act is to protect marine resources, such as coral reefs, sunken historical vessels, or unique habitats. Day-to-day management of national marine sanctuaries has been delegated to NOAA's Office of National Marine Sanctuaries.

9330.4.2 Abandoned Barge Act

The Abandoned Barge Act (46 USC §4701) confers the USCG the authority to remove an abandoned barge under specific circumstances. This act defines abandonment as "any barge…moored, stranded, wrecked, sunk, or left unattended for longer than 45 days." It discusses response actions that should be taken for barges containing oil or hazardous materials, the initiation of civil penalties, and removal and destruction procedures.

9330.4.3 Oil Pollution Act

The Oil Pollution Act (OPA) was signed into law in August 1990, largely in response to rising public concern following the *Exxon Valdez* incident. The OPA improved the nation's ability to prevent and respond to oil spills by establishing provisions that expand the federal government's ability, and provide the money and resources necessary, to respond to oil spills. The OPA also created the national Oil Spill Liability Trust Fund, which is available to provide up to one billion dollars per spill incident.

New requirements for contingency planning both by government and industry were also included in the OPA provisions. The NCP has been expanded in a three-tiered approach: the federal government is required to direct all public and private response efforts for certain types of spill events; Area Committees—composed of federal, tribal, state, and local government officials—must develop detailed, location-specific ACPs; and owners or operators of vessels and certain facilities that pose a serious threat to the environment must prepare their own Facility Response Plans.

Finally, the OPA increased penalties for regulatory noncompliance, broadened the response and enforcement authorities of the federal government, and preserved State authority to establish law governing oil spill prevention and response.

9330.4.4 Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act)

Signed into law on November 23, 1988, the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 100-707) amended the Disaster Relief Act of 1974 (Public Law 93-288). This act constitutes the statutory authority for most federal disaster response activities, especially as they pertain to the Federal Emergency Management Agency and its programs.

9330.4.5 Rivers and Harbors Act

The Rivers and Harbors Act (33 USC §414) provides the USACE the authority to remove vessels that pose a hazard to navigation.

The current Memorandum of Agreement between the USACE and the USCG provides specific guidance on determination of hazard to navigation and appropriate corrective actions to be taken by both agencies. Operations conducted under this authority do not require the Commandant of the USCG's approval if the vessel to be removed is a hazard to navigation. These operations will be conducted under the USACE, using internal procedures to determine abandonment.

9330.4.6 Comprehensive, Environmental Response, Compensation, and Liability Act

Response authorities directly from the Comprehensive, Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC §9601) provide that whenever any hazardous substance is released or there is a substantial threat of such a release into the environment, or there is a release or substantial threat of release into the environment of any pollutant or contaminant that may present an imminent and substantial danger to the public health or welfare, the President or delegate is authorized to act, consistent with the NCP, to remove or arrange for the removal of, and provide for remedial action relating to, such hazardous substance, pollutant, or contaminant at any time, or take any other response measure consistent with the NCP that the President deems necessary to protect the public health or welfare or the environment.

As determined in the NCP, the Removal/Response Authority resides within the EPA for the inland zone, as agreed upon between an EPA Region and the USCG District for that particular area. The set delineation is known as the Response Boundary and the geographical area as the Area of Response.

In situations when a facility or vessel that is the source of a release is under the jurisdiction, custody, or control of another federal agency, the response authority resides within that federal agency.

9330.4.7 Federal Water Pollution Control Act

As determined in the NCP and ACPs, the EPA's removal authority is equivalent to the USCG but within the inland zone, as agreed upon between an EPA Region

and the USCG District for that particular area. The set delineation is known as the

Response Boundary, and the geographical area as the Area of Response. The authority is to remove or arrange for the removal of a discharge or a substantial threat of a discharge of oil or a hazardous substance into navigable waters; on the adjoining shoreline; into or on the waters of the exclusive economic zone; or that may affect natural resources of the United States. The term navigable waters refers to traditional navigable waters or waters that have a "nexus" to traditional navigable waters (*see Rapanos v. United States*).

The removal authority comes from the Clean Water Act (CWA) §311(c), 33 USC §1321, as amended by OPA §4201, and in accordance with the NCP to:

- Remove or arrange for the removal of a discharge, and mitigate or prevent a substantial threat of a discharge, at any time;
- Direct or monitor all federal, state and private actions to remove a discharge; and
- Remove and if necessary, destroy a vessel discharging, or threatening to discharge, by whatever means are available.

This authority has been delegated to the EPA Administrator under Executive Order 12777, then re-delegated to the EPA Regional Administrators and the Administrator for Office of Solid Waste and Emergency Response (see EPA TN 312-2-89). The Regional Administrators have re-delegated the authority to the Regional Division Directors that manage the Removal Programs and in most cases re-delegated directly to the individual Federal On-Scene Coordinators (FOSCs).

In cases where "destroy" is the alternative for a vessel within the inland zone, the EPA have referred the lead to the USCG or the USACE due to potential "takings" liability. The USCG or USACE can then proceed using other statutes and authorities. In addition, although this authority applies to a discharge or threat of a discharge of both oil and hazardous substances, in the case of hazardous substances, the CWA does not provide for a funding mechanism, so those discharges or threats should be carried out under CERCLA.

9330.4.8 Clean Water Act

The CWA (33 USC §1251) general removal requirements are as follows:

1. That removal actions or preventative measures are carried out in accordance with the NCP and local ACPs.
2. Requires effective and immediate removal of a discharge, and mitigation or prevention of a substantial threat of discharge, of oil or hazardous substances into navigable waters or on adjoining shorelines to navigable waters, that may affect natural resources of the United States.
3. Provides for these removal, mitigation, or preventative actions at any time and for the direction of federal, tribal, state, and private actions to remove a discharge.
4. Specifically grants authority to remove or destroy a vessel that is

discharging or threatening discharge by whatever means are available.

The CWA provides specific removal requirements for discharges or threat of discharges posing a substantial threat to public health or welfare. EPA authority can be exercised if there is a discharge or threat of a discharge of oil and/or a hazardous substance, or a release or threat of a release of a hazardous substance, or pollutant or contaminant.

9330.4.9 Ocean Dumping Act

The Ocean Dumping Act (33 USC §1401) is a policy of the United States to regulate the dumping of all types of materials into ocean waters and to prevent or strictly limit the dumping into ocean waters of any material that would adversely affect human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.

9330.4.10 Salvage Facilities Act

Following World War II, Congress enacted the Salvage Facilities Act (Public Law 80-513, 10 USC §§ 7361-7367), which includes the following objectives:

- To provide salvage resources to protect the redeployment of government-owned war materiel on chartered ships (but not in excess of national defense needs).
- To foster (but not subsidize) the commercial salvage industry.
- To allow (but not require) the Navy to render salvage services to private vessels when commercial salvors are not available, charging for those services to support the Navy's Salvage facilities.

9330.4.11 Intervention on the High Seas Act

The International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties was drafted in 1969 and allows a coastal nation to take defensive action against a vessel on the high seas where pollution by oil is threatened.

The United States has implemented the Intervention Convention by the Intervention on the High Seas Act (33 USC §1471). The measures taken to abate the pollution shall be proportionate to the damage, actual or threatened, and, if they are not, the United States shall be liable for damages. It is noted that the revolving fund established under the CWA is available for intervention activities.

The act gives the USCG intervention authority in circumstances when a ship is threatening to spill crude oil, fuel oil, diesel oil, or lubricating oil into the seas. The USCG has the authority to take measures on the high seas to mitigate such dangers.

The Secretary, after consultation with the EPA administrator and the Secretary of Commerce, is allowed to expand the list of substances to that which is beyond the Intervention Convention. The Secretary is charged with coordinating and directing all public and private efforts designed to remove or eliminate the

threatened pollution; to undertake the whole or any part of any salvage operation

of the polluting vessel; and to remove and destroy the ship and the cargo which is the source of the damage.

Before intervening, the Secretary of the Treasury must get the Secretary of State to consult with the flag country of the ship involved. The Secretary must also consult with any other agency or persons whose interests can be reasonably expected to be affected by the proposed measures, except in cases of extreme emergency. The United States shall pay damages for measures that exceed those which are reasonably necessary, and the jurisdiction is in the United States Court of Federal Claims. The Oil Spill Liability Trust Fund shall be available to the Secretary for actions taken under this section.

9330.4.12 National Oil and Hazardous Substances Pollution Contingency Plan

The OPA and the NCP (40 CFR 300) are clear as to response authorities, specifically noting authority to address as well as to remove if necessary in an effort to mitigate "substantial threats" to public health, welfare, and the environment. The NCP, under 40 CFR § 300.3(b), specifically states its purpose as: "[Providing] for efficient, coordinated, and effective response to discharges of oil and releases of hazardous substances, pollutants, and contaminants in accordance with the authorities of CERCLA and the CWA. It provides for:… (b)(3): Procedures for undertaking removal actions pursuant to section 311 of the CWA."

The FOSC is further directed to arrange for the removal, by whatever means necessary, any *substantial threat of discharge (including from a wreck) that may pose a significant threat to the public health or welfare of the United States (including the environment and its resources) (Id. §* 300.305(d)(1)-(2)).

The NCP's national response priorities (40 CFR § 300.317) state specifically that for the purposes of stabilizing a situation to prevent a threat from worsening, the FOSC should ensure that proper measures are taken to secure the source of the spill and remove any remaining oil to prevent additional discharge, minimize any need for continued response action in the future, and lessen the impacts to the environment. In most oil spill response and removal cases, an FOSC will have an identifiable RP and will in such case be responsible to monitor the response actions of the RP, providing oversight however necessary.

9330.4.13 Revised Code of Washington 79.100.030

Revised Code of Washington 79.100.030 grants an authorized public entity the authority to "store, strip, use, auction, sell, salvage, scrap, or dispose of an abandoned or derelict vessel" that is located on the lands within the jurisdiction of that entity. This disposal must be done in an environmentally sound manner and in accordance with all applicable laws. The owner of the vessel retains primary responsibility for the removal of the vessel.

9330.4.14 Revised Code of Washington 79.100.040 (3)(a)

Under Revised Code of Washington 79.100.040, section 3a, any authorized public entity may tow, beach, or otherwise take temporary possession of a vessel if the owner of the vessel cannot be located or is unwilling or unable to assume immediate responsibility for the vessel, and the vessel is either in immediate danger of sinking, breaking up, or blocking navigational channels, or poses a reasonably imminent threat to human health or safety, including a threat of environmental contamination.

9330.4.15 Oregon Revised Statute 830.911

Under ORS 830.911, An enforcement agency may seize a vessel as an abandoned vessel if:

(a) The enforcement agency has probable cause to believe the vessel is an abandoned vessel; and

(b) An owner does not move the vessel to a place where the vessel can be lawfully kept within the time specified in the notice given under ORS 830.918, or within such additional time as may be specified in an order issued under ORS 830.936 (6).

9330.4.16 Oregon Revised Statute 830.923

Nothing in ORS 830.908 to 830.948 affects the ability of an enforcement agency to immediately seize without notice a vessel that presents a hazard to navigation or an imminent threat to public health or safety.

9330.5 Operations

9330.5.1 Prevention

The most important way of preventing vessels from becoming ADVs in the future is early identification. One of the first indicators along the path to abandonment or dereliction is the loss of the vessel's registration or documentation. It is incumbent upon regulatory and enforcement agencies to have strong compliance programs that monitor the registration and documentation on both recreational and commercial vessels.

In addition to early identification, it is important that responders have early communication both with the vessel's owner and with other agencies or organizations that may have an interest in the vessel or any useful information about it. Interagency coordination should occur at tribal, federal, tribal, state, and local levels.

Recognizing the signs of a vessel that is soon to be derelict and taking preventative measures can save a great deal of time, money, and effort. If a vessel is determined to be a "vessel of concern," it is likely to become derelict in the future. A notice should be posted on a highly visible section of the vessel that recognizes it as a vessel of concern, and a letter of concern should be sent to the last known owner of the vessel within 72 hours. The letter of concern should state the vessel's make and model and registration number, why the vessel is considered a vessel of concern, that immediate attention is required of the owner,

what will happen if the owner fails to comply, and reporting officer contact information. A sample letter of concern to the owner and notice to be placed on the vessel are included in Attachment C.

9330.5.2 Assessments

9330.5.2.1 Identification

There are various methods to identify potential derelict vessels as vessels of concern. Responders may conduct assessments without boarding a vessel (e.g., shore or dock) if they do not have the authority to board the vessel or if safety concerns prohibit a boarding. A Site Safety Plan specific to ADV boarding is provided in Attachment D to assist responders in identifying hazards and risks prior to boarding a vessel.

Consultation with partner agencies is essential, and multi-agency boardings and assessments are encouraged, especially if another agency has action authority on an ADV. Responders are encouraged to conduct harbor patrols and communicate with local port directors, marina managers, and local mariners to foster situational awareness and develop partnerships for identifying these vessels and conducting assessments.

9330.5.2.2 Assessment Resources

There are a host of resources available to assist with the investigation of ADVs. The USCG maintains several vessels capable of transporting responders and investigators to the scene of a vessel. The USCG also maintains unmanned aerial systems (UAS), also known as drones, that can be useful for assessments. Use of

these assets can be coordinated via the nearest USCG Sector Command Center.

State environmental responders and law enforcement (e.g., departments of environmental protection, state marine patrol, and state police) typically maintain vessels capable of investigating vessel sites as well. In particular, they have trailerable shallow draft vessels capable of getting investigators to very shallow areas not accessible from shore.

Tribal, state, and local law enforcement or other agencies may have dive teams available to assist with investigations of submerged ADVs. They may also have remotely operated underwater vehicles (ROV), which can be useful for assessments.

NOAA may be able to arrange sonar surveys of wrecks. NOAA vessels constantly run surveys of coastal areas, and responders may be able to have a ship in the vicinity of a wreck respond to survey the site. For coordination of these resources contact NOAA Scientific Support Coordinator.

9330.5.2.3 Derelict Vessel Reporting Form and Evaluation Matrix

The Derelict Vessel Reporting Tools in Attachment E can be used to assist in assessing a vessel of concern. At a minimum, responders should determine the following information about the vessel.

9330.5.2.3.1 Vessel Information

Characteristics of the vessel should be noted and documented to assist in determining owner/operator information, vessel history, and other amplifying descriptors. These include pictures of the vessel, vessel name, registration number, Hull Identification Number (HIN), hull type, vessel type, fuel or hazardous materials on board, fuel capacity, activity on the vessel, etc.

9330.5.2.3.2 Location

Obtain a latitude/longitude for the vessel, accurate depth (if sunk), and a general geographic description of the area the vessel is in. Study the area and become familiar with geographic features, environmentally sensitive areas, infrastructure (including nearby piers and haul-out facilities), and port facilities that could be impacted or be of use in a response and/or removal.

Identify navigational concerns and proximity to navigational channels/byways, mooring fields, marinas, fishing co-op piers, fish pens, and any other higher traffic areas. This may affect the urgency of the response or the need to warn the public of the location of the vessel.

In the case of a grounded vessel, ascertain whether it needs to be secured to shore to keep it from drifting away on the next tide.

9330.5.2.3.3 Key Owner/Operator Information

Responders should get the name, address, and phone/cell numbers for the owner and any relevant operators if possible. Responders should have a detailed discussion with the owner and note any plans the owner may have to remove or clean up the vessel. If an owner is unknown, responders can contact the Tribal, USCG, state, and local agencies to determine ownership using their databases based on the name, hull number, registration sticker, or other characteristics of the vessel.

9330.5.2.3.4 Physical Condition

Assess and document the physical condition of the vessel, such as:

- Vessel sunk or listing,
- Major damage to structure,
- Visible holes in the hull or deck,
- Numerous soft patches or failing patches, and
- Popped or missing planks.

9330.5.2.3.5 Threat of Pollution

Photograph and document the capacity of the fuel tanks, fuel vent location, and other cargo aboard that may be considered oil or hazardous materials (e.g., batteries, paint, hydraulic fluid in gear or stored, engine/generator crank case oil, propane tanks, packaged cleaners, etc.).

9330.5.2.3.6 Public Safety

Photograph or note accessibility to the vessel to determine potential for illicit activity on board or possibility of illegal dumping. If there is a potential for criminal activity, responders should:

- Contact local law enforcement for any information they have regarding the vessel prior to sending investigators or responders aboard.

- Research the vessel history in federal, tribal, state, and local databases for past criminal activity or other violations.

9330.5.2.3.7 Current or Previous Response Actions

Harbormasters, State Marine Patrol, state environmental responders (See section 9330.4.5 – Points of Contact), local fire departments, and federal partners such as EPA, NOAA, USCG, or USACE may already have detailed information on the vessel in question. Take note of any previous, current, or planned actions by the federal, tribal, state, or local government to clean up or remove the vessel.

9330.5.3 Safety

5.3.2.1 General

All personnel should complete Hazardous Waste Operations and Emergency Response (HAZWOPER) training prior to boarding an ADV. All personnel should use level D personal protective equipment, which includes coveralls, gloves, boots/shoes (chemical resistant, composite toe), safety glasses or splash resistant goggles, and hard hat. Four-gas meters shall also be worn, and if a four-gas meter alarms, all team members shall be notified and will exit the space. See Appendix D for in-depth safety information and an example Site Safety Plan.

9330.5.3.1 Pre-Boarding

All members of the team should conduct a safety brief prior to boarding a vessel of concern. Upon completion, teams should review, fill in, sign a Site Safety Plan and conduct an Initial Safety Inspection prior to conducting the rest of the assessment.

Teams should attempt to gain all pertinent safety information, including:

- Interviewing the owner/operator,
- Using agency databases such as the USCG Marine Information for Safety and Law Enforcement system,
- Checking with local law enforcement, and
- Interviewing members that have gone on vessels in recent years.

If illicit activity is identified, local police should be called immediately and the team will not continue with the boarding and assessment until it has been deemed safe to enter.

9330.5.3.2 Boarding

A vessel should not be boarded unless is it deemed necessary and only by those who are qualified. When in doubt, stay clear and make a report at your earliest convenience.

9330.5.4 Response Operations

9330.5.4.1 General

Following assessments, responders will need to determine what action will be taken on the ADV or vessel of concern. These may include, but are not limited to:

- Leaving the vessel in place while continuing to monitor and provide updated assessments using the Reporting Form;
- Securing the vessel to its location;

- Securing navigation lights or markers on the vessel;
- Removing the vessel from the waterway; and
- Removing the pollution hazard from the vessel.

9330.5.4.2 Response Priorities and Key Decisions

Response priorities with regard to derelict vessels have many influencing variables. Several paramount response priorities remain constant:

1. Ensure the Safety of Citizens & Response Personnel
2. Control the Source of the Spill
3. Protect Environmentally and Culturally Sensitive Areas
4. Manage Response Effort in a Coordinated Manner
5. Contain & Recover Spilled Material
6. Recover & Rehabilitate Affected Wildlife
7. Clean-up Oil from Impacted Areas
8. Keep the Public and Stakeholders Informed of Response Activities
9. Minimize Economic Impacts
10. Terminate the Response (Demobilization)

9330.5.4.3 Response Actions

Should action be required on an ADV or vessel of concern, the owner or operator is ultimately responsible and should fund any operations deemed necessary. However, if the owner/operator is unknown or cannot assume responsibility for the vessel or property, then local, state, tribal, and federal agencies should work together to determine the most appropriate course of action based on their authorities and resources. See the Derelict Vessel Authorities Matrix (Attachments A and B).

In the event of an imminent threat of a vessel sinking, polluting, or becoming a hazard to navigation, actions should be taken to address the threat. This may include (but is not limited to) turning on a bilge switch to prevent a vessel from sinking, deploying boom around a vessel that is sheening, or fastening additional mooring lines to a vessel that is not secure. Responders should contact the 24-hour response numbers for the appropriate federal, tribal, state, and/or local response agency.

If the owner or operator is taking action, responders should monitor them as appropriate for safety and environmental compliance.

9330.5.4.3.1 Abandoned and Derelict Vessels with Oil and/or Hazardous Materials on Board

If an ADV is actively sheening, leaking hazardous material, or is in such a condition that a pollution incident is imminent, then responders should contact the USCG (for the coastal zone) or EPA (for the inland zone) and respond in accordance with the Area Contingency Plan (ACP) to mitigate the spill using boom, sorbents, skimmers, or other collection gear may be necessary to address pollution in the water.

If a vessel has oil and/or hazardous materials on board but does not pose a

substantial pollution threat because the vessel is not actively sheening or is not yet in a condition that a pollution incident is imminent, then it may be best to leave the vessel alone but continue to routinely monitor as the vessel condition changes over time.

9330.5.4.3.2 Abandoned and Derelict Vessels with Contaminants On-board

Some ADVs (particularly older ADVs) may have contaminants in the form of asbestos, lead, polychlorinated biphenyls (PCBs) or other contaminants on board. Responders should practice awareness, document any potential contaminants, and refrain from entering any spaces containing contaminants. Contaminants may not be considered or defined as a hazardous material per federal regulations and therefore, may not warrant a pollution response. Responders should contact the USCG (for the coastal zone), EPA (for the inland zone), and the appropriate state agency to determine the best course of action for these types of vessels.

9330.5.4.3.3 Abandoned and Derelict Vessels Posing Navigation Threats

Whether or not oil or hazardous materials are involved, the owner or operator may have an obligation to mark the vessel if it is a navigation hazard. 33 CFR 64 addresses requirements for Hazard to Navigation, and responders may consult with the local USCG Sector Waterways Management Division for assistance in this area.

Under 33 United States Code (USC) §414, the USACE has the authority to remove obstructions to navigation, including sunken vessels. Depending on the cost of the removal, such an operation may be approved at the District Engineer level. Certain criteria will have to be met before the USACE will undertake such an operation; responders seeking their involvement should consult with them early to ascertain if they can assist. Aside from contacting the local USACE District, guidance can be found in 33 CFR §245 and the "Memorandum of Agreement between Department of Army and U.S. Coast Guard on Responses to Marking and Removal of Sunken Vessels and Other Obstructions to Navigation (1985)."

9330.5.4.3.4 Abandoned and Derelict Vessels on State Lands

ADVs on state-owned aquatic lands require authorization from the appropriate State Lands to be legally moored. To determine if an ADV is illegally or legally moored on state aquatic land or submerged/submersible land for both Washington and Oregon, responders can refer to the links below:

Oregon State Lands: Department of State Lands : Abandoned and Derelict Vessels and Camping : Waterways & Wetlands : State of Oregon

Washington State Lands: http://www.dnr.wa.gov/programs-and-services/aquatics/leasing-and-land-transactions

9330.5.4.3.5 Abandoned and Derelict Vessels at Piers, Marinas, or

Private Property

Vessels abandoned or derelict at a pier or a private facility that do not pose a pollution threat or hazard to navigation are addressed by tribal, local and state authorities. Both Washington and Oregon States have Derelict Vessel Removal programs that can facilitate the removal of an ADV, and responders can refer to the links below for the processes that must be followed.

Oregon:
https://www.oregon.gov/osmb/boater-info/Pages/Abandoned-Derelict-Boats.aspx

Washington:
Recovering Derelict Vessels | WA - DNR

Responders may want to warn the pier or marina owner not to cut the vessel loose or move it to another area without permission.

9330.5.4.4 Federal, State, Tribal Agency Hand-off Practices

When an incident occurs within the jurisdictional boundaries of both the USCG and requisite state agencies and tribal governments, FOSCs, SOSCs, and TOSCs (as relevant) shall coordinate directly with each other to effect cleanup or mitigate a potential discharge/release within the bounds of their respective authorities and in accordance with this document, Federal and State laws and codes and applicable tribal regulations. Oregon's Department of Environmental Quality, Idaho Department of Environmental Quality, and Washington's Department of Ecology are the representative state agencies and shall provide State On-scene Coordinators to incidents. These SOSCs will coordinate directly with the FOSC and relevant TOSCs to, to the best of their ability, execute a seamless transition from one agency to another, leveraging the authorities afforded them. When an incident occurs within the boundaries of tribal lands and/or Usual and Accustomed Fishing Areas (U&A), representatives of the affected Tribe or Tribes shall be engaged at all points throughout the response and cleanup, including designation of TOSCs if desired. If there is uncertainty about which Tribes have jurisdiction in an area, it is recommended to contact all potentially affected Tribes.

It is the policy of the USCG that responses are initiated to mitigate the substantial threat or actual or potential pollution from the marine environment. Once the threat is removed, USCG authorities end. The USCG cannot typically destroy a vessel in the process of removing a pollution threat from the waters of their area of responsibility. States, however, do not have this limitation and both states have departments, processes, and funding in place to remove abandoned or derelict vessels, though these funds may be limited in tribal jurisdictions. It is this committee's design to, when able, generate an MOU that delineates which organization will be responsible for which portions of the response, leveraging each organizations authorities, jurisdictions, and funding sources to affect an efficient response. (See Appendix F).

While States have the authority and funds for the removal of abandoned or derelict vessels, laws and codes limit the use of state funds for the removal of ADVs located within tribal jurisdictions. In Washington, the Department of Natural Resources Derelict Vessel Removal Account is used to reimburse authorized public entities for the majority of removal costs. However, because the definition of Authorized Public Entity omits Tribes (RCW 79.100.010), they are ineligible for this state assistance. The omission of the Tribes from receiving state assistance

makes the removal of vessels that are not wholly owned by the Tribe but discarded in their jurisdiction challenging.

While there are barriers between Tribes and the direct use of this state fund, there are other routes for Tribes to address the costly issue of ADV removal. Such solutions include accessing federal funding sources for debris removal through grants. Additionally, interagency agreements between Tribes and federal, state, and local government partners have been successfully leveraged to remove abandoned and derelict vessels. Ultimately, each ADV is addressed on a case-by-case basis and agencies should work directly with the affected Tribe, who may have their own regulations and practices surrounding this topic.

9330.5.4.5 Disposal Options for Abandoned and Derelict Vessels

There are several considerations when determining disposal options for ADVs. Responders should work with the appropriate federal, tribal, state, and local agencies to determine authorities, resources, funding, and permitting requirements for disposing of ADVs.

9330.5.4.5.1 Leave in Place

When an ADV does not meet any agency criteria for removal or disposal, then leaving the vessel in place may be the only alternative. Responders are encouraged to conduct regular assessments using the Derelict Vessel Reporting Form to monitor any changes in the condition of the ADV that may warrant a future response.

9330.5.4.5.2 Dismantling in Place

The condition or structure of an ADV may prevent it from being feasible to raise it out of the water or tow it to shipyard. It is illegal for vessel owners to conduct ship breaking activities except in licensed areas. If a responder is developing a plan to dismantle an ADV in place, then all appropriate federal, tribal, state, and local agencies should be consulted to ensure that all permitting requirements are met for the operation.

9330.5.4.5.3 Removal from Water

Various methods may be used to remove an ADV from the water. Cranes, crane barges, trailers, tow ropes, winches, and other equipment are available for these operations. Responders should consult with subject matter experts such as marine operators, salvage masters, and crane operators to determine the most effective removal method from the waterway. Responders should ensure that measures are in place to mitigate potential pollution from the removal prior to commencing any operation.

Example: SCR IMD Astoria response to the Deep River Derelict Barge incident. In response to a derelict barge that held an estimated 4,000 gallons of mixed non-floating oils and oily water found in the Deep River barge in November of 2021, IMD Astoria in conjunction with representatives from WA Department of Energy coordinated the removal and disposal of the barge. The barge in question was of steel construction, 40' x 14' x 5' with a maximum estimated weight of 130,000lbs. In late November, Advanced American Construction (AAC) (sub-contractor for lifting) built a "picking-frame" engineered to provide positive buoyancy during the transit down the river to the public boat ramp. AAC wrapped the barge in 30 MIL PVC sheeting and secured it with timbers around the entirety of the barge. From there, AAC submerged the picking frame under the barge and secured the barge to the frame. Once the barge with containment was secured to the picking frame, the entire vessel was towed downriver 0.70 miles to the Deep River Boat Launch. Once there, AAC and Ness Campbell rigged the barge for hoisting. Once rigged, AAC utilized a land crane, the "Liebherr LTM 14000" to hoist the barge and frame from the water and place it into secondary containment on the asphalt of the boat ramp. At this point, the barge decking was removed, all non-floating oil and water was removed, and the USCG transferred final cleaning and disposal of the barge to WA DNR.

9330.5.4.5.4 Ship Breaking Facility

Ship breaking facilities have the equipment and expertise necessary to dispose of an ADV. However, owners and responders should ensure that ship breaking facilities are reputable and in compliance with all federal and state regulations.

Example: CGC ALERT/Tug SAKARISSA. CGC ALERT was a former Coast Guard Cutter built circa 1927. Tug SAKARISSA was a former Navy Tug built circa 1942. Both vessels were sold to a private citizen who had intentions of converting the vessels to floating museums. Due to unfortunate circumstances this never came to fruition, and both vessels were abandoned near the I-5 overpass on the Columbia River. In 2012, Sector Columbia River's Incident Management Division (SCR IMD) federalized a cleanup of the SAKARISSA, but with no further authority to remove the vessel, it remained moored near to shore where it was used by unhoused or otherwise transient persons as a live-aboard. Both vessels sank within 2 months of each other towards the end of 2022, and, with tidal changes, continually discharged residual and new oils deposited by persons living aboard. SCR IMD, in conjunction with OR DEQ and OR DSL coordinated a response to refloat the vessels, patch them and relocate them to a ship-breaking facility for disposal. These agencies engaged in a Memorandum of Understanding (MOU) to conduct cleanup and disposal of the vessels. In the MOU, SCR agreed to raising and transport the vessels to Diversified Marine "as-is" (meaning, no prior cleaning/removal of hazwaste/oil). DSL and DEQ agreed to fund the cleanup, destruction, and disposal of both the ALERT and SAKARISSA at Diversified Marine – a ship breaking facility.

9330.5.4.5.5 Ocean Dumping

The Marine Protection, Research, and Sanctuaries Act, also called the Ocean

Dumping Act, governs transportation for the purpose of disposal into ocean waters. Per 40 CFR Part 220–224, the EPA may issue permits for the disposal of vessels at sea. Other agency consultations with USCG and NOAA will be required for permit approval. ADVs must meet certain environmental criteria outlined by the EPA for a permit to be issued.

9330.5.4.5.6 Recycling Programs

Seek local recycling options through state environmental agencies. Certain companies will take aluminum, steel, fiberglass, and wooden vessels. Recycling should be considered a priority if it is possible for the vessel. WA DNR requires recycling to the max extent possible for the ADVs removed by its program.

9330.5.5 Points of Contact

Oregon State Marine Board:
Oregon Clean Marina Coordinator
(503) 378-2836
Alan.Hanson@boat.oregon.gov

USCG:
District 13 DRAT
(206) 220-6822
d13-dg-m-distseattle-drmm@uscg.mil

Oregon DEQ:
Scott Smith, Emergency Response Planner
(503) 734-4079
smith.scott@deq.oregon.gov

EPA:
Richard Franklin, FOSC
(503) 326-2917
Franklin.Richard@epa.gov

Washington Dept. of Ecology:
David Byers, Response Manager
(360) 790-6899
David.byers@ecy.wa.gov

USACE:
Northwestern Division
(503) 808-3800

Oregon State Lands:
Dorothy Diehl, Compliance and Outreach Coordinator
(503) 986-5280

NOAA:
Andrew Mason, Marine Debris Division
(206) 526-6943

Idaho Dept Environmental Quality
Dean Ehlert
Assessment and Compliance Bureau Chief
(208) 373-0416
Dean.Ehlert@idaho.deq.gov

Washington DNR:
Troy Wood
DVRP Manager
(360) 902-2628
troy.wood@dnr.wa.gov

24-HOUR RESPONSE CONTACT LIST:
EPA Region 10 24/7 Emergency Response Hotline: (206) 553-1263
USCG District 13 Command Center: (206) 220-7001
USCG Sector Columbia River Command Center 503-247-4045
USCG Sector Puget Sound Command Center 206-217-6001
Oregon Emergency Response (OERS): (800) 452-0311
Washington Emergency Management Division: (800) 258-5990
Idaho State Communications: (800) 632-8000

For active oil spill response:

Active Oil Spill Reporting – National Response Center (USCG/EPA):

(800) 424-8802 or at http://www.nrc.uscg.mil/

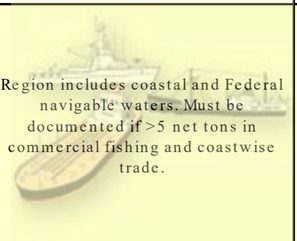
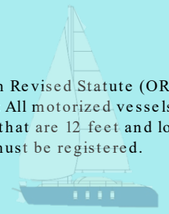
To be routed to the appropriate state emergency response agency:

(800) OILS-911 (or 800-645-7911)

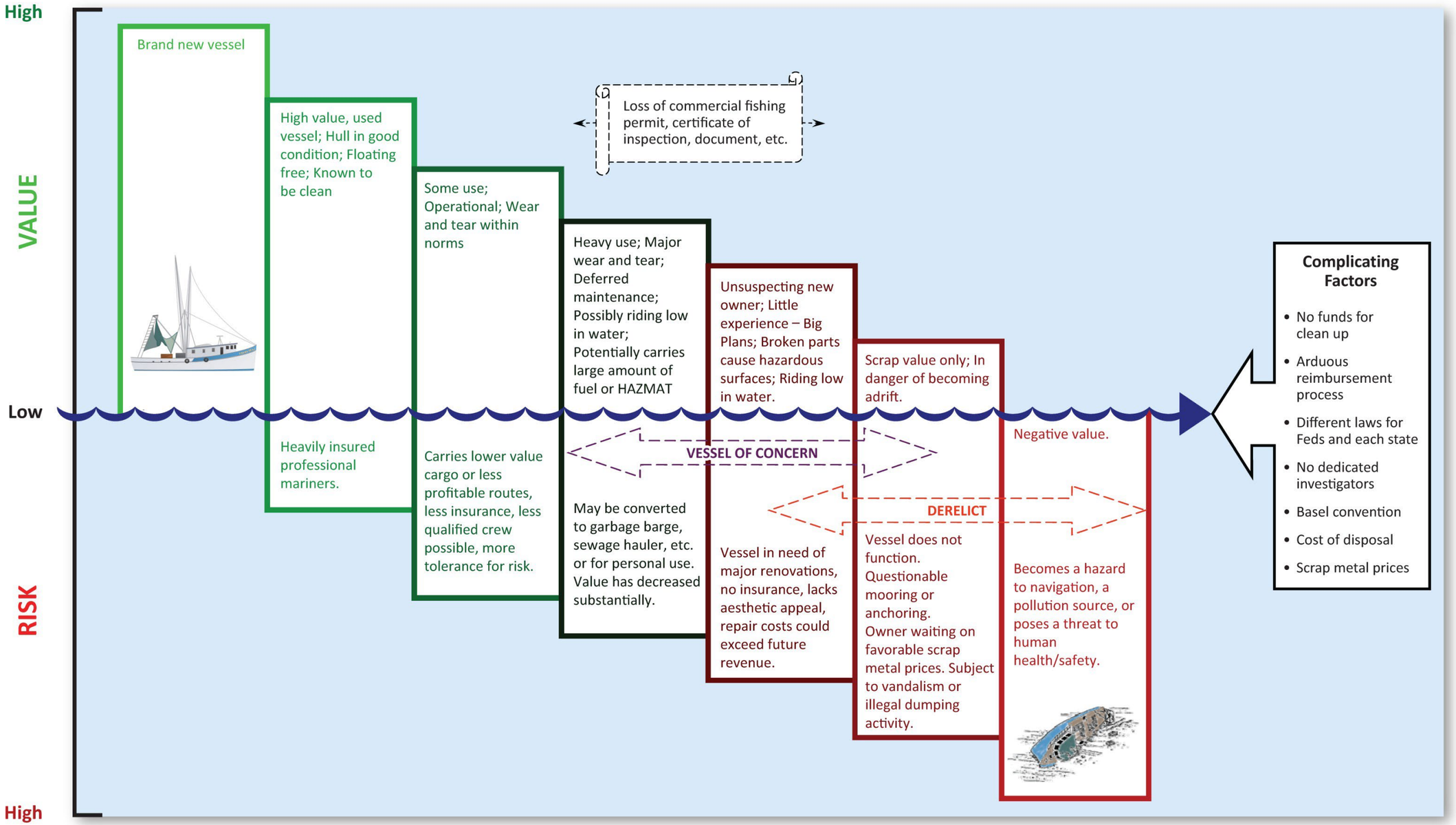
9330A

Attachment A: Abbreviated Authorities Matrix

Federal and State Authorities Regarding Abandoned and Derelict Vessels (ADV)

Entity	Registration	Definition of Abandoned	Immediate Custody Taken By Agency	Permanent Custody Taken by Agency	Disposal	Liability	Funding
Federal	 Region includes coastal and Federal navigable waters. Must be documented if >5 net tons in commercial fishing and coastwise trade.	U.S. Coast Guard Commandant Instruction M16465.43: If left moored, stranded, sunk, or unattended for > 45 days.	River and Harbor Act of 1899 (RHA): Removal authorized for obstructions to the navigable waterway under emergency conditions if owner can not or will not. Removal authorized under Comprehensive Environmental Response Compensation and Liability Act (CERCLA) or Oil Pollution Act of 1990 (OPA 90) if it is the only way to mitigate pollution. Limited in scope.	RHA, Section 19: If navigable waters obstructed for ≥ 30 days or if abandonment can be established in less time, the object shall be broken up, removed, or sold. 47 USC 4701: Removal of abandoned barges at owner's expense is authorized after notice of 30 days.	RHA, Section 19: Removal may begin immediately after the formal notification process.	33 USC 407, 408, 409, 414: $25,000/day and/or imprisonment > 30 days but < 1 year. 46 USC 4705: Liable for $1000/day. Abandoned Barge Act, Federal Water Pollution Control Act, CERCLA: Potential fines and/or criminal prosecution against owner could occur.	Funding available to secure hazard to navigation to closest safe refuge and for removal of pollution inly. Funding for pollution removal comes from the Oil Spill Liability Trust Fund or CERCLA Superfund. May remove barge if cost beneficial.
Washington	All vessels must be registered that are > 16 feet and have a motor > 10 HP.	Revised Code of Washington (RCW) 79.100.010: A vessel moored, anchored, or otherwise left in the waters of the state or on public property contrary to RCW 79.02.300 or rules adopted by an authorized public entity; left on private property without authorization of the owner; or has been left for a period of seven consecutive days, and is sunk or in danger of sinking, is obstructing a waterway, or is endangering life or property	RCW 79.100.040: (3)(a) Any authorized public entity may tow, beach, or otherwise take temporary possession if the vessel is in immediate danger of sinking, breaking up, or blocking navigational channels or poses a reasonably imminent threat to human health or safety, including a threat of environmental contamination. Before taking temporary possession of the vessel, the authorized public entity must make reasonable attempts to consult with the department or the United States Coast Guard to ensure that other remedies are not available.	RCW 79.100.040: Mail notice of its intent to obtain custody, at least 10 days prior to taking custody, to the last known address of the previous owner. Post notice of its intent clearly on the vessel for 15 days. Post notice of its intent on the department's internet website on a page specifically designated for such notices. If the authorized public entity is not the department, the department must facilitate the internet posting.	RCW 79.100.050: After taking custody of a vessel, the authorized public entity may use or dispose of the vessel in any appropriate and environmentally sound manner without further notice to any owners, but must give preference to uses that derive some monetary benefit from the vessel, either in whole or in scrap. If no value can be derived from the vessel, the authorized public entity must give preference to the least costly, environmental sound, reasonable disposal option.	RCW 79.100.060: The owner of an abandoned vessel is responsible for reimbursing an authorized public entity for all reasonable and auditable costs associated with the removal or disposal of the owner's vessel under this chapter. 79.100.110 – A person who causes a vessel to become abandoned or derelict upon aquatic lands is guilty of a misdemeanor.	After 30 days without payment by the owner, the Derelict Vessel Removal Account can be requested.
Oregon	 Oregon Revised Statute (ORS) 830.705: All motorized vessels and sailboats that are 12 feet and longer must be registered.	ORS 830.908(3): "Means a vessel that is on the waters of this state and that is: a) Sunk or in imminent danger of sinking; b) Obstructing a waterway; c) Endangering life of property; or d) In such a dilapidated condition that it is in danger of becoming a significant environmental hazard as evidence by repeated and documented instances of leaking fuel, sewage or other pollutants."	ORS 830.923: Seizure without notice. (1) Nothing in ORS 830.908 to 830.948 affects the ability of an enforcement agency to immediately seize without notice a vessel that presents a hazard to navigation or an imminent threat to public health or safety.	ORS 830.928 (1) An enforcement agency may seize an abandoned vessel or a derelict vessel under ORS 830.908 to 830.948 by: (a) Taking physical control of the vessel by towing or other means; (b) Posting a notice on the vessel that indicates that the vessel has been seized, and giving the name, address and telephone number of the enforcement agency; or (c) Marking a sunken vessel with a buoy that has the name and telephone number of the enforcement agency.	ORS 830.933: If a vessel seized under ORS 830.908 to 830.948 is not reclaimed in the manner provided by this section, title to the vessel and all personal property found in the vessel vests in the enforcement agency, and the enforcement agency may sell or otherwise dispose of the vessel and the property.	ORS 830.938: Liability for costs of salvage, towing and storage. (1) Except as otherwise provided in ORS 830.908 to 830.948, the owner of an abandoned vessel or a derelict vessel is liable to an enforcement agency for all costs arising out of salvage, towing, storage and disposal of a vessel seized under ORS 830.908 to 830.948. Any order imposing liability for those costs is subject to judicial review as provided in ORS 830.936 (12).	If attempts to collect from the owner have been exhausted and unsuccesful, then requests to the Abandoned Vessel Fund can be made.
Idaho	All vessels as defined under Idaho Code **§ 67-7003(28)** must be registered.	No definition	Local law enforcement have authority to impound a vessel when the vessel has been abandoned, when it is adrift or under circumstances where the vessel is presenting a hazard to safe boating on the waterways of the county. Local law enforcement may also be authorized to impound a vessel when the operator of the vessel has been arrested and the registered owner of the vessel is not immediately available to assume lawful possession and control of the vessel.				

SINKING VALUE - RISING RISK



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Attachment B: In-Depth Authorities Matrix

Derelict & Abandoned Vessel Matrix

Agency	Registration	Geographic Area	Definition of Abandoned or Derelict	Immediate Custody	Formal Designation Process	Disposal Process	Liability of Violation
OR	All motorized boats, regardless of length or type, must be titled and registered in Oregon.	All state waters including: all inland waters; coastal out to 3 miles and bank to bank of the Columbia River.	**ORS 830.908** – (1) "Abandoned vessel" means a vessel that has been left without authorization on public or private land, the waters of this state, or any other water. … (3) "Derelict vessel" means a vessel that is on the waters of this state and that is: (a) Sunk or in imminent danger of sinking; (b) Obstructing a waterway; (c) Endangering life or property; or (d) In such dilapidated condition that it is in danger of becoming a significant environmental hazard as evidenced by repeated and documented instances of leaking fuel, sewage or other pollutants.	**830.923** Seizure without notice. (1) Nothing in ORS 830.908 to 830.948 affects the ability of an enforcement agency to immediately seize without notice a vessel that presents a hazard to navigation or an imminent threat to public health or safety.	**830.928 Manner and time of seizure.** (1) An enforcement agency may seize an abandoned vessel or a derelict vessel under ORS 830.908 to 830.948 by: (a) Taking physical control of the vessel by towing or other means; (b) Posting a notice on the vessel that indicates that the vessel has been seized, and giving the name, address and telephone number of the enforcement agency; or (c) Marking a sunken vessel with a buoy that has the name and telephone number of the enforcement agency. (2) An abandoned vessel or a derelict vessel is considered to have been seized for the purposes of ORS 830.908 to 830.948 at the time the enforcement agency takes physical control of the vessel under subsection (1)(a) of this section, posts a notice on the vessel under subsection (1)(b) of this section or marks the vessel under subsection (1)(c) of this section. [2013 c.680 §5a]	**830.933** Reclamation of seized vessel. (1) At any time before the date specified in the notice given pursuant to ORS 830.931 (2), any owner may reclaim the vessel by: (a) Paying all costs incurred by the enforcement agency in salvaging, towing and storing the vessel; and (b) Establishing to the satisfaction of the enforcement agency that the owner is able to move the vessel to a place where the vessel can be lawfully kept. (2) If a vessel seized under ORS 830.908 to 830.948 is not reclaimed in the manner provided by this section, title to the vessel and all personal property found in the vessel vests in the enforcement agency, and the enforcement agency may sell or otherwise dispose of the vessel and the property. [2013 c.680 §9]	**830.938** Liability for costs of salvage, towing and storage. (1) Except as otherwise provided in ORS 830.908 to 830.948, the owner of an abandoned vessel or a derelict vessel is liable to an enforcement agency for all costs arising out of salvage, towing, storage and disposal of a vessel seized under ORS 830.908 to 830.948. Any order imposing liability for those costs is subject to judicial review as provided in ORS 830.936 (12). (2) If an enforcement agency sells a vessel seized under ORS 830.908 to 830.948, the liability imposed under this section shall be reduced by the net proceeds of the sale. (3) Except for costs of reclaiming a vessel under ORS 830.933 (1), an owner of a vessel whose only interest in the vessel is a security interest is not liable for costs arising out of salvage, towing, storage and disposal of a vessel under ORS 830.908 to 830.948. [2013 c.680 §8] **830.944** Offenses. (1) A person commits the offense of failure to remove an abandoned vessel if the person is the owner of an abandoned vessel and, after notice is given under ORS 830.918, the person fails to move the vessel to a place where the vessel can be lawfully kept within the time specified in the notice, or within the time allowed under an order issued under ORS 830.936 (6). (2) A person commits the offense of possession of a derelict vessel if the person is the owner of a derelict vessel and, after notice is given under ORS 830.918, the person fails to remedy the problems identified in the notice within the time specified in the notice, or within the time allowed under an order issued under ORS 830.936 (6). (3) An owner of a vessel does not violate this section if the owner's only interest in the vessel is a security interest. [2013 c.680 §12]

WA	All vessels are required to be registered unless ≤ 16 feet & have a motor ≤ 10 HP & operated or moored on non-federal waters (inland lakes)	All state waters including: all inland waters; coastal out to 3 miles and bank to bank of the Columbia River.	**79.100.010** – "Abandoned vessel" means a vessel that has been left, moored, or anchored in the same area without the express consent, or contrary to the rules of, the owner, manager, or lessee of the aquatic lands below or on which the vessel is located for either a period of more than thirty consecutive days or for more than a total of ninety days in any three hundred sixty-five-day period, and the vessels owner is: (a) Not known or cannot be located; or (b) Known and located but is unwilling to take control of the vessel. For the purposes of this subsection (1) only, "in the same area" means within a radius of five miles of any location where the vessel was previously moored or anchored on aquatic lands.	**79.100.040(3)(a) –** Any authorized public entity may tow, beach, or otherwise take temporary possession of a vessel if the owner of the vessel cannot be located or is unwilling or unable to assume immediate responsibility for the vessel and if the vessel: (i) Is in immediate danger of sinking, breaking up, or blocking navigational channels; or (ii) Poses a reasonably imminent threat to human health or safety, including a threat of environmental contamination. (b) Before taking temporary possession of the vessel, the authorized public entity must make reasonable attempts to consult with the department or the United States coast guard to ensure that other remedies are not available.	**79.100.040** – (a) Mail notice of its intent to obtain custody, at least 10 days prior to taking custody, to the last known address of the previous owner to register the vessel in any state or with the federal government and to any lienholders or secured interests on record. A notice need not be sent to the purported owner or any other person whose interest in the vessel is not recorded with a state or federal agency; (b) Post notice of its intent clearly on the vessel for 15 days; and (c) Post notice of its intent on the department's internet website on a page specifically designated for such notices. If the authorized public entity is not the department, the department must facilitate the internet posting.	**79.100.050** – (1) After taking custody of a vessel, the authorized public entity may use or dispose of the vessel in any appropriate and environmentally sound manner without further notice to any owners, but must give preference to uses that derive some monetary benefit from the vessel, either in whole or in scrap. If no value can be derived from the vessel, the authorized public entity must give preference to the least costly, environmental sound, reasonable disposal option. Any disposal operations must be consisted with the state solid waste disposal provisions provided for in Chapter 70.95 RCW.	**79.100.060** – (1) The owner of an abandoned or derelict vessel, or any person or entity that has incurred secondary liability for an abandoned or derelict vessel under this chapter or RCW 88.26.030, is responsible for reimbursing an authorized public entity for all reasonable and auditable costs associated with the removal or disposal of the owner's vessel under this chapter. These costs include, but are not limited to, costs incurred exercising the authority granted in RCW 79.100.030, all administrative costs incurred by the authorized public entity during the procedure set forth in RCW 79.100.040, removal and disposal costs, and costs associated with environmental damages directly or indirectly caused by the vessel. An authorized public entity that has taken temporary possession of a vessel may require that all reasonable and auditable costs associated with the removal of the vessel be paid before the vessel is released to the owner. **79.100.110** – A person who causes a vessel to become abandoned or derelict upon aquatic lands is guilty of a misdemeanor. **Public Nuisance RCW 9.66.010** – Provides for criminal charges for "public nuisances" as defined in RCW 9.66.010. None of the definitions is a 100% shoe-in for the scuttling of a vessel, assuming the water is deep enough for the vessel to not actually interfere with surface navigation. Even if scuttling is viewed as a criminal public nuisance, the crime is simple misdemeanor punishable by a maximum of 90 days in jail and/or $1000 fine.

Agency	Registration	Geographic Area	Definition of Abandoned or Derelict	Immediate Custody	Formal Designation Process	Disposal Process	Liability of Violation
WA Cont.							**Malicious Mischief RCW Chapter 9A.48** – Provides for criminal charges for malicious mischief. RCW 91.48.070 states, in part: "A person is guilty of malicious mischief in the first degree if he/she knowingly and maliciously: (a) Causes physical damage to the property of another in an amount exceeding five thousand dollars……." If an agency can prove that the scuttling of a vessel physically damaged public property over that dollar amount, you have a strong case. How one quantifies such damage to bedlands may be problematic. An agency could claim that the cost of removing the vessel should be included as physical damage to the state's bedlands. A defense attorney could argue that the cost of removing a derelict vessel does not constitute "physical damage to the property of another." If you could get a conviction on first degree malicious mischief, it is a class B felony. Even as a class B felony, the standard sentencing range for someone convicted of this particular crime, assuming no prior criminal history, is from 0 to 90 days. (Sentencing grid at RCW 9.94A.510 in conjunction with seriousness level tables at RCW 9.94.515, level II). The court could impose a fine of up to $20,000. RCW 9A.20.021(b). **Criminal Trespass RCW 9A.52.080** – A person is guilty of criminal trespass in the second degree if he or she knowingly enters or remains unlawfully in or upon premises of another under circumstances not constituting criminal trespass in the first degree. (2) Criminal trespass in the second degree is a misdemeanor. Not a perfect fit. None of the statutes seem to allow a criminal trespass action based upon personal property wrongfully being deposited on somebody else's land.

Agency	Registration	Geographic Area	Definition of Abandoned or Derelict	Immediate Custody	Formal Designation Process	Disposal Process	Liability of Violation
WA Cont.							**Environmental Crimes RCW 90.48.140** – Defines as a crime one's intentional violation of any provision of RCW Chapter 90.48 (Water Pollution Control Act) or of RCW Chapter 90.56 (Oil and Hazardous Substance Spill Prevention and Response). Each day of violation can be construed as another violation. To the extent a scuttled vessel contains any pollutants on-board that are released to the environment, this is a possible option. RCW 90.48.140 doesn't classify the crime, but it provides for a maximum $10,000 fine and up to one year in jail, which makes it a gross misdemeanor. It is unclear whether the scuttling of a vessel that has no hazardous substances on board could still constitute the bases for a violation under RCW 90.48.140.
IDAHO	All vessels used or capable of being used as a means of transportation on water, but does not include float houses, diver's aids operated and designed primarily to propel a diver below the surface of the water, and nonmotorized devices not designed or modified to be used as a means of transportation on the water, such as inflatable air mattresses, single inner tubes, and beach and water toys.	Any waters in the state of Idaho over which the state has jurisdiction.					

ACOE	N/A	All Federally designated and maintained navigable waters.	While there is no direct definition of a derelict or abandoned vessel, the **River and Harbor Act** Section 15 does state that is shall not be lawful to tie up or anchor vessels or other craft in navigable channels in such a manner as to prevent or obstruct the passage of other vessels or craft; or to sink, or permit or cause to be sunk, vessels or other craft in navigable channels.	**Section 15, 19 and 20 of the River and Harbor Act**, as amended, - authorized the USACE to remove sunken vessels or other obstructions from navigable waterways under emergency conditions. USACE will remove a vessel using its emergency authorities only if the owner, operator, or lessees cannot be identified or they cannot effect removal in a timely and safe manner.	**Section 19**– (a) That whenever the navigation of any river, lake, harbor, sound, bay, canal, or other navigable waters of the United States shall be obstructed or endangered by any sunken vessel, boat, watercraft, raft, or other similar obstruction and such obstruction has existed for a longer period than thirty days, or whenever the abandonment of such obstruction can be legally established in a less space of time, the sunken vessel, boat, watercraft, raft, or other obstruction shall be subjected to be broken up, removed, sold or otherwise disposed of by the Secretary of War at his discretion, without liability for any damage to the owners of the same.	**Section 19** - PROVIDED, that in his discretion, the Secretary of War may cause reasonable notice of such obstruction of not less than thirty days, unless the legal abandonment of the obstruction can be established in a less time, to be given by publication, addressed "to whom it may concern:, in a newspaper published nearest to the locality of the obstruction, requiring the removal thereof.	**Section 15** – And whenever a vessel, raft or other craft is wrecked and sunk in a navigable channel, it shall be the duty of the owner, lessee, or operator of such sunken craft to immediately mark it with a buoy or beacon during the day and a lighted lantern at night, and to maintain such marks until the sunken craft is removed or abandoned, and the neglect or failure of the said owner, lessee, or operator so to do shall be unlawful; and it shall be the duty of the owner, lessee, or operator of such sunken craft to commence the immediate removal of the same, and prosecute such removal diligently, and failure to do so shall be considered an abandonment of such craft, and subject the same to removal by the United States as provided for in section 411 to 416, 418, and 502 of this title. 33 USC 415 – If the owner or operator fails to begin removal or to secure the vessel pending removal or fails to complete removal on an expedited basis, the Secretary of the Army shall remove or destroy the vessel using the summary removal procedures under subsection (a) of this section. (c) Liability of owner, lessee, or operator – The owner lessee, or operator of such vessel, boat, watercraft, raft, or other obstruction as described in this section shall be liable to the United States for the actual cost, including administrative costs, of removal or destruction and disposal as described which exceeds the costs recovered under subsection (a) of this section. 33 USC 411 Section 411 – Every person and every corporation that shall violate, or that shall knowingly aid, abet, authorize, or instigate a violation of the provisions of sections 407, 408, 409, 414, and 415 of this title shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of up to $25,000 per day, or by imprisonment (in the case of a natural person) for not less than thirty days nor more than one year, or by both such fine and imprisonment, in the discretion of the court, one-half of said fine to be paid to the person or persons giving information which shall lead to conviction.

Agency	Registration	Geographic Area	Definition of Abandoned or Derelict	Immediate Custody	Formal Designation Process	Disposal Process	Liability of Violation
EPA	N/A	**Limited CWA, 33 USC §1251 & CERCLA, 42 USC 9601** – Inland areas in agreement with the USCG. Usually first bridge inland of bays, rives, and streams.	Does not speak to vessels but does for discharges of pollutants.	Same as USCG in their jurisdiction and in accordance with **Water Pollution Control Act 33 USC 1321** and/or **Comprehensive Environmental Response, Compensation, and Liability Act 42 USC 9601**			**Federal Water Pollution Control Act, CERCLA:** Potential fines and/or criminal prosecution against owner could occur.
USCG	Vessels of five net tons or more used in fishing activities on navigable waters of the US or in the Exclusive Economic Zone (EEZ), or used in coastwise trade must be documented unless the vessel is exempt from documentation. Coastwise trade is generally defined as the transportation of merchandise or passengers between points in the US or the EEZ. In addition, towboats operating between points in the US or the EEZ or between the EEZ and points in the US and dredges operating in the US or the EEZ must be documented. Vessels that do not operate on the navigable waters of the US or in the fisheries in the EEZ, are exempt from the requirements to be documented. Also exempt are Coastwise qualified, non-self-propelled vessels used in coastwise trade within a harbor, on the rivers or lakes (except the Great Lakes) of the US or the internal waters or canal of any state.	All navigable waters of the US for hazards to navigation and all coastal and inland waters, divided by agreement between USCG and EPA. In OR or WA the divide is usually the first bridge in the coastal zone and up to the Bonneville Dam on the Columbia River.	**COMDINST M16465.43** – any craft designed for navigation that has been moored, stranded, wrecked, sunk or left unattended for longer than 45 days. **47 USC 4701 (Abandoned Barge Act)** – to moor, strand, wreck, sink, or leave a barge of more than 100 gross tons for longer than 45 days.	If there is no threat of oil or hazardous materials only the Commandant can authorize removal and thus authorize custody action. If it is determined that the derelict poses a hazard to navigation the ACOE has removal authority under **Sections 15, 19, and 20 of the River and Harbor Act of 1899 and codified in 33 CFR 245.** If under **47 USC 4701**, 5 criteria must be met: Owner not identified; not authorized under CWA or CERCLA; No Haz to Nav; significant threat to public health, safety or welfare that can't be abated any other way; threat justifies the cost of removal. If a substantial threat of oil pollution (**33 USC §1251**) or hazardous material pollution (**42 USC9601**) exists and the only way to mitigate the threat is by removal or destruction of the vessel and the owner/operators have not taken corrective action then the USCG may take immediate action to remove or destroy the vessel. **33 USC Chapter 26 subchapter III 1321(c) Federal removal authority (1) General removal requirement (A)** – The President shall, in accordance with the National Contingency Plan and any appropriate Area Contingency Plan, ensure effective and immediate removal of a discharge, and mitigation or prevention of a substantial threat of a discharge, of oil or a hazardous substance –	**Section 4704** – Removal of abandoned barges (a)(1) The Secretary may remove a barge that is abandoned after complying with the following procedures: (A) If the identity of the owner or operator can be determined, the Secretary shall notify the owner or operator by certified mail (i) that if the barge is not removed it will be removed at the owner's or operator's expense and (ii) of the penalty under section 4703. If the vessel owner is known and if the circumstances do not require imminent action; the owner must be notified by certified mail 30 days prior to removal **(COMDINST M16465.43)**. See previous column.	Removal may begin immediately after the formal notification process. The USCG may also use provisions of the **River and Harbor Act** for removal actions. See previous two columns.	Potentially all removal costs plus NRDA and fines under**33USC 415 and 416 USC 4705.** Every person and every corporation that shall violate, or that shall knowingly aid, abet, authorize, or instigate a violation of the provisions of sections **407, 408, 409, 414,** and **415** of this title shall be guilty of misdemeanor, and on conviction thereof shall be punished by a fine of up to $25,000 per day, or by imprisonment (in the case of a natural person) for not less than thirty days nor more than one year, or by both such fine and imprisonment, in the discretion of the court, one-half of said fine to be paid to the person or persons fiving information which shall lead to conviction (same as ACOE). **Section 4703** – Penalty for unlawful abandonment of barge. **46 USC 4705** – Thirty days after the notification procedures under section 4704(a)(1) are completed, the Secretary may assess a civil penalty of not more than $1,000 for each day of the violation against an owner or operator that violates section 4702. A vessel with respect to which penalty is assessed under this chapter is liable in rem for the penalty. Violations of pollution are in accordance with **Water Pollution Control Act 33 USC 1321** and/or the **Comprehensive Environmental Response, Compensation, and Liability act 42 USC 9601**.

				(i) into or on the navigable waters; (ii) into or on the waters of the exclusive economic zone; or (iv) that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States. **(B)** In carrying out this paragraph, the President may – (i) remove or arrange for the removal of a discharge, and mitigate or prevent a substantial threat of a discharge, at any time; (ii) direct or monitor all Federal, State, and private actions to remove a discharge; and (iii) remove and, if necessary, destroy a vessel discharging, or threatening to discharge, by whatever means are available.			**18 USC 111** – Sec. Destruction of vessel by owner Whoever, upon the high seas or on any other waters within the admiralty and maritime jurisdiction of the United States, willfully and corruptly casts away or otherwise destroys any vessel of which he is owner, in whole or in part, with intent to injure any person that may underwrite any policy of insurance thereon, or any merchant that may have goods thereon, or any other owner of such vessel, shall be imprisoned for life or for any term of years.
NOAA	N/A	Within Sanctuary boundaries		**16 USC 32** – Authorizes seizure and forfeiture of vessels harming sanctuary resources.			
National Park Service	N/A	Within National Park System Designated Boundaries	**Abandoned Shipwreck Act (43 USC 2101-2106)** – Abandoned shipwreck means any shipwreck to which title voluntarily has been given up by the owner with the intent of never claiming a right or interest in the future and without vesting ownership in any other person. By not taking any action after a wreck incident either to mark and subsequently remove the wrecked vessel and its cargo or to provide legal notice of abandonment to the USCG and the USACE, as is required under provisions in the Rivers and Harbors Act (33 USC 409), an owner shows intent to give up title. Such shipwrecks ordinarily are treated as being abandoned after the expiration of 30 days from the sinking. **33 USC§ 2701** Abandonment – In the case of an abandoned vessel, onshore facility, deepwater port, pipeline, or offshore facility, the persons who would have been responsible parties immediately prior to the abandonment of the vessel or facility.		The National Park Service (NPS) publishes guidelines for states and agencies for the development of shipwrecks as cultural resources. The effort facilitates access and utilization of the shipwrecks by a variety of organizations and interest groups including divers and research organizations. The OSC/COTP should consult with the NPS before conducting removal of pollutants from protected wrecks. Consultation is required of all federal agencies undertaking an "action" under Section 106 of the NHPA.		**16 USC Part 1 Park system Resource Protection Act:** Subject to subsection (c) of this section, any person who destroys, causes the loss of, or injures any park system resource is liable to the United States for response costs and damages resulting from such destruction, loss, or injury. (b) Liability in rem Any instrumentality, including but not limited to a vessel, vehicle, aircraft, or other equipment that destroys, causes the loss of, or injures any park system resource or any marine or aquatic park resource shall be liable in rem to the United States for response costs and damages resulting from such destruction, loss, or injury to the same extent as a person is liable under subsection (a) of this section.

9330C

Attachment C: Sample Letter of Concern

Date

CERTIFIED and FIRST CLASS MAIL
[Certified #]

{Mr./Ms. First Name Last Name}
{Street address or PO Box}
{City}, {State} {Zip Code with Plus 4, e.g., 98504-7027}

Subject: Vessel Project # {DVRP #}, Vessel {Vessel Name in italics}, with {Washington Registration # or USCG # or "unknown registration"}, [at/near] {location}[, e.g., Willapa Bay, Grays Harbor County]

Dear {Mr./Ms.} {Last Name}:

A vessel {named [enter Vessel Name in italics] ~OR~ with unknown name ~AND/OR~ [enter description of vessel]} {with/and Washington Registration # ~OR~ USCG # ~ OR~ unknown registration} was found (or reported as) potentially abandoned and aground in {location, e.g., Willapa Bay, Grays Harbor County}, Washington, {near [description of area, if available]}. This vessel's registration names you as the owner. This vessel's registration is expired which is in violation of state law.

To avoid the vessel's future removal by a government agency at your expense, please {adjust bulleted terms as needed}

- Get authorization to moor or anchor the vessel in its current location, **or**
- Move it to an anchorage area, moorage facility, or storage location that authorizes the vessel, **or**
- Remove the vessel from the water.

Because you are the last person who registered the vessel, the {authorized public entity} has identified you as the owner of the vessel. If you believe that you are not the owner of the vessel, please provide me a written statement explaining why you believe you are not responsible for the vessel. If you sold the vessel or gave it away, you must identify the new owner and file a seller's report with the Washington State Department of Licensing (or with the US Coast Guard for documented commercial vessels).

If you do not act, {authorized public entity} or another agency could take custody of the vessel using the steps listed in the Derelict Vessel Act (copy enclosed). Once an agency has custody, that agency can use or dispose of the vessel without further notice. If that happens, as the owner, you would be liable for all costs associated with vessel. If the vessel causes a pollution incident, you may also be subject to fines from other state and federal agencies. In addition, it is a misdemeanor to cause a vessel to become abandoned or derelict upon aquatic lands.

If you believe we contacted you in error, or if you have questions about this letter, please contact me. You may reach me by phone at {authorized public entity, phone number} or e-mail at {authorized public entity, email address}.

Sincerely,

{authorized public entity}

Enclosure: Chapter 79.100 RCW

c: File {DVRP file number}

Date: _____

NOTICE

Attention Vessel Owner or Operator

This vessel has been identified by _____*agency name*_____ as a "Vessel of Concern" and is in danger of becoming a derelict vessel. It has been entered into the Vessel of Concern Database.

Your Attention to the Following is Needed Immediately:

- ☐ **Improper, no, or non-working anchor light/hazard to navigation**
- ☐ **Vessel is being neglected, not maintained, subject to vandalism, or is unable to be used as originally intended**
- ☐ **Vessel does not comply with current registration requirements**
- ☐ **Other** _____
  _____
  _____
  _____
- ☐ **Vessel is barnacle laden or heavily covered in other growth**
- ☐ **Vessel interior is exposed to the weather**
- ☐ **Vessel is listing**
- ☐ **Vessel is aground**
- ☐ **Vessel is in danger of breaking its mooring**
- ☐ **Vessel is sinking**

If your vessel is not brought into compliance, it may be subject to removal at your expense.

Please contact the number listed below when corrections have been made or if you have any questions:

Agency Name _____ **Phone** _____
Officers Name (please print) _____

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Attachment D: ADV Site Safety

A. Example Site Safety Plan

State of Oregon Department of Environmental Quality

SITE HEALTH AND SAFETY PLAN (HASP)
Boarding of Gobal Area Derelict Vessels

PREPARED BY: DATE:

SITE VISIT APPROVED: YES ☐ NO ☐

APPROVED BY: _____ DATE:
DEQ Health and Safety Department

And _____ DATE:
Manager's name & title

A. GENERAL INFORMATION

SITE NAME:

SITE LOCATION/SIZE:

SITE DESCRIPTION: (Attach map)
See Attached

HISTORICAL DATA:

SCOPE/OBJECTIVE OF WORK:
1) Conduct an inspection at the site with the lease holders to determine whether any of the vessels hold oil, hazardous waste, or are a threat to the environment.
2) Determine whether reports that the lease holders have been discharging raw sewage at the site
3) Assist the USCG strike team members by offering familiarity with the site and case history.
4) Assist other agencies such as DSL and the Marine Board as needed.
5) Along with other agencies, we will "grade" each vessel to determine whether it meets the state definition of a derelict vessel.

INVESTIGATION DATE:

SITE CURRENTLY ACTIVE: Yes ☐ No ☐

DEQ SITE ORGANIZATION: List personnel who will be involved in the project and specify roles

B. EMERGENCY INFORMATION

HOSPITAL NAME AND ADDRESS:

PHONE NUMBERS:

Directions to Hospital: (Attach map)

COMMUNICATIONS: List the modes of communication available on site

SITE EGRESS ROUTE:

C. HAZARD EVALUATION INFORMATION

CHEMICAL HAZARD(s):

The list of potential chemicals is based on historic activities at the site. (Attach MSDSs if available.)

Compound	OSHA TWA (ppm)	Action Level	Exposure Routes (Inhalation, dermal, etc.)	Symptoms of overexposure	Odor

PHYSICAL HAZARD(s): Check applicable hazards

Confined space	☐	Note: requires confined space entry permit
Noise	☐	
Heat/cold stress	☐	
Water	☐	
Uneven surfaces	☐	
Traffic	☐	
Other	☐	Specify:

D. EXPOSURE INFORMATION

ROUTE(S) OF EXPOSURE:

Inhalation ☐ Dermal ☐ No exposure expected ☐

OVERALL CHEMICAL EXPOSURE (Potential):

Serious ☐ Moderate ☐ Low ☐ Unknown ☐

OVERALL PHYSICAL HAZARD (Potential):

Serious ☐ Moderate ☐ Low ☐ Unknown ☐

E. CONTROL MEASURES

PERSONAL PROTECTIVE EQUIPMENT:

Level A ☐ (SCBA, fully encapsulated suit, chemical resistant gloves and boots)
Level B ☐ (SCBA, chemical resistant clothing, chemical resistant gloves and boots)
Level C ☐ (Air purifying respirator, chemical resistant clothing)
Level D ☐ (Coveralls, safety boots, shoe splash, goggles)

RESPIRATOR: 1/2 mask ☐ Full-face APR ☐ Escape ☐ SCBA ☐ as appropriate
Cartridge Type(s):

BODY: tyvek ☐ saranex ☐ (avail) other ☐ Specify:

HEAD: hardhat ☐ safety glasses ☒ face shield ☐ earplugs ☐

GLOVES: yes ☐ no ☐: outer ☐ inner ☐ Type:

FOOTWEAR: safety shoes ☐ rubber boots ☐ booties ☐

DECONTAMINATION PROCEDURES: dry ☐ wet ☐ stationary ☐
Describe:

AIR MONITORING EQUIPMENT:

Photoionization Detector	☐	Combustible gas indicator	☐
Oxygen meter	☐	Gastech	☐
Four way gas meter	☐	Radiation meter	☐
Detector tubes	☐		

OTHER AIR MONITORING EQUIPMENT (Specify):

SPECIAL AIR MONITORING PROCEDURES/LIMITATIONS: (For example, note action level that determines when an upgrade in procedures or PPE is necessary.)

F. SAFETY

The following is a general checklist for site safety observations; it is intended for use as a general guide for the Site Safety Officer (SSO), but does not preclude the need for additional safety inspections that might be needed. A completed Job Safety Analysis (JSA) can be attached to this plan to augment this section.

☐	An **on-site safety briefing** will be conducted each day;
☐	Contractor supplied **Site Health & Safety Plan (HASP)** will be posted in an easily

	accessible location;
☐	First Aid/CPR trained person will be on-site; local fire and haz mat will be briefed
☐	☐☐A **first aid kit** will be readily available on site;
☐	☐☐Each **person's responsibilities** will be known;
☐	☐**Physical and chemical hazards** will be identified and addressed,
☐	All personnel will have **proper levels of protection** and equipment as determined in this HASP and onsite by the SSO.
☐	**Emergency scenario plans** will be discussed, including kill switches, hospital routes, and location of first aid kit(s);
☐	☐**Heat and cold stress hazards** will be identified and discussed;
☐	☐☐Personnel will wear ANSI approved **safety boots and hard hat**;
☐	☐☐**ANSI-approved safety glasses** will be worn at all times
☐	☐☐**A current approved ABC rated fire extinguisher must be stationed nearby**;
☐	Personnel will wear OSHA-approved **ear protection** for sound levels exceeding 85 dba;
☐	Tools will be used only for their intended purposes;
☐	Call before you dig Oregon Utility Notification Center (800) 332-2344 or (503) 246-6699
☐	Proper clearances established from equipment to overhead electrical lines
☐	PFD to be worn at all times
☐	Police officer to be present.
☐	
☐	
☐	

ADDITIONAL NOTES:

All site personnel have read the above plan and are familiar with its provisions.

	Name	Signature
Site Safety Officer		_____
Project Manager		_____
Other Site Personnel		_____
Other Site Personnel		_____
Other Site Personnel		_____
Other Site Personnel		_____
Other Site Personnel		_____

B. ADV Specific Safety Information

The priority of any operation is safety. Many abandoned and/or derelict vessels have numerous potential safety problems. They could include:

1. Hazardous Materials (asbestos, ammonia, various solvents, etc.),
2. Unknown hazmat in association with illegal dumping or drug labs
3. Booby traps associated with illegal activity
4. Slips, trips and falls associated with uneven, wet or oiled surfaces
5. Structural weaknesses due to natural deterioration or damage, water currents and depths
6. Vessel Stability
7. Disgruntled owners or illegal activity
8. Confined spaces with little or no oxygen

It is imperative that any person boarding one of these vessels shall do so as safely as possible and ensure that all members of the team conduct a Safety Brief prior to boarding. Review, fill in, and sign the Site Safety Plan, and conduct an Initial Safety Inspection prior to conducting the rest of the assessment. Teams should attempt to gain all pertinent safety information necessary before boarding any vessel to include interviewing the owner/operator, using agency databases such as USCG MISLE, checking with local law enforcement, and interviewing members that have gone on vessels in recent years.

Access to the site should be assessed to determine any illicit or unsafe activity prior to boarding the vessel, barge, or houseboat. If illicit activity is identified, contact law enforcement with jurisdiction for the area and do not continue with the boarding and assessment until it has been deemed safe to enter. If access to the vessel, barge, or houseboat is deemed unsafe then the team shall determine and implement any mitigation strategies to ensure safe access or they shall not use the access until another method is identified.

Prior to boarding, if possible, obtain and review vessel diagram, pictures, and any agency documentation to thoroughly identify any potential risks from the vessel prior to boarding. When security concerns due to vessels history arise, a security sweep of the vessel should be conducted by a law enforcement agency prior to boarding. No personal shall board a vessel, barge, or houseboat without subscribing to this or another approved Site Safety and Health plan. All personnel must have adequate training in hazardous waste operations safety and health. Key safety positions and names shall be designated and documented on the Site Safety Plan.

Hazard Evaluation
General Hazards:

Hazard	Sources	Control Measures
Muscle Strain	Lifting Heavy Equipment	Use mechanical devices for handling materials greater than 60lbs. when possible. Use proper lifting techniques. Use buddy system.
Slip, Trip, & Fall	Oily/wet surfaces, debris, rotting decks, traversing over multiple vessels	Use caution, buddy system, flag or mark hazards, & maintain good housekeeping. Remember to maintain situational awareness while onboard vessel/barge/houseboat.
Chemical Exposure	Diesel fuel and fumes	Perform air monitoring to assure work operations occur only in "clean" areas. Do not enter Confined Space areas.
Cuts, punctures, etc.	Sharp edges, needles, scrap metal, rigging cables, and metal clad hoses	Watch where you are walking and putting your hands. Wear leather gloves during operations.
Fire	Sparks from tools, equipment, and static electricity in the presence of flammable liquids/vapors	Eliminate sources of ignition from the work area. Have appropriate fire extinguishers in work areas. Store flammable liquids in well-ventilated areas. No smoking.
Drowning	Falling into water from edge of vessel or while on boat transfer	Limit risky activity near areas of potential falls into the water. Wear a Coast Guard approved PFD at all times while onboard vessel/barge/houseboat or near water's edge.
Cold injury	Air & water	Wear appropriate cold weather gear and foul weather gear as required.
Heights	Vessels, ladders, etc…	Use caution and avoid unsafe areas, identify special equipment that may be needed (lanyards, safety nets, harness, etc.).

Noise	Prime mover, cranes, etc…	Hearing protection required when working around loud equipment. Ensure personnel are aware of hearing protection requirements.
Overhead Obstructions	Falling hazards from above including cranes	Avoid such areas and wear hardhat when fall hazards are present.

Confined Space Hazards:

Composition: A confined space has limited or restricted means for entry or exit, unfavorable or inadequate ventilation, and is not designed for continuous human occupancy. Confined spaces include, but are not limited to underground vaults, tanks, storage bins, manholes, pits, silos, process vessels, and pipelines. Confined spaces may be encountered in many parts of vessels, tanks, and barges; therefore, their recognition is the first step in preventing fatalities.

Hazard Description: Confined spaces can cause deaths due to atmospheric hazards which include oxygen-deficiency or enrichment hazards, explosive (combustible/flammable) hazards, and toxic hazards. Confined spaces have the potential to contain a serious atmospheric hazard and should be tested by a certified marine chemist or shipyard competent person prior to entry.

Basic Precaution: Team members should look for signs of an oxygen deficient atmosphere such as dead birds in a corner or holds that have not been accessed by humans. Multi-gas meters shall also be worn by boarding members to detect for changes in Oxygen, Combustibles, Carbon Monoxide, Hydrogen Sulfide, and other suspected hazards. If the meter alarms, all team members must be notified and egress the space. If the team still needs to access the space, a marine chemist or equivalent will need to verify the space is safe for entry before the team re-enters.

Chemical Hazards:

Oils containing benzene: including crude, gasoline, military JP4, commercial JET B, aviation gasoline and gas oils.

Composition: Composed of an indefinite petroleum distillate mixture. May contain benzene, toulene, xylene, naphthalenes, & Polyaromatic Hydrocarbons (PAHs) in concentrations that may vary widely depending on the source of the oil, weathering, and aging.

Hazard Description: May cause dermatitis by skin contact, nausea by inhalation and eye irritation. Benzene is a hematological toxin (it affects the blood and blood forming

organs) and is a carcinogen. The most important potential benzene, toluene, or xylene hazard is in poorly ventilated areas (such as pits or under docks), or around freshly spilled oil. Benzo(a)pyrene is a skin contact hazard and potentially may cause skin cancer with chronic skin contact. As oil weathers and ages, benzo(a)pyrene becomes more concentrated because it evaporates much slower than other chemicals in the mixture.

Basic Precaution: Stay away from, or upwind of, fresh oil spills; wear chemical resistant clothing as necessary to protect against skin or eye contact; periodically change protective clothing that has oil on it; immediately change clothing that is showing evidence of oil penetrating to your skin; and wash skin with soap and water when changing Into street clothing, before eating/drinking, or when exiting to a contamination reduction zone. Flush eyes with water if contaminated. If ingested, do not induce vomiting-contact a physician. Urine phenol should be tested as soon as possible (and not later than 72 hours after exposure) if there is a suspected overexposure to benzene. Urine specific gravity should be corrected to 1.024 for this test. If urine phenol values exceed 75 mg per liter further testing in accordance with 29 CFR 1910.1028(i)(4) may be needed, and individuals must be removed from areas of potential benzene exposure until values return to normal.

Oil not containing benzene: including kerosene, diesels, military JP5, commercial JET A.

Composition: Composed of an indefinite petroleum distillate content typically including Polyaromatic Hydrocarbons (PAHs). The concentration of these products will vary widely depending on the source of the oil, weathering, and aging.

Hazard Description: May cause dermatitis by skin contact; nausea by inhalation; and eye irritation by contact. Benzo(a)pyrene is a skin contact hazard and potentially may cause skin cancer with chronic skin contact.

Basic Precaution: Wear chemical resistant clothing as necessary to protect against skin or eye contact; periodically change protective clothing that has oil on it; immediately change clothing that is showing evidence of oil penetrating to your skin; and wash skin with soap and water when changing into street clothing, before eating/drinking, or when exiting to a contamination reduction zone. Flush eyes with water if contaminated. If ingested do not induce vomiting contact a physician.

Hazardous Material and Dangerous Goods:

Composition: Depending on the material may be in liquid, solid, or gaseous state.

Hazard Description: All hazardous material will fall within one of the 9 Hazard Classes to include:

Class 1: Explosives
Class 2: Gases
Class 3: Flammable Liquids

Class 4: Flammable Solids
Class 5: Oxidizing substances and Organic peroxides
Class 6: Toxic and Infectious Substance
Class 7: Radioactive materials
Class 8: Corrosive substances
Class 9: Miscellaneous hazardous material

Basic Precaution: Follow the procedures in the Emergency Response Guidebook if the material is labeled. If the material is unidentifiable or is leaking immediately egress from the area and notify the National Response Center (NRC) at 1-800-424-8802.

Contaminates:

Asbestos: When left intact and undisturbed, asbestos containing materials do not pose a health risk to people working or living in buildings. Asbestos containing material is not generally considered to be harmful unless it is releasing dust or fibers into the air where they can be inhaled or ingested. Asbestos-containing ceiling tiles, floor tiles, undamaged laboratory cabinet tops, shingles, fire doors, siding shingles, etc. will not release asbestos fibers unless they are disturbed or damaged in some way. Asbestos pipe and boiler insulation does not present a hazard unless the protective canvas covering is cut or damaged in such a way that the asbestos underneath is exposed to the air. Asbestos is hazardous when it is friable. The term "friable" means that the asbestos is easily crumbled by hand, releasing fibers into the air. Sprayed on asbestos insulation is highly friable. Asbestos floor tile is not.

Composition: Asbestos is a naturally occurring fibrous mineral. The most common types of asbestos are Chrysotile (white) and Amosite (brown / off- white). Asbestos fibers can be very small – up to 700 times smaller than a human hair. Because it is fire-resistant, resists many chemicals, and is an excellent insulator, asbestos was added to a variety of building materials and other products.

Hazard Description: Carcinogen. Asbestos fibers do not evaporate into air or dissolve in water. However, pieces of fibers can enter the air and water from the weathering of natural deposits and the wearing down of manufactured asbestos products. When breathed in, many of the fibers will become trapped in the mucous membranes of the nose and throat where they can then be removed, but some may pass deep into the lungs, or, if swallowed, into the digestive tract.

Basic Precaution: Be aware of sources of asbestos and avoid exposure. If exposed or presence is expected, immediately vacate the area and contact medical personnel.

Lead:

Composition: Soft metal. Lead is widely used in the production of batteries, metal products (solder and pipes), ammunition and devices to shield X-rays leading to its exposure to the people working in these industries. Use of lead in gasoline, paints and ceramic products, caulking, and pipe solder has been dramatically reduced in recent years

because of health concerns but may remain on older vessels.

Hazard Description: Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation. With chronic exposure may be toxic to blood, kidneys, central nervous system (CNS). Repeated or prolonged exposure can produce target organs damage.

Basic Precaution: With skin contact, wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. If ingested Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Mercury:

Composition: Silvery metallic liquid heavy metal at standard temperature and pressure. Although largely phased out, mercury can still be found in thermometers, barometers, float valves, fluorescent lamps, and mercury sphygmomanometers (blood pressure monitors).

Hazard Description: Extremely toxic. Can be absorbed through the skin and mucous membranes and vapors inhaled and can cause chronic and acute poisoning. Fatal if inhaled, may damage the unborn child, causes organ damage, and is very toxic to aquatic life.

Basic Precaution: Upon encountering suspected mercury, immediately vacate the space for at least 150 ft in all directions. Unknown quantities of mercury require full face supplied air respirators. Do not handle without PPE. Keep any containers of suspected mercury tightly closed. Do not inhale the vapors. Do not touch or walk through spilled material. Call local authorities.

Disgruntled Owners:

Illicit Activity: CAUTION! Derelict Vessels can be a haven for illicit activity to include illegal scrapping, clandestine drug labs, drug use, and/or other activities.

Booby traps: If any member suspects encountering a booby- trap, the entire operation shall halt until the team lead confers with the Incident Commander regarding the necessity of contacting local authorities for assistance. If at any other time a team member feels the conditions warrant halting operations, the team supervisor shall be notified.

Noise Makers: A string is tied between two fixed objects and suspends a tin can containing a few rocks. When triggered, this booby trap only makes noise. The noise simply alerts whoever set the trap that an intruder is nearby. Since it operates by sound (and not a very loud one at that) it has to be close to the illicit activity. If you see or

trigger one of these devices, consider leaving the area and notifying the authorities. Variants include bells and shotgun shells with the shot removed.

Snares: Fish hooks (usually barbed) are hung by light-weight fishing line in brush and trees at face level. As an intruder moves along a trail, he or she can easily catch a hook in the face.

Irritating Agents (pepper spray, tear gas, etc...): A trip device is set to trigger a canister that will discharge an irritating agent in sufficient quantity as to cause intruders to leave the area seeking relief.

Lethal Booby Traps: Fortunately, booby traps of this sort are rare because they are only used by the most dangerous of criminal elements. Unfortunately, since the intent is to kill, these will be well hidden and very difficult to spot.

Shotgun Shell on a Rat Trap: A shotgun shell is attached to a standard rat trap and painted so as to camouflage the apparatus. It is then positioned on a tree or rock with the shotgun shell pointing to strike the victim's region and rigged to a trip wire. Note that the trip wire for this device has to be aligned with the shotgun shell's blast cone.

Explosives: Gunpowder is used in sufficient quantity to improvise an antipersonnel explosive. Further, powerful explosives can be mixed easily from basic household chemicals. Booby traps of this sort may be laced with nails, glass and even chemical and biological agents. The trip wire for this device can be almost anywhere. A short length of household pipe six inches to one foot long is commonly used as a housing.

If any team member finds themselves in one of the above situation immediately stop all movement and alert the entire group -- even those not in the immediate area. Carefully vacate the area in the safest possible way (usually exactly as entered) and disembark the vessel. Notify the appropriate law enforcement agency.

Clandestine drug labs:

Methamphetamine labs
Although meth labs may have waned due to more stringent regulations of over-the-counter pseudoephedrine products, they remain very dangerous when encountered. Indicators may include but are not limited to:

1. Unusual, strong odors (like cat urine, ether, ammonia, acetone or other chemicals).
2. Structures with windows blacked out or open windows vented with fans during the winter.
3. Excessive trash including large amounts of items such as: antifreeze containers, lantern fuel cans, engine starting fluid cans, HEET cans, lithium batteries and empty battery packages, foil wrappers, red chemically stained coffee filters, drain cleaner, propane tanks, and spray pumps. (Propane tanks modified for methamphetamine labs will have indicators that may include a robin’s egg blue color around the valve, valve stems that are not centered on the collar, and tanks that contain solids.)
4. Unusual amounts of clear glass containers. The contents of these containers may

include bi or tri layered liquids.

One pot labs: meth production on a smaller scale; single or small dose use. These generally include the presence of the same chemicals in large scale production but done in containers such as small plastic drink bottles.
The primary hazards from methamphetamine labs are chemical exposures from chlorine or ammonia, chemical burns, and flammable or explosive environments. Signs and symptoms of exposure may include irritated eyes, nose, throat, or skin burns.

Pill-press labs: Pill-press labs take a powdered substance and press it into pill form. This may include Fentanyl and other synthetic opioids. Indicators may include but are not limited to:

a. Powdery substances; generally white in color loose or in unmarked containers
b. Pill press
c. Large quantities of pills
d. Blenders
e. Scales

The primary hazards from pill press labs are inhalation or absorption of powdered substances into mucosal membranes such as the eyes or nose which may be lethal in small doses. Signs and symptoms of exposure may include slow or no breathing, pinpoint pupils, drowsiness, or unresponsiveness.

Drug paraphernalia

Drug paraphernalia used in the ingestions, injection, or absorption of drugs. Indicators may include but are not limited to:

a. Glass pipes
b. Small paper or plastic bags
c. Small glass vials
d. Sharps (needles or syringes)
e. Aluminum foil with burn lines (tracks)

Due to the evolving nature of drug labs, other labs may be present that are not included in this document. If any team member finds themselves approaching a suspected drug lab, immediately stop all movement and alert the entire group -- even those not in the immediate area. Carefully vacate the area in the safest possible way (usually exactly as entered) and disembark the vessel. Notify the law enforcement agency with jurisdiction for the area.

C. Photos of Potential Hazards on Derelict Vessels

1. Lead-based paint chip debris

2. PCB containing paint

3. PCB containing, asbestos wrapped around electrical wiring

4. Methamphetamine Lab
   a. General Indicators

   b. Modified Propane Tank

c. Bi or Tri layered liquids

d. One-Pot

5. Pill Press Lab

a. General Indicators

b. Pill Press

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Attachment E: ADV Tracking and Reporting Tools

E. ADV Tracking and Reporting Tools

The tracking of ADV's is sporadic and usually designed to be useful only to the originating organization. States like Washington do not publicize their known ADV's for fear that someone will utilize the tracker to scavenge vessels for anything of value and possibly endangering themselves and the first responders sent to rescue them from poor decisions. While each agency maintains their own tracking system, the following links may be helpful for reporting or tracking.

Washington: Washington DNR shares its tracking database with the USCG and NOAA through the Environmental Response Management Application (ERMA).
Pacific Northwest ERMA (requires site login):
https://erma.noaa.gov/northwest#x=-122.75531&y=47.31101&z=8&layers=1+47491&panel=layer
Washington DNR publishes a list of ADV's without locations every quarter here:
https://www.dnr.wa.gov/programs-and-services/aquatics/derelict-vessels/derelict-vessel-inventory-and-funding.
You can report and see recently reported vessels through Washington's reporting tool here:
https://www.dnr.wa.gov/vessel-reporting (only those reported through this application).

Oregon: Oregon State Marine Board maintains a database only accessible by their organization but provides a link to report ADVs here: https://www.oregon.gov/osmb/boater-info/Pages/Abandoned-Derelict-Boats.aspx

Idaho: While Idaho DEQ does not specifically track ADVs, hazmat incidents requiring DEQ oversight beyond the initial emergency phase are tracked through DEQ's Facility mapper found here:
https://idaho.terradex.com/

NOAA: Pacific Northwest ERMA. NOAA also has a website that allows states to advertise their ADV programs and can be found here:
https://marinedebris.noaa.gov/resources/abandoned-and-derelict-vessels-info-hub

U.S. Coast Guard: Tracks vessels internally both from a search and rescue perspective and as pollution threats. Contact Sector Incident Management Divisions.

Vessel of Concern Reporting Form

INSTRUCTIONS: Fill out the following form to the best of your ability. If unknown, write unknown. Upon completion, submit to the appropriate agency. For vessels actively sheening or discharging, make a report to the National Response Center at 1-800-424-8802.

Washington: dvrp@dnr.wa.gov
Oregon:
marine.board@boat.oregon.gov
Idaho: State Communications (via 911)

BE ADVISED OF THE FOLLOWING: Derelict vessels not only pose a hazard to the environment but also pose many hazards to people. Please keep this in mind when gathering information and remain a safe distance from derelict vessels and **DO NOT** go onboard unless you are trained to do so.

DATABASE New entry Existing entry If entry already exists in the database, Vessel ID #_____

Reporting Organization_____ Name_____ Phone # _____

VESSEL INFORMATION

Vessel Name_____ **Current Registration (*circle one*)**: Yes No

Registration Number_____ Registration Expiration _____

Hull Type (*circle one*): Steel Wood Fiberglass Aluminum Cement Other _____

Length_____ Hull Color_____ Superstructure Color _____

Trim Color_____ **Vessel Type (*circle one*):** Commercial Recreational Unknown **Vessel Subtype**

(*circle one*): Cruising Sailing Fishing Passenger Barge Tug

General Location_____ State/Country _____

Lat/Long_____ Approx. Water Depth _____

Vessel is (*circle one)*: Afloat Aground Tide Dependent

How secured (*check one)*? ΔTied securely to dock ΔTied but not secure ΔOn mooring buoy ΔAnchored

Fuel Type:_____ Total Fuel Capacity_____ Number of Tanks _____

Fuel Vent Location (if known)_____ Description/Quantity of any HAZMAT _____

Is vessel occupied?_____ Evidence of other illegal activity_____

Current or planned actions to cleanup/remove by Fed/state/local government:

OWNER INFORMATION

Last Known Owner_____ Phone Number _____

Address _____

Has the owner been contacted? (*circle one*): Yes No

Does the owner plan on taking action to remove/cleanup the vessel? If so, what?_____

	1	2	3	4	5	Previous Rank	New Rank
Hull Condition and Position in Water	Steel, aluminum, or fiberglass hull in good condition and vessel floating with normal freeboard.	Steel, aluminum, or fiberglass hull, rusted or aged; Possibly sitting slightly low in water, but appears to be floating free	Wooden hull or other hull material in poor condition or riding noticeably low in water, but floating free	Visible holes in hull and/or listing or still upright, but low enough to touch bottom during low tide; Or vessel is being continuously mechanically de-watered to stay afloat	Broken up and no longer seaworthy; Severe list (30^o or more) and/or sunk or aground		
Public Safety	Not accessible to public, not a site of criminal activity or dumping	Access to vessel is difficult for public, not likely a site of criminal activity or dumping	Public access to vessel is somewhat limited, some broken parts and physical hazards	Very little effort to limit public access to vessel, broken parts causing hazardous surfaces and/or attractive nuisance, possible site of criminal activity or dumping	Unrestricted public access onto vessel, Used as dump site or site of other criminal activity		
How Secured	Tied securely to dock with sound lines	Moored or anchored securely	Moored or anchored securely but mooring lines worn or with heavy marine growth	Not secure but not adrift (grounded or beached), mooring lines parting	In danger of becoming adrift in immediate future		
Navigational Hazard	Away from vessel traffic	Near limited vessel traffic	Encroaching upon middle of moderate traffic areas (e.g., approaches to small marinas or ports)	Encroaching upon middle of high-traffic areas, such as approach to large marinas or ports	Encroaching upon middle of navigable waterway (e.g., a traffic lane)		
Environmental Hazard	Known to be clean	Does not likely contain much fuel or HAZMAT. Residual amounts only.	Could potentially carry large amounts of fuel or HAZMAT; ongoing activities make spill possible	Multiple containers of unknown materials visible on vessel, ongoing activities (e.g., scrapping) makes spill likely	Leaking oil or HAZMAT imminent		
				If vessel is in trespass on private or public submerged lands add 3 to total			
				TOTAL SCORE:			

Score

5 – 12 ..... A vessel in this range is not generally a vessel of concern
13 – 17..... A vessel in this range is generally a VESSEL OF CONCERN
18 – 28..... A vessel in this range is generally considered DERELICT

☐ If a box is shaded, immediately contact a 24-hour response number and/or program manager

9 3 3 0 F

Attachment F: Federal to State Hand-off Memorandum of Understanding Example

*Note: This example is provided as a template for future MOUs. The names and points of contacts are no longer current.

MEMORANDUM OF UNDERSTANDING BETWEEN THE UNITED STATES COAST GUARD, THE STATE OF OREGON, AND METRO REGARDING DISPOSITION OF M/V ALERT

1. PARTIES. The parties to this Memorandum of Understanding (MOU) are the United States Coast Guard (USCG), Oregon Department of Environmental Quality (DEQ), Oregon Department of State Lands (DSL), and Metro [hereinafter "Parties"].

2. AUTHORITY. This MOU is authorized under the provisions of 33 U.S.C. § 1321(c); 33 U.S.C. § 2712; 40 C.F.R. Part 300; COMDTINST 5216.18; COMDTINST M16000.14 (series); NPFCINST M7300.1B; By the authority granted in Oregon Revised Statutes (ORS) 190.110 and 366.558, State may enter into cooperative agreements with the United States Federal Government and units of local government to work on proposed M/V ALERT with the terms and conditions mutually agreeable to the contracting parties to such cooperative agreements.

3. PURPOSE. The purpose of this MOU is to set forth terms by which the Parties will achieve permanent disposition of the derelict and abandoned M/V ALERT [hereinafter "vessel"] currently located within the Columbia River.

4. CURRENT SITUATION. The vessel is currently sunk off Hayden Island in the Columbia River, Portland, OR. Though outside the main shipping channel, the current vessel location still experiences constant vessel traffic which poses safety concerns for removal of oil once vessel is raised.

5. CONCEPT OF OPERATIONS. With use of the Oil Spill Liability Trust Fund, USCG will hire a contractor to dive on the vessel and run lifting straps and raise this vessel with a crane barge (1000 ton Pacific Lifter). Once the vessel is raised, USCG will have several courses of action for towing the vessel to a safe location based on what the contractor finds after a thorough dive assessment. Once the vessel is raised, it will be transported to the predetermined location to safely remove all recoverable oil. Once removed, DSL will take control of these vessels for final disposal.

6. RESPONSIBILITIES:

Coast Guard

a. Conduct oil removal activities consistent with the National Contingency Plan to mitigate the substantial threat of an oil discharge from the vessel; and if necessary, respond to actual discharges of oil from the vessel.
b. Place oil containment boom around the vessel when necessary to mitigate the threat of an oil discharge.
c. Contract for commercial diving operations to raise, dewater, and refloat the vessel.
d. Validate whether the vessel is seaworthy enough to be safely towed or transported to its designated disposal location or facility.
e. Arrange to transport the vessel up to five nautical miles to its designated disposal location or facility.
f. Remove all recoverable oil products from the vessel and dispose of these products in accordance with applicable laws and policy.
g. Document all phases of response involving the vessel on ICS-214s and appropriately disseminate pertinent information to all Parties.

h. Transfer custody and control of the vessel to DSL at the designated disposal location or facility, and document the transfer. Upon transfer, USCG will have no further involvement in or oversight over vessel disposition, to include sediment testing and remediation.

Oregon Department of Environmental Quality

a. DEQ will support DSL in the execution of its responsibilities.

Oregon Department of State Lands

a. Assume custody, care, and control of the vessel once the Coast Guard has met its responsibilities under this MOU.
b. Perform hazardous waste surveys on the vessel and provide any necessary abatement of detected materials.
c. Maintain control of vessel until it is completely disposed of.

Metro

a. Metro will pay to DSL an amount not to exceed $2,000,000.00 toward hazardous waste abatement, vessel deconstruction, and disposal of two vessels, M/V ALERT and M/V SAKARISSA. The M/V SAKARISSA project is covered in a separate MOU between the Parties, but the total amount for both projects will not exceed $2,000,000.00. These funds are pledged via a separate IGA between Metro and DSL.
b. Metro staff may assist the other Parties, such as though administrative activities. Under no circumstances does Metro's staff involvement shift any liability from the other Parties to Metro for any outcomes associated with the M/V ALERT project.

7. POINTS OF CONTACT.

USCG:
Lisa Siebert
(503) 338-9463
Lisa.M.Siebert@uscg.mil

DEQ:
Kevin Chan
(503) 229-6712
Kevin.CHAN@deq.oregon.gov

DSL:
Jacob Taylor
(503) 986-5303
Jacob.Taylor@dsl.oregon.gov

Portland Metro:
Stephanie Rawson
(971) 347-7165 stephanie.rawson@oregonmetro.gov

8. OTHER PROVISIONS. Nothing in this MOU is intended to conflict with current law or regulation or the directives of the United States Coast Guard or Department of Homeland Security or the State of Oregon. If a term of this MOU is inconsistent with such authority, then that term shall be invalid, but the remaining terms and conditions of this MOU shall remain in full force and effect.

9. EFFECTIVE DATE. The terms of this MOU will become effective on September 01, 2022.

10. MODIFICATION. This MOU may be modified upon the mutual written consent of the Parties.

11. TERMINATION. The terms of this MOU, as modified with the consent of both parties, will remain in effect until completion of project, or upon agreement of the Parties. The MOU may be extended by mutual written agreement of the Parties. Upon 10 days written notice to the other Parties, a Party may terminate this MOU.

APPROVED BY:

Date:

_____
CAPT M. Scott Jackson
Federal On-Scene Coordinator (FOSC)
USCG Sector Columbia River

Date:

_____
Bill Ryan
Deputy Director
Oregon Dept. of State Lands

Date:

_____
Nina Deconcini
Northwest Regional Administrator
Oregon Dept. of Environmental Quality

Date:

_____
Marta McGuire
Director, Waste Prevention and
Environmental Services Department

Section 9331
Marine Debris and Severe Marine Debris Events

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Marine Debris and Severe Marine Debris Events

9331.1 Introduction

The Marine Debris Research, Prevention, and Reduction Act, which legally established the National Oceanic and Atmospheric Administration (NOAA) Marine Debris Program, was signed into law by President Bush on December 22, 2006, and reauthorized by Congress as the Marine Debris Act in December 2012. The act initially set a $10 million authorization for NOAA for implementation of the program, including identification and impact assessments, removal and prevention activities, research and development of alternatives to gear posing threats to the marine environment, and outreach activities. The Marine Debris Act, as reauthorized in 2012, included an added component—a Severe Marine Debris Event—and tasked NOAA to coordinate across federal, state, tribal, and local governments to ensure timely and efficient assessment and response.

9331.2 Severe Marine Debris Event

A Severe Marine Debris Event is caused by extreme circumstances, such as earthquakes, floods, storms, or massive maritime accidents. It may generate marine debris items not normally present, such as drums and other containers of fuel and chemicals, derelict vessels and floating docks, and other infrastructure debris presenting a risk of pollution and hazard to navigation and posing a threat to the environment, commerce, and human health and safety.

9331.3 Severe Marine Debris Events Plans: Oregon and Washington States

In response to the March 11, 2011 tsunami in northeastern Japan (a severe marine debris event that washed out an estimated 1.5 million tons of floating debris, some of which arrived along the U.S. West Coast and in Alaska and Hawaii), Oregon and Washington developed Governor-approved marine debris emergency response plans. The two plans, similar in format and composition, established task forces in each state, assigned roles and responsibilities to state agencies and support roles for federal agencies, and provided the details needed for response to marine debris on land and at sea for current and future severe marine debris events impacting the states.

The Oregon and Washington Marine Debris Emergency Response plans were created collaboratively through public meetings and by representatives from federal and state agencies, emergency managers, local and tribal governments, and non-governmental organizations and industries.

These plans provide information on the following for a Severe Marine Debris Event:

- Organization and assignment of responsibilities;
- Notification procedures;
- Description of roles for agencies involved; and
- Jurisdictions.

The Washington State Marine Debris Coordination Plan may be found here: https://marinedebris.noaa.gov/regional-action-plan/washington-marine-debris-action-plan

The State of Oregon Japan Tsunami Marine Debris Plan may be found here: http://www.oregon.gov/OEM/Councils-and-Committees/Documents/jtmd_plan.pdf

Section 9401

Northwest Area Contingency Plan Permit Summary Table

Section 9401 Northwest Area Contingency Plan Permit Summary Table

Permit Name	Agency	Operation	Purpose of Permit	Waiver? Equivalent Standard? Timing?	Additional Information	Application Form
FEDERAL PERMITS						
Work on Structures in Navigable Waters, Section 10 permits	U.S. Army Corps of Engineers	Projects in, over, or under U.S. navigable waters	Maintains and protects navigation in U.S. waters. Authorized under Section 10 of the Rivers & Harbors Act. Any project that creates an obstruction or alteration in, over, or under navigable U.S. waters. Includes construction and maintenance of piers, pilings, wharfs, and bulkheads.	Nationwide Permit # 20 allows the Federal On-Scene Coordinator (FOSC) to conduct work without this permit.		JARPA*: http://www.epermitting.wa.gov/site/alias__resourcecenter/jarpa_jarpa_form/9984/jarpa_form.aspx
Section 404 Permit	U.S. Army Corps of Engineers	Discharge of dredge or fill material into U.S. waters	If you plan to discharge dredged or fill material into the waters of the United States, including wetlands.	Also may need CZMA, National Historic Preservation Act, Endangered Species Act, Tribal Trust Issues, and National Environmental Policy Act. Nationwide Permit # 20 allows FOSC to conduct work without this permit.		JARPA (see above)
Resource Conservation and Recovery Act	Environmental Protection Agency (EPA) / 40 CFR 260-279	Generation, transportation or disposal of hazardous waste	All waste must be manifested, labeled, and transported safely to a facility that is in compliance with EPA regulations	None		
Consultation on Cultural Resources, Section 106 of the National Historic Preservation Act	Department of the Interior (DOI)	Federal projects that effect historic properties	Federal agencies must "take into account" the effect a project may have on historic properties. It allows interested parties an opportunity to comment on the potential impact projects may have on significant archaeological or historic sites. The main purpose for the establishment of the Section 106 review process is to minimize potential harm and damage to historic properties.		https://www.achp.gov/protecting-historic-properties	

Permit Name	Agency	Operation	Purpose of Permit	Waiver? Equivalent Standard? Timing?	Additional Information	Application Form
FEDERAL PERMITS (continued)						
Lane Closure Permit	Department of Transportation (DOT)					
Access to Lands Managed by DOI	DOI					
Migratory Bird Treaty Act (MBTA) Rehabilitation Permit	DOI-FWS	Rehabilitation of migratory birds	Authorization to take, transport and temporarily possess sick, injured, and orphaned migratory birds with the goal of releasing them back to the wild.		http://www.fws.gov/forms/3-200-10b.pdf	http://www.fws.gov/forms/3-200-10b.pdf
MBTA Rehabilitation Permit Incident Specific Authorization	DOI-FWS	Rehabilitation of oiled migratory birds	MBTA Rehabilitation Permit requires permit holder to obtain specific authorization from FOSC and FWS to work on each oil spill incident.		http://www.fws.gov/forms/3-200-10b.pdf	http://www.fws.gov/forms/3-200-10b.pdf
MBTA Rehabilitation Permit Incident Specific Authorization	DOI-FWS	Recover dead oiled birds	Spill specific authorization is required to remove dead oiled birds at each oil spill incident.		http://www.fws.gov/forms/3-200-10b.pdf	http://www.fws.gov/forms/3-200-10b.pdf
MBTA Special Purpose Salvage	DOI-FWS	Research/scientific study or education	Authorization to possess or collect dead migratory birds, nests, eggs and parts from the wild that you had no part in the killing or death thereof, for wildlife conservation education purposes.		http://www.fws.gov/forms/3-200-10a.pdf	http://www.fws.gov/forms/3-200-10a.pdf
MBTA Scientific Collecting Permit	DOI-FWS	Research or scientific study	Authorization to collect, transport or possess migratory birds, their parts, nests, or eggs for scientific research or educational purposes.		http://www.fws.gov/forms/3-200-7.pdf	http://www.fws.gov/forms/3-200-7.pdf
Eagle Scientific Collecting/Research Permit	DOI-FWS	Research or collection of eagles	If you are researching or collecting eagles you need an Eagle Scientific Collecting Permit. Issued to researchers affiliated with public museums, scientific institutions, or zoological parks for scientific purposes.		http://www.gpo.gov/fdsys/pkg/FR-2012-04-13/pdf/2012-8086.pdf	http://www.fws.gov/forms/3-200-7.pdf
National Park Special Use Purpose	DOI-NPS	Special activities taking place within a National Park	Required for activities that provide a benefit to an individual, group, or organization, rather than the public at large and for activities that require some degree of management by the National Park Service in order to protect park resources and the public interest.			*Permits vary for different activities and within different parks*
Marine Mammal Protection Act (MMPA) Permits	National Marine Fisheries Service (NMFS) - Office of Protected Resources	"Take" of marine mammals	The MMPA generally prohibits "take" of marine mammals in U.S. waters by any person and by U.S. citizens in international waters. NOAA Fisheries can authorize take for the following activities: Scientific research, enhancing the survival or recovery of a marine mammal species or stock, commercial and educational photography, first-time import for public display, capture of wild marine mammals for public display, incidental take during commercial fishing operations, and incidental take during non-fishery commercial activities.		https://www.fisheries.noaa.gov/topic/marine-mammal-protection	https://apps.nmfs.noaa.gov/

Permit Name	Agency	Operation	Purpose of Permit	Waiver? Equivalent Standard? Timing?	Additional Information	Application Form
FEDERAL PERMITS (continued)						
NMFS Endangered Species Act Permits	NMFS - Office of Protected Resources	"Take" of an endangered or threatened species	Required for any activity resulting in the "take" of an endangered or threatened species, whether or not deliberate. Two types: Permits for scientific research or to enhance the propagation and survival of the species, and Permits for taking species incidental to (not the purpose of) an otherwise lawful activity. The latter must be accompanied by a Conservation Plan (CP), often referred to as a Habitat Conservation Plan (HCP).		https://www.fisheries.noaa.gov/topic/endangered-species-conservation	https://apps.nmfs.noaa.gov/
TRIBAL PERMITS						
Makah Employment Rights	MECRA office	Work performed on Makah reservation land	In order to perform work on reservation land, fee must be paid to MECRA		https://faaco.faa.gov/index.cfm/announcement/view/8527	https://faaco.faa.gov/index.cfm/announcement/view/8527
OREGON STATE PERMITS						
Hydraulic permit	Oregon Department of State Lands	Work that affects the natural flow or bed of state waters	In water work that uses, diverts, obstructs, or changes the natural flow or bed of any fresh water or saltwater of the state	Permits may be expedited or exempted in cases where there is a public health or safety risk.	http://www.oregon.gov/DSL/WW/Pages/Permits.aspx	
Wildlife Rehabilitation Holding Permit	Oregon Department of Fish and Wildlife	Rehabilitation of wildlife	A wildlife rehabilitator permit authorizes a person to temporarily possess injured, diseased oiled, or abandoned wildlife for rehabilitation purposes. Persons possessing a Rehabilitation Holding Permit must also obtain a federal permit for species protected by federal law.		http://licenseinfo.oregon.gov/?fuseaction=license_icon&link_item_id=14358	
Archaeological Excavation Permit'	Oregon State Historic Preservation Office	Excavation of archaeological objects	Excavating, altering, defacing, or removing archaeological objects or resources or Native Indian graves, cairns or glyptic records.	503-986-0674 or 971-322-5975	http://cms.oregon.gov/oprd/HCD/ARCH/pages/arch_excavationperms.aspx	http://cms.oregon.gov/oprd/HCD/ARCH/docs/archaeology_excavation_permit.rtf
Section 106 Review	Department of Archaeology & Historic Preservation	Projects involving historic or archaeological resources	The Department of Archaeology and Historic Preservation (DAHP) and affected tribes must be consulted when projects are subject to review under Section 106 of the National Historic Preservation Act of 1966 (NHPA).		http://cms.oregon.gov/OPRD/HCD/SHPO/Pages/preservation_106_fedstatelaws.aspx	http://cms.oregon.gov/oprd/HCD/SHPO/pages/preservation_106_submittoshpo.aspx
401 Water Quality Certification	Oregon Department of Environmental Quality (DEQ)	Activities that may result in discharge to U.S. waters	Allows each state an opportunity to ensure that federally approved activities will meet water quality standards and policies. Any federal license or permit to conduct an activity that may result in a discharge to waters of the United States must first receive a water quality certification from the state in which the activity will occur.		http://www.oregon.gov/deq/wq/wqpermits/Pages/Section-401-Certification.aspx	http://www.oregon.gov/dsl/WW/Pages/WWforms.aspx

Permit Name	Agency	Operation	Purpose of Permit	Waiver? Equivalent Standard? Timing?	Additional Information	Application Form
OREGON STATE PERMITS (continued)						
NPDES Discharge Permit for state facilities	DEQ	Discharge of wastewater into surface waters	To prevent the pollution of the States surface waters. Any discharge of wastewater into surface waters through a conveyance system requires this permit.	May be waived during emergencies, cannot be expedited.	http://www.oregon.gov/deq/wq/wqpermits/Pages/Stormwater.aspx	http://www.oregon.gov/deq/wq/wqpermits/Pages/Stormwater.aspx
Coastal Zone Certification (CZMA)	Department of Land Conservation and Development	Federally-approved activities affecting coastal resources	Projects requiring a federal license or permit within this area must be consistent with the enforceable policies of the coastal management program.		http://licenseinfo.oregon.gov/?fuseaction=license_icon&link_item_id=26433	
Special Burn Permit	DEQ Air Quality Duty Officer or regional air permit coordinator	Special burning activities				800-452-0311
Water Supply Well Constructor License	Oregon Water Resources Department (WRD)	Construction/Alteration of wells	Any person who constructs, alters, converts or abandons a water supply well for another person.		http://licenseinfo.oregon.gov/index.cfm?fuseaction=license_seng&link_item_id=14121	
Water Use Permit	WRD	Use of a water system	Authorization from the department necessary to begin constructing a water system and begin using water. Activities requiring this permit include most appropriations and beneficial uses of surface water or ground water, for example, wetland restoration, stream restoration, water diversions, dams and impoundments.	After obtaining a water use permit and constructing and using water, some landowners are eligible to obtain a water right certificate.	https://www.oregon.gov/owrd/WRDPublications1/aquabook.pdf	
Wetlands Permit	Oregon Department of State Lands			Permits may be expedited or exempted in cases where there is a public health or safety risk.	http://www.oregon.gov/dsl/WW/Pages/WWforms.aspx	
Waste water permits	State On-Scene Coordinator (SOSC) to notify the water quality manager of the appropriate region					
Solid Waste Letter Authorization	DEQ	Use of a proposed or existing disposal site	If the Department determines that a proposed or existing disposal site is not likely to create a public nuisance, health hazard, air or water pollution or other environmental problem.	The SWLA may be issued for a period not to exceed six months.	http://www.oregon.gov/deq/mm/swpermits/Pages/Solid-Waste-Letter-Authorization.aspx	

Permit Name	Agency	Operation	Purpose of Permit	Waiver? Equivalent Standard? Timing?	Additional Information	Application Form
OREGON STATE PERMITS (continued)						
Asbestos-Air Quality (Removal/Encapsulation Notification Form)	DEQ	Removal or encapsulation of asbestos-containing material	Regulates asbestos abatement activities. This notification is to be used for the removal or encapsulation of friable asbestos-containing materials. Other notification forms exist for non-friable asbestos projects.		http://www.oregon.gov/deq/Hazards-and-Cleanup/Pages/Asbestos-for-Businesses.aspx	http://www.oregon.gov/deq/Hazards-and-Cleanup/Pages/Asbestos-Forms.aspx
EPA Generator ID Number (for RCRA compliance)	DEQ	Regulation of hazardous waste	All persons who generate, transport, treat, store, or dispose of hazardous waste and all persons who store recyclable materials prior to recycling them are required under the Resource Conservation and Recovery Act (RCRA) to notify EPA of their hazardous waste activities. The Oregon DEQ is authorized by the federal EPA to regulate hazardous waste in Oregon. The site identification number is required for facilities notifying the DEQ of their hazardous waste, universal waste or used oil activities.		http://www.oregon.gov/deq/Hazards-and-Cleanup/hw/Pages/ID-Reporting-Fees.aspx	http://www.oregon.gov/deq/FilterDocs/SIFormHazWasteAct.pdf
Permit for Oversize Vehicle	Oregon Department of Transportation (ODOT)	Use of oversize/overweight vehicles	To move oversize and overweight loads on the state's highway systems, protecting the motoring public and the state highway infrastructure.		http://www.oregon.gov/odot/mct/pages/over-dimension.aspx#Permit_Service___Agents	http://www.oregon.gov/ODOT/MCT/Pages/Over-Dimension.aspx
Decanting Permits	SOSC to notify the water quality manager of the appropriate region					
Sediment Disturbance Permits						
IDAHO STATE PERMITS						
401 Water Quality Certification	Idaho Department of Environmental Quality (DEQ)	Activities that may result in discharge to U.S. waters	Allows each state to have input into federally approved projects that may affect its waters (rivers, streams, lakes, and wetlands) and to ensure the projects will comply with state water quality standards and any other water quality requirements of state law. Any §401 certification in Idaho also ensures that the project will not adversely impact impaired waters (waters that do not meet water quality standards) and that the project complies with applicable water quality improvement plans (Total Maximum DAily Loads [TMDLs]).		http://www.deq.idaho.gov/water-quality/surface-water/standards/401-certification.aspx	
Water Right Permit	Idaho Department of Water Resources	Use of a water system	To appropriate the public waters of the State of Idaho. A water right is authorization to use water in a prescribed manner, not to own the water itself.		http://www.idwr.idaho.gov/water-rights/	https://www.idwr.idaho.gov/files/water-rights/application-for-permit.pdf

Permit Name	Agency	Operation	Purpose of Permit	Waiver? Equivalent Standard? Timing?	Additional Information	Application Form
WASHINGTON STATE PERMITS						
State Environmental Policy Act (SEPA)	guidance provided by WDOE; reviewed by a state or local agency that is designated as the "SEPA lead agency"	Proposed projects that impact the environment	Washington State Environmental Protection Act (SEPA) requires that state and local agencies review proposals to identify environmental impacts. Agency permits and approvals can be conditioned or denied to mitigate or avoid the impacts identified in SEPA documents.			JARPA (see above)
Hydraulic Project Approval (HPA)	Washington Department of Fish and Wildlife (WDFW)	Work that affects the natural flow or bed of state waters	Protects fish and shellfish and their habitats. Projects that use, divert, obstruct, or change the natural flow or bed of salt or fresh state waters. Emergency Permits can be issued for those situations that present an immediate threat to life, property, or environmental degradation (oil spill). Emergency permits may be issued verbally by WDFW and do not require SEPA or a JARPA. For emergency permits associated with oil spill response call 360-534-8233 (24 hour pager). Non emergency projects require SEPA and a JARPA and can be requested at 360-902-2537.	Emergency: verbal request, SEPA and JARPA **not** required In case of Federal lead response (EPA lead), a HPA is not necessary. By regulation, 40 CFR 122.3(d) excludes from NPDES permit requirements discharges in compliance with OSC instructions pursuant to the National Contingency Plan, 40 CFR Part 300. Moreover, a permit issued by the US ACE, Nationwide Permit #20, allows EPA responders to implement response strategies that would reduce, interrupt, or divert the flow of water in a stream, creek, or river, including installation of culvert blocks and underflow dams. Please see 33 CFR NWP 20. Response Operations for Oil and Hazardous Substances. Non-emergency: written request, SEPA and JARPA required		Emergency: verbal request Non-emergency: written request (JARPA)
Use Authorizations for State-Owned Aquatic Land	Washington Department of Natural Resources (WDNR)	Use of state-owned aquatic lands	Allows use of state-owned aquatic lands. DNR determined if aquatic land is state-owned, if it is available for use, and if the use is appropriate. Needed if project located on, over, through, under, or otherwise impacts state-owned aquatic lands. Aquatic lands are defined as tidelands, shorelands, harbor areas, and the beds of navigable waters.			JARPA (see above)

Permit Name	Agency	Operation	Purpose of Permit	Waiver? Equivalent Standard? Timing?	Additional Information	Application Form
WASHINGTON STATE PERMITS (continued)						
Section 401 Water Quality Certification Permit	WDOE	Activities that may result in discharge to U.S. waters	Applicants receiving a section 404 permit from the U.S. Army Corps of Engineers, a Coast Guard permit or license from the Federal Energy Regulatory Commission (FERC), are required to obtain a section 401 water quality certification from the Department of Ecology (WDOE). Pertains to any activity that might result in a discharge of dredge or fill material into water or non-isolated wetlands or excavation in water on non-isolated wetlands.			JARPA (see above)
NPDES Discharge Permit for state facilities	WDOE	Discharge of wastewater into surface waters	To prevent the pollution of the States surface waters. Any discharge of wastewater into surface waters through a conveyance system requires this permit.	May be waived during emergencies, cannot be expedited.		https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-quality-permits
Wildlife Rehabilitation Permit	WDFW	Rehabilitation of wildlife	A wildlife rehabilitation permit authorizes a person to temporarily possess injured, diseased, oiled, or abandoned wildlife for the purpose of wild release.		https://wdfw.wa.gov/species-habitats/living/injured-wildlife/rehabilitation/requirements	https://wdfw.wa.gov/species-habitats/living/injured-wildlife/rehabilitation/resources
Archaeological Excavation Permit	Department of Archaeology & Historic Preservation (DAHP)	Excavation of archaeological objects	Excavating, altering, defacing, or removing archaeological objects or resources or Native Indian graves, cairns or glyptic records.			https://dahp.wa.gov/archaeology/archaeological-permitting
Section 106 Review	DAHP	Projects involving historic or archaeological resources	The Department of Archaeology and Historic Preservation (DAHP) and affected tribes must be consulted when projects are subject to review under Section 106 of the National Historic Preservation Act of 1966 (NHPA).		https://dahp.wa.gov/project-review/section-106	
Special Burn Permit	WDOE	Special burning activities	This permit is for situation where burning does not fit into categories of agricultural, residential, or land clearing.			https://ecology.wa.gov/Air-Climate/Air-quality/Smoke-fire/Outdoor-residential-burning
Well Construction and Operator's License	WDOE	Construction or decommissioning of wells	A Well Operator's License is required for all construction and decommissioning of wells.			https://fortress.wa.gov/ecy/publications/summarypages/ecy050121a.html
Wetlands Permit	WDOE	Working in or near wetlands	Working in or near wetlands, areas that are transitional between open water and uplands or that may be periodically inundated or saturated.			*variable; refer to individual permit descriptions for more detail*
Waste water permits	WDOE	Discharge of wastewater into surface waters	Individual permits for any discharge of wastewater into surface waters through a conveyance system; General permits for some types of discharges; and/or State Wastewater Discharge permit			https://ecology.wa.gov/Water-Shorelines/Water-quality/Wastewater

Permit Name	Agency	Operation	Purpose of Permit	Waiver? Equivalent Standard? Timing?	Additional Information	Application Form
Coastal Zone Management (CZM) Certification	WDOE	Federally-approved activities affecting coastal resources	Activities and development affecting coastal resources which involve federal activities, federal licenses or permits, and federal assistance programs (funding) require written CZM decision by Ecology.			

Permit Name	Agency	Operation	Purpose of Permit	Waiver? Equivalent Standard? Timing?	Additional Information	Application Form
WASHINGTON STATE PERMITS (continued)						
Asbestos-Air Quality (Demolition/Renovation Notification Form)	WDOE	Demolition of a facility for fire training	Any time you want to demolish, renovate, or burn a facility for fire training purposes (facility includes any ship)			https://archive.epa.gov/region02/capp/web/pdf/asbestosnotificationformff.pdf
RCRA Site Identification Number	WDOE	Regulation of hazardous waste	An identifying number used for tracking wastes from their point of generation to final disposal. It is required if you generate, transport, transfer, recycle, treat, store, or dispose of regulated amounts of dangerous waste.			https://ecology.wa.gov/Regulations-Permits/Reporting-requirements/Dangerous-waste-reporting-requirements/Notification-of-Dangerous-Waste
Oversize/Overweight Vehicle Permit	Washington State Department of Transportation (WSDOT)	Use of oversize/overweight vehicles	To move oversize and overweight loads on the state's highway systems, protecting the motoring public and the state highway infrastructure.		http://www.wsdot.wa.gov/CommercialVehicle/permitting.htm	http://www.wsdot.wa.gov/publications/fulltext/forms/560-021.pdf
Decanting Permits						
Sediment Disturbance Permits						
LOCAL PERMITS						
Shoreline Management Program Permits (Exemption, Substantial Development, Conditional Use, or Variance)	Local government: city or county. Conditional Use and Variance also require review by WDOE.	Projects in or near shorelands	Any project, permanent or temporary, which interferes with public use of shorelands. Projects in or within 200 feet of marine waters, streams, lakes, and associated wetlands and floodplains.		https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Shoreline-coastal-planning	JARPA (see above)
Waste generation and disposal	Local government: city or county	Waste generation/disposal	Check with local government			

*Joint Aquatic Resources Permit Application (JARPA) consolidates several federal, state and local permit applications into one form (Section 10 and 404 permits; General Bridge permits; Private Aids to Navigation permits; 401 Water Quality Certifications; Hydraulic Project Approvals; Use Authorizations for State-Owned Aquatic Lands; and local Shorelines permits.)

Section 9402

Permit Tracking Template

Section 9402 Permit Tracking Template

Permit	Agency	Waiver Received/Date	Timeframe and Cost	Expiration Date	Point of Contact	Phone	E-mail Address	Permit Conditions	Notes

Section 9403

Compliance Guide for National Historic Preservation Act during an Emergency Response

Quick Guide for Federal On-Scene Coordinators

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9403

Compliance Guide for National Historic Preservation Act during an Emergency Response

Quick Guide for Federal On-Scene Coordinators (FOSCs)

9403.1 Steps FOSCs Must Take if They Respond to an Emergency

Step 1: **Determine if the emergency is categorically excluded from Section 106 (**This determination may need to be made after the FOSC arrives on scene.)

[If yes, no further action is necessary]

Step 2: **Notify the State Historic Preservation Office (SHPO) Tribal Historic Preservation Office (THPO) for consultation because of overriding factors to categorical exclusion or FOSC determines there are historic properties or cultural resources that need to be considered**

Step 3: **Activate a qualified Historic Properties Specialist (HPS) and develop protective measures for historic properties or cultural resources if determined by consultation.**

Step 4: **Notify the SHPO/THPO when the emergency response has formally concluded.**

9403.2 Categorical Exclusions

9403.2.1 Spills or Releases Categorically Excluded from Additional Section 106 Compliance:

- **Spills/releases onto (and that stay on):**
  - Gravel pads
  - Roads (gravel or paved, not including the undeveloped right-of-way)
  - Parking areas (graded or paved)
  - Dock staging areas less than 50 years old
  - Gravel causeways

  - Artificial gravel islands
  - Drilling mats, pads, and/or berms
  - Airport runways (improved gravel strips and/or paved runways)
- **Spills/Releases into (and that stay in):**
  - Lined pits (e.g., drilling mud pits and reserve pits)
  - Water bodies where the spill/release will not (1) reach land/submerged land, or (2) include emergency response activities with land/submerged land-disturbing components
  - Borrow pits
  - Concrete containment areas
- **Spills/releases of:**
  - Gases (e.g., chlorine gas)

9403.2.2 Overriding Factors that may call for presence of HPS:

- Uncertainty regarding applicability of categorical exclusion;
- Specifics of a spill or release change so it no longer fits into one of the categories listed above;
- The spill is greater than 100,000 gallons; and/or
- SHPO/THPO believes the spill or release may have the potential to affect a significant historic property.

9403.3 Important Concepts about Section 106 for the Federal On-Scene Coordinator

- The FOSC may have to make an emergency response decision that adversely affects historic properties and cultural resources. However, the emergency response decision must be an informed decision. An informed decision is one in which the FOSC has:
  - Consulted (notified and taken into account professional comments) with SHPO, Federal land-managing agencies, Tribes, native Hawaiian organizations or other interested parties
  - Consulted with an HPS
  - Consulted the Geographic Response Plan/Environmental Unit (EU) under the Incident Command System (ICS)
  - Determined a categorical exclusion applies
- The FOSC must conduct formal consultation with the SHPO/THPO on newly discovered or unanticipated potential historic properties or cultural resources encountered and on adverse impacts due to the response on those properties or resources. This is an inherently governmental responsibility that must be performed by the FOSC and not the HPS.
- National Historical Protection Act Section 106 obligations apply to FOSC response actions and not to impacts caused by the spill or release.
- Consultation with the THPO is not intended to meet government to government consultation required by Executive Order 13175.

9403.4 Integrating Section 106 Obligations into the Incident Command System

- Include in the Incident Objective (ICS-202) a statement on protection of historic properties or cultural resources as the case may be.
- The HPS serves in the EU as the Historical/Cultural Resources Technical Specialist (HCRTS).
- In a Unified Command ICS situation with the potentially responsible party leading the cleanup, it is appropriate for the potentially responsible party to acquire the HPS. However, it should be clear among the Incident Commanders that the relationship of the HCRTS to the FOSC is unique among the Command staff. The HCRTS is responsible for helping the FOSC meet his or her Section 106 legal obligations, which do not apply to the other Incident Commanders.
- If the SOSC has similar legal obligations under their state law, then that should be made clear in Unified Command and added to the list of responsibilities for the HCRTS. The FOSC and SOSC should be clear with the HCRTS on any differences between their legal obligations.
- Provide to the workers any special instructions to ensure protection of historical properties and cultural resources via the Assignment List (ICS - 204).
- Document in the Unit Log (ICS-214) any actions taken that resulted in adverse impacts to historic properties or cultural resources.

9403.5 Activating a Qualified Historic Properties Specialist

9403.5.1 Qualified Historic Properties Specialist

A qualified HPS:

- Must meet *The Secretary of the Interior's Historic Preservation Professional Qualification Standards and Guidelines*, for either the disciplines of prehistoric or historical archeology found at https://www.nps.gov/history/local-law/arch_stnds_9.htm;
- Should have demonstrated familiarity with the archaeology and environment of the area in question;
- Should be fully familiar with federal and state laws and regulations governing historic preservation and with the operation of the SHPO;
- Must have the requisite Occupational Safety and Health Administration training for Hazardous Waste Operations and Emergency Response (29 Code of Federal Regulations [CFR] 1910.120) if required to work inside an exclusion zone;
- Should have ICS 300 level ICS training;
- Should have familiarity with the National Contingency Plan for Oil and Hazardous Substances Pollution Contingency Plan (NCP);
- Should have familiarity with the Northwest Area Contingency Plan

(NWRCP);

- Should have familiarity with the Programmatic Agreement on the Protection of Historic Properties during Emergency Response under the NCP; and
- Should have familiarity with the Shoreline Cleanup Assessment Technique (SCAT) process.

9403.5.2 Provide the Historic Properties Specialist the List of Duties as the Historical/Cultural Resources Technical Specialist

The HCRTS is responsible for providing the FOSC with reliable and timely expertise and support to ensure that historic properties and cultural resources are taken into account in the conduct of the emergency response.

The major responsibilities of the HCRTS are:

a. Understand and be able to implement Section 4313 of Northwest Area Contingency Plan.
b. Coordinate with the SHPO, THPO (or tribal cultural resources program), land management agency, and other concerned parties.
c. Determine and document the presence of historical properties or cultural resources.
d. Document the effect of the spill or release on historic properties or cultural resources.
e. Assess whether emergency response strategies have the potential to affect historic properties or cultural resources and advise the FOSC accordingly.
f. Identify, prioritize, and develop strategies for protection and cleanup of impacted historic/cultural sites in order to minimize damage.
g. Participate in the testing and evaluation of cleanup techniques used on historic/cultural sites.
h. Monitor and provide guidance on the cleanup of historic/cultural sites to reduce or eliminate response-related impacts.
i. Document adverse effects on historic properties or cultural resources due to the emergency response. For intentional actions that result in adverse impacts, include information to show that the FOSC made an informed decision taking into account professional comments prior to authorizing actions and any mitigative measures considered.
j. Make arrangements for suspected artifact theft to be reported to the SHPO, law enforcement officials, and the land owner/manager.
k. Arrange for disposition of records and collected materials.
l. Ensure the confidentiality of historic property site location information, consistent with applicable laws, so as to minimize opportunities for vandalism or theft.
m. Provide Special Instruction in ICS-204 to ensure protection of historical properties and cultural resources.
n. Convene an historic properties technical advisory group if needed due to size and complexity of the incident.
o. Request additional HSPs as needed.

p. Accompany SCAT teams.

9403A Attachment A: Documentation of Emergency Response Decision that Adversely Affects Historic Properties or Cultural Resources

Use this form for deliberate or unintentional adverse impacts. Attach this form to the Unit Log (ICS-214) or include in site file. Submit in a reasonable and timely manner to the appropriate entities listed below:

[1]

Emergency Response
Name: Date: Location:
Response Action, Impact, and Decision
[Describe response action and adverse impacts to historic properties or cultural resources. Explain why protecting historic properties/cultural resources and public health/safety could not all be met concurrently. Include information that would support this as an informed decision and the date of the decision. Describe any mitigative actions taken.] FOSC Name: FOSC Signature: Date of Signature:
Responsible SHPO/THPO/Resource Manager/Trustee
[Allyson Brooks/Robert Whitlam, WA SHPO Dennis Griffin, OR SHPO Suzi Neitzel, ID SHPO THPO]

9403B Attachment B: Releases or Spills Categorically Excluded from Additional Compliance under National Historic Preservation Act Section 106*

➢ **Threatened spills/releases:** ➢ Response activities related to threatened spills or releases that include the removal of fuel, and which will not include land/submerged land-disturbing activities. For the purposes of this attachment, limited manual subsurface testing (e.g., shovel tests) to assess the presence, amount, and/or extent of oil or hazardous substance contamination is not considered a ground-disturbing activity.
➢ **Spills/releases onto (which stay on):** ➢ Gravel pads ➢ Roads (gravel or paved, not including the undeveloped right-of-way) ➢ Parking areas (graded or paved) ➢ Dock staging areas less than 50 years old ➢ Gravel causeways ➢ Artificial gravel islands ➢ Drilling mats, pads, and/or berms ➢ Airport runways (improved gravel strips and/or paved runways).
➢ **Spills/releases into (that stay in):** ➢ Lined pits (e.g., drilling mud pits and reserve pits, ➢ Water bodies where the release/spill will not: (1) reach land/submerged land; and (2) include emergency response activities with land/submerged land-disturbing components. ➢ Borrow pits ➢ Concrete containment areas
➢ **Spills/releases of:** ➢ Gases (e.g., chlorine gas)

Important Note to Federal On-Scene Coordinators: (1) If you are not sure whether a release or spill fits into one of the categories listed above; (2) if at any time, the specifics of a release or spill change so it no longer fits into one of the categories listed above; (3) if the spill is greater than 100,000 gallons; and/or (4) if the State Historic Preservation Officer or the representative of a Federally-recognized tribe notifies you that a categorically-excluded release or spill may have the potential to affect a historic property, then an Historic Properties Specialist needs to be activated in accordance with the Nationwide Programmatic Agreement and the NWRCP.

*This list is from Appendix I – Categorical Exclusion List found in the *Programmatic Agreement*.

9403C Attachment C: Recommended Historic Properties Specialists Personnel Standards

Individuals contracted to provide technical services to Federal On-Scene Coordinators as Historic Properties Specialists:

1. Must meet *The Secretary of the Interior's Historic Preservation Professional Qualification Standards and Guidelines*, for either prehistoric or historical archeology*
2. Should have demonstrated familiarity with the archaeology and environment of the area in question
3. Should be fully familiar with Federal and State laws and regulations governing historic preservation, and with the operation of the State's historic preservation office
4. Must have training in compliance with the standards found in 29 CFR 1910 (Hazardous Waste Operations and Emergency Response) if required to work inside an exclusion zone
5. should have ICS 300 level ICS training
6. should have familiarity with the *National Contingency Plan for Oil and Hazardous Substances Pollution Contingency Plan* (NCP)
7. should have familiarity with the NWRCP
8. should have familiarity with the *Programmatic Agreement on the Protection of Historic Properties during Emergency Response under the NCP*
9. should have familiarity with the Shoreline Cleanup Assessment Technique (SCAT) process

* In general, these require a graduate degree in anthropology (or a closely related field), with a specialization in archeology, and two and one-half years of professional experience. These standards can be found on-line at https://www.nps.gov/history/local-law/arch_stnds_9.htm.

9403D Attachment D: Notice to Response Personnel

Required Actions after Discovery of Cultural Resources

The Unified Command is required to comply with state and federal laws that protect cultural resources from injury. The Historic/Cultural Resource Specialist helps the Unified Command and Federal On-Scene Coordinator ensure that cultural resources are appropriately considered during emergency response activities. Response personnel including contractors, sub-contractors, emergency responders, cleanup workers, and field crews play a crucial role in this process since they, by the nature of their work, are the people most likely to encounter cultural resources while in the field.

During an incident response in the Pacific Northwest it is possible that you, as a person involved in the response, may discover cultural resources. In the course of your work if you find an item that you believe or suspect is cultural or historic, you must:

1. Stop work immediately at, near, and surrounding the area where you discovered the object, item, or artifact.

2. Leave the suspected cultural item in place, undisturbed, exactly where it was discovered. Do not pick the item up, touch it, or work around it.

3. If possible, mark the location where you discovered the item but do not disturb or penetrate the soil with any object or tool. There may be other artifacts under the soil that could be damaged by your actions.

4. Inform your field supervisor of the discovery as soon as possible.

After these initial actions, your field supervisor will immediately notify the Planning Section's EU and the Historic/Cultural Resource Specialist. Further direction on how to proceed will be provided by the Unified Command. If you are unsure of something discovered being culturally sensitive, consider it to be sensitive and follow the steps listed above so that the Unified Command can be notified and, ultimately, make a determination on the item's historic significance and the actions needed to protect it.

Compliance with these procedures is mandatory. They must be followed by all response personnel. Failure to comply with these procedures by excavating, removing, damaging, altering, or defacing any archaeological resource is a violation of multiple State and Federal laws and may result in fines/penalties, criminal prosecution, and imprisonment.

For more information on actions related to the discovery of cultural resources, consult with your supervisor or contact the Historic/Cultural Resource Specialist.

For the purpose of this guidance, the term "cultural resource" includes, but is not limited to: pottery, basketry, bottles, weapons, weapon projectiles, tools, structures or portions of structures, pit houses, rock paintings, rock carvings, intaglios, graves, human skeletal materials, or any portion or piece of any of the foregoing items. Non-fossilized and fossilized paleontological specimens may also be considered cultural resources, depending greatly on the context in which they were discovered.

Additional Resources:

- Washington State Department of Archaeology and Historic Preservation's "A Field Guide to Washington State Archaeology 2003" provides good reference and explains what certain cultural resources might look like. The guide can be found online https://dahp.wa.gov/archaeology (link at bottom of that web-page).
- Oregon State Parks and Recreation Department has a History and Archaeology Library online at https://www.oregon.gov/oprd/HCD/RESRCH/pages/histarch.aspx.
- Idaho State Historic Preservation Office is online at https://history.idaho.gov/location/shpo/

Section 9404
Region 10 Regional Response Team/ Northwest Area Committee Endangered Species Act Compliance Guide for Federal Responders during Emergency Response

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Region 10 Regional Response Team/Northwest Area Committee Endangered Species Act Compliance Guide for Federal Responders during Emergency Response

9404.1 Initial Information Exchange

This document is intended to assist the Federal On-Scene Coordinator (FOSC) in minimizing impacts to threatened and endangered species during emergency response operations. It may be used to assist FOSCs in meeting their statutory obligations to conduct emergency consultation under Section 7 of the Endangered Species Act (ESA). It may also provide a consistent template for the united States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) (collectively, the "Services") to use in compiling relevant information and recommendations.

Use this form when federal actions may impact or potentially impact federally listed threatened or endangered species or their critical habitat. Neither the use of this document nor its suggested approaches is mandatory on any FOSC or Services employee.

9404.1.1 Emergency/First Contact:

As outlined in the Northwest Area Contingency Plan, response agencies shall promptly notify Federal Natural Resources Trustees of discharges or releases according to the notification guidelines under their jurisdiction. In the Northwest Area:

- NOAA 24-HR Spill Line: (206) 526-6322. Secretary of Commerce representative to Region 10 Regional Response Team.
- DOI Regional Environmental Officer: (503) 720-1212 Secretary of the Interior representative to Region 10 Regional Response Team.

The trustee representatives from these agencies will notify appropriate Service staff (NMFS or USFWS) of the incident and response, as well as facilitate contact between their respective Service and agency response personnel.

9404.1.2 Process for Completing the Form

After initial contact to the Natural Resource Trustee(s) is made by the Response Agency, the FOSC should fill out ATTACHMENT 1: DOCUMENTATION OF ESA SECTION 7 EMERGENCY CONSULTATION DURING EMERGENCY RESPONSE ACTIVITIES – FOSC INITIAL INFORMATION REPORT to extent possible, given the available information. All response actions taken or being considered should be indicated, including any FOSC approved response measures to minimize impacts to listed species and critical habitats.

To maximize the effectiveness of the emergency notification to the Natural Resource Trustees, this form should be completed by the FOSC within 24 hours following the start of emergency response activities and transmitted via email to the Natural Resource Trustee representatives. The Services will consider the proposed response actions and use ATTACHMENT 2: DOCUMENTATION OF ESA SECTION 7 EMERGENCY CONSULTATION DURING EMERGENCY RESPONSE ACTIVITIES - USFWS/NMFS RESPONSE to acknowledge notification. If the response may affect any listed species or critical habitat as well as provide recommendations and offer Best Management Practices or other measures to avoid and minimize any potential adverse effects, the Services will provide any proposed conservation measures to the FOSC as soon as possible, preferably within 24 hours, after receipt of the FOSC notification.

Any and all of this information may be conveyed verbally, via fax, or over email.

If the response is anticipated to continue beyond the 48-hour notification and response period, the FOSC will continue to coordinate with the Services as appropriate. The final product should document emergency response activities including measures taken to avoid or minimize impacts to listed species and critical habitat during the response.

Responders should not delay emergency response actions while awaiting a response from the Services.

9404.1.3 National Response Team (NRT) Emergency Consultation Form for Section 7 of the Endangered Species Act (ESA) and Essential Fish Habitat (EFH)

The purpose of this document is to inform Federal On-Scene Coordinators (FOSCs) of the potential need to conduct emergency consultations in accordance with 50 Code of Federal Regulations (CFR) § 402.05 and 50 CFR § 600.920(a)(1). This National Response Team (NRT) Emergency Consultation Form for both ESA emergency consultations and EFH coordination is provided to assist FOSCs through the emergency consultation process. Whenever an **FOSC** makes a determination that **federal response actions may affect** ESA-**listed (threatened or endangered) species and/or designated Critical Habitat or** may adversely affect **EFH**[1], the action agency (U.S. Coast Guard (USCG) within the coastal zone, Environmental Protection Agency (EPA) within the inland zone, Department of Defense, and Department of Energy) shall initiate emergency consultation protocols as appropriate. The **FOSC** initiates this emergency consultation **as soon as practicable, via email to the Services,** after the response is initiated. If the FOSC determines consultations are not practicable during emergency response operations, refer to the NRT's Post-Response Procedures guidance for ESA Section 7 and EFH compliance requirements.

The three ESA thresholds, which are used to determine action necessary by the FOSC, are:

(1) **No Effect** (none at all, negative or positive);

(2) **May Affect**; **Not Likely to Adversely Affect**, (NLAA); and

(3) **May Affect**; **Likely to Adversely Affect** (LAA).

The two EFH thresholds, which are used to determine action necessary by the FOSC, are:

(1) Would **Not Adversely Affect**; and

(2) **May Adversely Affect** (**Adverse Effects** are any effect that reduces the quality or quantity of EFH).

ESA Section 7 consultation is completed through the regional offices of the Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (DOC-NMFS), and the Department of the Interior, U.S. Fish and Wildlife Service (DOI-USFWS). These agencies are referred to as "the Services." **The FOSC should ensure that the following are completed during emergency response actions:**

- Provide a description of the emergency to the Services;
- Check Geographic Response Strategies (GRS), Environmental Response Management Application (ERMA), EFH Mapper, NMFS ArcGIS Viewer, Environmental Conservation Online System (ECOS), and Information for Planning and Consultation (IPAC) for all listed species, designated Critical Habitats, and designated EFH, along with the contacts for each of the Services.
- Provide an evaluation of the emergency response actions and their potential impacts, if any, on listed and endangered species, and designated Critical Habitats, and/or EFH. **The scope of the**

[1] NMFS supplies an EFH mapping tool for assistance in identifying EFH. EFH Mapping tool link: https://www.habitat.noaa.gov/application/efhmapper/index.html. FWS also provides the IPaC Species List Tool at https://ipac.ecosphere.fws.gov/.

consultation is focused on the agency's response actions during an emergency, NOT the emergency itself.

- If pre-spill planning consultations were completed with the Services, employ Best Management Practices (BMPs) specified in the pre-spill planning consultation Biological Opinion (BO)/EFH consultation and document how the Services' recommendations were implemented to minimize "effects." These BMPs may be incorporated into the GRSs, Area Contingency Plans (ACPs), and Regional Contingency Plans (RCPs) as appropriate.
  (1) If a BO is completed, implement *reasonable and prudent measures* and *terms and conditions,* which **must be completed** by the FOSC. Additional *conservation recommendations* may also be included in a BO and remain **discretionary** to the FOSC.
  (2) If a Letter of Concurrence (LOC) is completed, implement any applicable conservation measures.
  (3) Any documents that result from Emergency Consultations should be incorporated into GRSs, ACPs, RCPs, and any pre-spill planning efforts, as appropriate.
- Depending on the scale and scope of emergency response actions, pre-spill planning consultations can minimize the level of effort of emergency consultation(s) and, in certain circumstances, even alleviate the need for emergency consultation(s). (The pre-spill planning consultation covers all potential response actions that may be implemented during the emergency response).
- If pre-spill planning consultations have not been completed, provide a comparison of the emergency response actions as described above with any other pre-planned or ongoing countermeasures and mitigation information to the Services.

More guidance regarding Section 7 consultation can be found in the 2001 Inter-agency Memorandum of Agreement Regarding Oil Spill Planning and Response Activities under the Federal Water Pollution Control Act's National Oil and Hazardous Substances Pollution Contingency Plan (2001 MOA) and the NRT's National Environmental Compliance (NEC) Subcommittee ESA guidance page at NRT.org[2]. EFH consultations should be completed simultaneously with ESA Section 7 consultations.

Emergency Consultation Form

This form is intended for documentation of emergency response actions that may or are likely to affect:

- Species listed as endangered or threatened under the ESA;
- Designated Critical Habitat under the ESA; and
- Fishery habitat designated as EFH under section 305 of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

This form is intended to provide as much detailed information as possible to the Services within 48 hours of the federal action agency undertaking emergency response actions. It is not intended to be comprehensive and **responders should not delay emergency response actions while awaiting a response from the Services**. This form may be used to assist FOSCs in meeting their statutory

[2] National Response Team (NRT) National Environmental Compliance (NEC) Homepage link: https://nrt.org/Main/Resources.aspx?ResourceType=Endangered%20Species%20Act%20(ESA)%20Section%207&ResourceSection=2

obligations to conduct emergency consultation under Section 7 of the ESA and/or designated EFHs. This form is also designed to document communication efforts between the Action Agencies and the Services as well as provide a consistent template for the Services to use in compiling relevant information and recommendations during emergency response operations.

- USFWS ESA emergency contact: (email) (phone)
- NMFS ESA emergency contact: (email) (phone)
- NMFS EFH emergency contact: (email) (phone) (reference below link)
  https://www.fisheries.noaa.gov/contact-directory/regional-essential-fish-habitat-coordinators

Note: The Services will review the supplied information and respond with BMPs to mitigate potential impacts to any ESA-listed (threatened or endangered) species and/or designated Critical Habitat and/or EFH. The BMPs are then incorporated into response actions and species specialists may be brought into the response to provide additional oversight and guidance via Pollution Removal Funding Authorization (PRFA).

Once this form is submitted, the Services will consider the proposed response actions and use ATTACHMENT 2: DOCUMENTATION OF ESA SECTION 7 AND EFH EMERGENCY CONSULTATION DURING EMERGENCY RESPONSE ACTIVITIES – USFWS/NMFS REPSONSE.

For all consultations:
The regional NOAA Scientific Support Coordinator (SSC) and/or DOI Regional Environmental Officer **shall** be informed whenever the FOSC engages in emergency consultation with the Services.

The NOAA SSC may be able to facilitate communications between the USCG and the Services; however, it is the sole responsibility of the FOSC to initiate, conduct, and complete the consultation.

The DOI Regional Environmental Officer may also be able to facilitate communications between the action agencies and USFWS.

U. S. Coast Guard (USCG) District Incident Management and Preparedness Advisors (IMPAs) and District Response Advisory Teams (DRATs) are excellent resources for all required consultations (ESA, EFH, State Historic Preservation Office (SHPO), and Tribal Historic Preservation Office (THPO)).

The USCG IMPA and DRAT are available 24/7 via District command centers.

Note: This is a guidance document only. Units are encouraged to modify this document as they see fit to suit the needs of their respective Regions or Areas.

ESA SECTION 7 / EFH FORM INSTRUCTIONS

In using the below ESA Section 7/EFH Form, FOSCs (or their designated representative) should complete the Cover Memo and Attachment 1 after initial contact is made to the Services. Attachment 1 should be filled out with the best available information at the time of the response and should account for all response actions taken or being considered.

Attachment 2 is intended to be submitted blank to the Services by the FOSC (or their designated representative), so the Services can both acknowledge the request for consultation as well as begin to consider the FOSC's actions or proposed actions during the emergency response.

ESA SECTION 7/EFH FORM COVER MEMO

FROM: FOSC U.S. Coast Guard/EPA	**Name:** Click or tap here to enter text. **Email:** Click or tap here to enter text.	**T:** Click or tap here to enter text. **C:** Click or tap here to enter text.
TO: NOAA Scientific Support Coordinator	**Name:** Click or tap here to enter text. **Email:** Click or tap here to enter text.	**T:** Click or tap here to enter text. **C:** Click or tap here to enter text.
TO: DOI Regional Environmental Officer	**Name:** Click or tap here to enter text. **Email:** Click or tap here to enter text.	**T:** Click or tap here to enter text. **C:** Click or tap here to enter text.

This is an:

○ Initial Report ○ Updated Report

INCIDENT DETAILS	
Name of Incident: Click or tap here to enter text.	
Date of Incident: Click or tap to enter a date.	**Time of Incident:** Click or tap here to enter text.
Incident Type (e.g., vessel grounding, vessel collision, pipeline, transfer): Click or tap here to enter text.	
Product(s) Released/Discharged: Click or tap here to enter text.	
Volume Released/Discharged (indicate whether gallons or barrels): Click or tap here to enter text.	
Potential Volume (indicate whether gallons or barrels): Click or tap here to enter text.	
Has the release/discharge been stopped, continuing, or is the status unknown? Click or tap here to enter text.	
Is the release/discharge contained, spreading, or is the status unknown? Click or tap here to enter text.	

INCIDENT DETAILS

Indicate which Geographic Response Strategies exist for the area affected or potentially affected by the release/discharge:

Click or tap here to enter text.

Indicate which, if any, Response Actions have been or are being deployed:

Click or tap here to enter text.

CENTER LOCATION

Latitude (example: 40º10'8" N or 40.17)**:**

Click or tap here to enter text.

Longitude (example: 74º51'53" W or -73.14)**:**

Click or tap here to enter text.

Nearest Landmark/Town:

Click or tap here to enter text.

Location Type (Check all that apply below)	**Name/Landmarks**
☐ Port/Industrial/Canal	Click or tap here to enter text.
☐ Riverine	Click or tap here to enter text.
☐ Inshore/Estuarine	Click or tap here to enter text.
☐ Nearshore/Coastal	Click or tap here to enter text.
☐ Offshore/EEZ	Click or tap here to enter text.
☐ Lake/Lacustrine (freshwate	Click or tap here to enter text.
☐ Wetland (freshwater)	Click or tap here to enter text.

ATTACHMENT 1: DOCUMENTATION OF ESA SECTION 7 AND EFH EMERGENCY CONSULTATION DURING EMERGENCY RESPONSE ACTIVITIES – FOSC INITIAL

Date of Transmittal: Click or tap to enter a date. **Time of Transmittal:** Click or tap here to enter text.

DESCRIPTION OF INCIDENT (Include Incident Command System (ICS) Form 201, other ICS forms as appropriate, or include hand drawn or digitally inserted map of incident action area): Be as complete as possible. Include detailed information on initial impacts, and other relevant information.

Click or tap here to enter text.

RESPONSE ACTIONS

This is an:

○ Initial List of Response Actions ○ Updated List of Response Actions

Action (check all that apply)	Details/Notes
☐ Barriers/Berms/Fences	Click or tap here to enter text.
☐ Booming (Containment/Exclusion)	Click or tap here to enter text.
☐ Dispersants	Click or tap here to enter text.
☐ Flooding/Flushing	Click or tap here to enter text.
☐ In-situ Burning	Click or tap here to enter text.
☐ Manual Oil Removal/Cleaning	Click or tap here to enter text.
☐ Net Use or Trawling	Click or tap here to enter text.
☐ Nutrient Enrichment/Bioremediation	Click or tap here to enter text.
☐ Oiled Vegetation Cutting/Removal	Click or tap here to enter text.
☐ Oiled Debris Removal	Click or tap here to enter text.
☐ Physical Herding	Click or tap here to enter text.
☐ Pre-oiling Debris Removal	Click or tap here to enter text.
☐ Sand Blasting	Click or tap here to enter text.
☐ Sediment Removal/Dredging	Click or tap here to enter text.
☐ Sediment Reworking/Tilling	Click or tap here to enter text.
☐ Shoreline Cleaning	Click or tap here to enter text.
☐ Skimming	Click or tap here to enter text.
☐ Solidifiers	Click or tap here to enter text.
☐ Sorbents (specify type in notes – e.g., sausage, pom-pom, particulate: Bagasse, peat moss, natural/organic, etc.)	Click or tap here to enter text.
☐ Steam Cleaning	Click or tap here to enter text.
☐ Surface Washing Agent/ Chemical Shoreline Cleaners	Click or tap here to enter text.

RESPONSE ACTIONS	
This is an: ○ Initial List of Response Actions ○ Updated List of Response Actions	
Action (check all that apply)	**Details/Notes**
☐ Surface Collecting Agents/ Herders	Click or tap here to enter text.
☐ Trenching	Click or tap here to enter text.
☐ Vessel/Container Removal	Click or tap here to enter text.
☐ Vacuuming	Click or tap here to enter text.
☐ Other	Click or tap here to enter text.

Additional information on response actions:

Click or tap here to enter text.

WILDLIFE RESPONSE ACTIONS

This is an:

○ Initial List of Response Actions ○ Updated List of Response Actions

Action (check all that apply)	Details/Notes
☐ Aerial Surveys	Click or tap here to enter text.
☐ Vessel Surveys	Click or tap here to enter text.
☐ Capture and Relocation	Click or tap here to enter text.
☐ Capture and Rehabilitation	Click or tap here to enter text.
☐ Deterrence/Hazing	Click or tap here to enter text.
☐ Nest Protection	Click or tap here to enter text.
☐ Necessary Holding Location	Click or tap here to enter text.
☐ Other	Click or tap here to enter text.

Additional information on wildlife response actions:

Click or tap here to enter text.

VESSELS/VEHICLES	
Vessel/Vehicles (check all that apply)	**Details/Notes**
☐ Airplanes	Click or tap here to enter text.
☐ ATVs	Click or tap here to enter text.
☐ Boats	Click or tap here to enter text.
☐ Unmanned Aerial Vehicles (UAVs) or Unmanned Aerial Systems (UASs)	Click or tap here to enter text.
☐ Heavy Equipment	Click or tap here to enter text.
☐ Helicopters	Click or tap here to enter text.
☐ Staging Areas	Click or tap here to enter text.
☐ Truck or other automobile	Click or tap here to enter text.

HABITAT TYPES CHECKLIST (Optional – fill out if known)	
Habitat Type (check all that apply)	**Habitat Exposed/Not Exposed to response action(s) or vehicles/vessels?**
☐ Beach	○ Exposed ○ Not Exposed
☐ Coastal Lagoon	○ Exposed ○ Not Exposed
☐ Dune	○ Exposed ○ Not Exposed
☐ Submerged Aquatic Vegetation	○ Exposed ○ Not Exposed
☐ Intertidal/Mud Flats	○ Exposed ○ Not Exposed
☐ Lake/Lacustrine (freshwater)	○ Exposed ○ Not Exposed
☐ Riverine/Riparian (freshwater)	○ Exposed ○ Not Exposed
☐ Rocky Intertidal	○ Exposed ○ Not Exposed
☐ Salt/Tidal Marsh	○ Exposed ○ Not Exposed
☐ Wetland (freshwater)	○ Exposed ○ Not Exposed
☐ Marine (open water)	○ Exposed ○ Not Exposed
☐ Other (enter below): Click or tap here to enter text.	○ Exposed ○ Not Exposed

HABITAT TYPES CHECKLIST (Optional – fill out if known)	
Habitat Type (check all that apply)	**Habitat Exposed/Not Exposed to response action(s) or vehicles/vessels?**
☐ Other (enter below): Click or tap here to enter text.	○ Exposed ○ Not Exposed

ESSENTIAL FISH HABITAT (Applies to Inland and Coastal Zones – fill out if known) **Are the response actions below in the vicinity of a designated EFH (can use NMFS EFH Mapper or technical assistance)?**		
Response Actions	**Yes/Unknown:** Technical Assistance is needed to determine need for consultation. If pre-spill planning is complete, utilize and implement BMPs.	**No/Not Used:** No further action needed.
Barriers/Berms/Fences	○ Yes	○ No
Booming (Containment/Exclusion)	○ Yes	○ No
Dispersants	○ Yes	○ No
Flooding/Flushing	○ Yes	○ No
In-situ Burning	○ Yes	○ No
Manual Oil Removal/Cleaning	○ Yes	○ No
Net Use or Trawling	○ Yes	○ No
Nutrient Enrichment/Bioremediation	○ Yes	○ No
Oiled Vegetation Cutting/Removal	○ Yes	○ No
Oiled Debris Removal	○ Yes	○ No
Physical Herding	○ Yes	○ No
Pre-oiling Debris Removal	○ Yes	○ No
Sand Blasting	○ Yes	○ No
Sediment Removal/Dredging	○ Yes	○ No
Sediment Reworking/Tilling	○ Yes	○ No
Shoreline Cleaning	○ Yes	○ No

ESSENTIAL FISH HABITAT (Applies to Inland and Coastal Zones – fill out if known) **Are the response actions below in the vicinity of a designated EFH (can use NMFS EFH Mapper or technical assistance)?**		
Response Actions	**Yes/Unknown:** Technical Assistance is needed to determine need for consultation. If pre-spill planning is complete, utilize and implement BMPs.	**No/Not Used:** No further action needed.
Skimming	○ Yes	○ No
Solidifiers	○ Yes	○ No
Sorbents	○ Yes	○ No
Steam Cleaning	○ Yes	○ No
Surface Washing Agent/Chemical Shoreline Cleaners	○ Yes	○ No
Surface Collecting Agents/Herders	○ Yes	○ No
Trenching	○ Yes	○ No
Vessel/Container Removal	○ Yes	○ No
Vacuuming	○ Yes	○ No
Other (enter below): Click or tap here to enter text.	○ Yes	○ No
Wildlife Response Actions		
Aerial Surveys	○ Yes	○ No
Vessel Surveys	○ Yes	○ No
Capture and Relocation	○ Yes	○ No
Capture and Rehabilitation	○ Yes	○ No
Deterrence/Hazing	○ Yes	○ No
Nest Protection	○ Yes	○ No
Necessary holding location	○ Yes	○ No
Other (enter below): Click or tap here to enter text.	○ Yes	○ No

ATTACHMENT 2: DOCUMENTATION OF ESA SECTION 7 AND EFH EMERGENCY CONSULTATION DURING EMERGENCY RESPONSE ACTIVITIES - USFWS/NMFS RESPONSE

Date of Transmittal: Click or tap to enter a date.

FROM:	**Name:** Click or tap here to enter text. **Email:** Click or tap here to enter text.	**T:** Click or tap here to enter text. **C:** Click or tap here to enter text.
TO: FOSC U.S. Coast Guard/EPA	**Name:** Click or tap here to enter text. **Email:** Click or tap here to enter text.	**T:** Click or tap here to enter text. **C:** Click or tap here to enter text.
Name of Incident: Click or tap here to enter text.		

Recommendations (may include information on species and designated Critical Habitats in the area, suggested conservation measures, etc.):

Click or tap here to enter text.

Section 9405

Disposal and Waste Management Guidance for the Northwest Area

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9405

Disposal and Waste Management Guidance for the Northwest Area

9405.1 General Discussion

The purpose of proactively and properly managing waste generation and disposal decisions during a response is to avoid delays in recovery operations or in re-deploying equipment, avoid potential violations of state and federal laws and to help quantify spill and recovery volumes. Reducing waste, prioritizing options to reuse or recycle waste and minimize disposal in landfills are goals for the Northwest. This is done, among other ways, by:

- Assigning supervision of temporary storage areas where waste is managed and daily accounting of the waste accumulated.
- Developing best practices for interim storage areas to prevent additional spills.
- Minimizing the oily waste collected in a response by using selective clean-up techniques, so that clean material is not picked up along with oiled.
- Washing and re-using equipment and resources, where possible.
- Reprocessing oil through a refinery or recycling plant.
- Using landfills disposal as a least preferred option.

Waste must be accounted for and documented from its origin to its final disposition, including waste that is recycled. A plan to manage the generation, segregation, treatment and disposal of all waste streams in a response is developed by the Environmental Unit in coordination with the Operations Section, and approved by Unified Command. Local health departments should also be consulted and involved in waste management decisions.

The types of waste generated in an oil spill response could include:

- **Oily Solid Waste**
  - Sand/gravel/tarballs
  - Sludge
  - Sorbent pads/booms/rages
  - Shoreline debris
  - Logs and driftwood
  - Vegetation
  - Oily personnel gear and clothing
  - Empty drums/containers
  - Bilge oils

  - Animal carcasses
  - Contaminated fish or shellfish
- **Non-Oily Solid Wastes**
  - Domestic trash and garbage
  - Bagged human waste
- **Oily Liquid Wastes**
  - Recovered or skimmed oil and mixtures of oil and water
  - Rainwater runoff from waste storage areas
  - Wash waters from cleaning boats, equipment, gear, and oiled wildlife
  - Other oily waters mixed with sediments
- **Non0Oil Liquid Wastes**
  - Sewage, liquid human wastes (gray and black waters)
- **Biohazards**
  - Sharps used during wildlife rehabilitation
- **Recovered Oil**
  - Untainted recovered oil
- **Potential Waste from Derelict Vessels**
  - Paint
  - Oil
  - Asbestos-containing material
  - Polychlorinated biphenyls
  - Metals
  - Fire Fighting Chemicals

9405.2 Community Awareness and Waste Issues

Communities impacted by a large spill, especially those that may be disproportionally affected by waste management activities, may have concerns about the management of wastes transported through their communities or disposed of in their local facilities (e.g., landfills, recycling facilities). The waste management plan should include a process for working with the Liaison Officer and the Joint Information Center to provide information about waste in media and community outreach plans. If necessary, public meetings can be held in the affected communities to address concerns or complaints with respect to waste management, and data generated from these activities should be posted on the appropriate website(s), along with questions and answers about the waste management activities.

9405.3 Washington State Waste Management and Disposal Guidance

9405.3.1 Requirements for Spiller to Collect and Remove Oil

Under the provisions of Revised Code of Washington (RCW) Chapter 90.56.340 (Oil and Hazardous Substance Spill Prevention and Response Act), the spiller is responsible for immediately collecting and removing spilled oil and any contaminated debris and/or soil. It is important to recognize that, if the responsible party (RP) is unable or unwilling to fulfill this requirement, the Washington State Department of Ecology (Ecology) is authorized under the

provisions of RCW 90.56.350 "to take such actions as are necessary to collect, investigate, perform surveillance over, remove, contain, treat, or disperse oil or hazardous substances discharged into waters of the state."

A sample waste management and disposal plan and waste tracking forms have been developed and are contained in Appendix A. Ecology expects that incident specific disposal plans for oil spill response operations in Washington will be written in accordance with the "Guideline" and will follow the "Sample Disposal Plan" format or contain the same content if a different format is used. Because most oily debris generated from oil spills has not historically been designated as dangerous waste in Washington State, this document is focused primarily on solid waste disposal options. This does not prohibit the use of this document in the event of hazardous material spills or if hazardous materials are encountered during response cleanup. If material is designated as extremely hazardous waste or dangerous waste, the requirements for handling and treatment or disposal are more stringent. It is essential to work with Ecology and local governments to ensure that the waste streams are managed appropriately and in accordance with applicable hazardous or dangerous waste regulations.

9405.3.2 Natural Resource Damage Assessment Credit and Waste Management

If the RP will seek credit for oil recovery under Washington State's Natural Resource Damage Assessment process, additional segregation is required for product collected during the first 24-hours (non-persistent oils), or 48-hours after the oil release (persistent oils). Some conditions apply such as effectively contained and off of shoreline. Detailed guidance on the credit and segregation/measurement methods can be obtained from the Ecology document "Credit for Oil Recovery", and Washington Administrative Code (WAC) 173-183 (WAC 173-183-870). Also see Ecology document "Compensation Schedule Credit for Oil Recovery, RDA Committee Resolution 96-1."

9405.4 Oregon State Incident Waste Management and Disposal Plan Template and Tracking Forms

The general policy of the Oregon Department of Environmental Quality (DEQ) is that, whenever possible, recovered oil and oily debris be recycled and reused, thereby reducing the amount of oily debris to be burned on site or disposed of at a solid waste landfill. Spilled oils and oil contaminated materials resulting from control, treatment, and cleanup shall be handled and disposed of in a manner approved by the department. General guidelines for the handling, storage, and recycling/reuse or disposal of wastes are discussed below.

9405.4.1 Classification and Segregation

The State of Oregon will utilize its access to federal samples taken by the United States Coast Guard. As necessary, the state will also utilize sampling capabilities of the DEQ laboratory. All oily waste and debris is classified as a specified waste in the state of Oregon.

The segregation of oily waste and debris is a key part of the disposal process. Oil recovered from an aquatic area will typically contain large amounts of water and debris. Excess water needs to be removed; it increases the amount of material to be transported and can cause problems for disposal facilities. It is most productive to segregate the waste on site to facilitate transportation and disposal. An oil/water separator or a vacuum truck should be available on site to complete this process. Oiled debris needs to be separated out as well. Oil and oily debris should be segregated into the following categories:

- Reuse/Recycle,
- Incinerate,
- Burn on site, and
- Landfill.

9405.4.2 Reuse/Recycle

Whenever possible, recovered oil and oily debris should be recycled and reused, thereby reducing the amount of oily debris to be burned on site or disposed of at a solid waste landfill.

9405.4.3 Incineration

Facilities are available that are capable of burning combustible, oiled debris, subject to any emission limits or restriction of the Air Containment Discharge Permit and Solid Waste Disposal Permit, if applicable.

A 60-day letter permit to change the type of fuel burned can be obtained immediately from the Air Quality Division of the DEQ in Portland by the incineration facility. To obtain this permit, a written request must be submitted, including a statement of anticipated emissions based on the petroleum product contaminating the debris to be burned. Consecutive permits may be issued, but DEQ will conduct an evaluation prior to combustion.

For a list of facilities capable of incinerating oily debris, consult the appropriate Geographic Response Plan.

9405.4.4 On-Site Burning

Although no specific sites have been identified, DEQ may authorize a 60-day letter permit for controlled open burning of combustible, oiled debris on the Oregon Coast and portions of the Columbia River in accordance with Oregon Administrative Rules (OAR), Division 23. The 60-day letter permit may be obtained from the Air Quality Division of DEQ in Portland. A written request is required to obtain the permit and must include the anticipated emissions based on the petroleum product contaminating the debris to be burned. Controlled open burning is defined as follows, from most to least preferable:

- Forced air pit incineration,
- Tall stack burning with auxiliary air supply,
- Pile burning with auxiliary air supply, and

- Pile burning.

DEQ would generally intend to require forced air pit incineration for burning proposed in or near any population center or sensitive area. Combustion efficiency enhancement through utilization of an air curtain or fan device is generally recommended. There are several areas in Oregon currently regulated by local authorities. They are listed in Division 23 rules for open burning.

9405.4.5 Landfills

There are several landfills that may receive oiled debris, subject to the rules for disposal of spill cleanup materials, any restriction of the Solid Waste Permits, any franchise restrictions, and the concurrence of the owner/operator. See OAR 340, Division 61 on solid waste management.

9405.4.6 Interim Storage

Interim storage site selection will be made on a case-by-case basis. OAR 340, Division 61 on solid waste management addresses the definition of and guidelines for a "disposal site," which includes temporary storage sites.

A letter of authorization for six months can be obtained from DEQ by written application. The application must contain specific criteria regarding the site; these criteria can be found in OAR 340, Division 61, page 5.

Recovered oil should be stored in sealable containers such as 55-gallon drums, portable pillow tanks, empty fuel storage tanks, tank trucks, barges, or any other available container that can be sealed to prevent spillage. If necessary, a pit can be dug to hold the waste and lined with plastic or polymeric sheeting to prevent leaching.

Oily debris should be placed in leak-proof containers, such as plastic bags or debris boxes, provided they are lined with plastic. Debris should be stored on impermeable sheeting to prevent penetration into the soil should a breach of the container occur.

Temporary storage sites should be located with good access to the cleanup operations and nearby streets and highways. Suitable sites for this purpose are flat areas such as parking lots or undeveloped lots, with a minimum of slope to reduce potential contamination from leaching oil. Sites should be at least 3 meters above mean sea level. A 1- to 1.5-meter-high earth berm should be constructed around the perimeter of the site and the site lined with an impermeable liner to the top of the berm.

After oiled debris is in storage, a monitoring program should be set up to ensure that oil is not escaping outside the berm. Free oil accumulation within the bermed area should be monitored as well.

9405.4.7 Transportation

Transportation of oiled debris to its disposal destination is the contractor's responsibility. Certified haulers should be used. Trucks should be lined with plastic or otherwise made leak-proof in order to prevent leakage during transport.

9405 A Attachment A: Washington State Waste Management Plan Template and Tracking Forms

Waste Stream Analysis Form

Response Tactic	**Waste Stream**	**Waste Description**	**Packaging for segregation**	**Treatment Options On/Off Site**	**Disposal Options**
Containment Booming	Liquid	Oily water			
Open water Skimming	Liquid Solid	Oily water Debris			
Nearshore skimming	Liquid Solid	Oily water Silt laden water Debris			
Shoreline Cleanup	Solid Liquid PPE	Inorganic solid Oily water PPE			
	Organic solids Inorganic solids	Woody debris, sand and rocks Trash			
Wildlife Recovery & Rehabilitation	Carcasses Solid Liquid Biohazards PPE other	Wildlife Organic/Inorganic Oily water Sharps PPE other			
Vessel/Equipment Decontamination	Solid Liquid	Applying sorbents			
Recovered source oil	Liquid	Useable oil			
Sunken oil recovery	Solid Liquids	Sunken Oil waste			
Field Support	Solids Liquids	Food waste			
Other					

Incident Waste Management and Disposal Plan
(Incident Name)

Responsible Party: _____
Spilled Material: _____
Spill Volume (estimate): _____
Spill Location: _____
Spill Date/Time: _____
Report Update Time: _____

The Disposal Plan has been developed by the Environmental Unit in coordination with the Operations Section for incorporation into the Incident Action Plan. This plan may be amended as necessary to ensure compliance with all applicable laws and regulations, as new materials or waste streams are encountered, or alternative means of disposal are needed. Amendment may occur only upon mutual agreement of the responsible party, the Federal OSC (USCG/EPA), and/or the State OSC (Ecology/DEQ).

Submitted By: _____ Date: _____

Approved by SOSC: _____ Date: _____

Reviewed by USCG/EPA: _____ Date: _____

Approved by Responsible Party: _____ Date: _____

Approved by other Local Government Representative(s):

_____ Date: _____

Approved by other Tribal Government Representative(s):

_____ Date: _____

SECTION I: ANTICIPATED RESPONSE TACTICS, WASTE STREAMS AND DESIGNATION OF SPILLED MATERIAL

Attached to this plan is a completed Waste Stream Analysis Form. This form is used to determine the waste streams that will be generated from the response tactics approved for the incident, and to

The spilled material was deemed (non-) dangerous waste based on the following:

☐ Sampling will be/has been conducted. A separate sampling plan is being developed.

☐ Safety Data Sheet attached

SECTION II: WASTE COLLECTION AND SEGREGATION

Waste will be collected and kept segregated to facilitate final disposal and for use in determining the volume spilled and recovered. The following measures will be taken:

Interim Waste Storage Areas have been established at these locations:

Name and Address	Waste Type	

☐ The Environmental Unit has evaluated the interim storage sites for potential existence of resources at risk and has considered the need for any required consultations or modifications.

The following conditions will be met at each site:

These measures will be used to return the interim storage sites to their original condition at the end of the response:

B. INTERIM ON WATER STORAGE OF LIQUID MATERIALS

Describe skimmers and barges

C. INTERIM SHORESIDE/NEARSHORE STORAGE OF LIQUID MATERIALS

Describe nearshore recovery operations for liquids and describe shoreside storage

SECTION III DECANTING

Describe decanting operations, if applicable. Attach decanting authorization form (if approved).

SECTION IV WASHINGTON STATE OIL RECOVERY CREDIT FOR NATURAL RESOURCE DAMAGES

If the responsible party will seek credit for oil recovery under Washington State's Natural Resource Damage Assessment (RDA) process, additional segregation is required for product collected during the first 24 hours (non-persistent oils) or 48 hours after the oil release (persistent oils) (some conditions apply such as effectively contained and off of shoreline). Detailed guidance on the credit and segregation/measurement methods can be obtained from the Washington Department of Ecology document "Credit for Oil Recovery," and WAC 173-183 (WAC 173-183-870). Also see Washington Department of Ecology document "Compensation Schedule Credit for Oil Recovery, RDA Committee Resolution 96-1".

☐ Check this box if the Responsible Party intends to seek Washington State recovery credit, and seek advice from an Ecology representative on how to XXXX

Segregation description here if using the state

Reference to wildlife plan for animal carcasses

SECTION VII: WASTE GENERATED DURING WILDLIFE OPERATIONS

A. Wildlife Collection and Rehabilitation

Oiled wildlife waste, such as oily PPE, towels, caging, and wash water generated from oiled wildlife response and rehabilitation activities are addressed in this plan.

The search, collection, and rehabilitation of oiled wildlife can be a lengthy process. Depending on the scope and scale of impacted wildlife, waste material from oiled wildlife collection and rehabilitation activities are likely to be generated several days, weeks, or even months after other oil spill response operations have ended.

Liquid Waste

Wildlife Rehabilitations operation currently anticipate the generation of (insert the number of tanks here) 21,000 gallon "Baker" or other water storage tanks of oily wash water that will need to be switched out every (insert the frequency in days here) days.

Solid Waste

Wildlife Rehabilitation operations currently anticipate the generation of (insert the number of roll off boxes here) of 30 cubic yard sealed roll-off drop boxes that will require change out every (insert the frequency in days here days).

Biohazard Waste

Wildlife Rehabilitation operations currently anticipate the generation of (insert the number of sharps containers here) of (insert the size of the containers here) size sharps containers and (insert the number of biohazard containers here) of (insert the size of the containers here) biohazard containers that will require disposal and replacement every (X#) days.

B. Wildlife Carcasses

No oiled carcasses can be disposed of until authorized by the Operations Section Wildlife Branch. The disposal of animal carcasses is coordinated through the Wildlife Branch in the Operations Section. Operations Staff should remove any dead oiled wildlife from the environment that they encounter during their normal cleanup operations and notify the Wildlife Branch. Any carcasses collected should be placed in a bag, separate from other debris, with a label identifying:

- The team leader of the operation that collected the carcass
- The time the carcass was collected
- The date the carcass was collected
- The location (GPS coordinates would be preferred) of collection if possible.

Notify the Wildlife Branch of carcasses that are collected.

If carcasses cannot be collected due to time and/or safety considerations their locations and numbers should be recorded so that they can be tallied and reported to the Wildlife Branch.

SECTION VIII: WASTE TREATMENT AND FINAL DISPOSAL

Waste to be recycled will be treated and disposed of by

Waste to be reused will be treated and disposed of by:

Waste to be incinerated will be treated and disposed of by:

Waste to be disposed of at a landfill will be treated and disposed of by:

Wildlife waste will be treated and disposed of by:

Biohazard Waste will be collected and segregated by:

SECTION XI: WASTE MANAGERS, HANDLERS AND PERMITS

The following positions will be assigned to manage the generation, storage and disposal of waste for this response:

- **Disposal Group Supervisor**
- **Technical Specialists**

The following response contractors, licensed transporters, approved treatment and disposal facilities are to be used for waste handling and disposition unless otherwise directed by Incident Command.

Name of Company	Disposal Function	Company Representative (Name, Phone #)

☐ Permits for this response are being tracked in a separate document by the Environmental Unit.

☐ The Liaison Officer and the Joint Information Center have been briefed on this plan and provided information in order to respond to questions from the public.

SECTION X: WASTE TRACKING FORMS

All waste oils, regardless of type, must be managed by a complete set of records. These records should show the following:

- where the waste was recovered,
- the type of waste,

approximate volume,
date collected,
date transported to staging or disposal site,
date received at temporary storage area or disposal site,
the number of containers shipped,
the number of containers received,
the date, location and method of final disposal.

Include copies of waste tracking forms and waste profiles used for final disposal, (See Attachment A for example). Also, include copies of receipts from disposal facilities.

WASTE MANAGEMENT TRACKING FORM FOR INCIDENT: _____ Update Time: _____

Recovery Location(s)	Time Recovered		Volume (Gallons*)	Type of Waste	Projected Interim Storage Demand **
	From:	To:			

* Cubic Yards for Solids

** Means to address demand per location per time.

INTERIM STORAGE TRACKING

Interim Storage Location(s)	Received From Location(s)	Time Received	Volume (Gallons *)	Type of Waste

* Cubic Yards for Solids.

FINAL DISPOSAL

Disposal Facility Location(s)	Received From Location(s)	Time Received	Volume (Gallons *)	Type of Waste

* Cubic Yards for Solids.

9405 B Attachment B: Oregon State Waste Management and Disposal Plan and Tracking Form

Incident Name	_____
Responsible Party	_____
Spilled Material	_____
Spill Location	_____
Spill Date/Time	_____
Spill Source (Vessel, vehicle, etc.)	_____

This plan has been prepared by the Planning Section at the request of the Incident Command. All applicable state, local, and federal laws and regulations are to be followed when collecting, managing, recycling and/or disposing of the recovered materials. Wastes generated through cleanup operations will be tracked to provide an accurate means of estimating total recovery. All materials will be categorized, segregated and a determination of the regulatory status (hazardous waste versus solid waste) will be made for each waste stream. Materials will be itemized for safe and efficient collection, staging, storage, and recycling or disposal. All materials will be tracked to provide an accurate means of estimating the quantities of disposed or recycled materials and to provide documentation of final disposition.

This plan may be updated as necessary to ensure compliance with all applicable laws and regulations as new materials or waste streams are encountered, or as alternative means of disposal are needed. Once approved by Incident Command and incorporated into the Incident Action Plan, this plan will remain in force until superseded by a newer version or the cessation of response activities and completion of waste disposal activities.

At the outset of recovery operations, this plan will be used to document staging areas and waste management organization elements until information on wastes generated is obtained. The plan will be updated and expanded as waste management operations develop.

Plan Authorization	**Signature**	**Date**
Approved by USCG/EPA:	_____	
Approved by ODEQ:	_____	
Approved by Responsible Party:	_____	
Approved by Local Government Representative:	_____	

Approved by Tribal Government Representative: _____

Drafted and submitted for approval by: _____

Section I: Waste Management Organization

This section describes the personnel assigned and key roles staffed in the Incident Command Post within the Operations Section to support waste management and disposal. The Waste Tracking Coordinator is responsible for collecting information from the Waste Staging Area Manager(s) to provide daily updates on the quantity of wastes generated, staged, transported and disposed. The Technical Specialist is responsible for making waste determinations and designations to be used for proper waste handling and disposal.

	Name	Agency/Company
Disposal Group Supervisor		
Waste Tracking Coordinator		
Waste Management Tech Specialist		

Section II: Waste Segregation, Waste Stream Descriptions and Designations

This section describes how the wastes generated during spill cleanup operations will be categorized for segregation, waste determination and the basis for the waste determination. It is the responsibility of the Waste Management Tech Specialist to perform the waste designations for proper disposition. Copies of waste profiles and supporting laboratory analyses used to make the waste determinations shall be maintained by the Waste Tech Specialist and incorporated into the response file at the conclusion of the response.

Waste Description & Origin	Determination	Basis / HW Profile ID
Example: Oiled Sorbents from On-Water Recovery in Division B	*Non-Hazardous Solid Waste*	*Hazardous Waste Profile #1 Non-Hazardous*

Insert cells as needed for additional waste categories/descriptions. See bottom of page 4 for example waste descriptions/types.

Section III: Waste Staging Areas

This section describes the areas designated by the Operations Section Chief (or Disposal Group Supervisor) and an assigned Waste Staging Area Manager to support waste management and disposal.

Waste Staging Area Name	Address (or Lat/Long in DecDeg)	Manager/Phone
Ex: Camas Staging Area #1 (Camas-1)	*18045 Columbia River Hwy, Camas, WA*	*Mack Buck* *206-222-2222*

Insert cells as needed for additional waste staging area descriptions.

Map of Waste Staging Areas

Insert Map showing staging areas here…

Section IV: Description of Waste Management Processes/Controls

This section describes the general processes for managing each waste stream at each Waste Staging Area. Describe how each site was constructed, bermed, covered, etc. to minimize spread of contaminants and impacts to site soils or adjacent areas. This portion of the plan will be used to guide waste management and must be updated as processes/waste streams change. Actual waste tracking will be accomplished via separate tracking spreadsheets (see Incident Waste Tracking tab on electronic version), where the waste profile for each waste stream/container will be documented.

Waste Staging Area	Tank/Box/Tote/etc.	Waste Type/Source	Site Controls
Ex: Camas-1, Liquids Storage Area	*Poly Tank #1 Poly Tank #2*	*Oil/Water Mix from On-Water Recovery in Division B*	*Bermed containment surrounding tanks, collection of rainwater runoff to separate tank*

Insert cells as needed for additional waste stream control descriptions.

Waste Descriptions/Types

Oily Water
Oiled Debris (woody debris, sand, etc.)
Oiled Sorbents (Oiled Solid Wastes)

Solid Waste (PPE, etc.)
Recovered Source Oils (Pure Product)
Recovered Oils (Product with Water)

Section V: Waste Tracking/Reporting System

This section documents how wastes generated during the response will be tracked, and establishes the inventory process and reporting schedule used to inform Incident Command. Typically, the Waste Tracking Coordinator is responsible for establishing the process and schedule for waste monitoring and reporting at each Waste Staging Area. The Waste Staging Area Manager is responsible for carrying out the waste monitoring as received into staging, directing wastes to the proper storage/containment area, and overall management of wastes while being accumulated, stored and while being loaded for offsite transport.

Waste Tracking Coordinator Responsibilities:

Wastes will be tracked throughout the response to account for generation, staging/accumulation, transfer and final disposition. The tracked wastes will be summarized daily for incorporation into ICS Form 209, to provide Incident Command with a summary of recovered waste volumes and any problems with the waste management system.

All copies of waste tracking forms, waste profiles used for waste determinations, and final disposition records/receipts will be maintained by the Waste Tracking Coordinator for incorporation into a Waste Management Summary Report at the conclusion of the response, unless interim reports are requested from Incident Command.

The Waste Tracking Coordinator will supply paper copies of Waste Tracking Forms for use by the Waste Staging Area Manager and establish a schedule for reporting of waste materials inventory and the transfer of all manifest copies, bills of lading, etc. (typically at the conclusion of the days operations). The Waste Tracking Coordinator will transfer information from the paper Waste Tracking Forms into an Incident Waste Tracking Spreadsheet and convey information to the Situation Unit for incorporation into the ICS 209 Form.

Waste Tracking Forms:

Separate Waste Tracking Forms will be used for Solid and Liquid Materials Generation, and Waste Materials Transfers to Recycling or Disposal Facilities. See attached paper forms used to track wastes at the Waste Staging Areas. The Waste Tracking Forms (and this plan template) are available in electronic format from Oregon Dept. of Environmental Quality - Emergency Response Program.

Waste Staging Area Manager Responsibilities:

Wastes generated during recovery and cleanup operations are received at the designated Waste Staging Area, directed to the proper containment (box, tank, etc.) and entered on Waste Tracking Sheet(s). The Waste Staging Manager will record the receipt of cleanup generated wastes on the Waste Tracking Forms provided by the Waste Tracking Coordinator, and provide updates/records of the wastes received, in storage, and transferred for disposition on a daily schedule established by the Waste Tracking Coordinator. The Waste Staging Manager is responsible for the proper storage during accumulation, and proper packaging and preparation of Uniform Hazardous Waste Manifests for each shipment.

Daily Inventory and Reporting Schedule:

A physical inventory will be conducted at the conclusion of daily operations and recorded on the provided Waste Tracking Forms. The Waste Tracking Forms and all receipts, bills of lading, records of manifests, etc. will be transmitted to the Waste Tracking Coordinator by beginning of the next operational period.

Submit copies of the Waste Tracking Forms, Bills of Lading, Uniform Hazardous Waste Manifests, etc. to the Waste Tracking Coordinator by the beginning of the next Operational Period. For this response, the Operational Period is 24 hours and begins at 0700.

Section VI: Designated Waste Transporters

This section designates which licensed waste transporters will be used to transport wastes from each Waste Staging Area and the destinations for each waste stream. The Waste Staging Area Manager is responsible for monitoring waste transport activities at the Waste Staging Areas, and documenting the time each transport was initiated. Actual waste transactions will be documented in the Waste Tracking Sheets designated for use by the Waste Tracking Coordinator.

Transport Company	Waste Type	Transport Type	Destination
Ex: Clean Water Mobile	*Oil/Water Mix*	*Tanker Truck*	*Oil Recovery Inc.*

Insert cells as needed for additional designated waste transporters.

Section VII: Designated Waste Disposal/Recovery Facilities

This section designates the facilities that will be used to accomplish reuse, recovery, or disposal of wastes generated during cleanup activities. This general plan identifies the various waste streams, organized by the Waste Types stored at each Waste Staging Area, the destination Facility and the type of material recovery/disposal that will occur there. This general listing will guide the disposal process, but actual waste transfers must be recorded on the Waste Tracking Sheets.

Waste Staging Area	Waste Type	Facility	Recovery/Disposal Type
Ex: Camas Staging Area #1	*Oil/Water Mix*	*Oil Recovery Inc.*	*Fuel Reclamation*

Insert cells as needed for additional designated waste disposal/recovery facilities.

Incident Name:

Example Waste Tracking Spreadsheet (Replace Items in Italics)

MATERIALS GENERATION

LIQUIDS (in gallons)

Container ID	Capacity	Status (% full)	Prior Quantity	Added Today	Total Stored	Waste Type	Waste Origin/ HW Determination	Profile ID	Notes
Cathedral Park Staging Area									
Baker P4217	*4,000*	*Full*	*3,806*	*0*	*3,806*	*Oily Liquids*	*Liquids from Machinery Space/HW Determination Pending*	*Pending*	*Samples for HW Determination at laboratory*
Baker NP4211 (aka Baker-1)	*4,000*	*Empty*	*Empty*	*0*	*0*				
Baker P4389	*4,000*	*Empty*	*Empty*	*0*	*0*				
Baker SV26307L	***21,000***	***Full***	***19,375***	***0***	***19,375***	***Water***	***Rain Water from Barge Umpqua/Non-Hazardous Solid Waste***	***P1234***	*Ready for transfer*
Baker SV29590L	*21,000*	*In Use*	*3,232*	*50*	*3,282*	*Water*	*Rain Water from Barge Umpqua*	*NYS*	
Poly Tote 13	*275*	*Full*	*225*	*0*	*225*	*Water*	*Water from Decon Stations*	*Pending*	

(Adj. to use for any Sub-Total, if needed) TOTAL "WATER"	**50**	**22,882**
TOTAL OILY WATER	**0**	**3,806**
TOTAL LIQUIDS	**50**	**26,688**

NYS = Not Yet Sampled for Profile

Pending = Sampled for Waste Profile Determination

At Lab = Awaiting Laboratory Analysis

7/21/2017

Incident Name:

Example Waste Tracking Spreadsheet (Replace Items in Italics)

MATERIALS GENERATION

SOLIDS (in cubic yards)

Container	Capacity	Status (% full)	Prior Quantity	Added Today	Total Stored	Waste Type	Waste Origin/ HW Determination	Profile ID	Notes
Cathedral Park Staging Area									
R2192	*20 cy*	*50%*	*8*	*2*	*10*	*Woody Debris*	*Deck & River Debris/Non-Hazardous Solid Waste*	P4320	No more woody debris expected; ready for transfer
3383	***20 cy***	***100%***	***20***	***0***	***20***	***Oiled Vegetation in Poly Bags***	***Bunker Soiled Vegetation/Non-Hazardous Solid Waste***	**P4321**	**Ready to Transfer**
3384	*20 cy*	*90%*	*10*	*9*	*19*		*Bunker Oiled Debris (Sorbants, PPE, any soft bunker soiled debris)*	NYS	
361-20	*20 cy*	*30%*	*2*	*1*	*3*	*PCS*	*Shoreline Cleanup Operations*	NYS	
R27978	*20 cy*	*0%*			*0*		*Not yet assigned*		
Drop Box 2424	*20 cy*	*50%*	*4*	*6*	*10*	*Recovered Steel*	*Wreck Removal/Dismantling*	Pending	

TOTAL Petroleum Contaminated Soils	1	3
TOTAL Woody Debris	6	10
TOTAL SOLIDS	**7**	**13**

NYS = Not Yet Sampled for Profile

Pending = Sampled for Waste Profile Determination

At Lab = Awaiting Laboratory Analysis

7/21/2017

Incident Name:

Example Waste Tracking Spreadsheet (Replace Items in Italics)

WASTE TRANSFERS TO RECYCLING/DISPOSAL

LIQUIDS (in gallons)

Container ID	Capacity	Status	Material(s) Destination	Facility	Total Quantity	Waste Type	Waste Origin/ HW Determination	Profile ID	Transfer Date
Cathedral Park Staging Area									
Baker SV23607L	*21,000*	*Full*	*WWTP*	*Camas Public Works*	*19,375*	*Water*	*Rain Water from Umpqua barge/Non-Hazardous Solid Waste*	P1234	4/1/2017
Poly Tote 132	***275***	***Full***	***Oil Recycler***	***Oil Recovery Inc.***	***225***	***Oil with Water***	***Free product from skimming operations/Non-Hazardous Solid Waste***	**P2314**	**4/2/2017**

(Adj. to use for any Sub-Total, if needed) TOTAL LIQUIDS DISPOSED	**19,375**	Enter formula manually each day, based on subcategory
TOTAL LIQUIDS PENDING DISPOSAL	**225**	Enter formula manually each day, based on subcategory
TOTAL LIQUIDS	**19,600**	

Incident Name:

Example Waste Tracking Spreadsheet (Replace Items in Italics)

WASTE TRANSFERS TO RECYCLING/DISPOSAL

SOLIDS (in cubic yards)

Container ID	Capacity	Status	Material(s) Destination	Facility	Total Quantity	Waste Type	Waste Origin/ HW Determination	Profile ID	Transfer Date
Cathedral Park Staging Area									
Drop Box 3338	*20 cy*	*100%*	*Energy Recovery (Hog Fuel)*	*Burner, Inc.*	*20*	*Oiled Woody Debris*	*Beach Rack Recovered During Cleanup Operations/Non-Hazardous Solid Waste*	*P4321*	*4/2/2017*
Drop Box 3238	*20 cy*	*100%*	*Energy Recovery (Hog Fuel)*	*Burner, Inc.*	*20*	*Oiled Woody Debris*	*Beach Rack Recovered During Cleanup Operations*	*P4321*	*4/2/2017*
Drop Box 3438	*20 cy*	*100%*	*Energy Recovery (Hog Fuel)*	*Burner, Inc.*	*20*	*Oiled Woody Debris*	*Beach Rack Recovered During Cleanup Operations*	*P4321*	*4/2/2017*

TOTAL SOLID WASTES DISPOSED	**20**	Enter formula manually each day, based on subcategory
TOTAL SOLID WASTES SLATED FOR DISPOSAL	**40**	Enter formula manually each day, based on subcategory
TOTAL LIQUIDS	**60**	

Section 9406

Dispersant Authorization Process and Decision Support Tools

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9406

Dispersant Authorization Process and Decision Support Tools

Part A Description of Dispersant Approval Zones in RRT Region 10 and Approval Process in Each Zone

There are 3 types of dispersant approval zones in RRT Region 10 (which include the Captain of the Port zone for Sector Puget Sound and for Sector Columbia River), please see Chapter 4000 Section 4610 for details on Dispersant Use Policy.
https://waecy.maps.arcgis.com/apps/webappviewer/index.html?id=ff1d0cd00e6641209e25b9ee56df46fc

Part B Typical/Recommended Timing and Work Flow for Dispersant Authorization Process

The typical dispersant use review and authorization process is anticipated to follow these general steps. Key members for this process may need to be involved remotely, depending upon the timing of the request and deployment schedules. (*Note:* these are not prescriptive steps, rather recommended "good practices".

Each spill response is unique, and the exact steps used in this process and their timing may vary between responses).

- Unified Command establishes an Objective to consider the use of dispersants.
- Planning Section Chief (PSC) will inform (directly or by delegation) the Environmental Unit Leader (ENVL) of the need to start **(a)** evaluating the use of dispersants and **(b)** the development of the Dispersants Decision Support tools.
- If appropriate to consider use of dispersants, mobilize necessary resources.
- It is recommended that for spills within Pre-Approval use zones that these tools be developed as appropriate to capture key decision points and to maintain a clear record of decisions. The tools in this Section will be completed for each incident within Case-by-Case use zones.
- PSC should, in coordination with the ENVL, establish a timeline for completion of the Dispersant Decision Support tools which coordinates with a schedule for setting a time to **(a)** brief the FOSC/Unified Command about the completed Dispersant Decision Support Tools, and **(b)** (for Case-by-Case zones) a meeting/conference call for the FOSC/Unified Command to brief the RRT10 members on the Dispersant Decision

Support Tools and for the Unified Command to make their request to the appropriate RRT10 members for the use of dispersants.

- ENVL will then establish a group of technical experts (which will likely include the NOAA SSC or one or more of their team members, as well as resource trustees, agency reps, and industry/consultant technical experts, and other reps as appropriate) to evaluate whether the use of dispersants is feasible and appropriate for the specific incident, and to complete the Dispersant Decision Support Tools.
- ENVL will also ensure (either directly or through delegation) critical coordination with Operations Section Chief and Ops members, Safety Officer, Liaison Officer, information Officer and other key personnel as appropriate.
- Figure 4000-1 found in Chapter 4000 helps outline a typical flow process for Dispersant use review and Decision Support Tools development.
- It is anticipated that the ENVL and the team convened to complete the Dispersant Decision Support Tools will in most cases use the same Dispersant Use review process and develop the same Dispersant Decision Support Tools when evaluating dispersant use in Pre-Approved Areas as well as Case-by-Case Areas, with the caveat that the development of the Decision Support Tools and dispersant use review in Pre-Approved areas should not take so much time as to result in potentially lose the window of opportunity for effective application. The ENVL in coordination with the PSC, OSC and Unified Command, will make a determination at the time of an incident in a Pre-Approved area as to exactly how much detail and effort will be used in developing any Dispersant Decision Support Tools, balancing expediency with the need to adequately document the dispersant use evaluation as well as ensuring necessary coordination and communication with key stakeholders, on an incident-specific basis.

Part C Decision Support Tools Summary for the Development of a Dispersant Use Recommendation

There are 5 key tools in this Section which are designed to be utilized as appropriate in Case-by-Case dispersant use zones, and where appropriate in Pre-Approved Zones, to help aid the authorization decision process (Table 9406.1). Other tools, documents and information may be used during a specific incident to support the dispersant decision and/or application process; however, these tools are requested to be used as appropriate and applicable when a dispersant use decision is under consideration in a Case-by Case zone and may be completed for Pre-Approved zones.

Engagement with Tribes, Local government, public and others Robust engagement and coordination with potentially affected tribes and local governments, as well as members of the public and other key stakeholders, are a critical part of any Dispersant use consideration and decision. There are tools and guidelines for helping ensure this engagement and coordination takes place at the appropriate times during the evaluation and use of dispersants, some of which are in the Liaison Manual and JIC Manuals as well as other areas of the NWACP.

The Unified Command for each response, and the RRT10 are committed to ensuring this coordination occurs early in the process and that robust and thorough mechanisms are established to allow these critical communications to take place effectively.

Table 9406.1 Decision Support Tools Summary for the Development of a Dispersant Use Recommendation

Tools	Purpose	Who is Responsible
1: FOSC Dispersant Standard Conditions Checklist	The purpose of this checklist is to provide confirmation to the RRT from the FOSC/Unified Command about standard/necessary conditions and other activities that will take place or be initiated before a dispersant spray operation would take place.	FOSC/Unified Command
2: Environmental Unit Recommendation Memo to the FOSC/Unified Command	The purpose of this tool is to provide incident specific information on whether dispersants are appropriate for use, tradeoffs in their use, recommended constraints on application, and to document concerns of trustee agencies. Audience is RRT and Unified Command.	EU
3: RRT10 Record of Dispersant Decision	The purpose of this tool is to provide a formal record of the decision the RRT makes regarding authorizing the use of dispersants	PSC
4: Dispersant Operations Plan (to be completed in the Operations Section)	Written by Ops Section, must incorporate constraints from EU Memo, approved and delivered through Planning Cycle and IAP production. The Operations Dispersant Plan will be completed by members of the Operations Section, with input from the EU and other IMT members as appropriate.	Operations Section
5: Tribal and other Trustee Technical Coordination Master List	The purpose of this tool is to identify at the start of the Dispersant Recommendation process a comprehensive list of Tribes, Trustees and other key technical members who need to be engaged in the technical discussion.	EU
6: After Action Report Guidelines	FOSC and their staff are responsible for generating report. The target audience for this report is RRT10 and this report will be available to the public and other interested parties.	FOSC/Unified Command

Tool 1 FOSC Dispersant Standard Conditions Checklist

This checklist is to be completed for Case-by-Case decision areas and Pre-Authorized areas.

Purpose

The purpose of this checklist is to provide confirmation to the RRT from the FOSC/Unified Command about standard procedures and other activities that will take place or be initiated before a dispersant spray operation would take place. This information is to help inform the RRT, to provide information on conditions that must and will be met by the FOSC/Unified Command before a spray operation would commence. Additional information may be added to this checklist as appropriate or applicable for the RRT.

Who Could Fill Out This Form

To be designated by the FOSC/Unified Command. Could be an EU member; Ops member; Unified Command member; other suitable member of the IMT identified by the FOSC.

Authorization Zone Type: _____Pre-Authorized ___Case-By-Case

Form Completed (Date/Time/Name/Title):_____

FOSC Name/Signature:_____

Y	N	
		Dispersibility: Available technical information or experience suggests that the spilled product is dispersible and will likely still be dispersible in the time frame of anticipated application of dispersants.
		National Contingency Plan (NCP) Listed Dispersant: Dispersant to be used is listed on current NCP Product Schedule; considered appropriate for oil type and conditions.
		Operational Considerations – Summary Statements: **A. Weather Conditions:** Weather and sea conditions are conducive to dispersant application by chosen system or platform. Forecast attached. **B. General Adequacy of Dispersant Spray System and Personnel Competency:** equipment is purpose-built, tested, and appropriate to spill conditions; personnel are trained and experienced. **C. Application Control:** Dispersant operation provides reasonable control over the spray zone able to effectively direct the dispersant platform in carrying out the dispersant operation, including the avoidance of wildlife that may be in the area. Droplet sizes meet ASTM guidelines.
		SMART (Special Monitoring of Applied Response Technologies**):** Appropriately trained responders have been mobilized and will be deployed prior to dispersant application, minimum of Tier I.
		Wildlife Observation: An aerial wildlife surveillance specialist(s), designated by appropriate Trustee agency(s), is available to observe wildlife that should be avoided in the potential dispersant application area and will document any observed impacts.
		Endangered Species Act and Essential Fish Habitat Consultations: Have been initiated in accordance with applicable guidance. Guidelines/conservation measures/BMPs will be incorporated into operational plans as appropriate.
		Consultations with Tribes, local government and other key stakeholders: (including National Historic Preservation Act Section 106 if applicable) Initiated in accordance with applicable guidance, been communicated to Unified Command, incorporated into recommendations.
		Safety and Comms Plan: A thorough, specific Dispersant Ops Safety and Comms Plans have been/will be completed prior to any dispersant test or application.
		Dispersant Operations Plan: The Dispersant Operations Plan is under development by Ops with input from EU. Expected completion time and date.
		Other: Any additional specific information/condition requested by or relevant to RRT10 (strike out if not used)

Tool 2 Environmental Unit Recommendation Memo to the FOSC/Unified Command

This memo package is completed for Case-by-Case decision areas and may be completed for Pre-approval zones (on an incident-specific determination).

Section 1 Unified Command Signature Page for Dispersant Recommendation Memo

Incident Name and Location:	
Forwarded to RRT10 (Date/Time):	

The FOSC and Unified Command have determined that the use of dispersants (**IS/IS NOT**) a recommended response measure for the _____ Incident.

The affected area is within a _____Pre-Approved Zone _____Case-by-Case Zone

	DATE/TIME
Federal On-Scene Coordinator Name (Print): Signature:	
State On-Scene Coordinator Name (Print): Signature:	
Responsible Party Incident Commander Name (Print): Signature:	
Local On-Scene Coordinator (as present/appropriate) Name (Print): Signature:	
Tribal On-Scene Coordinator(s) (as present/appropriate) Name(Print): Signature:	

Section 2 Environmental Unit Dispersant Use Recommendation Memo

This memo has been developed by the EU in accordance with NCP and Northwest Area Contingency Plan dispersant use policy, in coordination with other IMT members and key members. The memo provides the FOSC and Unified Command with a recommendation on appropriate action regarding dispersant application for this incident.

The Environmental Unit_____**Does**__**Does Not** recommend authorizing the use of Dispersants at this time. (Differing opinions are captured on attached memo as applicable).

This document provides information that went into the tradeoff discussions and other input that lead to the EU's recommendation on the use/no use of dispersants for this incident.

As appropriate, this document may also include recommendations on whether to start with a trial use before deciding on a thorough application.

Section 2 Overview of the Incident (relevant to proposed dispersant use)
Please see attached forms and incident status information (which *may* include copies of the ICS forms 201, 202, 209, Trajectory Maps, weather forecast, and/or any other applicable status and incident information)

Section 3 Spill-Specific Information Highlights for the RRT10 Decision Process

Spilled Product Type(s) (details such as properties, (M)SDS, ADIOS run, and/or other information *may* be attached:
Product(s) is/are Considered Dispersible: **(*source of information: Expert Opinion? Etc.)***
Approximate Time Window for Dispersibility: (*source of information: ADIOS? Expert Opinion? Etc.)*
Summary of Proposed Dispersant Action: *(As applicable, attach a map, highlight targeted slick area proposed for spraying and provide any other information to help describe proposed application specifics and action area_. Describe key information (as available) such as:* ▪ *Distance from shore, water depth(s) of spray area, setback area from shore or other sensitive habitats as appropriate, etc.* ▪ *Predicted oil movement and how dispersant use will help mitigate that.* ▪ *Trial application description (if applicable) and which level of SMART monitoring will be used to determine its efficacy and the rationale/decision points to continue application after the trial.* ▪ *Describe which SMART monitoring tier will be used to determine efficacy during full dispersant application and decision points for completion of dispersant application to make adjustments.*

Dispersant proposed for use:

Rationale for Recommendation:
The following information is provided for consideration by the Unified Command and RRT and as rationale for the EU recommendation.

Environmental Considerations, Adequacy of Mechanical Recover and Other Measures:
This section summarizes the evaluation of available information by technical specialists within the EU and other contributors as applicable regarding the potential use of dispersants as a response tool for this incident in the proposed action area, as well as the environmental tradeoffs between dispersing oil versus relying on mechanical recovery and protection strategies. Considerations may include:

A: Resources at Risk
(Description of the potentially impacted resources at risk for this incident (attach ICS-232 and/or other information as appropriate)

B: Adequacy of Mechanical Recovery
(Consideration points about adequacy of mechanical response equipment alone: including magnitude of the spill, availability, weather conditions, and timelines of equipment to protect potential resources at risk.

C: Environmental Tradeoffs
(Description of the potential environmental trade-offs of dispersant use, e.g., whether some species or their habitat will benefit from dispersant use while others will be negatively impacted.)

D: Other Issues as Applicable:

Tribal Coordination Input (as applicable):

Describe which tribes and specifically which members of each tribe (and their title) were coordinated with on a technical level during the development of these Dispersant Decision Support Tools. Describe specific concerns and requested/recommended actions to take to ensure tribal concerns are appropriately addressed. (Continue on additional sheets as needed). Describe how tribal priorities and concerns identified will be addressed in the recommendation decision and/or Dispersant Operations Plan, as appropriate.

Endangered Species Act and Essential Fish Habitat Consultations:
Endangered Species Act (ESA) Section 7 consultations have been initiated with the US Fish and Wildlife Service and NOAA's National Marine Fisheries Service at the following date/time:

A Summary of ESA and EFH recommendations/conservation measures/BMPs and/or guidelines for this operation are listed below (or attached other applicable documentation). (The NWACP Emergency Consultation form may also be attached).

This memo was developed and reviewed by:		
ICS Role	**Signature**	**Name (Print)**
Environmental Unit Leader (Developed)		
Planning Section Chief (Reviewed)		
Operations Section Chief (Contributor, Reviewed)		
Safety Officer (Contributor, Reviewed)		
Information Officer (Informed)		
Liaison Officer (Informed)		

List of Attachments (list is not mandatory)	
▪ SDS of Spilled Oil	Attached Y/N
▪ Trajectory forecast maps	Attached Y/N
▪ Weather forecast	Attached Y/N
▪ SDS of Dispersant Product	Attached Y/N
▪ Current ICS-232	Attached Y/N
▪ Map, including overflight information and potential trial application site	Attached Y/N
▪ Other	

Signature Page for Technical Specialists and Other Contributors:

The following is a list of technical specialists and other members that contributed to the EU recommendation. In order that all views can be considered by the US/RRT, each technical specialist may provide a statement in support of his/her opinion to be included in the recommendation package.

Name and Agency/Organization (Print)	Signature	Recommendation

Tool 3 Region 10 Response Team Record of Dispersant Decision

Incident Name and Location

Date and time of RRT 10 Consultation:

In accordance with Subpart J of the National Contingency Plan (NCP), RRT 10 has addressed the desirability of using appropriate dispersants through the area planning process and has established Pre-Approval Zones, Case-by-Case Approval Zones, and No Use Zones for the use of dispersants. It is RRT 10 policy that any dispersant use within a Case-by-Case Approval Zone requires concurrence from the EPA and state representatives to the RRT with jurisdiction over the waters threatened by the release or discharge. The decision to use dispersants in a Case-by-Case Approval Zone must be made in consultation with the United States Department of Commerce and United States Department of the Interior representatives to the RRT and tribal governments with off-reservation treaty rights in the navigable waters threatened by a release or discharge of oil.

For purposes of this record of decision, the designated FOSC has completed a Dispersant Decision Memo (attached), formally recommends the use/recommends against the use of dispersants and requests a dispersant use decision from the appropriate members of RRT 10.

RRT 10 was convened on this date with these agencies in attendance:

1. *List all agencies and state whether decision makers or monitoring role.*

The following decision(s) was made (Note the RRT should add any pertinent rationale for the decision).

- ☐ RRT 10 does not concur with the use of dispersants for this incident.
- ☐ RRT 10 concurs with the use of dispersants as outlined in the attached plan.
- ☐ RRT 10 concurs with the use of dispersants with the following modifications to the dispersant plan.

Regional Response Team 10 Signature Page

Signatures will be obtained once the decision is made. This document will be retained to record the decision.

	Signature	Name and Title (Print)
EPA Co-Chair (Concurrence)		
State Representative to the RRT (Concurrence)		
Department of the Interior (Consultation)		
Department of Commerce (Consultation)		

Tool 4 Dispersant Operational Plan

Name of the Incident: _____

Date: _____

Introduction

This plan should be submitted as an addendum to the Environmental Unit Dispersant Memo Package. The plan outlines the operations to apply dispersants to (describe the scenario, volume spilled, product type, and geographic area).

The plan contains:

- Details of the dispersant product (see attached SDS for the dispersant),
- The operational application process (vessel application or aerial application),
- Equipment and personnel needed to implement the plan,
- Safety considerations of the dispersant application
- A description of the intended area for dispersant application,
- Best Management Practices to minimize impacts to threatened or endangered species
- A description of the dispersant monitoring process.

Objectives of the Dispersant Operational Plan

The plan has the following objectives:

- Apply dispersants within the Dispersant Use Area as approved by Unified Command.
- Describe the Daily Application Methodology.
- Monitor the effectiveness of surface dispersant applications using the SMART protocols.

Safety

Operations staff must coordinate early in the response with Safety to ensure Site Safety Plans covers all aspects of the response including the Dispersant operations. See site safety plan, and applicable 204s for dispersant operations safety messages.

Dispersant Application Equipment and Personnel

As a classified dispersant response contractor (MSRC/NRC) has submitted their dispersant plans to meet the regulatory requirements of 33 CFR 154 and demonstrate compliance with equipment training/exercising and that the spray systems comply with ASTM standards for droplet size, droplet distribution, swath width, and dosage.

Actual dosage will be recorded by a SATLOC system. The SATLOC system records spray on and off, position information (latitude and longitude) of each spray pass, and the associated flow controllers permit recording the dosage and mount of dispersant sprayed for each pass.

Spray tracking/frequency, photos, videos and observation logs will be recorded with each flight and submitted daily.

Proposed Dispersant Application Area

The attached map (developed by the Environmental Unit) shows the approved dispersant application area.

Map (developed by the EU), should include a legend, north arrows, incident location and indicate the limits of potential application of dispersant.

Best Management Practices to Protect and Minimize Response Impacts to Threatened and Endangered Species

- Watch for and report all distressed or dead marine mammals to the Wildlife Unit
- No flights below 500 feet over sighted marine mammals
- No flights below 500 feet over wildlife refuges/management areas
- Vessels restricted from getting closer than 200 yards to whales (by regulation)
- Vessels restricted from getting closer than 100 yards to pinnipeds (seals, sea lions) (recommendation)
- No application of dispersants within 3 nautical miles of observed whales
- No application of dispersants within 3 nautical miles of observed pinnipeds
- Aerial survey by a NOAA NMFS wildlife observer for whales and other marine mammals required prior to and during any dispersant application.

Dispersant Monitoring Plan Purpose

The purpose of the plan is to outline the surface dispersant monitoring process.

Objectives

The objective of the plan is to monitor the effectiveness of surface dispersant applications using SMART Protocols. For this response SMART tiers 1 and Tier 2 monitoring protocols are being activated.

Tier 1: A trained observer, flying over the oil slick and using photographic job aids to visually assess the effectiveness of the dispersant application.

Tier 2: A sampling team on a vessel uses a fluorometer towed at a 1-meter depth under the oil slick before and after dispersant is applied to determine if there is an increase in hydrocarbons in the water column sufficient to show the dispersant is effective. Additionally, measurements are taken where there has been no oil as a background reading and water samples are obtained from both locations.

Schedule and Duration

Tier 1: On DATE at TIME an Aircraft TYPE (tail number) will be operating out of XXX airfield and will have a trained SMART OBSERVER NAME. SMART

observer flights will be coordinated with the Air Operations Branch and the scheduled detailed on the ICS Form 220.

Tier 2: (if activated): On DATE the vessel (NAME, WRRL ID#) will be available at available for smart team members to board and commence TIER 2 fluorometry analysis. SMART Tier 2 operations will be coordinated with the Dispersant Group to arrange sampling and to ensure the SMART team is in the area where the dispersant application is taking place.

Water sampling: If water samples are taken, they will be collected, retained, and analyzed according to standard sampling procedures and in accordance with the approved sampling plan. Samples should be obtained from a depth of 1 meter before and after dispersant application along a transect of the fluorometry measurements.

Aerial and Wildlife Operations

The Aircraft TYPE (tail number) operating from XXX airfield will commence operations on DATE with NAME NOAA as the wildlife observer.

The wildlife observers performing aerial observations will be personnel from NOAA. The observers will notify the dispersant team should they observe wildlife that must be avoided. Wildlife observers and wildlife aircraft pilots will attend operational briefings.

Dispersant Response Information

Daily Aerial/Vessel Dispersant Application Plan (DADAP)			
Date:	Time	Staging Airport	Airport ID
Dispersant Staging Airport Supervisor (Name and Phone #)			
Spill Site Information:			
Spill Location:	**Latitude**	**Longitude**	**Spill Size (bbls)**
Water Body:			

Spill Site Weather				
Wind (knts)	**Direction**	**Visibility**	**Sunset**	**Seas (ft)**
Attach Weather Report				

Communications			
Primary (VHF)		**Sat Phone #:**	
Secondary (VHF)		**Marine Radio**	
Emergency (VFH)			

Aircraft Information					
Type	**Tail #**	**Call Sign**	**Airport ETA**	**PIC/Crew**	**Passengers**

Vessel Information				
Name	**Port**	**Purpose**	**Captain**	**Other**

Activity Schedule, Staging Base Briefing, and Staging Base Information

Daily Activity Schedule at Staging Base	
Date:	
Dispersant Group Staging Base Supervisor:	
Time	**Activity**
Daily Operational Briefing Agenda	
Safety	Per safety plan (new info?)
Weather	Review weather report
Communications	See DADAP
Dosage	5 gpa?
Approach Info	
Oil Spill Location and Description	Oil is moving (direction/approach)
Operations Procedure Changes CALL	
Review Flight Schedule	
Reporting Requirements and Procedures	
Spray Tracking Frequency	Every flight
Photographic and Videos	Every flight
Observation Logs	Every flight
Attachments Safety Data Sheet for the Dispersant Product ICS Form 232 Resources at Risk FOSC Dispersant Authorization Checklist	

Tool 5 Tribal and other Trustee Technical Coordination Master List

The purpose of this tool is to gather a comprehensive list of all the Tribal, agency resource trustee and other key representatives who should be coordinated with and engaged on a technical level for input into the overall tradeoff discussion which is part of the Environmental Unit Recommendation process. This list is designed to be completed at the time of an incident and will most likely be different during each incident. This form should be completed by the EU.

Organization Name (e.g. Tribe, Federal/State/County agency, etc.)	POC Name and Contact Info	Comments

Tool 6 After Action Report Guidelines

A Dispersant Use After Action Report is completed at the direction of the FOSC within a timeframe designated by the Unified Command to document how dispersants were used during the response and to communicate lessons learned for future dispersant use to pertinent stakeholders. Each Dispersant Use After Action Report should characterize the site, dispersant effectiveness, oil behavior, and any other relevant information specific to the incident and the dispersant operation including known or observed environmental impacts. The Dispersant Application After-Action Report shall focus on the following elements of the Environmental Unit Recommendation Memo and shall include the elements identified in the Report Outline below:

1. An overview of the incident and current operating period.
2. A description of how the dispersant application(s) were conducted including the volume of dispersant used, estimate of oil treated, estimated dispersant to oil ratio, dispersant platforms, etc.
3. A description of how SMART Tier 1, Tier 2 and Tier 3 monitoring was conducted and a summary of monitoring results (as appropriate).
4. Description of how other dispersant monitoring was conducted and the results, if applicable.
5. Description of any known or observed adverse environmental effects associated with the dispersant application, such as impacts to fish and/or wildlife (e.g. disturbance, unintentional overspray).

Section 9407

In-Situ Burning Operations Planning Tool

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9407

In-Situ Burning Operations Planning Tool

This is the Region 10 Regional Response Team (RRT 10) *In-Situ* Burning Operations Planning Tool for ocean and coastal waters and the inland zone. It is structured to guide the user through the In-Situ Burning Decision Tree and a series of tools to ensure the best decision is made within a short time-frame. The *In-Situ* Burning Application form and the RRT 10-modified Special Monitoring of Applied Response Technologies (SMART) Protocol are provided at the end of this plan for ease of use.

The requirements below apply to all in-situ burning operations under the provisions of the policy provided in Section 4617, "Region 10 In-Situ Burning Policy and Plan."

9407.1 In-Situ Burning Decision Tree

Prior to any *in-situ* burning operations, the Federal On-Scene Coordinator (FOSC)/Unified Command (UC) will use the decision tree provided in Figure 9407-1.

The policies on which the decision tree is based are found in Section 4617, "Region 10 *In-Situ* Burning Policy and Plan."

9407.1.1 Imminent and Substantial Threat to Human Life

As outlined in Subpart J of the National Oil and Hazardous Substances Pollution Contingency Plan, the FOSC may authorize the use of burning agents for any oil spill, when in the judgment of the FOSC, the use of burning agents is necessary to prevent or substantially reduce a hazard to human life [40 Code of Federal Regulations (CFR) 300.910(d)].

9407.1.2 Mechanical Recovery

Within Region 10, mechanical recovery is anticipated to be the primary response technique for the majority of on-water oil spills. *In situ* burning shall be considered by the FOSC/UC as another response tool to reduce the impacts of oil spills, as appropriate, in combination with mechanical and other response techniques. Note that provisions must be made for mechanical collection of burn residue following any burn(s).

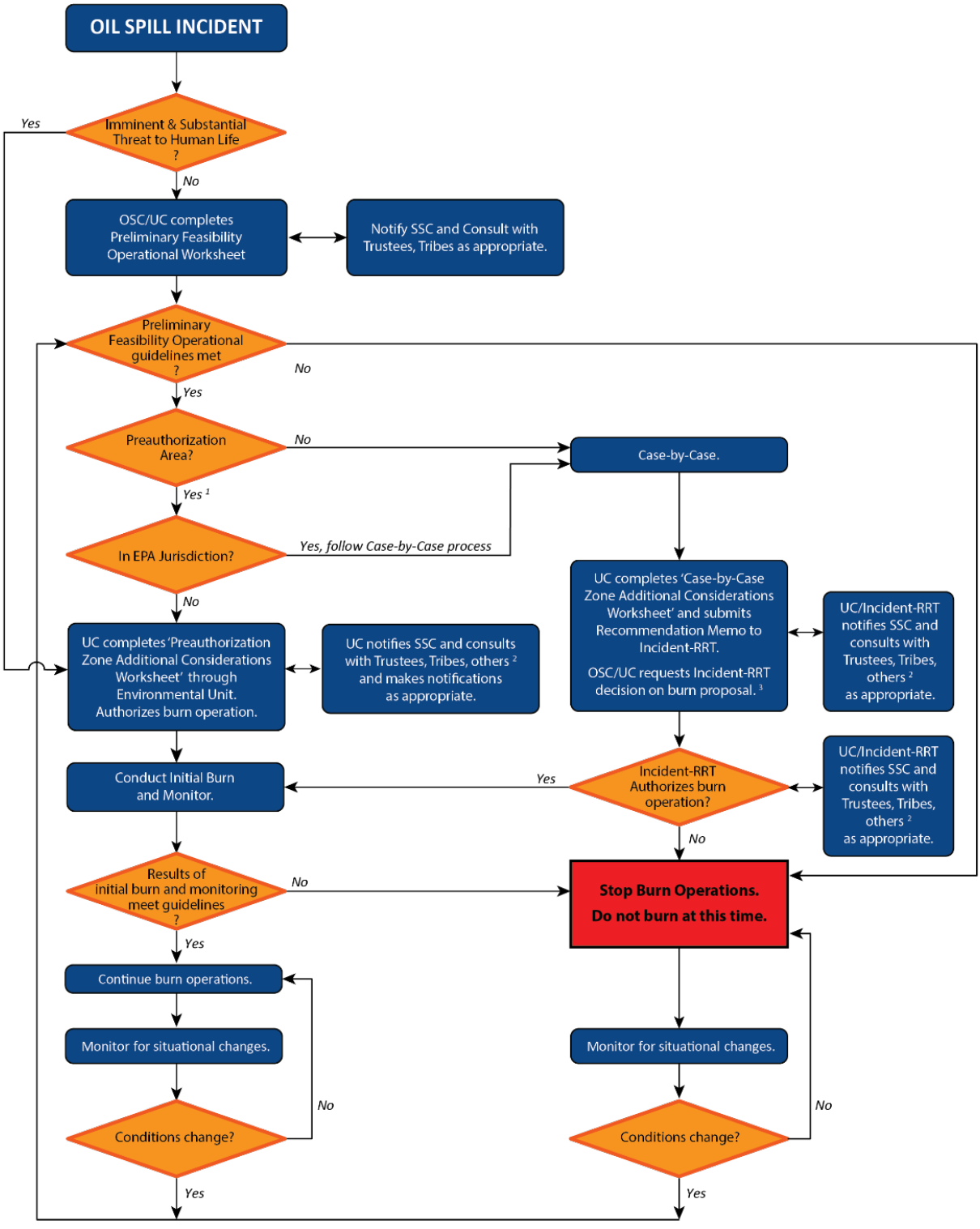
9407.1.3 Typical/Recommended Timing and Work Flow for an *In-Situ* Burn Decision

The typical in situ burn use review and authorization process is anticipated to follow these general steps. Key members for this process may need to be involved remotely, depending upon the timing of the request and deployment schedules.

Each spill response is unique and the exact steps used in this process and their timing may vary between responses).

- UC establishes an Objective to consider the use of in situ burning.
- Mobilize necessary response resources.
- Planning Section Chief (PSC) will inform (directly or by delegation) the Environmental Unit Leader (EUL) of the need to start (a) evaluating the use of in situ burning and (b) the development of the In-Situ Burn Decision Support tools.
- For spills within Pre-Authorization or Case-by Case use zones the tools should be developed as appropriate to capture key decision points and to maintain a clear record of decisions.
- The PSC should, in coordination with the EUL, establish a timeline for completion of the In-Situ Burn Decision Support tools which coordinates with a schedule for setting a time to (a) brief the FOSC/UC about the completed In-Situ Burn Decision Support Tools, and (b) (for Case-by-Case zones) a meeting/conference call for the FOSC/UC to brief the RRT 10 members on the In-Situ Burn Decision Support Tools and for the UC to make their request to the appropriate RRT 10 members for authorization to use in-situ burning.
- The EUL will then establish a group of technical experts (which will likely include the National Oceanic and Atmospheric Administration Scientific Support Coordinator (SSC), as well as resource trustees, agency representatives, and industry/consultant technical experts, regional air authorities, and other representatives as appropriate) to evaluate whether the use of in-situ burn is feasible and appropriate for the specific incident, and to complete the In-Situ Burn Decision Support Tools.
- The EUL will also ensure (either directly or through delegation) critical coordination with the Operations Section Chief and Operations members, Safety Officer, Liaison Officer, Information Officer, and other key personnel as appropriate.

Figure 9407-1 RRT X In Situ Burning Decision Tree



9407.1.4 Emergency Notification and Consultation

9407.1.4.1 Endangered Species Act, Essential Fish Habitat, National Historic Preservation Act Consultation

Emergency consultations[1] shall be initiated by the lead federal response agency as soon as practicable after notification of a major discharge where *in-situ* burning will be used, and listed species or critical habitat is present in the area or nearby. Section 4314 "Endangered Species Act" outlines the FOSC's responsibilities for Endangered Species Act (ESA) consultation. Sections 4314 and 9404, "Region 10 Regional Response Team/Northwest Area Committee Endangered Species Act Compliance Guide for Federal Responders during Emergency Response" provide additional information and resources regarding ESA consultation. *In-situ* burning will be conducted in accordance with emergency consultations with the United States Fish and Wildlife Service and the National Marine Fisheries Service.

Prior to beginning an *in-situ* burn, an on-site survey will be conducted to determine if any threatened or endangered species are present in the burn area or otherwise at risk from any burn operations, fire, or smoke. Appropriate natural resource specialists, knowledgeable regarding any special resource concern in the area and representing the resource trustee, will be consulted prior to conducting any *in-situ* burn. Measures will be taken and documented to prevent risk of injury to any wildlife, especially endangered or threatened species. Examples of potential protection measures may include moving the location of the burn to an area where listed species are not present; temporary employment of wildlife deterrence techniques, if effective; and physical removal of individuals of listed species only under the authority of the trustee agency.

In-situ burning will be conducted in accordance with emergency consultations with the State Historic Preservation Office. Section 106 of the National Historic Preservation Act [16 United States Code 470(f)] requires federal agencies to consult with the State Historic Preservation Office if they are proposing an action that may affect historic properties. Section 9403, "Compliance Guide for National Historic Preservation Act during an Emergency Response" discusses obligations required of state and federal responders to protect cultural historic properties during an emergency response and procedures to follow to meet those obligations.

9407.1.5 Tribal Notification and Emergency Coordination

Emergency notification of tribes shall be initiated by the lead federal response agency as soon as practicable after notification of a major discharge.

When the United States Environmental Protection Agency (EPA) or United States Coast Guard (USCG) responds to an emergency using their FOSC authority, the

[1] "*Emergency Consultation"* is a process wherein the lead federal action agency contacts the United States Fish and Wildlife Service and/or National Marine Fisheries Service (Services) as soon as possible about the response situation for advice on measures that would avoid or minimize effects of the response. This contact need not be in writing. The Service(s) will follow the initial contact with a written summary of the conversation. If the initial review indicates that the response may result in jeopardy or adverse modification, and no means of reducing or avoiding this effect are apparent, the agency should be so advised, and the Service(s)' conclusions documented.

FOSC will, as soon as practicable, notify and offer emergency coordination to all affected tribes, through appropriate tribal natural or cultural resources or environmental staff, regarding oil spills and the use of *in-situ* burning operations that potentially could affect tribal interests. For incidents that occur upon tribal land or waters, tribes are encouraged to send a fully qualified Tribal Incident Commander to participate in the UC.

9407.1.6 Preauthorization Area

The *In Situ* Burning Preauthorization Area is described as follows:

- Any area that is more than 3 miles from human population. Human population is defined as 100 people per square mile.
- EPA does not intend to utilize preauthorization to apply burning agents without incident specific RRT approval in the inland zone.
- View a map of the pre-authorization areas at http://waecy.maps.arcgis.com/apps/webappviewer/index.html?id=13a6c63a1f9a438583726292e0adb816

The FOSCs have the authority and responsibility for managing oil spills in the Preauthorized Area as part of a UC structure. This *In Situ* Burning Policy and Plan authorizes the FOSC/UC to do the following without RRT approval:

1. Under proper conditions, ignite the spilled oil without using burning agents.
2. Utilize burning agents, as appropriate, if the burning conditions are suitable. EPA does not intend to utilize preauthorization to apply burning agents without incident specific RRT approval in the inland zone.

9407.1.7 Case-by-Case Areas

The *In Situ* Burning Case-by-Case areas are described as follows:

- Any areas within 3 miles of human population. Human population is defined as 100 people per square mile.
- View a map of the case by case areas at http://waecy.maps.arcgis.com/apps/webappviewer/index.html?id=13a6c63a1f9a438583726292e0adb816

FOSCs have the authority and responsibility for responding to oil spills in the Case-by-Case areas based upon their jurisdictional boundaries. Within UC, the FOSC is authorized to do the following in the Case-by-Case areas without RRT approval:

1. Under proper conditions, ignite the spilled oil without burning agents.
2. Utilize burning agents to initiate/sustain *in situ* burn when, in the FOSC's judgment, the use of burning agents are necessary to prevent or substantially reduce a hazard to human life.

The FOSC is authorized to do the following in the Case-by-Case areas after RRT approval:

1. Utilize burning agents to initiate and sustain *in situ* burning to mitigate spilled oil within any constraints provided by RRT 10.

9407.2 Decision Support Tools Summary for the Development of an *In-Situ* Burn Use Recommendation

Several tools have been developed to support and document in-situ burning use decisions. The *In-Situ* Burning Application Forms, provided at the end of this section, shall be completed for all burns as applicable and provided to RRT 10 members in a timely manner for documentation and informational purposes as depicted in Figure 9407-1 RRT 10 In Situ Burning Decision Tree.

Tools	Purpose	Who is Responsible
Tool 1: In-Situ Burning Preliminary Operational Feasibility Worksheet (9407.1)	The purpose of the checklist is to determine if field conditions may allow burning. If this worksheet indicates that in-situ burning will not work, no further consideration of in-situ burning is warranted unless conditions change.	FOSC/UC or designee (EUL or PSC)
Tools 2 & 3: Pre-Authorization Zone and Case-by-Case Zones Additional Considerations Worksheets	If Tool 1 indicates in-situ burning may be feasible, Tool 2 or Tool 3 should be used. The purpose of these tools is to document incident-specific information on whether burning is appropriate for use, tradeoffs in their use, recommended best practices or constraints, and to document concerns of trustee agencies who participated in the decision making process.	EUL with support from Safety, Joint Information Center (JIC), and Operations
Tools 4: Environmental Unit (EU) Recommendation Memorandum to the FOSC/UC	This memorandum provides the FOSC and UC with a formal recommendation to burn/not burn from the EUL. It is based on input from Tool 2 or Tool 3, and is signed by the trustees who were involved in the recommendation.	EU
Tool 5: RRT 10 Record of In-Situ Burn Decision	The purpose of this tool is to provide a formal record of the decision RRT 10 makes regarding authorizing the use on in-situ burning in case by case authorization areas.	PSC
Tool 6: In-Situ Burning Operation Considerations and Plan	This is written by the Operations Section and must incorporate the constraints from the EU memorandum, approved and delivered through the planning cycle and Incident Action Plan production. Oil Spill Removal Organizations typically have their own. Offshore In-Situ Burning Guidelines are provided for reference after the Tools.	Operations Section

Tools	Purpose	Who is Responsible
Tool 7: Tribal and other Trustee Technical Coordination Master List	The purpose of this tool is to gather a comprehensive list of all the Tribal agency resource trustee and other key representatives who should be coordinated with and engaged on a technical level for input into the overall tradeoff discussion which is part of the EU Recommendation process.	EU/Liaison Officer

The *In-Situ* Burning Application Forms, provided at the end of this section, shall be completed for all burns as applicable and provided to RRT 10 members in a timely manner for documentation and informational purposes as depicted in figure 9407-1 RRT 10 Decision Tree.

9407.2.1 Regional Response Team Notification and Participation

The FOSC agrees to make every effort to continuously evaluate the decision to burn by considering the advice of the EPA, United States Department of the Interior (DOI), United States Department of Commerce (DOC), and affected state(s), other member of the RRT 10, and any other agencies, groups, or information sources that may be available and appropriate for the specific incident. *In-situ* burning will be discontinued if so requested by the RRT representative of the EPA, the affected state(s), DOI, or DOC. Such a request may be verbal followed by written documentation.

9407.3 During an In-Situ Burn

9407.3.1 Responder Health and Safety

Ensuring worker health and safety is the responsibility of employers and the On-Scene Coordinator (OSC)/UC who must comply with all Occupational Safety and Health Administration (OSHA) regulations.

RRT 10 has developed a Health and Safety Job Aid (see Section 9203, “Health and Safety Job Aid”) to provide guidance and example Health and Safety Plans to be utilized at oil/hazardous materials incidents in the Pacific Northwest.

9407.3.2 Public Health/Safety and In-Situ Burning Air Monitoring Program

The monitoring program is designed to enhance the decision making process undertaken by the FOSC during *in-situ* burning in fulfillment of his/her responsibilities to ensure an appropriate and timely response to mitigate the effects of oil spills. These responsibilities are established by the Clean Water Act and defined in the National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300. The monitoring program is designed to provide the FOSC and UC with data to inform a decision to continue or discontinue with an *in-situ* burn.

Public health will be protected during an *in situ* burn by conducting air monitoring and/or sampling at appropriate locations downwind of the burn operations. In a case where smoke plumes are not predicted to cross over

populated or environmentally sensitive areas, an inability to conduct air monitoring will not be automatic grounds for discontinuing or prohibiting *in situ* burn operations.

It is RRT 10's policy to utilize EPA's National Ambient Air Quality Standards for particulate matter up to 2.5 microns in diameter (PM 2.5) and particulate matter up to 10 microns in diameter (PM 10) as Levels of Concern (LOCs) during *in-situ* burning operations (see Table 9407-1 "In-Situ Burning Pollutants and Exposure Limits" in Section 9407). The NAAQS are based on a 24-hour time weighted average sample, and LOCs for particulates for the general public are 150 micrograms per cubic meter (PM 10) and 35 micrograms per cubic meter (PM 2.5). While conducting an in situ burn, responders will use the same LOCs from a 1-hour time weighted average sample. This is a very conservative LOC. If at any time it is anticipated, or measurements indicate, that the public are being or will be exposed to levels of particulates exceeding the identified LOCs, as a result of *in-situ* burning operations, then then the decision to continue in-situ burning operations will be reviewed with input from public health professionals. The NAAQS does not publish levels for shorter average times (e.g., 1- to 3-hour or 8-hour averages). As such, responders will have to determine how to assess the threats posed when particulates have not been present nor measured for 24-hours. Additional guidance can be found in Attachment B of Section 9418 (Emergency Response Community Air Monitoring).

In addition to monitoring/sampling both PM 10 and PM 2.5, RRT 10 recommends that the FOSC/UC conduct monitoring for other applicable chemical-specific air contaminants such as carbon monoxide, nitrogen dioxide, and sulfur dioxide as conditions and available response equipment allow (see Table 9407-1). State, county, and/or tribal health departments, as well as local air agencies, should be notified of the burn activity as soon as practicable. NWACP Section 9418 (Emergency Response Community Air Monitoring) provides a sample Community Air Monitoring Plan.

Table 9407-1 *In-Situ* Burning Pollutants and Exposure Limits

Pollutant	OSHA Permissible Exposure Limits*[1]	National Ambient Air Quality Standards (Primary)[2]
SO_2	5 ppm	75 ppm (1 hour averaging time, 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years)
NO_2	5 ppm	100 ppb (1 hour averaging time, 98th percentile, averaged over 3 years) 53 ppb (annual averaging time, annual mean)
PAH	0.2 mg/m^3 (volatile)	
CO	50 ppm	35 ppm (1 hour averaging time, not to be exceeded more than once per year); 9 ppm over 8 hours (8-hour averaging time, not to be exceeded more than once per year)

Pollutant	OSHA Permissible Exposure Limits*[1]	National Ambient Air Quality Standards (Primary)[2]
Particulates	5 mg/m^3 for particulates < 3.5 mm	PM 10: 150 $\mu g/m^3$ over 24 hours, not to be exceeded more than once per year on average over 3 years PM 2.5: 35 $\mu g/m^3$ 24-hour, 98th percentile, averaged over 3 years.

Sources:
[1] https://www.osha.gov/dsg/annotated-pels/index.html
[2] https://www.epa.gov/criteria-air-pollutants/naaqs-table

Notes:
*Time-weighted average concentration over 8 hours.

Key:

CO	carbon monoxide
mg/m^3	milligrams per cubic meter
mm	millimeters
OSHA	Occupational Safety and Health Administration
PAH	polyaromatic hydrocarbons
PM 10	particulate matter up to 10 microns in diameter
PM 2.5	particulate matter up to 2.5 microns in diameter
ppb	parts per billion
ppm	parts per million
RRT	Regional Response Team
SO_2	sulfur dioxide

In the coastal zone, the USCG National Strike Force (NSF) will provide on-site monitoring during *in-situ* burning operations. In the Inland Zone, EPA Region 10 Emergency Management Program (EMP) and EMP contractors will provide on-site monitoring during *in-situ* burning operation. In both zones, the NSF and EPA EMP can augment the monitoring program with technical assistance, equipment, and staff. The NSF and/or EPA EMP have a proven ability to quickly respond to the OSC's technical needs during an oil spill with properly trained and equipped personnel and logistical support. The NSF and EPA EMP will perform on-site monitoring with the guidance of the SSC's scientific support team. Having a government agency collect data is partially dictated by the need for data to remain in the public domain and to ensure timely availability and objective presentation of the data to the FOSC/UC.

The NSF, EPA EMP, and/or responsible party and associated contractors will utilize the RRT 10-modified SMART protocols (attached at the end of this document and the Community Air Monitoring Plan described in Section 9418), which will provide the basis for the air monitoring/sampling program to minimize exposure of sensitive populations to levels anticipated to affect public health. Ideally, burning should not occur within 3 miles of sensitive human population centers (i.e., hospitals, schools, day cares, retirement communities, nursing home); however, this will depend on the magnitude of the spill and the severity of the threat. The FOSC/UC will give consideration to the direction of the wind and the possibility of the wind blowing precipitate over population centers or sensitive resources. A safety margin of 45 degrees of arc on either side of predicted wind vectors should be considered for shifts in wind direction.

Burning should be stopped if it is determined that it becomes an unacceptable health hazard due to concerns about smoke exposure for responders or the general public. If at any time, exposure limits are expected to exceed national federal air quality standards in nearby populated areas, as a result of *in-situ* burning operations, then the decision to continue in-situ burning operations will be reviewed with input from public health professionals.

Representatives of the USCG, EPA, federal trustee agencies, the affected state(s), OSHA, and the responsible party may have the opportunity to observe *in situ* burning operations if logistics and safety considerations permit. This decision will be made by the UC at the time of the incident.

9407.3.3 Local Air Agencies and Public Health Departments

The FOSC/UC will notify and coordinate with the state, local, and/or tribal air agencies prior to conducting and during an *in situ* burning operation. Consultation with local air authorities should be conducted in conjunction with the ESA and Essential Fish Habitat consultation. A map of Clean Air Agencies for Washington State is provided in Figure 9407-3, and associated contacts for the agencies are provided in Table 9407-2. A State of Oregon Counties map is provided in Figure 9407-4, and an Oregon State Department of Environmental Quality/Air Quality Division list of contacts is provided in Table 9407-3. An Idaho State Air Quality Control map and list of contacts is provided in Figure 9407-5.

In addition to the UC–led air monitoring/sampling activities outlined specifically in Section 9407.3.2, above, the FOSC/UC will coordinate with the state, local, and/or tribal air agencies to identify regulatory air monitors/samplers in the anticipated plume path. In the event that there are exceedances of air quality standards or measurements of regulatory significance during or after an *in-situ* burning operation, the FOSC/UC will work with the air agency to determine if the event qualifies as an Exceptional Event as governed by the "Treatment of Data Influenced by Exceptional Events" rule (72 Federal Register 13560, March 22, 2007) including any amendments thereto.

9407.3.3.1 Role of Local Air Agencies and Public Health Departments

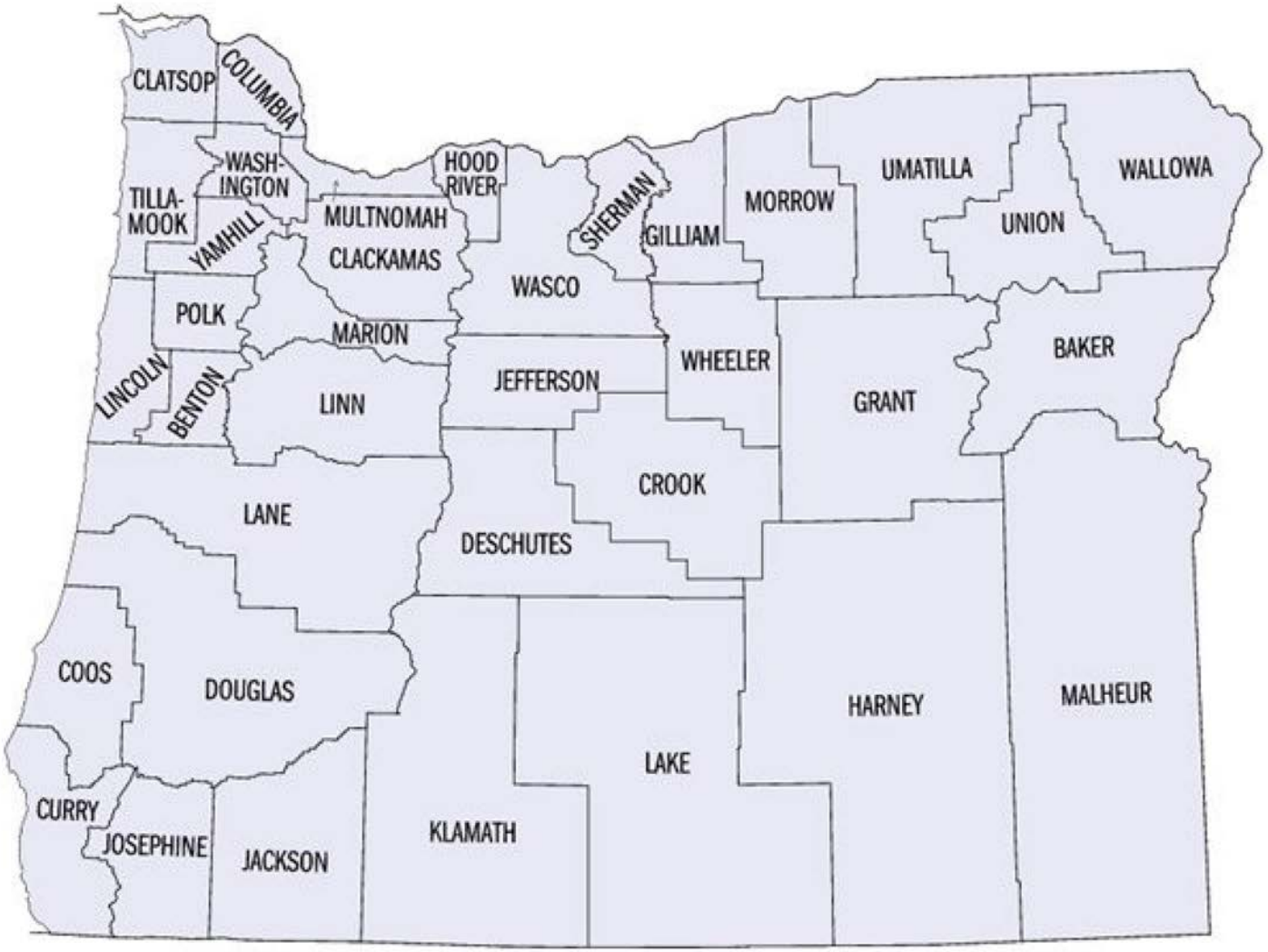
Air authorities and public health agencies will be notified and consulted in all case-by-case decision areas. Air authority staff will be provided with an opportunity to participate as subject matter experts during spills. The subject matter experts may fill roles in the command post or virtually by participating in the EU or via communication with the Liaison Section. Support may include but is not limited to developing smoke plume forecasts, reviewing monitoring plans and action levels, assisting to identify monitoring resources, providing monitoring resources, and assisting to identify and develop messaging for potentially at risk populations.

Figure 9407-3 Washington Clean Air Agencies

Table 9407-2 Washington Air Authorities Contact Information

Agency/Counties Covered	Address	Contact Person	Telephone/Fax	e-mail address/internet page
Olympic Region Clean Air Agency (Clallam, Grays Harbor, Jefferson, Mason, Pacific, Thurston)	2940 B Limited Ln NW Olympia, WA 98502	Fran McNair, Executive Director	Phone: 360-539-7610 or 800-422-5623 Fax: 360-491-6308	fran.mcnair@orcaa.org www.orcaa.org
Department of Ecology – Northwest Regional Office (San Juan)	3190 160th Ave SE Bellevue, WA 98008			https://ecology.wa.gov
Northwest Clean Air Agency (Island, Skagit, Whatcom)	1600 S Second St Mt. Vernon, WA 98273	Mark Burford, Executive Director	Phone: 360-428-1617 800-622-4627 (Island & Whatcom) Fax: 360-428-1620	Markb@nwcleanair.org, info@nwcleanair.org www.nwcleanair.org
Puget Sound Clean Air Agency (King, Kitsap, Pierce, Snohomish)	1904 3rd Ave, Ste 105 Seattle, WA 98101	Craig T. Kenworthy, Executive Director	Phone: 206-343-8800 800-552-3565 Fax: 206-343-7522	craigk@pscleanair.org www.pscleanair.org
Southwest Clean Air Agency (Clark, Cowlitz, Lewis, Skamania, Wahkiakum)	11815 NE 99th St, Ste 1294 Vancouver, WA 98682	Uri Papish, Executive Director	Phone: 360-574-3058 800-633-0709 Fax: 360-576-0925	uri@swcleanair.org www.swcleanair.org
Department of Ecology – Central Regional Office (Chelan, Douglas, Kittitas, Klickitat, Okanogan)	15 W Yakima Ave, Ste 200 Yakima, WA 98902			https://ecology.wa.gov
Yakima Regional Clean Air Agency	329 N 1st St Yakima, WA 98901	Keith Hurley, Executive Director	Phone: 509-834-2050 800-540-6950 Fax: 509-574-1411	mailto:keith@yrcaa.org www.yakimacleanair.org
Department of Ecology – Eastern Regional Office (Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Stevens, Walla Walla, Whitman)	4601 N Monroe St. Spokane, WA 99205	Karen Wood	Phone: 509-329-3409 Fax: 509-329-3529	kwoo461@ecy.wa.gov https://ecology.wa.gov
Spokane Regional Clean Air Agency	3104 E Augusta Ave Spokane, WA 99207	Julie Oliver, Interim Director	Phone: 509-477-4727 Fax: 509-477-6828	publicinfo@spokanecleanair.org www.spokanecleanair.org
Benton Clean Air Agency	526 S Clodfelter Rd Kennewick, WA 99336	Robin Bresley Priddy, Executive Director	Phone: 509-783-1304 Fax: 509-783-6562	email@bcaa.net www.bentoncleanair.org
Department of Ecology – Air Quality Program	P.O. Box 47600 Olympia, WA 98504	Marilyn Turnbow	Phone: 360-407-6879 Fax: 360-407-7534	matu461@ecy.wa.gov https://ecology.wa.gov/Air-Climate

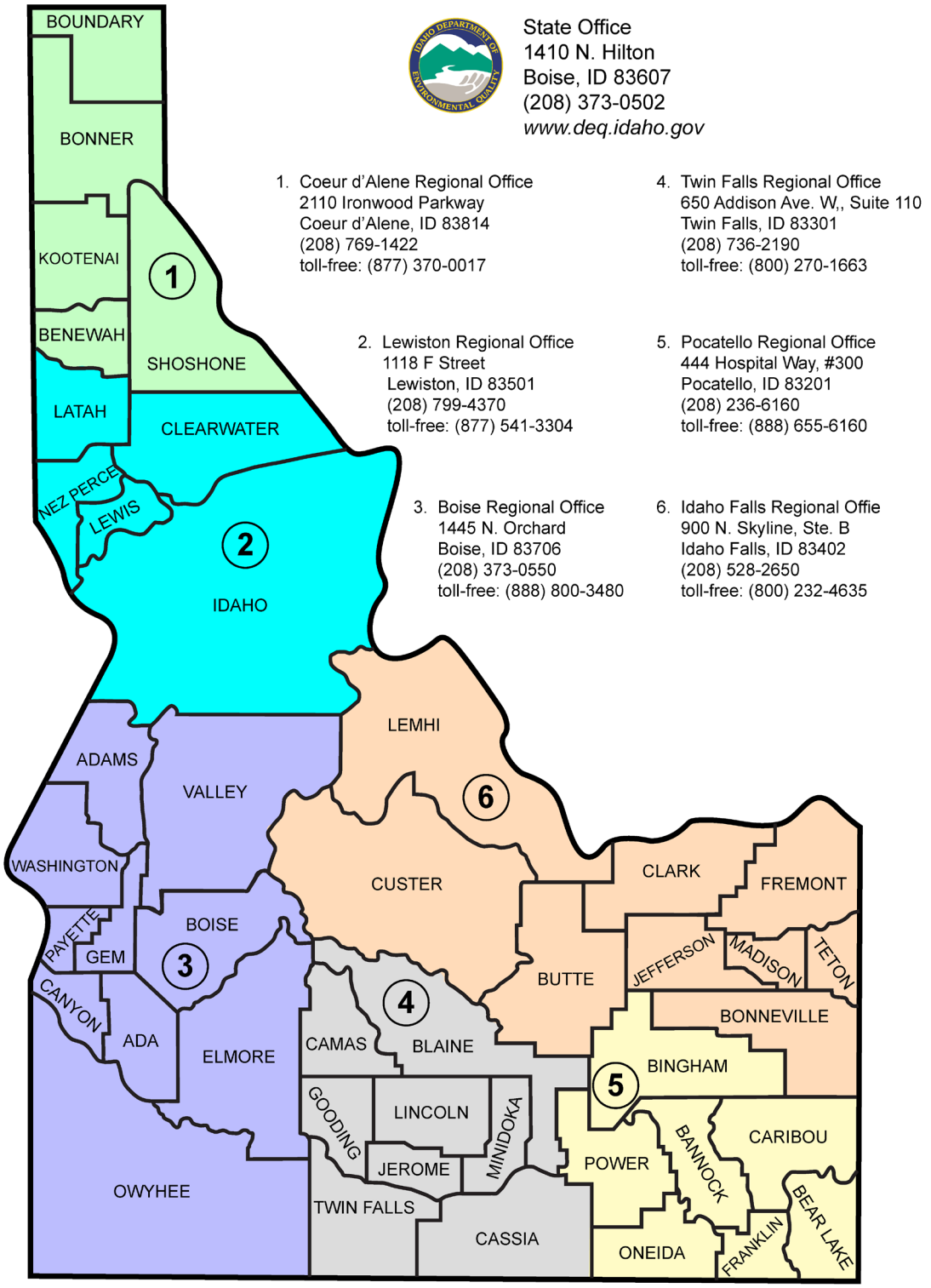
Figure 9407-4 Oregon Counties Map



9407-3 Oregon Air Quality Contact Information

Sources of Information about Air Pollution in Oregon State	
1.	**Oregon Department of Environmental Quality-Air Quality Division** 811 SW Sixth Avenue, Portland, OR 97204 503-229-5359, FAX 503-229-5676 Contact: Brian Finneran, Senior Non-Point Source Specialist, 503-229-6278 http://www.oregon.gov/DEQ/AQ/Pages/index.aspx
2.	**Oregon Department of Environmental Quality Northwest Region Air Quality** Clatsop, Columbia, Multnomah, Washington, Tillamook and Clackamas Counties 2020 SW Fourth Avenue # 400, Portland, OR 97201-4987 503-229-5263, FAX 503-229-6945, TTY 503-229-5471 Contact: David Monro, Air Quality Manager, 503-229-5160
3.	**Oregon Department of Environmental Quality, Western Region-Salem** Yamhill, Polk, Marion, Linn, Benton and Lincoln Counties 750 Front Street NW, Suite 120, Salem OR 97301 503-378-8240, FAX 503-378-4196, TYY503-378-3684 Contact: Claudia Davis, Air Quality Manager WR-North, 503-379-5078
4.	**Oregon Department of Environmental Quality Western Region-Medford** Douglas, Coos, Curry, Josephine and Jackson counties 221 Stewart Ave, Suite 201, Medford, OR 97501 541-776-6010, FAX 541-776-6262, TTY 541-776-6105 Contact: Byron Peterson, Air Quality Inspector, WR-South 541-776-6052
5.	**Oregon Department of Environmental Quality Eastern Region** Hood River, Wasco, Sherman, Gilliam, Jefferson, Wheeler, Crook, Deschutes, Klamath, Lake, Morrow, Umatilla, Union, Wallowa, Grant, Baker, Harney and Malheur counties 475 NE Bellevue, Suite 110, Bend, OR 97701 541-388-6146, FAX 541-388-8283 Contact: Mark Bailey, Air Quality Manager, 541-633-2006
6.	**Lane Regional Air Protection Agency** Lane County 1010 Main Street, Springfield, OR 97477 541-736-1056, FAX 541-726-1205 Contact: Sally Markos, Public Information and Education/Outreach 541-736-1056 X217 http://lrapa.org/

Figure 9407-5Idaho Air Authority Contact Information



9407.3.4 Burn Control

Burning will be conducted in a way that allows for effective control of the burn, to the maximum extent feasible, including the ability to rapidly stop the burn if necessary. Contained and controlled burning is recognized as the preferred method of burning using fire-resistant boom.

9407.3.5 Ignition Control

All practical efforts will be made to control and contain the burn and prevent accidental ignition of the source. Generally, it is not recommended that the source or adjacent uncontained slicks be allowed to ignite during *in-situ* burning operations. Certain circumstances, however, may warrant consideration of carefully planned source ignition.

9407.3.6 Documentation during a Burn

Detailed information about the burn must be recorded, including duration, residue type and volume, water depth before/after the burn, visible impacts, post-burn activities (e.g., residue removal methods), etc.

Air monitoring/sampling data will be collected by the UC–led monitoring teams using the RRT 10–Modified SMART Protocol, during *in situ* burning operations. These data will be shared with the state, local, and/or tribal air agencies responsible for the areas with regulatory monitors/samplers potentially impacted by smoke plumes resulting from *in situ* burning operations. Incident data may be utilized by the impacted air agencies in implementing requirements for the treatment of air quality monitoring data influenced by exceptional events as governed by the "Treatment of Data Influenced by Exceptional Events" rule (72 Federal Register 13560, March 22, 2007) including any amendments thereto.

9407.3.7 Burn Residue

All burns must incorporate monitoring procedures currently being supported by the NSF and EPA EMP that will include visual monitoring at the burn site to record the disposition of burn residues. Provisions must be made for collection of burn residue following the burn(s).

Results from larger-scale laboratory and meso-scale field tests suggest that the most important factors determining whether an *in-situ* burn residue will float or sink are:

Water Density

Burn residues that are denser than the receiving waters are likely to sink. The density of fresh water is 0.997 grams per cubic centimeters (g/cm^3) at 25 degrees Celsius, and the density of seawater is 1.025 g/cm^3.

Properties of the Starting Oil

Studies predict that burn residues will sink in sea water when the burned oils have a) an initial greater density than about 0.0865 g/cm^3 (or American Petroleum Institute gravity less than about 32) or b) a weight percent distillation residue (at >1000 degrees Fahrenheit) greater than 18.6%. When these correlations are applied to 137 crude oils, 38% are predicted to sink in seawater, 20% may sink, and 42% will float.

Thickness of the Oil Slick
Residues from burns of thick crude oil slicks are more likely to sink than residues from burns of thin slicks of the same crude oils, because higher-molecular weight compounds concentrate in the residue as the burn progresses.

Efficiency of the Burn
Factors affecting burn efficiency include original slick thickness, degree of emulsification and weathering, areal coverage of the flame, wind speed, and wave choppiness. For efficient burns, removal efficiencies are expected to exceed 90% of the collected and ignited oil. Rules of thumb for predicting residue thickness are:

- Un-emulsified crude oil up to 10–20 millimeters (mm) thick, residue will be about 1 mm thick.
- Thicker slicks result in thicker residues (up to 3–6 mm thick).
- Emulsified oils can produce much thicker residues.
- Light/medium refined products, the residue will be about 1 mm thick, regardless of slick thickness.

Burn residues sink only after cooling. Models of cooling rates predict that ambient water temperature will be reached in less than 5 minutes for 3-mm-thick residues, and in 20 to 30 minutes for 7-mm-thick residues.

9407.4 Operational Tools

Operational guidance is provided as follows:

Tools	Purpose	Who is Responsible
Tool 1: In-Situ Burning Preliminary Operational Feasibility Worksheet (9407.1)	The purpose of the checklist is to determine if field conditions may allow burning. If this worksheet indicates in-situ burning will not work, no further consideration of in-situ burning is warranted unless conditions change.	FOSC/UC or designee (EUL or PSC)
Tools 2 & 3: Pre-Authorization Zone and Case-by-Case Zones Additional Considerations Worksheets	If Tool 1 indicates in-situ burning may be feasible, Tool 2 or Tool 3 should be used. The purpose of these tools is to document incident-specific information on whether burning is appropriate for use, tradeoffs in their use, recommended best practices or constraints, and to document concerns of trustee agencies who participated in the decision making process.	EUL with support from Safety, Joint Information Center (JIC), and Operations
Tools 4: Environmental Unit (EU) Recommendation Memorandum to the FOSC/UC	This memorandum provides the FOSC and UC with a formal recommendation to burn/not burn from the EUL. It is based on input from Tool 2 or Tool 3, and is signed by the trustees who were involved in the recommendation.	EU
Tool 5: RRT 10 Record of In-Situ Burn Decision	The purpose of this tool is to provide a formal record of the decision RRT 10 makes regarding authorizing the use on in-situ burning in case by case authorization areas.	PSC

Tools	Purpose	Who is Responsible
Tool 6: In-Situ Burning Operation Considerations and Plan	This is written by the Operations Section and must incorporate the constraints from the EU memorandum, approved and delivered through the planning cycle and Incident Action Plan production. Oil Spill Removal Organizations typically have their own. Offshore In-Situ Burning Guidelines are provided for reference after the Tools.	Operations Section
Tool 7: Tribal and other Trustee Technical Coordination Master List	The purpose of this tool is to gather a comprehensive list of all the Tribal agency resource trustee and other key representatives who should be coordinated with and engaged on a technical level for input into the overall tradeoff discussion which is part of the EU Recommendation process.	EU/Liaison Officer

Tool 1: In Situ Burning Preliminary Operational Feasibility Worksheet

This worksheet is intended to be filled out by the FOSC or delegate (typically the EUL) to initially assess the operational feasibility of conducting in-situ burn operations based on the spill scenario.

Proposed burn area: see map of Northwest Area Contingency Plan (NWACP) In-Situ Burn policy

	Y/N
Is the proposed burn location within an area defined in the NWACP as an in-situ burn "pre-authorization" area?	
Is the proposed burn location within an area defined in the NWACP as an in-situ burn "case-by-case" area?	
What is the estimated spilled volume? _____ (bbls)	
Comments: _____ _____ _____ _____	
Oil Conditions	
What type of oil was spilled? _____	
Is the spilled oil type considered to be a burnable product?	
Is the oil relatively fresh (i.e. not emulsified)?	
Comments: _____ _____ _____ _____	
Environmental Conditions	
Are the projected wind conditions expected to be low enough to enable burn operations (recommend winds < 20 knots)	
Are wave conditions conducive to burn operations? (Recommended less than 2–3 ft. short period waves)	
Are current conditions conducive to burn operations? (Recommended <.75 knots)	
Are precipitation conditions anticipated to be suitable for burning? (Note heavy rainfall could affect ignition or burn efficiency)	
Is visibility sufficient to see oil and vessels towing boom, and suitable for aerial overflight for burn observation? (Recommend ceiling >500' + visibility >1/2 mile)	
Comments: _____ _____ _____ _____ _____	
Availability of Personnel and Equipment	
Are fire booms, tow boats, and igniters available to conduct the burn?	

	Y/N
Are adequate aerial assets available to direct/assess the burn operations and to make observations of wildlife in the area?	
Is equipment available to use accelerants or herders?	
(Note* *the igniter is not considered an accelerant)*	
Comments: (consider attaching an equipment list with estimated arrival times; a Safety Data Sheet for the accelerant and/or herder; details about the application rates and application devices for accelerants and herders if applicable) _____ _____ _____ _____ _____	
Is in-situ burning considered to be operationally feasible?	
Do the considerations warrant further analysis of in-situ burning?	

Position/Name: Date/Time:

Tool 2: Preauthorization Zone Additional Considerations Worksheet

Note: to be filled out by the EUL with support from others in the EU, Safety, JIC and Operations for burns planned to be conducted within the Pre-authorization area.

	Y/N
Overall Summary of Proposed Burn	
Provide maps showing the location of the spill source, location of proposed burn(s), location of nearest population centers, boundary of population centers, locations of simultaneous response operations, plume forecast with 45 degree safety margin.	
Potential quantity of spilled oil: _____	
Number of burn task forces to be deployed: _____	
Likely amount of oil that may be burned today: tomorrow: (Assuming each burn task force burns approximately ___ - ___ gallons/day per burn)	
Reason(s) In-Situ Burn is being considered:	
Remove oil to prevent spread to sensitive sites or over large area	
Reduce the generation of oily wastes, especially where transportation or disposal options are limited.	
Access to the site is limited by shallow water, soft substrates, thick vegetation, or the remoteness of the location	
Other (specify):	
Proximity Conditions	
Can burn operation be conducted without interference with other response activities (dispersants, source control etc.)?	
Can burn operation be conducted concurrently with mechanical recovery?	
Comments: (consider attaching a map of the proposed burned location, indicating nearest population centers) _____ _____ _____ _____ _____	
Safety Considerations (to be filled out by Safety Officer)	
Can ignition and burn be conducted in a way to prevent unintentional ignition of the spill source and at a safe distance from and response vessels?	
Is there a site safety plan for the incident that specifically addresses the proposed burning operations?	
Will response personnel be briefed on this plan before burning starts?	
Are personnel trained and equipped with safety gear appropriate to burn operations?	
Is a communication system available and working that allows communication between aircraft, vessels, and a control base?	
Can the fire be extinguished and are the procedures in place for addressing this contingency?	

	Y/N
Will oil collection at night be considered (for daylight in-situ burning operations)?	
Comments: (consider attaching Site Safety and Communication plans if available, describe if not available) _____ _____ _____ _____ _____	
Timing- External Stakeholder Outreach	
Can appropriate notices to mariners, aircraft, and key stakeholders be issued within the proposed time?	
Are the above conditions expected to remain in effect for the next 24 hours?	
Are the above conditions expected to remain in effect for the next 48 hours?	
Comments: (consider attaching a list of stakeholders that have been notified about the potential use of in-situ burning in response to the spill and press releases or fact sheets that will be used to communicate about the use of in-situ burning) _____ _____ _____ _____ _____	
Spill Impact Mitigation Assessment (SIMA)/Net Environmental Benefit Analysis (NEBA)	
Has a resource at risk analysis for the proposed burn area been completed?	
Are there sensitive species and habitats in the area that require specific considerations related to burn operations?	
Can appropriate natural resource/environmental monitoring personnel/equipment be mobilized and on-site within the proposed time?	
Have mechanical recovery efforts been deemed insufficient to adequately protect sensitive shorelines and other natural resources?	
Is it expected that burn operations will reduce impacts to sensitive shorelines and other resources, without further endangering human health or wildlife in the area?	
Has an Endangered Species Act Consultation been initiated?	
Will an on-site survey be conducted by a natural resource specialist to identify sensitive bird concentrations or marine mammals in the proposed area before the burn operation commences and monitoring continue during burn operations (aerial overflight)?	
Is there a plan to recover the burn residue?	
Is the use of herders and/or accelerants being proposed?	
Have you considered the trade-offs/impacts of herders or accelerants?	
If yes to above, is the proposed herder listed on the EPA Schedule J Products list?	

	Y/N
Comments: (consider attaching the most current ICS Form 232 developed for the incident, the Endangered Species Act Consultation Form, the Safety Data Sheet from the spilled product, and any details provided about mitigating factors being considered for sensitive species) _____ _____ _____ _____ _____	
Monitoring Plan?	
Will a community air monitoring plan be developed and implemented prior to burn operations commencing?	
Will a SMART monitoring plan be developed and implemented prior to burn operations commencing to evaluate the effectiveness?	
Will air sampling be conducted in *In-Situ* Burning area?	
Comments: (consider attaching your Community Air Monitoring Plan, Sampling Plan, and details of your SMART monitoring application) _____ _____ _____ _____ _____	

Tool 3: Case by Case Zone Additional Considerations Worksheet

Note: to be filled out by the EUL with support from others in the EU, Safety, Joint Information Office and Operations for burns planned to be conducted in case-by-case areas.

	Y/N
Overall Summary of Proposed Burn	
Provide maps showing the location of the spill source, location of proposed burn(s), location of nearest population centers, boundary of population centers, locations of simultaneous response operations, plume forecast with 45 degree safety margin.	
Potential quantity of spilled oil: _____	
Number of burn task forces to be deployed: _____	
Likely amount of oil that may be burned today: tomorrow: (Assuming each burn task force burns approximately ___ - ___ gallons/day per burn)	
Reason(s) *In-Situ* Burning is being considered:	
Remove oil to prevent spread to sensitive sites or over large area	
Reduce the generation of oily wastes, especially where transportation or disposal options are limited.	
Access to the site is limited by shallow water, soft substrates, thick vegetation, or the remoteness of the location	
Other (specify):	
Proximity Conditions	
Can burn operation be conducted concurrently with other response operations?	
Do you have knowledge of at risk populations within three miles of the proposed burn area? Describe? _____ _____ _____	
Are evacuations necessary?	
Comments (consider attaching a map of the proposed burned location, indicating nearest population centers): _____ _____ _____ _____	
Safety Considerations (to be filled out by Safety Officer)	
Can ignition and burn be conducted in a way to prevent unintentional ignition of the spill source and at a safe distance from and response vessels?	
Has the burn been isolated (e.g. by fire breaks?) Can it be?	
Is there a site safety plan for the incident that specifically addresses the proposed burning operations?	

	Y/N
Will response personnel be briefed on this plan before burning starts?	
Are personnel trained and equipped with safety gear appropriate to burn operations?	
Is a communication system available and working that allows communication between aircraft, vessels, and a control base?	
Can the fire be extinguished and are the procedures in place for addressing this contingency?	
Will oil collection at night be considered (for daylight *In-Situ* Burning operations)?	
Comments (consider attaching Site Safety and Communication plans if available, describe if not available): _____ _____ _____ _____ _____	
Timing	
Can appropriate notices to mariners, aircraft, regional air authorities, tribes and other key stakeholders be issued within the proposed time?	
Are the above conditions expected to remain in effect for the next 24 hours?	
Are the above conditions expected to remain in effect for the next 48 hours?	
Comments (consider attaching a list of stakeholders that have been notified about the potential use of *In-Situ* Burning in response to the spill and press releases or fact sheets that will be used to communicate about the use of *In-Situ* Burning): _____ _____ _____ _____	
Spill Impact Mitigation Assessment (SIMA)/Net Environmental Benefit Analysis (NEBA)	
Has a resource at risk analysis for the proposed burn area been completed?	
Are there sensitive species and habitats in the area that require specific considerations related to burn operations?	
Have mechanical recovery efforts been deemed insufficient to adequately protect sensitive shorelines and other natural resources?	
Is it expected that burn operations will reduce impacts to sensitive shorelines and other resources, without further endangering human health or wildlife in the area?	
Has an Endangered Species Act Consultation been initiated?	
Will an on-site survey be conducted by a natural resource specialist to identify sensitive bird concentrations or marine mammals in the proposed area before the burn operation commences?	
Will on-site monitoring be conducted by a natural resource specialist during burn operations?	
Is there a plan to recover the burn residue?	

	Y/N
Have you considered the trade-offs/impacts of herders or accelerants?	
Are accelerants or herders being recommended? If so, which product?	
Is the proposed accelerant or herder listed on the EPA Schedule J?	
Comments (consider attaching the most current ICS Form 232 developed for the incident, the ESA Consultation Form, the Safety Data Sheet(s) from the spilled product, and any details provided about mitigating factors being considered for sensitive species): _____ _____ _____ _____ _____	
Monitoring Plan	
Will a community air monitoring plan be developed and implemented prior to burn operations commencing?	
Will a SMART monitoring plan be developed and implemented prior to burn operations commencing to evaluate the effectiveness?	
Will air sampling be conducted in *In-Situ* Burning area?	
Comments (consider attaching your Community Air Monitoring Plan, Sampling Plan, and details of your SMART monitoring application): _____ _____ _____ _____ _____	
Additional Required Coordination with Response Partners and Stakeholders for *In-Situ* Burning Operations in Case-by-Case areas	
Have local fire and police been notified?	
Please list all trustees who will be consulted. (See Tool 7)	
Have you consulted regional air authorities and health departments?	
Is there any concerns or identified or additional considerations for at risk populations?	
Will regional air authorities be provided with real time monitoring data?	
What is the communication plan for sharing readings above permissible exposure limits?	
Comments (list the trustees, health departments and air authorities that were consulted and any relevant feedback): _____ _____ _____ _____ _____	

Tool 4: Environmental Unit Recommendation Memo

This memo has been developed by the EU in accordance with National Contingency Plan and NWACP in-situ burn use policy, in coordination with other Incident Management Team members and key members. The memorandum provides the FOSC and UC with a recommendation on appropriate action regarding in-situ burn operations for this incident.

The EUL **Does/Does Not** recommend authorizing the use of in-situ burning at this time. (Differing opinions are captured on attached memo as applicable).

This document provides summary information that went into the tradeoff discussions and other input that lead to the EU's recommendation on the use/no use of in-situ burning for this incident.

As appropriate, this document may also include recommendations on whether to start with a trial use before deciding on a thorough application.

Summary of the trade-offs- discussion Describe the trade-off discussion, who participated and different perspectives brought to the conversation.
Tribal Coordination Input Describe which tribes and specifically which members of each tribe (and their title) were coordinated with on a technical level during the development of the Decision Support Tools. Describe specific concerns and requested/recommended actions to take to ensure tribal concerns are appropriately addressed. (Continue on additional sheets as needed).
Signature Page for Technical Specialists and Other Contributors *The following is a list of technical specialists and other members that contributed to the EU recommendation. In order that all views can be considered by the UC / RRT, each technical specialist may provide a statement in support of his or her opinion to be included in the recommendation package.*

Name and Agency/Organization (Print)	Signature	Recommendation

This memo was developed and reviewed by:		
ICS ROLE	**Signature**	**Name (PRINT)**
Environmental Unit Leader		
Planning Section Chief		
Operations Section Chief		
Safety Officer		
Information Officer		
Liaison Officer		
Attach relevant checklists and supporting tools and ICS forms		

Tool 5: RRT10 Record of In-Situ Burn Decision

Incident Name and Location:
Date and time of RRT 10 consultation:

It is RRT 10 policy that any in-situ burn use within a Case-by-Case Approval Zone requires concurrence from the EPA and state representatives to the RRT 10 with jurisdiction over the area threatened by the release or discharge.

For purposes of this record of decision, the applicable In-Situ Burn Decision Tools have been developed and area (attached), the UC formally recommends the use/recommends against the use of in-situ burning and requests an in-situ burn use decision from the appropriate members of RRT 10.

RRT 10 was convened on this date with these agencies in attendance:

- *List all agencies and state whether decision makers or monitoring role.*

The following decision(s) was made (Note: the RRT 10 should add any pertinent rationale for the decision) (circle one):

RRT 10 does not concur with the use of in-situ burning for this incident.

RRT 10 concurs with the use of in-situ burning as outlined in the attached plan.

RRT 10 concurs with the use of in-situ burning with the following modifications to the in-situ burning plan:

Signatures will be obtained once the decision is made. This document will be retained to record the decision.		
	Signature	**Name and Title (PRINT)**
EPA Co-Chair (Concurrence)		
State Representative to the RRT (concurrence)		
Department of the Interior (Consultation)		
Department of Commerce (Consultation)		

Tool 6: In Situ Burning Operation Considerations and Plan

OFFSHORE *IN-SITU* BURN GUIDELINES

Introduction

This document is provided as a general guide for the planning and implementation of controlled in-situ burns under offshore/nearshore open-water conditions. Recommended tactics and procedures do not include inland/onshore burns, nor do they address the unique challenges and opportunities of burning under extreme cold conditions, including the presence of ice. It should be recognized that any burn operation will depend upon a number of location- and spill-specific conditions. These include:

- Federal, State and Local Authorization to conduct the burn(s),
- A comprehensive Health, Safety and Environment Plan,
- An Incident-Specific I Operations Plan that includes unique circumstances of the spill, specific guidance and constraints from regulators, and procedures on how, where and when burning can be conducted without interference of other important activities (e.g., source control, rescue operations, salvage, and other spill removal/elimination efforts).
- The Operational Plan must contain a chronological checklist of specific tactics and procedures to be used before, during and after ignition, as well as details on vessel/aircraft deployment, fire boom and igniter resources, weather forecasting, monitoring procedures, etc.

The following information is provided as a summary of key In-Situ Burning activities and guidelines for controlled burning – it is intended as reference document from which material may be cited or excerpted for the development of a Site-Specific In-Situ Burning Operations Plan. This document was prepared by Alan A. Allen, under contract to Shell Oil, in preparation for the Worst Case Discharge Puget Sound Refinery Exercise to be conducted by Shell Oil and its contractors during the last week of September, 2016.

1. General In-Situ Burning Guidelines

The topics addressed in this section deal with activities that normally take place during the planning and execution of controlled in-situ burns on open water. They include:

1.1 Response Organization and Personnel Responsibilities
1.2 Surveillance and Spotting
1.3 Oil Access and Containment
1.4 Oil Ignition
1.5 Fire Control and Emergency Response
1.6 Residue Recovery
1.7 Monitoring and Documentation

Issues involving the health and safety of response personnel and the general public, the monitoring and protection of wildlife, and potential environmental impacts, are not addressed in this operational guide.

1.1 Response Organization and Personnel Responsibilities

Should In-Situ Burning operations be approved, all personnel, vessels, aircraft and equipment to be deployed must be organized and closely coordinated with other tactical

operations. All activity should be conducted in accordance with procedures established during pre-burn briefings, operational plans (e.g., ICS-215), assignment lists (e.g., ICS-204 and ICS-234), communications plans (e.g., ICS-205), and In-Situ Burning plans addressing health, safety and the environment. Resources needed to conduct In-Situ Burning operations should be arranged for through the Resource Unit and mobilized as soon as possible. Since an actual "burn" does not take place until spilled oil is "ignited", every effort should be made to move equipment toward a proposed burn area as soon as possible and begin collecting oil for a potential burn. The direction to commence ignition (normally by the In-Situ Burning Operations Group Supervisor) is given when all safety concerns have been fully addressed and cleared by the In-Situ Burning Safety Officer, the readiness of surface and air support teams has been confirmed, and authorization to burn has been granted.

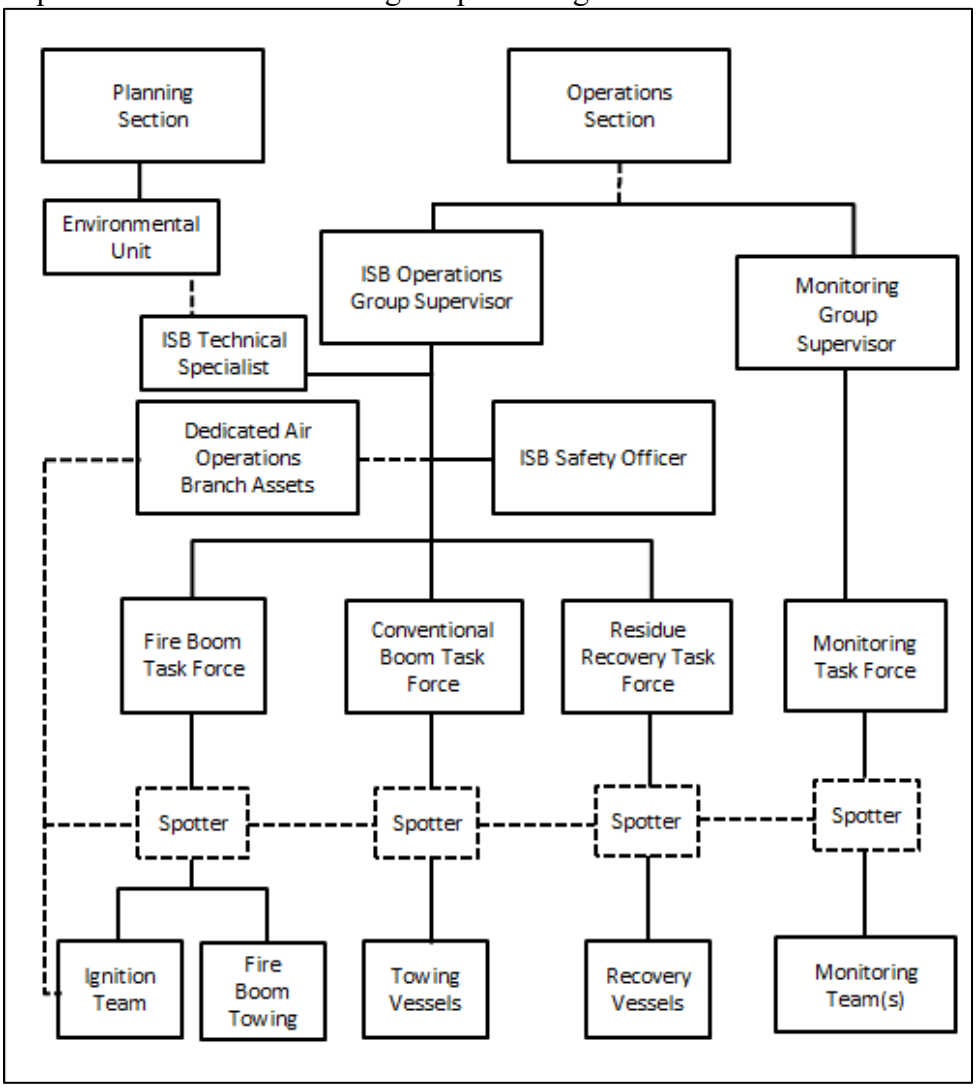
Prior to ignition of the contained oil and throughout a burn, the In-Situ Burning Operations Group Supervisor ensures that the onsite In-Situ Burning Safety Officer is fully apprised of the status/control of the proposed burn; that the location of the burn and its smoke plume are acceptable and within plan guidelines; that spotting and monitoring teams are in place; and that burn residue recovery teams are ready to move in when safe to do so. Descriptions of specific tasks for these teams are addressed in this section, along with guidelines for other activities such as the possible use of conventional open-apex boom configurations. Working upstream of a fire boom, towed in a U-configuration, such open-apex systems can be used to intercept a wide swath of oil patches, concentrate the oil, and feed it to a fire boom immediately downstream.

A representative response organization chart for In-Situ Burning operations is provided below for a single fire boom task force with possible conventional boom support, spotting teams, and personnel for safety and monitoring of the burn. ICS organizational structures should remain flexible and adaptable to accommodate various types, sizes and locations of spills, while striving to accomplish the objectives of the UC. An organizational chart, similar to the one presented here, should be structured for the spill underway and the number and type of personnel and resources available. Regardless of the size and makeup of the organization, it is imperative that there be constant and reliable radio and telephone communications between organizational and tactical resources. An Incident Communications Plan should be developed including specific communications equipment, frequencies, procedures and protocols. The plan should be prepared on a standard ICS Form 205, so that response activities and objectives can be passed between various groups while allowing for updates to reflect changing incident conditions. There must be guidelines for the accurate and timely exchange of information between each of the In-Situ Burning operational teams on the surface, air operations for spotting and monitoring, safety personnel, etc. It is also critical that all appropriate notifications to mariners, airports, stakeholders and the general public be maintained, and that UC be kept apprised of the status of burn activity.

Experience has shown that one of the most important communication links at an operational level is that involving aerial spotters and the fire boom towing vessels. While such radio links are coordinated with each In-Situ Burning Task Force Leader and the In-Situ Burning Safety Officer, it is the frequent direct guidance given to the boom-tending

vessel captains that is essential for directing them to, and keeping them in, the heaviest oil concentrations. More specific information and guidelines for the role of spotters is addressed in the following Section 3.1.2 on Surveillance and Spotting.

Representative In-Situ Burning Response Organizational Chart



While the Operations Section has the lead in controlling In-Situ Burning tactics implementation and related field operations, the analysis of burning feasibility and recommendation to burn is prepared by the Environmental Unit Leader, the NOAA SSC, In-Situ Burning Technology Specialist(s) and other subject matter experts. The NWACP includes detailed policy and process tools to guide In-Situ Burning use decisions. Typical position titles and responsibilities for key In-Situ Burning functional positions are provided below. Depending upon the size of the spill, actual tactics to be employed, and personnel available, one individual may actually be assigned multiple roles.

In-Situ Burning Operations Group Supervisor:

- Reports to Operations Section Chief
- Responsible for all In-Situ Burning operations

- Provides input to the In-Situ Burning and Monitoring Plans
- Implements and coordinates approved In-Situ Burning and Monitoring Plans
- Manages dedicated In-Situ Burning resources & Air Operations Branch assets while coordinating these activities with other response operations
- Briefs In-Situ Burning Safety Officer and Task Force Leaders on In-Situ Burning and Monitoring Plans
- Establishes Safe Burn Area and emergency/evacuation procedures
- Coordinates oil collection & burn volume monitoring and estimation results
- Monitors communications between Spotters and Ignition/Fire Boom vessels
- Manages and communicates frequently with all In-Situ Burning Task Force Leaders

In-Situ Burning Safety Officer

- Reports to In-Situ Burning Operations Group Supervisor
- Ensures worker health and safety during all In-Situ Burning operations
- Implements Site Safety and Health Plans, working from Command or Dedicated Fire Safety Vessel
- Conducts pre-burn safety briefings on all operational goals and procedures
- Monitors changing conditions and identifies potential emergencies
- Provides emergency communication protocols and emergency burn-termination criteria
- Assigns and monitors activities of Deputy Safety Officers onboard individual Task Force vessels as needed
- Liaison with other Site Safety personnel from other organizations
- Reports, as needed, to the FOSC via the In-Situ Burning Operations Group Supervisor

Fire Boom Task Force Leader

- Reports to In-Situ Burning Operations Group Supervisor
- Oversees tactical burn operations for safety of personnel and efficiency of operations
- Works closely with the In-Situ Burning Safety Officer to ensure efficient communications with and between the boom-towing vessels, aerial spotters and the ignition teams.
- Coordinates timing and approval to initiate each burn, and terminate if necessary
- Works with Conventional Boom Task Force Leader and Residue Recovery Task Force Leader as needed to enhance oil encounter rate and maximize efficiency of operations
- Provides backup support to Monitoring Task Force Leader for help with monitoring and documentation (duration and area of burns), presence and avoidance of wildlife, smoke plume trajectories, etc.

Fire Boom Towing Team

- Reports to Fire Boom Task Force Leader with status of oil collection ignition readiness
- Lead Vessel (selected one of two boom-towing vessels) communicates directly with spotter and Fire Boom Task Force Leader to enhance oil encounter rate,

establish when collection area is satisfactory for burn, and when ignition should take place
- Works closely with Fire Boom Task Force Leader, Spotter and Ignition Team for the safe and efficient ignition of any contained oil
- Keeps watch for any signs of large debris or wildlife that could approach or enter the towed U-boom configuration
- Maintains a continuous watch of each burn for size and condition of fire and smoke plume, direction of plume relative to towing vessels and other activities/resources in the area, structural integrity of the fire boom, and start/completion time of each burn

Ignition Team
- Reports to Fire Boom Task Force Leader for guidance on timing and preferred location for start of ignition process. Ignition personnel may be on one of the boom towing vessels, or on a dedicated igniter boat.
- Maintains a ready supply of hand-held igniters onboard and takes position upwind or side-wind to the oil collection area
- Upon direction to ignite the oil, carries out the release of one or more igniters (as per the In-Situ Burning Burn Plan), then moving to a safe location to help monitor the condition of the burn and fire boom
- If requested, assists aerial surveillance/spotting teams in locating heavy oil patches in the area for possible additional burns

Conventional Boom Task Force Leader
- Reports to In-Situ Burning Operations Group Supervisor
- Briefs Conventional Talk Force personnel on the goals, tactics and timing of the mission
- As needed, coordinates the towing of an open-apex U-boom configuration forward of a towed fire boom configuration in order to concentrate and funnel oil for enhanced encounter rate and filling of the fire boom
- As needed, provides backup support to the Residue Recovery Task Force for the possible recovery and storage of burn residue
- As needed, may also provide backup for boom/igniter supply, maintenance and repair

Residue Recovery Task Force Leader
- Reports to In-Situ Burning Operations Group Supervisor
- Manages viscous oil (i.e., burn residue) recovery and storage operations following the completion of each burn
- Briefs assigned Task Force recovery personnel on the safe and effective modes for recovery of such residue
- Documents the nature and approximate volume of residue collected, and takes samples for subsequent laboratory analysis

Monitoring Group Supervisor
- May report directly to the Operations Section Chief, or depending upon the size and nature of the spill event, may report to or coordinate with other Section

Chiefs or Group Supervisors for oil recovery, dispersant application, wildlife monitoring, shoreline protection/cleanup, etc.

- Oversees and coordinates all Monitoring Team activities, the collection of field data/photos/video/samples, and helps with the processing of such information for the interpretation and use of the In-Situ Burning Technical Specialist.
- Ensures that all data, photos etc. are collected, preserved, processed with appropriate chain-of-command documentation, and stored for possible analysis/litigation later on

In-Situ Burning Technical Specialist (or Subject Matter Expert, SME)

- Provides scientific and technical support for In-Situ Burning operations (and other response options as needed)
- Provides input, as needed, to the UC regarding strategies, tactics, equipment, personnel, trade-offs, etc. for In-Situ Burning and/or other response options
- Offers input to the Planning and Operations Sections, as well as the supervisors and leaders of other functional groups as needed.
- Provides help, as needed, with any documentation of the process and/or results of all response, monitoring and sampling efforts

1.2 Surveillance and Spotting

The provision of trained aerial observers and suitable aircraft for surveillance and spotting is essential for the successful execution of any oil spill response plan. The timely use of such observers can provide:

- ✓ Early estimates of the location and extent of oil over a large area.
- ✓ Information on the nature and distribution of oil within that area.
- ✓ Latitude and longitude of the heaviest oil concentrations for response teams (skimming, burning & applying dispersants) to focus their efforts.
- ✓ Ongoing guidance ("spotting") to keep such response teams in the thickest oil concentrations thereby maximizing oil encounter rate.
- ✓ Monitoring of system configuration and performance.
- ✓ Estimates of oil volume encountered, recovered, and burned.
- ✓ Input for Operational Supervisors and Task Force Leaders conducting simultaneous operations where skimming, burning and/or dispersant operations must not interfere with each other.
- ✓ Monitoring of smoke plumes, dispersant application zones, vessel traffic, wildlife, and oil sampling activity.
- ✓ Documentation (photos, video, voice recordings and sketches) of activity, location and timing of resource arrival & departure, oil slick changes and transport, etc.

These and other benefits can result from the careful planning and use of dedicated air support teams and aircraft. Unmanned Aerial Vehicles, UAVs, (fixed or rotary wing) and Aerostats (tethered balloons) with cameras, video and a variety of remote sensing systems can also provide opportunities to achieve some of the above benefits. UAVs may also provide operational support for the release of chemical herders (i.e., to thicken oil slicks for recovery or burning), and for the release of igniters onto contained oil.

One of the most important benefits of "eyes in the sky" involves the enhanced access and collection of oil slicks for controlled burning in place. Depending on the transit time from staging (airstrip, refueling, etc.) to the offshore burn area, the number of observers, aircraft, and pilots will have to be anticipated for relief, refueling, documentation transfer, etc.

Onsite guidance of boom towing vessels requires that radio communications (frequencies, call-signs, language, terminology, etc.) be established for all air and surface crews; that protocols be in place for brief and clear communications; and that individual vessels be marked for quick and easy identification. A common practice is to place large numbers or colored sheets on flat surfaces of the wheel house roof, the deck, or stretched between poles for both ease of identification from the air and possible shading of personnel from direct sunlight. Another method for vessel identification and tracking of specific vessel movements involves a well-known, global service known as AIS (Automatic Identification System). AIS provides a means of locating and tracking each vessel that has a transmitting beacon. While terrestrial-based AIS systems are available, satellite AIS systems are provided by many companies, and can be set up quickly to help responders in the air, on vessels or back at Command to accurately identify and track the movements of every vessel on location.

With clear and concise directions from aerial spotters, In-Situ Burning vessels can be alerted to other vessels/operations nearby, warn of slick conditions ahead, monitor smoke emissions, and provide important feedback for towing speed, course corrections, and preparations for reaction to fire boom failure, vessel loss of power, and any need to extinguish a burn. All of these activities depend upon pre-planning, training, reliable communications, and well organized Site Safety Plans for the start of each Operational Period. The following sections provide additional information on tasks and procedures for the safe and effective containment, ignition, and sustained combustion of oil.

1.3 Oil Access and Containment

The number and type of vessels making up a given Fire Boom Task Force may vary considerably depending upon the size and nature of the oil slicks to be accessed and burned. During a large spill event where multiple fire boom configurations may be needed, the burn plan may involve a Command Vessel, a Fire-Control/Safety Vessel, one or more Ignition Boats, and a Fire Boom Towing Team consisting of two boom-tending boats and a fire-resistant boom in a U-configuration (Figure 9407-6).

Figure 9407-6: Boats pulling fire boom in a U-configuration (DWH Spill – 2010)

As the need increases for additional Fire Boom Towing Teams the Task Force may grow to include 4 or 5 Burn Teams, each under the direction of the Command Vessel, and with support from the Fire-Control/Safety Vessel. Should the burning operations go on for several days or longer, it may be necessary to mobilize an additional vessel or barge for food and lodging of backup crews, maintenance and supply of booms and igniters, refueling of vessels, etc. All vessels should provide adequate accommodations to support In-Situ Burning operations for at least a week. In the meantime, backup vessels, personnel and supplies should be secured and readied for mobilization as needed.

Should the burn plan involve only a single test burn or a small number of burns for the Operational Period, it may be acceptable to combine the Command and Fire-Control/Safety functions on a single vessel. The number and type of vessels may also depend upon the type of spill source and the proximity of the burn operations to that source. A spill source may produce a continuous release of oil for several days to even months (e.g., an offshore blowout), or it may involve a "batch" release of short duration (e.g., a pipeline or tanker accident). The positioning of all vessels, especially In-Situ Burning Burn Teams, for a continuous release will depend upon the flammability of the product released, and whether the spill source is already burning. A task force may need to operate at a considerable distance from an unignited source in order to prevent a flash-back of vapors to the source, or an accidental burn-back of thick oil to the source. If the source is already ignited and allowed to continue to burn, and if personnel have been evacuated, it may be safe and effective to capture oil that escapes from the burning source relatively close and downstream (Figure 9407-7).

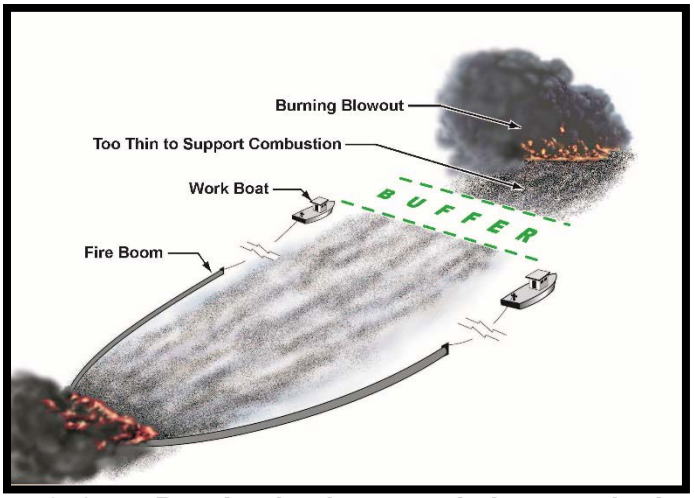


Figure 9407-7: Burning in close proximity to an ignited source

Depending on the size and nature of the burning source and the size and maneuverability of the boom-tending vessels, it may be possible to position the boats well upstream of the source with long tow lines so that oil and unburned residue escaping the fire can be collected immediately downstream and burned.

Whether the source is a batch release or a continuous spill, conditions may require that all burns be conducted well downstream of the source where slicks will then have spread, become emulsified and/or thinned down to layers that will not support combustion. With most fire boom configurations involving boom lengths of around 500 to 600 feet in length, working with swaths (distance between the towing vessels) of typically 150 feet, and towing speeds of a knot or less, the oil encounter rates must be considered as they could preclude the possible interception of enough oil to justify a burn within a reasonable amount of time. A fire-boom U-configuration with a length of 500 feet, towed with a nominal "gap ratio" (i.e., swath-to-length ratio) of 0.3, or a swath of 150 feet, and a towing-speed of ¾ knot through oil approximately 1/10th inch thick (~2 ½ mm), would have an oil encounter rate of about 710 gallons/min.

Example Calculation:
EnR (gallons/min) = 63.13 x Swath (feet) x Speed (knots) x Avg. Oil Thickness (inches)
Where EnR = the Encounter Rate of the moving system
and 63.13 is a conversion factor for "feet" x "knots" x "inches"
Therefore,
EnR (gallons/min) = 63.13 x 150 (feet) x 0.75 (knot) x 0.1 (inch)
EnR = ~ 710 gallons/min.

A boom in this configuration, with oil in its downstream apex and the upstream edge of the oil about 1/3rd of the way toward the boom's leading ends, could hold approximately 100 barrels (~4,200 gallons) of oil per inch of oil depth. An accumulation of that volume (4,200 gallons) collected at an encounter rate of 710 gallons/min. would require only about 6 minutes. The thickness of 1/10th inch for the encountered slick is, however, a heavy oil layer and is normally encountered relatively close to a major spill event, during the early stage of release, or when thickened by natural forces (wind or currents), cold-

water, and/or swath-enhanced deflection systems (e.g., a large open-apex boom configuration). The actual accumulation of 100 barrels would also take longer under normal conditions since the encountered slick would rarely consist of a continuous, uniform layer of oil across the entire system swath.

Under conditions where spilled oil had spread over time to an average thickness of $1/100^{th}$ inch (ten times thinner than the slick described above), the oil appearance would change from a "Dark" oil condition to a "Transitional" stage where it is discontinuous in color and somewhat translucent (NOAA, 2000). Using the same swath and speed values above, the Oil Encounter Rate for the same U-boom configuration would drop to about 71 gallons/min., and require a collection time of about 60 minutes to fill to 100 barrels. While the ignition of a 100-barrel accumulation is sufficient for a "test" burn, a preferred burn during normal operations would typically involve an accumulation of 500 to 1,000 barrels. The two examples for "thick" and "thin" slicks suggest, therefore, that a range of 500 to 1,000 barrels collected for burning could require 5 to 10 times the collection periods above, that is: ½ hour to 1 hour for the thick oil slick, and 5 hours to 10 hours for the thin slick. Potential oil encounter rates and associated collection times must be considered along with typical ignition and sustained burn times when planning In-Situ Burning operations within an approved time frame.

Assuming that a successful oil encounter, capture and burn can be accomplished within the constraints of an approved In-Situ Burning Plan, the Command, Fire-Control/Safety and Ignition vessels would normally take position up-wind or cross-wind of the fire boom towing vessels as they collect oil. Fire boom towing teams would select a path to take advantage of oil slick size, shape and thickness, thereby maximizing their oil encounter rate. With one of the two boom-tending vessels designated as "lead" boat, its Captain would take directional information from a Spotter aircraft, coordinate such information and configuration changes with the other towing boat, and closely monitor the condition and filling of the fire boom. Should minimal oil encounter rates be experienced, the Fire Boom Task Force Leader might request the support of a towed open-apex boom system to enhance the interception of oil (Figure 9407-8). Multiple towed fire boom configurations could take advantage of the increased oil encounter rate with the open-apex system by moving out of position once full and letting another empty fire boom take its place behind the open apex. As discussed in the next section, very high burn rates for most oils could result in the elimination of 500 to 1,000 barrels of oil within an hour or less often matching the times required for oil collection and transits between the collection area and the offset burn sites (typically around a quarter of a mile).

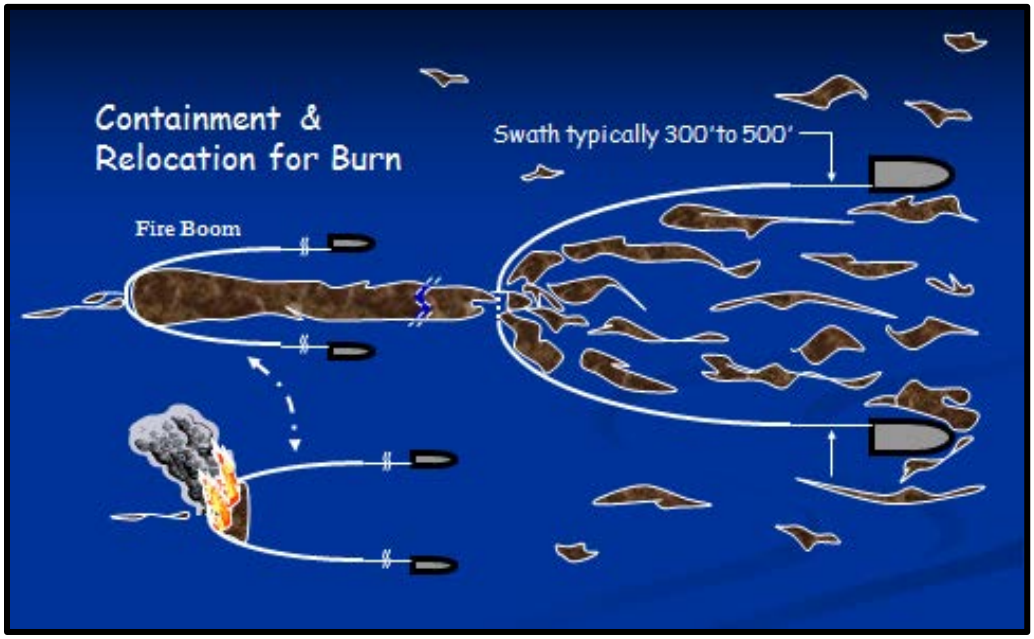


Figure 9407-8: Conventional Open-Apex Boom feeding oil to towed fire booms

1.4 Oil Ignition

When a sufficient amount of oil has been collected within a fire boom, and ignition of the oil has been approved, all vessels except the fire boom towing and ignition vessels should remain clear and upwind of the approved burn area. Vessels and aircraft should make every effort to avoid direct contact with the smoke plume throughout a burn. If such contact cannot be avoided, appropriate respiratory protection equipment should be worn as per the specific Site Health and Safety Plan for the incident.

Pre-ignition: Ignition of the contained oil may involve the use of a helicopter-slung Heli-Torch or the use of hand-held igniters released at the surface. Prior to ignition with either method it is important that the release of the ignition source (i.e., globules of burning gelled fuel from the Heli-Torch or from a hand-held device) be from a location upwind and at a safe distance from the contained oil. If conventional boom has been attached to the leading ends of fire boom to enlarge the U-configuration, care must be taken to avoid any contact of the igniter(s) with the conventional boom. Should the entire boom configuration consist of fire boom, igniters could be released from one of the boom towing boats, or by a dedicated ignition boat at or just forward of a leading end of the fire boom. Every effort must be made to remain safely removed from any premature ignition of vapors from the contained oil by staying upwind. Once the igniters have been released, all vessels should remain at a safe distance of at least 5 fire diameters from the oil containment area (a “fire-diameter” being the approximate diameter of the fire within the contained oil area).

Preparation for ignition should also include a confirmation from the spotter aircraft that the ignition and sustained burn of oil within the boom can be conducted free of any contact with other large concentrations of oil in the area. Especially when fresh, highly-volatile oil is being burned, every precaution must be made to prevent the ignition of oil

slicks that could be intercepted forward of the ongoing burn within the boom. Specific "Burn Control" measures are addressed in the following section.

Once an initial test burn has been completed and the volatility (or ease of ignition) of the surface slicks has been determined, the In-Situ Burning Operations Group Supervisor, with input from the Safety Officer, may modify the pre-ignition and sustained burn procedures to improve the safety and efficiency of operations. When the oil being collected is weathered and/or emulsified, the flame propagation on water (especially into the wind) is very slow. In such cases (as during the DWH spill – Figure 9407-9), oil slicks could be approached and collected safely while burning within the boom. This tactic can result in the continuous burning of oil for many hours (Mabile, 2012; Allen, 2010).

Figure 9407-9: Safe and efficient feeding of low-volatility oil to an ongoing burn (DWH, 2010).

Prior to ignition it is essential that a "Go/No Go" policy for ignition be understood by everyone involved at all levels. The In-Situ Burning Safety Officer and any Deputy Safety Officers must have the authority to terminate an ignition or sustained burn operation. Every vessel captain and crew member must also feel compelled to notify immediately the Fire Boom Task Force Leader or onboard Deputy Safety Officer of any condition that presents an unsafe condition or immediate threat to personnel or equipment.

Immediately prior to ignition a designated Communications Officer or the In-Situ Burning Operations Group Supervisor aboard the Command Vessel confirms that:

- Each vessel involved has clear radio contact and is aware of the intention and approximate time for ignition,

- That the FOSC has issued a final approval to the Command Vessel to conduct the burn,
- That the towed fire boom configuration is pointed into, or nearly into, the wind with an oil-free area ahead.

Hand-Held Ignition: Oil-on-water ignition systems have been developed over several decades, the best proving that the heating and ignition of the oil should take place with a gentle (non-explosive) flame. Depending on the volatility of the oil, its water content (emulsion), temperature, and the wind speed, enough heat must be applied to bring the oil to its fire point for sufficient vapors to ignite, spread and sustain combustion. One of the simplest, safest and most economical ways to achieve such ignition is with the use of a marine flare attached to a plastic bottle filled with gelled fuel (typically gasoline and/or diesel). As shown in Figure 9407-10, a typical hand-held igniter can hold about a gallon of the gelled fuel, the gelling compound already included with the bottle. Once activated by striking the flare, the unit can be released and allowed to float back into the contained oil. Shortly after releasing the igniter from a safe distance upwind or cross-wind to the oil, the flare burns back so that its flame reaches and melts the plastic bottle. The gelled fuel then ignites, spreading to a floating patty of several square feet, and drifts into the oil. The gelled fuel patty burns for several minutes, heating the adjacent oil, and normally resulting in a sustained combustion over the entire oil surface. If ignition is unsuccessful, multiple igniters may then be released to create a larger initial flame.

Figure 9407-10: Hand-held Igniter and release upwind of contained oil.

If multiple ignition attempts fail, the contained oil may be so weathered and/or emulsified that combustion is no longer feasible. The In-Situ Burning Operations Group Supervisor may then consult with the Operations Section Chief and In-Situ Burning Safety Officer to consider and possibly seek approval for the use of an ignition promoter (or, accelerant). If approved, a small quantity of flammable liquid (gasoline or diesel oil) released to the leading edge of the contained oil, followed by the release of an igniter upwind and upstream, may then be sufficient to promote ignition of the oil. Should these efforts fail, the contained oil may still be recoverable with skimmers for transfer to backup storage and disposal.

Heli-Torch Ignition: As with the use of hand-held igniters, the ignition of contained oil with a Heli-Torch must first meet with all environmental and operational conditions prescribed by the RRT Unified Command during the In-Situ Burning Approval Process. Each of the guidelines described above for authorization, radio communications, proximity of vessels to the intended burn, etc. must be met for this mode of ignition as well.

The Heli-Torch ignition system, suspended from a helicopter, involves the release of individual globules of burning gelled fuel, typically at a speed of 20 to 40 mph with an altitude of 25 to 50 feet. The helicopter normally makes a pass forward of the fire boom's leading ends, and at right angles to the path of the towed fire boom (Figure 9407-11). The burning globules land on the water, normally across the entire swath of the towed U-boom configuration, and drift back into the contained oil. The burning globules of gelled fuel spread into patties, sometimes combine with each other on the surface, and provide a "gentle" exchange of heat between the igniter flame and the oil.

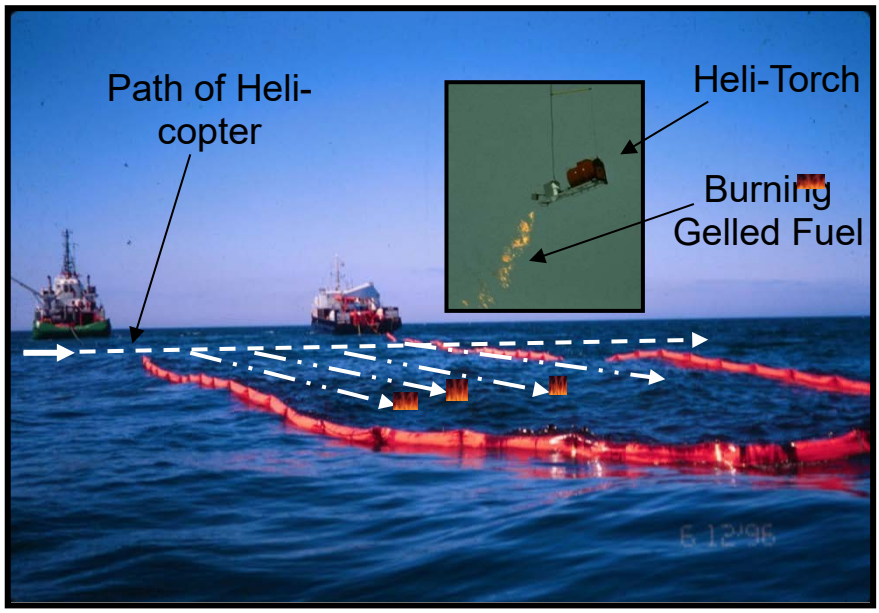


Figure 9407-11: Heli-Torch release of igniters forward of contained oil.

The ignition of contained oil with a Heli-Torch, as compared with hand-held igniters, requires much more planning and resources, including: a helicopter, Heli-Torch, onshore staging area, equipment for mixing gelled fuel, training of ground crews and pilots, compliance with Federal regulations for sling loads of combustible products, etc. The path of the helicopter from staging to the burn area must not transit over populated areas, and the entire offshore operation must be coordinated closely with other air operations. These include: surveillance and spotting, documentation and monitoring of response activities, possible aerial application of dispersants, and flight path/altitude constraints related to nearby airports.

If all of the restrictions and constraints can be met, the Heli-Torch is a proven, safe and effective means of delivering multiple ignition points without the need for a potentially large supply of hand-held igniters, surface ignition boats and personnel, and the relatively slow deployment of igniters. The Heli-Torch also provides a means of creating a large and intense area of burning gel for the ignition of a highly weathered and/or emulsified layer of oil. If the oil is difficult to ignite, the accompanying low level of vapors over the contained oil would allow the release of burning gel directly onto the oil. The initial release should take place from a higher than normal altitude (150 to 200 feet) to provide

both additional safety during ignition and less disturbance of the oil/igniter flames due to the prop-wash of the helicopter.

Regardless of the ignition mode used (hand-held igniters or a Heli-Torch), all pre-burn requirements must be met as described in the FOSC-approved In-Situ Burning Application to burn and detailed operational checklists.

1.5 Fire Control and Emergency Response

Once ignited, control of the fire within the boom may involve an enlargement or reduction of the burn area during an ongoing burn. The reasons for conducting each activity and the methods by which each effort can be conducted safely are addressed in this section along with guidelines for emergency response and termination of a burn.

Enlargement of Burn Area: The boom-towing vessels can control the shape and size of the area for oil containment by speeding up or slowing down. They can also change the distance between them, and therefore the swath of the towed U-boom configuration. Most towed boom configurations with a "U" shape for collection of oil work effectively with a Gap ratio of about 0.3 (i.e., the ratio of the swath of the "U" to the length of the boom). Working with a boom length of 500 feet, the swath (or distance between the towing vessels) would be approximately 150 feet. The maintenance of a shape of this size, towed at between ¾ knot and 1 knot, normally creates a favored condition for the containment of oil with minimal loss through entrainment of oil beneath the boom at its apex. By reducing the speed of the tow vessels while maintaining the same swath, the oil within the boom will creep forward, become thinner, and increase in area. Since the volume elimination rate for burning oil on water is directly proportional to the surface area of the oil being burned, the rate of elimination can be increased substantially by simply slowing down.

While this technique may be favored for a short time, the increased area of burn will expose more of the fire boom to intense heat and increase the safe operating distance for personnel. It will also mean that the duration of a burn will be reduced because of the thinner oil layer, going out quickly as the average oil thickness approaches about $1/10^{th}$ of an inch (a few millimeters). While a larger fire for a shorter period of time may be desirable, it may be better to keep the oil thicker, even over a smaller area, toward the end of a burn for a greater total elimination of as much oil as possible. As towing vessel captains get more experienced with this process (especially with good aerial spotting support), the control of oil area and thickness can lead to improved efficiency of burn. This improvement will also lead to a reduction in the amount of burn residue left upon completion of a burn (normally only a few percent of the original volume burned). Note, as discussed in Section 1.6 on residue recovery, that a significant portion of burn residue can be left and mixed with the oil of a second containment and burn operation, further reducing the overall volume of residue collected.

Reduction of Burn Area: A reduction of the burn area would not normally be desired unless the burn was nearly over and a thickening of the oil layer was needed to sustain the burn a bit longer and reduce the volume of burn residue remaining. There could, however, be other reasons to increase the speed of the towing vessels and thereby reduce

the size of a burn. Should the operation involve oil of relatively low volatility (i.e., bunker oil, weathered or emulsified oil, etc.), the collection and burn tactic might be approved for the simultaneous encountering of oil while burning. During such burns the fire may become so large that the leading edge of the burn area becomes unacceptably close to the leading ends of the boom. A decision may be made to speed up and drive the forward edge of burning oil back into the U-configuration. There could also be a decision to speed up and change course to avoid any further introduction of oil to the burn. These maneuvers could cause oil to thicken beyond the holding capacity of the boom and entrain beneath it or splash over it. Depending upon the volume already contained by the system, this condition may be avoided; however, if it cannot, the oil that is lost behind the boom would be extinguished or burn out quickly as it spreads and thins down without containment.

Throughout the ignition and controlled burning of oil, the Command /Support Vessel and possibly a dedicated Fire/Safety Vessel would be available on location. They would coordinate with the In-Situ Burning Safety Officer and aerial Spotters, maintaining communications and ongoing directional support for each Fire Boom Burn Team. The availability of trained aerial observers for such operations is critical for the safety and monitoring of all vessels and ongoing burns. They have a unique perspective on the spacing of vessels, the nature and distribution of oil in the area, the early warning of weather changes and visibility, and the altitude and direction of smoke plumes relative to population centers and other sensitive resources.

Emergency Response: The role of Command, Safety personnel and aerial Spotters extends into other aspects of fire monitoring and control, especially those activities associated with emergency or unexpected events. Should there be a failure of a fire boom, tow line or any other component of the fire boom assembly (e.g., water feed lines for water-cooled fire booms), there would be a need to alert all vessels of the potential course change for the boom towing vessels and/or the possible accidental or intentional release of burning oil from the U-boom configuration. Should an equipment failure result in the sudden release of a large volume of burning oil, one of two natural conditions will take place – both operationally of positive value. If the amount of burning oil released is relatively small, and/or wind and sea conditions are such that the oil spreads out quickly, the burning oil will be quite visible and remain downstream of the towed boom track, and away from all support vessels. The oil will reach its natural extinction thickness of a millimeter or two, typically within minutes, and go out.

If, on the other hand, the volume of oil released is large, and sea conditions relatively calm, the burn area may be of sufficient size and intensity that even without boom containment, the rising hot air over the burn may cause a significant radial movement of cooler air (or, induced wind) toward the fire (Figure 9407-12). This flow of air at sea level will not only bring in oxygen to enhance the burn, it is likely that surrounding slicks will be transported by the induced wind toward and into the fire. For a short time the natural concentration of nearby oil by induced wind will simply add to the desired elimination of spilled oil.

Figure 9407-12: Thermally induced flow of air and oil toward uncontained slick (DWH, 2010)

Another emergency that must be anticipated is the loss of power by one of the boom-tending vessels, or the loss of a man overboard. In either case, the second towing vessel will turn immediately toward the powerless vessel or the individual needing assistance for recovery. The reasons for long tow lines (200 feet to as much as 500 feet) include thermal and smoke protection of personnel on the boats, but also the provision of time for emergency response in moving the powerless boat out of harm's way, or in recovering someone from the water. The boom towing speeds of a knot or less and the proximity of the boats to each other, are sufficient for assistance of the kind described here. During the transit of one vessel to assist the other it may be best to release or quickly cut one or both tow lines, to allow greater speed and maneuverability of the assisting vessel.
Additional fire control and protection for vessels/personnel can be provided by another vessel with fire monitors onboard. The high-pressured flow of water from a vessel-mounted monitor has been used to provide support in driving back and helping to extinguish oil burning on water.

1.6 Residue Recovery

At the end of a burn any remaining debris and burn residue will usually be too hot to handle or recover for about 10 to 15 minutes, depending on the sea state and any cooling by water splashed onto the residue. In some case the burn residue and any unburned oil may remain at the surface long enough to then be mixed with new oil being encountered and collected within the boom. Being coated by and mixed with the new oil, a portion of the residue may be burned thereby reducing its volume during an additional burn. If a second collection and burn cannot be completed right away, the burn residue may remain at the surface for only an hour or less, depending upon its density, water content, and bubbles of gas often entrained temporarily within the residue. The burn residue should be collected before it begins to sink following the residue recovery plan.

While every effort should be made to remove as much oil as possible (including burn residue) during a spill response, it should be recognized that the volume of oil eliminated during burning is already high, typically 90% to 98%. The time and resources needed to recover the remaining residue should be weighed against the benefits of doing so. The decision is not easy, since even the small percentage of residue could still have significant impact on some sea life, especially in shallow waters. The potential impacts should be weighed carefully against the benefits for a given region and possible biological exposures prior to a spill so that meaningful decisions can be made quickly during an actual spill event.

1.7 Monitoring and Documentation

The monitoring and documentation of conditions and activities related to the controlled in-situ burning of oil may involve:

- Environmental conditions (wind, waves, visibility, etc.),
- Location and condition of spilled oil,
- Location and readiness of In-Situ Burning resources to conduct a burn,
- Tactics and procedures while conducting ignition and sustained burning of oil,
- Approximate area and duration of each burn, including volume burned,
- Appearance and transport of combustion by-products (primarily smoke plume and burn residue),
- Sampling and analysis of combustion by-products (including pre-burn baseline data),
- Presence/Absence of wildlife in the area, and
- An In-Situ Burn Final Report (provided by the OSC or a designated staff member, and presented at an RRT 10 meeting, if requested).

Most of these activities would be completed immediately prior to and during In-Situ Burning operations by personnel on location, under the direction of the Monitoring Group Supervisor, reporting to the Operations Section Chief. All monitoring and sampling requirements, procedures and results would be coordinated with scientific support specialists and shared with appropriate federal, state and local/tribal organizations. The monitoring, sampling and documentation of combustion by-products (including burn residue) are addressed in the Health, Safety & Environment section prepared by Shell Oil. The actual air monitoring/sampling data are collected by Unified Command-led monitoring teams using RRT-10 Modified SMART (Special Monitoring of Applied Response Technologies) protocols (Northwest Area Contingency Plan, 2016).

In-Situ Burning Monitoring Teams, consisting of observers in Surveillance/Spotting aircraft and on vessels will record environmental conditions that most influence the feasibility of conducting a burn safely and effectively. The proximity of a burn or the path of its smoke plume to population centers and other sensitive resources prior to ignition and throughout a burn should be noted and recorded. Any potentially unacceptable variations from the approved Site-Specific In-Situ Burning Plan should be provided to the In-Situ Burning Group Supervisor and Monitoring Group Supervisor immediately. Prevailing wind and atmospheric conditions, modeling output (if available), and input from state and local health officials, should be considered in determining if and where monitoring teams should be deployed for possible harmful exposures of people to

smoke. It should be noted that, while visual monitoring is conducted continuously as long as a burn takes place, air sampling using SMART is not needed if there is no potential for human exposure to the smoke. While response personnel conducting a burn make every effort to avoid exposure to the products of combustion, industrial hygiene specialists should be available to ensure the safety of personnel on vessels and the proper use of personal protective equipment (PPE), as needed.

Aerial and surface monitoring personnel should also note and record the movement of any non-response vessels or aircraft in the vicinity of the burn that could interfere with, or be impacted by, the In-Situ Burning response activities or the smoke plume. Notices to Aviators and to Mariners should go out routinely to the Federal Aviation Administration, the USCG and other local authorities prior to and during In-Situ Burning operations.

In addition to the monitoring of vessel movements during oil collection, ignition and sustained burns, one of the most important monitoring and documentation functions involves the collection of photos and intermittent video of each burn. These recordings, together with data collected by aerial observers on burn area and duration are of great value in making estimates of the volume of oil eliminated during each burn. Since burn rates are well known for a variety of oil types and conditions (Fingas and Punt, 2000), usually expressed in gallons/minute of oil burned per square foot, the volume of oil eliminated from a burn of a given size (i.e., area in square feet), can be estimated by multiplying the burn rate (gallons/min./ft^2) times the duration of that burn (min.) times the area of the burn (ft^2). For example, a burn of lightly emulsified crude oil that could burn at about 0.07 gallons/min./ft^2, involving a burn area of about 50 ft. by 100 ft. (i.e., 5,000 ft^2), and lasting about 15 minutes would likely result in the elimination of approximately 125 barrels of oil. A sample calculation follows:

Volume Burned (gallons) = 0.07 gallons/min./ft^2) x 5,000 ft^2 x 15 min. = 5,250 gallons (125 barrels)

By recording the approximate size and duration of a contained burn, noting variations of the approximate area and timing of changes in the burn, it is possible to make a rough estimate of the total volume of oil eliminated. During the Deepwater Horizon (DWH) Spill of 2010, the burning of more than 400 individual burns offered ample opportunity to develop and practice the estimation of burn volumes using this procedure. Conservative burn rates were used to calculate minimum and maximum estimates oil volumes eliminated during each burn. The assumptions, guidelines and figures used to help collect data during each burn and make burn volume estimates are provided in Appendix A, “A Protocol for Estimation of Oil Volumes Removed During Controlled Burns” (Allen and Mabile, 2010). This document was prepared during the spill event, and includes its own appendices and sample calculations. A copy is provided along with this report.

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Tool 7: Tribal and other Trustee Technical Coordination Master List

The purpose of this tool is to gather a comprehensive list of all the Tribal, agency resource trustee and other key representatives who should be coordinated with and engaged on a technical level for input into the overall tradeoff discussion which is part of the EU Recommendation process. This list is designed to be completed at the time of an incident, and will most likely be different during each incident. This form should be completed by the EUL with help from the Liaison Officer, Public Information Officer.

Organization Name	POC Names and Contact Information	Comments

Protocols RRT 10 Modification – 2014 Special Monitoring of Applied Response Technologies (SMART)

v. 8/2006

SPECIAL MONITORING of APPLIED RESPONSE TECHNOLOGIES

RRT X MODIFICATION –2014
Modified text is red in color with gray shading.

Developed by:

U.S. Coast Guard
National Oceanic and Atmospheric Administration
U.S. Environmental Protection Agency
Centers for Disease Control and Prevention
Minerals Management Service

Smoke rising from the *New Carissa*, February 1999. Photo by USCG

SMART is a living document

SMART is a living document. We expect that changing technologies, accumulated experience, and operational improvements will bring about changes to the SMART program and to the document. We would welcome any comment or suggestion you may have to improve the SMART program.

Please send your comments to:

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SMART approval status

As of January, 2001 EPA Regions II, III, and VI adopted SMART. It was reviewed and approved by the National Response Team (NRT).

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SMART is a Guidance Document Only

Purpose and Use of this Guidance:

This manual and any internal procedures adopted for its implementation are intended solely as guidance. They do not constitute rulemaking by any agency and may not be relied upon to create right or benefit, substantive or procedural, enforceable by law or in equity, by any person. Any agency or person may take action at variance with this manual or its internal implementing procedures. Mention of trade names or commercial products does not constitute endorsement or recommendation for their use by the USCG, NOAA, EPA, CDC, or the Government of the United States of America.

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INTRODUCTION

The need for protocols to monitor response technologies during oil spills has been recognized since the early 1980s. Technological advances in dispersant applications and in situ burning (referred to as *applied response technologies*) have resulted in their increased acceptance in most regions in the U.S. Many regions have set up pre-approval zones for dispersant and in-situ burn operations, and established pre-approval conditions, including the requirement for monitoring protocols. This reaffirms the need for having national protocols to standardize monitoring, especially when the Federal Government assumes full responsibility for the response under the National Oil and Hazardous Substances Pollution Contingency Plan (Title 40 CFR Part 300). Protocols are also needed to serve as guidelines for assisting or overseeing industry's monitoring efforts during spills.

In November 1997, a workgroup consisting of Federal oil spill scientists and responders from the U.S. Coast Guard, the National Oceanic and Atmospheric Administration, the U.S. Environmental Protection Agency, and the Centers for Disease Control and Prevention, convened in Mobile, Alabama to draft guidelines for generating this protocol. The workgroup built upon currently available programs and procedures, mainly the Special Response Operations Monitoring Program (SROMP), developed in 1994, and lessons learned during spill responses and drills. The result of this collaboration is the Special Monitoring of Applied Response Technologies (SMART) program.

SMART establishes a monitoring system for rapid collection and reporting of real-time, scientifically based information, in order to assist the Unified Command with decision-making during in situ burning or dispersant operations. SMART recommends monitoring methods, equipment, personnel training, and command and control procedures that strike a balance between the operational demand for rapid response and the Unified Command's need for feedback from the field in order to make informed decisions.

SMART is not limited to oil spills. It can be adapted to hazardous substance responses where particulate air emissions should be monitored, and to hydrocarbon-based chemical spills into fresh or marine water.

General Information on SMART Modules

A. General Considerations and Assumptions

Several considerations guided the workgroup in developing the SMART guidelines:

1. SMART is designed for use at oil spills both inland and in coastal zones, as described in the National Oil and Hazardous Substances Pollution Contingency Plan.

2. SMART does not directly address the health and safety of spill responders or monitoring personnel, since this is covered by the general site safety plan for the incident (as required by 29 CFR 1910.120).

3. SMART does not provide complete training on monitoring for a specific technology. Rather, the program assumes that monitoring personnel are fully trained and qualified to use the equipment and techniques mentioned and to follow the SMART guidelines.

4. SMART attempts to balance feasible and operationally efficient monitoring with solid scientific principles.

5. In general, SMART guidelines are based on the roles and capabilities of available federal, state, and local teams, and NOAA's Scientific Support Coordinators (SSC). The SSC most

often fills the role of Technical Specialist, mentioned throughout the document. Users may adopt and modify the modules to address specific needs.

6. SMART uses the best available technology that is operationally practical. The SMART modules represent a living document and will be revised and improved based on lessons learned from the field, advances in technology, and developments in techniques.

7. SMART **should not** be construed as a regulatory requirement. It is an option available for the Unified Command to assist in decision-making. While every effort should be made to implement SMART or parts of it in a timely manner, **in situ burning or dispersant application should not be delayed** to allow the deployment of the SMART teams.

8. SMART is not intended to supplant private efforts in monitoring response technologies, but is written for adoption and adaptation by any private or public agency. Furthermore, users may choose to tailor the modules to specific regional needs. While currently addressing monitoring for in-situ burning and dispersant operations, SMART will be expanded to include monitoring guidelines for other response technologies.

9. It is important that the Unified Command agree on the monitoring objectives and goals early on in an incident. This decision, like all others, should be documented.

B. Organization

The SMART document is arranged in modules. Each module is self-sustaining and addresses monitoring of a single response technology. The modules are divided into three sections:

Section 1: Background Information provides a brief overview of the response technology being used, defines the primary purpose for monitoring, and discusses monitoring assumptions.

Section 2: Monitoring Procedures provide general guidelines on what, where, when, and how to monitor; information on organization; information flow; team members; and reporting of data.

Section 3: Attachments provide detailed information to support and expand sections 1 and 2.

MONITORING DISPERSANT OPERATIONS

1. BACKGROUND

1.1 Mission Statement

To provide a monitoring protocol for rapid collection of real-time, scientifically based information, to assist the Unified Command with decision-making during dispersant applications.

1.2 Overview of Dispersants

Chemical dispersants combine with oil and break a surface slick into small droplets that are mixed into the water column by wind, waves, and currents. The key components of a chemical dispersant are one or more surface-active agents, or surfactants. The surfactants reduce the oil-water interfacial tension, thus requiring only a small amount of mixing energy to increase the surface area and break the slick into droplets.

Several actions must occur for a surface oil slick to be chemically dispersed:

- The surfactant must be applied to the oil in an appropriate ratio;
- The surfactant must mix with the oil or move to the oil/water interface;
- The molecules must orient properly to reduce interfacial tension;
- Energy (such as waves) must be applied to form oil droplets; and
- The droplets must not recoalesce significantly.

Dispersants can be applied by air from airplanes and helicopters, by land using pumping/spray systems, or by boat. They are usually applied in small droplets and in lower volumes than the oil being treated.

1.3 Monitoring Dispersant Application

When dispersants are used during spill response, the Unified Command needs to know whether the operation is effective in dispersing the oil. The SMART dispersant monitoring module is designed to provide the Unified Command with real-time feedback on the efficacy of dispersant application. Data collected in Tier III of the SMART dispersant protocol may be useful for evaluating the dilution and transport of the dispersed oil. **SMART does not monitor the fate**, **effects, or impacts of dispersed oil.**

Dispersant operations and the need to monitor them vary greatly. Therefore, SMART recommends three levels (or tiers) of monitoring.

1. Tier I employs the simplest operation, visual monitoring, which may be coupled with Infra Red Thermal Imaging or other remote detection methods.

2. Tier II combines visual monitoring with on-water teams conducting real-time water column monitoring at a single depth, with water-sample collection for later analysis. **While fluorometry remains the most technologically advantageous detection method, other approaches may be considered. The performance-based guidelines provided in attachment 10 define SMART Dispersant Module Criteria for instrument selection and validation**

3. Tier III expands on-water monitoring to meet the information needs of the Unified Command. It may include monitoring at multiple depths, the use of a portable water laboratory, and/or additional water sampling. Tier III monitoring might for example include the redeployment of the monitoring team to a sensitive resource (such as near a coral reef system) as either a protection strategy or to monitor for evidence of exposure. In addition, Tier III might include the use of the monitoring

package for activities unrelated to actual dispersant operations such as monitoring of natural dispersion or to support surface washing activities where water column concerns have been identified. Any Tier III operation will be conducted with additional scientific input from the Unified Command to determine both feasibility and help direct field activities. The Scientific Support Coordinator or other Technical Specialists would assist the SMART Monitoring Team in achieving such alternative monitoring goals.

2. MONITORING PROCEDURES

2.1 Tier I: Visual Observations

Tier I recommends visual observation by a trained observer. A trained observer, using visual aids, can provide a general, qualitative assessment of dispersant effectiveness. Use of guides such as the NOAA *Dispersant Application Observer Job Aid* is recommended for consistency. Observations should be photographed and videotaped to help communicate them to the Unified Command, and to better document the data for future use.

When available, visual monitoring may be enhanced by advanced sensing instruments such as infrared thermal imaging. These and other devices can provide a higher degree of sensitivity in determining dispersant effectiveness.

Visual monitoring is relatively simple and readily done. However, visual observations do not always provide confirmation that the oil is dispersed. Tier II provides a near real-time method using water column monitoring via a direct reading instrument and water sampling.

2.2 Tier II: On-Water Monitoring for Efficacy

Sometimes dispersant operations effectiveness is difficult to determine by visual observation alone. To confirm the visual observations, a monitoring team may be deployed to the dispersant application area to confirm the visual observations by using real-time monitoring and water sampling. SMART defines it as Tier II monitoring.

Tier II prescribes single depth monitoring at 1-meter but rough field conditions may force continuous flow monitoring at increased depths of up to 2 meters. Water sampling may be conducted in concert with in-situ monitoring rather than collecting samples from the flow-through hose. Such a change may reduce direct comparisons between field instrument and laboratory verifications, but the data is still expected to meet mission requirements.

A water-column monitoring team composed of at least one trained technician and a support person is deployed on a suitable platform. Under ideal circumstances, the team collects data in three primary target locations: (1) background water (no oil); (2) oiled surface slicks prior to dispersant application, and (3) post-application, after the oil has been treated with dispersants. Data are collected in real-time by both a built-in data-logging device and by the technician who monitors the readings from the instrument's digital readout and records them in a sampling log. The sampling log not only provides a backup to the data logger, but allows the results to be communicated, near real-time, to the appropriate technical specialist in the Unified Command. Data logged by the instrument are used for documentation and scientific evaluation.

The field team should record the time, instrument readings, and any relevant observations at selected time intervals. Global Positioning System (GPS) instruments are used to ascertain the exact position of each reading.

If feasible, water samples should be collected in bottles to validate and quantify monitoring results. Samples should be collected at the outlet port or discharge side of the monitoring instrument to ensure the integrity of the readings. Exact time and position is noted for each sample taken to correlate the instrument reading. The number of water samples taken reflects the monitoring effort. Generally, five samples collected for each data run is considered adequate in addition to background samples. The water samples are stored in a cooler and sent to a laboratory for future analysis.

2.3 Tier III: Additional Monitoring

Tiers I and II provide feedback to the Unified Command on the effectiveness of dispersant application. If dispersants are effective and additional information on the movement of the dispersed oil plume is desired, SMART Tier III procedures can address this need.

Tier III follows Tier II procedures, but collects information on the transport and dispersion of the oil in the water column. It helps to verify that the dispersed oil is diluting toward background levels. Tier III is simply an expanded monitoring role that is intended to meet the needs of the Unified Command.

Tier III monitoring may be conducted as follows:

1. Multiple depths with one instrument: This monitoring technique provides a cross-section of relative concentrations of dispersed oil at different depths, measuring the dilution of dispersed oil down to background levels. When transecting the dispersant-treated slick (as outlined for Tier II) the team stops the vessel at location(s) where elevated readings are detected at 1 meter and, while holding position, the team monitors and collects samples at multiple increments down to a maximum depth of 10 meters. Readings are taken at each water depth, and the data recorded both automatically in the instrument data logger and manually by the monitors. Manual readings should be taken at discreet time intervals of 2 minutes, 5 minutes, etc. as specified by the Monitoring Group Supervisor or as indicated in a written sampling plan developed by the Dispersant Technical Specialist.

2. Transect at two different depths: This technique also looks at changes in concentration trends, but uses two monitoring instruments at different depths as the monitoring vessel transects the dispersed oil slick while making continuous observations. It is done as follows:

   Monitoring is conducted at two different depths, 1 and 5 meters, or any two water depths agreed upon by the Incident Commander or the Unified Command. Two sampling setups and two separate monitoring instruments are used on a single vessel. The vessel transects the dispersant-treated slick as outlined in Tier II, except that now data are collected simultaneously for two water depths. While the data logger in each instrument automatically records the data separately, the monitoring team manually records the data from both instrument simultaneously at discrete time intervals of 2 minutes, 5 minutes, etc, as specified by the Monitoring Group Supervisor or the sampling plan developed by the Dispersant Technical Specialist. Comparison of the readings at the two water depths may provide information on the dilution trend of the dispersed oil.

3. Water parameters: In addition to instrument data, the Unified Command may request that water physical and chemical parameters be measured. This can be done by using a portable lab connected in-line with the instrument to measure water temperature, conductivity, dissolved oxygen content, pH, and turbidity. These data can help explain the behavior of the dispersed oil. The turbidity data may provide additional information on increased concentrations of dispersed oil if turbidity is elevated. The other physical and chemical parameters measure the characteristics of the water column that could possibly affect the rate of dispersion.

4. As in Tier II, water samples are collected, but in greater numbers to help validate instrument readings.

Calibration and documentation used for Tier II are valid for Tier III as well, including the use of a check standard to verify instrument response. Because of the increased complexity of Tier III, a dispersant technical specialist (e.g., member of the scientific support team) should be on location to assist the monitoring efforts.

A critical point to keep in mind is that in the hectic and rapidly changing conditions of spill response, flexibility and adaptability are essential for success. The sampling plan is dictated by many factors such as the availability of equipment and personnel, on-scene conditions, and the window of opportunity for dispersant application. The need for flexibility in sampling design, effort, and rapid deployment (possibly using a vessel of opportunity), may dictate the nature and extent of the monitoring. To assist the monitoring efforts, it is important that the unified command agrees on the goals and objectives of monitoring and chooses the Tier or combination thereof to meet the needs of the response.

2.4 Mobilizing Monitoring Resources

Dispersant application has a narrow window of opportunity. Time is of the essence and timely notification is critical. It is imperative that the monitoring teams and technical advisors are notified of possible dispersant application and SMART monitoring deployment as soon as they are considered, even if there is uncertainty about carrying out this response option. Prompt notification increases the likelihood of timely and orderly monitoring.

The characteristics of the spill and the use of dispersants determine the extent of the monitoring effort and, consequently, the number of teams needed for monitoring. For small-scale dispersant applications, a single visual monitoring team may suffice. For large dispersant applications several visual and water-column monitoring teams may be needed.

2.5 Using and Interpreting Monitoring Results

Providing the Unified Command with objective information on dispersant efficacy is the goal of Tier I and II dispersant monitoring. When visual observations and on-site water column monitoring confirm that the dispersant operation is not effective, the Unified Command may consider evaluating further use. If, on the other hand, visual observations and/or water column monitoring suggest that the dispersant operation is effective, dispersant use may be continued.

When using fluorometry, the readings will not stay steady at a constant level but will vary widely, reflecting the patchiness and inconsistency of the dispersed oil plume. Persons reviewing the data should look for trends and patterns providing good indications of increased hydrocarbon concentrations above background. As a general guideline only, a fluorometer signal increase in the dispersed oil plume of five times or greater over the difference between the readings at the untreated oil slick and background (no oil) is a strong positive indication. This should not be used as an action level for turning on or off dispersant operations. The final recommendation for turning a dispersant operation on or off is best left to the judgment of the Technical Specialist charged with interpreting the data. The Unified Command, in consultation with the Technical Specialist, should agree early on as to the trend or pattern that they would consider indicative or non-indicative of a successful dispersant operation. This decision should be documented.

2.6 SMART as Part of the ICS Organization

SMART activities are directed by the Operations Section Chief in the Incident Command System (ICS). A "group" should be formed in the Operations Section to direct the monitoring effort. The head of this group is the Monitoring Group Supervisor. Under each group there are teams: Visual

Monitoring Teams and Water Column Monitoring Teams. At a minimum, each monitoring team consists of two trained members: a monitor and an assistant monitor. An additional team member could be used to assist with sampling and recording. The monitor serves as the team leader. The teams report to the Monitoring Group Supervisor, who directs and coordinates team operations, under the control of the Operations Section Chief.

Dispersant monitoring operations are very detailed. They are linked with the dispersant application, but from an ICS management perspective, they should be separated. Resources for monitoring should be dedicated and not perform other operational functions.

2.7 Information Flow and Data Handling

Communication of monitoring results should flow from the field (Monitoring Group Supervisor) to those persons in the Unified Command who can interpret the results and use the data. Typically this falls under the responsibility of a Technical Specialist on dispersants in the Planning Section of the command structure. For the U.S. Coast Guard, the technical specialist is the Scientific Support Coordinator. Note that the operational control of the monitoring groups remains with the Operations Section Chief, but the reporting of information is to the Technical Specialist in the Planning Section.

The observation and monitoring data will flow from the Monitoring Teams to the Monitoring Group Supervisor. The Group Supervisor forwards the data to the Technical Specialist. The Technical Specialist or his/her representative reviews the data and, most importantly, formulates recommendations based on the data. The Technical Specialist communicates these recommendations to the Unified Command.

Quality assurance and control should be applied to the data at all levels. The Technical Specialist in the Planning section is the custodian of the data during the operation. The data belongs to the Unified Command. The Unified Command should ensure that the data are properly stored, archived, and accessible for the benefit of future monitoring operations.

3. ATTACHMENTS

The following attachments are designed to assist response personnel in implementing the SMART protocol. A short description of each attachment is provided below. Attachments may be modified as required to meet the stated objectives. **These attachments are still valid related to the use of the Turner Design AU-10 instrument package. Should monitoring teams choose to change to alternative instrument packages, like protocols would be required to insure proper training, documentation, and QA/QC.**

Number	Title	Description
3.1	Roles and Responsibilities	Detailed roles and responsibilities for responders filling monitoring positions
3.2	Command, Control, and Data Flow	An ICS structure for controlling monitoring units and transferring monitoring results
3.3	Dispersant Observation General Guidelines	General guidelines for Tier I monitoring
3.4	Dispersant Observation Training Outline	Outline of what should be covered for Tier I observation training
3.5	Dispersant Observation Checklist	Equipment and procedure checklist for Tier I monitoring
3.6	Dispersant Observation Pre-Flight List	A checklist for getting air resources coordinated and ready for Tier I monitoring
3.7	Dispersant Observation Reporting Form	A form for recording Tier I observations
3.8	Dispersant Monitoring Training Outline	A training outline for water column monitoring done in Tiers II and III
3.9	Dispersant Monitoring Job Aid Checklist	A list of the tasks to accomplish before, during, and after the monitoring operations
3.10	Dispersant Monitoring Performance Guidelines	A list of performance guidelines for monitoring dispersants
3.11	Dispersant Monitoring Field Guidelines	Field procedures for using Tier II and III monitoring protocols
3.12	Dispersant Monitoring Water Sampling	Procedures for collecting water samples for Tiers II and III
3.13	Dispersant Monitoring Recorder Sheet	A form for recording fluorometer readings for Tiers II and III

3.1 Roles and Responsibilities

3.1.1 Visual Monitoring Team

The Visual Monitoring Team is ideally composed of two persons: a Monitor and an Assistant Monitor.

The Monitor:
- Functions as the team leader
- Qualitatively measures dispersant effectiveness from visual observation
- Communicates results to the Monitoring Group Supervisor.

The Assistant Monitor:
- Provides photo and visual documentation of dispersant effectiveness
- Assists the Monitor as directed.

3.1.2 Water-Column Monitoring Team

The Water-Column Monitoring Team is composed of a minimum of two persons: a Monitor and Assistant Monitor. They shall perform their duties in accordance with the Tier II and Tier III monitoring procedures.

The Monitor:
- Functions as the team leader
- Operates water-column monitoring equipment
- Collects water samples for lab analysis
- Communicates results to the Monitoring Group Supervisor.

The Assistant Monitor:
- Provides photo and visual documentation of dispersant effectiveness
- Assists Monitor as directed
- Completes all logs, forms, and labels for recording water column measurements, water quality measurements, interferences, and environmental parameters.

3.1.3 Monitoring Group Supervisor

The Monitoring Group Supervisor:
- Directs Visual Monitoring and Water Column Monitoring teams to accomplish their responsibilities
- Follows directions provided by the Operations Section in the ICS
- Communicates monitoring results to the Technical Specialist in the Planning Section
- The Monitoring Group Supervisor may not be needed for a Tier I deployment. In these cases, the Visual Monitoring Team monitor may perform the duties of the Monitoring Group Supervisor.

3.1.4 Dispersant Monitoring Technical Specialist (Federal: NOAA SSC)

The Technical Specialist or his/her representative:
- Establishes communication with the Monitoring Group Supervisor
- Advises the Group Supervisor on team placement and data collection procedures
- Receives the data from the Group Supervisor
- Ensures QA/QC of the data, and analyzes the data in the context of other available information and incident-specific conditions
- Formulates recommendations and forwards them to the Unified Command
- Makes the recommendations and data available to other entities in the ICS
- Archives the data for later use, prepares report as needed.

3.2 Command, Control, and Data Flow

In general, dispersant monitoring operations take place as an integral part of the Incident Command System (see Figures 1 and 2).

Dispersant monitoring operations are tactically deployed by the Operations Section Chief or deputy, in cooperation with the Technical Specialist (SSC) in the Planning Section regarding the specifics of the monitoring operations, especially if they affect the data collected. The Monitoring Group Supervisor provides specific on-scene directions to the monitoring teams during field deployment and operations.

The observation and monitoring data flow from the Monitoring Teams to the Monitoring Group Supervisor. After initial QA/QC the Group Supervisor passes the data to the Technical Specialist to review, apply QA/QC if needed, and, most importantly, formulate recommendations based on the data. The Technical Specialist forwards these recommendations to the Unified Command.

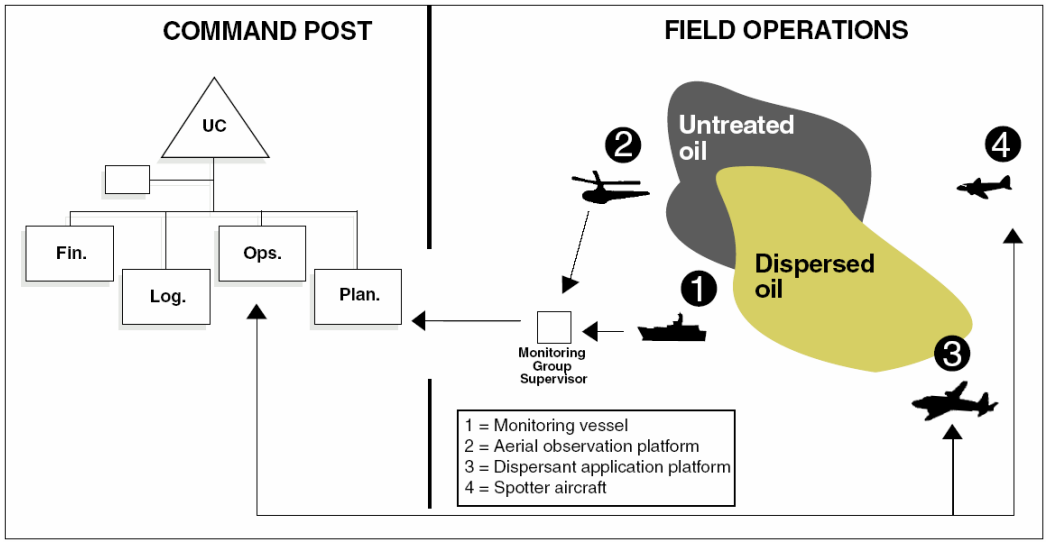

Figure 1. Command, control, and data flow during dispersant monitoring operations.

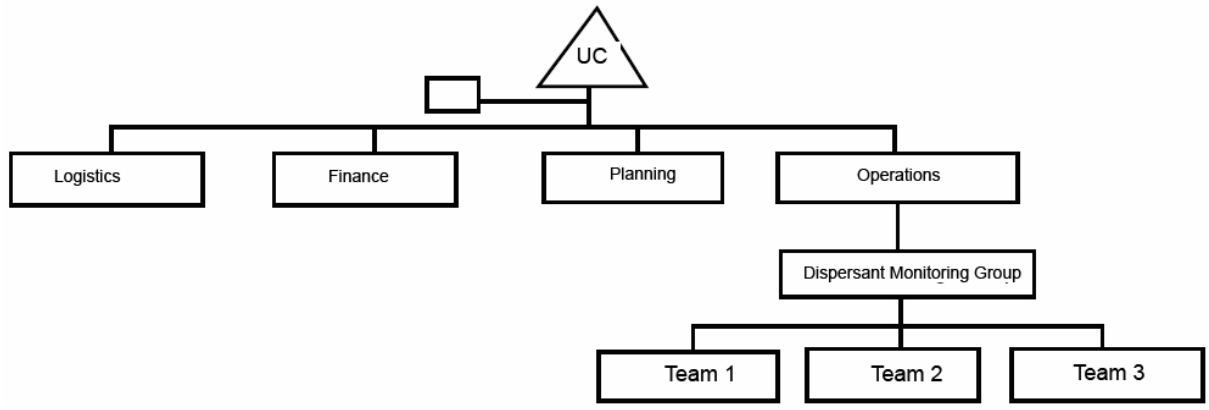

Figure 2. The Dispersant Monitoring Group in the ICS structure.

3.3 Dispersant Observation General Guidelines

3.3.1 Goal

The goal of Tier I monitoring is to identify oil, visually assess efficacy of dispersants applied to oil, and report the observations to the Unified Command with recommendations. The recommendations may be to continue, to modify, or to evaluate further monitoring or use because dispersants were not observed to be effective.

3.3.2 Guidelines and Pointers

3.3.2.1Reporting Observations

- The observer does not make operational decisions, e.g., how much dispersant to apply, or when and where to apply it. These decisions are made at the Operations Section level, and the observer makes observations based on those decisions.

- Different observers at the same site may reach different conclusions about how much of the slick has been dispersed. For that reason, a comprehensive standard reporting criteria and use of a common set of guidelines is imperative. Use of the NOAA *Dispersant Application Observer Job Aid* is highly encouraged.

3.3.2.2Oil on the Water

- Oil surface slicks and plumes can appear different for many reasons including oil or product characteristics, time of day (different sun angles), weather, sea state, rate at which oil disperses. The use of the NOAA *Open Water Oil Identification Job Aid for Aerial Observation* is highly recommended.

- Low-contrast conditions (e.g., overcast, twilight, and haze) make observations difficult.

- For best viewing, the sun should be behind the observer and with the aircraft at an altitude of about 200 - 300 feet flying at a 30-degree angle to the slick.

3.3.2.3Dispersant Applications

- During dispersant application, it may be impossible to determine the actual area of thickest oil concentrations, resulting in variable oil/dispersant application rates. This could lead to variations in the effectiveness of application. The observer should report these conditions.

- Initial applications may have a herding effect on the oil. This would cause the slick to appear to be shrinking when, in fact, it is the dispersant "pushing" the oil together. Due to this effect, in some cases, the oil slick may even disappear from the sea surface for a short time.

- After dispersant application, there may be color changes in the emulsified slick due to reduction in water content and viscosity, and changes in the shape of the slick, due to the de-emulsification action of the dispersant.

- Many trials have indicated that dispersants apparently modify the spreading rates of oils, and within a few hours treated slicks cover much larger areas than control slicks.

- In some situations, especially where there may be insufficient mixing energy, oil may resurface.

3.3.2.4 Effective/Ineffective Applications

- Dispersed oil plume formation may not be instantaneous after dispersant application. In some cases, such as when the oil is emulsified, it can take several hours. A dispersed oil plume may not form at all.

- The appearance of the dispersed plume can range from brown to white (cloudy) to no visible underwater plume (this is why Tier II may be necessary).

- Sometimes other things such as suspended solids may resemble dispersed oil.

- The visibility of the dispersed plume will vary according to water clarity. In some cases, remaining surface oil and sheen may mask oil dispersing under the slick and thus interfere with observations of the dispersed oil plume.

- Dispersed oil plumes are often highly irregular in shape and non-uniform in concentration. This may lead to errors in estimating dispersant efficiency.

- If a visible cloud in the water column is observed, the dispersant is working. If a visible cloud in the water column is not observed, it is difficult to determine whether the dispersant is working.

- If there are differences in the appearance between the treated slick and an untreated slick, the dispersant may be working.

- Boat wakes through oil may appear as a successful dispersion of oil; however, this may be just the vessel wake breaking a path through the oil (physically parting the oil), not dispersing it.

3.4 Dispersant Observation Training Outline

Below is a suggested outline for dispersant observation training.

Topics and sub-topics	Duration
Observation Platforms	30 min.
• Helo or fixed-wing, separate from application platform • Safety considerations: daylight; safe flying conditions • Logistical considerations: personnel; equipment; communication • Planning an over-flight	
Oil on water	1 hour
• Physical properties • Different types of oil • Chemistry, crude vs. refined product • Appearance and behavior • Effects of wind, waves, and weather	
How dispersants work	45 min.
• Method of action • Compatible/incompatible products • Appropriate environmental conditions (wave energy, temperature, salinity, etc.) • Oil weathering • Oil slick thickness • Beaching, sinking, etc.	
Dispersant application systems	45 min.
• Platform: boat, helo, plan • Encounter rate • Importance of droplet size • Dispersant-to-oil ratio (dosage)	
• Effective application	45 min.
• Hitting the target • Dispersal into water column • Color changes • Herding effect	
• Ineffective application	30 min.
• Missing the target • Oil remaining on surface • Coalescence and resurfacing	
• Wildlife concerns	30 min.
• Identifying marine mammals and turtles • Rafting birds	
• Documenting observations	30 min.
• Estimating surface coverage • Photographs: sun reflection effects, use of polarizing filter, videotaping • Written notes and sketches	
• Reporting observations	30 min.
• Calibrating eyeballs • Recommended format • Information to include • Who to report to • Coordination with water-column monitoring	

3.5 Dispersant Observation Checklist

Below is a dispersant observation checklist. Check √ the items/tasks accomplished.

Check √	Item
	Observation Aids
	Base maps / charts of the area
	Clipboard and notebook
	Pens / pencils
	Checklists and reporting forms
	Handheld GPS with extra set of batteries
	Observation job aids (*Oil on Water & Dispersant Observation*)
	Still camera
	Extra film
	Video camera
	Binoculars
	Safety Equipment
	Personal flotation device
	Emergency locator beacon
	Survival equipment
	NOMEX coveralls (if available)
	Coldwater flotation suit (if water temperature requires)
	Intercom
	Direct communications back to the Incident Command Post
	Safety Brief
	Preflight safety brief with pilot
	Safety features of aircraft (fire extinguishers, communications devices, emergency locator beacon, flotation release, raft, first aid kit, etc.)
	Emergency exit procedures
	Purpose of mission
	Area orientation / copy of previous over-flight
	Route / flight plan
	Duration of flight
	Preferred altitude
	Landing sites
	Number of people on mission
	Estimated weight of people and gear
	Gear deployment (if needed, i.e., dye marker, current drogue)
	Frequency to communicate back to command post

3.6 Dispersant Observation Pre-Flight List

Spill Information				
Incident Name:				
Source Name:				
Date / Time Spill Occurred				
Location of Spill: Latitude		Longitude		
Type of Oil Spilled:		Amount of Oil Spilled:		
Weather On Scene				
Wind Speed and Direction				
Visibility:		Ceiling:		
Precipitation:		Sea State:		
Aircraft Assignments				
Title	**Name**	**Call Sign**	**ETD**	**ETA**
Spotter (s)				
Sprayer (s)				
Observer (s)				
Monitor (s)				
Supervisor				
Safety Check				
Check all safety equipment. Pilot conducts safety brief				
Entry/Exit Points				
	Airport	**Tactical Call Sign**		
Entry:				
Exit:				
Communications (complete only as needed; primary/secondary)				
Observer to Spotter (air to air)		VHF	UHF	Other
Observer to Monitor (air to vessel)		VHF	UHF	Other
Observer to Supervisor (air to ground)		VHF	UHF	Other
Supervisor to Monitor (ground to vessel)		VHF	UHF	Other
Monitor to Monitor (vessel to vessel)		VHF	UHF	Other

3.7 Dispersant Observation Reporting Form

Names of observers/Agency: _____

Phone/pager: _____ Platform: _____

Date of application: _____ Location: Lat.:_____Long.: _____

Distance from shore: _____

Time dispersant application started: _____ Completed: _____

Air temperature: _____ Wind direction _____ Wind speed: _____

Water temperature: _____ Water depth: _____ Sea state: _____

Visibility: _____

Altitude (observation and application platforms): _____

Type of application method (aerial/vessel): _____

Type of oil: _____

Oil properties: specific gravity_____viscosity_____pour point _____

Name of dispersant: _____

Surface area of slick: _____

Operational constraints imposed by agencies: _____

Percent slick treated: _____ Estimated efficacy: _____

Visual appearance of application: _____

Submerged cloud observed?_____

Recoalescence (reappearance of oil): _____

Efficacy of application in achieving goal (reduce shoreline impact, etc.): _____

_____

Presence of wildlife (any observed effects, e.g., fish kill): _____

Photographic documentation: _____

Lessons learned: _____

_____

3.8 Fluorometry Monitoring Training Outline

3.8.1 General[1]

Training for Tier II and III monitoring consists of an initial training for personnel involved in monitoring operations, Group Supervisor training, and refresher training sessions every six months. Emphasis is placed on field exercise and practice.

3.8.2 Basic Training

Monitor Level Training includes monitoring concepts, instrument operation, workprocedures, and a field exercise.

Topic	Duration
Brief overview of dispersant monitoring. Review of SMART: What is it, why do it, what is it good for.	1 hour
Monitoring strategy: who, where, when. Reporting	1 hour
Basic instrument operation (hands-on): how the fluorometer works, how to operate: brief description of mechanism, setup and calibration, reading the data, what the data mean, troubleshooting; using Global Positioning Systems; downloading data; taking water samples	3 hours
Field exercise: Set up instruments within available boat platforms, measure background water readings at various locations. Using fluoroscein dye or other specified fluorescent source monitor for levels above background. Practice recording, reporting, and downloading data.	3-4 hours

3.8.3 Group Supervisor Training

Group Supervisor training may include:

- Independent training with the monitoring teams; or
- An additional structured day of training as suggested below

Topic	Duration
Review of ICS and role of monitoring group in it, roles of Monitoring Group Supervisor, what the data mean, QA/QC of data, command and control of teams, communication, and reporting the data.	1 hour
Field exercise. Practice deploying instruments in the field with emphasis on reporting, QA/QC of data, communication between teams and the Group Supervisor, and communication with the Technical Specialist.	3-6 hours
Back to the base, practice downloading the data.	30 min.
Lessons learned.	30 min.

[1] This training is designed for fluorometers. Other instruments could provide valid results, and may be suitable for SMART operations.

3.8.4 Refresher Training

Topic	Duration
Review of SMART: What is it, why do it, what is its purpose.	15 min.
Monitoring and reporting: Who, where, and when; level of concern; what the data mean; communication; and reporting the data	30-45 min.
Basic instrument operation (hands-on): how the fluorometer works and how to operate it; brief description of the mechanism, setup, calibration, reading data, and troubleshooting; using GPS.	2 hours
Downloading data	30 min.
Field exercise: Outside the classroom, set up instrument on a platform, and measure background readings. Using fluorescence or other common input sources, monitor fluorescence levels. Practice recording, reporting, and downloading data.	1-3 hours
Lessons learned	30–45 min.

3.9 Dispersant Monitoring Job Aid Checklist

This checklist is designed to assist SMART dispersant monitoring by listing some of the tasks to accomplish before, during, and after the monitoring operations.

Check √	Item	Do
	Preparations	
	Activate personnel	• Contact and mobilize the monitoring teams and Technical Specialist (SSC where applicable)
	Check equipment	• Check equipment (use checklists provided) • Verify that the fluorometer is operational • Include safety equipment
	Obtain deployment platforms	Coordinate with incident Operations and Planning Section regarding deployment platforms (air, sea, land)
	Amend site safety plan	Amend the general site safety plan for monitoring operations.
	Monitoring Operations	
	Coordinate plan	• Coordinate with the Operations Section Chief • Coordinate with Technical Specialist
	Conduct briefing	• Monitoring: what, where, who, how • Safety and emergency procedures
	Deploy to location	Coordinate with Operations Section.
	Setup instrumentation	• Unpack and set up the fluorometer per user manual • Record fluorometer response using the check standards
	Evaluate monitoring site	• Verify that the site is safe • Coordinate with spotter aircraft (if available)
	Conduct monitoring (See attachment 11 for details)	• Background, no oil present • Background, not treated with dispersants • Treated area
	Conduct data logging (see attachment 12)	• Date and time • Location (from GPS) • Verify that the instrument data logger is recording the data • Manually record fluorometer readings every five minutes • Record relevant observations
	Conduct water sampling (see attachment)	• Collect water samples post-fluorometer in certified, clean, amber bottles for lab analysis
	Conduct photo and video documentation	• Document relevant images (e.g., monitoring procedures, slick appearance, evidence of dispersed oil)
	Conduct quality assurance and control	• Instrument response acceptable? • Check standards current? • Control sampling done at oil-free and at untreated locations? • Water samples in bottles taken for lab analysis? • Date and time corrected and verified? • Any interfering factors?

	Report (by Teams)	Report to Group Supervisor: • General observation (e.g., dispersed oil visually apparent) • Background readings • Untreated oil readings • Treated oil readings
	Report (by Group Supervisor)	Report to Technical Specialist: • General observation • Background readings • Untreated oil readings • Treated oil readings
	Report by Technical Specialist (SSC)	Report to Unified Command: • Dispersant effectiveness • Recommendation to continue or re-evaluate use of dispersant.
	Post monitoring	
	Conduct debrief	• What went right, what can be done better • Problems and possible solutions • Capture comments and suggestions
	Preserve data	• Send water samples to the lab • Download logged data from fluorometer to computer • Collect and review Recorder data logs • Correlate water samples to fluorometer readings • Generate report
	Prepare for next spill	Clean, recharge, restock equipment

3.10 Dispersant Monitoring Performance Guidelines

SMART does not require nor endorse a specific instrument or brand for dispersant monitoring. Rather, SMART specifies performance criteria, and instruments meeting them may be used for monitoring.

1) Instrument package must be field rugged and portable. Instrument package must be able to operate from a vessel or small boat under a variety of field conditions, including air temperatures between 5 and 35°C, water temperatures between 5 and 30°C, seas to 5 feet, humidity up to 100%, drenching rain, and even drenching sea spray. The criteria for field deployment should be limited by the safety of the field monitoring team and not instrument package limitations.
2) Instrument package must be able to operate continuously in real-time or near-real time mode by analyzing seawater either in-situ (instrument package is actually deployed in the sea) or ex-situ (seawater is continuously pumped from a desired depth).
3) Monitoring depth must be controllable to between 1 meter and 3 meters. Discrete water sampling for post-incident laboratory validation is required at the same depths as actual instrument monitoring. Note, actual analysis of water samples collected may or may not be required by the FOSC.
4) Instrument must be able to detect dispersed crude oil in seawater. To allow a wide range of instruments to be considered, no specific detection method is specified. If fluorometry is used, the excitation and emission wavelengths monitored should be selected to enhance detection of crude oil rather than simply hydrocarbons, in order to reduce matrix effects (for the Turner AU-10, long wavelength kits developed for oil detection are preferred over the short wavelength kits developed by the manufacture for other applications).
5) Instrument must be able to provide a digital readout of measured values. Given that different oils that have undergone partial degradation due to oil weathering will not provide consistent or accurate concentration data, measured values reported as "raw" units are preferred for field operations over concentration estimations that might be misleading as to the true dispersed oil and water concentrations.
6) In additional to a digital readout (as defined above), the instrument must be able to digitally log field data for post-incident analysis. Data logging must be in real-time, but downloading of achieved data is not required until after the monitoring activity, i.e., downloading the raw data to a computer once the boat has returned from the field operation is acceptable.
7) For instrument validation prior to operational use, the instrument must have a minimum detection limit (MDL) of 1 ppm of dispersed fresh crude oil in artificial seawater and provide a linear detection to at least 100 ppm with an error of less than 30% compared to a known standard. The preferred calibration oil is Alaskan North Slope Crude or South Louisiana Crude (the oils specified by the EPA's Dispersant Effectiveness). Similar dispersible crude oils may be used if availability is a limitation (diesel fuel is not a suitable substitute). Some method of instrument calibration or validation is required on-scene prior to any operational monitoring for Quality Assurance/Quality Control (QA/QC). In the past, the use of a fluorescent dye at a concentration that would provide an equivalent value of 18 ppm for fresh ANS Crude was used for both calibration and field validation.

3.11 Dispersant Monitoring Field Guidelines

3.11.1 Overview

Dispersant monitoring with fluorometers employs a continuous flow fluorometer at adjustable water depths. Using a portable outrigger, the sampling hose is deployed off the side of the boat and rigged so that the motion of the boat's propeller or the wake of the sampling boat does not disrupt the sampling line. The fluorometer is calibrated with a check standard immediately prior to use in accordance with the operator's manual. In addition, water samples are collected for confirmation by conventional laboratory analysis.

3.11.2 Tier II Monitoring Operations

3.11.2.1Monitoring Procedures

Monitoring the water column for dispersant efficacy includes three parts:
1. Water sampling for background reading, away from the oil slick;
2. Sampling for naturally dispersed oil, under the oil slick but before dispersants are applied; and
3. Monitoring for dispersed oil under the slick area treated with dispersants.

3.11.2.2Background sampling, no oil

En route to the sampling area and close to it, the sampling boat performs a monitoring run where there is no surface slick. This sampling run at 1-meter depth (or deeper depending on sea state conditions) will establish background levels before further sampling.

3.11.2.3Background sampling, naturally dispersed oil

When reaching the sampling area, the sampling boat makes the sampling transects at 1-meter depths across the surface oil slick(s) to determine the level of natural dispersion before monitoring the chemical dispersion of the oil slick(s).

3.11.2.4Monitoring of dispersed oil

After establishing background levels outside the treated area, the sampling boat intercepts the dispersed subsurface plume. The sampling boat may have to temporarily suspend continuous sampling after collecting baseline values in order to move fast enough to intercept the plume. The sampling boat moves across the path of the dispersed oil plume to a point where the center of the dispersed plume can be predicted based on the size of the treatment area and the locations of new coordinates. The sampling boat may have to be directed by an aerial asset to ensure correct positioning over the dispersed slick.

When conducting the monitoring, the transects consist of one or more "legs," each leg being as close as possible to a constant course and speed. The recommended speed is 1-2 knots. The monitoring team records the vessel position at the beginning and end of each leg.

The instrument data may be reviewed in real time to assess the relative enhanced dispersion of the water-soluble fraction of the oil. Figure 1 shows an example of how the continuous flow data may be presented.

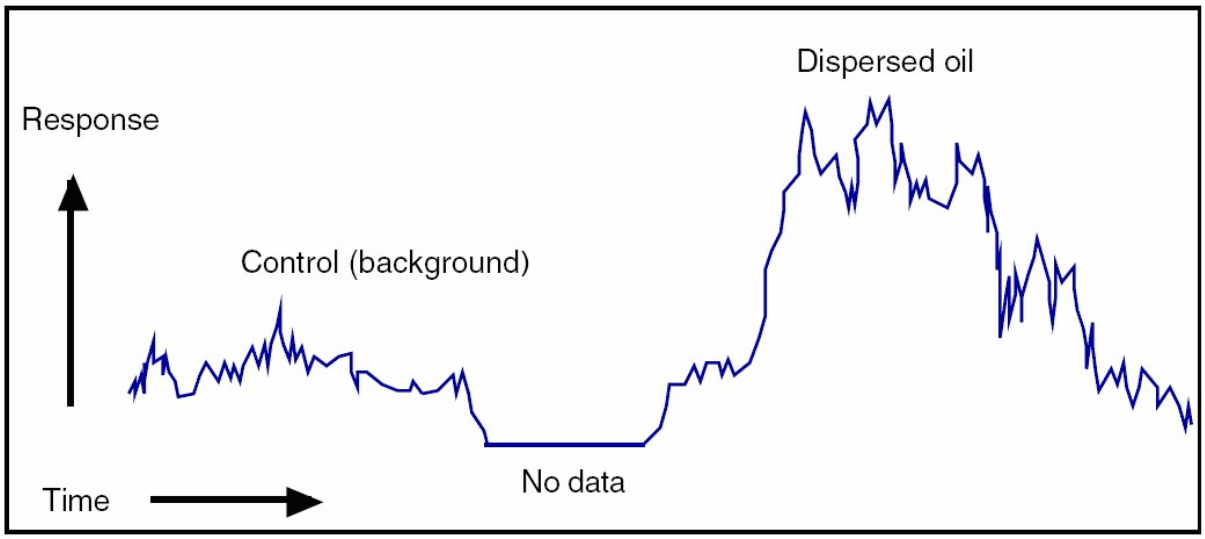

Figure 1. Example of a graphical presentation of fluorometer data.

3.11.3 Tier II Monitoring Locations: The Box Coordinates Method

The observation aircraft identifies the target slick or target zone for the sampling vessel by a four-corner box (Figure 2). Each corner of the box is a specific latitude/longitude, and the target zone is plotted on a chart or map for easy reference. The sampling vessel positions near the slick and configures the fluorometer sampling array. The pre-application sampling transect crosses the narrow width of the box. After completing the sampling transect, the sampling vessel waits at a safe distance during dispersant application. Data logging may continue during this period. Fifteen to twenty minutes after dispersants have been applied, the observation aircraft generates a second box by providing the latitude and longitude coordinates of the four corners corresponding to any observed dispersed oil plume. The post-application transect is identical to the pre-application transect. If no plume is observed, the sampling vessel samples the same transect used for pre-application.

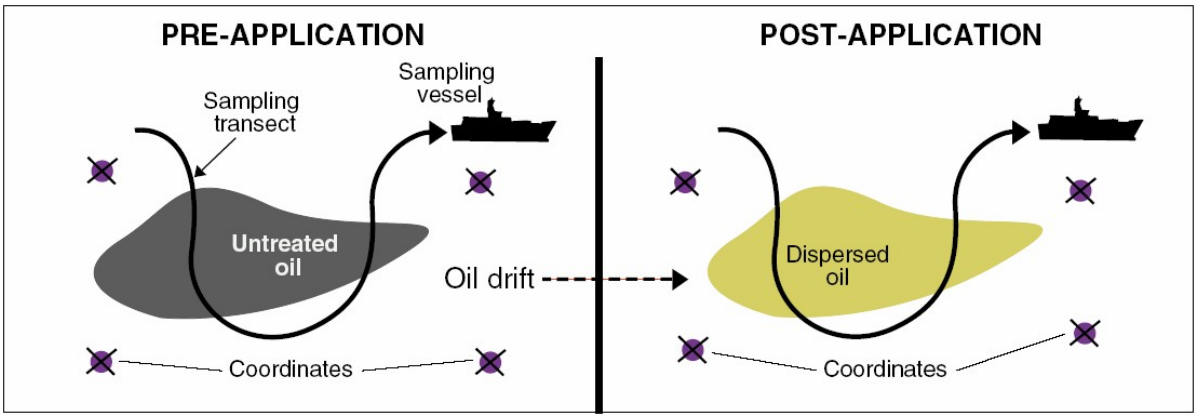

Figure 2. The box coordinates Method.

3.11.4 Tier III Monitoring Operations

If monitoring indicates that dispersant application is effective, the Unified Command may request that additional monitoring be done to collect information on the transport and dilution trends of the dispersed oil. Tier III may be conducted to address this information need. Tier III is highly flexible. Any Tier III operation will be conducted with additional scientific input from the Unified Command to determine both feasibility and help direct field activities. The Scientific Support Coordinator or

other Technical Specialists would assist the SMART Monitoring Team in achieving such alternative monitoring goals.

3.11.4.1Multiple Depths with One Instrument

This monitoring technique provides a cross section of relative concentrations of dispersed oil at different depths. To conduct this operation, the team stops the vessel while transecting the dispersant-treated slick at a location where the fluorometry monitoring at the one-meter depth indicated elevated readings. While holding steady at this location, the team lowers the fluorometer sampling hose at several increments down to approximately ten meters (Figure 7). Monitoring is done for several minutes (2-3 minutes) for each water depth, and the readings recorded both automatically by the instrument's data logger and manually by the monitoring team, in the data logging form. This monitoring mode, like Tier II, requires one vessel and one fluorometer with a team to operate it.

3.11.4.2Simultaneous Monitoring at Two Different Depths.

If two fluorometers and monitoring setups are available, the transect outlined for Tier II may be expanded to provide fluorometry data for two different water depths (one and five meters are commonly used). Two sampling set-ups (outriggers, hoses, etc.) and two separate fluorometers (same model) are used, all on a single vessel, with enough monitoring personnel to operate both instruments. The team transects the dispersant-treated slick as outlined in Tier II, but simultaneously collect data for two water depths (Figure 7).

While the data logger in each instrument is automatically recording the data separately, the monitoring teams manually record the data from both instruments at the same time. Comparison of the readings at the two water depths may provide information on the dilution trend of the dispersed oil.

If requested by the Unified Command, water chemical and physical parameters may be collected by using a portable water quality lab in-line with the fluorometer to measure water temperature, conductivity, dissolved oxygen content, pH, and turbidity. These data can help explain the behavior of the dispersed oil.

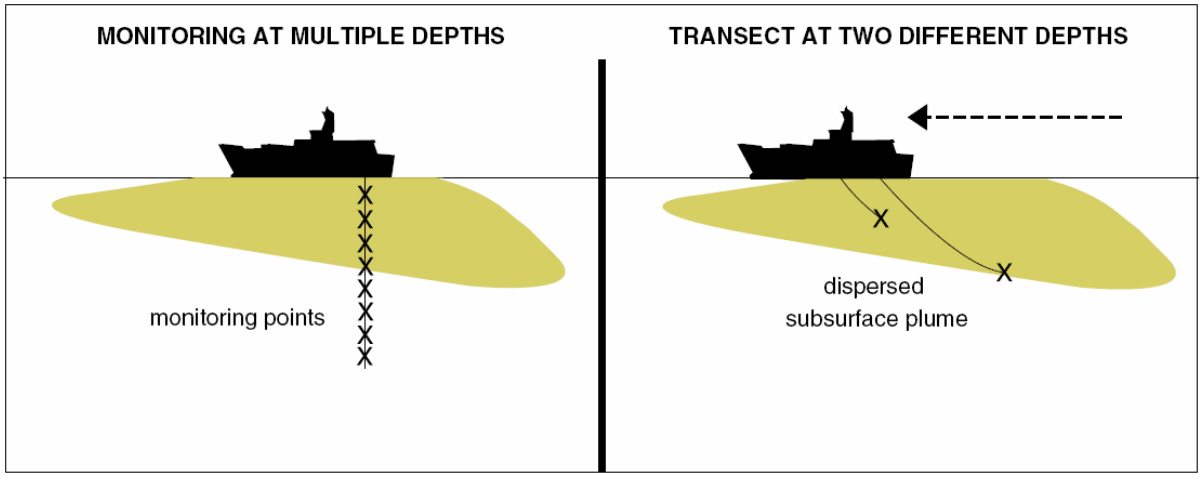

Figure 3: Monitoring options for Tier III.

3.12 Dispersant Monitoring Water Sampling

3.12.1. Purpose

Collection of water samples during Tier II and III monitoring should assist in correlating instrument readings in the field to actual dispersed oil concentrations in the water column. The samples provide validation of the field monitoring. The following guidelines were drafted for flow-through fluorometers. The procedures must be modified for alternative instruments. Such modifications might include discrete water sampling in concert with monitoring. The guidelines provided below are general, and should serve as an initial starting point for water sample collection. The number of samples collected may vary, depending on the operation and the need for verification.

3.12.2. Guidelines

3.12.2.1Equipment

1. Certified pre-cleaned amber 500-ml bottles with Teflon™-lined caps.
   - For Tier II, a minimum of six bottles is required.
   - For Tier III, a minimum of thirteen bottles is required.

2. Labels for bottles documenting time and location of collection.

3. Observation notes corresponding fluorometer readings to water sample collection, and any other observations.

3.12.2.2Procedure

1. Open valve for water sample collection and allow water to run for ten seconds before opening and filling the bottle.

2. Fill the bottle to the top and allow no headspace in bottles after sealing.

3. Label bottle with exact time of initial filling from the fluorometer clock as well as sampling depth, transect, and the distance of water hose from the outflow port of the fluorometer to the actual collection point of the water sample (to account for residence time of water in the hose)

4. Store filled bottles in a cooler with ice while on the monitoring vessel. Keep refrigerated (do not freeze) after returning to shore and send to the laboratory as soon as possible.

5. Measure and record the length of the hose between the fluorometer outlet and the bottle end, hose diameter, and flow rate (by filling a bucket). This will assist in accurately linking water sample results to fluorometer readings.

3.12.2.3Number of Samples

1. Collect one water sample per monitoring depth during the background (no oil) transect. The fluorometer readings prior to collection should be relatively constant.

2. Collect two samples per monitoring depth during the pre-dispersant monitoring (under untreated oil slick). Try to collect water samples correlating with representative fluorometer values obtained.

3. Collect approximately three samples per monitoring depth during the post-dispersant transects. These samples should represent the range of high, middle, and low values obtained from the fluorometer screen.

4. Label the bottles and store them in a cooler with ice. Do not freeze. Enter water sample number, time, and correlated fluorometer reading in the Recorder Log for future data processing

3.13 Dispersant Monitoring Recorder Form

Date:_____ Fluorometer #:_____
Project: _____ Platform: _____

Monitoring Start/End Time: _____
Team members: _____ On-scene weather (log all possible entries) Wind direction from:_____Wind speed: _____
Sea state:_____Cloud cover:_____Visibility: _____
Air temp. :_____Sea temp.: _____

Comments should include: Presence or lack of surface oil or dispersed oil plume, whether conducting background run, transect in relation to slick, instrument or gear problem, or any other noteworthy event. Positions should always be recorded when a sample is taken. Otherwise, a log entry every five minutes is sufficient.

Time	Water depth	Fluorometer reading	GPS reading	Sample taken?	Comments & observations
			lat:_____ long:		
			lat:_____ long:		
			lat:_____ long:		
			lat:_____ long:		
			lat:_____ long:		
			lat:_____ long:		
			lat:_____ long:		
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			lat:_____ long:		

MONITORING IN-SITU BURNING OPERATIONS

1. BACKGROUND

1.1 Mission Statement

To provide a monitoring protocol for rapid collection of real-time, scientifically based information to assist the Unified Command with decision-making during in situ burning operations.

1.2 Overview of In situ Burning

In situ burning of oil may offer a logistically simple, rapid, and relatively safe means for reducing the net environmental impact of an oil spill. Because a large portion of the oil is converted to gaseous combustion products, in situ burning can substantially reduce the need for collection, storage, transport, and disposal of recovered material. In situ burning, however, has several disadvantages: burning can take place only when the oil is not significantly emulsified, when wind and sea conditions are calm, and when dedicated equipment is available. In addition, in situ burning emits a plume of black smoke, composed primarily (80-85%) of carbon dioxide and water; the remainder of the plume is gases and particulates, mostly black carbon particulates, known as soot. These soot particulates give the smoke its dark color. Downwind of the fire, the gases dissipate to acceptable levels relatively quickly. The main public health concern is the particulates in the smoke plume.

With the acceptance of in situ burning as a spill response option, concerns have been raised regarding the possible effects of the particulates in the smoke plume on the general public downwind. SMART is designed to address these concerns and better aid the Unified Command in decisions related to initiating, continuing, or terminating in situ burning.

2. MONITORING PROCEDURES

2.1 General Considerations

In general, SMART is conducted when there is a concern that the general public may be exposed to smoke from the burning oil. It follows that monitoring should be conducted when the predicted trajectory of the smoke plume indicates that the smoke may reach population centers, and the concentrations of smoke particulates at ground level may exceed safe levels. Monitoring is not required, however, when impacts are not anticipated.

Execution of in situ burning has a narrow window of opportunity. It is imperative that the monitoring teams are alerted of possible in situ burning and SMART operations as soon as burning is being considered, even if implementation is not certain. This increases the likelihood of timely and orderly SMART operations.

2.2 Sampling and Reporting

Monitoring operations deploy one or more monitoring teams. SMART recommends at least three monitoring teams for large-scale burning operations. Each team uses a real-time particulate monitor capable of detecting the small particulates emitted by the burn (~~ten microns~~ in diameter or smaller), a global positioning system, and other equipment required for collecting and documenting the data. Each monitoring instrument provides an instantaneous particulate concentration as well as the time-weighted average over the duration of the data collection. The readings are displayed on the instrument's screen and stored in its data logger. In addition, particulate concentrations are logged manually every few minutes by the monitoring team in the recorder data log.
Region 10 will monitor both PM 2.5 or smaller and PM 10 or smaller.

The monitoring teams are deployed at designated areas of concern to determine ambient concentrations of particulates before the burn starts. During the burn, sampling continues and readings are recorded both in the data logger of the instrument and manually in the recorder data log. After the burn has ended and the smoke plume has dissipated, the teams remain in place for some time (15-30 minutes) and again sample for and record ambient particulate concentrations.

During the course of the sampling, it is expected that the instantaneous readings will vary widely. However, the calculated time-weighted average readings are less variable, since they represent the average of the readings collected over the sampling duration, and hence are a better indicator of particulate concentration trend. When the time-weighted average readings approach or exceed the Level of Concern (LOC), the team leader conveys this information to the In-Situ Burn Monitoring Group Supervisor (ISB-MGS) who passes it on to the Technical Specialist in the Planning Section (Scientific Support Coordinator, where applicable), which reviews and interprets the data and passes them, with appropriate recommendations, to the Unified Command.

2.3 Monitoring Locations

Monitoring locations are dictated by the potential for smoke exposure to human and environmentally sensitive areas. Taking into account the prevailing winds and atmospheric conditions, the location and magnitude of the burn, modeling output (if available), the location of population centers, and input from state and local health officials, the monitoring teams are deployed where the potential exposure to the smoke may be most substantial (sensitive locations). Precise monitoring locations should be flexible and determined on a case-by-case basis. In general, one team is deployed at the upwind edge of a sensitive location. A second team is deployed at the downwind end of this location. Both teams remain at their designated locations, moving only to improve sampling capabilities. A third team is more mobile and is deployed at the discretion of the ISB-MGS.

It should be emphasized that, while visual monitoring is conducted continuously as long as the burn takes place, air sampling using SMART is not needed if there is no potential for human exposure to the smoke.

2.4 Level of Concern

The Level of Concern for SMART operations follows the National Response Team (NRT) guidelines. As of March 1999, the NRT recommends a conservative upper limit of ~~150 micrograms of PM-10~~ per cubic meter of air, averaged over one hour. Furthermore, the NRT emphasizes that this LOC does not constitute a fine line between safe and unsafe conditions, but should instead be used as an action level: If it is exceeded substantially, human exposure to particulates may be elevated to a degree that justifies precautionary actions. However, if particulate levels remain generally below the recommended limit with few or no transitory excursions above it, there is no reason to believe that the population is being exposed to particulate concentrations above the EPA's National Ambient Air Quality Standard (NAAQS). Region 10 will use a conservative upper limit of 35 micrograms of PM 2.5 per cubic meter of air, averaged over one hour.
It is important to keep in mind that real-time particulate monitoring is one factor among several, including smoke modeling and trajectory analysis, visual observations, and behavior of the smoke plume. The Unified Command must determine early on in the response what conditions, in addition to the LOC, justify termination of a burn or other action to protect public health. The Unified Command should work closely with local Public Health organizations in determining burn termination thresholds.

When addressing particulate monitoring for in situ burning, the NRT emphasizes that concentration trend, rather than individual readings, should be used to decide whether to continue or terminate the burn. For SMART operations, the time-weighted average (TWA) generated by the particulate monitors should be used to ascertain the trend. The NRT recommends that burning not take place if

the air quality in the region already exceeds the NAAQS and if burning the oil will add to the particulate exposure concentration. SMART can be used to take background readings to indicate whether the region is within the NAAQS, before the burn operation takes place. The monitoring teams should report ambient readings to the Unified Command, especially if these readings approach or exceed the NAAQS.

2.5 SMART as Part of the ICS Organization

SMART activities are directed by the Operations Section Chief in the Incident Command System (ICS). It is recommended that a "group" be formed in the Operations Section that directs the monitoring effort. The head of this group is the Monitoring Group Supervisor. Under each group there are monitoring teams. At a minimum, each monitoring team consists of two trained members: a monitor and assistant monitor. An additional team member could be used to assist with sampling and recording. The monitor serves as the team leader. The teams report to the Monitoring Group Supervisor who directs and coordinates team operations, under the control of the Operations Section Chief.

2.6 Information Flow and Data Handling

Communication of monitoring results should flow from the field (Monitoring Group Supervisor) to those persons in the Unified Command who can interpret the results and use the data. Typically, this falls under the responsibility of a Technical Specialist on in-situ burning in the Planning Section of the command structure.

The observation and monitoring data will flow from the Monitoring Teams to the Monitoring Group Supervisor. The Group Supervisor forwards the data to the Technical Specialist. The Technical Specialist or his/her representative reviews the data and, most importantly, formulates recommendations based on the data. The Technical Specialist communicates these recommendations to the Unified Command.

Quality assurance and control should be applied to the data at all levels. The Technical Specialist is the custodian of the data during the operation, but ultimately the data belongs to the Unified Command. The Unified Command should ensure that the data are properly archived, presentable, and accessible for the benefit of future monitoring operations.

3. ATTACHMENTS

The following attachments are designed to assist response personnel in implementing the SMART protocol. A short description of each attachment is provided below.

Number	Title	Description
3.1	Roles and Responsibilities	Provides detailed roles and responsibilities for responders filling monitoring positions
3.2	Command, Control, and Data Flow	A suggested ICS structure for controlling monitoring units and transferring monitoring results
3.3	ISB Monitoring Training Outline	General training guidelines for ISB monitoring
3.4	ISB Monitoring Job Aid Checklist	A checklist to assist in assembling and deploying SMART ISB monitoring teams
3.5	ISB Monitoring Equipment List	A list of equipment needed to perform SMART operations
3.6	ISB Monitoring Instrumentation Requirements	Abbreviated performance requirements for particulate monitors
3.7	ISB Monitoring Recorder Sheet	A template for manual recording of burn data
3.8	ISB Monitoring Possible Locations	An example of monitoring locations for offshore ISB operations
3.9	ISB Monitoring Data Sample: Graph	An example of real ISB data

3.1 Roles and Responsibilities

3.1.1 Team Leader

The Team Leader
- Selects specific team location
- Conducts monitoring
- Ensures health and safety of team
- Ensures monitoring QA/QC
- Establishes communication with the group supervisor
- Conveys to him/her monitoring data as needed

3.1.2 Monitoring Group Supervisor

The Group Supervisor
- Oversees the deployment of the teams in the group
- Ensures safe operation of the teams
- Ensures QA/QC of monitoring and data
- Establishes communication with the field teams and the command post
- Conveys to the command post particulate level trends as needed
- Addresses monitoring technical and operational problems, if encountered

3.1.3 In-Situ Burn Technical Specialist

The Technical Specialist or his/her representative
- Establishes communication with the Monitoring Group Supervisor
- Receives the data from the Group Supervisor
- Ensures QA/QC of the data
- Analyzes the data in the context of other available information and incident-specific conditions, formulates recommendations to the Unified Command
- Forwards the recommendations to the Unified Command
- Makes the recommendations and data available to other entities in the ICS, as needed
- Archives the data for later use

Role and function	Training	Number
Monitoring Team Leader Leads the monitoring team	SMART Monitor Training	3
Monitor Assistant Assists with data collection.	SMART Monitor Training	3
Group Supervisor Coordinates and directs teams; field QA/QC of data; links with UC.	SMART Monitor training. Group Supervisor training	1 per group
Technical Specialist Overall QA/QC of data; reads and interprets data; provides recommendations to the Unified Command	SMART Monitor training. Scientific aspects of ISB	1 per response

3.2 Command, Control, and Data Flow

In general, in situ burn monitoring operations take place as an integral part of the Incident Command System (Figures 1 and 2).

ISB monitoring operations are directed by the Operations Section Chief or deputy. The Operations Section Chief provides the Monitoring Group Supervisor with tactical directions and support regarding deployment, resources, communications, and general mission as adapted to the specific incident. The Operations Section consults with the ISB monitoring Technical Specialist about the specifics of the monitoring operations, especially if they affect the data collected. The Monitoring Group Supervisor provides specific direction to the monitoring teams during field deployment and operations.

The observation and monitoring data flow from the Monitoring Teams to the Monitoring Group Supervisor. After initial QA/QC the Group Supervisor passes the data to the Technical Specialist. The Technical Specialist or his/her representative reviews the data, applies QA/QC if needed, and, most importantly, formulates recommendations based on the data. The Technical Specialist forwards these recommendations to the Unified Command.

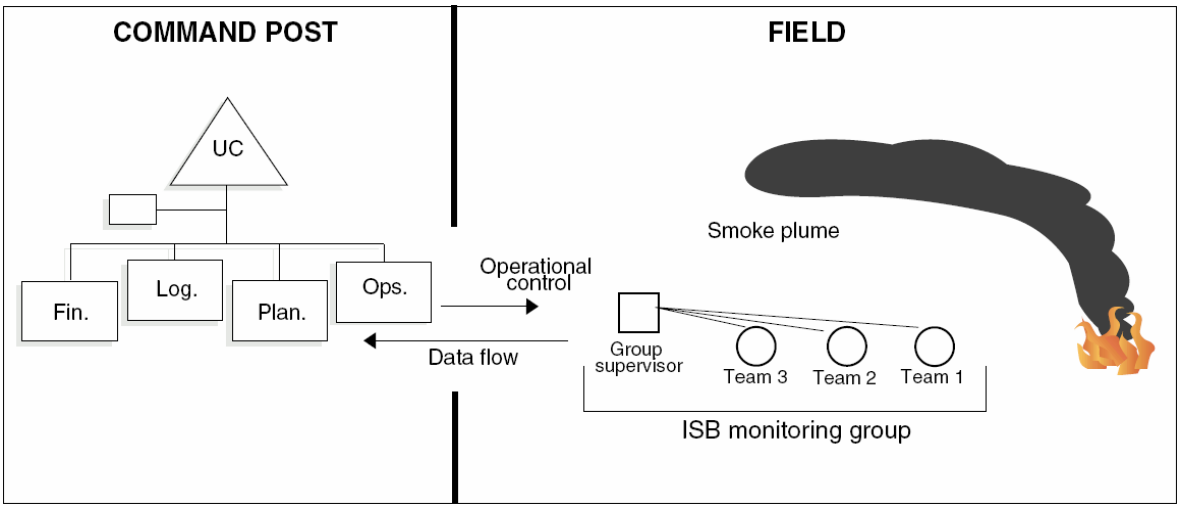

Figure 1. Command, control, and data flow during in-situ burning monitoring operations.

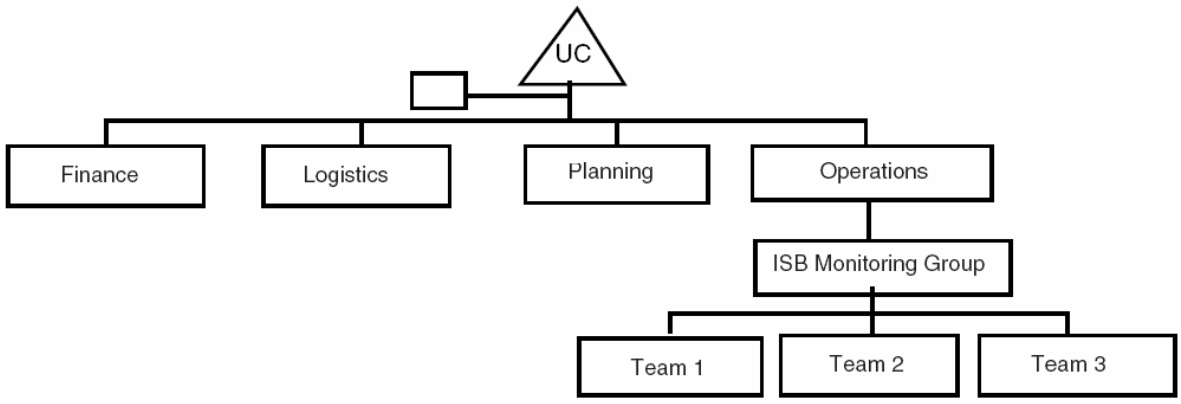

Figure 2. ISB Monitoring Group in the ICS organization.

3.3 ISB Monitoring Training Outline

3.3.1 General

Training for in-situ burning monitoring operations consists of an initial Monitor Level Training for all, Group Supervisor Training for supervisors, and refresher training sessions every six months for all.

3.3.2 Monitor Level Training

The Monitor Level Training includes monitoring concepts, instrument operation, work procedures, and a field exercise.

Topic	Duration
• Brief review of in-situ burning. • Review of SMART: What is it, why do it, what is it good for.	1 hour
• Monitoring strategy: Who, where, when. • Open water, inland. • Reporting: What and to whom • LOC: What is the LOC, how to report it. • Instantaneous reading vs. TWA, use of recorder data sheet	1 hour
• Basic instrument operation (hands-on): How the particulate monitoring instrument works, and how to operate it: brief description of mechanism, setup, and calibration, reading the data, what do the data mean; trouble shooting. • Using GPS • Downloading data	2 hours
Field exercise: Set up the instruments outdoors and measure background readings. Using a smoke source monitor for particulate levels, practice recording the data and reporting it. When done, practice downloading the data.	4 hours

3.3.3 Group Supervisor Training

Group Supervisor training may include two options:
• Independent training at each unit; or
• An additional structured day of training as suggested below

Topic	Duration
• Review of ICS and the role of the Monitoring Group in it • Roles of Monitoring Group Supervisor • What the data mean • QA/QC of data • Command and control of teams • Communication with the Technical Specialist	1 hour
Field exercise: Practice deploying instruments in the field with emphasis on reporting, QA/QC of data, communication between teams and the group supervisor, and group supervisor to the Technical Specialist.	3-6 hours
Back to the base, practice downloading the data	30 min.
Lessons learned	30 min.

3.3.4 Refresher Training

Topic	Duration
Review of SMART: What is it, why do it, what is it good for.	15 min.
• Monitoring and reporting: Who, where, and when • Level of concern • What do the data mean • Reporting the data • Work with the Technical Specialist (SSC).	30-45 min.
• Basic instrument operation (hands-on): How the monitoring instrument works, how to operate it; brief description of mechanism, setup, and calibration; • Reading the data, trouble-shooting. • Using GPS.	2 hours
Downloading data	30 min.
• Field exercise: Outside the classroom, set up the instrument and measure background readings. Using a smoke source, monitor particulate levels. • Practice recording the data and reporting it. • Back to the base, download data.	1-2 hours

3.4 ISB Monitoring Job Aid Checklist

This checklist is designed to assist SMART in situ burning monitoring by listing some of the tasks to accomplish before, during, and after the monitoring operations.

Check √	Item	Do
	Preparations	
	Activate personnel	Notify monitoring personnel and the Technical Specialist (SSC where applicable)
	Conduct equipment check	• Check equipment using equipment checkup list. • Verify that the monitoring instruments are operational and fully charged • Include safety equipment
	Coordinate logistics	Coordinate logistics (e.g., deployment platform) with ICS Operations
	Amend Site Safety Plan	Amend site safety plan to include monitoring operations
	Monitoring Operations	
	Monitoring Group setup	• Coordinate with Operations Section Chief • Coordinate with Technical Specialist
	Conduct Briefing	• Monitoring: what, where, who, how • Safety and emergency procedures
	Deploy to location	Coordinate with Operations Section Chief
	Select site	• Safe • Consistent with monitoring plan • As little interference as possible • Communication with Group Supervisor and UC possible
	Set up instrumentation	Unpack monitoring instruments and set up, verify calibration, if applicable
	Mark position	• Use GPS to mark position in recorder sheet • Re-enter position if changing location
	Collect background data	Start monitoring. If possible, record background data before the burn begins
	Collect burn data	• Continue monitoring as long as burn is on • Monitor for background readings for 15-30 minutes after the smoke clears
	Record data	Enter: • Instantaneous and TWA readings every 3-5 minutes, or other fixed intervals • Initial position from GPS, new position if moving • Initial wind speed and direction, air temperature, relative humidity, re-enter if conditions change
	Conduct quality assurance and control	• Verify that instrument is logging the data • Record data, location, relative humidity, temp, wind, interferences in the recorder data sheet • Note and record interference from other sources of particulates such as industry, vehicles, vessels

	Report by team	Report to Group Supervisor: • Initial background readings • TWA readings (every 15 min.) • TWA readings when exceeding 150 µg/m^3, (every 5 min.) • Interferences • Safety problems • QA/QC and monitoring problems
	Report by Group Supervisor	Report to the Technical Specialist (SSC): • Initial background readings • TWA, when exceeding ~~150~~ µg/m^3 see note 1 • Data QA/QC and monitoring problems
	Report by Technical Specialist (SSC)	Report to the Unified Command: • TWA consistently exceeding ~~150~~ µg/m^3 see note2 • Recommend go/no-go
	Post Monitoring	
	Debrief and lessons learned	• What went right, what went wrong • Problems and possible solutions • Capture comments and suggestions
	Preserve data	• Download logged data from monitoring instrument to a computer • Collect and review Recorder data logs • Generate report
	Prepare for next burn	Clean, recharge, restock equipment

1. TWA, when exceeding 35 micro-grams/cubic meter of PM 2.5

2. TWA consistently exceeding 35 micro-grams/cubic meter of PM 2.5

3.5 ISB Monitoring Equipment List

(For each team, unless otherwise noted)

Check √	Item	Qty	Remarks
	Particulate monitoring instrument, accessories and manuals	1 or more	
	Computer and cables	1/group	Should include downloading software
	Printer	1/group	
	Recorder data sheets	10	
	Write-in-the-rain notebooks, pens	3	
	Job aid check list	1	
	GPS	1	
	Extra batteries for GPS	1 set	
	Radio	1	
	Cell phone	1	
	Binoculars	1	
	Stop watch	1	
	Camera	1	digital camera or camcorder optional
	Film	3	
	Thermometer	1	
	Humidity meter	1	
	Anemometer	1	

3.6 Particulate Monitor Performance Requirements

SMART does not require nor endorse a specific brand of particulate monitoring instrument. Rather, SMART specifies performance criteria, and instruments meeting them may be used for ISB monitoring.

Performance Criteria

- Rugged and portable: The monitor should be suitable for field work, withstand shock, and be easily transportable in a vehicle, small boat or helicopter. Maximum size of the packaged instrument should not exceed that of a carry-on piece of luggage
- Operating temperature: 15-120 ºF
- Suitability: The instrument should be suitable for the media measured, i.e., smoke particulates
- Operating duration: Eight hours or more
- Readout: The instrument should provide real-time, continuous readings, as well as time-weighted average readings in ug/m3
- Data logging: The instrument should provide data logging for 8 hours or more
- Reliability: The instrument should be based on tried-and-true technology and operate as specified
- Sensitivity: A minimum sensitivity of 1 µg/m^3
- Concentration range: At least 1-40000 µg/m^3
- Data download: The instrument should be compatible with readily available computer technology, and provide software for downloading data

3.6.1 Additional Performance Criteria for Region 10

Particulate Matter Size Fraction

- Include instruments capable of sampling both the PM10 and the $PM_{2.5}$ fractions.

- Generally two types of equipment currently available in Region 10 are able to sample the PM 2.5 fraction. These are the Data Ram 4000 and the BGI-PQ200 sampler with a PM 2.5 sampling head added.

R10 update 8/2014

3.7 ISB Monitoring Possible Locations

Monitoring locations are dictated by the potential for smoke exposure to human populations. In general, the monitoring teams deploy where the potential for human exposure to smoke is most probable. Precise monitoring locations should be flexible and determined on a case-by-case basis. In the figure below, one team is deployed at the upwind edge of a sensitive location (e.g., a town). A second team deploys at the downwind end of this location. Both teams stay at the sensitive location, moving only to improve sampling capabilities. A third team is more mobile, and deploys at the discretion of the Group Supervisor.

It should be emphasized that, while visual observation is conducted continuously as long as the burn takes place, air sampling using SMART is not required if there is no potential for human exposure to the smoke.

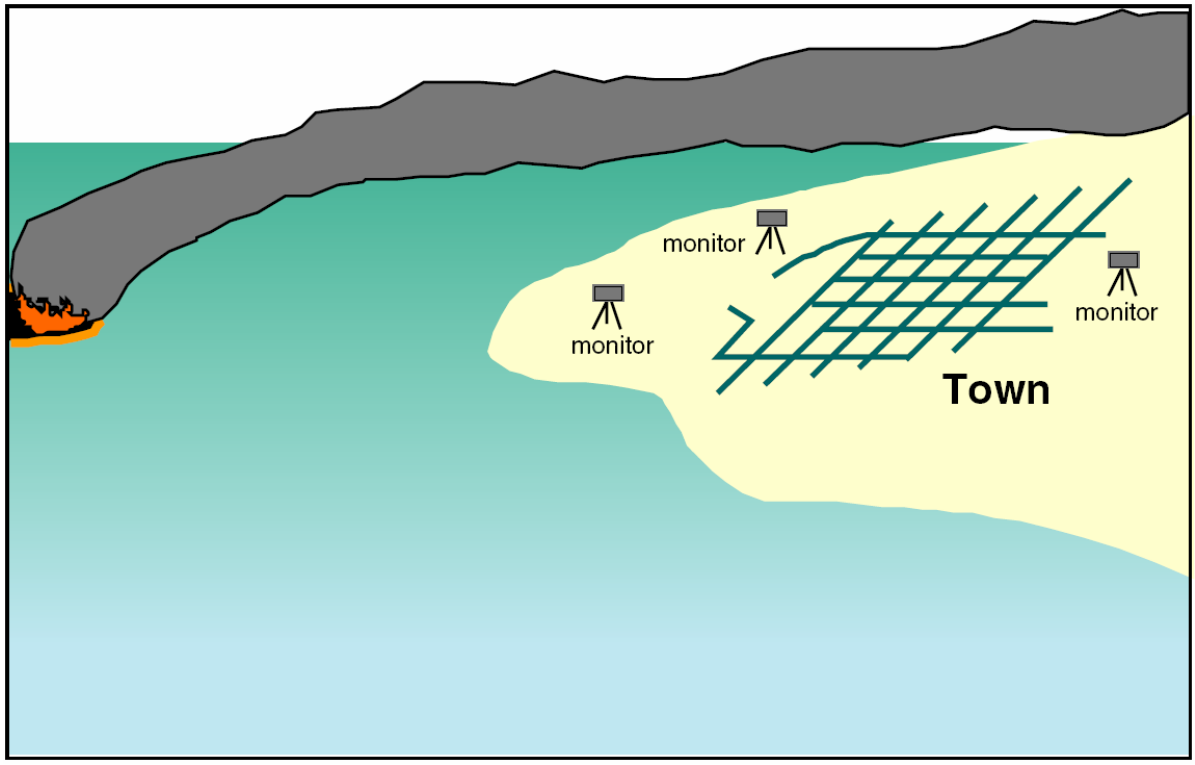

Figure 1. Possible locations of monitors (not to scale).

3.8 ISB Monitoring Recorder Sheet

Date: _____ General Location: _____

General information	Weather information
Recorder name	Temperature
Operator name	Wind direction
Vehicle/vessel #	Wind speed
Monitoring Instrument #	Relative humidity
Burn #	Cloud cover
Calibration factors:	

Comments should include: location of the smoke plume relative to the instrument, interfering particulate sources, any malfunction of the instrument

Time	GPS reading	Particulates concentration	Comments & observations
	lat:_____ long:	Inst: _____ TWA:	
	lat:_____ long:	Inst: _____ TWA:	
	lat:_____ long:	Inst: _____ TWA:	
	lat:_____ long:	Inst: _____ TWA:	
	lat:_____ long:	Inst: _____ TWA:	
	lat:_____ long:	Inst: _____ TWA:	
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	lat:_____ long:	Inst: _____ TWA:	
	lat:_____ long:	Inst: _____ TWA:	
	lat:_____ long:	Inst: _____ TWA:	

3.9 ISB Monitoring Data Sample: Graph

The graph below represents field monitoring data from a test burn smoke plume near Mobile, Alabama, on September 25, 1997, after the data were downloaded from the instrument. The graph (Figure 1) portrays the differences between the transient instantaneous readings (Conc.) and the time weighted average readings (TWA). Note that while instantaneous readings varied widely, the TWA remained relatively constant throughout the burn. The TWA provides an indication of the concentration trends, which is a more stable and reliable indicator of exposure to particulates.

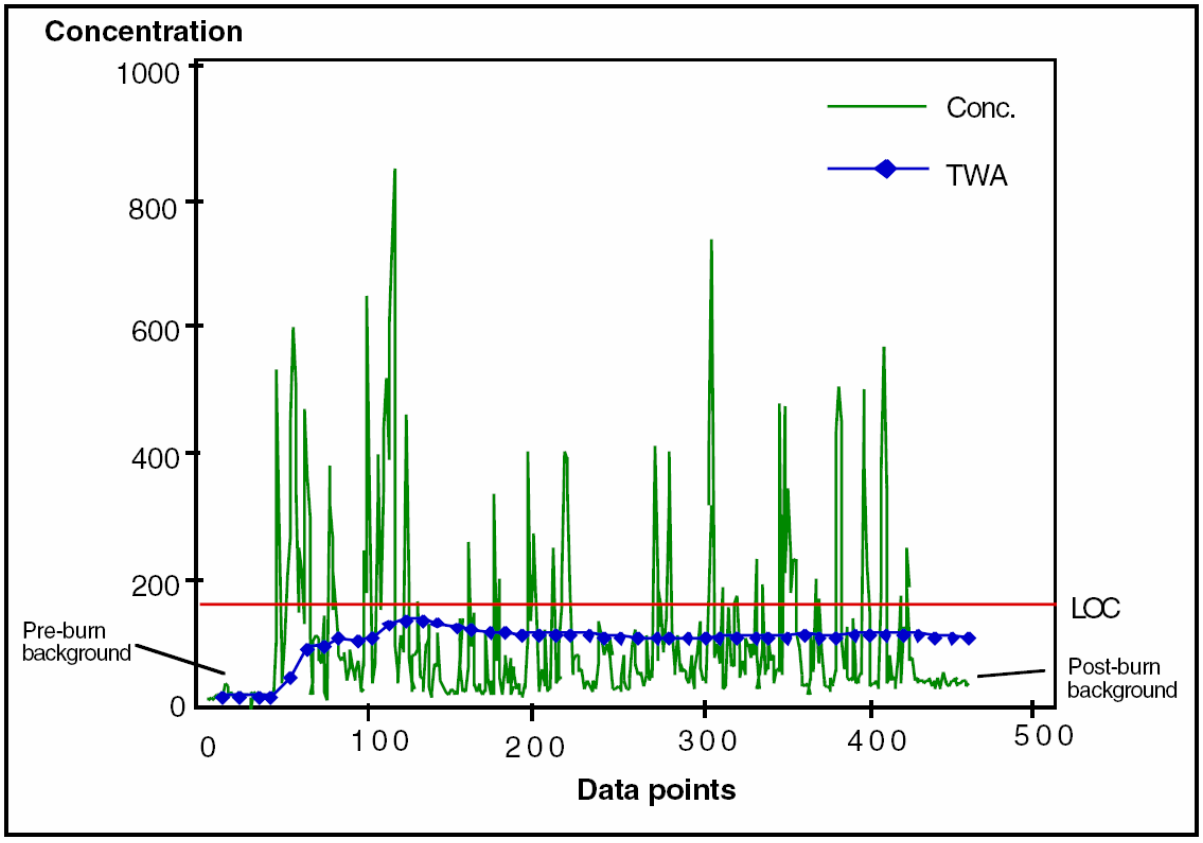

Figure 1. Graph of instantaneous and TWA particulate concentrations

SMART RESOURCES

Comments and suggestions on the SMART program and document
Fax: (206) 526-6329; Email: smart.mail@noaa.gov

SMART Web Sites
http://response.restoration.noaa.gov/smart

In-situ Burning Page
http://response.restoration.noaa.gov/ISB

Dispersant Guided Tour

https://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/dispersants-guided-tour.html

Dispersant Application Observer Job Aid

https://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/dispersant-application-observer-job-aid.html

US Coast Guard
http://www.uscg.mil/

USCG National Strike Force

https://www.dco.uscg.mil/Our-Organization/National-Strike-Force/

NOAA OR&R
http://response.restoration.noaa.gov

EPA ERT
http://www.ert.org

CDC
http://www.cdc.gov/

BOEM Oil Spill Modeling Program

http://www.boem.gov/Oil-Spill-Modeling-Program/

OHMSETT Facility
http://www.ohmsett.com/

Section 9408

Resources at Risk Response Tools

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9408

Resources at Risk Response Tools

9408.1 Tools to Complete the 232

The Resources at Risk (RAR) Summary provides information about locations in the incident area that are sensitive due to environmental, archaeo-cultural, or socio-economic resources at risk. Typically this process is conducted within the Environmental Unit (EU). The ICS 232 form identifies and prioritizes incident-specific priorities and issues. The Environmental Unit Leader (EUL), with input from resource trustees, will complete this form for each operational period.

Sources and types of information for the 232 form may include, but is not limited to, the following:

- Environmental Sensitivity Index Maps;
- Environmental Response Management Application Northwest;
- Washington State Coastal Atlas;
- Oregon Incident Response Information System;
- Geographic Response Plans;
- Watersheds and Aquifers;
- Threatened and Endangered Species;
- Nautical Charts, other maps; and
- Tribal Reservation Lands and Usual and Accustomed areas.

The Geographic Response Plans contain pre-identified strategies or tactics to address the protection or mitigation of risk for some—but not all—RAR. Strategies may need to be developed for an incident specific resource at risk. It is possible that a resource may not be able to be protected from potential impacts; however, it is important to know what resources may be at risk within the incident area. The EU may provide guidance to Operations on how to best implement protection strategies.

9408.2 Checklist to Guide the Completion of the 232

This checklist is designed to aid in the process. There may be additional incident specific steps required. The steps in this process may vary by incident or operational period.

GETTING STARTED

- ☐ EUL assigns the work group to complete the 232 form. The responsible party should consider having representation on this work group.
- ☐ Determine when the EUL needs the product (tied closely with timing of Tactics meeting).
- ☐ Determine operational period for which you are planning. Note: on the first day of a response, may need to complete two 232 forms for the first day and the next operational period.
- ☐ Locate map of incident area of suitable scale.

GAIN SITUATIONAL AWARENESS

- ☐ Determine volume and properties of spilled oil: Is discharge controlled or on-going?
- ☐ Review trajectory provided by NOAA
- ☐ Review over flight maps or shoreline observations if available.
- ☐ Check for tides, winds, current, season and weather
- ☐ List agencies and organizations with information to contribute. Coordinate with Liaison to contact.

COMPILE INFORMATION

- ☐ Review information found in Area Plan Geographic Response Plans for affected and threatened areas. Note: Geographic Response Plans are only the initial priorities and don't identify all resources or tactics you need for a response.
- ☐ Participating agencies and organizations contribute expertise and data.

Is the product a known or potential non-floating oil? If yes, consider the potential disturbance to subsurface resources (such as bottom fish, crabs, shrimp shellfish beds geoduck tracts, herring spawning and sand wave structure with sand lance forage fish as well as water column resources such as schooling midwater fish and planktonic resources), cultural (ship wrecks), economic (shellfish, water intakes, etc.) resources and underwater obstructions that may impact recovery efforts. ☐

Are threatened and endangered species present? If so, an Endangered Species Act consultation may be necessary if response activities may affect listed species. ☐

Consider the current season and the life history of species reported as potentially present and prioritize organisms that are locally abundant or soon will be due to migration and organisms that are negotiating a particularly sensitive life stage such as spawning or nesting. ☐

Are there Reservation lands or Usual and Accustomed Areas for Tribes present? If so, contact the tribes and ask for their information and participation in the response. ☐

PRIORITIZE RESOURCES AND FINALIZE 232

Review and apply the prioritization policy in the Northwest Area Contingency Plan. (Chapter 4000) ☐

EUL or designee guides consensus on final prioritization of RARs. ☐

PREPARING FOR TACTICS MEETINGS

EUL or designee, coordinating through the Planning Section Chief, works with Operations to discuss 232 form and design appropriate tactics to protect or mitigate listed resources on the 232. Permits may be required for certain tactics or areas. ☐

Section 9409

Managing Impacts to Commercial, Recreational, and Tribal Fisheries

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Managing Impacts to Commercial, Recreational and Tribal Fisheries

There are numerous commercial, recreational, and tribal fisheries within the area of the Northwest Area Contingency Plan (NWACP) in both the marine and fresh water environments. This section does not provide a comprehensive review of all fisheries within the NWACP area, but provides an overview of the processes for fishery closures and contact information for fishery managers at the state and federal level, as well as information on the fisheries that may be affected by an oil spill or hazardous materials release.

Members of the Unified Command (UC) (the United States Coast Guard [USCG], United States Environmental Protection Agency, Responsible Party) do not have the legal authority to close or open fisheries affected by an incident, however the Federal On-Scene Coordinator (FOSC) has a responsibility to notify the agencies with authority. The exception is tribal members that may serve as the Tribal On-Scene Coordinator in the UC, tribes have authority to regulate their own fisheries. The following is a list of agency with legal authority over fisheries. The National Oceanic and Atmospheric Administration (NOAA) Scientific Support Coordinator (SSC) can serve as a liaison to NOAA Marine Fisheries Service (NMFS) fisheries staff. Additional information can be found in Tables 9409-1, 9409-2, 9409-3.

Fishery Type	Agency Leads	Contact
Washington Shellfish	Washington State Department of Health (WDOH)	Shellfish Program Emergency Line: 360-789-8962 Shellfish Growing Area
Oregon Shellfish and/or Aquaculture	Oregon Department of Fish and Wildlife (ODFW), Oregon Health Authority (OHA)	ODFW: Ed Bowles, Fish Division Administrator 503-947-6206
On-water Commercial Economic Exclusive Zone (EEZ)	NMFS and United Stated Food and Drug Administration	Barry Thom, MFS 206-526-6733
Washington On-water Commercial	Washington Department of Fish and Wildlife (WDFW) and WDOH	Kelly Susewind 360-902-2200

Fishery Type	Agency Leads	Contact
Oregon On-water Commercial	Oregon Department of Fish and Wildlife (ODFW)	Curt Melcher, ODFW Director 503-947-6000 Ed Bowles, Fish Division Administrator 503-947-6206
Washington On-water Recreation	WDFW	Lorna Wargo 360-249-1229
Oregon On-water Recreational	ODFW OHA	Mike Gauvin 503-947-6214
Idaho Recreational	Idaho Department of Fish and Game (IDFG)	Lance Hebdon 208-334-3791
Tribal	Each Tribe regulates their own fisheries	FOSC has a list of tribal contacts

Within the Incident Command Post (ICP) it is important that information on fisheries be shared. The following are recommended roles for various elements of the response.

Incident Command System Position	Functions Related to Fisheries
Environment Unit	Provide FOSC with details on fisheries that may be affected by incident. Provide information to agencies with authority to manage fisheries to support their decision making on opening and closing fisheries.
Operations	Ensure that there is situational awareness of any seafood sampling/fishing that may be planned within the area. Seafood sampling/fishing may be necessary to support closing and/or re-opening of fisheries.
Liaison	Ensure that appropriate agencies and/or tribes have been notified of incident and possible impacts to fishery resources. Provide on-going outreach to effected fishers.
Joint Information Center	Work with agencies/tribes with authority over fisheries to notify fishers of openings and closings, if requested
Unified Command	Ensure that UC has awareness of any fishery actions within the incident area.

9409.1 Washington State Waters: Process Guide for Shellfish Growing Area Closure and Opening Due to Oil Contamination

In Washington State waters, the Washington State Department of Health (WDOH) is responsible for evaluating commercial and recreational shellfish growing areas to determine if shellfish are safe to eat, if a shellfish growing area will be closed due to an oil release or potential for release, and when the shellfish growing area will be opened again.

This document is not meant as a comprehensive guide for all the steps of a closure and opening of a shellfish growing area due to oil contamination, but as a quick

reference to assist during an oil spill response. The guide should also be scalable to the size of the event; thus, when an On-Scene Coordinator is mentioned, a representative may be sufficient. This document is intended to provide a rudimentary understanding of the authorities governing the closure and re-opening of shellfish harvest, roles of involved agencies, the general process, and guidance on best management practices for the process during the threat of, or actual, petrochemical spill event in shellfish growing areas in Washington State waters.

9409.2 Roles Specific to Shellfish Closures and Reopening during a Spill or Potential Spill, Response

9409.2.1 Washington State Department of Health

WDOH is the state agency responsible for ensuring minimum performance standards for the growing, harvesting, processing, packing, storage, transporting, and selling of shellfish for human consumption. WDOH will temporarily close shellfish growing areas when it is determined that there is an actual or imminent threat to public health during an oil spill or threat of an oil spill. Shellfish growing areas are either closed preventatively for an imminent threat or closed for actual contamination; in both situations, the main objective is to protect public health. WDOH is the only agency that can re-open a growing area closed by them. The decision to close a shellfishery for human health–related concerns is WDOH's; it is not a UC decision. It is important to note that WDOH only regulates bivalve molluscan shellfish. Other fisheries are regulated by the Washington Department of Fish & Wildlife (WDFW), but only on the basis of stock condition, not human health. Note that WDFW regulates recreational shellfish harvests as well, although based on stock assessments. Although WDOH decisions are outside of UC, effective communication between WDOH and the UC is essential.

For reopening the shellfish growing areas following oil contamination, WDOH generally follows criteria from the NOAA document, "Managing Seafood Safety after an Oil Spill." This document has been used following oil spills in Oregon, Washington, and Alaska. The document outlines the following reopening criteria:

- The risk of oil further contaminating the growing area must be abated.
- There must be no visible oil sheen on the water throughout the commercial growing areas.
- Shellfish tissue samples must meet the risk-based criteria for all analytes (substance that is of interest in an analytical chemistry test) of concern in the source oil relative to the potential health risk posed by certain cancer-causing polycyclic aromatic hydrocarbons. Seafood testing may be done by NOAA, the WDOH, or through an independent laboratory.
- Tissue samples must pass an independent sensory test conducted by a panel of experts from the NOAA Seafood Inspection Program.

New guidelines may be jointly developed by NOAA and the Food and Drug Administration (FDA) following oil spills affecting seafood safety, and WDOH may apply new guidelines where appropriate. WDOH will use the best available

guidance for reopening shellfish growing areas and will consult with the FDA and NOAA if specific questions arise.

9409.2.2 Washington Department of Health Operating Authorities

For the safe and sanitary control of the growing, processing and shipping of shellfish, WDOH follows FDA guidance and is monitored by the FDA and audited annually.

9409.2.3 Commercial Shellfish Rules

The following regulations apply to oil spills in relation to commercial shellfish:

- Chapter 246-282 Washington Administrative Code (WAC), Sanitary Control of Shellfish:
  - The National Shellfish Sanitation Program Guide to the Control of Molluscan Shellfish national rule is adopted by reference in WAC 246-282-005.
  - In the National Shellfish Sanitation Program, there is no specific reference to oil spills; however, Chapter 2, @.05, "Presence of Toxic Substances in Shellfish Meats," addresses toxic substances more generally.
- Chapter 69.30 Revised Code of Washington (RCW), Sanitary Control of Shellfish.

Recreational shellfish rules are addressed in:

- WAC Chapter 246-280, Recreational Shellfish Beaches; and
- RCW Chapter 43.20.050, State Board of Health Delegation of Authority.

9409.2.4 Closure Notification

For notification of closures, WDOH manages a listserv of growers, local health authorities, and stakeholders, which is updated regularly. WDOH also manages a tally for which growing areas are closed or open. WDOH will individually notify growers to inform them of closure affecting their shellfish growing area.

9409.2.5 Enforcement of Closure

WDOH has an agreement with the WDFW to patrol commercial harvest areas during closures to ensure no harvesting occurs. WDOH has the authority under WAC 246-282 to confiscate and/or recall unapproved shellfish for sale and issue penalties.

WDFW sets seasons and issues permits for recreational shellfish and can only implement closures based on the conservation of the resource. WDFW does not usually, but can implement closures based on temporary human health concerns.

9409.2.6 Local Health Authority Role

Local health departments, through their public health authority, can close recreational beaches of their own accord and usually follow WDOH recommendation on beach status. WDOH also contracts with local health departments to perform certain tasks in managing recreational shellfish beaches,

which include water quality monitoring, pollution source identification and correction, and public notification.

9409.2.7 National Oceanic and Atmospheric Administration Seafood Inspection Safety Program Role: Sensory Testing

WDOH may decide to do sensory testing for affected shellfish. Even when seafood samples from the spill area pass the standard chemical-analytical tests (the levels of polycyclic aromatic hydrocarbons are below the limits permitted as determined by human health risk assessment), flavor or odor still may be affected, known as taint. Taint in seafood renders it adulterated and unfit for human consumption according to U.S. law (Federal Food, Drug, and Cosmetics Act, United States Code 21, Chapter IV, Section 402 [342], a.3) (NOAA 2001). The NOAA Seafood Inspection Program (SIP) has trained expert seafood assessors that use their sense of smell and taste to detect any unusual odors or flavors in seafood.

In the event that WDOH decides to use sensory testing for the monitoring of taint in shellfish, WDOH would contact the NOAA SSC for connection to NOAA's SIP. The SSC would then contact the Chief Quality Officer at NOAA SIP headquarters. The SSC would act as a facilitator between the SIP and WDOH on a sampling procedure and timeline to test the affected shellfish.

NOAA SIP works together with the FDA on sensory testing, and NOAA sensory testers may be augmented with FDA sensory testers. Testing would most likely happen at the Seattle offices for a Washington oil spill. NOAA SIP is organized nationally, and results from a sensory analysis are not final until cleared through the Chief Quality Officer at NOAA SIP headquarters. The results are then shared with WDOH, which then makes the final decision on the shellfishery status.

9409.3 Best Management Practice Particular to Shellfishery Closures during an Oil Spill or Potential Oil Spill Incident

Although WDOH is the authority on the closing and opening of shellfisheries in Washington State waters, there are best management practices that can be followed during a spill event impacting shellfisheries that will aid in good communication and information transfer. These "best management practices" are supplemented by a flowchart (Figure 9409-1).

9409.3.1 Initial Washington Department of Health Notification

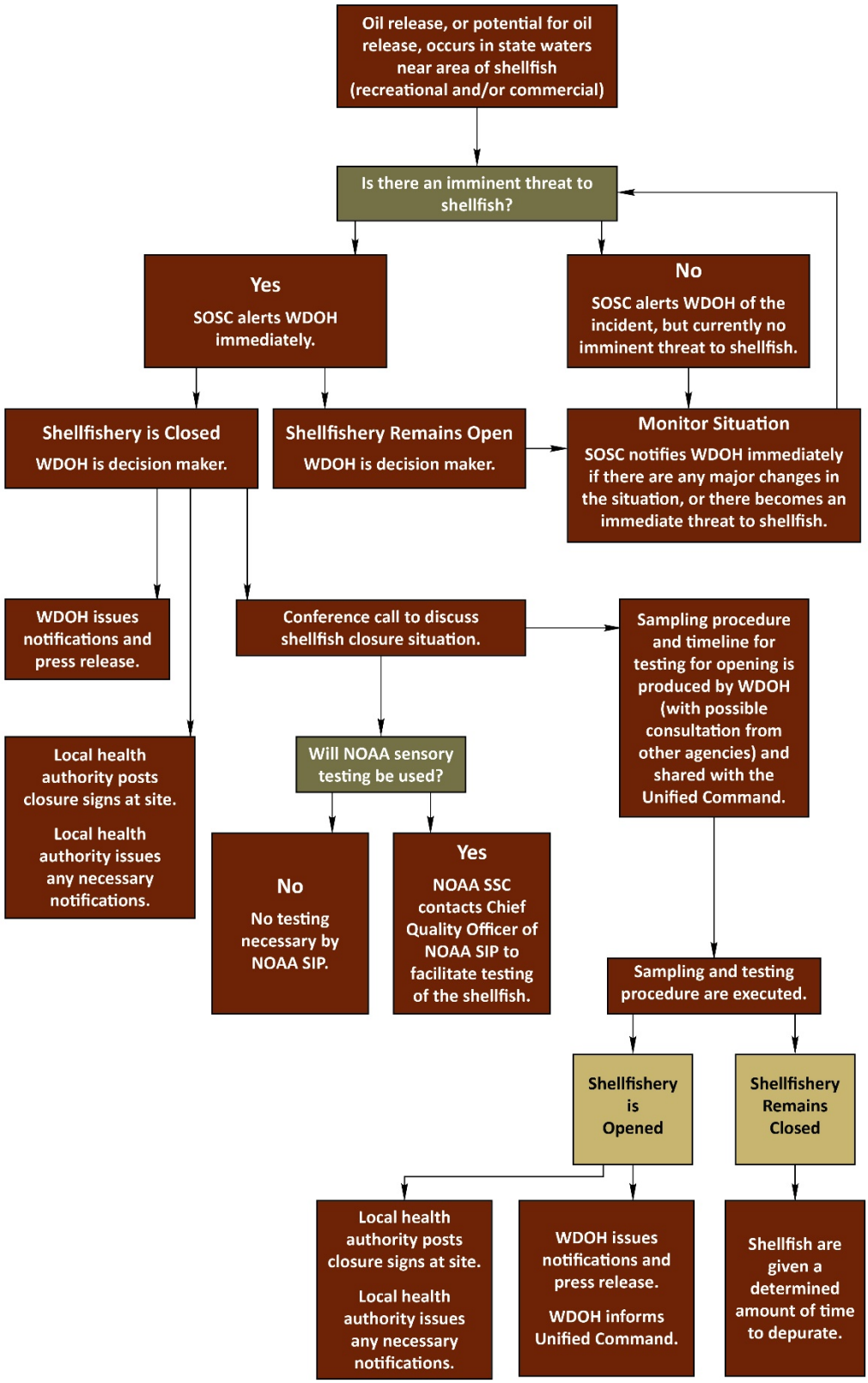
In the event of an oil spill or potential oil spill near a shellfish growing area, the Washington State Department of Ecology has an early recognition program to notify WDOH of a potential threat to shellfish. WDOH should be notified immediately by the UC if there is an imminent threat to shellfish growing areas or if a major event happens during the response that could lead to contamination, or further contamination, of a shellfish growing area.

9409.3.2 Communications

To stay informed of on-scene observations and operations, WDOH should be included on daily briefings through the Incident Command Structure.

As applicable, the NOAA SSC will act as a liaison between WDOH and NOAA SIP and can help facilitate the creation of a sampling and procedure plan for sensory testing. The NOAA SSC will keep NOAA SIP informed of on-scene observations and operations.

Figure 9409-1 Flowchart of Shellfish Closures and Opening Process in Washington State



9409.3.3 Communicating the Closure to the Unified Command and Other/Stakeholders

After the WDOH decides that a shellfishery should be closed due to oil contamination, or threat of oil contamination, then the State On-Scene Coordinator should convene a conference call for all stakeholders and subject matter experts. This will ensure that all stakeholders in the response have the same information about the shellfish closure. This call will most likely include representatives from:

- WDOH,
- United States Coast Guard,
- NOAA,
- Washington State Department of Ecology,
- WDFW,
- Local health department,
- Local shellfish grower(s), and
- Identified subject matter experts.

This call should generally cover the following:

- WDOH will cover when and why the shellfishery was closed;
- What the best available guidance is for opening procedures;
- How WDOH will stay informed of on-scene observations of the situation, including observations of sheen, oiling, etc., and any major events that may lead to contamination or further contamination;
- Discuss the best available guidance for opening procedures; and
- Answer, or attempt to answer, any questions that arise having to do with shellfish testing and reopening procedures.

9409.3.4 Strategizing the Closing/Opening of a Shellfishery

Outside of the overall communication call, a separate call between WDOH, FDA and NOAA (and any other subject matter experts) will likely occur to determine the sampling plan, organize a sensory panel, and organize any other testing that may need to occur for reopening. This communication will likely be an ongoing process throughout the reopening of a shellfish growing area.

The NOAA SSC is a resource for connecting to subject matter experts within NOAA for seafood safety concerns post oil contamination.

After the first sampling and testing has occurred, the test results may indicate that the shellfish are either unsafe to eat or are tainted. The shellfishery may not be opened after the first round of testing. Shellfish need time to depurate, i.e., filter out the petrochemicals. The shellfishery will remain closed until the opening standards have been met. Details on this are available in reference material for this section.

9409.3.5 Opening of the Shellfish Growing Area

Once it has been determined that the shellfish growing area will be opened, WDOH will perform their routine notifications and press release. The UC should also be informed. In some instances, a partial reopening may occur if contamination is persistent in a well-defined portion of the growing area. If this occurs, notifications shall include enough detail (map illustration, landmarks, coordinates or beach names) for ready identification of areas that are open and areas that will remain closed.

9409.4 Contact List

- Washington State Emergency Management Division (this number will trigger internal notifications): (800) 258-5990
- WDOH contact for notifying of threat to shellfish growing areas:
  - Working hours: (360) 236-3330.
  - Emergency 24/7 pager: (360) 789-8962
- NOAA SSC: (206) 526-6322

9409.5 References

Washington State Legislature

Washington Commercial Shellfish Rules

Chapter 246-282 WAC, Sanitary control of shellfish
http://apps.leg.wa.gov/WAC/default.aspx?cite=246-282

Chapter 69.30 RCW, Sanitary control of shellfish
http://apps.leg.wa.gov/RCW/default.aspx?cite=69.30

Washington Recreational Shellfish Rules

Chapter 246-280 WAC, Recreational shellfish beaches
http://apps.leg.wa.gov/WAC/default.aspx?cite=246-280

RCW 43.20.050, Powers and duties of state board of health—Rulemaking—Delegation of authority—Enforcement of rules.
http://apps.leg.wa.gov/RCW/default.aspx?cite=43.20.050

U.S. Food and Drug Administration
National Shellfish Sanitation Program Guide for the Control of Molluscan Shellfish 2015 Revision

This document is intended to provide guidance and shall supersede the 2007 National Shellfish Sanitation Program Model Ordinance. It represents the agency's current thinking on the safe and sanitary control of the growing, processing, and shipping of molluscan shellfish for human consumption. It does not create any rights for any persons and does not operate to bind FDA or the public under federal law. However, through their participation in the National Shellfish Sanitation Program and membership in the Interstate Shellfish Sanitation Conference, states have agreed to enforce the Model Ordinance as the

requirements which are minimally necessary for the sanitary control of molluscan shellfish.
https://www.fda.gov/food/federalstate-food-programs/national-shellfish-sanitation-program-nssp

National Oceanic and Atmospheric Administration Managing Seafood Safety after an Oil Spill

This 2002 guide was written to help seafood managers and other spill responders determine appropriate seafood management actions in response to a spill.
http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/seafood-safety-after-oil-spill.html

Guidance on Sensory Testing and Monitoring of Seafood for Presence of Petroleum Taint Following an Oil Spill

This 2001 guidance document describes how to conduct sensory testing on seafood suspect of petroleum taint. In addition, it also contains the following useful information:

- Explanation of sensory evaluation protocols, including flowcharts of the testing sensory testing process
- Normative References—Existing Guidelines, Standard Practices, and Sampling Plans for Sensory Testing
- Definitions, Terminology, and References used in Sensory Training for Petroleum Taint
  http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/seafood-safety-after-oil-spill.html

NOAA Seafood Inspection Program: Memorandum of Understanding with the U.S. FDA Regarding Cooperation and Information Sharing in Seafood Inspection

https://www.fda.gov/about-fda/domestic-mous/mou-225-09-0008

9409.6 Oregon Shellfish and Aquaculture Facilities

Shellfish are harvested from public recreational areas along intertidal beaches, and beds and channels in Oregon bays and estuaries, or by commercial operations on specific platted lands leased from the Oregon Department of State Lands.

Specific actions and strategies for protection of these resources are described in the Geographic Response Plan that covers their area. Typically, these measures include notification of the type of incident and the known or potential threats to their facility's operations, and coordination on whether to temporarily cease certain operations (such as pumping water to rearing tanks at hatchery facilities) and/or deploy protective booming.

9409.6.1 Closures of Oregon Shellfish and Aquaculture

Commercial shellfish operations are managed by the Oregon Department of Fish and Wildlife (ODFW), and they work with Oregon Health Authority (OHA)

and/or Oregon Department of Agriculture (ODA) to determine if shellfish may be or are compromised, necessitating a closure of commercial harvest.

Recreational shellfish harvesting is regulated by the ODFW, and advisories/closure of harvesting from non-commercial areas is done with support from the OHA's Environmental Public Health Division. Aquaculture facilities are regulated by the ODA, who issues temporary closures of harvest when threats of pollution may impact the facilities.

9409.6.2 Management/Roles

ODFW has the authority to close and open shellfish and aquaculture facilities in the state of Oregon. The only exception to this would be aquaculture fisheries and commercial clamming for human consumption. In these instances, ODA would be responsible for closures since they are licensing these fisheries.

9409.6.3 Best Management Practices

9407.6.3.1 Notifications to Regulatory Agencies that May Close Oregon Shellfish and/or Aquaculture

The ODFW, OHA, and ODA should be contacted in the event of an incident that may affect shellfish or aquaculture facilities in state waters or facilities regulated by the state. See Table 9409-3 for contacts in each agency.

9407.6.3.2 Notifications to Fishers

The OHA posts advisories and guidelines for recreational shellfish harvesting and ODA shellfish safety closures. This is a regular practice and could be used to notify shellfish harvesters, both commercial and recreational.
https://www.oregon.gov/oha/PH/HealthyEnvironments/Recreation/FishConsumption/Pages/fishadvisories.aspx#shellfish

9407.6.3.3 Notifications within the Incident Command Post

If shellfish fisheries, either commercial or recreational, are closed during a response, the liaison officer and Joint Information Center (JIC) should be notified to ensure their ability to address questions that may arise. If there is a tribal liaison, he or she should also be notified.

If seafood safety operations are planned within or near that area of the incident, the liaison officer, the JIC, Environmental Unit (EU), and operations should be notified. It is particularly important that on-water activities for seafood safety operations be coordinated with operations.

When fisheries are re-opened, the responsible agencies (ODFW, OHA, and ODA) should notify the ICP and the liaison officer, JIC, EU, and operations. The JIC may be useful for disseminating information about fishery openings and closing, if needed.

9407.6.3.4 References

https://www.dfw.state.or.us/MRP/

9409.7 On-Water Commercial Federal and State Fisheries

On-water commercial federal and state fisheries include all fisheries that are managed by NOAA's NMFS and/or the state Fish and Wildlife agencies. The Pacific Fisheries Management Council (PFMC) is the advisory body for commercial fisheries and is one of eight management councils around the country. The management councils are required under the Magnuson Stevens Fisheries Management and Conservation Act (MSA) and are made up of representatives from the federal and state agencies with authority to regulate commercial fisheries, tribes, and private citizens. The PFMC manages approximately 119 species of fish throughout their area of responsibility: Washington, Oregon, California, and Idaho. Responsibility and the authority to regulate commercial fisheries lies with these agencies through various federal and state laws. Commercial fisheries are those for which the catch is sold and not kept for personal use. Tribes participate in commercial fisheries and serve as co-managers. Tribal fisheries are under a different management regime than non-Tribal fisheries and are addressed below.

9409.7.1 Closures of On-Water Commercial Fisheries during a Spill

In the event of an incident, three methods can be used to prevent the operations of commercial fisheries in and around the area of a discharge or release:

1. The Captain of the Port (COTP) may issue a safety zone to prevent vessels (including commercial fishing vessels) from entering an area.
2. The state-specific Department of Health, in coordination with the appropriate state agencies, may close state fisheries and/or fishing in state waters.
3. NOAA's NMFS may exercise their authority under the MSA to implement an emergency closure and prevent fishing in areas where fish may be contaminated. Closures due to contamination would be coordinated with the FDA.

If the size of the spill and other considerations indicate that a fisheries closure should be implemented, NOAA/NMFS and FDA will follow the general procedures exemplified in the *Protocol for Interpretation and Use of Sensory Testing and Analytical Results for Re-Opening Oil-Impacted Areas Closed to Seafood Harvesting Due to the Deepwater Horizon Oil Spill*. See https://www.fda.gov/food/food-safety-during-emergencies/protocol-interpretation-and-use-sensory-testing-and-analytical-chemistry-results-re-opening-oil.

Trajectories may be used to predict surface oil movement and thus inform the closure decision. Closure areas may include a precautionary buffer zone around oiled waters.

9409.7.2 Management/Roles

There are four Federal Fishery Management Plans (FMPs), and all are co-managed to some extent within the states. Tribes share management responsibility for some federal fisheries. See Table 9409-1 for additional information on federal fisheries and points of contact.

There are numerous state fisheries and these generally occur within state waters (0 to 3 miles offshore). However, state fisheries may occur beyond state waters if there is no FMP in place. Due to collaborative management of most fisheries, it is recommended that state directors be contacted at the same time as federal fisheries managers. The contact information is provided in Tables 9409-1, 9409-2, and 9409-3.

9409-1 Federal and State Fisheries Contact Information

On-Water Commercial Fishery Type	Point of Contact and Title	Agency	Phone Number	Email
Federal	Barry Thom, Regional Administrator	National Marine Fisheries Service	206-526-6733	Barry.thom@noaa.gov
Federal	Ryan Wulff, Assistant Regional Administrator, Fisheries	National Marine Fisheries Service	916-930-3600	Ryan.wulff@noaa.gov
Washington State	Kelly Susewind, Director	Washington Department of Fish and Wildlife	360-902-2200	director@dfw.wa.gov
Oregon State	Curt Melcher, Director	Oregon Department of Fish and Wildlife	503-947-6044	Curt.melcher@state.or.us
Idaho State	Lance Hebdon, Anadromous Fisheries Manager	Idaho Department of Fish and Game	208-334-3791	Lance.hebdon@idfg.idaho.gov

9409.7.3 Best Management Practices

9409.7.3.1 Notification to Regulatory Agencies that May Close On-Water Commercial Fisheries

In the event of a spill in federal waters (the Exclusive Economic Zone) where a UC has been established, the EU Leader (EUL) will typically be responsible for notifying NMFS and FDA if conditions suggest that consuming seafood from the spill area may pose a threat to human health. The NOAA SSC can assist with notifications to NMFS. If the tribes are co-managers of the affected fisheries then the tribes should be notified. The Tribal Liaison can assist in identifying appropriate tribal contacts. The EUL will provide NMFS and FDA, and tribes as

appropriate, with information on the spill. NMFS, in consultation with FDA, will decide whether fisheries of fishing in specific areas of federal waters should be closed to protect public health. If there is no UC, but a spill may have impacts on fisheries, then the SSC should notify NMFS.

In the event of a spill in state waters, the UC EUL will typically be responsible for notifying the affected state(s) Fish and Wildlife agencies and Health Departments. Similar to above, the EUL should provide information to the state(s) Fish and Wildlife agencies and Health Departments, and the state agencies would determine if a fishery closure is necessary. As with federal fisheries, some state fisheries are co-managed by tribes, thus, the applicable tribes should be contacted. Generally, if state fisheries occur in tribal Usual and Accustomed (U&A) areas, the tribe serves as co-managers. If there is no UC, but a spill may have impacts on fisheries in states' waters, the affected state(s) should contact their Fish and Wildlife agencies and Health Departments.

Some state fisheries occur outside of state waters and, therefore, the state(s) may be responsible for closing fisheries in the exclusive economic zone. State waters are generally defined as the shore to 3 nautical miles out and federal waters are 3 to 200 nautical miles offshore. The states may regulate fisheries in federal waters if there is not a federal FMP in place. State-regulated fisheries, whether in state or federal waters, would be closed and re-opened by the state fish and wildlife agencies in cooperation with the state Health Departments.
The contact information for each state with regulatory authority to close and re-open commercial on-water fisheries are listed in Tables 9409-1, 9409-2, and 9409-3.

9409.7.3.2 Notification to Fishers

Generally, the responsibility for notification to participants in a commercial on-water fishery falls upon the agency with regulatory authority over the fisheries. If requested, the Incident Management Team could provide support to notify fishers. Notification to commercial fishers of a fishery closure can be done in a number of ways, including the following:

1. USCG Broadcast Notice to Mariners (BNM) to notify commercial vessels of the closure (or an impending closure). NOAA and the states routinely request BNMs to notify fishers of closures and/or changes in fishing practices (e.g., time and area closures), so this method is commonly used to inform commercial fishers.
2. States initiate contact to fishers. Most fisheries require state permits, either fishery permits or landing permits, thus, the states have databases of fishery participants. This database could be used to notify fishers.
3. NMFS may promulgate an emergency rule and publish it in the Federal Register and this could serve as notification to fishers. In addition, NOAA maintains permit databases for various fisheries and these could be used to notify fishers. NOAA also maintains a fisheries hotline that could provide information on closures (800-662-6825).

9409.7.3.3 Notification within the Incident Command Post

If fisheries are closed during a response, the Liaison Officer and JIC should be notified to ensure their ability to address questions that may arise. If there is a Tribal Liaison, he or she should be notified.

If seafood safety operations are planned within or near that area of the incident, the Liaison Officer, the JIC, EU, and Operations should be notified. It is particularly important that on-water activities for seafood safety operations be coordinated with Operations.

When fisheries are re-opened, the state and/or federal agencies should notify the ICP and the Liaison Officer, JIC, EU, and Operations should be made aware. The JIC may be useful for disseminating information about fishery opening and closing if needed.

9409.7.3.4 Contact List

The following is a list of contacts for federal on-water commercial fisheries. Information for individual states can be found in Tables 9409-1 and 9409-3.

9409.7.3.5 References

Information on commercial fisheries is available from the following sites sources:

- The NMFS West Coast Regional Office http://www.westcoast.fisheries.noaa.gov/about_us/sustainable_fisheries_division.html
- The Pacific Fisheries Management Council, the advisory body to NMFS on fisheries https://www.pcouncil.org/
- Comprehensive information on fisheries along the U.S. West Coast: Pacific Coast Fishery Ecosystem Plan http://www.pcouncil.org/wp-content/uploads/FEP_FINAL.pdf
- Washington commercial fisheries Washington state waters (commercial and sport WDFW) https://wdfw.wa.gov/fishing/regulations
- Washington fishing hotline 360-902-2500

Oregon commercial fisheries ODFW Marine Resources Program

- https://www.dfw.state.or.us/resources/fishing/index.asp

9409-2 Contact Information for Federal On-Water Commercial Fisheries

Fishery	Management			Areas	
Name/Type	Federal	State	Tribal	State/Federal Waters Marine/Freshwater	Point of Contact[1]
Coastal Pelagic Species	Coastal Pelagic Species FMP	Yes,	Yes	• Both state and federal waters • Marine waters only, no fresh water component	**Aja Szumylo** 206-526-4746 aja.szumylo@nooa.gov **Frank Lockhart** 206-526-6142 frank.lockhart@noaa.gov
Groundfish	Groundfish FMP	Yes	Yes	• Both state and federal waters • Marine waters only, no fresh water component	**Aja Szumylo** 206-526-4746 aja.szumylo@nooa.gov **Frank Lockhart** 206-526-6142 frank.lockhart@noaa.gov
Salmon	Salmon FMP Salmon are managed spatially. Ocean, Puget Sound, Columbia River, Coastal Bay and Tributary Fisheries	Yes	Yes	• Both state and federal waters. • Marine and fresh water. • Regulations on spatial/temporal elements of the fishery are changed annually. • Regulations are published in May.	**Allyson Purcell** 503-736-4736 Allyson.purcell@noaa.gov **Susan Bishop** 206-526-4587 susan.bishop@noaa.gov
Highly Migratory Species (HMS)	Highly Migratory Species FMP	Yes		• Both state and federal waters. • HMS FMP extends to the high seas. • Marine	**Heidi Taylor** 562-980-4039 Heidi.taylor@noaa.gov

[1] Additional points of contact information is available on the PFMC website https://www.pcouncil.org/council-operations/council-and-committees/council-and-committee-rosters/

9409.8 Recreational On-Water Fisheries

This section addresses on-water recreational fisheries. Recreational fisheries for shellfish are addressed in the sections above for Washington and Oregon shellfish fisheries. Recreational fisheries on marine and fresh water are managed by the respective states and most require licenses and/or permits. The level of management of recreational fisheries varies by area and species targeted. For example, there are time and area closures for many salmon fisheries, including limits on the number and size of fish that can be kept. Due to these constraints, the states provide regular updates to fisheries on regulations and have in place mechanisms to notify recreational fishers. These mechanisms could be used during an incident to advise fishers of incidents in specific areas.

States may follow the protocols described above (commercial and state on-water fisheries) to close, monitor, and re-open recreational fisheries.

The contracts for state recreational fisheries are provided in Table 9409-3.

Information on recreational fisheries is available on the following web sites:

- **Washington:** Washington state waters (commercial and sport) – https://wdfw.wa.gov/fishing/.
  WDFW Hotline: 360-902-2500
- **Oregon:** Oregon state waters
  https://www.dfw.state.or.us/resources/fishing/index.asp
- **Idaho:** Idaho fishing regulations https://idfg.idaho.gov/fish

9409.9 Tribal Fisheries

There are numerous tribal fisheries in both marine and fresh water in the Pacific Northwest. The tribes manage commercial fisheries, both on-water and aquaculture, as well as subsistence fisheries. Many tribes in the region have treaties with the U.S. government that retain their rights to fish well beyond the water adjacent to tribal lands. The areas where fishery rights are retained are usually referred to as U&A areas. There are also a number of treaties related to management of salmon. The tribes have representation on the PFMC with a tribal seal.

The Treaty Tribes of Washington and Oregon have both exclusive and shared authority to manage fisheries and natural resources. Each tribe independently enters into agreements with state and federal agencies on the management of fisheries. The independent sovereign authority of each tribe is recognized through a series of treaties negotiated and signed during 1854–1855 (Treaty with the Tribes of Middle Oregon [1855]; Treaty with the Walla Walla, Cayuse, and Umatilla Tribes [1855]; Treaty with the Yakama [1855]; Treaty with the Nez Perce [1855]; Treaty of Medicine Creek [1854]; Treaty of Neah Bay [1855]; Treaty of Olympia [1855]; Treaty of Point Elliott [1855]; and Treaty of Point No Point [1855]). Treaty rights have been reaffirmed by judicial review (e.g., US v. Oregon [SoHappy v. Smith] 302 Supp. 899 [D. Oregon, 1969] and US v.

Washington 384 Supp. 312 [W. Dist. Wash., 1974]) and administrative policies (e.g., Executive Order 13175 and Secretarial Order 3206).

9409.9.1 Closures of Tribal Fisheries

As sovereign nations, tribes maintain the authority to manage treaty-protected fishery resources. In some cases, tribes serve as co-managers for federal fisheries and are co-managers for state fisheries that occur in the tribes' U&A areas. The authority to close and re-open tribal fisheries rests with the individual tribes. NMFS, the FDA, the state Fish and Wildlife offices and/or state Departments of Health may make recommendations to the tribes, but individual tribes retain the authority for management (including closures and re-opening) of their own fisheries. In some areas, the state Department of Health has entered into agreements with tribes to close specific areas. The Department of Health would be notified of possible impacts to fisheries from an incident and would coordinate with tribes as appropriate.

The tribes may work with NMFS, FDA, the state Fish and Wildlife departments, and Departments of Health on any planned closures by the federal and state agencies to aid in determining if tribal fisheries should be closed. In addition, the tribe may adopt and support a COTP-issued safety zone to prevent vessels from entering the area.

9409.9.2 Management/Roles

In the event of a spill, it is the responsibility of the FOSC to notify affected tribes. However, the FOSCs primary contact may or may not be the tribal member with expertise in fisheries or natural resources management. The FOSC or their designated liaison must ensure that health and safety issues that may affect tribal fisheries are communicated clearly and in a timely manner to the tribal point person for each tribe impacted (or likely to be impacted).

9409.9.3 Best Management Practices

9409.9.3.1 Notification to Tribes with Authority to Close Tribal Fisheries

The FOSC has an obligation to notify tribes if there may be effects to tribal resources, including fisheries. The FOSC will work with the Tribal Liaison, DOI, BIA, the tribes, and perhaps the Columbia River Inter-Tribal Fish Commission and the Northwest Indians Fish Commission, to determine if U&A areas occur in the area of the incident and/or if tribal fishery resources may be affected by an incident beyond its immediate vicinity. For example, an incident in the main stem of a river could have impacts on tribal fisheries in associated tributaries. It is expected that notification to tribal staff of fisheries closure recommendation will occur simultaneously, and not subsequent to, notification of federal, state, or recreational fisheries management agencies.

The FOSCs maintain a separate list of tribal contacts. Generic contact information for Bureau of Indian Affairs Superintendents and Tribal Official in Idaho, Oregon, and Washington are provided in Section 9106.2.

9409.9.3.2 Notification to Tribal Fishers

As described above, a BNM can be used to notify on-water fishers. The states and NMFS may also provide means to notify fishers based upon their respective permitting program. For shellfish or aquaculture closure, the Departments of Health issue notices. There is also a Tribal Fishery Hotline: 800-562-6142.

9409.9.3.3 Notification within the Incident Command Post

As with all fisheries, if tribal fisheries are closed, it is recommended that the Liaison Officer, including the Tribal Liaison, the JIC, the EU, and Operations be notified.

9409.9.3.4 Contact List

See NWACP the United States Bureau of Indian Affairs and tribal contact list.

9409.9.3.5 References

https://nwifc.org/
https://critfc.org/

For additional information on tribes and fisheries, see the Pacific Coast Fisher Ecosystem Plan, Sections 3.4 and 3.5.

http://www.pcouncil.org/wp-content/uploads/FEP_FINAL.pdf

9409-3 Fisheries and Contact Information by State

Closure Type	Jurisdiction/Authority	Point of Contact
Washington		
Public Health Consumption of fish and shellfish (non-tribal)	**State Department of Health and 34 local health jurisdictions:** State public health protection in Washington State is a shared responsibility between the DOH and 34 local health jurisdictions. This responsibility includes informing citizen of the possible health hazards associated with eating chemically contaminated fish and shellfish from contaminated waters. Due to the lack of a statewide fish consumption advisory program, the basis for and science supporting each of these advisories varies between issuing organizations.	**WDOH:** Shellfish Program Emergency Line: 360-789-8962 Shellfish Growing Area Section Email: sf.growingarea@doh.wa.gov **Local Health Departments/Districts:** https://www.doh.wa.gov/AboutUs/PublicHealthSystem/LocalHealthJurisdictions
Recreational Fisheries	**WDOH:** Closures and advisories related to the safety of bivalve shellfish for consumption. DOH issues the closure or advisory and coordinates with the local health jurisdiction(s). Closures for Recreational Harvest of intertidal shellfish. **WDFW:** Can open and close recreational fisheries for harvest management purposes (to protect populations). Can close beaches or restrict harvest on WDFW owned property.	**WDOH:** Shellfish Program Emergency Line: 360-789-8962 Shellfish Growing Area Section Email: sf.growingarea@doh.wa.gov **WDFW Puget Sound Shellfish Manager** Bob Sizemore Bob Sizemore360-302-3030 ext 303 Robert.sizemore@dfw.wa.gov **WDFW Puget Sound Shellfish Policy Coordinator:** Christopher Eardley Christopher Eardley360-302-3030 ext. 302 Christopher.eardley@dwf.wa.gov **WDFW On-Water Recreational Fisheries:** Lorna Wargo 360-249-1229 lorna.wargo@dfw.wa.gov **WDFW Director:** Kelly Susewind 360-902-2200 director@dfw.wa.gov

Closure Type	Jurisdiction/Authority	Point of Contact
Commercial Fisheries (non-tribal)	**Co-Managers/Trustees** **WDOH:** Will work in cooperation with WDFW (see below). **WDNR:** Is the trustee that controls commercial harvest of sub-tidal sessile animals (geoducks, other clams, etc.). **WDFW**: Can control non-tribal commercial harvest of fishing (e.g., salmon, rockfish, smelt) and non-sessile animals (crabs, urchins, sea cucumbers, etc.)	**WDOH:** Shellfish Program Emergency Line: 360-789-8962 Shellfish Growing Area Section Email: sf.growingarea@doh.wa.gov **WDNR Shellfish Operations Manager:** Brad Pruitt 360-902-1083 brad.pruitt@dnr.wa.gov **WDFW Puget Sound Shellfish Manager** Bob Sizemore Bob Sizemore360-302-3030 ext 303 Robert.sizemore@dfw.wa.gov **WDFW Puget Sound Shellfish Policy Coordinator:** Christopher Eardley Christopher Eardley360-302-3030 ext. 302 Christopher.eardley@dwf.wa.gov **WDFW Director:** Kelly Susewind 360-902-2200 director@dfw.wa.gov

Closure Type	Jurisdiction/Authority	Point of Contact
Aquaculture on Private or Public Lands	**Property and product owners. DOH and other health authorities.** **WDOH and Local Health Authorities: WDFW Director:** Closures and advisories regarding the health and safety and consumption of fish and shellfish (commercial and recreational). **WDFW:** Oyster reserves and other WDFW-owned or managed properties. Under RCW 77.12.047, WDFW has the authority to create an emergency rule to close fisheries on public lands. This does not apply to private sector culture aquatic products. WDFW can declare such an emergency during an oil spill in cooperation with WDOH.	**WDOH:** Shellfish Program Emergency Line: 360-789-8962 Shellfish Growing Area Section Email: sf.growingarea@doh.wa.gov **Local Health Departments/Districts:** https://www.doh.wa.gov/AboutUs/PublicHealthSystem/LocalHealthJurisdictions **WDFW Puget Sound Shellfish Manager** Bob Sizemore Bob Sizemore360-302-3030 ext 303 Robert.sizemore@dfw.wa.gov **WDFW Puget Sound Shellfish Policy Coordinator:** Christopher Eardley Christopher Eardley360-302-3030 ext. 302 Christopher.eardley@dwf.wa.gov
Oregon		
Public Health Consumption of fish and shellfish (non-tribal)	**OHA:** The OHA has responsibility for issuing advisories regarding health concerns related to consuming shellfish. They have also issued advisories for finfish in fresh water (lakes).	**OHA**
Recreational Fisheries	**OHA:** Closes and advisories related to the safety of bivalve shellfish for consumption. OHA issues the closure or advisory and coordinates with the local health jurisdiction(s). Closures for recreational harvest of intertidal shellfish. **ODFW:** Can open and close recreational fisheries for harvest management purposes (to protect populations). Can close beaches or restrict harvest on ODFW-owned property.	**ODFW** Curt Melcher 503-947-6000 Curt.melcher@state.or.us Troy Buell 541-867-0300 ext. 225 troy.v.buell@state.or.us

Closure Type	Jurisdiction/Authority	Point of Contact
Commercial Fisheries (non-tribal)	**Co-Managers/Trustees:** **OHA:** Closures and advisories regarding the health and safety and consumption of fish and shellfish (commercial and recreational). **Unknown:** Is the trustee that controls commercial harvest of sub-tidal sessile animals (geoduck, other clams, etc.). **ODFW:** Can control non-tribal commercial harvest of fish (e.g., salmon, rockfish, smelt) and non-sessile animals (crabs, urchins, sea cucumbers, etc.). **NMFS:** Four federal fisheries are co-managed by the states, including ODFW. Outside of state waters, NMFS would likely close the FMP fisheries if necessary. Closures would be conducted in coordination with ODFW, OHA, and FDA.	
Aquaculture on Private or Public Lands	**Property and Product owners.** **OHA and other health authorities.** **ODFW** for oyster reserves etc.??	
Notification	**ODFW:** has social media presence to notify commercial or recreational fishers of closures or potential closures. They have an email notification list, Facebook, and Twitter accounts which are generally used to advise of fisheries changes (e.g., openings and closings of salmon fisheries). They may coordinate with the JIC on notifications to fishers.	
Idaho		
Public Health Consumption of fish and shellfish (non-tribal)		
Recreational Fisheries	**Idaho Department of Fish and Game (IDFG)**	

Closure Type	Jurisdiction/Authority	Point of Contact
Commercial Fisheries (non-tribal)	**Co-Managers/Trustees:** **IDFG (https://idfg.idaho.gov/old-web/docs/fish/planFisheries.pdf)** **NMFS:** Anadromous species (i.e., fish species that travel between fresh and salt water) are managed collaboratively with NMFS, other states, and tribes. In addition, some fish stocks that are subject to fishing in Idaho rivers are listed under the Endangered Species Act, which is administered by NMFS.	**IDFG Director:** Virgil Moore **IDFG Anadromous Fisheries Manager:** Lance Hebdon 208-334-3791 lance.hebdon@idfg.idaho.gov
Aquaculture on Private or Public Lands		

Section 9410

Places of Refuge

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9410

Places of Refuge

9410.1 Purpose

1. To define places of refuge and explain jurisdictional authorities for them.
2. To provide a quantifiable decision making process for response to requests.
3. To apply existing procedures for coordinated trans-boundary and trans-jurisdictional decision-making when necessary in responding to a request for a place of refuge.

9410.2 Introduction

A ship in need of assistance may require a temporary place of refuge with adequate water depth for lightering or repairs to protect the marine environment. Ships may need to be brought into a harbor, anchored or moored in protected waters, or temporarily beached to safely make repairs and stop the loss of oil or other hazardous substances. Disabled ships need to be repaired to resume safe navigation and prevent an incident resulting in the loss of fuel or cargo. If leaking ships are not repaired, spilled oil and hazardous substances may affect health and human safety, natural resources, and shorelines.

There is no single place of refuge for all ships and all situations. Decisions relating to places of refuge encompass a wide range of security, environmental, social, economic, and operational issues that vary according to each situation, including the environmental sensitivity and protected status of the areas within or adjacent to a potential place of refuge. The initial decision to permit a ship to seek a place of refuge, as well as the decisions and actions implementing that decision, are inherently based upon an assessment of the risk factors involved and the exercise of sound judgment and discretion.

Places of refuge are sites that could potentially be used for disabled or damaged ships needing shelter for repairs. While information on potential sites may be pre-surveyed, this does not imply that any of these sites will be the location of choice in a future event. Selection of a place of refuge by the United States Coast Guard (USCG) Captain of the Port (COTP) in consultation with other federal agencies, states, tribal and local governments, and other stakeholders will always be made on a case-by-case basis. If time allows, the COTP will activate a Unified Command under the Incident Command System (ICS) to address a request for a place of refuge.

When a place of refuge incident occurs that involves, or may involve, the international border, a response will be activated as per the Joint Canada/United States Pacific Response Plan. Similarly, if a Place of refuge incident is likely to involve more than one Area Contingency Plan, existing cross-jurisdictional protocols will be activated.

This section incorporates a decision-making process and recommended procedures for appropriate authorities and vessel masters to use when requesting a place of refuge. The guidelines in this section incorporate the Guidelines on Places of Refuge for Ships in need of Assistance adopted by International Maritime Organization (IMO) and assume use of ICS to manage the incident.

When safety of life is involved, existing search and rescue conventions and protocols should be used. When a ship is in need of assistance but life safety is not jeopardized, these guidelines should be followed to evaluate whether a ship should remain in the same position, continue on its voyage, be brought into a place of refuge, be taken out to sea, or be scuttled intentionally in deep water.

9410.3 Definitions

Ship in need of assistance means a ship in a situation, apart from one requiring rescue of persons on board that could lead to loss of the vessel or an environmental or navigational hazard.

A *ship* is defined as any vessel (self-propelled or non-self-propelled) that can be used for the commercial carriage of cargo or passengers, as well as non-commercial applications, including, but not limited to, freight ships, tank ships, deck barges, tank barges, and large yachts.

Place of refuge means a place where a ship in need of assistance can take action to stabilize its condition and reduce the hazards to navigation, and to protect human life and the environment. Places of refuge can be man-made harbors, ports, natural embayments, or offshore waters.

Guidelines mean each of the decision-making guidelines and matters set forth above and below. Notwithstanding any such words as "may," "should," "will," "must," or "shall," these guidelines are intended solely as factors that may be considered with respect to the exercise of judgment in deciding whether, where, and when to direct or permit a ship to seek a place of refuge, as well as considered during the execution and implementation of any such decisions.

Force Majeure is a doctrine of international law that confers limited legal immunity upon vessels that are forced to seek refuge or repairs within the jurisdiction of another nation due to uncontrollable external forces or conditions. This limited immunity prohibits coastal state enforcement of its laws which were breached due to the vessel's entry under force majeure.

9410.4 Jurisdiction

Under 33 Code Federal Regulations (CFR) 6.04, the USCG COTP has authority to order ships into and out of ports, harbors, and embayments to protect the public, the environment, and maritime commerce. The COTP is the designated Federal On-Scene Coordinator (FOSC) for the United States coastal zone per the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) (a)(1). There may be some maritime homeland security situations where the COTP, acting as the Federal Maritime Security Coordinator, may have access to Sensitive Security Information and/or classified information—not readily shareable with other stakeholders—that may impact on the final disposition of a vessel requesting "Force Majeure" or permitting a vessel to seek a place of refuge or approval of a salvage plan. These circumstances are dealt with on a case by case basis and information shared with other agencies on a “need to know” basis.

The States of Oregon, Washington, and Idaho have authority to represent and protect state interests for incidents within State waters. Each state has jurisdiction over state-owned shoreline and in nearshore waters out to 3 miles. In Washington and Oregon, State On-Scene Coordinators (SOSCs) are pre-designated by the Department of Ecology and the Department of Environmental Quality, respectively. In the State of Idaho, a SOSC is designated at the time of an incident by the Bureau of Homeland Security. Although Idaho does not have a coast, it does have a port that might potentially be used as a place of refuge.

Local governments or port authorities may have authority over near shore waters, including ports and harbors. If so, a local government or port representative may serve as a Local On-Scene Coordinator per the Northwest Area Contingency Plan.

Resource agencies have authority to manage their lands, marine areas, wildlife, habitat, and resources as mandated in their laws and regulations. Resource agencies fill positions in the ICS and provide resource information to the Unified Command. In addition, resource agencies are members of the Region 10 Regional Response Team (RRT).

Tribal governments may own land and have fishing rights in marine areas that could be impacted by a ship seeking a place of refuge. If so, a tribal government representative(s) may fill positions in the ICS or may serve as a Local On-Scene Coordinator per the Northwest Area Contingency Plan.

The master of the ship has control of the ship and is responsible for requesting a place of refuge from the COTP. The master provides details on the status of the ship and justification for needing a place of refuge per the IMO Guidelines on Places of Refuge.

9410.5 Management Structure to Address Places of Refuge

If time allows, the COTP should consult with appropriate federal, state, and local stakeholders via the RRT or other appropriate mechanism to address a request for

a place of refuge. A Unified Command may be activated as required. The Unified Command should provide an opportunity for consultation with resource agencies, tribal governments, local authorities, and other stakeholders as appropriate. Technical specialists such as marine engineers, maritime pilots, vessel inspectors/surveyors, or salvors may be activated to assist in managing the incident. The Unified Command should utilize the checklists, Decision Making Memo, or the Quick Decision Guide provided in this section and annexes, based on pre-identified information whenever available, to determine the risks associated with the request. Once identified, an analysis should be performed balancing the public and environmental risks with the risks to the ship and the ship/cargo owner in order to decide if and where to move a ship in need of assistance.

If there is not time to activate a Unified Command or the RRT, the COTP will decide whether to grant or deny the request for a place of refuge. To the extent possible, the COTP should use the checklists, Decision Making Memo, or Quick Decision Guide provided in this annex, and reference pre-identified information on potential places of refuge for the immediate area in order to select an appropriate site. Following the decision, the COTP should immediately notify appropriate stakeholders.

Attachment A contains a list of potential stakeholders in Idaho, Oregon, and Washington for ships requiring a place of refuge.

Attachment B provides a template for pre-identified information to support the decision-making checklists below, consistent with sections 3.5 to 3.6 of the IMO Guidelines on Places of Refuge for Ships in Need of Assistance.

Attachment C is a template for the Decision Making Memo.

Attachment D is a Quick Decision Guide.

9410.6 Decision-Making Process

The COTP, in consultation with Unified Command if formed and, if available, the RRT, should perform an objective analysis of the advantages and disadvantages of allowing or not allowing a ship in need of assistance to proceed to a place of refuge, to the extent possible. This analysis should identify the locations that meet the operational requirements of the ship and identify the potential environmental, social, economic, and security impacts at each site. The COTP will consider these multiple factors to determine the appropriate course of action to prevent and mitigate the short- and long-term impacts to public health and the environment, local commerce, the ship, and the ship/cargo owners.

The COTP should evaluate consequences to the vessel and the environment:

- If the ship remains in the same position,
- If the ship continues on its voyage,

- If the ship reaches a place of refuge,
- If the ship is taken out to sea, or
- If the ship is intentionally scuttled in deep water.

The decision-making process should evaluate each of these options using the following steps to determine if a ship in need of assistance should be granted a place of refuge. These steps are not in prioritized order, but should be addressed as part of a total assessment for each of the five options above.

9410.6.1 Step 1 Request for Place of Refuge

The master of the ship, or his/her representative (the operating company and/or salvor), should request a place of refuge from the appropriate USCG COTP (or appropriate Canadian authority). The master should provide as much information as possible, including:

- The status of the ship, crew, passengers, and weather;
- Medical issues, deaths, or need for evacuation of crew and/or passengers;
- The reasons the ship needs assistance and the specific assistance required;
- Intended actions and potential consequences if the request for a place of refuge is denied;
- If the ship is flooding, whether the pumping system is operable and is keeping up with the flooding rate;
- Status of vessel steering, propulsion, and firefighting capability;
- The steps already taken to mitigate the problem, and results;
- What needs or requirements will the ship have once in a place of refuge; and
- Status of notifications completed by master: i.e., owners/operators/agents/ Qualified Individuals/class society, etc.

9410.6.2 Step 2 Consultation with Appropriate Agencies

When time allows, the COTP should consult with appropriate agencies via the RRT to address the issue and activate a Unified Command when the situation dictates. If a Unified Command is activated, the Port of Refuge Decision Making Memo located in this chapter may be utilized to provide a methodology for the Port of Refuge decision making. If there is insufficient time to utilize the POR Decision Making Memo the Quick Decision Guide located in this chapter may be used.

If there is not time to consult with partner agencies, the COTP should grant or deny the request for a place of refuge and inform the state or province, other concerned agencies, and appropriate stakeholders at the earliest time to determine if any protective measures are required.

9410.6.3 Step 3 Captain of the Port or Unified Command Response Steps

In either case, the COTP or Unified Command should:

- Require the vessel master or owner/operator or agent, Qualified Individual etc., to contract with a salvor and oil spill response organization, or other specialized contractor if this has not already been done;
- As the situation dictates, establish a Command Post and prepare to initiate a response;
- If the vessel is drifting, determine its trajectory to shore and potential impact sites;
- Notify the Federal Bureau of Investigation Intelligence Coordination Center or the Department of Homeland Security Homeland Security Operations Center if there are any security concerns;
- When appropriate and if time allows, dispatch an inspection team with expertise appropriate to the situation to board the ship and evaluate conditions; depending on risk, sea conditions, security risk, nature of distress etc.
- Confer with the USCG Marine Safety Center Salvage Engineering Response Team, the vessel owners or naval architects.
- Evaluate the factors in the following sections to determine if the ship in need of assistance should remain in the same position, continue on its voyage, be taken out to sea, be scuttled intentionally, or be directed to a place of refuge.

9410.6.3.1 Human Health and Safety

- Safety and Health condition of those on board, as well as risks to public safety.

9410.6.3.2 Environment

- The environmental consequences of staying put, continuing on its voyage, being taken out to sea, being intentionally scuttled in deep water, or going to a place of refuge (reference Step 5 below).

9410.6.3.3 Ship Status and Risk Factors

- The kind and size of the ship;
- The status/seaworthiness of the ship, including, buoyancy, stability, structural integrity, availability of propulsion and power generation, docking ability, progressive deterioration, etc.;
- Types, quantities, hazards, and condition of petroleum products, hazardous substances, and/or other cargo onboard;
- The impending threat to the ship or its product;
- Weather conditions and forecasts;
- The master’s ability to navigate the ship or need for a pilot;

- Distance and estimated time to reach a place of refuge;
- Vessel traffic in the area where the ship is currently located;
- Mitigation measures already taken; and
- Determine crew status: health, staffing levels, etc.

9410.6.3.4 Response & Salvage Resources

- Availability of rescue tugs/tow vessels of sufficient size and power to aid the ship in distress;
- Salvage and spill response resources on-scene with the ship and available during transit;
- Vessel traffic in the potential destination area;
- Access to a pier or dock with repair facilities; and
- Whether salvage and lightering can safely be performed at each alternative location.

9410.6.3.5 Other Command Management Factors

- Provisions of financial security and insurance by the ship owner/ operator;
- Agreement by the master and owner/operator of the ship to the proposals of the COTP/Unified Command;
- Public expectations and media outreach; and
- Capability of master to detain crew on board until cleared by Customs and Border Protection and USCG.

9410.6.4 Step 4 Factors for Further Evaluation

If the COTP/Unified Command determines that the risks are generally acceptable to direct a ship into a place of refuge, the following factors should be further evaluated to determine a specific place.

9410.6.4.1 Human Health and Safety

- Assessment of human factors, including crew fatigue and overall health;
- Safety of persons at or near the place of refuge with regard to risks of explosion, fire, and pollution;
- Security concerns associated with a port or harbor area;
- Available emergency response capabilities and evacuation routes and facilities; and
- Available firefighting and police capabilities.

9410.6.4.2 Environment

- Potential environmental and cultural impacts of pollution (reference Step 5 below) or the response to a pollution incident;

- Existing resource protection strategies and availability of response resources to implement the strategies; and
- Status of potential places of refuge (protected status, commercial area, near population centers).

9410.6.4.3 Port or Anchorage Area Criteria

- Type and size of the ship in relation to the size of the place of refuge;
- Adequate water depth to accommodate the ship;
- Navigational approach, including vessel traffic and associated risks;
- Pilotage requirements;
- Tides and currents;
- Seasonal conditions such as ice;
- Anchoring ground or suitable docking facilities;
- Availability of repair facilities such as dry docks, workshops, and cranes;
- Availability of facilities which can handle dangerous cargo;
- Military operations in vicinity;
- Availability of cargo transfer and storage facilities;
- Land and/or air access;
- Weather and sea state, including prevailing winds;
- Requirements from port authorities, area landowners/managers; and
- Are the proposed activities specifically prohibited and/or are there permitting or notification requirements that need to be followed, i.e., national marine sanctuary permit?

9410.6.4.4 Beaching Site Criteria

- Depth of water, not covering vessel deck;
- The type of shore bottom;
- Navigational approach and pilotage requirements;
- Seasonal conditions such as ice;
- Openness of the site to ocean waves/currents;
- Land and/or air access;
- Prevailing wind patterns and forecasts;
- Tidal range; and
- Vessel stability and structure for beaching.

9410.6.4.5 Economic Factors

- Potential economic impacts of pollution;
- Potential disruptions to other port operations or marine commerce;
- Potential impacts on local fisheries, commercial fisheries, and/or natural resources exposed on the transit route;

- Economic impact of the decision on the ship operator/owners and the cargo owner; and
- Economic impact related to loss of natural resources, area quality and recreational use.

9410.6.4.6 Response, Salvage, Firefighting, and Repair Resources

- Available salvage and spill response resources;
- Available firefighting resources;
- Availability of appropriate and compatible lightering equipment and receiving vessels;
- Availability of product storage (e.g., tank barge, shore-side storage tank, or other ships);
- Availability of skilled labor and trained personnel;
- Access to repair equipment and facilities;
- Availability of cargo reception and storage facilities;
- Salvage and response vessel access to the "place of refuge";

9410.6.4.7 Other Command Management Factors

- Liability, insurance, and compensation issues and limits;
- Requirements of jurisdictional authorities for financial responsibility and bonding;
- Required notifications such as maritime pilots, Immigration, Customs, and security;
- Transnational or trans-jurisdictional coordination agreements/plans, if applicable; and
- Public expectations and media outreach.

9410.6.5 Step 5 Environmental, Historic, and Cultural Factors in Determining Places of Refuge

To protect environmental, historic, and cultural resources, the COTP/Unified Command should determine the presence of and proximity to the following for any place of refuge location:

- Resources at risk such as threatened or endangered species, seasonal breeding locations, or designated critical habitat;
- Essential fish habitat;
- Mariculture/aquaculture facilities;
- Other priority sensitive areas, including cultural and historic properties;
- Other resources, lands and/or waters with special designations;
- Offshore fisheries;
- Near shore fisheries;
- Subsistence use patterns and treaties;

- Recreation/tourism information; and
- Spill trajectories.

9410.6.6 Step 6 Informing Authorities and Stakeholders

After the final analysis has been completed and a decision made, the COTP or Unified Command, through a formal document (such as a Decision Memo), should ensure that other authorities and stakeholders listed in Attachment A are appropriately informed.

9410A Attachment A: Regional List of Potential Stakeholders for Incident-Specific Consultation Regarding Places of Refuge

The Area Committee should ensure that current contact information is available through the committee members for the categories listed below:

Federal On-Scene Coordinator

State On-Scene Coordinator

Federal Natural Resource Trustees (list) State Natural:

Resource Trustees (list):

Federally Recognized Tribes or First Nations (list):

Land Owners/Land Managers in addition to trustees identified above (examples follow):

- Local (e.g., borough/municipal) governments
- Potentially impacted facility owners
- Port Authorities

Other Stakeholders or Agencies (examples follow):

- Regional Citizens Advisory Councils or other appropriate public interest groups
- Harbor Safety Committees
- Selected commercial operators (e.g., fish hatcheries, mariculture sites)
- Immigration, Customs, the Federal Bureau of Investigation, the Department of Homeland Security, and the Federal Emergency Management Agency
- Maritime pilot groups serving the area
- Center of Disease Control/state and local health departments.

9410B Attachment B: Template for Pre-Identifying Information Necessary for Responding to Requests for Places of Refuge

Introduction

Ideally, the Northwest Area Committee should gather information on all potential places of refuge in our area of responsibility. This attachment provides a template for the collection of general information on the planning region as well as specific information on sites such as docks and piers, anchorages and moorings, and possible beaching sites. The checklists in this template support the decision-making checklists in the Places of Refuge section by providing for the advance collection of information and are therefore crucial to expediting a place of refuge decision-making process.

While information on possible sites may be pre-inventoried, this does not imply that any of these sites will be the location of choice in a future event. Selection of a place of refuge by the United States Coast Guard (USCG) Captain of the Port (COTP) in consultation with other agencies and stakeholders will always be made on a case-by-case basis.

A workgroup may be established to pre-identify information on coastal port or places that will give the COTP valuable information on a decision to choose a place of refuge in an emergency situation. The workgroup may include representatives of the USCG, the state environmental agency (or agencies), appropriate federal and state natural resource trustees, local environmental and natural resource agencies, and marine pilots associations. In addition, native tribes and other interested and knowledgeable stakeholders should be invited to participate.

9410B.1 General Information

This is general information needed to assess a potential POR.

- Casualty risks associated with the routine vessel traffic routes in the planning area
- Availability of rescue tugs/tow vessels of sufficient size and power to aid the vessel in distress and predicted arrival times
- Salvage, lightering, firefighting and spill response resources available to this jurisdiction, including delivery times
- Transnational or trans-jurisdictional coordination agreements/plans, if applicable
- Shorelines likely to be impacted either during transits to a place of refuge or if refuge is denied:
    - Shoreline names and locations as appropriate
    - Shoreline types and generally acceptable cleaning methods

- Description of sensitive resources/areas along the coastlines likely to be impacted, including fisheries, aquaculture sites, cultural and historic sites, threatened and endangered species, subsistence use, recreation/tourism, or specially designated lands or waters
- Existing resource protection strategies
- General wind/wave/current information and source for real-time tide/wind/wave/current information
- Seasonal conditions, such as ice
- Potential risks to populations along the coasts with regard to explosion, fire, and pollution; availability of evacuation routes
- General information on coastal vessel traffic patterns
- Other pertinent information

9410B.2 Information for Use in Choosing Places of Refuge

9410B.2.1 Docks and Piers

For each site:

- Site number [to correspond to map showing location]
- Site name
- Site location (descriptive and latitude/longitude coordinates)
- Water depths at mean low tide
- Beach/shoreline types and generally accepted cleaning methods
- Bottom types
- General wind/wave/current information
- Openness of the site to ocean waves/currents
- Source for real-time tide/wind/wave/current information
- Seasonal conditions, such as ice
- Standard navigational approach, including vessel traffic patterns and associated risks
- Pilotage requirements
- Nearby port operations and potential impacts
- Brief description of port facilities
- Brief description of repair facilities/capabilities/skilled labor
- Availability of cargo transfer and storage facilities
- Land and/or air access
- Risks to persons at or near the location with regard to explosion, fire, and pollution; availability of evacuation routes
- Description of sensitive resources/areas at the site and along potential access routes to that site, including fisheries, aquaculture sites, cultural and historic sites, threatened and endangered species, subsistence use, recreation/tourism, or specially designated lands or waters
- Existing resource protection strategies

- Availability of salvage, spill response, and emergency response resources including police and firefighting
- Security measures in place
- Requirements for permission from area landowners/managers
- Financial assurance requirements of port authorities
- Liability and compensation issues and limits
- Required notifications such as Immigration or Customs
- Identification of stakeholders, including 24/7 contact information
- Other pertinent information

9410B.2.2 Anchorages and Moorings

For each site:

- Site number [to correspond to map showing location]
- Site name
- Site location (descriptive and latitude/longitude coordinates)
- Water depths at mean low tide
- Beach/shoreline types and generally accepted cleaning methods
- Bottom types
- General wind/wave/current information
- Openness of the site to ocean waves/currents
- Source for real-time tide/wind/wave/current information
- Seasonal conditions, such as ice
- Standard navigational approach, including vessel traffic and associated risks
- Pilotage requirements
- Nearby port operations, if any, and potential impacts
- Brief description of facilities (if any)
- Availability of cargo transfer and storage vessels
- Land and/or air access
- Risks to persons at or near the location with regard to explosion, fire, and pollution; availability of evacuation routes
- Description of sensitive resources/areas at the site and along potential access routes to that site, including fisheries, aquaculture sites, cultural and historic sites, threatened and endangered species, subsistence use, recreation/tourism, or specially designated lands or waters
- Existing resource protection strategies
- Availability of salvage, spill response, and emergency response resources, including police and firefighting, and their potential access to the site
- Security measures in place
- Requirements for permission from area landowners/managers, if applicable

- Financial assurance requirements of local port authorities, if applicable
- Liability and compensation issues and limits
- Required notifications such as Immigration or Customs
- Identification of stakeholders, including 24/7 contact information
- Other pertinent information

9410B.2.3 Beaching Sites

For each site:

- Site number [to correspond to map showing location]
- Site name
- Site location (descriptive and latitude/longitude coordinates)
- Water depths at mean low tide
- Beach/shoreline types and generally acceptable cleaning methods
- Bottom types
- General wind/wave/current information
- Openness of the site to ocean waves/currents
- Source for real-time tide/wind/wave/current information
- Seasonal conditions, such as ice
- Standard navigational approach, including vessel traffic and associated risks
- Pilotage requirements
- Nearby port operations, if any, and potential impacts
- Brief description of facilities (if any)
- Availability of cargo transfer and storage vessels and their potential access to the beaching site
- Land and/or air access
- Risks to persons at or near the location with regard to explosion, fire, and pollution; availability of evacuation routes
- Description of sensitive resources/areas at the site and along potential access routes to that site, including fisheries, aquaculture sites, cultural and historic sites, threatened and endangered species, subsistence use, recreation/tourism, or specially designated lands or waters
- Existing resource protection strategies
- Availability of salvage, spill response, and emergency response resources, including police and firefighting, and their potential access to the beaching site
- Security measures in place
- Requirements for permission from area landowners/managers, if applicable
- Financial assurance requirements of local port authorities, if applicable
- Liability and compensation issues and limits

- Required notifications such as Immigration or Customs
- Identification of stakeholders, including 24/7 contact information
- Other pertinent information

9410C Attachment C: Places of Refuge Plan

Incident Name	Date	Time

A place of refuge (POR) refers to a location where a ship that is in need of assistance can take action to:

- Protect human life and the environment
- Stabilize its condition
- Reduce the hazards to navigation

Under 33 Code of Federal Regulations 6.04, the United States Coast Guard Captain of the Port has authority to order ships into and out of ports, harbors, and embayments in order to protect the public, the environment and maritime commerce. This package was developed in accordance with Northwest Area Contingency Plan Places of Refuge policy and provides Unified Command with a recommendation on appropriate action to take regarding a ship in need of assistance, as well as provides supporting documentation that identifies the security, environmental, social, economic, and operational issues considered in making that recommendation.

Refer to ICS Form 202 for Incident Objectives.

Locations considered and alternatives not considered (scuttling/grounding) based on the scenario.

Recommendation to Unified Command:
(Example: *M/V Seagull* to proceed to Port Phillips harbor as a place of refuge to undertake lightering and salvage functions.

Reviewed by:

ICS Role	Name (Print)	Signature	Date
Operations Section Chief			
Salvage Branch Leader			
Planning Section Chief			
Environmental Unit Leader			

Action Approval:

	Name (Print)	Signature	Date
RPIC			
FOSC			
SOSC			

Places of Refuge Summary:

The following potential place of refuge (POR) options and actions were evaluated:

Vessel Continues its voyage (deny entry)
Vessels remains at sea or moved to sea
Vessel is taken to a place of refuge at (POR A):
Vessel is taken to a place of refuge at (POR B):
Vessel Remains in its current location (repairs made in place)
Vessel is intentionally grounded at:
Scuttled at:

These scores are taken from Step 4 B of the attached Risk Analysis and summarize the total risk score for each POR/action based on the probability score determined in Step 3. Risk is calculated by the following equation: Risk = Probability Score * Weighted Consequence Score. The lowest risk represents the least overall risk. These scores are provided for the purpose of comparing the alternatives; however, each alternative and risk category must be carefully considered because individual weighted risk scores may make the lowest risk option unacceptable.

	RISK SCORES						
	Continue Voyage	Sea	POR A	POR B	Current Location	Ground	Scuttle
Probability Score							
Human Health and Safety							
Natural Re-sources							
Economic Activity							
TOTAL RISK							

It is important to note that decision makers must consider each category individually, not just the lowest total risk score. For example, a POR option with the lowest total risk might still have an

unacceptably high Human Health and Safety risk relative to other options. Security and national defense risks must also be considered in making a final decision.

Attachments

- Endorsement page for POR recommendations
- Places of Refuge Risk Analysis
- Vessel Information
- Stakeholder Contact List
- Maps - Potential POR Critical Information Sheet
- Restrictions and Assistance Plan (if a continue voyage/deny entry decision)
- References
- Geographic Response Plans
- Resources at Risk
- Transit Plan

Endorsement Page for POR Recommendation by Technical Specialists and Other Contributors:

Title	Name (Print)	Signature	Date
Vessel Agent			
Pilots			
Marine Exchange			

9410C.1 Places of Refuge Risk Analysis: Step 1 – Scope and Scale of the Evaluation

A. Define the "worst case scenario" that one may reasonably expect. This might otherwise be defined as a significant worsening of the vessel's condition and the associated results. Make conservative but realistic assumptions about the vessel's current status, how the situation may worsen, and the likely results. For example, determine if the loss of the entire vessel is possible, how much cargo/hazardous material is onboard, and if fire or explosion is possible. Use these assumptions to define the "worst case scenario" for the incident. This definition should be applied consistently throughout the risk evaluation process.

B. Identify potential Place of Refuge (POR) options and actions to be evaluated.

	Vessel continues its voyage (deny entry)
	Vessels remains at sea or moved to sea
	Vessel is taken to a place of refuge at (POR A):
	Vessel is taken to a place of refuge at (POR B):
	Vessel remains in its current location (repairs made in place)
	Vessel is intentionally grounded at:
	Scuttled at:

- "Continue voyage" and "current location" should be included so that the risks with these options can be evaluated unless the options are clearly ruled out by the circumstances. A continue voyage/deny entry decision should be accompanied with a plan to render assistance and impose restrictions until the situation is ultimately resolved.
- "Grounding" and "scuttle" need only be considered if those options, however undesirable, may be preferable to taking no action. If needed, either of the options may be lined out on the tables and replaced with an additional POR to evaluate.

9410C.2 Places of Refuge Decision Tool

9410C.2.1 Step 2 – Logistical Suitability of Potential POR/Actions

Identify the logistical suitability for each of the place of refuge options being considered based on the application of the following scale:

Score	Description
1	*Ideally suited to addressing situation; equipment readily staged and deployed*
2	*Acceptable under prevailing and expected conditions*
3	*Marginally suited, additional measures or procedures will be needed*
4	*Poorly suited to addressing situation even w/additional measures; equipment staged/deployed only with great difficulty*
5	*Completely unsuitable or unavailable to address situation*

Physical Attributes and Port Services	Continue Voyage	Sea	POR A	POR B	Current Location	Ground	Scuttle
Transit Difficulty							
Holding Ground							
Bar Conditions							
Expected Winds							
Expected Sea State							
Tides and Currents							
Cargo Offload							
Cargo Storage							
Docking Facilities/ Availability							
Salvage Equipment							
Spill Equipment							
Security Concerns							
TOTAL							

9410C.2.1.1 Step 2.1 – Probability Determination for Potential POR/Actions

Considering the various factors that may affect the likelihood of a further worsening of the vessel's situation, assign a probability score for each potential POR/action using the criteria below:

Likelihood of an Incident Occurring	*Description/Definition*	*Probability Score*
Highly Probable	*Almost certain an incident will occur*	*0.9*
Probable	*More than 50% likelihood that an incident will occur*	*0.75*
Equal probability	*Approximately 50% likely that an incident will occur*	*0.5*
Unlikely	*Less than 50% likelihood than an incident will occur*	*0.25*
Improbable	*Incident not expected to occur under prevailing and expected conditions*	*0.05*

Potential POR/Action	Probability Score
Vessel is taken to POR A	
Vessel is taken to POR B	
Vessel continues its voyage (deny entry)	
Repairs made in current location	
Vessel is scuttled at a given location	
Vessel is grounded at a given location	

9410C.3 Step 3 – Consequence Evaluations for Potential POR/Actions: Health and Human Safety

While few credible place of refuge scenarios will include significant health and safety consequences to the general public, the National Contingency Plans properly lists the safety of human life as the top priority during every response action (40 Code of Federal Regulations 300.317). For the consequence component of risk, appropriate stakeholders will determine the level (scale) of consequences that can reasonably be expected if the vessel's condition significantly worsens.

A. Evaluate the potential consequences to human health and safety using the following criteria:

Score	*Description*
2	*No credible threat to human health and safety*
4	*Minor injuries to a few individuals, exposure to hazardous material below PEL/STEL*
16	*Serious but non-life-threatening injuries, hazardous material exposure beyond*
30	*Some deaths and/or significant injuries/hazardous material exposure beyond immediately dangerous to life and health (IDLH) to small groups or lesser*
32	*Many deaths, serious injuries, or life threatening health concerns*

RAW CONSEQUENCE SCORES	Continue Voyage	Sea	POR A	POR B	Current Location	Ground	Scuttle
General Population							
Response Personnel							
Vessel Crew/ Passenger							

B. Calculate a weighted consequence score for each POR/action for each category using the following equation: Weighted Consequence Score = Raw Score * Weight

WEIGHTED CONSEQUENCE SCORES	*Weight*	Continue Voyage	Sea	POR A	POR B	Current Location	Ground	Scuttle
General Population	*10*							
Response Personnel	*10*							
Vessel Crew/ Passenger	*10*							
TOTALS								

9410C.3.1 Step 3.1 – Consequence Evaluations for Potential POR/Actions

9410C.3.1.1 Natural Resources

For the consequence component of risk, appropriate stakeholders will determine the level (scale) of consequences that can reasonably be expected if the vessel's condition significantly worsens.

A. Evaluate the potential consequences to each category of natural resources using the following criteria:

Score	*Description*
2	*No expected exposure of the natural resource in question*
4	*Minimal exposure, impact expected to be local and short term*
8	*Moderate exposure, measurable impact over a larger area or longer time*
16	*Significant exposure, regional impact and/or multi-year recovery period*

RAW CONSEQUENCE SCORES	Continue Voyage	Sea	POR A	POR B	Current Location	Ground	Scuttle
Threatened and endangered species (T&ES)							
Critical habitat for T&ES							
Sensitive species (not protected)							
Critical habitat for sensitive species (not protected)							
Historic or cultural resources							
Subsistence use species							
Subsistence use critical habitat							
Commercial species							
Essential fish habitat							
Recreational use/activities							
Other natural resources							

Step 3.1 – Consequence Evaluations for Potential - *Continued*

B. Calculate a weighted consequence score for each POR/action for each category using the following equation: Weighted Consequence Score = Raw Score * Weight

WEIGHTED CONSEQUENCE SCORES								
	Weight	Continue Voyage	Sea	POR A	POR B	Current Location	Ground	Scuttle
Threatened and endangered species (T&ES)	*8*							
Critical habitat for T&ES	*10*							
Sensitive species (not protected)	*6*							
Critical habitat for sensitive species	*5*							
Historic or cultural resources	*10*							
Subsistence use species	*8*							
Subsistence use critical	*10*							
Commercial species	*6*							
Essential fish habitat	*3*							
Recreational use/activities	*3*							
Other natural resources	*3*							
TOTALS								

9410C.3.2 Step 3.2 – Consequence Evaluations for Potential POR/Actions

9410C.3.2.1 Economic Activities

For the consequence component of risk, appropriate stakeholders will determine the level (scale) of consequences that can reasonably be expected if the vessel's condition significantly worsens.

A. Evaluate[1] the potential consequences to each category of economic activities using the following criteria:

Score	*Description*
2	*No expected impact on the economic activity in question*
4	*Minor – local area, few businesses, and/or short term*
8	*Moderate – regional area, many business, and/or longer term*
16	*Major – significant impacts on region/economic sector for several weeks*

	RAW CONSEQUENCE SCORES						
	Continue Voyage	Sea	POR A	POR B	Current Location	Ground	Scuttle
Maritime commerce and shipping							
Commercial fishing and aquaculture							
Recreational fishing, marine tourism							
Non-maritime activities and commerce							

[1] Consider direct impacts to critical infrastructure, but avoid undue speculation concerning cascading economic disruption.

Step 3.2 – Consequence Evaluations for Potential POR/Actions
Economic Activities - Continued

B. Calculate a weighted consequence score for each POR/action for each category using the following equation: Weighted Consequence Score = Raw Score * Weight

WEIGHTED CONSEQUENCE SCORES								
	Weight	Continue Voyage	Sea	POR A	POR B	Current Location	Ground	Scuttle
Maritime commerce and shipping	*4*							
Commercial fishing and aquaculture	*4*							
Recreational fishing, marine tourism	*4*							
Non-maritime activities and commerce	*4*							
TOTALS								

9410C.4 Step 4 – Combined Risk Scores

A. Compile the weighted consequence scores health and human safety, natural resources, and economic activity.

COMPILED WEIGHTED CONSEQUENCE SCORES	Continue Voyage	Sea	POR A	POR B	Current Location	Ground	Scuttle
Human Health and Safety (Step 4.1 B)							
Natural Resources (Step 4.2 B)							
Economic Activity (Step 4.3 B)							

B. Record the probability scores for each of the potential POR/actions on the top line. Calculate the risk for each option using the equation: Risk = Probability Score * Weighted Consequence Score. Add the probability and risk scores to determine the total risk associated with each potential POR/action.

RISK SCORES	Continue Voyage	Sea	POR A	POR B	Current Location	Ground	Scuttle
Probability Score (Step 3)							
Human Health and Safety							
Natural Resources							
Economic Activity							
TOTAL RISK							

It is important to note that decision makers must consider each category individually, not just the lowest total risk score. For example, a POR option with the lowest total risk might still have an unacceptably high Human Health and Safety risk relative to other options. Security and national defense risks must also be considered in making a final decision.

9410D Attachment D: Vessel Information

Name		Flag	Official Number
Number of Persons on Board		Location	
Crew	Passengers	Longitude	Latitude
Number Of Crew/Passengers Already Evacuated:		Description: e.g., 20 miles west of Cape Disappointment	
Gross Tons	Length	Draft	Type/Service: e.g., container ship, product tanker, etc.
Current O/S WX & Sea State			Projected O/S WX
Owner/Operator/RP[1]	P&I Club	Class Society	Agent
POC			
Phone			
Notified by vessel master?			
___Yes ___No	___Yes ___No	___Yes ___No	___Yes ___No

1 Determine which party will be acting as the responsible party and has authority to do so. Under OPA 90 the responsible party is any person owning, operating, or demise chartering the vessel.

Vessel Information - Continued

Complete Port State Control Safety & ISPS/MTSA targeting matrix

Complete HIV targeting matrix. (*Classified upon completion*) Ensure

vessel has a valid COFR[2]

Cargo		Bunkers	
Type	Amount	Type	Amount

Other HAZMAT: e.g., Ship's stores, etc. (Attach vessel's dangerous cargo manifest if available)

General description of ship's condition, including any structural damage:

2 If vessel does not hold a COFR, coordinate with NPFC and servicing legal office to arrange COFR or other coverage to the extent deemed necessary for entry.

Vessel Information - Continued

Are there any deaths, injuries, or persons in need of medical assistance? If so, treat as SAR incident and prosecute accordingly!		
What is the nature of the problem leading to a need for a Place of Refuge?		
What is the vessel master/rep specifically requesting?		
When did the problems begin?	How long has the crew been up? (fatigue concerns)	
Status of the following systems:		
Lifesaving (lifeboats, rafts, EPIRB, etc.)		
Fire Fighting for Cargo and Accommodation/Machinery Spaces		
Bilge Pumps		
Propulsion		
Steering		
Ship's Service Generator		
Emergency Generator		
Measures Already Taken by the Crew – The attached "Rapid Salvage Survey" may assist in collecting information.		
Repairs		
Ballasting		
Cargo Shifts		

9410E Attachment E: Template for Place of Refuge Quick Decision Guide

Place of Refuge (POR) Quick Decision Guide

In the event that the Captain of the Port (COTP) does not have the time to consult with the appropriate federal, state, tribal, and local stakeholders via the Regional Response Team or other appropriate mechanisms, this checklist maybe used to assist in the decision process. A POR decision may include: denying entry, remaining in the current location, scuttling, grounding, anchorage, or directing to a port.

VESSEL INFORMATION:

Name: _____ Vessel Location: _____

IMO/Lloyd's No: _____(Official number if no IMO/Lloyd's) Latitude/Longitude: _____

Type of Event/Casualty: _____ Date/Time of Event: _____

INITIAL STATUS:

Master/Owner/Operator desires **Place of Refuge** ☐YES ☐NO

Status of crew and passengers

_____

STATUS OF VESSEL:

Equipment Malfunction	**Damage**	**Miscellaneous**
☐Steering Gear	☐Breach in Hull or Tank	☐Incomplete Crew
☐Navigational Equipment	☐Fire Damage	☐Miscellaneous
☐Propulsion	☐Explosion Damage	☐Potential Leak of Oil (from any source)
☐Safety System	☐Other (*describe below*)	☐Leak of Oil (from any source)
☐Other (*describe below*)	☐Other (*describe below*)	

WEATHER CONDITIONS:

Weather	**Visibility**	**Wind**
☐Clear	☐0 - 1/2 mile	**N**
☐Partly Cloudy	☐1/2 - 1 mile	NE
☐Cloudy	☐1 - 5 miles	**W**
☐Fog	☐5+ miles	SE
☐Rain		**S**
☐Snow		
☐Storm		Variable

Wind Speed _____ kts

☐Other: _____

TIDAL CONDITIONS:

Tide	**Current**
☐Extreme High	☐Max Ebb
☐Extreme Low	☐Ebb
☐High	☐Min Ebb
☐Low	☐Slack
	☐Stand
	☐Min Flood
	☐Max Flood
	☐Flood
	☐River Current Speed ____kts

OIL/FUEL INFORMATION:

Type of Oil: ☐Gasoline ☐Diesel Estimated Amount Onboard: _____(SPECIFY UNITS: GALLONS, LITERS)

☐Hydraulic ☐Bunker

☐Crude ☐Lube

☐Asphalt/Creosote ☐Other Oil Product:

☐Kerosene ☐Other cargo:

PLACE OF REFUGE SITE DETERMINATION FACTORS:

☐Port or anchorage is adequate to receive the vessel

☐Availability and/or access to security assets, and response, firefighting and salvage

☐Health and safety of the vessel crew, passengers and the local communities

☐Potential environmental and cultural impacts

☐Potential economic impacts

NARRATIVE & DISCUSSION

Section 9411

Decanting Response Tool

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Decanting Response Tool

9411.1 Introduction

When oil is spilled on the water, mechanical recovery of the oil is the principal approved method of responding. However, the mechanical recovery process requires placing vessels and machinery in a floating oil environment, which can lead to incidental returns of oil and excess water into the response area. The process of decanting, or separating excess returned oil from water, can play a vital role in the efficient mechanical recovery of spilled oil because it allows maximum use of limited storage capacity, thereby increasing recovery operations.

Decanting is currently recognized as a necessary and routine part of response operations that is appropriately addressed in Area Contingency Plans (see National Contingency Plan Revisions, 59 Federal Register 47401, Sept. 15, 1994). In addition, some activities, such as those associated with oil recovery vessels, small boats, and equipment cleaning operations may result in incidental discharges. These activities may be necessary to facilitate response operations on a continuing basis, and all of these activities are considered to be "incidental discharges."

9411.2 Decanting Policy

This policy addresses "incidental discharges" associated with spill response activities. "Incidental discharge" means the release of oil and/or oily water within the response area in or near the area where oil recovery activities are taking place. Incidental discharges include, but are not limited to, the decanting of oily water, oil and oily water returns associated with runoff from vessels and equipment operating in an oiled environment, and the wash down of vessels, facilities, and equipment used in the response. "Incidental discharges," as addressed by this policy, do not require additional permits and do not constitute a prohibited discharge. See 33 Code of Federal Regulations 153.301, 40 Code of Federal Regulations 300, Revised Code of Washington 90.56.320(1), Washington Administrative Code 173-201A-110, Oregon Revised Statutes 468b.305 (2)(b).

9411.2.1 Criteria

During spill response operations, mechanical recovery of oil is often restricted by a number of factors, including the recovery system's oil/water recovery rate, the type of recovery system employed, and the amount of tank space available on the recovery unit to hold recovered oil/water mixtures. In addition, the longer oil

remains on or in the water, the more it mixes to form an emulsified mousse or highly mixed oil/water liquid, which sometimes contains as much as 70 percent water and 30 percent oil, thus consuming significantly more storage space. Decanting is the process of draining off recovered water from portable tanks, internal tanks, collections wells, or other storage containers to increase the available storage capacity of recovered oil. When decanting is conducted properly, most of the petroleum can be removed from the water.

The overriding goal of mechanical recovery is the expeditious recovery of oil from water. In many cases, the separation of oil and water and discharge of excess water is necessary for skimming operations to effectively recover oil and minimize overall environmental damages. Expeditious review and approval, as appropriate, of such requests is necessary to ensure a rapid and efficient recovery operation. In addition, such incidental discharges associated with mechanical recovery operations should not be considered prohibited discharges. Such actions should be considered and, in appropriate circumstances, pre-authorized by the Federal On-Scene Coordinator (FOSC) and/or State On-Scene Coordinator (SOSC) because the discharged water will be much less harmful to the environment than allowing the oil to remain in the water and be subject to spreading and weathering.

Therefore, the Area Committee adopts the following policy in order to provide for an expeditious decanting approval process and provide clear guidance to the Unified Command, response contractors, and other members of the spill response community.

9411.2.2 Oils Pre-Approved for Decanting and Associated Conditions

Pre-approval for on-water decanting is authorized when pumping recovered oil and water ashore is not practical during the first 24 hours after initial spill discovery. Decanting authorization is granted for the oil products listed below.

- All crude oils,
- Vacuum gas oils,
- Atmospheric gas oils,
- Recycle oils not containing distillates,
- Bunker fuels,
- No. 6 fuel oils,
- Cutter stocks, and
- Coker gas oils.

Decanting of the listed oils is pre-approved if the following conditions are met:

- Pre-Approval is for the first 24 hours after spill discovery. Decanting requests for all the remaining operational periods will need to be completed and submitted to Unified Command. The responsible party

(RP) must fill out the Northwest Area Contingency Plan decanting request and seek Unified Command approval prior to any additional decanting approvals from the second operational period on;

- The Incident Commander must be notified within one hour of decanting being initiated and must then immediately notify the Unified Command;
- The RP assures the Unified Command that they are quickly obtaining adequate oil storage and skimming capacity within the first 24 hours and the responding primary response contractors are expeditiously getting sufficient storage and skimming capacity on site to alleviate the need for prolonged decanting.
- Conditions listed in the Decanting Memo are met.

Shore-side container decanting (i.e., vacuum truck, portable tanks, etc.) is not authorized for pre-approval under this policy. Decanting in areas where vacuum trucks, portable tanks, or other collection systems are used for shore cleanup will be subject to filling out the decanting form in the Northwest Area Contingency Plan prior to authorization.

9411.2.2.1 Oils Requiring Approval by Unified Command Prior to Decanting

During a response, when decanting has not been pre-approved for lighter oils, which are not listed above, it will be necessary for response contractors or the RP to request from the Unified Command written authority to decant while recovering oil so that response operations do not cease or become impaired. The Unified Command will consider each request for decanting of lighter oils on a case-by-case basis. Prior to approving decanting, the Unified Command should evaluate the potential effects of weather, including the wind and wave conditions, the quantity of oil spilled, and the type of oil, as well as available storage. The Unified Command should also take into account that recovery operations as enhanced by decanting will actually reduce the overall quantity of pollutants in a more timely and effective manner to facilitate cleanup operations.

The response contractor or RP will seek approval from the FOSC and/or SOSC prior to decanting by presenting the Unified Command with a brief description of the area for which decanting approval is sought; the decanting process proposed; the prevailing conditions (wind, weather, etc.); and protective measures proposed to be implemented. The FOSC and/or SOSC will review such requests promptly and render a decision as quickly as possible. FOSC authorization is required in all cases, and in addition, SOSC authorization is required for decanting activities in state waters.

The FOSC and/or SOSC will review and provide directions and authorization as appropriate to requests to wash down vessels, facilities, and equipment to facilitate response activities.

Unified Command can revoke the approval at any time if the approved conditions are not being met. This policy does not cover other activities related to possible oil discharges associated with an oil spill event such as actions to save a vessel or protect human life which may include such actions as pumping bilges on a sinking vessel.

9411.3 Decision Memo

Decanting Approval Plan and Memo

Name of Spill Incident:
Oil Type(s):
Federally Defined Response Area:
Effective date(s)/time of approval:

The Federal and State On-Scene Coordinators (OSCs) hereby approve the use of decanting as a means of expediting the recovery and treatment of oil and reducing the overall quantity of pollutants in a more timely and effective manner to facilitate cleanup operations. This memo describes the area for which decanting approval is given; the decanting process to be used; the prevailing conditions and protective measures proposed to be implemented.

Authorities: 40 CFR 122.3, RCW 90.56.320(l), ORS 468B.305 (2)(b)

Unified Command can revoke the approval at any time if the approved conditions are not met.

Signatures

_____-_____
Federal On-Scene Coordinator

_____
State On-Scene Coordinator

Reason for disapproval:

Decanting Approval Plan and Memo

All decanting will be conducted during a defined period of time, within the federally defined response area.

Description of Proposed Decanting Operations:

Describe relevant considerations such as weather, oil type and volume of oil spilled, as applicable

Describe why the available storage limits effective mechanical recovery

Availability of adequate storage:

Storage kind/type	Volume	Onsite or ETA

Describe why decanting is necessary during vessel or other decontamination operations

Describe why decanting is necessary during treatment operations

Other incidental discharges (describe)

The decanting operations must meet the following conditions, as applicable:

- Vessels employing sweep booms with recovery pumps in the apex of the boom should decant forward of the recovery pump.
- All equipment not equipped with an oil/water separator must allow retention time for oil held in internal or portable tanks before decanting commences. Retention time to be no less than .
- A containment boom must / need not (circle one) be deployed around the collection area to minimize loss of the decanted oil or entrainment.
- Visual monitoring of the decanting area shall be maintained so that discharge of oil in the decanted water is detected promptly and decanting stopped if observed.

- Tanks used for decanting will be tested prior to use to ensure there are no contaminants from previous activities and that the water is safe to discharge back into the environment.
- Tanks used to separate and treat liquids and solids will contain baffles to speed up oil/water separation and prevent remixing.
- Additional conditions:

Submitted By:

Environmental Unit Leader _____

Operations Section Chief _____

Section 9412

Non-Floating Oils
Spill Response Tool

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9412

Non-Floating Oils Spill Response Tool

9412.1 Introduction

The increased handling of oils that sink or may weather and sink requires a shift in the way oil spill response is conducted in the Northwest. Traditionally, response has focused on containing and recovering surface floating oil through the use of booms and skimmers. Oils that sink or become suspended in the water column cannot be successfully combated with these techniques.

Recovery of submerged oil once released to the environment is even more difficult than floating oil. Priority should be given to preventing, minimizing, and containing these types of oil spills at their source. Additionally, since many oils may initially float, rapid and aggressive surface oil recovery efforts should be pursued when safe in the early phase of a spill.

The following definitions apply for the purpose of this response tool:

- "Submerged oil" describes any oil that is in the water column, below the water surface, including oil that is in temporary suspension due to turbulence and will refloat or sink in the absence of that turbulence. This includes spilled oil that has neutral or near-neutral buoyancy and that is intermittently submerged below the water surface for a significant proportion of time in the prevailing sea conditions.
- "Sunken oil" describes spilled oil that is on the bottom of the water body. The negative buoyancy may be due to the high density of the oil, density increase caused by oil "weathering," or the adherence of sediment or sand to the spilled oil. The sediment or sand may, in some circumstances, come into contact with the spilled oil while it is on the surface or during stranding of spilled oil on a coastline or river bank with subsequent remobilization. In low current conditions, sunken oil in shallow waters may pool in depressions on the bottom or be moved along the bottom by prevailing currents. At higher current speeds, the spilled oil may be dispersed as relatively large, but still non-buoyant, droplets.
- "Non-floating oil" can be used to describe oils that have become either submerged or sunken. The United States Coast Guard defines non-floating oils as "heavy oils and Group V oils that exhibit qualities which could, due to the oil characteristics, weathering, environmental factors or how they are discharged, potentially cause the oils to submerge or sink. Examples of

these types of oils include, but are not limited to, Diluted Bitumen (dilbit), Group V Residual Fuel Oils Low American Petroleum Institute Oil, Asphalt, and Asphalt Products."

Attachment A contains guidance on Initial Assessment for non-floating oils, including a form that may be used to document conditions.

Attachment B contains:

- B.1 Pre-populated, example ICS-234 (Work Analysis Matrix) forms to be used in tactical decision making for the containment and recovery of non-floating oil;
- B.2 A Sample ICS-207 showing the incorporation of a Non-Floating Oil Brank into the Operations Section.

Attachment C contains technical guidance on sunken oil detection and recovery technologies (Table 9412.1).

Detection	Recovery
Sonar Systems	Suction Dredge
Underwater Visualization Systems	Diver-directed Pumping and Vacuuming
Diver Observations	Mechanical Removal
Sorbents	Sorbent/ Vessel-Submerged Oil Recovery System (V-SORs)
Laser Fluorosensors	Trawls and Nets
Visual Observations	Manual Removal
Bottom Sampling	Agitation/Refloat
Water-column sampling	
Induced Polarization	

Attachment C also contains links to:

- C.1 Sunken Oil Detection and Recovery, American Petroleum Institute (API) Technical Report 1154-1.[1]
- C.2 Sunken Oil Detection and Recovery Operational Guide, AP Technical Report 1154-2.[2]

The API report identifies and documents current best practices and alternative technologies possessing the potential to more effectively detect, contain, and recover sunken oil, defined as the accumulation of bulk oil on the bottom of a water body. The technical report includes summaries and lessons learned for 36 case studies of oil spills where a significant amount of the oil sank. For each technology, it includes a detailed description of the method, advantages and

[1] American Petroleum Institute, February 2016, *Sunken Oil Detection and Recovery, API Technical Report 1154-1*, First Edition, API Publishing Services, Washington, DC.
[2] American Petroleum Institute, February 2016, *Sunken Oil Detection and Recovery Operational Guide, API Technical Report 1154-2*, First Edition, API Publishing Services, Washington, DC.

disadvantages, and summary tables—the kinds of information needed to select the most effective approaches to sunken oil detection and recovery.

API Technical Report 1154-1 contains 10 sections as follows:

Section 1: Introduction, Purpose, and Background
This section introduces the topic and states the purpose, which is to:

- identify and document current best practices and proven technologies possessing the potential to more effectively 1) detect, delineate, and characterize, 2) contain, and 3) recover sunken oil, defined as the accumulation of bulk oil on the bottom of a water body; and
- recommend research and development for the highest potential new technologies.

This report builds on all previous works, as well as recent spill experiences and testing of new technologies, to support improved spill planning, preparedness, and response. The goals are to 1) present the technical background in this technical report for planning and training, and 2) provide a more operationally effective decision support guide to be used during emergency responses.

Section 2: Sunken Oil
This section provides guidance on when to expect spilled oil to sink, either initially or later due to processes such as weathering and sediment interactions. It includes a chart to help determine if the oil can sink initially based on its density or API gravity and the salinity of the receiving water. It also includes a chart that shows how turbulence and sediment interaction can cause a floating oil to submerge or sink over time. Summaries for 38 spills, where a significant amount of the oil sank or submerged, describe the conditions of the spill, the methods used to detect and recover the sunken oil, and lessons learned.

Section 3: Techniques for Sunken Oil Detection, Delineation, and Characterization
The following techniques for sunken oil detection, delineation, and characterization are discussed in this section: 1) sonar systems; 2) underwater visualization systems; 3) diver observations; 4) sorbents; 5) laser fluorosensors; 6) visual observations by trained observers; 7) bottom sampling; and 7) water-column sampling. For each technique, the advantages and disadvantages are summarized. The uses and limitations of all sunken oil detection, delineation, and characterization techniques are summarized, and a matrix is provided to assist in evaluation of detection techniques for specific spill conditions. There is also a section on considerations for sunken oil detection in rivers and under extreme cold conditions.

It is important to note that oftentimes multiple detection, delineation, and characterization methods should be used, in combination and/or in sequence. All remote detection methods require ground truthing, or need bottom sampling to

determine the oil thickness on the bottom or determine the oil's viscosity and thus pumpability.

Section 4: Techniques for Sunken Oil Containment
This section is very short because there are few proven methods to prevent the remobilization of sunken oil on the bottom when turbulence and currents increase. The results of the many methods attempted to prevent the spread of oiled sediments during the response to the 2010 Enbridge Pipeline spill in the Kalamazoo River are summarized, although it is important to note that this spill, like all spills, represents just one set of conditions. Research and development are needed to determine if there are effective methods to contain sunken oil for a range of spill conditions.

Section 5: Techniques for Sunken Oil Recovery
The following techniques for sunken oil recovery are discussed in this section: 1) suction dredge; 2) diver-directed pumping and vacuuming; 3) mechanical removal; 4) sorbent/V-SORs; 5) trawls and nets; 6) manual removal; and 7) agitation/refloat. For each technique, the advantages and disadvantages are summarized. The uses and limitations of all sunken oil recovery techniques are summarized, and a matrix is provided to assist in evaluation of recovery techniques for specific spill conditions. There is also a section on considerations for sunken oil recovery in rivers and extreme cold conditions.

It is important to emphasize that, because sunken oil often becomes mobilized during a response, recovery of sunken oil must be closely coupled with detection to increase overall effectiveness.

Section 6: Diving in Contaminated Water
Commercial divers often play a critical role in the success of sunken oil detection, delineation, characterization, and recovery operations, and diver safety is of paramount importance. This section summarizes the regulatory requirements for dive operations in contaminated water and safety checklists.

Section 7: Waste Stream Management
Waste generation during sunken oil recovery operations is a very important consideration in both the selection of the removal method and the types of waste stream treatment methods to be implemented. This section provides guidance on best practices for handling the oil, liquids, and solids generated during a sunken oil response.

Section 8: Government Regulations to be considered
This section briefly outlines the state and federal government regulations that may apply to sunken oil response actions, such as protection of cultural resources, species listed under the Endangered Species Act, and permitting for dredging.

Section 9: Research and Development Recommendations
This section includes recommendations for research and development to advance the state of the practice in sunken oil response.

Section 10: Literature Cited and Suggested Readings
This section includes all of the references cited in the report and suggested further readings.

The API Operational Guide, Report 1154-2 contains the following sections:

Section 1: Introduction and How to Use This Guide

Section 2: Determine the Potential for the Oil to Sink under the Spill Conditions
This section provides guidance on when to expect that an oil may sink, either initially or later due to processes such as weathering and sediment interactions. It includes a chart to help determine if an oil can sink initially based on its density or API gravity and the salinity of the receiving water. It also includes a chart that shows how turbulence and sediment interaction can cause a floating oil to submerge or sink over time.

Section 3: Select Sunken Oil Detection, Delineation, and Characterization Techniques
This section includes a checklist of the types of information you will need about the oil and spill conditions to start evaluating which sunken oil detection options may be effective for the spill. There is a list of action items to guide the development and approval of a sunken oil detection plan. It also includes tabular summaries of the advantages and limitations of possible options, along with a matrix to guide selection of the best combination of options.

It is important to note that oftentimes multiple detection, delineation, and characterization methods should be used, in combination and/or in sequence. All remote detection methods require ground truthing or need bottom sampling to determine the oil thickness on the bottom or determine the oil's viscosity and thus pumpability.

Section 4: Determine if there are Feasible Sunken Oil Containment Techniques
This section notes that containment of sunken oil may not always be feasible. It includes summaries of the advantages and limitations of possible options under mostly low-flow conditions.

Section 5: Select Sunken Oil Recovery Techniques
This section includes a checklist of the types of information you will need about the oil and spill conditions to start evaluating which sunken oil recovery techniques may be effective for the spill. There is a list of action items to guide the development and approval of a sunken oil recovery plan. It also includes

tabular summaries of the advantages and limitations of possible recovery techniques, along with a matrix to guide selection of the best combination of techniques.

Section 6: Waste Stream Management
Because waste generation during sunken oil recovery operations is a very important consideration in both selection of the removal method and the types of waste stream treatment methods to be implemented, this section provides guidance on best practices for handling the oil, liquids, and solids generated during a response.

Section 7: Safety Considerations
Safety is of paramount importance during all phases of sunken oil detection and recovery, as it is during any response. Therefore, this section includes safety considerations throughout the response. It also includes a checklist of the issues to consider when developing a plan to conduct sunken oil detection and recovery operations, including:

- general safety;
- equipment mobilization and heavy lift operations;
- hydraulic submersible pumps and transfer operations;
- diving operations.

9412.2 Decanting

Submerged oil pumping operations utilize water as a carrier device to transport oil while performing recovery, a necessary function that results in the accumulation of a large amount of water in the storage tanks. Depending on the nature of the oil, the benthic environment, and the efficiency of the pump and its nozzle, a large load of sediment or sediment-loaded oil may be unavoidably collected. Separation of the oil-water-sediment mixture collected during underwater oil recovery can become a limiting factor in the operation and overall throughput of the recovery system. The decanting system must be designed accordingly to handle these waste streams.

The wide range of oil types and environmental conditions that could be encountered during submerged oil recovery operations requires a strategy for devising different types of decanting systems to suit different types of submerged oil spills, based on an inventory of components (tanks, heaters, pumps, filters) that could be drawn together using standard interfaces (compatible fittings, hoses, etc.). The attributes that must be considered for a decanting system intended especially for submerged oil recoveries are as follows:

- The ability to separate out sediment and other solids.
- The ability to separate oils of varying density and viscosity from either seawater or fresh water, including the ability to collect both the oil fraction that remains heavier than water and the fraction that refloats during the process.
- The ability to configure the system appropriately for different types of recovered spill and on different recovery platforms.

- The ability to avoid or resist clogging due to suspended sediment or high-viscosity oil, or a combination of both; general ease of maintenance and low power requirements.
- Resistance to the chemical effects of different types and grades of recovered oil.
- The ability to operate satisfactorily under the anticipated motions (wave activity) of the recovery platform. Recovery platforms are often platforms of opportunity and the range of ship motion environments is fairly broad even though the environment anticipated for recovery operations is usually modest compared with rough weather for a seagoing ship.
- Settling and decanting can be quite sensitive even to modest platform motions and can then become a bottleneck in the overall system throughput.
- Security against the possibility of becoming a secondary spill source.
- Safety of personnel, system reliability, and low costs for acquisition and operation are considered highly important design criteria.

In situ oil on the sea floor may be either intrinsically denser than water, or it may be on the bottom because it adheres to or becomes mixed with sediment. When disturbed or agitated, whether by the natural environment or the recovery process, some fraction of the oil may refloat, while some fraction may remain heavy enough to settle out. In either case, the difference in density between water and oil may be small, so that settling proceeds rather slowly.

9412.2.1 Proposed Heavy Oil Decanting System

9412.2.1.1 Multi-Stage Setting

For a variety of reasons, multi-stage decanting systems are often used. As one example, a four-stage decanting system was used in the Delaware River (Athos) submerged oil recovery. Most of the oil refloated. On that site, a series of three 4,000-gallon fractionation tanks were used for decanting the oil. The first tank was used for collection and the second and third for settling. A skimmer was placed on the top of the second tank to recover oil for transfer to storage. Sorbent snares were placed on top of the third tank to recover any remaining residual oil. Finally, water was pumped from the third 4,000-gallon tank through a 350-gallon polishing tank filled with sorbent oil snares and then discharged into a boomed area alongside the work barge, with additional sorbent snares floated in it.

When a significant fraction of the oil is intrinsically denser than water, or adheres more strongly to the sediments with which it was in contact, then settling will result in material on the bottom of each tank. For this reason, floating skimmers and floating sorbent snares on the top will not be able to concentrate or capture all of the oil. A general-purpose system must include a way to remove heavier oil and sediments from the tank bottoms, as well as refloated oil from the tops. Submersible pumps can be suspended at a variable depth within each tank in a cascade, discharging into the next stage. By appropriately setting the depth of the intake, the pump can be used to transfer water to the next stage of the settling cascade or to transfer oil to a storage tank.

The processing at each stage may be conducted either continuously or in batches, depending on:

- The size and depth of the tank,
- The amount of flow disturbance at the inlet,
- The number of parallel processes available, and
- The relationship between desired processing rate and available settling rate.

As mentioned above, this quantity varies with density difference, the volume ratio (water and oil) taken up in the collection process, and the amount of remixing taking place due to platform motions.

If the system is set up as a modular system, then the critical stage can be duplicated and the bottleneck relieved. For example, if a large quantity of oil is refloated at the first stage, then the number of oleophilic skimmers in the first stage tank(s) can be increased. By contrast, if less of the oil is refloated, then the collecting tank(s) will tend to become more "bottom heavy" and require more frequent clean-out of the bottoms. This could be accommodated by shifting one or more tanks into the collecting role, so that the available settling area is increased at that point in the process, and the amount of surface skimming is reduced. The depth setting on the intakes of the pumps transferring effluent from one stage to the next can also be adjusted to accommodate different volumes of refloated oil. Figure 9412-1 shows a recommended decanting system design using the following stages.

Stage 1 – Solid Separation

Solid separation in tank 1 using baffles, filters, and/or gravity settling; the time required will depend on the nature of the solids. Liquid portion is pumped to tank 2. Solids will need to be removed from the bottom of the tank. Tank 1A may need to be replaced with tank 1B (tank 1B put into service) for this to be accomplished. This operation may require the introduction of heavy machinery to aid in efficient solid waste management (i.e., the use of a crane with clam bucket or an excavator appropriately outfitted), as well as placement of appropriate secondary solid waste containers at the site.

Stage 2 – Liquid Phase Separation in Tank 2

Separate oil from water using aeration, heating, and/or gravity separation. In most cases, some oil will sink and some will float.

Stage 3 – Collection of Oil

Floating oil can be collected from tank 2 using skimmers and/or sorbent snares and pumped to or placed in tank 3. Sunken oil will need to be removed from the bottom of the tank. Tank 2A may need to be replaced with tank 2B for this to be accomplished.

Stage 4 – Collection of Water

Water (middle layer between floating and sunken oil needs to be pumped from tank 2 into tank 4.

Stage 5 – Polishing of Water

Water in tank 4 can be polished using filters or oil absorbent systems and returned to the environment. Typical filtration systems applied to oil spill decanting operations include sand and carbon filtration units, specialized bag/chamber filtration methodologies, and some custom designed filter devices that fit on the end of discharge hoses. In each case, the selection process for specifying the filter media should be based on compatibility with the type of oil that will be encountered. It is also important to ensure that the filter methodology selected allows for the required flow rate of the system as a whole, a decision factor that may require multiple banks of filters to ensure that a bottleneck condition does not occur at this final step in the process, resulting in shutting down operations to clear space in tanks ahead of the filtration process.

Stage 6 – Disposal

Disposal of oil, oiled debris, and decontaminated sand/sediments.

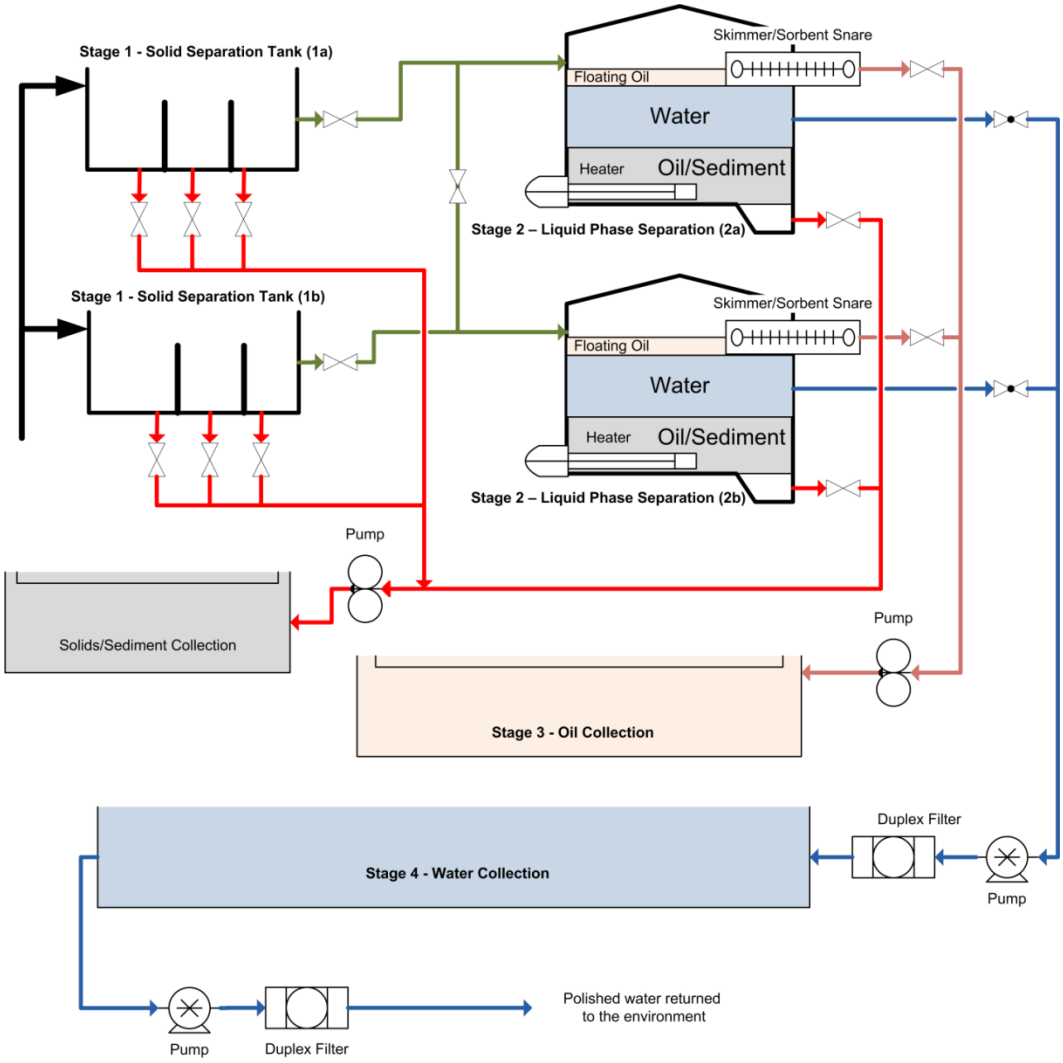

Figure 9412-1 Recommended Decanting System

Logistics and costs are reduced if the material can be stored/staged on land, compared with using barges for temporary storage and separation. Time can be of concern because oil that is still fluid can be re-mobilized by storm waves, increased river flow following heavy rains, or ship traffic.

9412.3 Environmental Considerations

9412.3.1 Introduction

Non-floating oil spills pose a substantial threat to water-column, benthic, and aquatic resources, particularly where significant amounts of oil have accumulated on the substrate. Sunken oil recovery techniques have the potential to cause more damage than the original oiling. Consideration should be given to conducting a Net Environmental Benefit Analysis (NEBA) prior to recovery operations. However, unlike surface and shoreline cleanup situations, there is very little in the way of protocols and information sources to support NEBA for submerged and sunken oil. This is partially due to the relative infrequency of these spills and the small number of cases in which cleanup has been conducted.

Even though information to support the NEBA process for submerged and sunken oil is not as widespread as for surface spills, there are NEBA concepts that could be considered.

9412.3.2 Environmental Sensitivity Considerations for Water Column and Bottom

Just as there are different shoreline types, each with different ecological values and degrees of difficulty in cleanup, so too are there different water column types and bottom types that should be considered when undertaking cleanup operations for submerged and sunken oil. Factors that should be considered include:

- Ecological Sensitivity – Although each section of bottom will have unique characteristics, some generalizations can be made regarding the ecological sensitivity of bottom types similar to the classifications assigned to shoreline types. Bottom types will range from the most ecologically sensitive and important, such as submerged aquatic vegetation (seagrass beds, eelgrass beds, and kelp forests), to the less important such as rocky substrate, sand, and mud. Probably the least sensitive bottom types are sand and mud bottoms in areas that already suffer from pollution such as industrial areas. Note that the National Oceanic and Atmospheric Administration Environmental Sensitivity Index maps will generally delineate sensitive bottom habitats that are in shallower water adjacent to the shoreline. The Environmental Unit, National Oceanic and Atmospheric Administration Scientific Support Coordinator, and state resource trustees can provide information on bottom resources.
- Persistence of Oil on the Bottom – The persistence of oil on the bottom depends on the permeability/porosity of substrate, the oil's density (buoyancy), and the adhesion properties of the oil. Persistence is also a function of bottom turbulence and currents. If the oil is in an ecologically

sensitive area, the persistence of the oil warrants more timely removal action. If the oil is likely to remain in an area of little ecological significance, then removal actions can be more intrusive and pursued at a slower pace.

- Proximity of Sensitive Resources – As with surface spills, it is important to consider the current location of the oil and environmental sensitivity, but also the sensitivity of locations where the oil might be transported.
- Geographic Response Plans are a good resource for information on sensitive natural, cultural, and biological resources.
- Threatened and Endangered Species and their Designated Critical Habitats – Marine mammals, birds and benthic invertebrate and fish communities may be directly disturbed by removal of oil from the bottom; they may be injured or disturbed by response vessels and equipment; and they may be contaminated if oil is re-suspended in the water column, and their food sources may be contaminated or reduced.
- Historic/Archeological Resources –There may be historic and archeological resources below the water that have not been located and charted, which may be uncovered and disturbed by cleanup operations. The State Historic Preservation Officer and local officials should be consulted before dredging or other intrusive cleanup operations are undertaken on the bottom in areas of historic interest, or if wrecks or other artifacts are known or encountered during the operation.
- Safety Hazards – Safety hazards such as electrical cables, underwater pipelines, and unexploded ordinance should be indicated on navigation charts. Port authorities, the United States Army Corps of Engineers, and local utility companies can provide more detailed information on infrastructure on the bottom. Some areas of the bottom (e.g., Superfund sites) may have toxic contaminants present in the sediments which would best be left undisturbed. The United States Environmental Protection Agency and state and local environmental agencies should be consulted regarding the presence of these sites.

Table 9412-1 Resources at Risk Consideration for Floating vs Non-Floating Oil Spills

Resources at Risk	Risks from Spills on Non-floating Oils Compared to Spills of Floating Oils
Rocky Shores (-)	Less oil is likely to be stranded, but oil that is stranded is usually stickier and thicker
Beaches (-)	Viscous oils are less likely to penetrate porous sediments. Oil is often stranded as tar balls, which are easy to clean up on sand beaches. Chronic recontamination is possible for months.
Wetlands and Tidal Flats (-)	Less oil coats vegetation. Because the oil does not refloat with the rising tide, any oil stranded on the lower intertidal zone will remain, thus increasing risk to biota. Cleanup of oil from these environments is very difficult, and natural recovery takes longer.
Water Surface (-)	Less oil remains on the water surface. Oil tends to form fields of tar balls. Potential for chronic impacts from refloated oil over time is high.

Resources at Risk	Risks from Spills on Non-floating Oils Compared to Spills of Floating Oils
Water Column (+)	Oil can increase exposure as it mixes in the water column. Risks increase if oil refloats after separation from sediments. When submerged, slow weathering of the more toxic components can be a chronic source of risk.
Benthic Habitats (++)	Risks are significantly increased for areas where heavy oils accumulate on the bottom. Slow weathering rates further increase the risk of chronic exposures. Smothering and coating can be heavy. Bioavailability varies with oil and spill conditions.
Birds (-)	Less oil remains on the water surface, so direct and acute impacts are lower. There is a high probability of chronic impacts from exposure to refloated oil and restranded tar balls on shores after storms.
Fish (+)	Risks are increased to all fish (including mid-water species), especially benthic or territorial fish, in areas where oil has accumulated on the bottom.
Shellfish (++)	Risks are increased to all shellfish, especially species that spend most of their time on the sediment surface (e.g., mussels, lobsters, crabs). Risk of chronic exposure from bulk oil, as well as the slow release of water-soluble polynuclear aromatic hydrocarbons, is high.
Marine Mammals (-)	Less oil remains on the water surface, and the potential for contamination of marine mammals on shore is lower. Oil in the water column is not likely to have an impact on highly mobile species. Benthic feeders (such as gray whales) could be exposed from accumulations on the bottom, which would weather slowly.
Water Intakes (++)	Oil mixed into the water column would pose serious risks to water treatment facilities. Closures are likely to be longer.
Fisheries (+)	Risk of taint, whether real or perceived, to a fishery product reducing or eliminating it as a viable product, e.g. temporary disruption of the geoduck Asian market.
Riparian Zones (+)	Oil that is stranded or is present on oiled debris that has been deposited on banks and islands can pose a risk to wildlife. The weathering timeline of persistent, heavier oils increases the risk of wildlife contact exposure to oil residue. Prolonged cleanup activities can increase erosion and habitat disturbance on river banks due to increased boat traffic and the presence of workers and equipment.
Note: (-) indicates a reduction in risk. (+) indicates an increase in risk. Actual risks for a specific spill will be a function of the composition and properties of the spilled oil and environmental conditions at the spill site.	

9412.3.3 Generic Impacts from Various Containment and Recovery Cleanup Methods

Just as with shoreline cleanup techniques, subsurface and bottom cleanup techniques and technologies have collateral environmental impacts that warrant consideration. NEBA weighs the positive environmental risks associated with leaving the oil and allowing for natural attenuation against the impacts associated with the available detection and recovery options.

The impact of generic detection and recovery techniques used to date is described below:

- Manual Removal by Divers – divers locate and remove smaller concentrations of oil using hand tools or sorbents. The technique is effective but slow and labor intensive. It is best used with limited quantities of oil in shallower water and in places where sensitive bottom resources are involved. Damage to the local environment is minimized as long as oil is accessible and visibility allows location of the oil patches or globs.
- Diver or Remotely Operated Vehicle Directed Bottom Vacuuming/Pumping – Oil is removed from the bottom using vacuum heads/pumping devices that are directed by divers or Remotely Operated Vehicle operated from the surface. Oil is removed, but significant quantities of water, bottom sediment, and marine organisms can be removed as well, with the amount depending on the precision with which the intake nozzle is manipulated. The level of environmental impact increases with the amount of sediment and marine organisms disturbed and/or removed.
- Bottom Nets and Trawls – The damage associated with use of these devices to collect oil on or near the bottom can be serious, as they will disrupt or destroy bottom habitat and are likely to capture organisms that are less mobile and cannot escape.
- Dredging – Mechanical dredging using dedicated vessels and equipment is the quickest and most thorough method of removing oil from the bottom, but also the most intrusive and environmentally damaging. It is typically used in removing large quantities of semi-solid petroleum products from bottom environments of limited ecological value (although it might be used selectively in a sensitive environment to quickly remove the oil before it is mobilized and spread to a wider area.
- Capping – Capping involves covering the contaminated area with an impermeable layer of material to isolate it from the environment. It has been used as a remediation technique for contaminated sediments and dredge spoil in cases where removal is impractical or would only spread the contamination.
- Monitored Natural Attenuation – As with surface and shoreline cleanup operations, the “no action” alternative should always be considered, particularly when the impact of the oil appears minimal in relation to the habitat disruption and aquatic organism mortality associated with removal. No action leaves the removal of the oil to natural biodegradation on the bottom.

Additional techniques, including environmental clamshell, manual shovel pits, bottom sampling, agitation/refloat, enhanced passive sediment accumulation, should always be evaluated for the potential disturbance of bottom habitats as well as the resulting increased turbidity associated with sediment re-mobilization and the potential impact to the water column downstream and to downstream locations.

Generally, less intrusive techniques (e.g., manual collection by divers and diver-directed vacuuming) are better suited to sensitive environments unless urgent removal is the overriding consideration.

9412.3.4 Net Environmental Benefit Analysis Process for Sunken Oils

Table 9412-3 shows some of the decision factors and tradeoffs involved in the NEBA process for sunken oils. The variety of situations encountered in sunken oil spills, the limited information on bottom configuration and habitat, and the lack of experience and information on the effectiveness and impacts of cleanup techniques preclude straightforward and prescriptive protocols for making quantitative net environmental benefit determinations. However, there are strategic decisions that can be defined and decision factors that can be identified. These strategic decisions include the speed with which the oil must be removed, the amount of damage to the environment that can be accepted with rapid removal, and the longer-term environmental impact that can be tolerated by delaying recovery or leaving the oil in the environment.

Potential exposure pathways to be considered include:

- Aqueous Exposure: Inhalation/ingestion of whole oil droplets, dissolved components, or suspended particulates in the water column.
- Sediment Exposure: Exposure to globules or residual oil in sediments.
- Physical Trauma: Trampling, mechanical impact from equipment, impacts from removal.
- Physical Oiling/Smothering: Direct contact with oil/oil residues.
- Indirect: Food web, ingestion of contaminated food, increased water column turbidity, increased noise, impacts associated with boat traffic, sediment smothering, bank erosion, loss/displacement of prey.

Table 9412-3 Decision Factors and Tradeoffs in the Net Environmental Benefit Analysis Process

Decision	Factors Involved	Tradeoffs
Urgency of Cleanup – How quickly must the submerged/sunken oil be removed from the environment?	▪ Amount of oil spilled ▪ Possibility of re-suspension and transport ▪ Sensitivity of the surrounding area	More rapid but intrusive cleanup options such as vacuuming and dredging will likely disrupt and/or destroy the habitat and organisms in the immediate vicinity of the oil, but may prevent subsequent damage to adjacent habitat and resources that may be even more sensitive.
Acceptable Impact for Short-Term Removal – What is the level of environmental	▪ Amount and type of oil involved (small amounts of heavy, semi-solid oil are easier to remove than large amounts of liquid, neutrally buoyant oil)	Often the tradeoff involves choosing the most expeditious and effective technique that the bottom habitat can

Decision	Factors Involved	Tradeoffs
impact that can be accepted in effectively and expeditiously removing the oil from the bottom?	▪ Intrusiveness of the technique (e.g., selective removal of larger concentrations by divers vs. complete removal by dredging) ▪ Sensitivity of the environment (susceptibility to collateral damage by removal technique)	tolerate. A coral reef may require manual removal by divers or careful diver-directed vacuuming. A mud bottom in an industrial port area may easily tolerate dredging.
Acceptable Impact of Delayed Removal or No Action – Is it more environmentally beneficial in the long run to employ a less damaging cleanup technique or simply leave the oil for natural biodegradation?	▪ Amount of oil ▪ The persistence and toxicity of the oil in the environment ▪ The sensitivity of habitats and organisms that may be impacted by the oil over time ▪ Long-term transport and fate of the oil is important ▪ Whether the habitat is likely to be repopulated by organisms from adjacent areas	The tradeoff here is balancing the damage prevented in the short-term by foregoing intrusive cleanup options against the longer-term impact of leaving the oil in the environment.

Consider the no action alternative: if sinking oil impacts sensitive subsurface habitats such as eelgrass beds, kelp beds, or shellfish beds, careful evaluation must be done prior to implementing response strategies such as dragging sorbent equipment over the sea or river bottom or extensive dredging.

The discussion of possible negative impacts from proposed response techniques should be coordinated by the Environmental Unit in consultation with appropriate trustee agencies; state and local organizations also need to be consulted for any underwater sensitive or archeological sites. Each spill will be different, and the Unified Command will need to determine whether to initiate recovery actions and what techniques to use.

An assessment of the proposed detection and recovery technique effects on wildlife and the bottom environment should be considered on a case-by-case basis. Additionally, use of sonar or laser may be limited by the presence of marine mammals or other endangered species.

9412.4 Permits

Refer to Section 9401, "Northwest Area Contingency Plan Permit Summary Table" for a list of state, federal, and local applicable permits that may be applicable to submerged oil responses.

9412.A Attachment A

9412.A1 Initial Assessment

Once a spill occurs involving heavy oils or oils that may weather and sink, responders must assess the situation and gather as much of the following information as possible to determine the best response methods.

1) Oil spill characteristics
   a) Type of receiving water body (salt, fresh, brackish)
   b) Type(s) of oil spilled, including specific gravity and viscosity. Examples oi oils that may weather and sink include:
      i) Slurry oils
      ii) Heavy fuel and crude oils
      iii) Bunker intermediate fuel oils
      iv) Residual fuel oils
      v) Heavy crude oils
      vi) Synthetic fuels
      vii) Diluted bitumen
      viii) Carbon black
   c) Volume of oil spilled
   d) Located of spill, including distance from port
   e) Area of potential spill impacts
   f) Time of spill to determine how long the oil may have been in the environment
2) Water environment
   a) Depth
   b) Temperature
   c) Visibility
   d) Current – surface and at depth
   e) Bottom types
   f) Bathymetry
   g) Debris
   h) Sediment load/turbidity of water
   i) Waves
3) Other environmental considerations
   a) Weather conditions
4) Response methods available
   a) Detection – related to visibility/bottom type/debris
   b) Delivery method – related to topography/depth/visibility/environment
   c) Recovery method – related to a specific location and environmental conditions characteristics of the oil, availability of equipment, and logistical support for the cleanup
   d) Decanting/polishing/storage – related to distance from port/debris/bottom type/weather effects
5) Logistics
   a) Equipment requirements
      i) Shoreside staging
      ii) On-water staging

b) Equipment availability
   i) Government equipment available
   ii) Primary response contractor equipment available
   iii) Salvage equipment available
   iv) Availability of other private assets that are not dedicated to oil spill response
   v) Backup equipment/spares availability
c) Time to mobilize equipment on site
d) Transit time – personnel and equipment
e) Availability of skilled operators/workers

9412.A2 Attachment A: Non-Floating Oils Response Documentation of Considerations Form

This form is intended to be used as a tool to document incident specific information regarding response options for non-floating oil. The significance of the information below and how it impacts response options can be found in Section 9412.

Oil Spill Characteristics

Type(s) of oil spilled,_____

Volume of oil spilled _____gallons

Time of release __:__ 24-hour Source is secured___ or still leaking ___ Leak rate _____
specific gravity _____

API_____

Viscosity_____ centistokes = $1mm^2.S^{-1}$

Density at 15o C _____g/ml

Location of spill, Latitude __._____ degrees, Longitude - ___._____degrees

Distance from port _____ nautical miles

Water body of potential spill
impacts_____

Type of receiving water body (salt__ fresh___ brackish___)

Surface temperature_____ Density_____ g/ml_

Max depth of basin_____ Ft/meters/fathoms

Visibility_____ Ft/meters

Sediment load/turbidity of water Low ___Med.____ High__

Surface current max speed __ kts Flow direction____

Bottom current max speed___kts___ Flow direction_____

Bottom type Rock___ Boulders,___ Gravel,__ Sand___ Mud__ Clay__ Other specify_____

Bottom slope Steep____ Moderate___ Gradual ___ Flat____
Benthic –submerged aquatic vegetation___ shellfish bed__ Other specify_____
Sensitivity of bottom community Low ____ Med. ____ High_____
Debris that will likely be recovered with sunken oil _Type ____Size_____

Other Environmental Considerations

Weather conditions – Wind speed ____kts, Wind direction_____

Air Temp- Expected high____ Low___

Wave height___ ft. Wave direction____

Skies, Clear_____ Partially overcast_____ Fully overcast_____

Describe the response Methods Available
For detection – related to visibility/bottom type/debris

_____
_____
_____
_____
_____

For recovery method- related to a specific location and environmental conditions, characteristics of the oil, availability of equipment, and logistical support for the
cleanup_____
_____
_____
_____
_____

For decanting/polishing/storage – related to distance from port/debris/bottom type/weather
effects_____
_____
_____
_____
_____

Logistics – Describe the logistic of fielding the response including the equipment requirements, shoreside and on-water staging, equipment availability, backup equipment/spares availability, time to mobilize equipment and personnel on site, availability of skilled/trained operators/workers.

9412.B Attachment B

9412.B1 Example ICS-234 Work Analysis Matrix. Non-Floating Oil Contain and Recover Spilled Material – Non-floating Oil Detection (Operational)

		WORK ANALYSIS MATRIX ICS 234-CG
1. Incident Name	2. Operational Period From: To:	
3. Operation's Objectives DESIRED OUTCOME	4. Strategies HOW	5. Tactics/Work Assignments WHO, WHAT, WHERE, WHEN
Contain and Recover Spilled Material – Non-floating Oil Detection (Operational)	_____Use Sonar Systems Examples include side scan sonar, multi-beam echo sounder, sub bottom profiler, and 3D scanning sonar.	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____
	_____Underwater Visualization Systems including cameras and video Examples include camera with resolutions of greater than 15 megapixels, sediment profile camera and acoustic cameras.	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____
	_____Diver Observations API technical report on sunken	Strategy_____ Who_____ What_____

		WORK ANALYSIS MATRIX ICS 234-CG
1. Incident Name	2. Operational Period From: To:	
3. Operation's Objectives DESIRED OUTCOME	4. Strategies HOW	5. Tactics/Work Assignments WHO, WHAT, WHERE, WHEN
	oil detection and recovery, specifically section 6.0, entitled "Diving in Contaminated water." Capabilities such as: surface supplied, mixed gas, saturation systems, one-atmosphere suites or submersibles.	Where_____ When_____ Equipment_____
	_____Towed or Stationary Sorbents Sorbents attached to chains that are dragged on the bottom and sorbents suspended in the water column or places in cages.	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____
6. Prepared by: (Operations Section Chief)	7. Date/Time:	

WORK ANALYSIS MATRIX (Rev 11/12) Page _1_ of _2_ ICS 234-CG

WORK ANALYSIS MATRIX FORM INSTRUCTIONS (ICS FORM 234-CG) Rev. 8/05

Purpose. The Work Analysis Matrix is designed to help select the best strategies and tactics to achieve the operational objectives. This optional form assists staff in carrying out incident objectives by outlining the who, what, where, when, and how of the response. The tactics from this form carry forward to the "Work Assignment" on the ICS-215. Another purpose of the ICS-234 is that it presents alternative (or what-if) strategies and tactics to respond to bad weather, sudden changes in operational conditions, etc. This form is simply a formalized version of how most OSCs tend to think in order to turn objectives into tactical field work.

Preparation. The Work Analysis Matrix, if used, is usually completed by the Operations Section Chief and Planning Section Chief prior to the Tactics Meeting.

Distribution. All completed original forms must be submitted to the Documentation Unit.

Item #	Item Title	Instructions
1.	Incident Name	Enter the name of the incident
2.	Operational Period	Enter the time interval for which the form applies. Record the start and end date and time.
3.	Operational Objectives	Enter the relevant Operational Objectives from the ICS 202, with numbers
4.	Strategies	Enter all strategies that could be used to meet the objective ("how")
5.	Tactics/Work Assignments	Enter details, including as much as possible, who, what, where, and when, of work assignments to carry out Operational Strategies
6.	Prepared By	Enter the name and position of the person preparing the form
7.	Date/Time	Enter the date and time (24-hour format) the form was prepared

		WORK ANALYSIS MATRIX ICS 234-CG
1. Incident Name	2. Operational Period From: To:	
3. Operation's Objectives DESIRED OUTCOME	4. Strategies HOW	5. Tactics/Work Assignments WHO, WHAT, WHERE, WHEN
Contain and Recover Spilled Material – Non-floating Oil Detection (Operational)	_____Use Laser Floumeters The unit is towed close to the bottom.	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____
	_____Visual Observations by Trained Observers Preferred capabilities are water surface and aerial observations.	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____
	_____Bottom Sampling Example of capabilities includes sediment grab, core samplers, wading depth shovel pits and agitation methods.	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____
	_____Water Column Sampling	Strategy_____ Who_____

		WORK ANALYSIS MATRIX ICS 234-CG
1. Incident Name	2. Operational Period From: To:	
3. Operation's Objectives DESIRED OUTCOME	4. Strategies HOW	5. Tactics/Work Assignments WHO, WHAT, WHERE, WHEN
	Examples include fluorometers and mass spectrometers that are towed in the water column.	What_____ Where_____ When_____ Equipment_____
6. Prepared by: (Operations Section Chief)	7. Date/Time:	

WORK ANALYSIS MATRIX Page _2_ of _2_ ICS 234-CG
(Rev 11/12)

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9412.B2 Example ICS-234 Work Analysis Matrix, Non-floating Oil Contain and Recover Spilled Material – Non-floating Oil Recovery (Operational)

		WORK ANALYSIS MATRIX ICS 234-CG
1. Incident Name	2. Operational Period From: To:	
3. Operation's Objectives DESIRED OUTCOME	4. Strategies HOW	5. Tactics/Work Assignments WHO, WHAT, WHERE, WHEN
Contain and Recover Spilled Material – Non-floating Oil Recovery (Operational)	_____Suction Dredge Dredging through use of pumps to hydraulically remove and transport the oil, oiled sediments and oiled debris.	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____
	_____Diver-directed Pumping and Vacuuming Pumping capabilities refer to the use of centrifugal or positive-displacement type pump at or below the water surface with a diver directed hose. Vacuuming refers to a vacuum truck or unit above the water surface either on shore or on a vessel/barge that	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____

		WORK ANALYSIS MATRIX ICS 234-CG
1. Incident Name	2. Operational Period From: To:	
3. Operation's Objectives DESIRED OUTCOME	4. Strategies HOW	5. Tactics/Work Assignments WHO, WHAT, WHERE, WHEN
	creates a vacuum. Diver direct.	
	_____Mechanical Removal Example include excavators, clamshell dredges, environmental dredge buckets, or other machinery used to grab, scoop or pick up sunken oil, oiled sediments and oiled debris.	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____
	_____Sorbent/V-SORs Sorbents attached to chains in the water column that are dragged on the bottom to recover viscous oil.	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____
6. Prepared by: (Operations Section Chief	7. Date/Time:	

WORK ANALYSIS MATRIX (Rev 11/12) Page _1_ of _2_ ICS 234-CG

WORK ANALYSIS MATRIX FORM INSTRUCTIONS (ICS FORM 234-CG) Rev. 8/05

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5.	Tactics/Work Assignments	Enter details, including as much as possible, who, what, where, and when, of work assignments to carry out Operational Strategies
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		WORK ANALYSIS MATRIX ICS 234-CG
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3. Operation's Objectives DESIRED OUTCOME	4. Strategies HOW	5. Tactics/Work Assignments WHO, WHAT, WHERE, WHEN
Contain and Recover Spilled Material – Non-floating Oil Detection (Operational)	_____Use Laser Floumeters The unit is towed close to the bottom.	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____
	_____Visual Observations by Trained Observers Preferred capabilities are water surface and aerial observations.	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____
	_____Bottom Sampling Example of capabilities includes sediment grab, core samplers, wading depth shovel pits and agitation methods.	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____

		WORK ANALYSIS MATRIX ICS 234-CG
1. Incident Name	2. Operational Period From: To:	
3. Operation's Objectives DESIRED OUTCOME	4. Strategies HOW	5. Tactics/Work Assignments WHO, WHAT, WHERE, WHEN
	_____Water Column Sampling Examples include fluorometers and mass spectrometers that are towed in the water column.	Strategy_____ Who_____ What_____ Where_____ When_____ Equipment_____
6. Prepared by: (Operations Section Chief)	7. Date/Time:	

WORK ANALYSIS MATRIX Page _2_ of _2_ ICS 234-CG (Rev 11/12)

WORK ANALYSIS MATRIX FORM INSTRUCTIONS (ICS FORM 234-CG) Rev. 8/05

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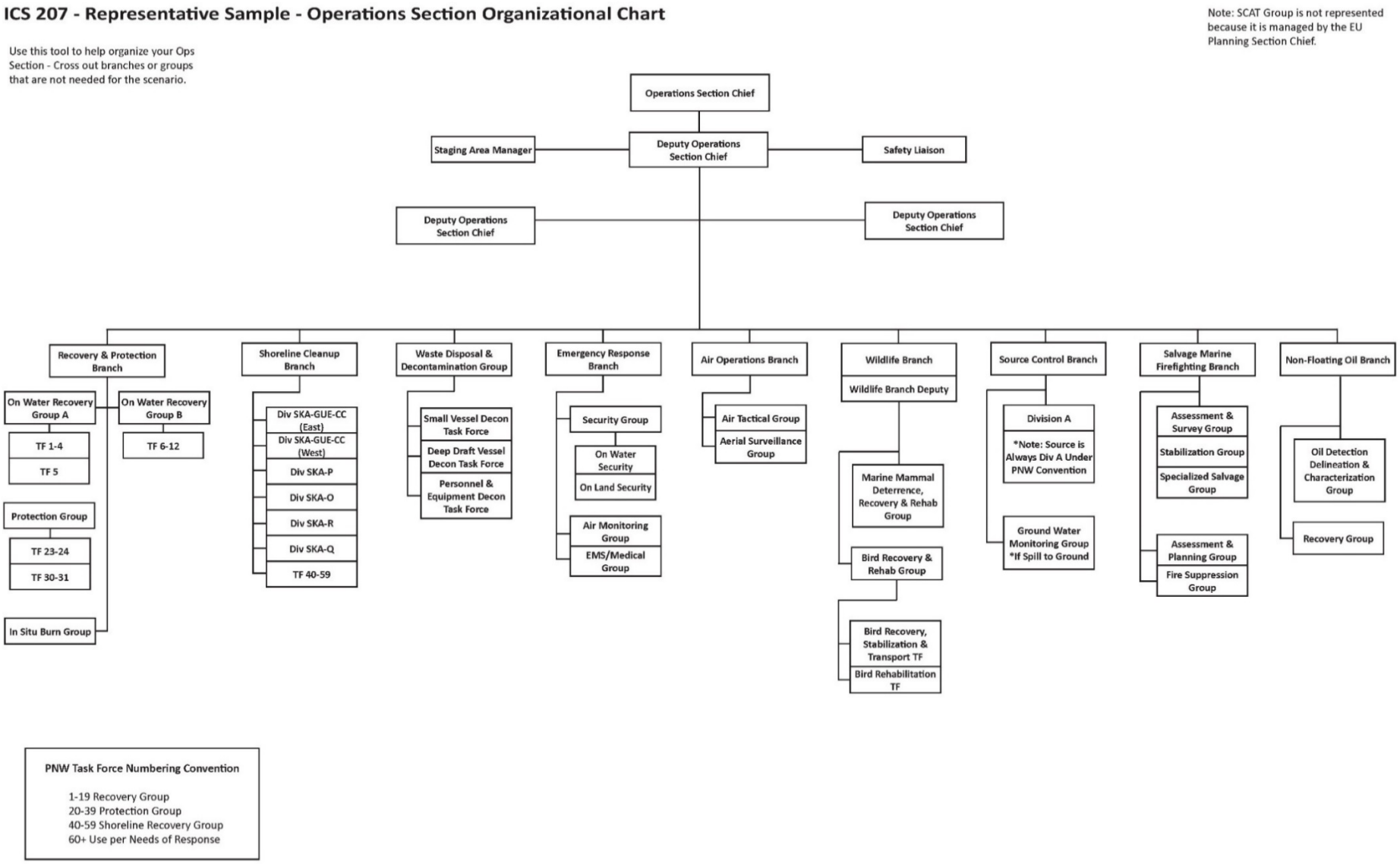
7.	Date/Time	Enter the date and time (24-hour format) the form was prepared

9412.B3 Example ICS-207 showing the incorporation of a Non-Floating Oil Branch into the Operations Section



9412.C Attachment C

9412.C1 API Technical Report 1154-1, Sunken Oil Detection and Recovery

The API Technical report can be found here: http://www.oilspillprevention.org/~/media/Oil-Spill-Prevention/spillprevention/r-and-d/inland/sunken-oil-technical-report-pp2.pdf

9412.C2 API Technical Report 1154.2. Sunken Oil Detection and Recovery Operational Guide

The API Technical report can be found here: http://www.oilspillprevention.org/~/media/Oil-Spill-Prevention/spillprevention/r-and-d/inland/sunken-oil-ops-guide.pdf

Section 9413

Geographic Response Plan Booming Strategy Points – Standardized Data Format

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Geographic Response Plan Booming Strategy Points – Standardized Data Format

These fields should be available in a Common Operating Picture Viewer to aid the Unified Command in visualizing the prioritization and status of booming operations

Strategy_ID: Based on Washington State Department of Ecology naming convention guidance. Alpha numeric designator for each strategy, combining the water body abbreviation and some form of linear reference. For example, LCR-12.2L, where LCR=Lower Columbia River at River Mile 12.2 located on river left.

Strategy_Name: This is the geographic or common name for the strategy. Ex: John Day River Mouth or Empire Docks as the common name for a strategy. This both helps quickly give the general location of the strategy, and provide a check on possible locational mismatches.

Strategy_Status: This field is used to track the Operations Section status for the boom and for display in SitStat. This field will be blank or have a default of inactive until "Ordered" for implementation. The list of allowed values intends to track the full cycle throughout a given response. The options are: Inactive, Ordered, Deployed, Remove.

Strategy_Priority: This is the default prioritization with a Geographic Response Plan (GRP) (if part of pre-determined spill scenario prioritization) and can be modified during an incident to reflect changes made within Environmental Unit/Planning and reflected on the 232s (1, 2, 3, 4…for example), or simplified for broader audience (A, B, C, High, Medium, Low, for example).

Conditions: This field is used to describe any conditions that would limit the effectiveness or ability to deploy a booming strategy. This would typically include the sea state or river flow conditions. Common entries would include High, Medium and/or Low river flow, high tides needed to gain access to an area (High Tide Only) or low tides which would preclude entrance (Low Tide Only) or Calm to Moderate Sea States Only (Calm/Moderate Seas).

Strategy_DateTime: This field identifies the date and time the booming strategy was assigned to its current status (Strategy_Status) to allow for tracking within Operations and SitStat.

Strategy_Type: Booming strategy type. Strategy types are: Collection (directing toward a collection point which is a part of the same strategy), Containment (at source), Diversion (toward a separate collection strategy, away from sensitive area, or to move toward center of channel), or Exclusion (blocking off a resource or sensitive area).

GRP_Date: The date the strategy was first adopted, or last modified (edited) in a GRP.

GRP_Name: This is the abbreviated name of the Geographic Response Plan that the strategy falls within (CPS or Central Puget Sound, for instance).

Site_Access_Description: Text field describing how to access a site as well as any limitation(s) that might be associated with the access point.

Boat_Required: Yes/No field indicating whether a boat is required to deploy the strategy.

Staging_Code: Indicate whether staging is On-Site or Remote.

Staging_ID: The ID of the pre-designated staging area for the strategy.

Staging_Name: Text field providing the name of the pre-designated staging area for the strategy.

Boom_Length: Total length of boom required, expressed in feet (sum for multiple-boom strategies) rounded to the nearest 100 feet for strategies >100' length.

Boom_Type: Type of primary boom. Based on categorization present in WRRL. Types are: B1 (42" or larger), B2 (18" to41"), B3 (<18"), Fire Boom (Bfire), and Sorbent Boom (Sorbent).

Resource_Protected: Narrative field describing the natural, cultural, or economic resources that the strategy was designed to protect. Example, "Protect salmon spawning beds" or "Protect down-river natural resources".

Watercourse_Description: General description of the type of watercourse the strategy is located within. For example, River with Tidal Influence or Estuary.

Objective_Description: Text field describing the objective of the strategy. Example, "Deflect oil to shoreline for collection" or "Exclude oil from entering into marsh".

Implementation_Description: Text field describing how to implement the strategy. For example, use a boat to deploy 500' of boom in a chevron configuration at the mouth of the estuary. Use existing pier as a northern shoreline anchor and use a shoreside anchor system on the south side.

Equipment_Description: Text field describing the equipment required to implement the strategy. For example, "800 feet Boom-B3 (River Boom or

Equivalent); Shore Connect System (posts, driver, anchor, chain, line); Workboat(s) adequate for size/type of boom".

Address_City: Closest city to the strategy.

Address_Zip: Zip code the closest mapped address the strategy falls within.

County: County the strategy is located in.

State: State the GRP strategy is located in.

Latitude: Latitude in decimal degrees to 5 decimal points or greater.

Longitude: Longitude in decimal degrees to 5 decimal points or greater.

Marker: This field is optional and allows for use in assignment of a symbol for viewing in some viewers.

GRP_Link: This field can be used to provide a web-link to either the GRP or a Two-Pager for full details about implementing the strategy.

This field definitions document represents one of the primary deliverables of the Northwest Area Committee (NWAC's) Data Standardization Task Force assembled for 2015. This document was developed during four teleconferences/webinars and numerous intervening calls and exchanges of draft documents. It is the intent of the NWAC that this baseline information be developed to support incident response and drills and to provide the ability to consistently share information within the Unified Command, Incident Command Post, and with external stakeholders and others involved in supporting incident response.

If endorsed by the NWAC and Regional Response Team, this document will be used as a guide in the development of consistent data to support incident response, drills, and facilitate data sharing. Development of new data, or the conversion of existing data into this framework will require time and trial, and the incorporation of lessons learned during drills and incidents.

FIELD	Strategy_ID	Strategy_Name	Strategy_Status	Strategy_DateTime	Strategy_Priority	Conditions	Strategy_Type	GRP_Date	GRP_Name	Site_Access	Boat_Required	Staging_Code
REQUIRED?	Required	Required	Required	Optional	Optional	Optional	Required	Optional	Required	Optional	Required	Optional
EXAMPLE	*LCR-17.8L*	*John Day River Mouth*	*Inactive*	7/24/2015 0900 or 20150724 0900	*High*	*High water only; calm to moderate sea states; Any*	*Exclusion*	*4/22/2015*	*LCR*	*John Day River Boat Ramp - Tidal Influence on river mouth.*	*Y*	*On-Site*
FORMAT	Text	Text	Text	Text	Text	Text	Text	Date	Text	Text	Y/N	Text
CONSTRAINTS	12 Characters Max	255 Characters Max	List Restricted; 10 Characters Max	Beginning of drill or incident;	Predetermined values may be adjusted for incident; 30 Char Max	30 Characters Max	List Restricted	>1990	10 Characters Max	255 Characters Max	Y/N	List Restricted; 10 Char Max
List or Detail of	WA Naming	Geographic Location	Inactive	Date/Time 24hr	1,2,3,4…Null	Sea State Descr.	Collection	Short Date	From existing list	Best way to access	Info to aid	On-Site
Data Format/	Convention as	or common name	Ordered	Time is optional	A,B,C,D…Null	or River Flow	Containment	Format	of NW Area GRPs	site for implement-	Operations	Remote
Restrictions	Guide		Deployed	for extended	High, Med, Low, Null	Constraints	Diversion			action. Note any		
			Remove	incidents	Other		Exclusion			limitations.		

Note: **Field Names are truncated to 10 characters when converted from tabular data (spreadsheet) to an ArcGIS Shapefile. This can be avoided by converting to a file geodatabase.**
Conditions field was added to describe any limitations on the applicability of the strategy based on environmental conditions (sea state) or current/flow.
Highlighted fields are potentially to be eliminated based on limited utility for COP display…

This is the Unique ID for the strategy and allows for tying to other tabular data and GIS features associated with the file (points, lines, polygraphs). Designation based on WA ECY naming convention guidance. For example, LCR-12.2L, where LCR=Lower Columbia River, River Mile 12.2, located on Left Bank.

Geographic or common name for the strategy. For example, John Day River Mouth.

Status of boom deployment. Field restricted to pre-defined status to include: Inactive, Planned (ordered), Deployed…

Type of Strategy: Collection, Containment, Deflection (aka Diversion), or Exclusion (aka Protection). Single designation allowed.

This is either the date the strategy was created or last updated.

This is the abbreviated name of the GRP the strategy falls within. For example, LCR or Lower Columbia River GRP.

Text field describing how to access the site, and any access limitations.

Y/N field indicating (if Yes) that a boat is required to install the strategy.

FIELD	Staging_ID	Staging_Name	Boom_Length	Boom_Type	Resource_Protected	Watercourse_Description	Objective_Description	Implementation_Description	Equipment_Description	Address_Num
REQUIRED?	Optional	Optional	Required	Required	Required	Required	Required	Required	Required	Optional
EXAMPLE	*XXX-XC-SA??*	*Tongue Point Staging Area*	*800*	*B3 - 24"*	*Waterfowl, other sensitive nesting species, wetlands, year-round.*	*River Mouth with Tidal Influence*	*Keep oil from entering the mouth of the John Day River.*	*Use boat to deploy 800' of boom in single stretch from point south of river mouth, angling NW to anchor along raised railway levee.*	*800 feet Boom-B3 (River Boom or Equivalent); Shore Connect System (posts, driver, anchor, chain, line); Workboat(s) adequate for size/type of*	*"100" as in 100 SW Front Street, Astoria Oregon 97103; Text field to allow for alpha numeric numbered addresses*
FORMAT	Text	Text	Numeric	Text	Text	Text	Text	Text	Text	Text
CONSTRAINTS	20 Characters Max	255 Characters Max	Whole numbers	Restricted to WRRL Types; 255 Char Max	255 Characters Max	50 Characters Max	255 Characters Max	255 Characters Max	255 Characters Max	10 Characters Max
List or Detail of	This is the ID for	From existing list	Rounded to	B1 42" or Larger	Listing of natural /	Info used to aid in	Info used to aid in	Info used to aid in	May be linked instead to	Closest address to site
Data Format/	the designated	of Staging Areas	nearest 100'	B2 18" to 41"	habitat resources	Operations	Operations.	Operations.	a related table of	of booming strategy
Restrictions	staging area.	in GRPs	unless <100"	B3 <18"	and water supplies				equipment	
				Fire (or Sorbent?)	as highest priority					**SUGGEST ELIMINATING**

Note:

Unique ID for the Staging Area designated for deployment of the strategy.

Name of the Staging Area designated for use in deploying the Strategy. May be the Strategy_Name if deployment is possible from the site of the strategy. For example, John Day River Boat Ramp could be used to deploy John Day River Mouth strategy.

Total length of boom needed to deploy the strategy, in feet. Rounded to nearest 100' unless boom lengths less than 100' can be used.

A description of the type and size of boom needed to deploy strategy.

Text field describing natural, cultural, or economic resources the strategy was designed to protect. Used to complete ICS 232.

Text field describing the general nature of the waterway in which the strategy is found.

Text field describing the Objective of the Strategy.

Detailed description of the implementation of the strategy.

Text field describing the equipment required to implement the strategy.

Nearest physical address to the strategy site for the purposes of access via road.

FIELD	Address_Dir	Adress_Street	Address_City	Address_Zip	County	State	Lat_DD	Long_DD	Marker	GRP_Link	Remarks
REQUIRED?	Optional	Optional	Optional	Optional	Required	Required	Required	Required	Optional	Optional	Optional
EXAMPLE	*"SW" as in 100 SW Front Street, Astoria Oregon 97103; Text field to allow for alpha numeric numbered addresses*	*"Front" as in 100 SW Front Street, Astoria Oregon 97103; Text field to allow for alpha numeric numbered addresses*	*Astoria*	*97103*	*Clatsop*	*OR*	*46.18155*	*123.74133*			
FORMAT	Text		Text	Text	Text	Text	Numeric	Numeric	Text	Text	Text
CONSTRAINTS	50 Characters Max	50 Characters Max	25 Characters Max	Zip or Zip+4 format	Oregon, Washington or Idaho Counties	List Restricted	Decimal Degrees	Decimal Degrees	255 Characters Max	255 Characters Max	255 Characters Max
List or Detail of	Closest address to site	Closest address to site	Closest city to	Zip code that		OR	5 or 6 decimal	5 or 6 decimal	URL	Hyperlink	
Data Format/	of booming strategy	of booming strategy	site of strategy	strategy falls		WA	place accuracy	place accuracy			
Restrictions				within		ID					
	SUGGEST ELIMINATING	**SUGGEST ELIMINATING**				CA					

Closest city to the strategy location for navigation and logistics.

State (or Province) in which the strategy occurs, abbreviated. Primarily used for coordination.

Latitude of the strategy, measured in decimal degrees to 5 or 6 places accuracy.

Longitude of the strategy, measured in decimal degrees to 5 or 6 places accuracy.

Note:

Section 9418

Emergency Response Community Air Monitoring

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9418

Emergency Response Community Air Monitoring

9418.1 Introduction

Airborne contaminants, at an incident, can present a potential threat to both site workers and surrounding communities. In particular, high consequence areas (HCAs; e.g., densely populated) or sensitive groups (i.e., people with heart and lung diseases/conditions, older adults and children, hospital patients, etc.) who are at greater risk from the presence of vapors or particles in the air can be adversely impacted by such threats. As such, identification and quantification of these contaminants through air monitoring and sampling is an essential component of protecting human health. Reliable measurements of airborne contaminants are useful for:

- Characterizing airborne threats,
- Delineating areas where protection or evacuation is needed,
- Assessing the potential health effects of exposure, and
- Determining the need for additional monitoring.

Air monitoring in the communities surrounding an incident should be considered when:

- Chemicals, airborne contaminants, and/or smoke are anticipated to impact communities;
- Volatile chemicals have been or may be released; and
- Sensitive populations are in close proximity to a release site or airborne contaminants are at a level that impacts healthy populations.

The purpose of community air monitoring (CAM) during emergencies is to both identify and quantify the airborne contaminant and use these results as a baseline to determine the optimum level of protection needed for the surrounding community.

9418.2 Scope

This document is intended to be used as a tool to assist emergency responders in establishing a CAM program during an emergency response.

It is designed to be applicable to incidents involving a pollutant, chemical, or oil spill site that has or will likely release airborne contaminants that may affect the surrounding community. This may include scenarios where the contaminants are burning, not burning, and/or releasing combustion byproducts.

The intended audience is response personnel who are responsible for establishing and leading CAM activities.

While some elements of this document may be applicable during planned in-situ burning situations, for specific in-situ burning guidance, responders should also refer to Sections 4617 through 4619 and 9407 of the Northwest Area Contingency Plan (NWACP).

Other considerations when using this document:

- Air monitoring activities during a response may overlap between site worker health and safety and community protection; however, this document is focused solely on CAM. Health and safety of site workers is covered by the site safety plan for the incident (as required by 29 Code of Federal Regulations 1910.120) and in Sections 2230 and 9203 of the NWACP.
- This document does not address odor investigations or indoor air quality assessments.
- This document does not address public communications of air monitoring results outside of the Incident Command System (ICS) structure.
- This document is not intended to provide complete training on establishing a CAM program. Personnel engaged in air monitoring should be fully trained and qualified to use the equipment and approaches described herein.

The information provided within this document is not intended to be policy or to be prescriptive and may be modified as appropriate. The document is designed to be generic and generalized, and it is expected that response managers will modify as appropriate to the conditions of each incident.

9418.3 How to Use this Document

This document is organized into variety of response tools and supplemental informational attachments. The tools can be used independently or in conjunction with each other to establish a CAM program during an emergency. A brief description of the tools is included below.

Community Air Monitoring Resource Tiers

Suggested equipment, personnel, and data deliverables are organized into response tiers. This tool is intended to aid response organizations to rapidly determine and mobilize air-monitoring resources for the early phases of incidents

of varying scope and scale. This tool can be used to communicate needs and expectations as the ICS structure forms.

Community Air Monitoring Organization Chart, Information Flow, Roles, and Responsibilities

This figure presents a suggested organization chart that places the CAM group within the Environmental Unit (EU) of the Planning Section with pathways of communication and action level exceedance reporting. Roles and responsibilities within the emergency CAM group are also briefly described.

Community Air Monitoring Implementation Checklists

This section contains two checklists, one short and one detailed, both capturing the major milestones of CAM during an emergency response. Both checklists are loosely arranged in chronological order and further organized into three operational phases: Initial Response and Assessment, Sustained Community Assessment, and Demobilization. The short checklist only communicates major milestones, while the detailed checklist includes specific actions, expectations, and best practices.

Community Air Monitoring Plan Template

A Community Air Monitoring Plan (CAMP) should be completed as soon as possible during an emergency response, to document and plan ongoing air monitoring. Plan components and suggested formats and content are presented in this template. A CAMP will serve as official documentation of CAM activities and as a functional tool to implement CAM actions.

Response Tool Attachments

Informational attachments are included to detail technical components of implementing a CAM program. Content within these sections are referred to throughout the document and may be used to complete the CAM Checklist or CAMP. The attachments include:

A. Equipment Considerations
B. Contaminants of Concern and Recommended Action Levels
C. Community Air Monitoring Field Team Checklist
D. Community Air Monitoring Data Management Checklist
E. Laboratory Analysis

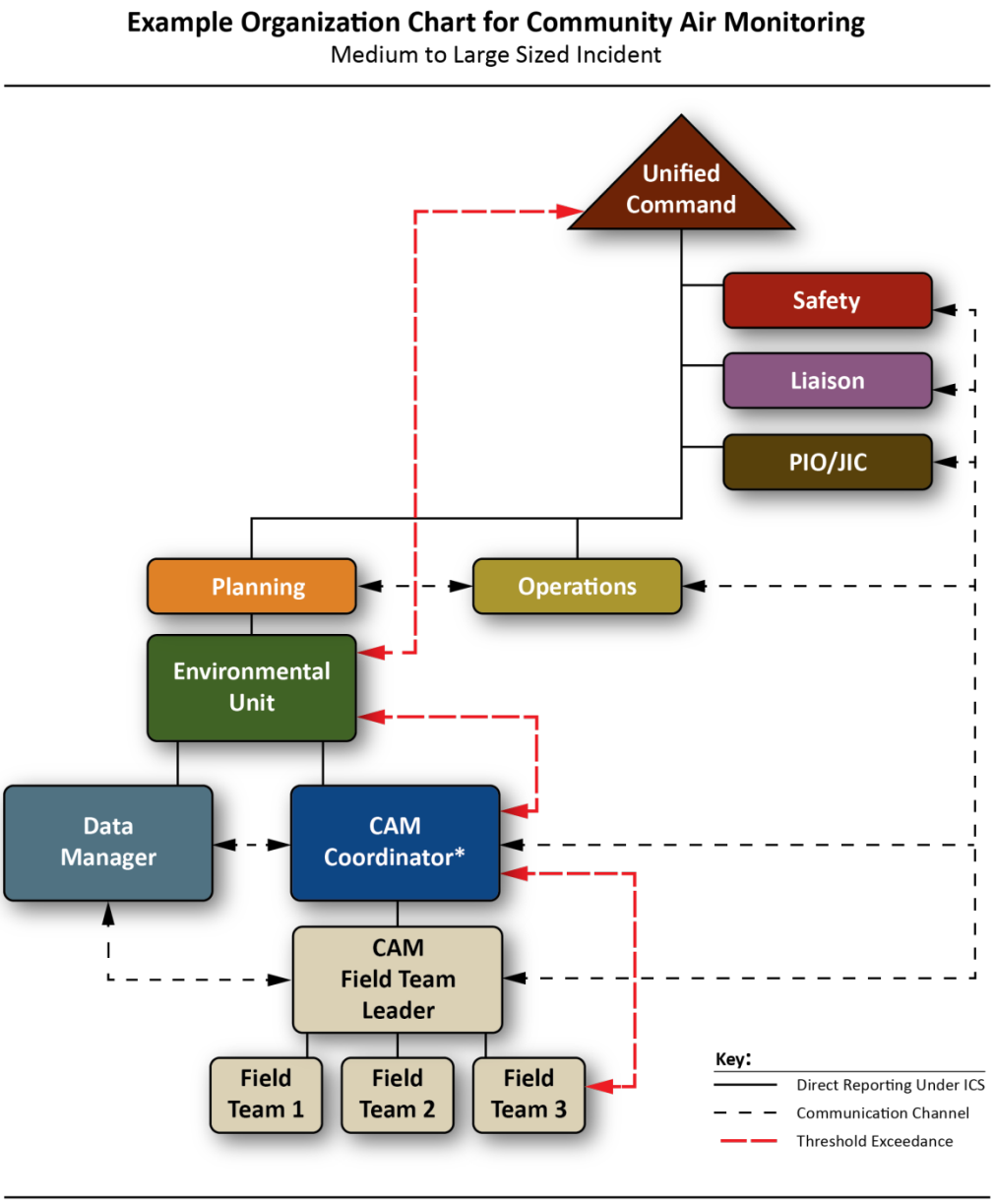
9418.4 Air Monitoring Resource Tiers

Suggested equipment, personnel, and data deliverables are organized into response tiers (see Table 9418-1). This tool is intended to aid response organizations to rapidly determine and mobilize air-monitoring resources for the early phases of incidents of variable scope and scale. This tool can be used to communicate needs and expectations as the ICS structure forms.

Table 9418-1 Air Monitoring Resource Tiers

	Tier			
	1	2	3	4
Potential Roles	Field Team Leader Field Data Manager Field Team Member(s)	Field Team Leader/CAM Coordinator Field Data Manager Field Team Member(s)	CAM Coordinator Field Team Leader Field/Command Post Data Manager GIS/Telemetry Specialist Field Team Member(s)	CAM Coordinator Field Team Leader Field/Command Post Data Manager GIS Specialist Equipment Specialist Sample Custodian Field Team Member(s)
Personnel	2	3-4	5-6	6+
Will Mobilize Within:	Within 2 hours	2-12 hours	2-24 hours	2-48 hours
Data Collection Method	Roaming	Roaming or Fixed	Roaming and/or Fixed	Roaming and/or Fixed
Suggested Instrument Capabilities	Roaming Air Monitoring (as needed) ▪ PID/FID ▪ LEL ▪ Electrochemical Sensors ▪ Colorimetric Tubes ▪ Particulate Monitors ▪ Specialized instrumentation	Roaming Air Monitoring (see Tier 1) Fixed Air Monitoring Telemetry (if available)	Roaming Air Monitoring Fixed Air Monitoring Telemetry	Roaming Air Monitoring Fixed Air Monitoring Telemetry
Air Sampling	▪ Grab Samples	▪ Grab Samples ▪ Multi-hour Analyte Specific Sampling	▪ Grab Samples ▪ Multi-hour Analyte Specific Sampling	▪ Grab Samples ▪ Multi-hour Analyte Specific Sampling
Deliverable Examples	▪ Site Sketch ▪ Aerial Map ▪ Verbal Result Communication ▪ Summary Data	Tier 1 Deliverables Upgraded+ ▪ Basic Modelling ▪ Basic Telemetry ▪ Basic Geospatial Viewer	Tier 2 Deliverables Upgraded+ ▪ Limited Monitoring and Sampling Data Streams Integrated in Geospatial Viewer	Tier 3 Deliverables Upgraded + ▪ Monitoring/Sampling Data Streams Integrated in Geospatial Viewer
Frequency of Updates	▪ As Exceedance Occurs ▪ As Determined by Unified Command	▪ As Exceedance Occurs ▪ As Determined by Unified Command ▪ Every Operational Period ▪ Near-Real Time via Telemetry	▪ As Exceedance Occurs ▪ As Determined by Unified Command ▪ Every Operational Period ▪ Near-Real Time via Telemetry ▪ Geospatial Viewer Updates as Needed	▪ As Exceedance Occurs ▪ Every Operational Period ▪ As Determined by Unified Command ▪ Near-Real Time via Telemetry ▪ Ongoing Geospatial Viewer Updates

Figure 9418-1 Community Air Monitoring Organization Chart and Information Flow



* The CAM group may be placed in other ICS groups such as Safety or Operations depending on site-specific needs.

9418.5 Roles and Responsibilities

Community Air Monitoring Coordinator

- Develop and coordinate CAM strategies and tactics with the EU and Incident Commander/Unified Command`,
- Establish timeline of operations and communicate monitoring plans with the Environmental Unit Leader (EUL),
- Maintain an ICS 214- Unit Log or other documentation (logbook) of CAM activities,
- Communicate with the Operation Section to ensure team activities are coordinated,
- Identify and recommend Action Levels,
- Determine locations of vulnerable populations with emphasis on populations who may be more sensitive to exposure. (coordinate with Data Manager),
- Monitor weather conditions, specifically wind speed and direction, temperature,
- Ensure background contaminant levels are documented,
- Determine the amount of CAM teams and frequency of monitoring and reporting,
- Delegate and oversee the Field Team Leader and Data Manager,
- Develop and implement the CAMP, and
- Ensure data is communicated to the appropriate parties.

Data Manager

- Establish and maintain Data Management Plan (DMP),
- Conduct data collection calibration briefings with Field Team(s) before deployments,
- Perform quality assurance/quality control (QA/QC) on data daily after collection,
- Maintain and manage all data forms,
- Process data from Field Team(s) after it is collected and present to CAM Coordinator,
- Produce and manage deliverables for site operations and Unified Command.

Community Air Monitoring Field Team Leader

- Responsible for directly implementing CAM Field Operations,
- Ensure the safety and accountability of CAM field personnel,
- Direct operations of Field Teams to implement strategies and/or tactics outlined by the CAM Coordinator and the EUL to meet Incident and Data Quality Objectives (DQOs),

- Ensure that the Health and Safety Plan includes considerations for CAM field activities and hold operational meetings and daily Health and Safety Meetings,
- Hold operational meetings and daily Health and Safety Meetings,
- Serve as dispatch for CAM Field Teams,
- Communicate with CAM Coordinator:
  - Monitor parameters and equipment to be utilized,
  - Personnel designated for CAM teams and frequency of monitoring, and
  - Determine communication pathways and frequency.
- Communicate with Data Manager:
  - Data flow pathways, data recording utility, valid values, and expectations (QA/QC), and document maintenance and management (storage).

Field Team

- Perform calibration-check and deploy air monitoring equipment;
- Document monitoring results, time, and locations;
- Collect field samples and conduct air monitoring at areas of interest;
- Communicate readings and field observations back to Field Team Leader and/or CAM Coordinator; and
- Perform QA/QC on all data in the field, store in designated location, notify Data Manager of data updates.

9418.6 Community Air Monitoring Implementation Checklists

The following implementation checklists (short version and detailed version) are designed to aid users in establishing a CAM program during an emergency release. The checklists are divided into three sections to reflect the major phases in implementing a CAM program and include best practices where applicable. Additional detailed information is provided in the Response Tool Attachments.

The three phases of CAM include:

Initial Response and Assessment – This phase occurs in the early hours of a response and may take place before a formal ICS is established (generally within the first 24 hours or within the first few operational periods) after the incident is reported. It is composed of immediately deploying a Field Team or teams to conduct an initial rapid assessment and for planning future sustained systematic and/or ad hoc air quality assessments.

Sustained Community Assessments – This phase may begin between one and several days into the response, depending on spill-specific conditions. This phase

involves systematic field assessments as well as targeted, ad hoc assessments at locations that may be impacted by a release.

Demobilization Phase – This phase begins as CAM resources begin to demobilize after airborne contaminant threats have been abated or are no longer a sustained concern.

Short Community Air Monitoring Checklist

The following checklist outlines major points of establishing a CAM program during an emergency response, broken into operational phases. This section may be used as a tracking tool; each point is further detailed in the implementation checklists in later sections.

Initial Response and Assessment Phase (Days 1 - ~2)

- ☐ Conduct/receive initial notification call with the other responding personnel.
- ☐ Establish objectives of the CAMP using the objectives established by Incident Command/Unified Command as guidance.
- ☐ Mobilize readily available personnel and equipment.
- ☐ Prior to or during deployment, collect and assess information about contaminant properties, weather conditions and forecasts, the locations of HCAs (i.e., vulnerable and/or sensitive populations), and potential dispersion of contaminants. This information will help guide initial Field Team assessments.
- ☐ During the course of CAM activities, responders should continually assess the external variables that affect airborne contaminant behavior and data analysis.
- ☐ Determine the scope and scale of the area(s) to be monitored by initial CAM teams.
- ☐ As soon as practicable, deploy experienced rapid response air monitoring CAM Field Team(s) to collect baseline data for airborne contaminants.
- ☐ Establish communication and coordination with appropriate ICS group(s) and/or Air/Public health agencies.
- ☐ Identify initial CAM action levels for the contaminants of concern.
- ☐ Establish a process and schedule (i.e., hourly, daily, etc.) for reporting results and Action Level (or other threshold) exceedances.
- ☐ Determine the number of CAM Field Teams and appropriate level of Command Post staff.
- ☐ Submit Resource Request to Logistics for Field Team personnel and equipment.
- ☐ Establish general expectations, procedures, and accountability for CAM data management tasks.
- ☐ Establish a data management system.
- ☐ Develop a field assessment and reporting schedule as appropriate to provide key assessment information as needed by Incident Command/Unified Command, Safety, Liaison, Public Information Officer (PIO)/Join Information Center (JIC), or others.
- ☐ Identify incident specific health and safety considerations for CAM operations and communicate them to the Safety Officer.
- ☐ Begin drafting a CAMP.

Sustained Community Assessment Phase (Day 3+)

- ☐ At the beginning of each operational period (or as needed), collect and assess critical information that may affect CAM activities.
- ☐ Determine which locations should be assessed and in what order.
- ☐ Ensure that all elements of the CAMP have been completed and or updated as needed.
- ☐ Prepare, deploy, and manage CAM Field Teams conducting monitoring assessments. This may be managed by the Field Team Leader or CAM Coordinator.
- ☐ Finalize or update the process for summarizing and communicating CAM field data.

- ☐ Ensure that assessment data from Field Teams is flowing into the command post and disseminated appropriately.
- ☐ Begin developing CAM assessment endpoints.

Demobilization Phase (To Be Determined)

- ☐ Ensure all expectations agreed upon initially have been met or communicated.
- ☐ Discuss continued CAM results with the EUL and Planning Section Chief, and agree on the forecast plan for CAM survey endpoints.
- ☐ Establish a communication protocol with CAM group that notifies the EUL when monitoring has been completed within a given area.
- ☐ Establish endpoints for area monitoring clearance.
- ☐ Finalize monitoring efforts in all CAM locations based on endpoints.
- ☐ Coordinate personnel and equipment demobilization through the Demobilization Unit.
- ☐ Ensure that all of the CAM documents and data are collected and archived with the Documentation Unit.
- ☐ Identify, evaluate, and report all known gaps, delays, or interruptions of all data deliverables to strengthen future performances in the management and communication of CAM data.

Detailed Community Air Monitoring Checklist

Initial Response and Assessment Phase

The Initial Response and Assessment phase begins when initial responders first receive notification that a release has occurred. This phase typically lasts approximately 24 hours (or 1–2 operational periods) after the incident is reported and is composed of the initial assessment(s), planning, and preparation for the Sustained Community Assessment phase.

☐ **Conduct/receive initial notification call with the other responding personnel; discussion points should include the following:**

- Contaminants of concern known or suspected to be airborne at the site
- The size and/or complexity of the incident, including the extent of the release or evacuation area, if known
- Air monitoring resources deployed or deploying to the site
- Previous air monitoring results and locations
- What information decision makers initially need (i.e., data quality objectives)
- Site access/logistical issues
- Known or suspected HCAs
- Other staffing or services that may be needed, such as:
  - Weather forecasting
  - Data Management
  - Geographic information system (GIS) support
  - Plume modelling

BEST PRACTICE*:* Use the Air Monitoring Resource Tier selection tool (Table 9418-1) to determine the appropriate level of initial response resources.

☐ **Establish objectives of the CAM program using the objectives established by Incident Command/Unified Command as guidance.**

BEST PRACTICE: Be clear about the objectives of the CAM program to avoid mission creep – avoid assigning CAM teams extra duties beyond the established objectives (e.g., responder health and safety monitoring, odor investigations, non-essential sampling, etc.) unless warranted.

☐ **Mobilize readily available personnel and equipment:**

- Ensure responders are trained in CAM practices/approaches, equipment, and data collection/management/communication protocols.
- Ensure requested instrumentation is appropriately configured for CAM processes (data logging, appropriate detection limits, fully charged, etc.) and is bump tested and/or calibrated. More detail about air monitoring equipment can be found in Attachment A, Equipment Considerations.

BEST PRACTICE: One resource for identifying air monitoring resources is the Western Response Resource List (WRRL). The WRRL is an oil spill equipment database that includes air monitoring resources owned and operated by response organizations as well as organizational contact information for requesting air monitoring support. Other sources of air monitoring resources may include local/regional hazardous materials teams, health departments, or wildland firefighting organizations.

☐ **Prior to or during deployment, collect and assess information about contaminant properties, weather conditions and forecasts, the locations of HCAs (sensitive populations), and potential dispersion of contaminants. This information will help guide initial Field Team assessments.**

- See Table 9418-2 for more information on collecting and using this information.

Table 9418-2 Data Needs to Implement a Community Air Monitoring Plan

Data Need:	Accessible Via:	How to Use Data:
Contaminant Properties	▪ On-scene personnel ▪ Responsible party ▪ Web-based searches ▪ Safety Data Sheets	▪ Helps determine equipment needs/capabilities ▪ Indicates contaminant fate and behavior ▪ Advises as to personal hazards and methods of protection
Weather Conditions/Forecast	▪ Web-based weather services will provide initial data ▪ Situation Unit ▪ NOAA Spot forecast	▪ Establish target monitoring areas ▪ Indicates possible changes in future monitoring
Geospatial Data & Maps	▪ Web-based services ▪ Geodatabases ▪ Situation Unit	▪ Develop common operating picture for CAM activities
High Consequence Areas/ Sensitive Groups	▪ Local knowledge ▪ Geodatabases	▪ Establish target monitoring areas
Dispersion/Weathering Models	▪ Basic dispersion models (e.g., ALOHA) ▪ IMAAC ▪ ADIOS	▪ Establish target monitoring areas

☐ **During the course of CAM activities, responders should continually assess the external variables that affect airborne contaminant behavior and data analysis (see Table 9418-3).**

Table 9418-3 Variables that May Affect Airborne Contaminant Assessment

Variable	Impact
Temperature	■ An increase in temperature increases the vapor pressure of most chemicals and can result in increased airborne concentrations near spilled chemicals.
Wind Direction/ Speed	■ An increase in wind speed can affect vapor concentrations near a freestanding liquid surface as well as dust and particulate-bound contaminants.
Rainfall	■ Water from rainfall can essentially cap or plug vapor emission routes from open or closed containers, saturated soil, or lagoons, thereby reducing airborne emissions of certain substances. Rainfall may also reduce the concentrations of fire smoke particulate matter during fire events.
Moisture/Relative Humidity	■ Dusts, including finely divided hazardous solids, are highly sensitive to moisture content. This moisture content can vary significantly with respect to location and time and can affect the accuracy of many sampling results.
Vapor Emissions	■ The physical displacement of saturated vapors can produce short-term, relatively high vapor concentrations. Continuing evaporation and/or diffusion may produce long-term low vapor concentrations and may involve large areas.
Work Activities	■ Work activities often require the mechanical disturbance of contaminated materials, which may change the concentration and composition of airborne contaminants.

BEST PRACTICE: Request a National Oceanic and Atmospheric Administration Spot forecast (https://www.weather.gov/spot/) for localized weather. This data can be used to develop an air release model.

☐ **Determine the scope and scale of the area(s) to be monitored by initial CAM teams. Determination criteria may include:**

- Safe and permissible access to monitoring locations;
- Established exclusion or evacuation zones; and
- Data previously collected by other responders, including contaminant concentrations and confirmed off site impacts.

BEST PRACTICE: Try to identify publicly accessible locations for monitoring to avoid acquiring consent for private property access. If private property access is required, seek consent.

☐ **As soon as practicable, deploy experienced rapid response air monitoring CAM Field Team(s) to collect baseline data for airborne contaminants.**

- The goal is to obtain a general snapshot of the areas that may be impacted. These teams can provide valuable information that will support additional planning activities for the CAM process as well as near-real time information for the Unified Command (e.g., presence/absence of contaminants, adjustments of evacuation zones, etc.). Any assessment conducted by these teams should be broad in scope and scale, with obtaining and communicating rapid results as a goal.
- The initial assessment should include:
  - Using basic instrumentation to obtain location-based monitoring results;
  - Monitoring downwind of an incident then moving 360 degrees around the site;

- Identifying and monitoring at locations with sensitive populations downwind of the incident location;
- Rapid communication of results;
- Documenting plume direction(s);
- An assessment of evacuation areas and boundaries of the exclusion zone; and
- Identification of potential future fixed monitoring locations.

BEST PRACTICE*:* Field Teams should communicate results (including non-detects) as rapidly as possible to decision makers. This may be achieved by regular phone calls or other field-based communication techniques.

BEST PRACTICE*:* If possible, collect one or more "grab samples" in SUMMA® canisters or similar sampling containers to aid in quantitative characterization of airborne contaminants as the opportunity to capture such samples may rapidly diminish.

☐ **Establish communication and coordination with appropriate ICS group(s) and/or Air/Public health agencies.**

- Determine the most appropriate point of contact in the ICS for CAM personnel placement during the early stages of the response. Because Safety has an early presence during the formation of the ICS, this may be a suitable location for early phase CAM activities; however, as the ICS grows or as increasing threats to public air resources are identified, placement of the CAM activities under the Planning Section/Environmental Unit are warranted, though CAM could still be managed in the Safety and/or Operations Section depending on site specific circumstances.
- Regardless of CAM placement within the response structure, the Safety Officer should be made aware of Field Team activities.
- Local, Regional and/or State Air Agency and/or Public Health Staff should be contacted early in a response. Coordinate with Liaison to communicate (if these groups are not already present in the response structure).

BEST PRACTICE*:* As defined under Comprehensive Environmental Response, Compensation, and Liability Act and Oil Pollution Act, air is considered a natural resource. As such, monitoring community air quality outside of the site work zones during a chemical or oil release is best managed under the Environmental Unit.

Because the Safety group is often established before the EU, this group may be suitable for initial CAM activities.

☐ **Identify initial CAM action levels for the contaminants of concern.**

- Until Incident Command/Unified Command can approve an incident specific action level, one or more of the levels below may be used**.**
- See Attachment B, Contaminants of Concern and Recommended Action Levels, for more info on selecting action levels.

Please note that with the exception of PM 10 and PM 2.5 standards for In-Situ Burn situations, none of the action levels below have been approved nor endorsed by the Northwest Area Committee/Region 10 Regional Response Team.

☐ **Recommendations for chemicals**:

- Protective Action Criteria (PACs) are established from chemical-specific available resources in the following order:
  - Acute Exposure Guideline Level (AEGL) values published by the United States Environmental Protection Agency (EPA)
  - Emergency Response Planning Guideline (ERPG) values produced by the American Industrial Hygiene Association (AIHA)
  - Temporary Emergency Exposure Limit (TEEL) values developed by the United States Department of Energy Subcommittee on Consequence Assessment and Protective Actions (SCAPA)
- PACs/TEELs: https://sp.eota.energy.gov/
- AEGLs: https://www.epa.gov/aegl
- ERPGs: https://www.aiha.org/get-involved/AIHAGuidelineFoundation/EmergencyResponsePlanningGuidelines/Pages/default.aspx

☐ **Recommendations for particulates**:

- National Ambient Air Quality Standards (NAAQS) for particulates as reflected in Wildfire Smoke A Guide for Public Health Officials (2016): https://www3.epa.gov/airnow/wildfire_may2016.pdf
- NWACP In-Situ Burn Criteria (Section 9407)

☐ **Establish a process and schedule (hourly, daily, etc.) for reporting results and Action Level (or other threshold) exceedances.**

- In the event of a sustained action level exceedance or other threshold exceedance, establish a process for rapid notification to the appropriate ICS groups. These groups may include:
  - Incident Command/Unified Command
  - Liaison Officer/PIO
  - Safety
  - Operations
  - CAM Coordinator
  - Situation Unit
- Exceedance notifications should be communicated from field responders to the CAM Coordinator, who then notifies the EUL, who then notifies Incident Command/Unified Command.
- Exceedance reports should include location, instrument readings, field conditions, and proximity to at risk populations.

- **BEST PRACTICE*:*** Once established, send a general message and ensure Unified Command is made aware of the process, locations, and results.

- **BEST PRACTICE*:*** Even if Field Teams are not detecting contaminants, it is still prudent to communicate non-detects.

☐ **Determine the number of CAM Field Teams and appropriate level of Command Post staff.**

- Determine the initial positions that need to be filled (CAM Coordinator, Field Team Leader, Data Manager, Field Teams, other CAM support staff, etc.) and by whom. The exact number of roles and individuals to fill those roles can vary widely from incident to incident and as conditions change.
- All personnel must meet or exceed incident specific health and safety requirements for fieldwork and training as defined by the Safety Officer. Individual employers may require training that exceeds the incident specific standards.
- CAM personnel should have:
  - Safety training that meets or exceeds applicable regulations under 29 Code of Federal Regulations 1910 (e.g., 40-hour Hazardous Waste Operations and Emergency Response training with current refresher and possibly enrolled in medical monitoring program) and the incident specific safety plan
  - Basic ICS training
  - Basic air monitoring training

☐ **Submit Resource Request to Logistics for Field Team personnel and equipment.**

☐ **Establish general expectations, procedures, and accountability for CAM data management tasks.**

- Depending on the scale of the response, these responsibilities may be handled by the Field Team Leader, CAM Coordinator, or a delegated Data Manager.

☐ **Establish a data management system.**

- Consider appointing a CAM Data Manager and refer to Attachment D, Community Air Monitoring Data Management Checklist, to accomplish this task.
- Determine which types of data need to be collected for the response. Examples include:

  - Contaminant detection units,
  - Geospatial data,
  - Photographs/video,
  - Command post documentation, and
  - Access agreements.
- Select the appropriate field data collection forms.
- Consider creating a common operating picture geospatial tool for CAM assessment area(s).

☐ **Develop a field assessment and reporting schedule as appropriate to provide key assessment information as needed by Incident Command/Unified Command, Safety, Liaison, PIO/JIC, or others.**

- This schedule should NOT be utilized for situations when action levels or other threshold exceedances are occurring. A separate system for rapid exceedance communication should be created separate of the operational period based reporting cycle.
- The intent of this schedule is to ensure CAM activities are captured in the IAP and/or on ICS 204 Work Assignment and ICS 215 Operation Planning Worksheet forms.

- **BEST PRACTICE:** Begin to align field operations and tactics into overarching incident response goals. Organize individual actions and strategies in ICS 234 Work Analysis Matrix form to clarify and communicate CAM goals.

☐ **Identify incident specific health and safety considerations for CAM operations and communicate them to the Safety Officer.**

☐ **Begin drafting a CAMP.**

Sustained Community Assessment Phase

The Sustained Community Assessment Phase may begin between one and several days into the response, depending on incident-specific conditions. This phase may involve recurring assessments at fixed locations, roving data collection, ad hoc assessments, data analysis, and planning for future operational periods.

☐ **At the beginning of each operational period (or as needed), collect and assess critical information that may affect CAM activities. These may include:**

- Weather forecasts
- Applicable dispersion models or trajectories
- Contaminant weathering
- Determining from the EUL and/or Planning Section Chief (PSC) any relevant/new information or shift in objectives or priorities from Incident Command/Unified Command which might affect CAM program.
- Operations Section tasks that may allow airborne contaminants to escape (e.g., excavation, tank transfers)

☐ **Determine which locations should be assessed and in what order.**

- This may involve assessing any previous collected air monitoring data, reviewing the latest information on weather, applicable models, or field reports.

☐ **Ensure that all elements of the CAMP have been completed and or updated as needed.**

☐ **Prepare, deploy, and manage CAM Field Teams conducting monitoring assessments. This may be managed by the Field Team Leader or CAM Coordinator.**

- Assemble CAM teams to meet CAM field objectives and ensure that all teams have the necessary equipment and direction.
- Ensure that team assignments are made daily or as appropriate. Be sure the assignments are reflected in ICS 204 Work Assignment forms and passed on to the teams.
- Ensure teams understand the action levels, thresholds, and reporting processes.
- Identify and ensure Field Team safety and logistical needs (e.g., Equipment, Transportation, Personal protective equipment, Communication options, Food/Water, etc.) are met daily.
- Report on relevant weather data to Field Teams.
- Conduct CAM tailgate safety meeting at the beginning of shifts (as appropriate):
  - Review any special considerations that may exist for each team, such as site access (e.g., determine if legal access agreements been signed; is there a need for specialized transportation; are there special safety considerations, communications, limitations, etc.)

- **BEST PRACTICE:** Conduct calibration training with CAM Field Team members on a periodic basis before sending teams into the field. Ensure that teams use proper terminology and apply guidelines uniformly.

    - Conduct debriefings with CAM team members (or a designated team member) and other CAM associated members of the EU at the end of shifts. Debriefings may include the following topics:
        - Work completed during the shift.
        - Signatures on the data forms document consensus.
        - Ensure that documentation and equipment for CAM teams (equipment, maps, photography equipment, gear, communications, etc.) are adequate and all set to the same recording units prior to next deployment.
        - Solicit observations from the Field Team regarding any trends in data
        - Discuss assignments for the next operational period.
        - Ensure that data is being collected and recorded appropriately.

☐ **Finalize or update the process for summarizing and communicating CAM field data and for meeting the following needs:**

- Incident Command/Unified Command Updates
    - As needed or requested by Incident Command/Unified Command (e.g., threshold exceedances warranting immediate notification)
- Liaison/Public Information Updates
    - Provide CAM data and updates to ICS Liaisons and PIO as directed by Planning Section Chief and Incident Command/Unified Command
    - Provide interpretation to facilitate presentation of results by PIO as requested
- Situation Unit updates:
    - Monitoring Locations
    - Results
- Pre-Tactics and Tactics Meeting:
    - Coordinate with the EUL, PSC, and Operations Section (OPS) to ensure that field observations are available for Tactics meeting if that information may influence where response resources are deployed.
    - The EUL and/or CAM Coordinator will coordinate with PSC and OPS during Tactics Meeting; provide key CAM information to OPS/PSC to help develop ICS 204 Work Assignment forms (e.g., monitoring locations, safety constraints, etc.).
- Planning Meeting
    - ICS 204 Work Assignments for CAM team deployments are produced.
    - The EUL typically attends; the CAM Coordinator may be asked to attend.

☐ **Ensure that assessment data from the Field Teams is flowing into the command post and disseminated appropriately.**

☐ **Begin developing CAM survey endpoints.**

- Coordinate with Incident Command/Unified Command and EUL criteria for determining an end to community hazards.
- Discuss need for continuing air monitoring for flare-ups/secondary releases.

Demobilization Phase

The Demobilization Phase begins as CAM resources begin to demobilize after airborne contaminant threats have been abated or are no longer a concern.

☐ **Ensure all expectations agreed upon initially have been met or communicated.**

☐ **Discuss CAM results with the EUL and/or Planning Section Chief and agree on a forecast plan for CAM survey endpoints.**

☐ **Establish a communication protocol with OPS that notifies the EUL when cleanup work has been completed within a given area.**

☐ **Establish endpoints for area monitoring clearance:**

- Coordinate endpoint metrics with the EUL and Incident Command/Unified Command
- Establish clear parameters and metrics for Field Teams to assess area clearance

☐ **Finalize monitoring efforts in all CAM locations based on endpoints**

☐ **Coordinate personnel and equipment demobilization through the Demobilization Unit. Prior to demobilization:**

- Track all personnel and equipment leaving site, and reporting to CAM Coordinator/CAM Field Team Leader.
- Create demobilization checklists for all personnel demobilizing from the site.
- Ensure data is retrieved and processed from all instrumentation used during CAM efforts.
- Copy or collect all logbooks and field notes taken during the response.
- Maintain contact information for personnel leaving the site.

☐ **Ensure that all of the CAM documents and data are collected and archived with the Documentation Unit.**

☐ **Identify, evaluate, and report all known gaps, delays, or interruptions of all data deliverables to strengthen future performances in the management and communication of CAM data.**

9418.7 Community Air Monitoring Plan Template

How to Use this Template

☐ *The major headings of this document are suggested for the completion of a Community Air Monitoring Plan (CAMP). A CAMP is not required to follow the formats suggested in the following sections, but should contain commensurate content and detail. CAMP templates may be customized to fill individual organization capabilities and requirements.*

☐ *Instructions, suggestions, and pre-populated information are printed in italics in the following sections. Delete and replace these instructions following completion. Rewrite suggested text to fit incident- and organization-specific needs.*

☐ *To facilitate rapid planning, many tables are prepopulated with examples or common information that may be relevant to an emergency release scenario. To finish tables, delete irrelevant examples, add further information as dictated by response scenario.*

☐ *Values presented in these tables should be verified and adjusted to meet the expectations and capabilities of response organizations, receiving analytical laboratories, and local response agencies.*

☐ *Prepare this document according to the standards and practices presented in the Emergency Response Community Air Monitoring Program Document. Reference checklist sections and attachments for supporting detail and information to create this document.*

☐ *After completion, review the template as a whole with all parties involved. Evaluate clarity and address potential gaps.*

☐ *Retain this document for continuing emergency operations. Information assembled here may be used to create additional site documents and Incident Command System (ICS) planning forms.*

TEMPLATE
EMERGENCY RESPONSE
COMMUNITY AIR MONITORING
PLAN

(Insert Incident Name)

This incident-specific monitoring and sampling plan is approved by:

TITLE	Date
TITLE	Date
TITLE	Date

cc:

1.0 Introduction and Purpose

This emergency response Community Air Monitoring Plan (CAMP) is intended to be used during oil spills, pollutant, or chemical releases where monitoring and/or sampling of atmospheric conditions to protect nearby communities and the public may be required. This plan is designed to consider oil or other hazardous substances that are both burning and not burning.

Data gathered during the implementation of this plan will be used to assess the potential for community exposures. All fieldwork and data collection will be conducted in accordance with approved work plans and standard operating procedures (SOPs).

The use of this monitoring plan will involve forethought and planning that should help direct the monitoring, sampling, and analytical work. It is meant to be used in emergency responses where monitoring and sampling teams (hereafter referred to as Field Teams) may not have the opportunity to write a more thorough monitoring and sampling plan.

Field Teams should always reference standard quality procedures, SOPs, and standard methods for sampling and analytical guidance.

The development of this plan will improve the documentation, communication, planning, and overall quality associated with the monitoring/sampling and analysis by:

- Encouraging Field Teams to consider their goals and objectives before the generation of environmental data,
- Documenting predetermined information in a standardized format,
- Increasing the communication between sampling personnel and decision makers, and
- Detailing expectations and objectives before samples are collected.

1.1 Objectives

The brief statement about community air monitoring (CAM) Objectives is a short narrative about what Field Teams should accomplish. These objectives should be based on Incident Commander/Unified Command (Incident Command/Unified Command) objectives.

Example objectives of the CAM program may include:

- ☐ *Characterize contaminants and/or determine contamination levels within the exclusion zone.*
- ☐ *Determine the extent and concentrations of contaminants outside of the exclusion zone.*
- ☐ *Determine if the exclusion zone is appropriately defined.*

Example data quality objectives:
Data that are generated will be used:

- ☐ *To compare with site-specific action levels or risk-based action levels to determine if any acute health threat exists.*
- ☐ *To compare to an established background level or with collected background sample(s).*
- ☐ *To assist with determining the area of impact due to a hazardous material release.*
- ☐ *To assist with an off-site acute exposure assessment.*

2.0 Contaminants of Concern and Community Action Levels

Provide an overview of the contaminants and action levels. List compounds in narrative or tabular format that may pose a threat to health and the environment relevant to incident release. This section should strive to be exhaustive and include contaminants that may not be detected by Health and Safety air monitoring equipment. Divide vapor phase and particulate airborne contaminants into separate sections.

For contaminants without established action levels, complex mixtures, or unknown constituents and composition, provide a narrative description and working action level with justification. Example contaminant narratives follow:

Bakken Crude Oil
Contaminants of concern include Bakken crude oil as well as breakdown byproducts. Bakken Crude Oil commonly contains a high fraction of volatile light hydrocarbons, including benzene, toluene, ethylbenzene, and xylenes. Because no real-time monitoring instrument can specifically detect crude oil vapors, total volatile organic compounds will be used as monitoring criteria. Because no Protective Action Criteria (PACs) levels exist for crude oil vapors, 10% of the PAC value for gasoline will be used as the volatile organic compound (VOC) Action Level. Additional monitoring for explosive atmospheres and oxygen levels will also take place. Chemical-specific monitoring may also take place as necessary (e.g., benzene, carbon monoxide, etc.).

Burning crude oil may release dangerous levels of volatile and semi-volatile organic compounds, carbon monoxide, hydrogen sulfide, sulfur dioxide, and particulate matter. Community action levels for Carbon monoxide, hydrogen sulfide, sulfur dioxide are listed Table 2.1.

Alaska North Slope Crude Oil
Contaminants of concern include Alaska North Slope (ANS) crude oil as well as breakdown byproducts. Because no real-time monitoring instrument can specifically detect crude oil vapors, total volatile organic compounds will be used as monitoring criteria. Because no PACs levels exist for crude oil vapors, 10% of the PAC value for gasoline will be used as the VOC Action Level. Additional monitoring for explosive atmospheres and oxygen levels will also take place.

Chemical specific monitoring may also take place as necessary (e.g., benzene, carbon monoxide, etc.).

Burning crude oil may releases dangerous levels of volatile and semi-volatile organic compounds, carbon monoxide, hydrogen sulfide, sulfur dioxide, and particulate matter. Community action levels for Carbon monoxide, hydrogen sulfide, sulfur dioxide are listed Table 2.1.

2.1 Volatile Compounds

Compile a list of potential vapor hazards associated with a release scenario. Include chemicals that may not be detectable with on hand instrumentation but may pose a public health hazard. List site community action levels with contaminants and cite source or provide justification.

When compound specific detection is unavailable, 20 parts per million of total volatile organic compounds detected by photoionization detector/flame ionization detector or similar may be used as a surrogate action level

Tables 2.1 and 2.2 list volatile crude oil constituents and commonly transported volatile compounds likely to be encountered in a release scenario.

Table 2.1: Community Exposure Guidelines for Crude Oil Chemical Constituent Release Emergencies*

Chemical	CASRN	PAC-1	PAC-2	PAC-3
Benzene	71-43-2	52 ppm_A	800 ppm_A	4,000 $ppm_{A,X}$
Carbon Monoxide	630-08-0	75 ppm	83 ppm_A	330 ppm_A
Ethylbenzene	100-41-4	33 ppm_A	1,100 $ppm_{A,X}$	1,800 $ppm_{A,X}$
Hexane	110-54-3	260 ppm	2,900 ppm_X	8,600 $ppm_{A,XX}$
Hydrogen Sulfide	7783-06-4	0.51 ppm_A	27 ppm_A	50 ppm_A
Naphthalene	91-20-3	15 ppm	83 ppm	500 ppm
Nitrogen Dioxide	10102-44-0	0.5 ppm_A	12 ppm_A	20 ppm_A
Nitric Oxide	10102-43-9	0.5 ppm_A	12 ppm_A	20 ppm_A
Sulfur Dioxide	7446-09-5	0.2 ppm_A	0.75 ppm_A	30 ppm_A
Toluene	108-88-3	67 ppm_A	560 $ppm_{A,X}$	3,700 $ppm_{A,X}$
Xylene	1330-20-7	130 ppm_A	920 $ppm_{A,X}$	2,500 $ppm_{A,X}$

* DOE SCAPA, 2012
PAC values marked with a subscript "A" correspond to 60-minute AEGL values.
PAC values marked with a subscript "E" correspond to ERPG values.
PAC values marked by x are ≥ 10% lower explosive limit (LEL) but < 50% LEL.
PAC values marked by xx are ≥50% LEL
PAC values marked by xxx are ≥100% LEL

Table 2.2 Community Exposure Guidelines for Commonly Transported Hazardous Material Release Emergencies

Chemical	CASRN	PAC-1	PAC-2	PAC-3
Ammonia	7664-41-7	30 ppm_A	160 ppm_A	1,100 ppm_A
Hydrochloric Acid	7647-01-0	1.8 ppm_A	11 ppm_A	100 ppm_A
Chlorine	7772-60-5	0.05 ppm_A	2.0 ppm_A	20 ppm_A
Propane	74-98-6	5,500 ppm_X	17,000 ppm_{XX}	33,000 ppm_{XXX}
Sulfuric Acid	766-93-9	0.20 $mg/m^3{}_A$	8.7 $mg/m^3{}_A$	160 $mg/m^3{}_A$
Styrene	100-42-5	20 ppm_A	130 ppm_A	1,100 ppm_X
Toluene	108-88-3	67 ppm_A	560 ppm_A	3,700 ppm_X
Carbon Disulfide	75-15-0	13 ppm_A	160 ppm_A	480 ppm_A
Formaldehyde	50-00-0	0.90 ppm_A	14 ppm_A	56 ppm_A
Nitrogen Dioxide	10102-44-0	0.50 ppm_A	12 ppm_A	20 ppm_A

PAC values marked with a subscript "A" correspond to 60-minute AEGL values.
PAC values marked with a subscript "E" correspond to ERPG values.
PAC values marked by x are ≥ 10% lower explosive limit (LEL) but < 50% LEL.
PAC values marked by xx are ≥50% LEL
PAC values marked by xxx are ≥100%

2.2 Particulate Matter

Table 2.3 lists the threshold levels for different concentrations and the recommended actions that should be taken to prevent harm to community members. If only particulate matter up to 10 microns in diameter (PM 10) measurements are available during smoky conditions, it can be assumed that the PM 10 is composed primarily of fine particles (particulate matter up to 2.5 microns in diameter [PM 2.5]), and therefore the United State Environmental Protection Agency Air Quality Index and associated cautionary statement and advisories for PM 2.5 may be used.

Table 2.3: Threshold Levels and Recommended Response Actions for PM 2.5 and PM 10

PM 2.5 and PM 10 Threshold[1] Levels (µg/m^3) 24 Hr. Avg. [2]	Level of Health Concern and AQI Range	Meaning[3]	Action(s)[4]
0.0–12.0	Good (0–50)	Air quality is considered satisfactory, and air pollution poses little or no risk.	▪ If smoke event anticipated, implement communication plan.
12.1–35.4	Moderate (51–100)	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people. For example, people who are unusually sensitive[5] to ozone may experience respiratory symptoms.	▪ Prepare for full implementation of School Activity Guidelines (https://www3.epa.gov/airnow/flag/school-chart-2014.pdf) ▪ Issue public service announcements (PSAs) advising public about health effects, symptoms and ways to reduce exposure ▪ Distribute information about exposure avoidance
35.5–55.4	Unhealthy for Sensitive Groups (101–150)	Although the public is not likely to be affected at this level, people with lung disease, and older adults and children are at a greater risk from exposure to ozone, whereas persons with heart and lung disease, and older adults and children are at greater risk from the presence of particles in the air.	▪ Evaluate implementation of School Activity Guidelines ▪ If smoke event projected to be prolonged, evaluate and notify possible sites for cleaner air shelters ▪ If smoke event projected to be prolonged, prepare evacuation plans
55.5–150.4	Unhealthy (151–200)	Everyone may begin to experience some adverse health effects, and members of the sensitive groups[6] may experience effects that are more serious.	▪ Full implementation of School Activity Guidelines ▪ Consider canceling outdoor events (e.g., concerts and competitive sports), based on public health and travel considerations
150.5–250.4	Very Unhealthy (201–301)	This would trigger a health alert signifying that everyone may experience more serious health effects.	▪ Schools move all activities indoors or reschedule them to another day. ▪ Consider closing some or all schools ▪ Cancel outdoor events involving activity (e.g., competitive sports) ▪ Consider cancelling outdoor events that do not involve activity (e.g., concerts)
> 250.5	Hazardous (> 300)	This would trigger a health warning of emergency conditions. The entire population is more likely to be affected.	▪ Consider closing schools ▪ Cancel outdoor events (e.g., concerts and competitive sports) ▪ Consider closing workplaces not essential to public health ▪ If particulate matter level is projected to remain high for a prolonged time, consider evacuation of at-risk populations

Table 2.3: Threshold Levels and Recommended Response Actions for PM 2.5 and PM 10

[1] Threshold values taken from EPA AQI online calculator found at http://airnow.gov/index.cfm?action=resources.aqi_conc_calc.
[2] 24 Hour PM 2.5 "breakpoints" verified via Federal Register for National Ambient Air Quality Standards (NAAQS) rulemaking, https://www.gpo.gov/fdsys/pkg/FR-2013-01-15/pdf/2012-30946.pdf.
[3] As defined by https://www.airnow.gov/index.cfm?action=aqibasics.aqi.
[4]Recommendations from Wildfire Smoke: A Guide for Public Health Officials at https://www3.epa.gov/airnow/wildfire_may2016.pdf.
[5] People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
[6] Sensitive groups are defined as people with lung disease, and older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, and older adults and children who are at greater risk from the presence of particles in the air. http://www.airnow.gov/index.cfm?action=aqibasics.aqi.

3.0 Real-Time Monitoring

3.1 Contaminants of Concern

Outline the procedures, practices, and logistics necessary to collect, interpret, and act on real-time air monitoring information. Match contaminants of concern with available instrumentation and direct read resources along with respective detection limits. Contaminants may be listed in tabular format. Less common contaminants without reference action levels or detection methods should be listed in narrative format, with actions and conclusions justified.

Table 3.1: Real-Time Air Community Air Monitoring Plan

Analyte	Action Level	Action Level Basis	Field Action	Instrument	Detection Limit	Notes
VOCs	20 ppm			MultiRAE Pro	0.1 ppm	
				MultiRAE Plus	1 ppm	
				AreaRAE	0.1 ppm	
				UltraRAE 3000	0.05 ppm	
				ppbRAE	1 ppb	
				MiniRAE 3000	0.1 ppm	
				TVA 1000b	PID: 0.5 ppm, FID: 1 ppm	
				(Other Instruments)		
Oxygen	<19.5 %, >22.0%			MultiRAE Pro	0.1% Volume	
				MultiRAE Plus	0.1% Volume	
				AreaRAE	0.1% Volume	
				(Other Instruments)		
LEL	10 % LEL			MultiRAE Pro	1%	
				MultiRAE Plus	1%	
				AreaRAE	1%	
				(Other Instruments)		
Carbon Monoxide	12.5 ppm			MultiRAE Pro	0.1 ppm	
				AreaRAE	1 ppm	
				(Other Instruments)		
Chlorine				MultiRAE Pro	0.1 ppm	
				MultiRAE Plus	0.1 ppm	
				ToxiRAE	0.1 ppm	
				(Other Instruments)		

Table 3.1: Real-Time Air Community Air Monitoring Plan

Analyte	Action Level	Action Level Basis	Field Action	Instrument	Detection Limit	Notes
Ammonia				MultiRAE Pro	1 ppm	
				MultiRAE Plus	1 ppm	
				(Other Instruments)		
Hydrogen Cyanide				MultiRAE Pro	0.5 ppm	
				MultiRAE Plus	1.0 ppm	
				(Other Instruments)		
Hydrogen Sulfide				MultiRAE Pro	0.1 ppm	
				AreaRAE	1 ppm	
				(Other Instruments)		
Phosphine				MultiRAE Pro	0.1 ppm	
				(Other Instruments)		
Butadiene				UltraRAE 3000	0.05 ppm	
				(Other Instruments)		
Benzene				UltraRAE 3000	0.05 ppm	
				(Other Instruments)		
Particulates, PM 2.5				TSI AM510	0.001 mg/m^3	
				DustTrak	0.001 mg/m^3	
				DataRam 4000	0.0001 mg/m^3	
				(Other Instruments)		
Particulates, PM 10				TSI AM510	0.001 mg/m^3	
				DustTrak	0.001 mg/m^3	
				DataRam 4000	0.0001 mg/m^3	
				(Other Instruments)		
(Analytes as needed)	(Action levels, as available)	(Rational and Source of Action Level)	(Field action and reporting when level exceed)	(Instrumentation or method of detection)	(Limit of detection)	

3.2 Monitoring Locations

Develop strategies and approaches for where real-time monitoring will occur. Where applicable, allocate resources between roving and fixed air monitoring stations. A reference map may be helpful to delineate roving team areas of responsibility and fixed monitoring locations.

3.2.1 Roving

Designate geographic areas for CAM Field Teams to assess. Prioritize areas of public exposure and sensitive populations. Consider wind direction and available plume models to gauge the extent of possible release.

Establish consistent data acquisition practices and communicate procedures to Field Teams. Include instrument operation and data recording.

Consider instrumentation, logistics, and transportation resources as well as personnel composition for each team.

Establish data reporting practices, criteria, and frequency for Field Teams. ***If an exceedance occurs, CAM personnel should ensure that Unified Command is notified immediately through the CAM Coordinator and Environmental Unit Leader.***

3.2.2 Fixed Air Monitoring Stations

Designate initial locations for fixed air monitoring stations; establish a systematic naming convention and record addresses and/or lat/long for each station.

Example: FS01, Fixed Station 01

Consider plume models and sensitive populations in air station placement. Plan data reporting practices and/or telemetry monitoring. Designate procedures for responding to action level exceedances. These locations may differ from sampling locations (Section 4.2); if so, note the difference.

Table 3.2: Fixed Air Monitoring Station Locations

Air Monitoring Station Name	Location		Detectable Contaminants	Equipment
	Address	Lat./Long		

4.0 Analytical Air Sampling

4.1 Contaminants of Concern

List all target analytes, reference methods, and air sampling media in tabular format. Table 4.1 presents example laboratory methods and method compliant sample media. Entries to this table may be substituted for equivalent methods and

requisite media. Further analytes and methods may be added to this table as needed.

Table 4.1: Suggested Air Sampling Methods and Media for Hazardous Substance Releases

Analyte	Method	Media Type	Sample Media Product Number
Ammonia	NIOSH 6015	Sorbent Tube	
Asbestos	NIOSH 7402 TEM NIOSH 7400 PCM	Cassette	
BTEX/VOCs	NIOSH 1501 EPA TO-15	Sorbent Tube SUMMA Canister or Tedlar Bag	
Chlorine/Bromine	NIOSH 6011	Sorbent Tube	
Fire Vapors	EPA TO-15	SUMMA Canister or Tedlar Bag	
Mercury	NIOSH 6009	Sorbent Tube	
Metals	NIOSH 7300	Cassette	
PAHs	NIOSH 5506	Sorbent Tube with Pre Filter	
Particulates	NIOSH 0500 or 0600	Cassette	
SVOCs	NIOSH 5506	Sorbent Tube	
(Other Analytes as Available)	(Laboratory Methods)	(Method Compliant Media Type)	(Manufacturer's Product Number)

4.2 Sampling Locations

Establish a systematic naming convention for air sampling locations and record addresses and/or lat/long for each station. An effective naming convention will allow more sample locations to be added throughout a response. These locations may differ from monitoring locations (Section 3.2.2); if so, note the difference.

Example: AS01, Air Sample 01

Indicate the Sampling Location Name and describe the rationale for the each sample location chosen. Select locations that provide adequate upwind and downwind plume characterization and assess air quality for vulnerable populations. Determine how air sampling for vulnerable populations will be prioritized.

Include an aerial map or sketch with labeled sample locations.

Table 4.2: Air Sampling Station Locations

Sampling Station Name	Location		Target Analyte	Equipment
	Address	Lat./Long		

5.0 Data Management

5.1 Data Quality Objectives

A well-constructed Data Quality Objective (DQO) consists of the following:

- *Activity;*
- *Criteria for making a decision (Action Level); and*
- *What your action is going to be after you make the decision.*

An initial DQO for CAM may be:

- *Air Monitoring will be performed using roving teams. If a reading exceeds the established action levels, the exceedance will be communicated immediately to Unified Command/Incident Command. If no exceedances are found, monitoring will continue.*

5.2 Data Management Plan

Arrange processes into tabular format (see Table 5.1) to ensure consistent data management. Each column represents the practices necessary for retrieving, storing, and processing raw data into usable formats; rows should represent a single data source. Where necessary, specify data management and processing procedures in narrative format.

Table 5.1: Data Sources and Data Management

Data Source	Required Information	Processing Instructions	Processing Frequency	Processing Responsibility	Storage Location [digital storage location and/or physical copy]	Final Output [file format]
Site Documents	*Site Files, Health and Safety Plan, CAMP*	*File hard copies and electronic copies in indicated storage location*	*Beginning of project, and as needed*	*CAM Coordinator*	***Digital:*** ***Hard Copy:***	*.doc, .pdf and other formats*
Camera	*Date, time, direction, photographer, description*			*Data Manager*		
Sample Information	*Sample No., Date, Time, Sampler, Location*			*Sample Coordinator*		
Real Time Monitoring Data	*Background Concentrations Instrument Data with time and location*	*(Instrument and equipment specific including needed software)*		*Data Manager*		
(Other Data Sources as Required)						

5.3 Data Reporting

List deliverables from data collected in CAM operations in Table 5.2. Required deliverables should be coordinated with Environmental Unit Leader and Incident Command/Unified Command.

Table 5.2 Data Reporting Requirements and Deliverables

Reporting Task	Deliverables			
	Data Inputs	Format	Frequency	Responsibility
Community Air Monitoring Reports	*Real-time air monitoring results w/ locations. Air Sampling analytical results,*	*Tabular, .xls*	*Daily*	*Data Manager*
Situational Reports	*Photos, Field reports, Air Monitoring Results*	*Document*	*Daily*	*Data Manager*
(Other Deliverables as Needed)				

5.4 Quality Assurance and Quality Control

Write in narrative format the steps and considerations to establish robust quality assurance for incoming and published data. As appropriate, identify predetermined standards for data verification, analysis, and reporting.

Quality assurance and quality control (QA/QC) may be organized into functional activities as follows with suggested QA/QC Procedures. Adjust this format and suggested content to fit site-specific needs.

Real-Time Monitoring

- Real-time instruments may be calibrated in excess of the manufacturer's recommendations.
  - At a minimum, calibrate whenever indicated by site conditions or instrument readings.
- Daily instrument checks to verify operations, memory capacity, and data logging functions.
- Co-located sampling for analytical analysis may be conducted, if necessary, to assess accuracy and precision in the field.
- Field Team meetings will be held daily to ensure quality data is correctly collected and applicable.

Sampling and Analytical Results

- Chain–of-custody documents may be completed for each sample.
- Level IV data validation may be performed on the first sample group analyzed.
- Level IV data validation may be performed on 10% of all samples.

Data Reporting and Deliverables

- Daily Data Summaries may be provided for informational purposes using data that have not undergone complete QA/QC.
- Comprehensive reports of real-time and/or analytical data may be generated following QA/QC and may be delivered 60 days following receipt of validated results, if applicable.

6.0 Project Organization and Responsibilities

Designate personnel to fill CAM Roles and Responsibilities within Organizational structure. Use Table 9418-1: Air Monitoring Resource Tiers in the CAM program to determine the appropriate level of initial response and ongoing resources. Adjust the sample ICS organizational chart accordingly.

6.1 Assigned Roles and Responsibilities

CAM Coordinator

Name:	Click here to enter text	**Primary Contact Phone:**	Click here to enter text
Organization:	Click here to enter text	**Secondary Contact:**	Click here to enter text

Data Manager

Name:	Click here to enter text	**Primary Contact Phone:**	Click here to enter text
Organization:	Click here to enter text	**Secondary Contact:**	Click here to enter text

CAM Field Team Leader

Name:	Click here to enter text	**Primary Contact Phone:**	Click here to enter text
Organization:	Click here to enter text	**Secondary Contact:**	Click here to enter text

Field Team 1 Contact

Name:	Click here to enter text	**Primary Contact Phone:**	Click here to enter text
Organization:	Click here to enter text	**Secondary Contact:**	Click here to enter text

Additional Personnel and Positions as Needed

Name:	Click here to enter text	**Primary Contact Phone:**	Click here to enter text
Organization:	Click here to enter text	**Secondary Contact:**	Click here to enter text

7.0 Community Air Monitoring Plan Attachments

The following attachment list may be populated with organization-specific documents. Where applicable, appropriate procedures, practices, and information may be described here.

A. Documentation

A.1 Field Logbooks
A.2 Sample Labels
A.3 Custody Seals and Chain-of-Custody Record

B. Standard Operation Procedures and Instrument Calibration

B.1 Modification or Additions to Applicable Standard Operating Procedures
B.2 Calibration and Maintenance of Monitoring Instruments

C. Packaging and Shipping

D. References

9210.8 Response Tool Attachments

A. Equipment Considerations
B. Contaminants of Concern and Recommended Action Levels
C. Community Air Monitoring Field Team Checklist
D. Community Air Monitoring Data Management Checklist
E. Laboratory Analysis

Attachment A: Equipment Considerations

Broadly speaking, responders should use air monitoring equipment that meets the following performance criteria:

- Rugged and portable: The monitor should be suitable for fieldwork, withstand shock, and be easily transportable in a vehicle, small boat, or helicopter.
- Suitability: The instrument should be suitable for the media measured, i.e., smoke particulates, VOCs, etc. and be within the calibration timeframe established by the manufacturer or operating organization.
- Operating duration: Eight hours or more.
- Readout: The instrument should provide real-time, continuous readings, as well as time-weighted average readings where necessary.
- Data logging: The instrument should provide data logging for eight hours or more.
- Reliability: The instrument should be based on tried-and-true technology and operate as specified.
- Sensitivity: The instrument should have a detection limit below the applicable exposure criteria.
- Data download: The instrument should be compatible with readily available computer technology, and provide software for downloading data.

Other qualities of air monitoring equipment may include the capability to broadcast data over a cellular or radio network (telemetry) or the capability to determine time-weighted averages over a specified period.

During an emergency, real-time air monitoring results are essential for rapid decision making. These results are generated from hand-held instrumentation that produce near-instantaneous measurements of a substance in real-time. The term real-time denotes that the instrument is able to generate immediate readings about the present level of hazardous contaminants in the air. Because these readings pertain to current conditions, results do not represent levels of contamination throughout longer periods and cannot represent contamination exposure to receptors including residences and workers over time.

Direct read instruments are designed to alert operators when early signs of contaminant concentrations are present in the local atmosphere. These instruments typically utilize specialized sensors to detect contaminant concentrations down to one part contaminant per billion parts of air. These sensors are specific to contaminant qualitative characteristics rather than identifying each contaminant and cannot narrow down if more than one contaminant is present. Sensors are installed in direct read air monitoring units to detect for unsafe atmospheric conditions. These sensors are specific for flammable or explosive atmospheres,

oxygen deficiencies, specific gases and vapors, and ionizing radiation. From real-time readings, responders can determine if additional contaminant specific instrumentation is needed and further develop a site-specific air monitoring plan, which may involve air sampling plan for specific analyses.

While direct read instruments are highly valuable in time sensitive decision making, there are limitations in the array of their detection of hazards. For most sensors, detection limits are set to detect and/or measure no lower than 1 parts per million (ppm) and are specific to measuring only specific chemical characteristics. Alternatively, some instruments are designed for targeted sampling for only one detectable substance, which commonly do not have a correction factor for chemical interferences, which may result in false positives.

Air monitoring instruments are designed to be easy to operate but do require necessary calibrations and a qualified user whom is familiar with operational guidelines and limitations for using the instrument in the field. Calibration methods vary but in many cases require additional equipment such as an array of calibration gasses with regulators. Calibration requires following a method with a corresponding order of operations that are specific to each sensor. Likewise is true for the data interpretation and validation of the results the instrument produces, it is necessary to have trained personnel who are knowledgeable of the instrument's operating principles and limitations. Instruments should be calibrated on a schedule designed to meet the requirements for both the instrument manufacturer's instructions and operating organization's standard operating procedures (SOPs). If the instrument is calibrated, a bump test or calibration test can be performed in the field to ensure the unit is holding its calibration. Remember that instrument readings have value for health and safety decisions but limited value when contaminants are unknown. Additionally, when results read "0 ppm," a contaminant may still be present but below the instrument detection level.

Some air monitors can be equipped with telemetry systems capable of transmitting real-time readings to be displayed remotely back at the incident command post and/or stored in an off-site repository (e.g., server or cloud network). This is advantageous for many reasons, but most especially in allowing more than one user to view results instantaneously. Several different types of real-time transmission systems are available for specific types of air monitoring instrumentation. Limitations include instrument specific hardware needed for real-time transmission and possible signal variability and interference.

Attachment B: Contaminants of Concern and Recommended Action Levels

Note: With the exception of PM 10 and PM 2.5 standards for In-Situ Burn situations, none of the action levels below have been officially approved nor endorsed by the Northwest Area Committee (NWAC)/Region 10 Regional Response Team (RRT 10).

Following chemical or oil release emergencies, questions often arise regarding potential community airborne exposures. Air monitoring can be performed to evaluate whether airborne particulate matter (smoke) and/or gaseous vapor chemicals are present at levels that could potentially affect human health. Health-protective action levels are generally employed as part of a CAMP to provide information for corrective action to limit chemical exposure, and the same approaches are applicable to crude oil releases involving fire and without fire.

Chemical Constituent Recommendations Regarding Community Action Levels

The United States Department of Energy SCAPA has established PACs for over 3,300 chemicals for planning and response to emergency chemical releases. These criteria, combined with estimates of exposure, provide the information necessary to evaluate emergency releases for taking appropriate community protective actions. During an emergency response, these criteria may be used to evaluate the severity of the event and to inform decisions regarding what protective actions should be taken.

PAC values are based on the following exposure limit values:

1. AEGL values published by the EPA,
2. ERPG values produced by the AIHA, and
3. TEEL values developed by SCAPA.

For any particular chemical, the following hierarchy is used to establish its PAC:

- Use AEGLs (including final or interim values) if they are available;
- If AEGLs are not available, use ERPGs; or
- If neither AEGLs nor ERPGs are available, use TEELs.

AEGLs, ERPGs, and TEELs have three common benchmark values for each chemical. Each successive benchmark is associated with an increased severity of potential effect(s) associated with exposure to the specified level.

The three benchmarks present estimated threshold levels for:

PAC I: Mild, transient health effects.

- **AEGL-1:** The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic non-sensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure (NRC 2001).
- **ERPG-1:** The maximum concentration in air below which it is believed nearly all individuals could be exposed for up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor (AIHA 2014).
- **TEEL-1**: The airborne concentration (expressed as ppm or milligrams per cubic meter [mg/m^3]) of a substance above which it is predicted that the general population, including susceptible individuals, when exposed for more than one hour, could experience notable discomfort, irritation, or certain asymptomatic, nonsensory effects. However, these effects are not disabling and are transient and reversible upon cessation of exposure (DOE 2017)

PAC II: Irreversible or other serious health effects that could impair the ability to take protective action.

- **AEGL-2:** The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape (NRC 2001).
- **ERPG-2:** The maximum concentration in air below which it is believed nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms that could impair an individual's ability to take protective action (AIHA 2014).
- **TEEL-2:** The airborne concentration (expressed as ppm or mg/m^3) of a substance above which it is predicted that the general population, including susceptible individuals, when exposed for more than one hour, could experience irreversible or other serious, long-lasting, adverse health effects or an impaired ability to escape (DOE 2017)

PAC III: Life-threatening health effects.

- **AEGL-3:** The airborne concentration of a substance above which it is predicted that the general population, including susceptible individuals, could experience life-threatening health effects or death (NRC 2001).
- **ERPG-3:** The maximum concentration in air below which it is believed nearly all individuals could be exposed for up to one hour without experiencing or developing life-threatening health effects (AIHA 2014).

- **TEEL-3:** The airborne concentration (expressed as ppm or mg/m^3) of a substance above which it is predicted that the general population, including susceptible individuals, when exposed for more than one hour, could experience life-threatening adverse health effects or death (DOE 2017).

Table B-1 below provides the PACs for a number of potential crude oil-associated airborne chemical constituents. RRT 10 recommends that the Federal On-Scene Coordinator/Unified Command conduct monitoring for applicable chemical-specific air contaminants such as benzene carbon monoxide, nitrogen dioxide, and sulfur dioxide as conditions and available response equipment allow.

Table B-1: Action Levels for Crude Oil Chemical Constituent Releases*

Chemical	CASRN	PAC-1	PAC-2	PAC-3
Benzene	71-43-2	52 ppm_A	800 ppm_A	4,000 $ppm_{A,X}$
Carbon Monoxide	630-08-0	75 ppm	83 ppm_A	330 ppm_A
Ethylbenzene	100-41-4	33 ppm_A	1,100 $ppm_{A,X}$	1,800 $ppm_{A,X}$
Hexane	110-54-3	260 ppm	2,900 ppm_X	8,600 $ppm_{A,XX}$
Hydrogen Sulfide	7783-06-4	0.51 ppm_A	27 ppm_A	50 ppm_A
Naphthalene	91-20-3	15 ppm	83 ppm	500 ppm
Nitrogen Dioxide	10102-44-0	0.5 ppm_A	12 ppm_A	20 ppm_A
Nitric Oxide	10102-43-9	0.5 ppm_A	12 ppm_A	20 ppm_A
Sulfur Dioxide	7446-09-5	0.2 ppm_A	0.75 ppm_A	30 ppm_A
Toluene	108-88-3	67 ppm_A	560 $ppm_{A,X}$	3,700 $ppm_{A,X}$
Xylene	1330-20-7	130 ppm_A	920 $ppm_{A,X}$	2,500 $ppm_{A,X}$

* DOE SCAPA 2012
PAC values marked with a subscript "A" correspond to 60-minute AEGL values.
PAC values marked with a subscript "E" correspond to ERPG values.
PAC values marked by x are ≥ 10% lower explosive limit (LEL) but < 50% LEL.
PAC values marked by xx are ≥50% LEL
PAC values marked by xxx are ≥100% LEL

Table B-2 below provides the PACs for hazardous materials that are commonly transported or utilized by industry and, as such, may be subjected to releases that are more frequent.

Table B-2: Community Exposure Guidelines for Commonly Transported Hazardous Material Release Emergencies

Chemical	CASRN	PAC-1	PAC-2	PAC-3
Ammonia	7664-41-7	30 ppm_A	160 ppm_A	1,100 ppm_A
Hydrochloric Acid	7647-01-0	1.8 ppm_A	11 ppm_A	100 ppm_A
Chlorine	7772-60-5	0.05 ppm_A	2.0 ppm_A	20 ppm_A
Propane	74-98-6	5,500 ppm_X	17,000 ppm_{XX}	33,000 ppm_{XXX}
Sulfuric Acid	766-93-9	0.20 $mg/m^3{}_A$	8.7 $mg/m^3{}_A$	160 $mg/m^3{}_A$
Styrene	100-42-5	20 ppm_A	130 ppm_A	1,100 ppm_X
Toluene	108-88-3	67 ppm_A	560 ppm_A	3,700 ppm_X
Carbon Disulfide	75-15-0	13 ppm_A	160 ppm_A	480 ppm_A
Formaldehyde	50-00-0	0.90 ppm_A	14 ppm_A	56 ppm_A
Nitrogen Dioxide	10102-44-0	0.50 ppm_A	12 ppm_A	20 ppm_A

PAC values marked with a subscript "A" correspond to 60-minute AEGL values.
PAC values marked with a subscript "E" correspond to ERPG values.
PAC values marked by x are ≥ 10% lower explosive limit (LEL) but < 50% LEL.
PAC values marked by xx are ≥50% LEL
PAC values marked by xxx are ≥100%

Longer duration exposures to ongoing, low level airborne emissions of chemicals may also be a potential health concern for sensitive community receptors, such as children, the elderly, or individuals with a compromised immune system. Analytical air sampling[1] can be performed to evaluate whether airborne chemicals are present at levels that could potentially affect human health. Chemical-specific screening levels can be utilized as part of a health-protective screening process to identify air samples or sampling areas that may warrant further evaluation.

The Agency for Toxic Substances & Disease Registry have derived Minimal Risk Levels (MRLs) as an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse non-cancer health effects over a specified duration of exposure (ATSDR 2015). These chemical-specific estimates, which are intended to serve as screening levels, are derived for acute (1-14 days), intermediate (>14-364 days), and chronic (365 days and longer) inhalation exposure durations. It should be noted that exposure to a level above the MRL does not mean that adverse health effects will occur; however, analytical results above an MRL could warrant additional investigation.

Table B-3 provides the MRLs for a number of potential refinery-associated airborne chemical constituents.

[1] Analytical air sampling refers to the collection of discrete quantities of air using containers or chemical specific media for further analysis by an off-site laboratory. Laboratory analysis of analytical air samples provides chemical-specific results at lower chemical detection limits than real-time air monitoring instrumentation albeit a delay is required to receive the results of analytical air samples.

Table B-3: Inhalation Minimal Risk Levels for Select Potential Crude Oil-Associated Airborne Chemical Constituents*

Chemical	CASRN	Acute MRL	Intermediate MRL	Chronic MRL
Benzene	71-43-2	0.009 ppm	0.006 ppm	0.003 ppm
Ethylbenzene	100-41-4	5 ppm	2 ppm	0.06 ppm
Hexane	110-54-3	--	--	0.6 ppm
Hydrogen Sulfide	7783-06-4	0.07 ppm	0.02 ppm	--
Naphthalene	91-20-3	--	--	0.0007 ppm
Sulfur Dioxide	7446-09-5	0.01 ppm	--	--
Toluene	108-88-3	2 ppm	--	1 ppm
Xylene	1330-20-7	2 ppm	0.6 ppm	0.05 ppm

* ATSDR 2015
"--" = MRL has not been established for this exposure duration

Particulate Matter Recommendations Regarding Community Action Levels for Incidents Involving Crude Oil Fires

The NWAC/Regional Response Team (RRT) has adopted a modified version of the Special Monitoring of Applied Response Technologies (SMART) protocols that incorporates both PM 10 and PM 2.5 monitoring during controlled in-situ burning situations. The modified SMART protocols can be found in Section 9407 of the NWACP. However, there are currently no PAC or other guidelines for the impacts of fire smoke particulate matter for communities affected by crude oil spills involving uncontrolled fires.

While the NWAC/RRT modified SMART protocols may be used for CAM during uncontrolled burns, responders can also consider utilizing values published jointly by the EPA, United States Forest Service, Centers for Disease Control, and the California Air Resources in Wildfire Smoke: A Guide for Public Health Officials (hereafter referred to as the Wildfire Smoke Guidelines). Fire smoke originating from a crude oil fire is very similar in composition and characteristics to smoke from other types of fires (i.e., wildland fires, chemical plant fires, volcanic activity). As such, the Wildfire Smoke Guidelines may be adapted to advise decision makers on the safety of communities, including sensitive subgroups, whose air quality is affected by a crude oil fire (or other fire types).

The following section provides guidance for the identification of community action levels for fire smoke particulate matter that may affect communities during crude oil fires. The combustion of petroleum, which occurs after an accidental release, is generally a short-lived event (i.e., lasting hours to a few days) and associated air quality impacts would be transient in nature.

The action levels in the Wildfire Smoke Guidelines are based on the NAAQS values for particulate matter of particle sizes <2.5 and <10 micrometers (PM 2.5

and PM 10) and thus are based on a 24 hour average. In addition to providing particulate matter levels as $\mu g/m^3$, the relative hazards are also expressed in terms of the EPA Air Quality Index (AQI), which is a nationally uniform index used for reporting and forecasting daily air quality. The AQI informs the public how clean or polluted the air is using a standardized vocabulary (i.e., Good, Moderate, Unhealthy, etc.,) and an easy-to-understand normalized numerical scale of 0 to 500.

Equally as important as providing a numerical action level value, the Wildfire Smoke Guidelines also list actions that would be appropriate based on varying severities of air quality impacts. Most actions involve public notifications, limitation of outdoor activities, and shelter-in-place recommendations. Of note, evacuation or relocation of sensitive subpopulations is only recommended in instances where severe air quality impacts from particulate matter are sustained for more than a few hours. As stated in the Wildfire Smoke Guidelines: "Leaving an area of thick smoke may be a good protective measure for members of sensitive groups, but it is often difficult to predict the duration, intensity, and direction of smoke, making this an unattractive option to many people. Even if smoky conditions are expected to continue for weeks, it may not be feasible to evacuate a large percentage of the affected population. Moreover, the process of evacuation can entail serious risks, particularly if poor visibility makes driving hazardous. In these situations, the risks posed by driving with reduced visibility need to be weighed against the potential benefits of evacuation. Therefore, in areas where fires are likely to occur, public health officials are encouraged to develop plans for local protection of sensitive groups. In addition, in the context of crude oil fires, smoke impacts on air quality may be so transient that by the time actions for evacuation and/or relocation can be organized, communicated and implemented, the hazard could have already subsided.

There are other smoke and crude oil vapor constituents such as irritant gases (sulfur dioxide), asphyxiant gases (carbon monoxide), and volatile hydrocarbons (i.e., benzene, etc.) which may be of a relatively lesser concern to a community in proximity to a crude oil spill and fire. Though communities may experience air quality impacts due to fire smoke, members of the public tend to stay away from, or are prevented from going near, fires for their safety. It is important to note that the composition of fire smoke changes dramatically as smoke travels away from a fire toward downwind/distant receptors. Irritant and asphyxiant gases and hydrocarbons tend to dissipate out of the smoke into the atmosphere beginning at very short distances from the fire. As a result, particulate matter remains as the primary constituent of the smoke distant from a fire, hence the focus on particulate matter in the Wildfire Smoke Guidelines for community smoke impacts. Impacts of irritant and asphyxiant gases and hydrocarbons in fire smoke tend to pose a risk only to individuals in close proximity to a fire, such as first responders and emergency response workers.

Table B-4 lists the threshold levels for different concentrations of PM 2.5 and PM 10 and the recommended actions that should be taken to prevent harm to community members. If only PM 10 measurements are available during smoky conditions, it can be assumed that the PM 10 is composed primarily of fine particles (PM 2.5), and that therefore the AQI and associated cautionary statement and advisories for PM 2.5 may be used. Table B-4 can be used as guidance for public health officials with regards to measures that can be taken to protect public health at different AQI categories. These AQI categories correspond to particulate matter levels (PM 2.5 and PM 10) at 24-hour average exposure periods. The AQI value for particulate matter is derived from estimated or measured 24-hour average concentrations. The Wildfire Smoke Guidelines does not publish levels for shorter average times (e.g., 1- to 3-hour or 8-hour averages) similar to PACs. As such, responders will have to determine how to assess the threats posed when particulates have not been present nor measured for 24 hours.

Table B-4: Threshold Levels and Recommended Response Actions for PM 2.5 and PM 10

PM 2.5 and PM 10 Threshold[1] Levels ($\mu g/m^3$) 24 Hr. Avg.[2]	Level of Health Concern and AQI Range	Meaning[3]	Action(s)[4]
0.0–12.0	Good (0–50)	Air quality is considered satisfactory, and air pollution poses little or no risk.	▪ If smoke event anticipated, implement communication plan.
12.1–35.4	Moderate (51–100)	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people. For example, people who are unusually sensitive[5] to ozone may experience respiratory symptoms.	▪ Prepare for full implementation of School Activity Guidelines (https://www3.epa.gov/airnow/flag/school-chart-2014.pdf) ▪ Issue public service announcements (PSAs) advising public about health effects, symptoms and ways to reduce exposure ▪ Distribute information about exposure avoidance
35.5–55.4	Unhealthy for Sensitive Groups (101–150)	Although the public is not likely to be affected at this level, people with lung disease, and older adults and children are at a greater risk from exposure to ozone, whereas persons with heart and lung disease, and older adults and children are at greater risk from the presence of particles in the air.	▪ Evaluate implementation of School Activity Guidelines ▪ If smoke event projected to be prolonged, evaluate and notify possible sites for cleaner air shelters ▪ If smoke event projected to be prolonged, prepare evacuation plans
55.5–150.4	Unhealthy (151–200)	Everyone may begin to experience some adverse health effects, and members of the sensitive groups[6] may experience effects that are more serious.	▪ Full implementation of School Activity Guidelines ▪ Consider canceling outdoor events (e.g., concerts and competitive sports), based on public health and travel considerations

Table B-4: Threshold Levels and Recommended Response Actions for PM 2.5 and PM 10

PM 2.5 and PM 10 Threshold[1] Levels (µg/m^3) 24 Hr. Avg. [2]	Level of Health Concern and AQI Range	Meaning[3]	Action(s)[4]
150.5–250.4	Very Unhealthy (201–301)	This would trigger a health alert signifying that everyone may experience more serious health effects.	▪ Schools move all activities indoors or reschedule them to another day. ▪ Consider closing some or all schools ▪ Cancel outdoor events involving activity (e.g., competitive sports) ▪ Consider cancelling outdoor events that do not involve activity (e.g., concerts)
> 250.5	Hazardous (> 300)	This would trigger a health warning of emergency conditions. The entire population is more likely to be affected.	▪ Consider closing schools ▪ Cancel outdoor events (e.g., concerts and competitive sports) ▪ Consider closing workplaces not essential to public health ▪ If particulate matter level is projected to remain high for a prolonged time, consider evacuation of at-risk populations

[1] Threshold values taken from EPA AQI online calculator found at https://www.airnow.gov/index.cfm?action=airnow.calculator
[2] 24 Hour PM 2.5 "breakpoints" verified via Federal Register for National Ambient Air Quality Standards (NAAQS) rulemaking, https://www.gpo.gov/fdsys/pkg/FR-2013-01-15/pdf/2012-30946.pdf
[3] As defined by https://www.airnow.gov/index.cfm?action=aqibasics.aqi
[4]Recommendations from Wildfire Smoke: A Guide for Public Health Officials at https://www3.epa.gov/airnow/wildfire_may2016.pdf.
[5] People who are unusually sensitive to air pollution are a subset of Sensitive Individuals. Unusually sensitive to air pollution can be defined as the very young, the elderly, pregnant women, and the immunocompromised.
[6] Sensitive groups are defined as people with lung disease, and older adults and children who are at a greater risk from exposure to ozone; and persons with heart and lung disease, and older adults and children who are at greater risk from the presence of particles in the air. http://www.airnow.gov/index.cfm?action=aqibasics.aqi

Attachment C: Community Air Monitoring Field Team Checklist

☐ **Prepare air monitoring instruments for deployment**

- Consult with Project Manager to determine resource needs and ensure instrumentation is bump tested and ready for monitoring.

☐ **Verify communications pathway between CAM Coordinator and Data Manager**

☐ **Take rapid baseline field readings and relay back to CAM Coordinator**

- Establishing baseline reading within the first 24 hours Include non-detections as well as high readings.
- Time is critical for this data collection; consider this before troubleshooting advanced collection methods.
- Report readings back quickly to CAM Coordinator and provide context Location:
  - Date/Time,
  - Measurements Visual Observations,
  - Odor and Visibility (if applicable), and
  - Smell.

BEST PRACTICE*:* Collect background readings at a location far from anticipated contaminant dispersion or at minimum upwind of a release location.

☐ **Review CAMP with CAM Coordinator and CAM Field Team Leader**

- Note CAM action levels,
- Analytes for contaminants of concern, and
- CAM locations.

❑ **Review DMP with Data Manager**

- Familiarize site scope and data collection objectives,
- Understand valid values to be used for data entry, and
- Understand the data pathways.

☐ **Conduct Sustained Assessments**

- Troubleshoot/deploy field equipment;
- QA/QC all data in the field;

- Keep note of monitoring and data logging instrumentation: log unit ID, user, location, date/time; battery life of instrumentation varies; and
- If instruments are switched out, if time allots, note instrument serial number or ID numbers, this will be important when instrument data is downloaded to know the location/task that the data was collected in.

☐ **Report readings back quickly to CAM Field Team Leader and CAM Coordinator and provide context**
- Location,
- Date/Time,
- Measurements (exceedances above action levels?), and
- Odor and Visibility (if applicable).

❑ **Record Instrument Data to pre-determined destination**
- Download data in pre-determined location for Data Manager and back-up.

❑ **Report results to CAM Coordinator as outlined**

❑ **Field Teams conduct CAM Surveys until instructed otherwise by CAM Coordinator or Incident Command/Unified Command**

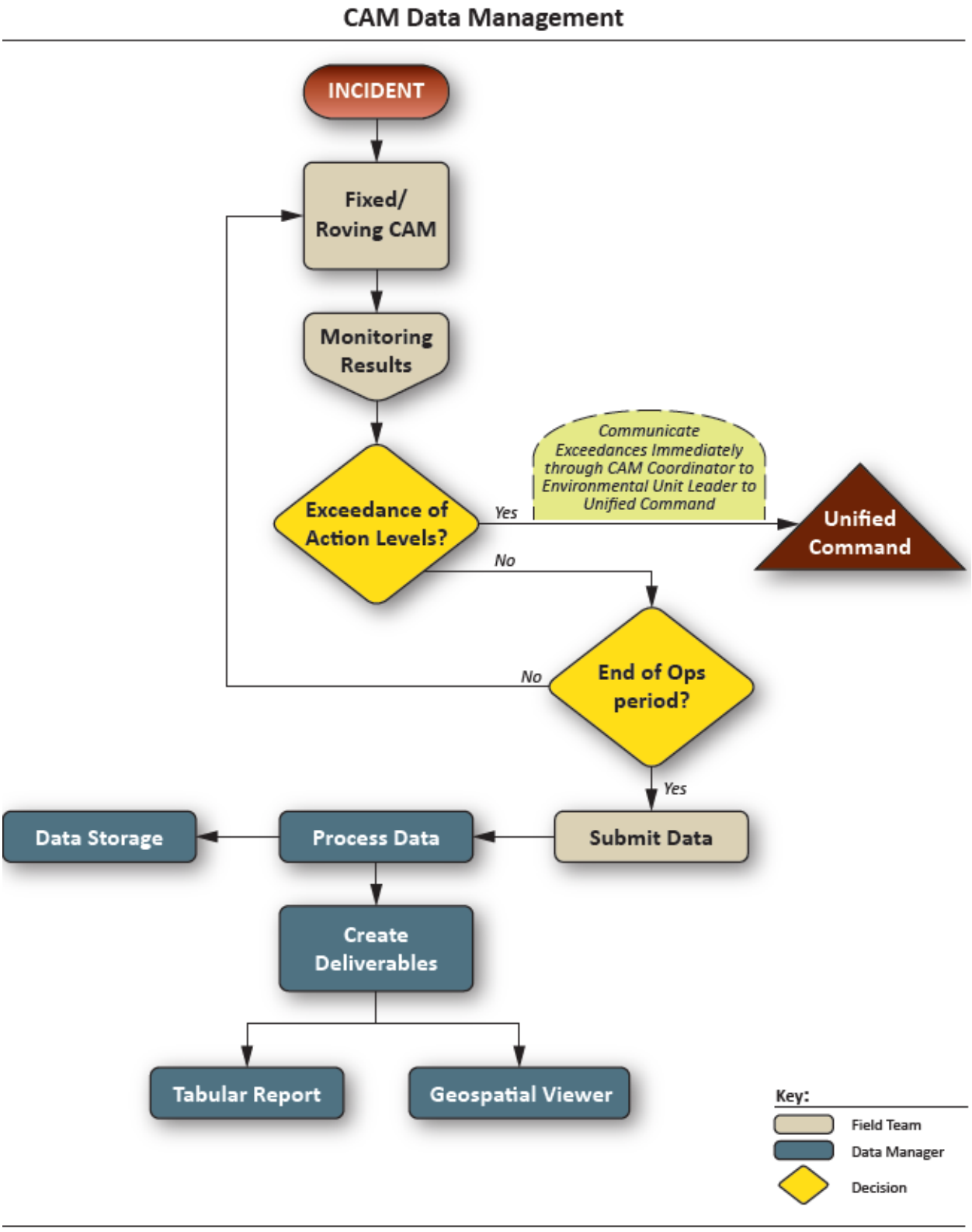
❑ **Ensure that all logged data is downloaded into the pre-determined location for the Data Manager and CAM Coordinator.**

❑ **Once communicated by CAM Coordinator and Incident Command/Unified Command to end monitoring efforts, return instruments to charging location, update logbook.**

Attachment D: Community Air Monitoring Data Management Checklist

- The purpose of this attachment is to provide guidance to personnel responsible for setting up a data management system for CAM. The following checklist items are listed chronologically, but due to potential changes in size and scope of CAM deployments, some items may be reprioritized based on incident needs.
- Depending on the scale of the incident, Data Manager responsibilities may be handled by the CAM Field Team Leader, CAM Coordinator, or a delegated Data Manager. The following checklist is broken into several sections:
  - Initial Data Management,
  - Data Collection,
  - Data Processing,
  - Data Presentation, and
  - Continuing Data Management/Storage.

Community Air Monitoring Data Flow Chart



Initial Data Management

- ❑ **Select a Data Manager to oversee CAM Data Management**
  - Assess the status of incident data management. As data may already be being collected and processed, it is imperative to quickly come up to speed on the following:
    - How is data being collected, processed, presented or communicated?
    - Are there established DQOs?
    - Is there a DMP?

BEST PRACTICE: A DMP is a great tool to document DQOs, data collection, processing, presentation, and deliverable schedules. However, the creation of a DMP should not hinder the active communication of data and can be completed as time permits.

- ❑ **Determine DQOs**
  - A well-constructed DQO consists of the following:
    - Activity,
    - Criteria for making a decision (Action Level), and
    - What your action is going to be after you make the decision.

  - An initial DQO for CAM may be:
    - *Air Monitoring will be performed using roving teams. If a reading exceeds the established action levels, the exceedance will be communicated immediately to Unified Command/Incident Command. If no exceedances are found, monitoring will continue.*

Data Collection

- ❑ **Develop a data collection process that meets established incident DQOs. Ensure that the appropriate CAM forms and associated data collection documents/tools are available.**
  - Define the data elements CAM teams will collect (required fields, photos, other observations, etc.)
  - Choose forms to meet incident-specific needs as appropriate. Ensure that forms are designed to meet established DQOs.
  - Ensure CAM teams/forms are using standardized location naming conventions (e.g., location identification numbers) that can be integrated into mapping/database/GIS systems being developed, and that are consistent with Operational Division naming conventions.

BEST PRACTICE: Prioritize tasks in the early phase of a CAM incident to get Field Teams out collecting data as soon as practicable. Systems can be refined later as long as essential data can be collected expeditiously**.**

- ❑ **Evaluate equipment requirements/standards for data collection and management**
  - Coordinate this review with the CAM Field Team Leader or CAM Coordinator as appropriate.
  - Common data collection equipment may include real-time air monitoring instruments, digital cameras, hand-held global positioning system units, forms, personal digital assistants, tablet computers, etc.

- ❑ **Establish a communication plan for Field Teams to communicate results.**
  - Develop and maintain contact list for CAM team members.
  - Verify that teams know how results will be communicated (radio, cell phone, email, data submission).
  - Establish a communication schedule with Field Teams to meet data reporting needs for ICS meetings.

- ❑ **Conduct data collection calibration meeting for CAM teams prior to initial assessment.**
  - The following topics should be covered:
    - DQOs, Data Elements and Valid Values;
    - Methods of data collection with alternatives for effectively collecting data for a rapid assessment. Ensure a backup data collection method is available (logbook, verbal reporting, etc.);
    - Communication pathway for reporting exceedances;
    - On-going communication of results below action levels; and
    - Post field data transfer and QA/QC process.

Data Processing

☐ **Establish a DMP**

- Outline the following:
  - DQOs;
  - Instrumentation (data pathway for data logging instruments);
  - Data Flow Pathways (Data Entry to Quality Assurance to Decision Makers to Data Storage); and
  - Reporting schedule.

☐ **As appropriate, identify predetermined standards for data verification, analysis, and reporting.**

- Identify and put in place verification SOPs and checklists such as standard verification queries (auditing of data) and reporting SOPs & procedures and requirements.

☐ **Establish process for collecting and archiving digital and paper documents.**

- Establish file directory structure and file naming conventions for managing documents, data, and photos.
  - Establish both on-site backup and an off-site, secure repository for all data and documentation. Coordinate with Documentation Unit for final archiving.
  - Determine/establish appropriate permissions for database access and editing.

☐ **Share and Communicate Resources**

- Coordinate data and map transfers with the PSC and EU (e.g., base maps, overflight maps, etc.) as appropriate.
- Acquire the spatial data and maps necessary to meet the data needs of the CAM program and (in particular) the Field Teams.
- Create base maps for field planning and use.

❑ **Oversee QA/QC of field data**

- Collate results from multiple teams if applicable,
- Ensure required data elements have been recorded,
- Ensure units are correct and appropriate for action levels, and
- Ensure data is in a clean format for generation of deliverables.

Data Presentation

❑ **Brief with CAM Coordinator and EU to determine deliverable needs and establish deliverable schedule**

- Deliverable types may include:
  - Site sketch,
  - Aerial Map,
  - Verbal Result Communication,

- Summary Data,
- Dispersion Modelling,
- Real-Time Telemetry, and
- Geospatial Viewer.

- Review deliverable schedule with the CAM Coordinator and the EUL to best fit incident requirements:
  - As exceedance occurs,
  - For ICS meetings:
    - Command & General Staff Meeting,
    - Tactics Meeting, and
    - Planning Meeting.
  - Every operational period,
  - Real-time telemetry, and
  - Real-time mapping.

- ❑ **Create and manage deliverables for EU including GIS Maps, models, and data tables.**
  - Coordinate with the EU or CAM Coordinator and identify what maps or models are important for decisions.
  - Ensure that all deliverables requested by EU are completed.

Continuing Data Management & Storage

- ❑ **Develop a document management system and/or CAM database (if appropriate).**
  - Determine/establish appropriate permissions for database access and editing.
  - Ensure every data stream is captured and managed appropriately.

- ❑ **Ensure that all data from Field Teams has been downloaded and backed-up to appropriate location for site documentation, deliverables, and reports.**

- ❑ **Establish general expectations, procedures, and accountability for CAM data management tasks.**
  - Address data sharing protocols and data access issues between stakeholders (i.e., Fed/State/Responsible Party) when making these determinations.
  - Each agency/organization representative working on CAM data should be familiar with their own organization's data policy and be able to discuss any critical issues including public disclosure requirements.

> - **BEST PRACTICE:** Be sure to discuss the following: frequency of data archiving, who can access the data and how, will copies be permitted, etc.

- ❑ **Adjust data management organization for future operational periods**
  - Is the current system meeting the response needs and/or scale (e.g., electronic vs. paper-based)?
    - If not, recommend to CAM Coordinator to upgrade tiers.
  - Are there issues affecting the quality of data?
    - Recommend and implement corrective actions as necessary.
  - Maintain data quality:
    - Hold team meetings daily to ensure quality data is correctly collected and applicable.
    - Ensure Field Teams are performing field QC of their data collected.
    - QC data daily update Field Teams if a corrective action is required.

Attachment E: Laboratory Analysis

While direct read monitors are essential for real time air monitoring and used for time critical decision making, they are limited to a handful of specific substances and generally do not have low detection limits for contaminants. Air sampling can be used to detect minute concentrations of known chemicals. As stated previously, analytical air sampling refers to the collection of discrete quantities of air using containers or chemical specific media for further analysis by an off-site laboratory. Laboratory analysis of analytical air samples provides chemical-specific results at lower chemical detection limits than real-time air monitoring instrumentation albeit a delay is required to receive the results of analytical air samples. Sampling can be in the form of fixed, stationary samples or mobile samplers worn by responders to monitor responder health and safety. Choosing between different types of air samplers is dependent on the type of contaminant aimed to detect and the use of results. The following text is focused on fixed air sampling stations used in community air assessments as opposed to personal air samplers, which are typically used to monitor worker exposures.

Air samplers are broken into active or passive samplers, active samplers draw ambient air into the pump and through the filter medium, whereas passive samplers simply expose the medium to the ambient air. Samplers can be outfitted with a variety of sampling media types. Media types are often contaminant specific, and largely dependent on the physical state of the contaminant. Media is often in the form of a Glass Fiber Filter (used for particulates including PM 10 and PM 2.5) or a sorbent tube (used for gases such as benzene). In most cases, samples are shipped to analytical labs with variable turnaround times on delivery of results dependent on lab and analytical methods.

Fixed air sampler instrumentation generally includes a power source with a fixed flow adjustable air sampling pump containing attached tubing and media. Air sample duration and flow rate is specific to laboratory method requirements but usually several hours of sampling are needed to obtain a minimum liters per minute needed for analysis. Air sampling results are generally used in aiding specific types of decisions involving health and safety as well as contaminant clearances.

The lag of time from initial sampling to result reporting and data validation is a large disadvantage, and because of this, air samples are generally not used for rapid decision making. In some cases, by the time the results are received from the lab, the airborne contaminants may have already dissipated. These data, however, can still be used to confirm air monitoring results obtained via direct read instrumentation.

Section 9419

Emergency Response Environmental Sampling Plan

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9419

Emergency Response Environmental Sampling Plan

9419.1 Purpose of Environmental Sampling

Through the collection and analysis of environmental samples, responders can uncover valuable data needed to inform decisions related to response tactic deployment, determining cleanup endpoints, and fisheries management. During a response, environmental sampling is need to answer a variety of questions for example:

- What is the source of the spill?
- Is the water body, surface or groundwater, of acceptable quality for drinking, swimming, irrigation, fish consumption, or a designated beneficial use?
- Is water quality improving or worsening?
- Is oil migrating?
- Is oil present/absent from water?

This section contains guidance and plan templates to ensure samples are collected in a consistent, standardized manner such that sampling results can support decision making during a response. All sampling fieldwork is to be conducted in accordance with the Safety Plan developed for the response.

9419.1.1 Quality Assurance/Quality Control

To maintain a high quality of sampling and analysis, the sampling plan should support measures for quality assurance (QA) and quality control (QC) such as auditing of the process during the response. Key elements of a sampling approach during a response that should be continuously measured for QA/QC should include:

- Personal safety as a top priority;
- The start and continuation of a sampling plan;
- Use of appropriate procedures;
- Emphasis being put on documentation;
- Collection of representative samples;
- Sample contamination prevention;
- Proper sample preservation; and
- Chain-of-Custody (COC) maintenance.

9419.1.2 Data Sharing

Implementation of a sampling plan should also result in data sharing agreements that would:

- Reduce compartmentalization and isolation of information with Incident Command System (ICS) units and sections;
- Ensure all parties understand responsibilities, methods, and resources available;
- Maintain information continuity over time regardless of personnel changes;
- Provide the basis for periodic review, evaluation, and updating of procedures; and
- Ensure the proper archival of data for post-incident retrieval and analysis.

9419.1.3 Public Information

Sampling results should be shared and could be reported on the spill response website after data quality checks and review.

9419.2 Templates

There are two templates included in this section. The first is intended to be used in the early phase of the response when the details are not known but samples need to be collected. The second template is intended for use later in the response when more information on the spill and receptors is known.

9419.2.1 How to Use These Templates

The major headings of this document are suggested for the completion of a sampling plan. A sampling plan is not required to follow the formats suggested in the following suggestions; however, it should contain the content and detail commensurate to the scale (size or sensitivity/threat) of the response. Sampling plan templates may be customized to match organization structures, capabilities, and the availability of field teams during the operational period for which the plan is to cover.

Instructions, suggestions, and pre-populated information are printed in *italics* in the following sections. Delete and replace these instructions following completion. Rewrite suggested text to fit the incident and organization-specific needs.

To facilitate rapid planning, some tables are pre-populated with examples or common information that may be relevant to an emergency response scenario. To complete tables, delete irrelevant examples and add further information as dictated by the incident.

Values presented in the tables should be verified and adjusted to meet the expectation and capabilities of various response organizations, receiving analytical laboratories, and local response agencies.

Reference checklist sections and attachments for supporting details and information to create a sampling plan are provided.

After completion, review the template as a whole with all parties involved, including the Field Sampling Team Supervisors, to evaluate clarity and address potential gaps. After finalized, route the sampling plan through Incident Command for approval and integration into the Incident Action Plan.

Retain this document for continuing emergency operations. Information assembled here may be used to create additional site documents and ICS planning forms.

INITIAL INCIDENT CHARACTERIZATION SAMPLING AND ANALYSIS PLAN

Incident Name: _____
Responsible Party: _____
Spilled Material: _____
Spill Location: _____
Spill Date/Time: _____
Spill Source (vessel, vehicle, etc.) _____

This sampling plan has been prepared by the Planning Section at the request of Incident Command. The purpose of this plan is to quickly begin characterization of the release to support site response operations and develop information that will inform the subsequent response phases/operational periods. Additional sampling and analysis plans may be created to support complicated or larger responses, provide data for health and safety plan development, the monitoring of responder and community health, and/or waste management and disposal operations. This plan is purposefully brief, with the intent of facilitating initial site characterization sampling efforts during the early hours of a response, in accordance with the timing goals in the Northwest Area Committee's (NWAC) 96-Hour plan.

This plan does not cover health and safety aspects of sample collection, or safely accessing field locations to collect samples. All field work is to be conducted in accordance with the Health and Safety Plan (HASP) developed for the response. Confined space entry and on-water work should not be conducted until the HASP can be reviewed, and until authorization is obtained from the Safety Officer.

Once approved by Unified Command and incorporated with the Incident Action Plan, this plan will remain in force until superseded by a newer version of the cessation of response activities.

Plan Authorization	**Signature**	**Date**
Approved by USCG/EPA:		
Approved by Ecology/ODEQ/IDEQ:		
Approved by Responsible Party		
Approved by Local Government Representative:		
Approved by Tribal Government Representative:		
Drafted and Submitted for Approval by:		
Operational Period to Initiate Sampling		

Section I Site Characterization Sampling Organization

This section describes the key roles and personnel assigned for organization and implementation of this plan. The staff are typically stations in the Incident Command Post within the Planning and Operations Sections. The overall purpose of the staff assigned to create and implement the plan is to facilitate the safe and efficient collection of samples and to provide the analytical data to support the response.

Sampling Technical Specialist

The Sampling Technical Specialist is responsible for creating the field sampling plans, including this Initial Incident Characterization Sampling and Analysis Plan, and any needed updates throughout the response. The Sampling Technical Specialist is located within the Planning Section (or Environmental Unit) and works with others in the Planning and Operations Sections to adjust field sampling plans to provide information to support upcoming site operations. The Sampling Technical Specialist is responsible for monitoring the progress of sample analysis at the designated laboratory(ies), making arrangements for receipt of data, and making the data available within the response organization.

Field Sampling Group Supervisor

The Field Sampling Group Supervisor is responsible for working with the Field Sampling Team(s) to arrange for access to the areas needed to be sampled, and the means to access the site(s). The Field Sampling Group Supervisor works within the Operations Section, and may have other responsibilities to that section.

Field Sampling Team Leader

The Field Sampling Team (or Task Force) Leader is responsible for the sample collection, documentation (including time and location), preservation, and preparation of shipment. The collection of samples may be divided geographically (by divisions or proximity to the release point), media to be samples (air, water, soil, sediment, product, etc.), or means of access (boat versus shoreline).

	Name	ICS Position/Agency/ Organization
Sampling Technical Specialist		
Sampling Group Supervisor		
Field Sampling Team(s) Leader		

Section II Sampling Schedule

This section describes how the general schedule for initial sample collection, including when the sampling is to be initiated. This schedule will be modified/incorporated into subsequent sampling plans, if developed.

Project Schedule

Activity	Est. Start (Time/Date)		Est. End (Time/Date)		Notes
Mobilize to Site					
Sample Collection					
Transport to Lab					
Laboratory Analysis (turnaround time)					
Data Received by the Environmental Unit					

Section III General Sampling Program Description

This section describes the general sampling purpose and design, followed by a table summarizing the samples (by media) to be collected, means of collection, and sample handling/custody and destination.

Surface water and shoreline sediment grab samples are to be collected to document the extent of contamination originating from the City Outfall Spill. Surface water samples will be collected beginning at the outfall source area and every 0.5 mile downstream to the end of visible contamination, concentrating on areas of maximum sheen. Shoreline sediment samples will be collected from areas with obvious signs of oiling/or sheen on both sides of the river, beginning near the source area and moving downstream. Sediment samples will be collected at least every 0.5 mile to the end of visible contamination. All sample will be analyzed using Northwest Total Petroleum Hydrocarbon Identification Analytical Method (NWTPH-HCID), with follow-up analysis for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

Media to Be Sampled or Monitored	Source Product	Surface Water	Sediment	Oiled Debris	Source Area Air Quality	Community Air Quality	Other (describe)
Approximate # of samples							
Type of Sample (continuous, discrete, composite)							
Sample Collection Method							
Quality Control Sample/Type							
Means of Access (boat, shoreside, etc.)							
Team Name(s)							
Transportation							
Laboratory Name (or Field Analysis/Screening)							

Section IV Sample Collection, Labeling, and Documentation

The United States Environmental Protection Agency *Contract Laboratory Program Guidance for Field Samplers* (EPA-540-R-014-103, October 2014) and the *Guidance for Collecting High Priority Ephemeral Data for Oil Spills in the Arctic* (NOAA/RPI 2014) provides descriptions of field sampling methods, as well as QA/QC guidance. Samples collected will be documented on the Sample Collection Form provided, or a suitable substitute will be used. The Sample Collection Form also specifies the sample labeling format and sample location documentation requirements. A formal COC shall be maintained for all samples collected. If the laboratory cannot supply or does not require a specified COC, then the provided NWAC COC will be used.

Section V Map of Area(s)/Features to be Sampled

Insert map or sketch showing sampling area(s).

ENVIRONMENTAL SAMPLING AND ANALYSIS PLAN

(Incident Name and Location)
(Date)
(Operational Period)

Submitted by Environmental Unit Leader: _____
Date: _____
Printed Name: _____

Plan Authorization/Approval

Title	Signature	Date
Federal On-Scene Coordinator (USCG/EPA):		
Printed Name		
State On-Scene Coordinator:		
Printed Name		
Responsible Party Incident Commander		
Printed Name		
Local Government On-Scene Coordinator		
Printed Name		
Tribal Government On-Scene Coordinator		
Printed Name		

1.0 Introduction and Purpose

This plan has been prepared by the Planning Section at the request of the Incident Command/Unified Command. This emergency response Sampling and Analysis Plan is intended to be used during the emergency phase during oil spills, pollutant, or chemical releases, where monitoring and/or environmental sampling may be required. The purpose of this plan is to characterize the release to support the site response operations, and develop information that will inform the subsequent response phases/operational periods.

This sampling plan will direct the monitoring, sampling, and analytical work for a specific Operational Period. It is meant to be used in emergency responses where more detailed or larger-scaled monitoring and sampling efforts are to be conducted by Field Sampling Teams (hereafter referred to as Field Teams). This sampling plan may incorporate the Initial Incident Characterization Sampling and Analysis Plan, which is intended to guide the early collection of environmental samples during a response on an expedited timeframe and when most of the Incident Command resources have not yet mobilized to the site. This plan is not meant to support Natural Resources Damage Assessment operations.

The development of this plan will improve the documentation, communication, planning, and overall quality associated with the sampling by:

- Ensuring Field Team(s) understand the goals and objectives of the sampling to be conducted before the generation of environmental data;
- Documenting methodologies to be utilized in the collection and handling/preservation of samples;
- Documenting predetermined information in a standardized format;
- Increasing the communication between sampling personnel and decision makers; and
- Assuring that data quality objectives (DQOs) and QC measures are in place to result in the generation of accurate and defensible data.

This Environmental Sampling and Analysis Plan describes the sampling strategy and techniques, as well as the analytical methods that will be employed at the site for the collection of environmental samples, including surface water, groundwater, soil, sediment, and air samples. The information contained in this plan is based on the information available at the time of preparation. This plan will be updated as necessary to reflect new site information, address different objectives or decision points, and support incident response/cleanup operations.

Once approved by Unified Command and incorporated into the Incident Action Plan, this plan will remain in force until superseded by a newer version or the completion of response activities.

1.1 Sampling Objectives

The objectives of this sampling event include:
List all objectives for sampling. These objectives should be based on the Incident Command/Unified Command objectives.

Delete the rows that do not apply. These are common examples, modify as necessary for site-specific project goals.

- Sampling to determine the presence or absence of a hazardous substance within the area of concern;
- Sampling to characterize hazardous substances within the area of concern;
- Sampling to estimate contamination levels within the area of concern;
- Sampling to delineate contamination area(s) within the site;
- Sampling to determine the location of hot spots within the area of concern;
- Sampling to confirm contamination migration from the site;
- Sampling to delineate the degree of contamination migration from the site;
- Sampling from existing surface water intakes to determine if contamination is migrating from the site;
- Sampling off-site to determine general background concentrations;
- Support Unified Command decision-making regarding cleanup endpoints;
- Ensure sampling is repeatable;
- Collect product samples related to an oil spill for characterization and fingerprinting;
- Air sampling within the area of concern to determine contamination levels;
- Perimeter air sampling to determine contaminant concentration levels;
- Air sampling for site safety of on-site personnel; or
- Downwind air sampling.

1.2 Project Schedule

This section describes the general schedule for sample collection, including when the sampling is to be initiated. This schedule will be updated as needed.

Activity	Est. Start (Date/Time)	Est. Completion (Date/Time)	Notes
Mobilize to the site			
Confirm sampling methods			
Sample collection			
Laboratory receipt of samples			
Demobilization from the site			
Laboratory analysis			
Data received by EU			
Data validation			

2.0 Project Organization and Responsibilities

This section describes the key roles and personnel assigned for organization and implementation of this plan. The staff are typically stationed in the Incident Command Post within the Planning and Operations Sections. The overall purpose of the staff assigned to create and implement the plan is to facilitate the safe and efficient collection of samples and to provide the analytical data to support the response.

Title	Name	Organization	Email and Phone Number	Data Recipient (Y/N)
Federal On-Scene Coordinator				
State On-Scene Coordinator				
Tribal Government On-Scene Coordinator				
Quality Assurance Coordinator				
Analytical Coordinator				
Data Manager				
Field Sampling Group Supervisor				
Field Sampling Team Lead				
Sampling Technical Specialist				

3.0 Safety

This plan does not cover health and safety aspects of sample collection, or safely accessing field locations to collect samples. All field work is to be conducted in accordance with the HASP developed for the response, including an understanding of the materials that have been released from the Safety Data Sheets. Confined space entry and on-water work will not be conducted until the HASP can be reviewed, and authorization is obtained from the Safety Officer.

Add all safety messages here. The following are examples:

- Safety is the number one priority for all aspects of this plan. Sampling should not be attempted in any location it is unsafe to do so. Safety is of greatest concern. Be aware of physical and chemical hazards at the site. Obtain a safety briefing prior to entering the exclusion zone. Do not enter confined spaces unless they have been determined to be safe. Special care should be paid to the traffic, physical, and chemical hazards outlined the HASP. Individuals collecting samples should use care entering the spill site. Sampling should be conducted in accordance with the approved HASP.
- Slips, trips, and falls from steep slopes, rocks, and vegetation are safety hazards to workers conducting sampling.
- Proper personal protective equipment must be worn at all times by all workers on site in accordance with the approved HASP.

4.0 Incident Location and Background Information

Incident Name:	
Incident Address:	
Latitude:	
Longitude:	

- *Provide a short description of the incident to support the needs for a sampling plan (include spill materials, spill source).*
- *Discuss the site and any known information.*
- *Provide information of the general site setting.*
- *Describe decision areas if they are applied to the site.*
- *Discuss on-site features.*
- *Discuss surrounding land uses.*
- *Provide a site map.*

5.0 Contaminants of Concern and Action Levels

Provide an overview of the contaminants of concern for the site. List compounds in narrative or tabular format that may pose a threat to human health and the environment relevant to the incident. This section should be comprehensive.

Potential contaminants of concern for the site, action levels, transport mechanisms, and potential receptors are provided in the table below.

Contaminant	Transport Mechanism	Receptor	Action Level (Specific to Receptor)
Mercury, arsenic, lead	*Contaminated soil migrating to surface waterbodies*	*Environmental targets such as wetlands and/or federally listed threatened and endangered species*	
Volatile organic compounds (VOCs)	*Contaminants in subsurface soils leaching to groundwater and/or surface water*	*On-site water flows to a nearby river where fishing occurs. Residents consuming water*	

For contaminants without established action levels, complex mixtures, or unknown constituents and composition, provide a narrative description and working action level with justification for the selection of the action level.

6.0 Sampling Approach

The Environmental Unit (EU) established sample points on and near the incident to evaluate conditions at the site and surrounding areas. This section describes the general sampling approach, followed by a table summarizing the samples to be collected, and a map depicting the sample locations.

Example sampling approach:
Surface water samples are to be collected to document the extent of contamination originating from the City Outfall Spill. Surface water samples (upper 2 centimeters of the water column) will be collected beginning at the outfall areas and every 0.5 mile downstream to the end of visible contamination, concentrating on the maximum sheen. Access to the sampling site will be by boat. All samples will be collected directly into

pre-preserved sampling containers. Samples will be analyzed using NWTPH-HCID with follow-up analysis for VOCs and SVOCs.

Matrix	Sample Location(s)	Sample Name(s)	Sample Team Name	Sampling Pattern (Random/Targeted)	Sample Type (Grab/Composite)	Field QC (Duplicate/Blank)	Number of Field Samples	Analytical Parameter/Method Description and Number	Method Quantitation Limit	Technical Holding Time	Sample Preservation (all 4°C ± 2°C)	Number and Type of Sample Container per Sample	Total Number of Sample Containers (Lab and Field)	Laboratory Name
Water								*Gasoline Range Organics/NWTPH-Gx/GC-FID*		*14 days*	*pH ≤2 with HNO_3*	*3x40 mL glass amber with Septa lid*		
Water								*Diesel Range, Residual Range, & Motor Oil Range Organics/NWTPH-Dx/GC-FID*		*14 days to extraction, 40 days to analysis*	*NA*	*2x32 ounce glass amber 6x32 ounce glass amber for MS/MSD*		
Soil/Sediment								*Gasoline Range Organics/NWTPH-Gx/GC-FID*		*To the lab within 48 hours of collection or freeze in field*	*NA or Freeze in field*	*3xCore-N-One +1x2 ounce glass jar 9xCore-N-One + 1x2 ounce glass jar for MS/MSD*		
Soil/Sediment								*Diesel Range, Residual Range, & Motor Oil Range Organics/NWTPH-Dx/GC-FID*		*14 days to extraction, 40 days to analysis*	*NA*	*1x8 ounce glass jar*		

Key:
°C = degrees Celsius
FID = Flame ionization detector
HNO_3 = nitric acid
NA = not applicable
NWTPH-Dx/GC = Northwest Total Petroleum Hydrocarbon Diesel/Gas chromatograph
NWTPH-Gx/GC = Northwest Total Petroleum Hydrocarbon/Gas chromatograph
QC = quality control

Typical environmental laboratory analyses in the Northwest Area are included as a Sampling Plan Attachments that will aid in the completion of this table.

6.1 Sample Methodology

All field samples are to be collected in accordance with United States Environmental Protection Agency and/or National Oceanic and Atmospheric Administration accepted methods and protocols. The following Standard Operating Procedures (SOPs) and/or instrumentation manuals will be used during the project.

- *Create a list of applicable SOPs.*

Samples collected will be documented on the Sample Collection Form provided in Attachment A. A formal COC will be maintained for all samples collected for the project. If the laboratory to be used cannot supply or does not require a specific COC, then the COC provided in Appendix B will be used.

Field teams should always reference standard quality procedures, SOPs, and standard methods for sampling and analytical guidance.

6.1.1 Sample Nomenclature

Develop a systematic naming convention for all sampling activities. Ensure that each sample is uniquely identified to a specific geographic location. Record addresses and/or latitude/longitude for each sample location. An effective naming convention will allow more sample locations to be added throughout a response. Design a sample nomenclature plan that follows your agency's policy and procedures.

6.1.2 Sample Management

Develop a plan to manage sample preservation, documentation, holding and packaging/shipping of samples, including how to maintain COCs, how and where to deliver the samples, and how to manage the paperwork. Example language:

Proper sample management is required to make sound response decisions. The following action will be taken to manage samples from collection of analysis:

- COC documentation will be recorded for all samples collected. A copy of the COC forms will be placed in a binder stored in the EU, with a copy provided to the Documentation Unit.
- All samples collected by all Sample Teams are to be properly stored until delivered to sample processing and the laboratory.
- Copies of all preliminary and final sample results will be maintained in the sample binder in the EU with a copy provided to the Documentation Unit. The results will also be provided to the EU Leader electronically as soon as they are received.
- A Technical Specialist will be appointed to review and summarize sampling results and create a summary of results, noting any exceedances of preliminary screening criteria, issues with established QA/QC measures, and an update provided to Unified Command of the schedule established in Section 1.2 of this document.

6.1.3 Sample Transport

All samples will initially be analyzed with a *8, 12, 24,* turnaround time (TAT). As the cleanup progresses, EU may recommend moving to a standard 2-week TAT. This plan will be updated as needed to reflect TATs.

7.0 Data Management

The bullet list below is suggested DQOs for the project. Delete or update as necessary.

All field data will be managed in accordance with the Data Management Plan as outlined in Section 9 of this document. Data generated will:

- Be compared with a background or reference sample;
- Be compared to an available screening level;
- Assist in determining the presence or absence of a hazardous substance at levels above an available screening level;
- Assist in determining the area of impact due to a hazardous substance release (i.e., horizontal or lateral extent of contamination);
- Be compared with a site-specific action level;
- Be compared with federal or state occupational health limit (e.g. Occupational Safety and Health Administration);
- Be compared with a Resource Conservation Recovery Act (RCRA) or other regulator limit on waste;
- Be used to profile a water material for off-site disposal or treatment; and
- Assist with determining a material's general hazard classification.

7.1 Data Reporting

The following deliverables will be developed using the data obtained. Deliverables will be coordinated with the EU Leader and Incident Command/Unified Command.

Deliverables				
Reporting Task	**Data Inputs**	**Format**	**Frequency**	**Responsibility**
Sample Result Reports	*Water, soil, and/or sediment analytical results*	*Tabular [.xlsx]*	*Daily*	*Data Manager*
Situational Reports	*Photographs, Field reports, Sampling Results*	*Document [.docx]*	*Daily*	*Data Manager*

8.0 Data Quality

The bulleted list below is suggested language. Update to fit the response and your agency policy and procedures.

Data can generally be divided into three categories: definitive methodology (generally data generated utilizing standard methodology), non-definitive methodology (also referred to as screening data), and screening data with at least 10% definitive confirmation. The generation of definitive data is preferable; however, in an emergency or time-critical situation, where definitive data is not

available, or for certain types of monitoring equipment, non-definitive data may be generated. The following DQOs will be applied to the project:

- Definitive data which may include air, water, soil, and/or sediment samples analyzed at an off-site fixed laboratory;
- Screening data from the following instrument (*provide a list of instrumentation)*; and
- Screening data with at least 10% definitive data from *(provide a list of matrices for which off-site fixed lab confirmation samples will be submitted including the matrix)*.

8.1 Data Quality Objectives

A well-constructed DQO includes the activity, criteria for making a decision, and describes the action after a decision is made. Add, delete, or update the bulleted list below to fit the response and your agency policy and procedures.

The DQOs for the projects are:

- Acquire data that can be reliably used to make decisions regarding the release and presence of site contamination;
- Characterize sources;
- Determine off-site migration of contaminants; and
- Document any threats or potential threats that the site poses to public health or the environment.

8.2 Quality Assurance/Quality Control

Write in narrative format the steps and considerations to establish robust QA/QC for incoming and published data. As appropriate, identify predetermined standards for data verification, analysis, and reporting.

QA/QC may be organized into functional activities with suggested QA/QC procedures.

Real-Time Monitoring/Field Screening

- Co-located sampling for analytical analysis may be conducted, if necessary, to assess accuracy and precision to the field screening/monitoring methods employed.
- Field Team meetings will be conducted daily to ensure data is correctly collected and meets applicable DQOs.

Sampling and Analytical Results

- COC documents will be completed for each sample.
- The laboratory will provide definitive data. The data will be reviewed and assessed for representativeness, comparability, completeness, precision, and accuracy. Field sample QC will be evaluated, including laboratory-supplied surrogates, trip blanks, field blanks, filter blanks, rinsate blanks, and field duplicates, as described in this plan.

- Laboratory QC samples (blanks, duplicates, and matrix spikes) will be analyzed to assess laboratory performance.

Data Reporting and Deliverables

- Daily Data Summaries may be provided for informational purposes using data that have not undergone complete QA/QC.
- Comprehensive reports of real-time and/or analytical data may be generated following QA/QC.
- The final data for the project will be used to verify project objectives. Standard laboratory reporting limits are acceptable as indicated in the analytical table.
- The DQO process applied to this project follows that descried in the *Guidance on Systematic Planning Using the Data Quality Objectives Process/G-4* (EPA 2006).

9.0 Data Management Plan

The table on the following page should be updated as necessary. Most all sites will have site files, photographs, and sampling information if this template is being used. Include instrumentation that is being used on the project and how that data will be managed.

All field data will be managed in accordance with the following Data Management Plan.

Data Source	Required Information	Processing Instructions	Processing Frequency	Processing Responsibility	Storage Location	Final Output (file format)
Site Documents	*Site files, Sampling Plan, HASP, sample collection forms*	*File hard copies in EU, provide a copy to the Documentation Unit*	*Beginning of project and as files become available*	*Project Coordinator*	*Digital: Hard copy: EU & Documentation Unit*	*Documents [.docx, .pdf]*
Digital Photographs	*Date, time, direction, location, description, photographer*	*Photos will be downloaded from field cameras and stored in the site files.*	*Daily*	*Data Manager*	*EU*	*Photos [.jpg], Photographic log [.xlsx or .docx]*
Sample Information	*Sample number, Date, Time, Sampler, Location, Matrix*	*Record data onto field forms, file hard copies in EU provide a copy to the Documentation Unit*	*Daily or as records are produced*	*Data Manager*	*EU*	*COCs, sample labels, maps, tabular reports*
MultiRAE Pro	*Instrument ID, Monitoring location, Monitoring Time, Monitoring Date, Reading, Units*	*Data will be downloaded from the unit as prescribed by the manufacturer*	*Daily*	*Equipment Manager*	*Raw Data: EU Processed Data: EU copy to the Documentation Unit*	*Tabular reports [.xlsx]*

Key:
COC = Chain-of-Custody
EU = Environmental Unit
HASP = Health and Safety Plan

Sampling Plan Attachments

Sample Collection Form

Northwest Area Committee

Incident Name:	**Operational Period:**
Field Sampling Team Lead Information	**Contact Information (Sampling Tech Specialist in ICP)**
Contact/Mobile Phone:	**Contact/Phone:**
Affiliation/Email:	**Affiliation/Email:**
Team Members:	**DOC Section Email:**
Sampling Objective (from Sampling Plan)	**Sampling Conditions/Notes** (notes on individual samples below)

Sample ID *Location Code/Matrix/ Depth Interval/2-Digit Sample Code (Example COL-SW-0-02 for Columbia River, Surface Water, Depth 0, Sample #2)*	**Sample Date** *(mm/dd/yyyy)*	**Sample Time** *(24-hr local)*	**Matrix** *(e.g., water, soil, product)*	**Preserved** *Y / N*	**Type** *(e.g., Grab/ Composite/ trowel, etc.)*	**Sampling Method** *(e.g., bailer, direct, etc.)*	**Sample Location** *Latitude / Longitude in decimal degrees (ex: xx.xxxxx/-yyy.yyyyyy)*	**Container Type** *(ex. 1-liter amber)*	**# Containers**	**Sample Notes** *Note any filtration, problems with sample, etc.*

Sampling Lead Signature		**Form #**		**of**		**Cooler ID:**		**ICED:**	**Y / N**

Chain-of-Custody Form

Northwest Area Committee

Field Sampling Team Lead Information	Contact Information (Sampling Tech Specialist in ICP)
Contact/Mobile Phone:	**Contact/Phone:**
Affiliation/Email:	**Affiliation/Email:**
Incident/Project Name:	**Lab Report Email To:**

Laboratory Information	Analyses Requested	Cooler
Laboratory:		**ID:** **ICED: Y / N**
Lab Contact Name:		**COC#** **of**
Lab Phone/Email		

Sample ID (record location, description, etc. in field book or sampling form)	**Sample Date** (mm/dd/yyyy)	**Sample Time** (24-hr local)	**Matrix** (water, soil, product)	**Preserved Y / N**	**Type** Grab/Composite/etc.							**# Containers / Type**	**Turnaround Time** (or hold)	**Comments** Include preservative type, control samples, if used.

Samples Relinquished By				Samples Received By			
Date	**Time**	**Signature**	**Name** (printed)	**Date**	**Time**	**Signature**	**Name** (printed)

Special Instructions:

Typical Environmental Laboratory Analyses in the Northwest Area

Analytical Parameter/Method Description and Number	Matrix	Method Quantitation Limit	Technical Holding Time	Sample Preservation (all 4°C ± 2°C)	Number and Type of Sample Container(s)
Hydrocarbon Identification/NWTPH-HCID	Solid	20 mg/kg – Gasoline 50 mg/kg - #2 Diesel 100 mg/kg – Motor Oil	14 days	NA	1 x 8 ounce glass jar
	Liquid	0.25 mg/L – Gas 0.63 mg/L – Diesel and Motor Oil	14 days	pH ≤2 with HCl	2 x 32 ounce glass amber
Diesel, Residual Range & Motor Oil Range Organics/NWTPH-Dx	Solid	40 mg/kg – Diesel 100 mg/kg – Other	14 days to extraction 40 days to analysis	NA	1 x 8 ounce glass jar
	Liquid	250 µg/L – Diesel 500 µg/L – Other	14 days to extraction 40 days to analysis	NA	2 x 32 ounce glass amber
Gasoline Range Organics	Solid	20 mg/kg	To the lab within 48 hour of collection or freeze in field 14 days to analysis	NA or freeze in field	3xCore-n_One + 1x2 ounce glass jar
	Liquid	250 µg/L	14 days	pH ≤2 with HCl	2x40 mL glass amber with septa lid
Oil & Grease/EPA 9071B and 1664A	Solid	1 mg/kg	ASAP – Not established	2 mLs HCl and mix	1 x 8 ounce glass jar
	Liquid	5 mg/L	28 days	pH ≤2 with HCl	1x32 ounce glass amber
BTEX/EPA SW-846 8240	Solid	5 – 10 µg/kg	To the lab within 48 hour of collection or freeze in field 14 days to analysis	NA or freeze in field	3xCore-n_One + 1x2 ounce glass jar
	Liquid	0.5 – 10 µg/L	14 days	pH ≤2 with HCl	2x40 mL glass amber with septa lid
Petroleum Hydrocarbons/EPA SW-846 8015D	Solid	1 mg/kg			
	Liquid	50 µg/L			
Volatile Organic Compounds/EPA SW-846 8260	Solid	5 mg/kg	To the lab within 48 hours or freeze in field 14 days to analysis	NA or freeze in field	3xCore-n_One + 1x2 ounce glass jar
	Liquid	0.5 µg/L	14 days	pH ≤2 with HCl	2x40 mL glass amber with septa lid
Semivolatile Organic Compounds (including PAHs)/EPA SW-846 8270	Solid	67 – 330 µg/kg	14 days	NA	1x8 ounce glass jar
	Liquid	0.1 – 10 µg/L	14 days	NA	2x32 ounce glass amber
Paraffins, Isoparaffins, Aromatics, Napthalenes, & Olefins(PIANO)	Solid	40 mg/kg	14 days	NA	1x8 ounce glass jar
	Liquid	1 µg/L	14 days	pH ≤2 with HCl	2x40 mL amber glass with septa lid
Chlorinated Herbicides/EPA SW-846 8151	Solid	0.1 – 70 µg/kg	14 days	NA	1x8 ounce glass jar
	Liquid	0.1 – 1.5 µg/L	7 days	NA	2x32 ounce glass amber
Chlorinated Pesticides/EPA SW-846 8081	Solid	2 – 170 µg/kg	14 days	NA	1x8 ounce glass jar

Analytical Parameter/Method Description and Number	Matrix	Method Quantitation Limit	Technical Holding Time	Sample Preservation (all 4°C ± 2°C)	Number and Type of Sample Container(s)
	Liquid	0.05 – 5 µg/L	7 days	NA	2x32 ounce glass amber
Polychlorinated Biphenyls/EPA SW-846 8082	Solid	33 µg/kg	14 days	NA	1x8 ounce glass jar
	Liquid	1 µg/L	7 days	NA	2x32 ounce glass amber
Dioxins & Furans/ EPA SW-846 8280/8290	Solid	1 – 10 ng/kg	NA	NA	1x8 ounce glass
	Liquid	10 – 100 pg/L	NA	NA	2x32 ounce glass amber
Metals (not including mercury, hexavalent chromium, includes RCRA and Priority Pollutant Metals)/EPA SW-846 6000/7000 Series	Solid	0.5 – 2.5 mg/kg	6 months	NA	1x8 ounce glass jar
	Liquid	1 – 500 µg/L	6 months	pH ≤2 with HNO_3	1x1 L polyethylene
Mercury (may be combined with metals analysis)/EPA SW-846 7471B/7470A	Solid	0.1 mg/kg	28 days	NA	1x8 ounce glass
	Liquid	0.2 µg/L	28 days	pH ≤2 with HNO_3	1x1 L polyethylene
Ammonia/EPA 350.1	Liquid	0.01 mg/L	28 days	pH ≤2 with H_2SO_4	1x32 ounce glass amber
Grain Size/ASTM D-422	Solid	0.05 mm	NA	NA	2x8 ounce glass jar
Total Dissolved Solids/EPA 160.1	Liquid	20 mg/L	7 days	NA	1x250 mL
Total Kjeldahl Nitrogen (TKN)/EPA 351.2	Liquid	0.5 mg/L	28 days	pH ≤2 with H_2SO_4	1x500 mL
Total Organic Carbon (TOC)/ PSEP-TOC & SM 5310B	Solid	20 µg C	6 months	Freeze to -20°C	1x2 ounce glass jar
	Liquid	1 mg/L	28 days	pH ≤2 with HCl, H_2SO_4, or H_3PO_4 (check with your lab prior to sample preservation)	1x500 mL
pH/EPA 9040	Liquid	NA	Immediately	NA	1x250 mL glass
pH/EPA 9045	Solid	NA	As soon as possible	NA	1x4 ounce clear glass
Salinity/SM 2520B	Liquid	NA	28 days	NA	1x250 mL HDPE
Anions/EPA 300.0	Liquid	0.04 – 0.03 mg/L	Bromate – 28 days Bromide – 28 days Chlorate– 28 days Chloride– 28 days Chlorite - Immediately Fluoride– 28 days Nitrate as Nitrogen – 48 hours Nitrate/Nitrite– 28 days Nitrite as Nitrogen– 48 hours Ortho-Phosphate-p– 48 hours Sulfate– 28 days	NA NA NA NA NA NA pH ≤2 with H_2SO_4 NA NA NA NA	1x500 mL

Analytical Parameter/Method Description and Number	Matrix	Method Quantitation Limit	Technical Holding Time	Sample Preservation (all 4°C ± 2°C)	Number and Type of Sample Container(s)

Key:
µg/kg = micrograms per kilogram
µg/L = micrograms per liter
BTEX = benzene, toluene, ethylbenzene and xylene
EPA = United States Environmental Protection Agency
HDPE = high-density polyethylene
L = liters
mg/kg = milligrams per kilogram
mg/L = milligrams per liter
mm = millimeters
NA = not applicable
ng/kg = nanogram/kilogram
NWTPH-Dx = Northwest Total Petroleum Diesel
NWTPH-HCID = Northwest Total Petroleum Hydrocarbon Identification Analytical Method
PAH = Polycyclic aromatic hydrocarbon
pg/L = picogram/liter
RCRA =Resource Conservation and Recovery Act

Section 9420

Northwest Area Shoreline Countermeasures Manual and Matrices

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Northwest Area Shoreline Countermeasures Manual and Matrices

9420.1 Introduction

Shoreline countermeasures following an oil spill are a critical element in determining the ultimate environmental impact and cost resulting from a spill. As with most aspects of spill response, careful planning can significantly increase the effectiveness of treatment operations. Local response organizations need to develop mechanisms for identifying shorelines requiring treatment, establishing treatment priorities, monitoring the effectiveness and impacts of treatment, and identifying and resolving problems as the treatment progresses.

The National Oceanic and Atmospheric Administration (NOAA) developed this manual as a tool for shoreline countermeasure planning and response by Regional Response Teams, Area Planning Committees, and state response agencies. The manual is presented as a template that can be tailored for each region or area.

Each section of the manual should be adapted to the specific environments, priorities, and treatment methods appropriate to the planning area. These elements provide the information needed to select cleanup methods for specific combinations of shoreline and oil types. Adapting and completing the template creates a better manual that meets the specific needs of the area. At a minimum, the shoreline environments and special resources need to be revised to reflect those found in the area of concern. Local information on shoreline types (discussed in Section 9420.3) can be obtained from Environmental Sensitivity Index (ESI) atlases prepared by NOAA for most of the United States shorelines, including the Great Lakes. These atlases describe the shoreline types in each area; the descriptions can be used to replace those included in this template, if appropriate. The section on Special Considerations, Section 9420.3.1.15, only lists resource issues that are potentially of concern. Each region or area should identify its issues of greatest concern and provide guidance on how to best minimize impacts from oil spills. More importantly, the pre-spill process of adapting this manual should allow response agencies the opportunity to discuss and resolve shoreline treatment issues prior to a spill emergency. This tool also outlines a process of documenting and recommending cleanup options for a section of a shoreline after it has been oiled.

9420.2 Shoreline Evaluation and Mapping

STILL TO BE DEVELOPED

9420.2.1 Objectives

1. Assess the need for shoreline cleanup.
2. Select the most appropriate cleanup method.
3. Determine priorities for shoreline cleanup.
4. Document the spatial oil distribution over time.
5. Internally consistent historical record of shoreline oil distribution.

9420.2.2 Shoreline Evaluation Process

9420.2.3 Guidelines for Shoreline Surveys

1. Joint participation in ground surveys such that all entities from Unified Command are represented.
2. Selecting and naming segments.
3. Shoreline Survey Evaluation Forms with accepted common shoreline oiling terminology.

9420.3 Shoreline Types and Sensitive Resources

The type of shoreline, degree of exposure to waves and currents, and associated biological sensitivity are the main criteria for selecting appropriate treatment techniques. Prediction of the behavior and persistence of oil on intertidal habitats is based on an understanding of the coastal environment, not just the substrate type and grain size. The vulnerability of a particular intertidal habitat is an integration of the:

1. Shoreline type (substrate, grain size, tidal elevation, origin);
2. Exposure to wave and tidal energy;
3. Biological productivity and sensitivity; and
4. Ease of cleanup.

All of these factors are used to determine the relative sensitivity of shorelines. Key to the sensitivity ranking is an understanding of the relationships between: physical processes, substrate, shoreline type, product type, sediment transport, and product fate and effect. Thus, the intensity of energy expended upon a shoreline by wave action, tidal currents, and river currents directly affects the persistence of stranded oil. The need for shoreline cleanup activities is determined, in part, by the lack or slowness of natural processes in removal of oil stranded on the shoreline.

These concepts were used to develop the ESI, which ranks shoreline environments according to their relative sensitivity to oil spills, potential biological injury, and ease of cleanup. ESI maps have been prepared for most areas of the coastline of the United States. Generally speaking, areas exposed to high levels of physical energy, such as wave action and tidal currents, and low biological activity, rank low on the scale, while sheltered areas with associated high biological activity have the highest ranking. The shoreline types used in this

manual are the rankings, on a scale of 1 to 10, used on most ESI maps (NOAA 1992). Each atlas has a legend that defines the shoreline ranking scale, describes the nature and distribution of each shoreline type in the area, predicts the behavior of oil on that shoreline type, and makes general cleanup recommendations.

The descriptions, predicted oil impact, and recommended response activity listed in the following sections were updated from existing ESI Atlases for the following areas: the Strait of Juan de Fuca and Northern Puget Sound (NOAA 1984), Central and Southern Puget Sound (NOAA 1985), Oregon and Washington (NOAA 1986), and Columbia River (NOAA 1991). It should be noted that the description of riverine shoreline in the Columbia River ESI Atlas uses different names and includes only six types. Based on the predicted oil impact and response considerations, these six Columbia River shoreline types correspond to the coastal shoreline types in the following way:

Columbia River Shoreline Types	Coastal Shoreline Types
▪ CR ESI Unvegetated steep banks and cliffs	▪ ESI-3 Fine and medium grain sand beach, eroding scarp and unvegetated steep river bank
▪ CR ESI Sand/gravel beaches	▪ ESI-5 Mixed sand and gravel beaches
▪ CR ESI Rip rap	▪ ESI-6C Exposed rip rap
▪ CR ESI Flats	▪ ESI-7 Exposed tidal flat
▪ CR ESI Vegetated banks	▪ ESI-9B Sheltered vegetated low bank
▪ CR ESI Marsh/swamp	▪ ESI-10 Marshes

9420.3.1 Shoreline Types

9420.3.1.1 ESI 1 – Exposed Rocky Cliff Face & Vertical Sea Walls or Piers

9420.3.1.1.1 Description

- Exposed rocky shores are most common along the Washington and Oregon outer coasts, but also are present along the outer Strait of Juan de Fuca and the San Juan Islands.
- This shoreline type is composed of steeply dipping to vertical bedrock; intertidal zone is steep (<30˚ slope), with very little width.
- This shoreline type is exposed to high waves, and sediment accumulations are uncommon and ephemeral, since waves remove debris that has slumped from eroding cliffs.
- This shoreline type is frequently found interspersed with other shoreline types.
- Rock surfaces are colonized by barnacles, mussels, snails, and algae; many of the cliffs are used by marine birds and mammals.
- Manmade seawalls and piers are common along inlets, urbanized areas, and developed beachfront sites. These are composed of concrete and stone, wooden, or metal bulkheads and wooden pilings.

- Organisms such as barnacles, shellfish, and algae may be common on pilings; biota on concrete structures along the upper intertidal or supratidal zones is sparse.

9420.3.1.1.2 Predicted Oil Impact

- Oil is typically held offshore by waves reflecting off the steep cliff; on less steep shores, oil may come onshore.
- Oil persistence will be short and will be a function of the wave energy during the spill; during high wave energy, oil will be removed in days.
- Marine birds (especially diving birds) and mammals using these rocky shores maybe affected.
- Impacts to intertidal communities are expected to be of short duration; an exception would be where heavy concentrations of a light refined product (e.g., No. 2 fuel oil) came ashore very quickly.
- Oil would percolate between the joints of manmade structures and coat the narrow intertidal area of solid structures.
- Biota would be damaged or killed under heavy accumulations.

9420.3.1.1.3 Response Considerations

- On most shores, no cleanup is necessary.
- Access is usually very difficult and may pose significant safety issues to response personnel.
- Monitoring for impacts to marine birds and mammals is advised.
- Cleanup of recreational areas may be necessary; high-pressure water flushing is effective while oil is still fresh.

9420.3.1.2 ESI 2 – Exposed Wave-Cut Platforms

9420.3.1.2.1 Description

- The intertidal zone consists of a flat rock bench of highly variable width; along the Oregon and Washington coasts, the platform surface is irregular and tidal pools are common.
- The shoreline may be backed by a steep scarp or low bluff. In Puget Sound, these areas are usually made up of low-lying bedrock or glacial till.
- There may be a narrow, perched beach of gravel- to boulder-sized sediments at the base of the scarp; pockets of sandy "tidal flats" can occur on the platform in less exposed settings.
- Small accumulations of gravel can be found in the tidal pools and crevices in the platform.
- These habitats can support large populations of encrusting animals and plants, with rich tidal pool communities.

9420.3.1.2.2 Predicted Oil Impact

- Oil will not adhere to the rock platform, but rather will be transported across the platform and accumulate along the high-tide line.
- Oil can penetrate and persist in the beach sediments, if present.
- Tide pool organisms may be killed

- Persistence of oiled sediments is usually short term (on the order of days to weeks), except in wave shadows or larger sediment accumulations.

9420.3.1.2.3 Response Considerations

- In most wave-exposed areas, cleanup is not necessary.
- High recreational-use areas may be effectively cleaned using high-pressure water flushing if oil is still fresh.
- Removal of organisms should be avoided.
- Monitoring for impacts to marine birds and mammals is advised.

9420.3.1.3 ESI 3 – Fine to Medium Grained Sand Beaches and Unvegetated Steep River Banks

9420.3.1.3.1 Description

- Sand beaches are common along the outer coast, but not very common in the Puget Sound Region.
- These beaches are generally wide, hard-packed, and flat if fine grained; gently sloping (slope <5˚) if medium grained.
- They are commonly backed by dunes or seawalls along the exposed, outer coast.
- Along sheltered bays, they are narrower, often fronted by tidal flats.
- Upper beach fauna are scarce; lower intertidal biota may include clams, worms, and amphipods.
- Near vertical scarps in unconsolidated sediments (most often sand and gravel) and bedrock; most common in urban areas and below dams.
- Undergoing active erosion, as indicated by lack of vegetation

9420.3.1.3.2 Predicted Oil Impact

- Light oil accumulations will be deposited as oily swashes or bands along the upper intertidal zone.
- Heavy oil accumulations will cover the entire beach surface, although the oil will be lifted off the lower beach with the rising tide.
- Maximum penetration of oil into fine grained sand will be 10 centimeters (cm).
- Burial of oiled layers by clean sand within the first few weeks will be less than 30 cm along the upper beach face.
- Oil will form a band on steep river banks. In unconsolidated sediments, the substrate will be removed, taking the oil with it.
- Organisms living in the beach sands may be killed either by smothering or by lethal oil concentrations in the interstitial water.
- Shorebirds may be killed if oiled, though they may shift to clean sites.

9420.3.1.3.3 Response Considerations

- Cleanup is not generally recommended on unconsolidated sediments of steep river banks unless in high recreational use areas.
- Cleanup should concentrate on removal of oil from the upper swash zone after all oil has come ashore.

- Sand removal should be minimal to avoid erosion problems; use of heavy equipment for oil/sand removal may result in the removal of excessive amounts of sand; manual cleanup may be more efficient.
- Activity through the oiled sand should be limited to prevent grinding oil deeper in the beach.
- Activity through dune areas should be severely limited.

9420.3.1.4 ESI 4 – Coarse Grained Sand Beaches

9420.3.1.4.1 Description

- ESI 4 is commonly found near headlands and along the southern Oregon coast.
- These beaches are moderate-to-steep, of variable width, and have soft sediments.
- They may be present as pocket beaches or on top of bedrock platforms.
- Coastal beaches are typically inhabited by razor clams, burrowing worms, and mysids.

9420.3.1.4.2 Predicted Oil Impact

- Light oil will be deposited primarily as a band along the high-tide line.
- Under very heavy accumulations, oil may spread across the entire beach face, though the oil will be lifted off the lower beach with the rising tide.
- Penetration of oil into coarse grained sand can reach 25 cm.
- Burial of oiled layers by clean sand can be rapid, and up to 60 cm or more.
- Burial over 1 meter is possible if the oil comes ashore at the start of a depositional period.
- Biological impacts include temporary declines in infaunal populations, which can also affect feeding shorebirds.

9420.3.1.4.3 Response Considerations

- Cleanup should commence after the majority of the oil has come onshore unless significant burial is expected to occur.
- Cleanup should concentrate on oil removal from the upper swash zone.
- Sand removal should be minimal to avoid erosion problems; use of heavy equipment for oil/sand removal may result in the removal of excessive amounts of sand; manual cleanup may be more efficient.
- Activity through the oiled sand should be limited to prevent grinding oil deeper in the beach.
- Activity through dune areas should be severely limited.

9420.3.1.5 ESI 5 – Mixed Sand and Gravel Beaches

9420.3.1.5.1 Description

- This shoreline type is the most common beach type in Puget Sound; found along the coast as extensive beaches along rocky shores, perched beaches on bedrock, and in the vicinity of river mouths along the southern Oregon coastline

- This shoreline type is a narrow, moderately sloping beach composed of a mixture of sand (greater than 20 percent) and gravel (greater than 25 percent).
- The high-tide berm area is usually composed of sand or fine gravel (pebbles to cobbles), whereas the lower part of the beach is coarser, with cobbles to boulders.
- Because of the mixed sediment sizes, there may be zones of sand, pebbles, or cobbles.
- Because of sediment mobility and desiccation on exposed beaches, there are low densities of attached animals and plants.
- Upper intertidal zone used extensively by surf smelt and sand lance for spawning.
- The presence of attached algae, mussels, and barnacles indicates beaches that are relatively sheltered, with the more stable substrate supporting a richer biota.

9420.3.1.5.2 Predicted Oil Impact

- During small spills, oil will be deposited along and above the high-tide swash.
- Large spills will spread across the entire intertidal area.
- Oil penetration into the beach sediments may be up to 50 cm; however, the sand fraction can be quite mobile, and oil behavior is much the same as on a sand beach if the sand fraction exceeds about 40 percent.
- Burial of oil may be deep at and above the high-tide line, where oil tends to persist, particularly where beaches are only intermittently exposed to waves.
- On sheltered beaches, extensive pavements of asphalted sediments can form if there is no removal of heavy oil accumulations because most of the oil remains on the surface; once formed, pavements are very stable and can persist for many years.
- Oil can be stranded in the coarse sediments on the lower part of the beach, particularly if the oil is weathered or emulsified.
- Biota present may be killed by the oil, either by smothering or by lethal concentrations in the water column.

9420.3.1.5.3 Response Considerations

- Cleanup should commence only after the majority of oil has come ashore.
- Heavy accumulations of oil and oil-soaked debris at the high-tide swash line should be removed to prevent asphalt formation.
- Exposed beaches do not require cleanup unless heavily oiled.
- Removal of sediments should be minimal to prevent erosion.
- Mechanical reworking of sediment into the surf zone can effectively remove fresh oil, especially in sheltered areas of low biological activity; sorbents and booms should be used to contain released oil.

9420.3.1.6 ESI 6A – Gravel Beaches – Pebbles to Cobbles

9420.3.1.6.1 Description

- This shoreline type is present along coast of Washington.
- Fine grained gravel beaches composed of sediments ranging in size from pebbles to cobbles (from 4 to 256 cm in diameter), with boulders a very minor fraction. No sand is on the surface, and less than 20 percent is in subsurface.
- Zones of pure pebbles or cobbles may be present, with pebbles forming berms at high-tide line and cobbles and boulders dominating lower beach face.
- The beach slope is intermediate to steep (between 10 and 20 degrees), with multiple wave-built berms forming the upper beach.
- Natural replenishment rate of sediments is extremely slow.
- There is high annual variability in degree of exposure, and thus in frequency of mobilization by waves. Degree of exposure or sediment mobility can be predicted by the amount of rounding or smoothing of the individual pebbles and cobbles.
- Sediment mobility limits the amount of attached algae, barnacles, and mussels to lower tidal levels.

9420.3.1.6.2 Predicted Oil Impact

- Oil on gravel beaches would coat individual rocks and penetrate up to 60 cm in well-sorted gravels, which may be below the level of annual reworking by the waves.
- Deep penetration and rapid burial of stranded oil is likely on exposed beaches.
- On exposed beaches, oil can be pushed over the high-tide and storm berms, pooling and persisting above the normal zone of wave wash.
- Long-term persistence will be controlled by the depth of penetration versus the depth of routine reworking by storm waves. Oil may persist for years in low wave energy areas.
- In low energy areas, buried oil will tend to seep out, generating sheens that can recontaminate the shoreline.
- On relatively sheltered beaches, formation of asphalt pavements is likely where accumulations are heavy and oil is left uncleaned.

9420.3.1.6.3 Response Considerations

- Heavily oiled wrack and debris should be removed.
- Due to extremely slow natural replenishment, there should be no permanent removal of sediments.
- High-pressure flushing of gravel may help in cleaning exposed surfaces, but will have little effect on oil penetrated deeply into gravel without extensive reworking.
- In heavily oiled, sheltered areas, sediments may have to be removed and replaced.

9420.3.1.7 ESI 6B – Gravel Beaches – Cobbles to Boulders

9420.3.1.7.1 Description

- Gravel beaches are composed of sediments ranging in size from cobbles to boulders (larger than 256 cm in diameter).
- The beach slope is intermediate to steep (between 10 and 20 degrees), with multiple wave-built berms forming the upper beach.
- Boulders dominate the lower intertidal zone. Boulder and cobble armoring of the surface of the middle to lower intertidal zone may also be present.
- This shoreline type has the lowest natural replenishment rate of sediments of all beaches.
- There is high annual variability in degree of exposure, and thus in frequency of mobilization by waves.
- This shoreline type has a higher amount of attached algae and epifauna due to increased stability of larger boulders.

9420.3.1.7.2 Predicted Oil Impact

- Oil on gravel beaches would coat individual rocks and penetrate up to 100 cm in the poorly sorted larger cobble and boulder.
- The presence of armor may significantly extend persistence of oil; oil located beneath armored surface will remain longer because of the higher velocities required to mobilize the armor.
- On exposed beaches, oil can be pushed over the high-tide and storm berms, pooling and persisting above the normal zone of wave wash.
- Long-term persistence will be controlled by the depth of penetration versus the depth of routine reworking by storm waves. Oil may persist for years in low wave energy areas.
- In low energy areas, buried oil will tend to seep out, generating sheens that can recontaminate the shoreline.
- On relatively sheltered beaches, formation of asphalt pavements is likely where accumulations are heavy and oil is left uncleaned.

9420.3.1.7.3 Response Considerations

- Heavily oiled wrack and debris should be removed.
- Due to extremely slow natural replenishment, there should be no permanent removal of sediments.
- High-pressure flushing of gravel may help in cleaning exposed surfaces, but will have little effect on oil penetrated deeply into gravel without extensive reworking.
- In heavily oiled, sheltered areas, sediments may have to be removed and replaced.

9420.3.1.8 ESI 6C – Rip Rap

9420.3.1.8.1 Description

- Rip rap is angular rock similar in size to that described for ESI 6B, used for shoreline protection and inlet stabilization.

- Rip rap structures have a slope that is generally steep, are located at the high tide line where the heaviest concentration of oil usually impact and are made up of boulders too large to be reworked by waves.
- Due to the stability of rip rap, biota on the lower levels may be plentiful and varied.
- ESI 6C has no natural replenishment of sediments
- ESI 6C is generally located in areas exposed to higher wave energy.
- A higher amount of attached algae and epifauna may be present due to increased stability of larger boulders.

9420.3.1.8.2 Predicted Oil Impact

- With heavy oiling, individual boulders will be heavily coated, and penetration to the bottom of the rip rap structure is likely.
- Pools of oil will collect inside the rip rap structure and potentially be a source of sheens for a long period.
- Biota will be damaged or killed under heavy accumulations.

9420.3.1.8.3 Response Considerations

- Heavily oiled wrack and debris should be removed.
- High-pressure flushing of rip rap may help in cleaning exposed surfaces, but will have little effect on oil penetrated deeply into gravel without extensive reworking.
- Heavily oiled rip rap may need to be removed and replaced.

9420.3.1.9 ESI 7 – Exposed Tidal Flats

9420.3.1.9.1 Description

- This shoreline type is particularly common in the eastern portion of Puget Sound and at the entrance to bays, estuaries, and river mouths along the coast.
- This shoreline type is composed primarily of sand and mud.
- The presence of sand indicates that tidal or wind-driven currents and waves are strong enough to mobilize the sediments.
- This shoreline type is always associated with another shoreline type on the landward side of the flat.
- The sediments are water-saturated, with only the topographically higher ridges drying out during low tide.
- Biological utilization can be very high, with large numbers of infauna and heavy use by birds for roosting and foraging. Clams and worms are the most common species.

9420.3.1.9.2 Predicted Oil Impact

- Oil does not usually adhere to the surface of exposed tidal flats or penetrate the water saturated sediments, but rather moves across the flat and accumulates at the high-tide line.
- Deposition of oil on the flat may occur on a falling tide if concentrations are heavy but will frequently be refloated by the next high tide.

- Biological impacts may be severe, especially to burrowing bivalves and worms since oil can penetrate into burrows; this can significantly decrease food for foraging birds and fish in the area.

9420.3.1.9.3 Response Considerations

- Cleanup of tidal flats is generally not recommended due to the likelihood of mixing oil deeper into the sediments during the cleanup effort.
- Access is usually very poor due to shallow water and soft sediments.
- Passive removal of oil lifted off tidal flat by high tide may be advisable if this can be accomplished without mixing oil into the sediments.
- Use of heavy machinery should be restricted to prevent mixing oil into the sediments and cannot be used in soft, muddier areas.
- Removal of heavily oiled debris stranded in a tidal flat may be advisable if this can be accomplished without mixing surface oil into the sediments.

9420.3.1.10 ESI 8A – Sheltered Vertical Rocky Shores & Solid, Vertical, Man-Made Structures

9420.3.1.10.1 Description

- This shoreline type is located in calm, interior environments, especially common within the interior portion of the San Juan Islands.
- This shoreline type consists of a bedrock shore of variable slope (from vertical cliffs to wide, rocky ledges) that is sheltered from exposure to most wave and tidal energy.
- This shoreline type is uncommon along the coast; may occur along the inside of bays and coves.
- Species density and diversity vary greatly, but barnacles, snails, mussels, clams, periwinkles, amphipods, polychaetes, rockweed, and crabs are often very abundant.
- Sheltered solid, vertical, man-made structures consisting of short segments of seawalls, docks, and bulkheads are commonly found along the high tide line in harbors, industrial sites and other developed areas.
- Biota on man-made structures along the upper intertidal or supratidal zones is sparse.

9420.3.1.10.2 Predicted Oil Impact

- On rocky shores, oil will adhere readily to the higher rock surfaces, particularly along the high-tide line, forming a distinct oil band.
- The lower intertidal zone usually stays wet (particularly when algae-covered), preventing oil from adhering to the rock surface.
- Oil will not penetrate, except in fractures in the rock where oil can pool and persist.
- Oil will penetrate into joints and voids of man-made structure, and with heavy concentrations will coat the intertidal areas.
- Because of the low energy setting, even light accumulations can persist for years, especially between rocks.
- Fresh oil and light refined products have high acute toxicity that can affect attached organisms after even short exposures.

9420.3.1.10.3 Response Considerations

- Cleanup is difficult, oiled shoreline may pose long-term leaching problem.
- High- and low-pressure water flushing of man-made structures and rocky shores is effective while oil is still fresh.
- Cutting of oiled algae is generally not recommended.

9420.3.1.11 ESI 8B – Sheltered Rubble Slope

9420.3.1.11.1 Description

- This shoreline type is commonly found in industrial waterways of northwest ports.
- This shoreline type is a relatively steep (greater than 15 degrees) and short rocky shore that is covered with a thin-to-thick veneer of angular rubble without any evidence of rounding or sorting by sediment transport.
- This shoreline type is sheltered from wave energy or strong tidal currents.
- The surface rubble is highly variable in packing, but there is always some permeability in the surface material.
- Species density and diversity vary greatly, but barnacles, snails, mussels, clams, periwinkles, amphipods, polychaetes, rockweed, and crabs are often very abundant.

9420.3.1.11.2 Predicted Oil Impact

- Oil will adhere readily to the rough rocky surface, particularly along the high-tide line, forming a distinct oil band.
- Where the rubble is loosely packed, oil will penetrate deeply, causing long-term contamination of the subsurface sediments.
- Fresh oil and light refined products have high acute toxicity that can affect attached organisms after even short exposures.

9420.3.1.11.3 Response Considerations

- Cleanup is difficult, and oiled shoreline may pose a long-term leaching problem, especially from subsurface contamination.
- High- and low-pressure water flushing is effective for surface contamination while oil is still fresh, but generally does nothing for subsurface contamination.
- Heavily contaminated subsurface sediment may need to be removed and replaced to prevent long-term leaching and sheening.
- Cutting of oiled algae is generally not recommended.

9420.3.1.12 ESI 9A – Sheltered Tidal Flats of Sand and Mud

9420.3.1.12.1 Description

- This shoreline type is very common in bays and estuaries in Grays Harbor, Willapa Bay, Tillamook Bay, Columbia River estuary, and upper Puget Sound.
- They are present in calm-water habitats, sheltered from major wave activity, and frequently fronted by marshes.

- Although wave energy is very low, flats may be exposed to moderate tidal or river currents.
- Substrate slope is flat (less than 3 degrees) and can vary in width from a few meters to nearly 1 kilometer.
- Sediment is composed of water-saturated mud or muddy sand, so permeability is very low, except where burrowed.
- The sediments are very soft and cannot support even light foot traffic.
- There are usually large populations of clams, crabs, oysters worms, amphipods, and snails; many of these flats are commercially harvested.
- This shoreline type may be used heavily by birds for feeding and as staging areas during migration.
- Eelgrass beds may be present and are an important nursery area for juvenile salmonids, Dungeness crab, and various marine fish species.

9420.3.1.12.2 Predicted Oil Impact

- Oil does not usually adhere to the surface of sheltered tidal flats, but rather moves across the flat and accumulates at the high-tide line.
- Deposition of oil on the flat may occur during a falling tide if concentrations are heavy, but may refloat with the next high tide.
- Oil will not penetrate the water-saturated sediments; however, persistent contamination can occur if oil penetrates into burrows of organisms in the mud.
- In areas of high suspended sediments, sorption of oil can result in contaminated sediments that can be deposited on the flats and persist for years.
- Biological impacts may be severe.

9420.3.1.12.3 Response Considerations

- These areas require high priority for protection during oil spills.
- Cleanup of sheltered tidal flats is generally not recommended due to the likelihood of mixing oil deeper into the sediments during cleanup effort.
- Access is very limited due to shallow water and soft substrate; restrict any active cleanup to the upper reaches of high-tide swash or conduct from boats.
- Removal of heavily oiled debris stranded along the high tide line may be advisable if activity can be accomplished without mixing surface oil into the sediments.

9420.3.1.13 ESI 9B – Sheltered Vegetated Low Bank

9420.3.1.13.1 Description

- Either low bank with grasses or low eroding banks with trees and tree roots exposed to the water.
- ESI 9B is found at river mouths in the Puget Sound area, very common throughout the lower Columbia River and above the dams.
- This shore type is flooded occasionally by high water.

9420.3.1.13.2 Predicted Oil Impact

- At low water, there is little impact, with oil coating a narrow band of sediment at the water level.
- At high water, the oil will cover and coat grasses at the base of the trees and may also coat low hanging branches and foliage.
- Oil may cause loss of the grasses, but the trees should survive unless oil penetrates and persists in the substrate.

9420.3.1.13.3 Response Considerations

- Low pressure flushing of oiled areas is effective in removing moderate to heavy accumulations of oil from along the banks.
- Sorbent and containment boom should be placed on the water side of the cleanup operations to contain and collect oil outflow.
- Low- to moderate-pressure flushing can be used to remove oil from tree roots and trunks.

9420.3.1.14 ESI 10 – Salt & Fresh-Water Marshes (Herbaceous & Woody Vegetation)

9420.3.1.14.1 Description

- This shoreline type is common along the Washington and Oregon coast and in Puget Sound at the head of many bays; extensive marches are found in the Skagit River and Nisqually River delta areas, as well as the Columbia River estuary and river below Portland.
- Marshes are low energy, protected wetlands containing emergent, herbaceous, and/or woody vegetation, generally associated with river systems, bays, and estuaries.
- The width of marshes can vary widely, from a narrow fringe to extensive; substrate is generally silt and mud, with variable amounts of organic matter.
- The moderate tidal range of coastal and estuarine marshes results in the presence of numerous tidal channels; frequently, they are fronted by tidal flats.
- Resident flora and fauna are abundant and consist of numerous species.
- Marshes provide a nursery ground for numerous fish species and are heavily used by birds for nesting and feeding.

9420.3.1.14.2 Predicted Oil Impact

- Oil adheres readily to marsh vegetation.
- The band of coating will vary widely, depending upon the tidal stage at the time oil slicks are in the vegetation. There may be multiple bands.
- Large slicks will persist through multiple tidal cycles and coat the entire stem from the high-tide line to the base.
- If the vegetation is thick, heavy oil coating will be restricted to the outer fringe, with penetration and lighter oiling to the limit of tidal influence.
- Medium to heavy oils do not readily adhere or penetrate the fine sediments, but they can pool on the surface and in burrows.

- Light oils can penetrate the top few centimeters of sediment and deeply into burrows and cracks (up to 1 meter); once incorporated into the sediment, oil can persist for years.

9420.3.1.14.3 Response Considerations

- Marshes are very sensitive environments and highly vulnerable to mechanical damage from cleanup activities; they should receive the highest priority for shoreline protection.
- Cleanup is generally not recommended for light oiling or oiling confined to the outer fringe; natural flushing, especially in higher energy areas, is the best strategy.
- Activities in marshes should be kept at minimum to prevent damage to marsh plants and mixing oil into the soft sediments.
- With heavy oiling, a combination of manually removing oiled wrack and debris, low-pressure flushing, passive absorption, and vacuum collection using small boats can be effective; due to the potential for stirring up the sediment and mixing it with the oil, these activities are generally limited to the edge of the marsh.

9420.3.1.15 Special Considerations

The above shoreline types may also have associated sensitive biological resources and human-use areas, which include:

Subtidal Habitats

- Submerged aquatic vegetation,
- Kelp beds, and
- Worm beds.

Birds

- Rookeries and nesting sites,
- Waterfowl overwintering concentration areas,
- High concentration migration stopovers, and
- High concentration resident bird colonies.

Marine Mammals

- Migration corridors, and
- Population concentration areas.

Terrestrial Mammals

- Concentration areas.

Terrestrial Plants

- Threatened and endangered plants adjacent to the shoreline.

Fish and Shellfish
- Anadromous fish spawning streams,
- Sites important to beach- and kelp-spawning fish,
- Estuarine areas that are important fish nursery areas,
- Special concentration areas for estuarine and demersal fish,
- Shellfish seed beds, leased beds, high concentration areas, and
- Crab and shrimp nursery areas.

Recreation
- High-use recreational beaches,
- Marinas and boat ramps, and
- High-use boating, fishing, and diving areas.

Management Areas
- Nature preserves and reserves,
- Privately developed lands/facilities (Nature Conservancy Areas),
- Research natural areas,
- State marine parks/federal marine sanctuaries, and
- Wildlife management areas and refuges.

Resource Extraction
- Commercial fishing areas, including finfish, crabs, and mollusks;
- Water intakes;
- Aquaculture sites;
- Intertidal and subtidal mining leases;
- Subsistence harvest sites; and
- Log storage sites.

Cultural Resources
- Archaeological and other historically significant sites, and
- Native American reservations.

9420.4 Shoreline Countermeasure Methods Using Conventional Response Technology

The following section lists and describes those shoreline countermeasure methods that utilize conventional response technology to mitigate the environmental impact and enhance the recovery of a shoreline or habitat resulting from stranded oil. Methods and equipment currently in use for these conventional shoreline treatment methods are described in some detail below. These methods, when used according to the guidelines in this manual, may be used on most sites as part of the On-Scene Coordinator (OSC)-directed response. It should be noted that some of these methods may require other authorizations or permits before work begins.

1 No Action
2 Manual Removal of Oil
3 Passive Collection of Oil (Sorbents)
4 Oiled Debris Removal

5 Trenching/Recovery Wells
6 Oiled Sediment Removal
7 Ambient-Water Flooding (Deluge)
8a Ambient-Water/Low-Pressure Washing <50 pounds per square inch (psi)
8b Ambient-Water/High-Pressure Washing <100 psi
9 Warm-Water <90 degrees Fahrenheit (°F)/Moderate-to-High-Pressure Washing
50–100 psi
10 Hot Water >90°F/Moderate-to-High-Pressure Washing 50–100 psi
11 Vacuum Removal of Oil
12 Sediment Reworking
13 Sediment Removal, Cleansing, and Replacement
14 Cutting Oiled Vegetation

9420.4.1 No Action

9420.4.1.1 Objective

No attempt is made to remove stranded oil because there is no proven effective method for cleanup, there is unacceptable risk to response workers, or an extremely sensitive environment or resource is present.

9420.4.1.2 Description

No action is taken. However, the OSC continues to monitor the incident.

9420.4.1.3 Applicable Shoreline Types

Can be used on all shoreline types.

9420.4.1.4 When to Use

No action should be taken if the shoreline is extremely remote or inaccessible, the amount and type of oil does not justify a cleanup effort, natural removal rates are very fast, or cleanup actions will do more harm than leaving the oil to be removed naturally.

9420.4.1.5 Biological Constraints

This method may be inappropriate for areas where high numbers of mobile animals (birds, marine mammals, crabs, etc.) use the intertidal zone or adjacent nearshore waters.

9420.4.1.6 Environmental Effects

Intertidal – This method has no intertidal environmental effects beyond those caused by the spilled oil.

Subtidal – This method has no subtidal environmental effects beyond those caused by the spilled oil.

9420.4.2 Manual Removal of Oil

9420.4.2.1 Objective

In this method, stranded surface oil is removed with hand tools and manual labor.

9420.4.2.2 Description

In this method, surface oil accumulations with a minimum of sediment are removed by manual means (hands, rakes, shovels, etc.) and placed in containers for removal from the shoreline. No mechanized equipment is used.

9420.4.2.3 Applicable Shoreline Types

This method can be used on most shoreline types; it is not generally recommended for soft mud substrates where mixing of oil deeper in the sediment might occur.

9420.4.2.4 When to Use

This method is generally used on shorelines where the oil can be easily removed by non-mechanical means. It is most appropriate for light to moderate oiling conditions. Activities may need to be closely monitored or may not be appropriate in archaeological and/or culturally sensitive areas.

9420.4.2.5 Biological Constraints

Foot traffic over sensitive areas (shellfish beds, alga mats, bird nesting areas, dunes, etc.) is to be restricted. There may be periods when shoreline access is restricted (e.g., bird nesting, mammal pupping).

9420.4.2.6 Environmental Effects

Intertidal – This method's intertidal environmental effects are minimal if surface disturbance by cleanup activities and work force movement is limited.

Subtidal – This method has no effects in addition to those caused by the spilled oil.

9420.4.3 Passive Collection of Oil (Sorbents)

9420.4.3.1 Objective

The objective of this method is to remove oil by adsorption onto oleophilic material placed in the intertidal zone.

9420.4.3.2 Description

In this method, sorbent material is placed on the surface of the shoreline substrate allowing it to absorb oil as it is released by tidal or wave action. Oiled sorbent material is then collected and removed from the shoreline. The amount of oil removed dependent on the capacity of the particular sorbent, energy available for lifting oil off the shoreline, and degree of oil weathering.

9420.4.3.3 Applicable Shoreline Types

This method can be used on any shoreline type.

9420.4.3.4 When to Use

This method can be used when the shoreline oil is mobile and transport of oil is expected on or off the site. The oil must be of a viscosity and thickness to be released by the substrate and absorbed by the sorbent. It is often used as a secondary treatment method after gross oil removal and along sensitive shorelines where access is restricted.

9420.4.3.5 Biological Constraints

There are no biological constraints associated with this method, although the process can be slow, thus allowing oil to remain in critical habitats during sensitive periods of time.

9420.4.3.6 Environmental Effects

Intertidal – There may be physical impact of placing the sorbent material in a sensitive area. If all absorbents are not recovered, they will become non degradable, oily debris. Passive absorbents in the mid or lower intertidal should be monitored for entrapment of small crustaceans.

Subtidal – This method has no subtidal environmental effects in addition to those caused by the spilled oil.

9420.4.4 Oiled Debris Removal

9420.4.4.1 Objective

The objective of this method is the removal of contaminated debris and logs.

9420.4.4.2 Description

This method involves manual or mechanical removal of debris from the upper beach face and the zone above high tide beyond the normal wash of waves. It can include cutting and removal of oiled logs. Care should be taken to prevent any possible erosion of beach area and oil penetration into substrate due to foot traffic.

9420.4.4.3 Applicable Shoreline Types

This method can be used on most shoreline types where safe access is allowed; it is not generally recommend on soft mud substrates where mixing of oil deeper in the sediment might occur.

9420.4.4.4 When to Use

This method can be used when driftwood and debris are heavily contaminated and there is either a potential source of chronic oil release, an aesthetic problem, or a source of contamination for other organisms on the shoreline.

9420.4.4.5 Biological Constraints

Disturbance to adjacent upland areas should be minimized. Foot traffic over sensitive intertidal areas (shellfish beds, alga mats, bird nesting areas, dunes, etc.) should be restricted. There may be periods when shoreline access is restricted (e.g., bird nesting, mammal pupping).

9420.4.4.6 Environmental Effects

Intertidal – This method can reduce the habitat's structural complexity.

Subtidal – This method has no subtidal environmental effects in addition to those caused by the spilled oil.

9420.4.5 Trenching/Recovery Wells

9420.4.5.1 Objective

The objective of this method is to remove subsurface oil from permeable substrates.

9420.4.5.2 Description

This method involves digging trenches or wells (pits) to the depth of the oil and remove oil floating on the water table by vacuum pump or skimmer. Water flooding or high-pressure spraying at ambient temperatures can be used to flush oil to the trench.

9420.4.5.3 Applicable Shoreline Types

This method can be used on beaches ranging in grain size from fine sand to gravel.

9420.4.5.4 When to Use

This method can be used when large quantities of oil penetrate deeply into permeable sediments and cannot be removed by surface flooding. The oil must be liquid enough to flow at ambient temperatures. This method may need to be closely monitored or may not be appropriate in archaeological and/or culturally sensitive areas.

9420.4.5.5 Biological Constraints

Trenches should not be dug in the lower intertidal where attached algae and organisms are abundant.

9420.4.5.6 Environmental Effects

Intertidal – On gravel beaches, there may be a period of beach instability as the sediments are redistributed after the trenches are filled in.

Subtidal – This method has no subtidal environmental effects in addition to those caused by the spilled oil.

9420.4.6 Oiled Sediment Removal

9420.4.6.1 Objective

The objective of this method is to remove surface oiled sediments (without replacement).

9420.4.6.2 Description
In this method, oiled sediments are removed by either manual use of hand tools or mechanical use of various kinds of motorized equipment. The oiled material must be transported and disposed of offsite.

9420.4.6.3 Applicable Shoreline Types
This method can be used on any shoreline with surface sediments; it is not generally recommend on soft mud substrates where mixing of oil deeper in the sediment might occur. On rocky coasts, only manual removal is feasible. Heavy equipment should only be used with special supervision to minimize sediment removal.

9420.4.6.4 When to Use
This method can be used when only very limited amounts of oiled sediments have to be removed. It should not be considered in areas of low natural replenishment or where beach erosion may result. Care should be taken to limit siltation and remove the sediments only to the depth of oil penetration, which can be difficult with heavy equipment. This method may not be appropriate in archaeological and/or culturally sensitive areas.

9420.4.6.5 Biological Constraints
Excavating equipment must not intrude upon sensitive habitats. Only the upper intertidal and supratidal areas should be considered for sediment removal to minimize disturbance of biological communities in the lower intertidal and subtidal. There may be site-specific constraints limiting placement of equipment and temporary sediment storage piles. Such operations would generally be restricted in fish-spawning areas. Adjacent sensitive areas potentially impacted by released oil sheens must be protected during operations.

9420.4.6.6 Environmental Effects
Intertidal – The equipment is heavy, and required support personnel is extensive. May be detrimental if excessive sediments are removed without replacement. All organisms resident in the beach will be affected, though the need for removal of the oil may be determined to be the best overall alternative.

Subtidal – Release of oil and fine grained oily sediments to the water during sediment removal activities and tidal flushing of the excavated beach surface.

9420.4.7 Ambient-Water Flooding (Deluge)
9420.4.7.1 Objective
The objective of this method is to wash surface oil and oil from crevices and rock interstices to water's edge for collection.

9420.4.7.2 Description
A large diameter header pipe is placed parallel to the shoreline above the oiled area. A flexible perforated header hose is used during deluge of intertidal shorelines to better conform to their profiles. Ambient seawater is pumped

through holes in the header pipes and flows down the beach face to the water. On porous beaches, water flows through the substrate, pushing loose oil ahead of it (or floats oil to the water's surface), then transports the oil down slope for pickup. Flow is maintained as long as necessary to remove the majority of free oil. Oil is trapped by booms and picked up with a skimmer or other suitable equipment.

9420.4.7.3 Applicable Shoreline Types

This method can be used on beaches with sediments coarser than sand and on gently sloping rocky shorelines. It generally is not applicable to mud, sand, vegetated, or steep rocky shorelines.

9420.4.7.4 When to Use

This method can be used on heavily oiled shorelines when the oil is still fluid and loosely adhering to the substrate, and where oil has penetrated into cobble or boulder beaches. This method is frequently used in combination with other washing techniques (low or high pressure, ambient or warm water).

9420.4.7.5 Biological Constraints

This method is not appropriate at creek mouths. Where the lower intertidal contains rich biological communities, flooding should be restricted to tidal stages when the rich zones are under water, to prevent secondary oiling.

9420.4.7.6 Environmental Effects

Intertidal – Habitat may be physically disturbed and smothered as sand and gravel components are washed down slope. Organisms may be flushed into lower tidal zones.

Subtidal – Oiled sediment may be transported to shallow subtidal areas, contaminating them and burying benthic organisms.

9420.4.8 Ambient-Water/Low Pressure Washington (<50 psi)

9420.4.8.1 Objective

The objective of this method is to mobilize liquid oil that has adhered to the substrate or man-made structures, pooled on the surface, or become trapped in vegetation to water's edge for collection.

9420.4.8.2 Description

In this method, low-pressure washing (<50 psi) with ambient seawater sprayed with hoses is used to flush oil to the water’s edge for pickup. Oil is trapped by booms and picked up with skimmers or sorbents. This method can be used with a deluge system on beaches to prevent released oil from re-adhering to the substrate. Care must be taken not to drive the oil into the substrate and to prevent erosion and siltation.

9420.4.8.3 Applicable Shoreline Types
This method can be used on heavily oiled rock shores, gravel beaches, rip rap, and seawalls where the oil is still fresh and liquid, as well as in marshes and mangroves where free oil is trapped.

9420.4.8.4 When to Use
This method can be used in places where adhered oil is still fresh and must be removed due to continued release of oil. During this process, it is necessary to closely monitor for excessive siltation and erosion when flushing mixed sand and gravel beaches.

9420.4.8.5 Biological Constraints
The use of flushing may need to be restricted to certain tidal elevations so that the oil/water effluent does not drain across sensitive low tide habitats. In marshes, use only at high tide under conditions where sediments will not be disturbed and either from boats or the high-tide line to prevent foot traffic in vegetation.

9420.4.8.6 Environmental Effects
Intertidal – If containment methods are not sufficient, contamination may be flushed into the lower intertidal zone. Foot traffic, hoses, and the need for compressors will increase the physical impact to the environment.

Subtidal – Oiled sediment may be transported to shallow subtidal areas, contaminating them and burying benthic organisms.

9420.4.9 Ambient-Water/High Pressure Washing (>100 psi)
9420.4.9.1 Objective
The objective of this method is to mobilize oil that has adhered to hard substrates or man-made structures to the water's edge for collection.

9420.4.9.2 Description
This method is similar to low-pressure washing except that it uses water pressure up to 100 psi. High-pressure spray will better remove oil that has adhered to rocks. Because the water volumes used in this method are typically low, it may require placement of sorbents directly below treatment areas or use deluge to carry oil to the water's edge for collection.

9420.4.9.3 Applicable Shoreline Types
This method may be used on rock shores, rip rap, and vertical hard manmade structures. It can be used to flush floating oil or loose oil out of tide pools and between crevices on rip rap.

9420.4.9.4 When to Use
This method may be used when low-pressure washing is not effective for removal of adhered oil, which must be removed due to continued release of oil. It may also be applied when a directed water jet can remove oil from hard-to-reach sites, or to remove oil from man-made structures for aesthetic reasons.

9420.4.9.5 Biological Constraints
Flushing may need to be restricted to certain tidal elevations so that the oil/water effluent does not drain across sensitive low-tide habitats.

9420.4.9.6 Environmental Effects
Intertidal – This method may dislodge many organisms from the substrate surface. It may drive oil deeper into the substrate if the water jet is improperly applied. Foot traffic, hoses, and the need for compressors will increase the physical impact to the environment. If containment methods are not sufficient, contamination may be flushed into the lower intertidal zone.

Subtidal – Oiled sediment and dislodged organisms may be transported to shallow subtidal areas, contaminating them and burying benthic organisms.

9420.4.10 Warm-Water <90ºF/Moderate Pressure Washing 50 to 100 psi
9420.4.10.1 Objective
The objective of this method is to mobilize thick and weathered oil adhered to rock surfaces prior to flushing it to the water's edge for collection.

9420.4.10.2 Description
In this method, heated seawater (ambient to 90°F) is applied at moderate pressure to mobilize weathered oil that has adhered to rocks. If the warm water is not sufficient to flush the oil down the beach, "deluge" flooding or additional low- or high-pressure washing can be used to float the oil to the water's edge for pickup. Oil is trapped by booms and picked up with skimmers or sorbents.

9420.4.10.3 Applicable Shoreline Types
This method may be used on heavily oiled gravel beaches, rip rap, and hard, vertical, manmade structures such as seawalls, bulkheads, and docks.

9420.4.10.4 When to Use
This method may be used when the oil has weathered to the point that low-pressure washing with ambient water is not effective for removal of adhered oil, which must be removed due to continued release of oil. It may also be used to remove oil from man-made structures for aesthetic reasons.

9420.4.10.5 Biological Constraints
This method can only be used at certain tidal elevations, so that the oil/water effluent does not drain across sensitive low-tide habitats (damage can result from exposure to oil, oiled sediments, and warm water). Its use should be restricted in areas adjacent to stream mouths, tide pool communities, and similar rich intertidal communities.

9420.4.10.6 Environmental Effects
Intertidal – Temperature change can kill attached organisms. This method may drive oil deeper into substrate if the water jet is not properly applied. Foot traffic,

hoses, and the need for compressors and heaters will increase the physical impact to the environment. If containment methods are not sufficient, contamination may be flushed into lower intertidal zones that would otherwise not be oiled.

Subtidal – Oiled sediment may be transported to shallow subtidal areas, contaminating them and burying benthic organisms.

9420.4.11 Hot Water >90º F/Moderate Pressure Washington 50 to 100 psi

9420.4.11.1 Objective

The objective of this method is to dislodge and mobilize trapped and weathered oil from inaccessible locations and surfaces not amenable to mechanical removal prior to flushing oil to the water's edge for collection.

9420.4.11.2 Description

In this method, water heaters mounted offshore on barges or small land-based units heat water to temperatures from 90°F up to 170°F, which is usually sprayed by hand with moderate-pressure wands. Used without water flooding, this procedure requires immediate use of vacuum (vacuum trucks or super suckers) to remove the oil/water runoff. With a deluge system, the oil is flushed to the water's surface for collection with skimmers or sorbents.

9420.4.11.3 Applicable Shoreline Types

This method may be used on heavily oiled manmade, vertical structures such as seawalls, bulkheads, and docks.

9420.4.11.4 When to Use

This method may be used when the oil has weathered to the point that even warm water at high pressure is not effective for removal of adhered oil, which must be removed due to continued release of oil. It may also be used to remove oil from man-made structures for aesthetic reasons.

9420.4.11.5 Biological Constraints

Use of this method is restricted to certain tidal elevations so that the oil/water effluent does not drain across sensitive low-tide habitats (damage can result from exposure to oil, oiled sediments, and hot water). Its use should be restricted to areas near stream mouths, tide pool communities, etc. Released oil must be recovered to prevent further oiling of adjacent environments.

9420.4.11.6 Environmental Effects

Intertidal – All attached organisms in the direct spray zone will be dislodged or killed, and significant mortality (temperature impact) of the lower intertidal communities may result even when used properly. This method may drive oil deeper into substrate if the water jet is improperly applied. Foot traffic, hoses, and the need for compressors will increase the physical impact to the environment. Where the intertidal community is rich, the tradeoff between damage to the

intertidal community from the hot-water washing versus potential damage from leaving the oil has to be weighed.

Subtidal – Oiled sediment may be transported to shallow subtidal areas, contaminating them and burying benthic organisms.

9420.4.12 Vacuum Removal of Oil

9420.4.12.1 Objective

The objective of this method is to remove free oil pooled on the substrate or from the water's surface in sheltered areas.

9420.4.12.2 Description

This method uses a vacuum unit with a suction head to recover free oil. The equipment can range from small portable units that fill individual 55-gallon drums to large supersuckers that are truck-mounted and can lift large rocks. It can be used with water spray systems to flush the oil toward the suction head.

9420.4.12.3 Applicable Shoreline Types

This method can be used on any shoreline type if accessible; it is not generally recommended for soft mud substrates where mixing of oil deeper in the sediment might occur. Vacuum units may be mounted offshore on barges, onshore on trucks, or as individual units on boats or ashore at low tide.

9420.4.12.4 When to Use

This method may be used when free, liquid oil is stranded on the shoreline (usually along the high-tide line) or trapped in vegetation that is readily accessible.

9420.4.12.5 Biological Constraints

Special restrictions should be identified for areas where foot traffic and equipment operation should be limited, such as rich intertidal communities. Operations in wetlands are to be very closely monitored, with a site-specific list of restrictions.

9420.4.12.6 Environmental Effects

Intertidal – This method has minimal intertidal environmental impacts if used properly and minimal substrate is removed.

Subtidal – This method has no subtidal environmental effects in addition to those caused by the spilled oil.

9420.4.13 Sediment Reworking

9420.4.13.1 Objective

The objective of this method is to rework oiled sediments to break up oil deposits, increase its surface area, and mix deep subsurface oil layers that will expose the oil to natural removal processes and enhance the rate of oil degradation.

9420.4.13.2 Description
In this method, beach sediments are rototilled or otherwise mechanically mixed with the use of heavy equipment on gravel beaches. The oiled sediments in the upper beach area may also be relocated lower on the beach to enhance natural cleanup during reworking by wave activity (berm relocation).

9420.4.13.3 Applicable Shoreline Types
This method should be used only on beaches exposed to significant wave activity. Tilling-type activities work best on beaches with a significant sand fraction; large equipment can be used to relocate sediments up to boulder size.

9420.4.13.4 When to Use
This method can be used on beaches with significant amounts of subsurface oil, where sediment removal is unfeasible (due to erosion concerns or disposal problems) or where surface oil deposits have started to form pavements or crusts. It may not be appropriate in archaeological and/or culturally sensitive areas.

9420.4.13.5 Biological Constraints
This method should not be used on beaches near shellfish-harvest or fish-spawning areas, or near bird nesting or concentration areas because of the potential for constant release of oil and oiled sediments. Sediment reworking should be restricted to the upper part of the beach to prevent disturbance of the biological communities in the lower intertidal area.

9420.4.13.6 Environmental Effects
Intertidal – Due to the mixing of oil into sediments, this process could further expose organisms living below the original layer of oil. Repeated mixing over time could delay the re-establishment of organisms. Relocated sediments would bury and kill organisms. There may be a period of beach instability as the relocated sediments are redistributed.

Subtidal – There is a potential for release of contaminated sediments to the nearshore subtidal habitats.

9420.4.14 Sediment Removal, Cleansing, and Replacement
9420.4.14.1 Objective
The objective of this method is to remove oiled sediments and replace them with cleaned or new material.

9420.4.14.2 Description
In this method, oiled sediments are excavated using heavy equipment on the beach at low tide. The sediments are loaded into a container for washing. Cleansing methods include hot water wash or physical agitation with a cleansing solution. After the cleansing process, the rinsed materials are returned to the original area. Cleaning equipment must be placed close to beaches to reduce transportation problems. If it is not possible to clean the oiled sediment, it can be replaced with new material of similar composition.

9420.4.14.3 Applicable Shoreline Types
This method can be used on sand- to boulder-sized beaches, including rip rap. The beaches must be exposed to wave activity so that the replaced sediments can be reworked into a natural distribution.

9420.4.14.4 When to Use
This method can be used on beaches with large amounts of subsurface oil, where permanent removal of sediment is undesired and other cleanup techniques are likely to be ineffective. It may not be appropriate in archaeological and/or culturally sensitive areas.

9420.4.14.5 Biological Constraints
Excavating equipment must not intrude upon sensitive habitats. Only the upper and supratidal areas should be considered. This method is generally restricted in spawning areas. There may be site-specific constraints limiting placement of temporary sediment storage piles. Replaced material must be free of oil and toxic substances. The washing must not change the grain size of the replaced material, either by removal of fines or excessive breakage of friable sediments. If new material is used, it must have a similar composition and grain size distribution as removed sediment.

9420.4.14.6 Environmental Effects
Intertidal – All resident organisms will be affected, though the need for removal of the oil may be determined to be the best overall solution. Equipment can be heavy, large, and noisy, disrupting wildlife. Transportation to the site may entail aircraft, land vehicles, or barges, contributing to environmental disruption. There may be a period of beach instability as the replaced sediments are redistributed.

Subtidal – This method may involve the release of oil and fine grained oily sediments into the water during excavation. This is a concern due to tidal flushing of beach sediments and exposed excavations.

9420.4.15 Cutting Vegetation
9420.4.15.1 Objective
The objective of this method is to removal oiled vegetation to prevent the oiling of wildlife.

9420.4.15.2 Description
In this method, manual cutting of oiled vegetation and removal of cut vegetation with rakes. The cut vegetation is bagged immediately for disposal.

9420.4.15.3 Applicable Shoreline Types
This method may be used on marshes, protected rock, boulder beaches, and low vegetated river bank.

9420.4.15.4 When to Use

This method may be used when large quantities of potentially mobile oil are trapped in vegetation or when the risk of oiled vegetation contaminating wildlife is greater than the value of the vegetation that is to be cut, and there is no less destructive method available to remove or reduce the risk to acceptable levels.

9420.4.15.5 Biological Constraints

Strict monitoring of the operations used in this method must be conducted to minimize the degree of root destruction and mixing of oil deeper into the sediments. For plants attached to rock boulder or cobble beaches, sources of population recruitment must be considered. Access to bird nesting areas should be restricted during nesting seasons.

9420.4.15.6 Environmental Effects

Intertidal – Removal of vegetation will result in loss of habitat for many animals. Cut areas will have reduced plant growth for up to two years. Along the exposed section of shoreline, the vegetation may not regrow, resulting in erosion and permanent loss of the habitat. Trampled areas (which are inevitable) will recover much more slowly.

Subtidal – Long-term subtidal impacts include increased sediment load in the subtidal area as a result of increased erosion in the intertidal area.

9420.5 Shoreline Countermeasure Methods Using Alternative Technology

Shoreline countermeasure based on conventional technology are not always successful in minimizing impacts or speeding up recovery of shorelines impacted by stranded oil. Research and development is ongoing for both new and improved oil spill treatment methods. Various chemical, thermal, and biological techniques are currently being tested for effectiveness and toxicity, and may be approved for use in certain situations. Methods considered to be of potential use in this area are described below.

15 *In-situ* Burning on Shoreline
16a Chemical Oil Stabilization with Elastomizers
16b Chemical Protection of Beaches
16c Chemical Cleaning of Beaches
17 Nutrient Enhancement
18 Microbial Addition

9420.5.1 *In-Situ* Burning on Shorelines

9420.5.1.1 Objective

The objective of this method is to removal oil from the shoreline by burning.

9420.5.1.2 Description

In this method, oil on the shoreline is burned, usually when it is on a combustible substrate such as vegetation, logs, and other debris. Oil can be burned off of

nonflammable substrates with the aid of a burn promoter. Appropriate air quality agencies must be notified prior to the burn.

9420.5.1.3 Applicable Shoreline Types

This method may be used on any shoreline type except tidal flats.

9420.5.1.4 When to Use

This method may be used early in the spill event, after ensuring that the product is ignitable. It must comply with the Northwest Area Contingency Plan (NWACP) *In Situ* Burning Policy.

9420.5.1.5 Biological Constraints

This method should only be considered for use in the upper intertidal or supratidal zones since destruction of plants and animals from heat and burn promoters will be extensive. This technique is subject to restrictions and permit requirements established by federal, state, and local laws. It should not be used to burn polychlorinated biphenyls (PCBs), wastes containing more than 1,000 parts per million (ppm) of halogenated solvents, or other substances regulated by the United States Environmental Protection Agency.

9420.5.1.6 Environmental Effects

Little is known about the relative effects of burning oiled wetlands compared to other techniques or natural recovery. Burning may cause significant air pollution, which must be considered when weighing the potential benefits and risks of the technique. The combustion products may travel great distances before deposition.

9420.5.2 Chemical Oil Stabilization with Elastomizers

9420.5.2.1 Objective

The objective of this method is to solidify or gelatinize oil on the water's surface or a beach to keep it from spreading or escaping, and to speed recovery rate and efficiency.

9420.5.2.2 Description

In this method, a chemical agent enhancing polymerization of the hydrocarbon molecules is applied by semiliquid spray or as a dry chemical onto the oil in the proper dosage. Depending on the nature and concentration of the polymerizing agent, the oil can be rendered viscoelastic, but still fluid, gelatinous, or semisolid. The primary purpose of this technique is to stabilize the oil, keeping it from spreading or escaping, causing oiling elsewhere. It may reduce the solubility of the light (and more toxic) fractions by locking them into the polymer, thus reducing both air and water exposure. Depending on the beach type and equipment used, recovery may be enhanced.

9420.5.2.3 Applicable Shoreline Types

This method may be used on shorelines of low permeability where heavy oil has pooled on the surface, except vegetated shorelines.

9420.5.2.4 When to Use

This method may be used when heavy concentrations of liquid oil are on the substrate and adjacent water body, and physical removal cannot be completed prior to the next tide so that the oil is likely to move to a more sensitive shoreline type. It should be used in conjunction with booming or other physical containment and must comply with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and NWACP.

9420.5.2.5 Biological Constraints

This method is not suitable for vegetated or rip rap shore types. It should be avoided when birds or other wildlife that may be more adversely impacted by the congealed oil cannot be kept away from the treated shoreline. The congealed oil may stick to vegetation and wildlife, increasing physical damage to both. On rip rap, the congealed oil may remain in crevices, where it may hamper recovery and prolong the release of sheens.

9420.5.2.6 Environmental Effects

This method may enhance the smothering effect of oil on intertidal organisms. Thus, the treatment should be considered only for heavily oiled beaches where smothering effects are already maximal. The congealed oil may stick to vegetation and wildlife, increasing physical damage, such as impaired flight in birds or impaired thermoregulation in mammals and birds whose feathers or fur become oiled.

9420.5.3 Chemical Protection of Beaches

9420.5.3.1 Objective

The objective of this method is to pretreat the shoreline to prevent oil from adhering to the substrate.

9420.5.3.2 Description

In this method, certain types of water-based chemicals, some of which are similar in composition to dispersants, are applied to beaches in advance of the oil.

9420.5.3.3 Applicable Shoreline Types

This method be used on coarse and fine grained sand beaches, seawalls, and piers (particularly piers or waterfront facilities that are of historical significance), eroding bluffs, wave-cut platforms, and rip rap.

9420.5.3.4 When to Use

This method may be used when oil is projected to impact an applicable shoreline, particularly those with high recreational or aesthetic value. Use of this method must comply with the NCP and NWACP.

9420.5.3.5 Biological Constraints

This method may not be suitable for nutrient-rich environments, particularly in confined waters. The toxicity of shoreline treatment products is reportedly much

less than that of oil, but the toxicity of each product should be evaluated prior to consideration for use.

9420.5.3.6 Environmental Effects

The long-term environmental effects of these procedures are unknown. A toxic effect of the chemical can be anticipated. Additionally, the nutrient load to nearshore and interstitial waters may lead to eutrophication. Whether the predicted reduced residence time of the oil on the beach will increase the survival rate for sessile and interstitial organisms is unknown.

9420.5.4 Chemical Cleaning of Beaches

9420.5.4.1 Objective

The objective of this method is to increase the efficiency of oil removal from contaminated areas.

9420.5.4.2 Description

In this method, special formulations, which can be characterized as weak dispersants, are applied to the substrate, as a presoak and/or flushing solution, to soften weathered or heavy oils to aid in the efficiency of flushing treatment methods. The intent is to be able to lower the temperature and pressure required to mobilize the oil from the substrate.

9420.5.4.3 Applicable Shoreline Types

This method may be applied to any shoreline where deluge and water flushing procedures are applicable.

9420.5.4.4 When to Use

This method may be used when the oil has weathered to the point where it will not flow using warm to hot water. This approach may be most applicable where flushing decreases in effectiveness as the oil weathers. Use of this method must comply with the NCP and NWACP.

9420.5.4.5 Biological Constraints

This method will require extensive biological testing for toxicity and water quality sampling prior to receiving approval for use. There is some concern that the treated oil will be dispersed in the water column, and thus impact water column and subtidal organisms. Field tests will be required to show that use of a beach cleaner does not reduce overall recoverability of the oil. Use may be restricted where suspended sediment concentrations are high, adjacent to wetlands and tidal flats, and near sensitive subtidal resources.

9420.5.4.6 Environmental Effects

If more oil is dispersed into the water column, there could be more oil adsorbed onto suspended sediments and transferred to subtidal habitats, particularly along sheltered shorelines. Intertidal habitats might survive better, if cooler water temperatures are possible.

9420.5.5 Nutrient Enhancement

9420.5.5.1 Objective

The objective of this method is to speed the rates of natural microbial degradation of oil by the addition of nutrients (specifically nitrogen and phosphorus). Microbial biodegradation is the conversion by microorganisms of dissolved and dispersed hydrocarbons into oxidized products via various enzymatic reactions. Some hydrocarbons are converted to carbon dioxide and cell material, while others are partially oxidized and/or left unaltered as a residue.

9420.5.5.2 Description

Nutrients are applied to the shoreline in one of several methods: soluble inorganic formulations that are dissolved in water and applied as a spray at low tide, requiring frequent applications; slow-release formulations that are applied as a solid to the intertidal zone and designed to slowly dissolve; and oleophilic formulations that adhere to the oil itself, thus, they are sprayed directly on the oiled areas.

9420.5.5.3 Applicable Shoreline Types

This method can be used on any shoreline type where safe access is allowed.

9420.5.5.4 When to Use

This method may be used on moderately to heavily oiled shorelines, after other techniques have been used to remove as much oil as possible; on lightly oiled shorelines where other techniques are not effective; and where nutrients are a limiting factor in natural degradation. It may potentially be used for the treatment of subsurface oil. Use of this method must comply with the NCP and NWACP.

9420.5.5.5 Biological Constraints

This method is not applicable in shallow water; poorly flushed, restricted embayments where nutrient overloading may lead to eutrophication; or where toxicity of nutrients, particularly ammonia, is of concern. There must be no risk of oxygen depletion. Use is to be restricted adjacent to stream mouths, tide pools, etc. Contact toxicity of oleophilic formulations may restrict areas of direct application. Bioassay test results should be carefully evaluated, as other chemicals in the formulations could be toxic to aquatic organisms.

9420.5.5.6 Environmental Effects

Tests in Alaska showed that interstitial oxygen concentrations did not decrease to such an extent that it limited the supply of oxygen available to the bacteria. The fertilizer applications that increased nutrient concentrations and microbial activity did not harm the nearshore environment. About 99 percent of butoxyethanol, a toxic component of the Inipol formulation (the fertilizer commonly used in Alaska), degraded to nontoxic compounds within 24 hours after Inipol treatments of cobble shorelines. Inipol was initially toxic to intertidal organisms directly contacted during application. Researchers also found no evidence that the nutrients released from the treated shorelines stimulated algal blooms.

9420.5.6 Microbial Addition

9420.5.6.1 Objective

The objective of this method is to speed the rates of natural microbial degradation of oil by addition of nutrients and microbial products. Microbial biodegradation is the conversion by microorganisms of dissolved and dispersed hydrocarbons into oxidized products via various enzymatic reactions. Some hydrocarbons are converted to carbon dioxide and cell material, while others are partially oxidized and/or left untouched as a residue.

9420.5.6.2 Description

In this method, formulations containing hydrocarbon-degrading microbes and fertilizers are added to the oiled area. The argument is made that indigenous organisms will be killed by the oil, so new microbial species need to be added to begin the process of biodegradation. To date, microbial addition has not been shown to work better than fertilizer alone in field tests.

9420.5.6.3 Applicable Shoreline Types

This method can be used on any shoreline type where safe access is allowed.

9420.5.6.4 When to Use

This method may be used on moderately to heavily oiled shorelines, after other techniques have been used to remove as much oil as possible; on lightly oiled shorelines where other techniques are not effective; and where oil degrading bacteria are a limiting factor in natural degradation. It may potentially be used for the treatment of subsurface oil. Use of this method must comply with the NCP and NWACP.

9420.5.6.5 Biological Constraints

This method is not to be used in shallow water; poorly flushed, restricted embayments where nutrient overloading may lead to eutrophication; or where toxicity of nutrients, particularly ammonia, is of concern. There must be no risk of oxygen depletion. Use of this method is to be restricted adjacent to stream mouths, tide pool communities, etc. Bioassay test results should be carefully evaluated, as other chemicals in the formulation could be toxic to aquatic organisms.

9420.5.6.6 Environmental Effects

The environmental effects of this method are yet to be evaluated for full-scale field applications.

9420.6 Matrices of Recommended Countermeasure Methods by Oil and Shoreline Type

The matrices included in this section show which shoreline countermeasure techniques have been considered for the 14 shoreline types described in Section 9420.3, above. Four matrices have been constructed for the major categories of oil (very light, light, medium, and heavy).

Countermeasure methods are described in Sections 9420.4 and 9420.5, above. The countermeasures discussed in Section 9420.4, "Shoreline Countermeasure Methods Using Conventional Response Technology" are traditional or conventional techniques that the OSC can use without any additional concurrence. However, the cutting of vegetation countermeasure should be used only during specific seasonal windows under specific conditions and with landowner approval. The countermeasures discussed in Section 9420.5, "Shoreline Countermeasure Methods Using Alternative Technology," may be useful in certain situations. These methods are considered more experimental and controversial in their application and potential impacts and require more formal review and consultation before implementing. The exact requirements are spelled out in the NCP and NWACP. The Shoreline Countermeasures Matrices are a particularly dynamic component of the manual and should continue to be revised as the existing techniques are used and evaluated, and as both old and new techniques are refined.

Each matrix has a written explanation of how it is to be used as a countermeasure advisability matrix. The matrix is only a general guide for removing oil from shoreline substrates. It must be used in conjunction with the entire "Shoreline Countermeasures Manual," plus field observations and scientific advice. The countermeasures listed are not necessarily the best under all circumstances, and any listed technique may need to be used in conjunction with other techniques (including ones not listed herein). The Federal On-Scene Coordinator (FOSC) or the State On-Scene Coordinator (SOSC) operating with the FOSC's authorization has the responsibility for and authority to determine which countermeasure(s) are appropriate for the various situations encountered.

Selection of countermeasure techniques to be used in each spill is based upon the degree of oil contamination, shoreline types, and the presence of sensitive resources. Extremely sensitive areas are generally limited to manual cleanup methods. It is important to note that the primary goal of countermeasure implementation is the removal of oil from the shoreline with no further injury or destruction to the environment. The three categories of guidance used in the matrices are defined as follows:

R	Recommended	May be the preferred method that best achieves the goal of minimizing destruction or injury to the environment.
C	Conditional	Viable and possibly useful but may result in limited adverse effects to the environment.
	Shaded	Not applicable or not generally recommended.

Shoreline Countermeasures Matrix

Very light oil (jet fuels, gasoline)

- Highly volatile (should all evaporate within 1–2 days)
- High concentration of toxic (soluble) compounds
- Result: Localized, severe impacts to water column and intertidal resources
- Duration of impact is a function of the resource recovery rate
- No dispersion necessary

SHORELINE TYPES CODES

1	Exposed rock shores and vertical, hard man-made structure (e.g., seawalls)	6C	Exposed rip rap
2	Exposed wave-cut platforms	7	Exposed tidal flat
3	Fine to medium grained sand beaches & steep unvegetated river banks	8A	Sheltered vertical rock shores and vertical, hard man-made structures (e.g., seawalls, docks)
4	Coarse grained sand beaches	8B	Sheltered rubble slope
5	Mixed sand and gravel beaches, including artificial fill containing a range of grain size and material 6A - Gravel beaches - pebbles to cobble	9A 9B	Sheltered sand and mud flats Sheltered vegetated low bank
6B	Gravel beaches - cobbles to boulders	10	Marshes

SHORELINE TYPES

COUNTERMEASURES	1	2	3	4	5	6A	6B	6C	7	8A	8B	9A	9B	10
CONVENTIONAL METHODS														
No action	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Manual removal of oil														
Passive collection of oil			C	C	C	C	C	C						
Oiled debris removal	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Trenching/recovery wells			C	C	C									
Oiled sediment removal														
Ambient water flooding (Deluge)														C
Amb water flush <50 psi														
Amb water flush <100 psi														
Warm water flush <90°F														
Hot water flush >90°F														
Vacuum removal of oil														
Sediment reworking			C	C	C	C								
Sediment Removal-cleaning-replacement														
Cutting oiled vegetation														
ALTERNATIVE METHODS*														
In-situ burning on shore														
Chemical stabilization, protection, or cleaning														
Nutrient enhancement														
Microbial addition														

R Recommend – May be Preferred Alternative

C Conditional (Refer to NW Shoreline Countermeasures Manual)

Shaded areas are Not Applicable or Not Generally Recommended

* Follow approved process defined in NCP and NW Area Plan

This countermeasure advisability matrix is only a general guide for removal of oil from shoreline substrates. It must be used in conjunction with the entire Shoreline Countermeasures Manual plus field observations and scientific advice. The countermeasures listed are not necessarily the best under all circumstances, and any listed technique may need to be used in conjunction with other techniques (including ones not listed herein). The Federal On-Scene Coordinator (FOSC) or the state OSC operating with the FOSC's authorization has the responsibility for and the authority to determine which countermeasure(s) are appropriate for various situations encountered. Selection of countermeasures is based on the degree of oil contamination, the shoreline type, and the presence of sensitive resources.

Shoreline Countermeasures Matrix

Light Oil (Diesel, No. 2 Fuel Oils, Light Crudes

- Moderately volatile; will leave residue (up to 1/3 of spilled amount)
- Moderate concentrations of toxic (soluble) compounds
- Long-term contamination of intertidal resources possible
- Potential for subtidal impacts (dissolution, mixing, sorption onto suspended sediments)
- No dispersion necessary
- Cleanup can be very effective

SHORELINE TYPES CODES

1	Exposed rock shores and vertical, hard man-made structure (e.g. seawalls)	6C	Exposed rip rap
2	Exposed wave-cut platforms	7	Exposed tidal flat
3	Fine to medium grained sand beaches & steep unvegetated river banks	8A	Sheltered vertical rock shores and vertical, hard man-made structures (e.g. seawalls, docks)
4	Coarse grained sand beaches	8B	Sheltered rubble slope
5	Mixed sand and gravel beaches, including artificial fill containing a range of grain size and material 6A – Gravel beaches – pebbles to cobble	9A 9B	Sheltered sand and mud flats Sheltered vegetated low bank
6B	Gravel beaches – cobbles to boulders	10	Marshes

SHORELINE TYPES

COUNTERMEASURES	1	2	3	4	5	6A	6B	6C	7	8A	8B	9A	9B	10
CONVENTIONAL METHODS														
No action	R	R	C	C	C	C	C	C	R	C	C	R	C	R
Manual removal of oil			C	C	C	C	C	C		R	R		C	
Passive collection of oil	C	R	R	R	R	R	R	R	C	R	R	C	R	R
Oiled debris removal	C	C	R	R	R	R	R	R	C	R	R	C	C	C
Trenching/recovery wells			C	C	C									
Oiled sediment removal			C	C	C	C								
Ambient water flooding (Deluge)			C	C	C	R	R	R			C			C
Amb water flush <50 psi		C			C	C	C	C		R	C			C
Amb water flush <100 psi														
Warm water flush <90°F														
Hot water flush >90°F														
Vacuum removal of oil							C	C						C
Sediment reworking			C	C	C	C								
Sediment Removal-cleaning-replacement			C	C	C									
Cutting oiled vegetation							C	C		C	C		C	C
ALTERNATIVE METHODS*														
In-situ burning of shore														
Chemical stabilization, protection, or cleaning														
Nutrient enhancement			C	C	C	C	C	C						C
Microbial addition														

R Recommend – May be Preferred Alternative
C Conditional (Refer to NW Shoreline Countermeasures Manual)
Shaded areas are Not Applicable or Not Generally Recommended
* Follow approved process defined in NCP and NW Area Plan

This countermeasure advisability matrix is only a general guide for removal of oil from shoreline substrates. It must be used in conjunction with the entire Shoreline Countermeasures Manual plus field observations and scientific advice. The countermeasures listed are not necessarily the best under all circumstances, and any listed technique may need to be used in conjunction with other techniques (including ones not listed herein). The Federal On-Scene Coordinator (FOSC) or the state OSC operating with the FOSC's authorization has the responsibility for and the authority to determine which countermeasure(s) are appropriate for various situations encountered. Selection of countermeasures is based on the degree of oil contamination, the shoreline type, and the presence of sensitive resources.

Shoreline Countermeasures Matrix

Medium Oil (Most Crude Oils & Some Heavily Weathered Light Crudes)

- About ⅓ will evaporate within 24 hours
- Maximum water-soluble fraction is 10-100ppm
- Oil contamination of intertidal areas can be severe and long-term
- Impact to waterfowl and fur-bearing mammals can be severe
- Chemical dispersion is an option within 1–2 days
- Cleanup most effective if conducted quickly

SHORELINE TYPES CODES

1	Exposed rock shores and vertical, hard man-made structure (e.g. seawalls)	6C	Exposed rip rap
2	Exposed wave-cut platforms	7	Exposed tidal flat
3	Fine to medium grained sand beaches & steep unvegetated river banks	8A	Sheltered vertical rock shores and vertical, hard man-made structures (e.g., seawalls, docks)
4	Coarse grained sand beaches	8B	Sheltered rubble slope
5	Mixed sand and gravel beaches, including artificial fill containing a range of grain size and material 6A – Gravel beaches – pebbles to cobble	9A 9B	Sheltered sand and mud flats Sheltered vegetated low bank
6B	Gravel beaches – cobbles to boulders	10	Marshes

SHORELINE TYPES

COUNTERMEASURES	1	2	3	4	5	6A	6B	6C	7	8A	8B	9A	9B	10
CONVENTIONAL METHODS														
No action	C	C	C	C	C	C	C	C	R	C	C	R	C	R
Manual removal of oil	C	R	R	R	R	C	C	C		R	R		C	C
Passive collection of oil	R	R	R	R	R	R	R	R	C	R	R	R	R	R
Oiled debris removal	C	R	R	R	R	R	R	R	C	R	R	C	R	C
Trenching/recovery wells			C	C	C									
Oiled sediment removal			C	C	C	C							C	
Ambient water flooding (Deluge)			C	C	C	R	R	R		R	R		C	C
Amb water flush <50 psi	C	C			C	R	C	R		R	R		C	C
Amb water flush <100 psi	C	C					C	C		C				
Warm water flush <90°F	C						C	C		C				
Hot water flush >90°F	C									C				
Vacuum removal of oil	C	C	R	R		C	R	R		C	C		C	C
Sediment reworking			C	C	C	C								
Sediment Removal-cleaning-replacement			C	C	C	C		C			C			
Cutting oiled vegetation							C	C		C	C		C	C
ALTERNATIVE METHODS*														
In-situ burning on shore														
Chemical stabilization, protection, or cleaning														
Nutrient enhancement			C	C	C	C	C	C			C			C
Microbial addition														

R Recommend – May be Preferred Alternative
C Conditional (Refer to NW Shoreline Countermeasures Manual)
Shaded areas are Not Applicable or Not Generally Recommended
* Follow approved process defined in NCP and NW Area Plan

This countermeasure advisability matrix is only a general guide for removal of oil from shoreline substrates. It must be used in conjunction with the entire Shoreline Countermeasures Manual plus field observations and scientific advice. The countermeasures listed are not necessarily the best under all circumstances, and any listed technique may need to be used in conjunction with other techniques (including ones not listed herein). The Federal On-Scene Coordinator (FOSC) or the State On-Scene Coordinator operating with the FOSC's authorization has the responsibility for and the authority to determine which countermeasure(s) are appropriate for various situations encountered. Selection of countermeasures is based on the degree of oil contamination, the shoreline type, and the presence of sensitive resources.

Shoreline Countermeasures Matrix

Heavy Oil (Heavy Crude Oils, Intermediate Fuel Oils, Bunker C & Heavily Weathered Medium Crudes)

- Heavy oils with little or no evaporation or dissolution
- Water-soluble fraction likely to be <10ppm
- Heavy contamination of intertidal areas likely
- Severe impacts to waterfowl and fur-bearing mammals (coating and ingestion)
- Long-term contamination to sediments possible
- Weathers very slowly
- Dispersion seldom effective
- Shoreline cleanup difficult under all conditions

SHORELINE TYPES CODES

1	Exposed rock shores and vertical, hard man-made structure (e.g. seawalls)	6C	Exposed rip rap
2	Exposed wave-cut platforms	7	Exposed tidal flat
3	Fine to medium grained sand beaches & steep unvegetated river banks	8A	Sheltered vertical rock shores and vertical, hard man-made structures (e.g. seawalls, docks)
4	Course grained sand beaches	8B	Sheltered rubble slope
5	Mixed sand and gravel beaches, including artificial fill containing a range of grain size and material 6A – Gravel beaches – pebbles to cobble	9A 9B	Sheltered sand and mud flats Sheltered vegetated low bank
6B	Gravel beaches – cobbles to boulders	10	Marshes

SHORELINE TYPES

COUNTERMEASURES	**1**	**2**	**3**	**4**	**5**	**6A**	**6B**	**6C**	**7**	**8A**	**8B**	**9A**	**9B**	**10**
CONVENTIONAL METHODS														
No action	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**R**	**C**	**C**	**R**	**C**	**R**
Manual removal of oil	**C**	**R**	**R**	**R**	**R**	**C**	**C**	**C**		**R**	**R**		**C**	**C**
Passive collection of oil	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**C**	**R**	**R**	**C**	**R**	**R**
Oiled debris removal	**C**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**C**	**R**	**R**	**C**	**R**	**C**
Trenching/recovery wells			**C**	**C**	**C**									
Oiled sediment removal			**C**	**C**	**C**	**C**		**C**					**C**	
Ambient water flooding (Deluge)			**C**	**C**	**C**	**R**	**R**	**R**		**R**	**R**		**C**	**C**
Amb water flush <50 psi	**C**	**C**			**C**	**R**	**C**	**R**		**C**	**C**		**C**	**C**
Amb water flush <100 psi	**C**	**C**					**C**	**C**		**C**	**C**			
Warm water flush <90°F	**C**						**C**	**C**		**C**				
Hot water flush >90°F	**C**									**C**				
Vacuum removal of oil	**C**	**C**	**C**	**C**	**C**	**C**	**C**	**C**		**C**	**C**		**C**	**C**
Sediment reworking			**C**	**C**	**C**	**C**								
Sediment Removal- cleaning-replacement			**C**	**C**	**C**	**C**		**C**						
Cutting oiled vegetation							**C**	**C**		**C**	**C**		**C**	**C**
ALTERNATIVE METHODS*														
In-situ burning on shore														
Chemical stabilization, protection, or cleaning														
Nutrient enhancement			**C**	**C**	**C**	**C**	**C**	**C**						**C**
Microbial addition														

R Recommend – May be Preferred Alternative
C Conditional (Refer to NW Shoreline Countermeasures Manual)
Shaded areas are Not Applicable or Not Generally Recommended
* Follow approved process defined in NCP and NW Area Plan

This countermeasure advisability matrix is only a general guide for removal of oil from shoreline substrates. It must be used in conjunction with the entire Shoreline Countermeasures Manual plus field observations and scientific advice. The countermeasures listed are not necessarily the best under all circumstances, and any listed technique may need to be used in conjunction with other techniques (including ones not listed herein). The Federal On-Scene Coordinator (FOSC) or the state OSC operating with the FOSC's authorization has the responsibility for and the authority to determine which countermeasure(s) are appropriate for various situations encountered. Selection of countermeasures is based on the degree of oil contamination, the shoreline type, and the presence of sensitive resources.

9420 A Attachment A: Guidelines for Treatment Operations

General Guidelines

Ensure familiarity and compliance with approved treatment methods, approved shoreline segment work plans, advisories, and special instructions. Restrict all access to wetlands and tidal flats, except with special authorization.

Conditions to Avoid

- Treatment techniques (such as high pressure and hot water) that dislodge intertidal vegetation and invertebrates, e.g., mussels, barnacles, snails.
- Clearing marshes and vegetated shorelines (the presence of algae does not characterize a vegetated shoreline).

Actions to Encourage

- Boom off mud/grass flat adjacent to treatment areas to prevent further contamination.
- Boom off tidal creeks to prevent further contamination.
- Minimize impact to uncontaminated lower intertidal zones, including:
  - Land crews during tides that cover the lower intertidal zone
  - Avoid high-/low-pressure washing where possible
  - Work heavily oiled upper beach zone hen lower intertidal zones are covered by high tides
  - Employ sorbents along rip rap and below oiled upper beach to protect lower intertidal zone from oiling
- Ensure that all signs of human activity are removed when cleanup is completed.
- Ensure that all trash and wastes are removed daily:
  - Oil trapped in booms must be picked up before the next tide cycle
  - All food and associated trash must be removed each day to minimize attracting wildlife into contaminated areas

Guidelines Specific to Biological Resources

Advisories and special instructions may address:

- Bird concentration areas (nesting sites, colonies, rookeries, etc.)
- Live/dead animal collection policy
- Protection of cultural resources
- Marine mammal haulouts
- Collection of eagle feathers and marine mammal parts
- Cutting bull kelp
- Cutting oiled focus

Appendix B includes existing "best management practices" for specific issues addressed during previous spills, which can be used as the basis for developing regional guidelines.

9420 B Attachment B: Best Management Practices

Specialized Areas of Concern - National
(The following notices are provided as guidelines.)
- Marine Mammal Notice
- Collection of Eagle Feathers and Marine Mammal Parts
- Protection of Cultural Resources
- Cutting of Oiled Bull Kelp
- Cutting of Oiled Fucus (Popweed)
- Instruction for the Disposition of Dead and Live Wildlife

Marine Mammal Notice

(Developed by NOAA in 1989 during the *Exxon Valdez* oil spill.)
To reduce stress caused by unnecessary disturbance to marine mammal haulouts and improve the changes for wildlife survival, an aircraft advisory is issued for coastal areas affected by the spill. These advisories request that pilots stay at least one-half mile offshore and 1000 feet above ground level from areas of wildlife concentrations and critical habitats. These areas are shown on maps and distributed to pilots. The most critical areas to avoid are: (list critical areas).

No person, except an authorized government official, will approach, molest, or take a seal or sea lion, regardless of whether the animal is oiled, distressed, lethargic, or abandoned. This reminder is necessitated by the widespread activities of oil spill cleanup personnel in areas where seals and sea lions are giving birth to pups. Although casual and distant human/marine mammal interactions may not always be avoidable, they are, to varying degrees, harmful to the animal. The following explanation and guidance with respect to seal pups is offered in the interest of avoiding law violations and minimizing human-induced mortality among marine mammals.

Live seal pups are to be left undisturbed, whether or not they have oil on them. A pup not accompanied by an adult and/or appearing emaciated may not be abandoned. Females commonly leave their pups alone for extended periods during foraging trips. Newborn and young pups appear emaciated before acquiring fat through nursing. It is not possible to distinguish between a normal pup and one that is truly distressed. In the presence of humans, female seals may only approach their pups at night to nurse them, making determination of abandonment difficult to establish. True abandonment is unlikely, barring death or serious injury to the mother.
Pup deaths will greatly increase if oiled animals are picked up and subjected to the stress of handling, transport, and rehabilitation centers. Unlike sea otters and birds, external oiling does not adversely affect a seal's heat conservation ability or indicate a need for human assistance. Persons finding seals, sea lions, whales, or porpoises that appear to be in distress should contact NOAA Fisheries. Do not touch or closely approach these animals.

Collection of Eagle Feathers and Marine Mammal Parts

In response to inquiries about collecting eagle feathers and marine mammal parts by personnel involved in cleanup activities during a spill, the laws and regulations dealing with the collection and possession of such materials are summarized below.

Collection of Eagle Feathers: The Eagle Act (Public Law 95-616, 92 Stat. 3114, 16 U.S. Code 668) prohibits the collection and possession of any eagle parts, including feathers.

Collection of Marine Mammal Parts: The Marine Mammal Protection Act of 1972 (Public Law 92-522, 88 State. 1027, 95 Stat. 979, 16 USC 1372) generally prohibits the collection and possession of any marine mammal parts. Under 50 Code of Federal Regulations 18.26, the collection of certain dead marine mammal parts is allowed, as follows:

a. Any bones, teeth or ivory of any (non-endangered) dead marine mammal may be collected from a beach or from land within 1/4 of a mile of the ocean. The term "ocean" includes bays and estuaries.
b. Marine mammal parts so collected may be retained if registered within 30 days with an agent of the National Marine Fisheries Service, or an agent of the U.S. Fish and Wildlife Service.
c. Registration shall include (1) the name of the owner, (2) a description of the article to be registered, and (3) the date and location of collection. Items so collected and registered must be retained in the ownership of the collector. The sale of such items is prohibited.

Protection of Cultural Resources

Shoreline cleanup operations have the potential for damaging important archaeological and cultural resources. Authorized shoreline cleanup procedures may uncover undiscovered archaeological features or artifacts. To assist in their identification, drawings of the types of artifacts that might be found in the intertidal zone and along the shoreline by cleanup crews are included. Cleanup personnel should be aware of the policy that anyone found vandalizing or appropriating cultural materials will be subject to full prosecution under the Archaeological Resources Protection Act. If response personnel find any cultural resources (fossils, archaeological or historical artifacts), the following steps should be taken immediately:

1. Leave the cultural materials in place at the site of discovery and mark with flagging tape.
2. Stop cleanup activities in the surrounding area.
3. Inform a designated state representative.

Cutting of Oiled Bull Kelp (*Nereocystis luetkeana*) as a Technique for Releasing and Recovering Trapped Oil

(Based on research by NOAA conducted during the *Tenyo Maru* oil spill, off the coast of Washington, 1991)

Although bull kelp is an annual, with much of a year's growth typically removed by seasonal storms, Dr. Sandra Lindstrom, a phycologist with the University of British Columbia, cautions that removal of the upper portion of the stipe removes the entire active reproductive area of the plant, which is located in the fronds. Bull kelp reproduces by the production of spore cases, which drop to the bottom and subsequently grow into the following season's plants. If cutting is to take place, it should be limited to the fronds, leaving a portion on the plant, which would permit it to nominally survive. Cutting the stipe effectively kills the plant. Cutting kelp beds abruptly changes the light regime on the seafloor below. This may have implications in that growth of young kelp plants is light-mediated, and an increase in light reaching the bottom may result in earlier growth than would otherwise occur.

Secondary ecological impacts of kelp removal should be carefully considered before arriving at a decision about cutting the near-surface portions of plants. The canopy provided by the kelp stipes and blades represents important habitat for fish species such as greenlings and rockfishes (a study in California counted 23 species of fish in a bull kelp bed) and substrate for organisms that are important prey items for fish.

Should cutting take place, cutting the upper portion of the plants is preferable to removing the entire plant, and cutting only the blades and leaving the stipe intact is preferable to removing the gas-filled bulb. Decisions will necessarily balance removal of oil from the environment with direct impacts on the plants and alteration of significant nearshore habitat.

Commercial harvesting equipment similar to that routinely employed in California coastal waters is a possibility, but *Nereocystis* is substantially different in nature than *Macrocystis*. If they worked, such harvesting barges would cut through the stipe and kill the plant. Whether they are capable of cutting the stipe is not known. Support logistics for kelp cutting could be expected to be substantial as well: the large biomass of kelp would require either vessels with considerable hold capacity, or barges on which the plants could be loaded.

Cutting of Oiled Fucus (Popweed)

(Developed by NOAA in 1989 during the *Exxon Valdez* oil spill)
The cutting of heavily oiled fucus still attached to the substrate in the intertidal zone is sometimes suggested during shoreline cleanup efforts. At issue is the benefit derived from removing a source of contamination compared with the costs to intertidal systems from fucus removal. Fucus defines the mid-intertidal zone and provides shelter and attachment for other animals. The spores, primarily the very small plants, are a source of food for other animals. The plants are prone to breaking loose in exposed settings and may end up on the beach or in the water. The average half-life of fucus plants is six months, with the large, older overstory plants being up to five years old (in Prince William Sound).

Fucus is a particularly hardy species with respect to oiling. Mortality may occur as a result of the oil preventing photosynthesis from occurring, but it is extremely difficult to determine if a plants is dead or alive by looking at it when oiled. Reproduction in fucus is through the release of spores from buoyant reproductive receptacles that look like small air sacs located on the tips of the plant. The presence of mucus coming out of these receptacles when exposed during low tide indicates that the plant is fertile. Recruitment comes primarily from spores released by plants located no more than three to ten feet away and occurs quite readily as long as sufficient numbers of other fucus plants are in the area. In the absence of other fucus plants, drift spores do come along, but recruitment from this source is very haphazard and not at all guaranteed.

Cutting oiled fucus still attached to the rock is generally not recommended. Flushing (ambient water) and other cleanup techniques should be tried first. If it is deemed necessary to remove heavily oiled fucus to pre**vent redistribution to very sensitive resources, a sufficient number of mature plants should be left in the area** to facilitate recruitment (in patches or fringe three to ten feet apart). If this is not done, recruitment may not take place. It is not necessary to leave the holdfasts when cutting plants.

Instruction for the Disposition of Dead and Live Wildlife

(Derived from the Wildlife Protection Guidelines, Alaska Regional Response Team, 1991)

Dead Animals

1. Collect all dead animals (except whale and other large forms), including scavenged carcasses, to discourage further scavenging in oiled areas.
2. Wear gloves when handling dead animals.
3. Use a shovel or spade to uncover and remove carcasses partially covered by sand, kelp, wood, or other debris.
4. Place carcasses in double plastic garbage bags. Place all animals from one beach in one bag, if possible. Close securely with masking tape.
5. Complete an animal collection form or provide the following information:
    a. beach name or location where carcasses were recovered - date
    b. name and address of collector
    c. species, age, and sex of collected animals.
6. If any of this information is not available or questionable, this fact should be recorded so that additional examinations of the animals can be conducted.
7. Place the form or list in a ziplock baggie and place the baggie outside the first
   garbage bag but inside the second. Bring the dead animals to a designated recovery site

Live Animals

Authorization for animal rescue must be given by the appropriate State or Federal agency prior to the rescue and rehabilitation of oiled wildlife. Long-handled nets, rags, or towels are recommended for capturing live, oiled birds. Wear gloves to

keep from getting oiled. Do not wash oiled birds. It is more important to keep them warm. Place them in a covered cardboard box. It is okay to keep more than one bird and multiple species in the same box. Do not attempt to give birds fluids; they should be taken to a rehabilitation center as soon as possible. For live birds, the following information should be reported:

- beach name or location where animal was recovered - date and name and address of collector
- species, age, and sex of collected animals
- condition of the animal

Do not attempt capture of live sea otters without prior authorization from the appropriate agency. Inexperienced people can cause otters additional injuries. In addition, otters may bite and cause infections. A bite from an otter may result in inflammation of the joints and inability to bend one's fingers. Live, oiled otters are to be reported to the designated agency contact for the spill.

9420 C Attachment C: Glossary

Aerobic – Able to live or grow only where free oxygen is present.

Anaerobic – Able to live and grow where there is no air or free oxygen.

Annual – A plant that lives only one year or season.

Aromatic – Organic compounds containing any of a series of benzene ring compounds. They are unsaturated organic ring compounds with low boiling points and are generally toxic to aquatic life.

Benthos – The plants and animals that live in and on the bottom of a water body.

Berm – A wedge-shaped sediment mass built up along the shoreline by wave action. Sand berms typically have a relatively steep seaward face (beach face) and a gently sloping surface (berm top). A sharp crest (berm crest) usually separates the two oppositely sloping planar surfaces on top of the berm. Berms on sand beaches are eroded away during storms, thus a berm may not be present if the beach is visited shortly after a storm. On gravel beaches, however, steep and high storm berms are activated and refurbished during storms.

Biota – Animal and plant life characterizing a given region. Flora and fauna, collectively.

Booms – Both containment and absorbent booms are used for the collection, deflection, and containment of spreading oil. Containment booms are somewhat rigid structures extending both above and below the water acting as barriers to surface oil. Primary containment booms are usually deployed close to oiled shorelines to trap oil being flushed from beaches before it is collected. Secondary containment booms are deployed farther out to trap oil that leaks past primary booms. Absorbent boom is used along the shore-water interface to collect oil dislodged during treatment operations. It is important that absorbent boom be changed once the sorbent capacity is reached. Great care should be taken to seal the shore ends of booms so that no oil can get past. This is particularly difficult at rocky shorelines, or areas strewn with boulders and cobbles. The use of absorbent pads or other materials, such as “pom poms”, can be effective sealants.

Brackish – Intermediate in salinity (0.50 to 17.00 parts per thousand) between sea water and fresh water.

Clam shell – A mechanical device mounted at the end of a crane that picks up soil or mud with a pincer-like movement.

Coagulating agent – Chemical additives applied to oil to form a more cohesive mass.

Contact period –The time required to maximize the efficiency of the sorbent or chemical agent or the time before plant or animal damage occurs.

Dispersant – Chemical agent used to disperse and suspend oil in water leading to enhanced biodegradation.

Distillate – A refined hydrocarbon obtained by collection and condensation of a known vapor fraction of the crude oil.

Drag line – A mechanical device that excavates or transports soil, using a container pulled over earth by cables or chains.

Dredge – A device used to remove sediment from the bottom of a water body.

Emulsification – The process by which oil is mixed with water.

Endless rope – A continuous rope-like oil sorbent device that is pulled across the surface of the water to pick up oil.

Erosion – The wearing away by action of water or wind of unprotected or exposed earth.

Estuary – Classic definition A drowned river valley that has a significant influx of fresh water and
is affected by the tides. Most of the coastal water bodies in the mid-Atlantic region are estuaries (e.g., Chesapeake Bay, Delaware Bay).

Evaporation – The conversion of a fluid—including hydrocarbons—to a gaseous state.

Fast ice – Any sea ice that forms along and remains attached to the coast, or that forms between grounded ice bergs, or is attached to the bottom in shallow waters. May form *in situ* from seawater or by freezing of pack ice to the shore. It may extend a few meters to several hundred kilometers from the shore.

Fertilizer – A substance or agent that helps promote plant or seed growth.

Flash point – The lowest temperature at which vapors from a volatile liquid (e.g., oil) will ignite.

Flushing – Use of a water stream to make oil flow to a desired location or recovery device.

Fouling – Accumulation of oil or other materials, such as debris, that makes a device inoperative.

Free oil – See mobile oil.

Gelling agent – See coagulating agents.

Habitat – The chemical, physical, and biological setting in which a plant or animal lives.

Herding agent – Chemical agent that confines or controls the spread of a floating oil film.

Intertidal – The part of the shoreline that lies between high-tide and low-tide water levels.

Lagoon – A shallow, linear, and usually oblong water body, located parallel with and connected to a larger water body by one or more inlet channels.

Landfill – A dump that has progressive layers of waste matter and earth.

Marsh fringe – The edge of the marsh adjacent to the water.

Migration – Seasonal movement of a group of animals from one location to another.

Mobile oil – Oil that can refloat when water is applied (as in high tide).

Mobilization – Movement of oil caused by physical forces, such as gravity, tides, or wind. Mobility of oil is limited by its viscosity.

Mousse – A type of oil/water emulsion.

Non-persistent – Decomposed rapidly by environmental action.

Oil/water separator – A device for separating oil from water.

Oleophilic – A material that has affinity for oil.

Paraffin – The waxy saturated component of crude oil, having relatively high boiling point and low volatility. Any member of the methane series having the general formula $CnH2n+^{2}$.

Penetration –Downward motion of oil into sediments from the surface driven by gravitational forces.

Perennial – Vegetation that continues to grow for several years.

Permeability – The degree to which fluids can flow through a substance. Measured in Darcys. Permeability is not equal to porosity. High porosity of a material does not insure high permeability. However, a substance cannot be permeable without having some degree of porosity.

Physiography – General term for the shape of the earth's surface.

Pooled oil – Oil thickness exceeds one centimeter. This need not be uniform.

Porosity – The volume of void spaces in a sediment mass, measured in percent.

Rip Rap – (a) A layer of large, durable fragments of broken rock, specially selected and graded, and thrown together irregularly or fitted together. Its purpose is to prevent erosion by waves or currents and thereby preserve the shape of a surface, slope, or underlying structure. It is used for irrigation channels, river-improvement works, spillways at dams, and revetments for shore protection. (b) The stone used for rip rap.

Recontamination – Contamination by oil of an area that was previously cleaned.

Rhizome – A root like stem under or along the ground, ordinarily in a horizontal position, which usually sends out roots from its lower surface and leafy shoots from its upper surface.

Salt pan – A pool above high tide, "drained" only by evaporation so that salt is accumulated and concentrated.

Seine – A fish net that can be used to collect sorbent or debris.

Skimmer – A mechanical device that removes an oil film from the water surface. Oil skimmers collect oil spilled on, or released to, the water's surface. They come in a wide range of shapes and sizes. Skimmers generally have a higher recovery rate than sorbents, providing enough oil is present to justify the costs for its use.

Skimmers are usually equipped with storage space for collected oil. Oil is herded to a collection point along a containment boom located close to shore yet in water of sufficient depth for the skimmer to function. Two types of skimmers currently in use are described below. Other types of skimmers are being tested for possible use at a later date. Band, or "Rope," skimmers use an oleophilic material such as polypropylene. Oil is collected by a floating, continuous rotating band or "rope" drawn through an oil slick or along the water's edge of a contaminated area. Adhered oil is wrung from the band by a squeeze roller and collected in an oil sump. These bands are used in either static (stationary) or dynamic (towed) modes. Bands can be torn by solids or skimmed debris. Efficiency is high in calm waters, poor in choppy waters and waves. Belt skimmers use an oleophilic belt mounted on the front of a small vessel. The oleophilic belt pushes the floating oil below the waterline. Oil not adsorbed by the belt is collected into a holding area located behind the belt. Oil carried up the belt is recovered at the top of the system by a squeeze belt or scraper blade. It is then pumped into a storage container. These skimmers cannot operate in shallow waters or tight areas.

Slurry – A suspension of particles in water.

Solubility – The amount or fraction of a substance (e.g., oil) that dissolves into the water column, measured in ppm.

Solvent – A chemical agent that will dissolve oil.

Specific gravity – The measure of the density of a substance such as oil or sea water, usually determined at 20°C, compared to the density of pure water at 4°C. Thus, specific gravity varies slightly with temperature.

Sorbent – All sorbent materials work on the same principles—oil adheres to the outside of the material or sorbs into the material by capillary action. There are three basic types of sorbent materials: mineral based, natural organic, and synthetic organic. Currently, only synthetic organic sorbents are being used in the field in the form of booms, pads, and mops. Peat is currently in the testing and demonstration phase.

Stain – Oil that is visibly present but cannot be scraped off with a fingernail.

Substrate – The substance, base, or nutrient on which, or the medium in which, an organism lives and grows, or the surface to which a fixed organism is attached; e.g., soil, rocks, and water.

Substrate penetration – Vertical distance from surface to where oil has percolated into the substrate.

Subtidal – That part of the coastal zone that lies below the lowest low-tide level, so that it is always underwater.

Sump – A pit or reservoir that serves as a drain from which oil can be collected.

Supratidal – Above the normal high-tide line.

Tank barge – A barge for transporting liquids.

Tarballs – Lumps of oil (<10 cm in diameter) weathered to a high density semisolid state.

Tidal variation or range – The vertical distance between high and low tides.

Toxicity – The inherent potential or capacity of a material (e.g., oil) to cause adverse effects in a living organism (Rand and Petrocelli, 1985).

Viscosity – Flow resistance; referring to internal friction of a substance (e.g., oil) that is a function of the oil type and temperature.

Vacuum systems – Used to recover oil collected behind containment booms along the beach face and in the water during shoreline flushing operations. Where equipment access allows, vacuums can be used to remove pools of oil directly from shorelines and surfaces of heavily oiled rocks. Two vacuum systems currently in use are described below. The first system is classified as a vacuum device, but requires a high-velocity air stream, @ 150 mph, to draw oil, water, and debris into the unit's collection chamber. Due to the 6- to 12-inch diameter of the inlet hose, it rarely becomes clogged by debris. The inlet nozzle should always be placed slightly above (never below) the fluid's surface. The distance at which it is held above the fluid is critical to limit the amount of water intake. This system is suitable for picking up weathered oil, tar balls, and mousse from water or shorelines, and to vacuum oil from skimming vessels, boomed areas, or debris-laden sites. The primary advantage is its ability to pick up oil of any viscosity and, where necessary, lift fluid more than 30 feet. The system can pick up and decant simultaneously. The main disadvantages are that it usually picks up a high water/oil ratio, and can be difficult to repair in the field. The second system, barge-mounted vacuum trucks, use high-suction pumps and a cylindrical chamber capable of sustaining very low internal pressure, i.e., minus 12 psi. Vacuum is created in the chamber, and a 3- to 4-inch diameter hose is usually placed slightly below the surface of a floating oil slick, allowing a mixture of water and oil to enter the collection chamber. The position of the open end of the vacuum hose is critical. If it is placed too far down into the oil slick, recovered fluid will be mostly water; if not deep enough, air will be sucked into the system, and much of the vacuum will be lost. The primary advantages of the vacuum truck system are: it can recover fluid of nearly any viscosity; it has a rapid pickup rate of thick oil layers; and it can recover a wide variety of small debris. Primary disadvantages are its limited lift, no more than 20 to 30 feet, and the length of time required to reestablish a vacuum if air enters the hose. As with the other vacuum, this one also picks up a high water/oil ratio.

Weathering – Natural influences such as temperature, wind, and bacteria that alter the physical and chemical properties of oil.

Weir – A vertical barrier placed just below the surface of the water so that a floating oil slick can flow over the top.

Wetlands (as defined by the Annotated Code of Maryland Title 9) – State wetlands: Lands below the mean high-tide line affected by the regular rise of tide. Private wetlands: Lands bordering on state tidal wetlands, below the mean tide line subject to the effects of the regular rise and fall of tide. Lands able to support growth of wetland vegetation. Lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, and is at least periodically saturated with or covered by water (Cowardin et al., 1979).

Wrack – Accumulations of plant debris that is deposited at or above the high-tide line (e.g., *Spartina* or kelp debris).

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Section 9421

Shoreline Cleanup and Assessment (SCAT) Response Tools

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ESTABLISHING A SHORELINE ASSESSMENT PROGRAM

Our shorelines are the source of environmental, cultural, and economic vitality. Physically removing oil from the shoreline must be done with great care, using trained workers, to avoid additional harm to environmental or cultural resources, or injuries to workers. Strategies for removing oil from impacted shorelines should strike a balance between environmental impact and benefit. The appropriate balance will vary between spills, dependent on the values of stakeholders. Decisions on how - or even if - to remove oil from shorelines are made with input from stakeholders, and using information that is gathered through a systematic and scientific process. This process is called Shoreline Cleanup Assessment Technique (SCAT).

The purpose of a SCAT Program is to:

- Systematically survey and document the area affected by oil to provide rapid and accurate geographic descriptions of the shoreline oiling conditions and real-time issues or clean up constraints;
- Recommend treatment or cleanup options for oiled shorelines to OPS and UC;
- Engage with stakeholders to build consensus around net environmental benefit based cleanup endpoints; recommend shoreline cleanup endpoint standards to OPS and UC;
- Monitor and evaluate shoreline treatment;
- Provide inspection teams for segment sign off; and,
- Manage data collected from shoreline surveys.

This "Establishing a Shoreline Assessment Program" document was prepared by the Northwest Area Committee (NWAC) to provide guidelines for setting up a Shoreline Assessment (i.e. SCAT) Program during an oil spill incident and is designed to assist spill response managers to establish a SCAT program, from reconnaissance activities through the treatment endpoints and sign off process.

The information provided within this document is NOT intended to be policy or to be prescriptive and may be modified as appropriate with subsequent updates to the Northwest Area Contingency Plan. The document is designed to be generic and generalized, and it is expected that spill response managers will modify as appropriate to the conditions of each incident.

This document includes:

- Two organizational charts (one for a small spill and one for a large spill) with color-coded descriptions of the roles and responsibilities of positions working in support of a SCAT function.

ESTABLISHING A SHORELINE ASSESSMENT PROGRAM

- A work flow/timing diagram highlighting the major milestones in a SCAT program (which also serves as a short-form SCAT Coordinator checklist) and a depiction of key SCAT tasks as they relate to the ICS planning "P."

- A process flow diagram depicting information flow from the field to decision makers through each SCAT step.

- A long-form SCAT Coordinator Checklist that is designed to aid users in establishing a SCAT program at an oil spill that has or will likely impact shorelines. The checklist is divided into three sections (Reconnaissance, Systematic Survey, and Monitoring/Inspection) to reflect the major phases in the SCAT process. The checklist is further organized by position-specific responsibilities and includes Best Practices where applicable.

- A list of select SCAT resources available for download that can provide further information for responders.

ABBREVIATIONS & ACRONYMS

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ABBREVIATIONS & ACRONYMS

Abbreviation	Definition
CESG	Cleanup Endpoints Stakeholder Group
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
EU	Environmental Unit
EUL	Environmental Unit Leader
FOSC	Federal On-Scene Coordinator
FTP	file transfer protocol
HAZWOPER	hazardous waste operations and emergency response
GIS	geographic information system
GPS	global positioning system
IAP	incident action plan
ICS	Incident Command System
IMT	Incident Management Team
NEB	net environmental benefit
NFT	no further treatment
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NOO	no oil observed
NRDA	Natural Resource Damage Assessment
NWAC	Northwest Area Committee
OP	operational period
OPS	Operation Section
PDA	personal digital assistant
PPE	personal protective equipment
PSC	Planning Section Chief
QA/QC	quality assurance/quality control
RP	responsible party
RPIC	Responsible Party Incident Commander
RRT	Regional Response Team
SCAT	shoreline cleanup assessment technique
SIR	shoreline inspection report
SOSC	State On-Scene Coordinator
STAG	Shoreline Treatment Advisory Group
STR	shoreline treatment recommendation
SU	Situation Unit

ABBREVIATIONS & ACRONYMS

UC	Unified Command
USCG	United States Coast Guard
USGS	United States Geological Survey

SMALL SPILL ORGANIZATIONAL CHART

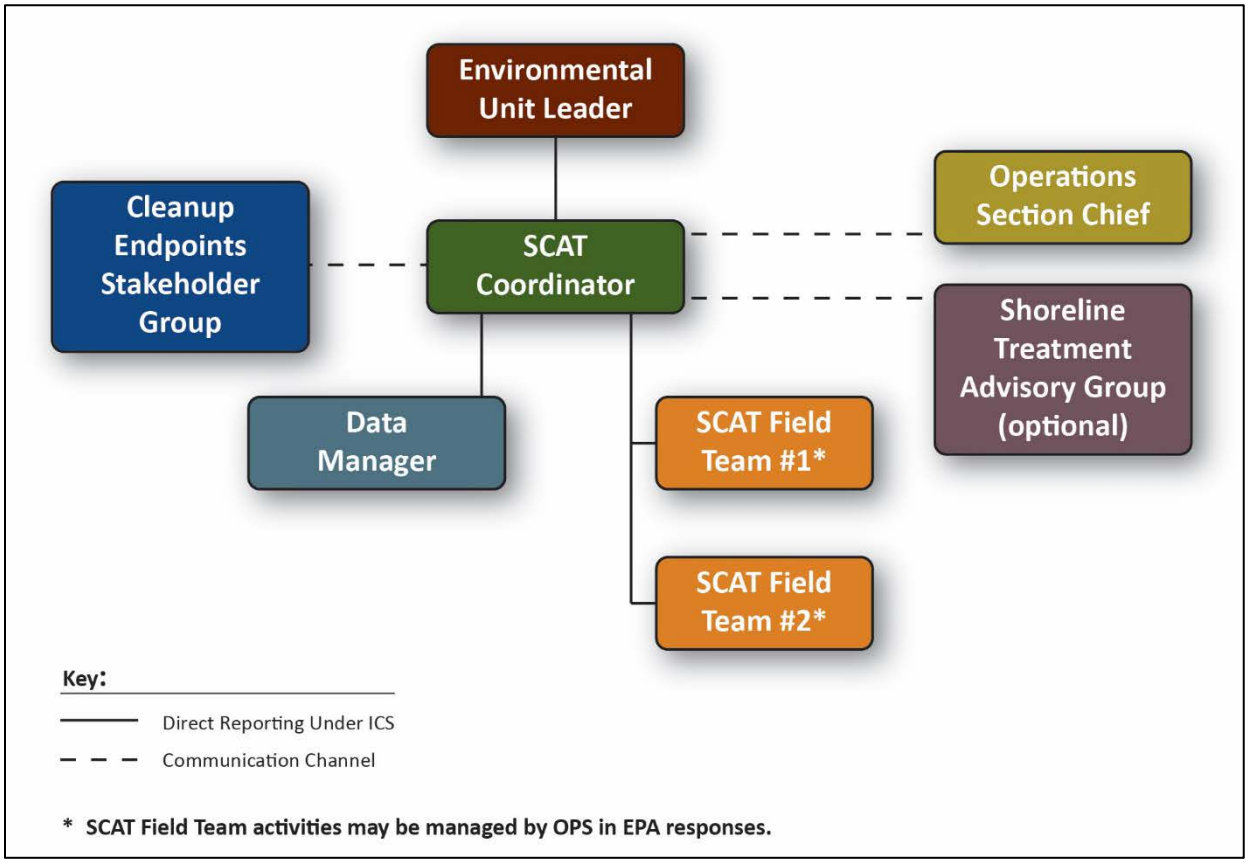

Figure 1: Small Spill Organizational Chart. Please refer to pages 8 and 9 of this document for a description of the responsibilities associated with each position.

LARGE SPILL ORGANIZATIONAL CHART

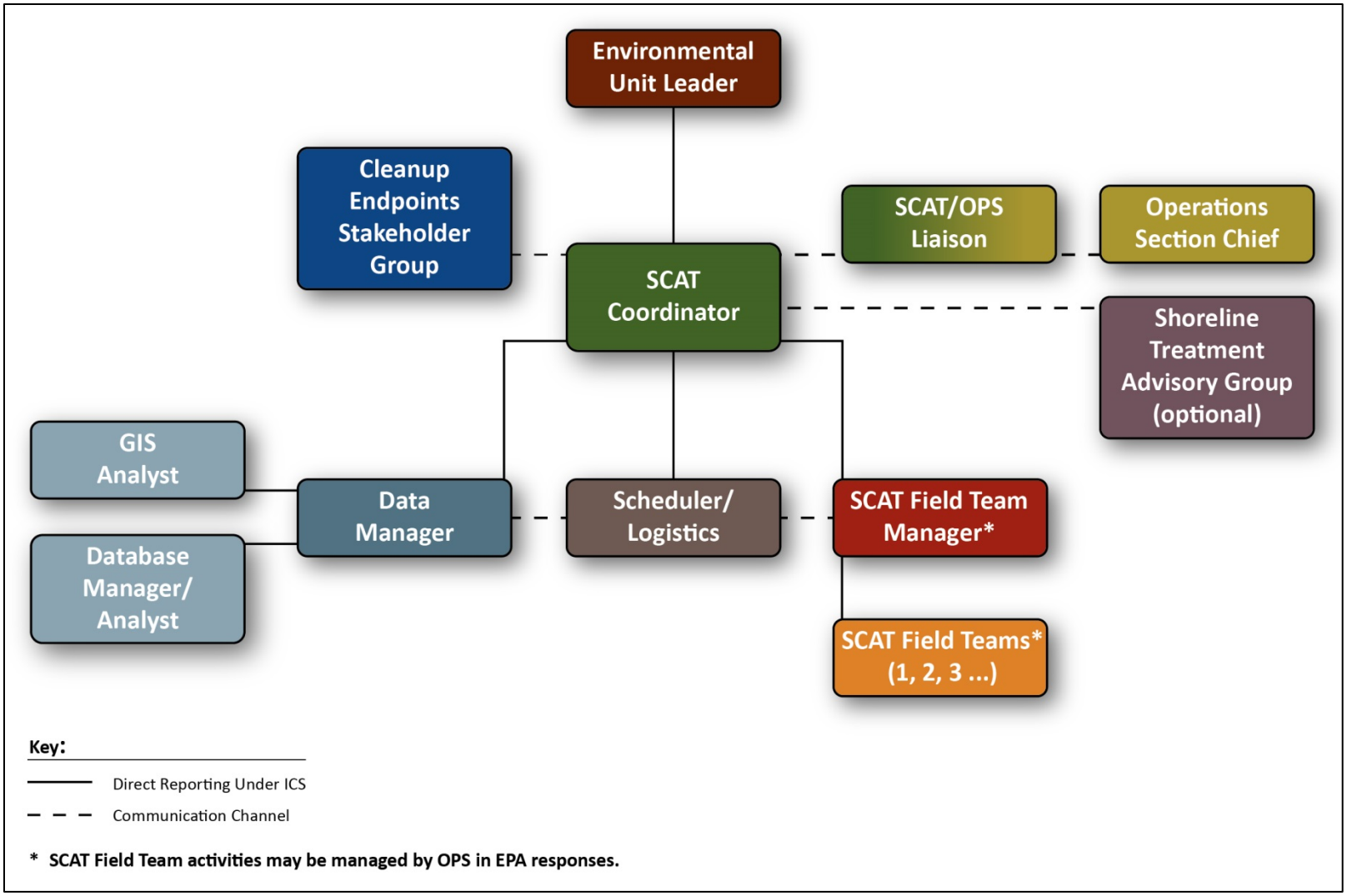

Figure 2: Large Spill Organizational Chart. Please refer to pages 8 and 9 of this document for a description of the responsibilities associated with each position. Some positions are not described (GIS Analyst, Database Manager/Analyst Scheduler, SCAT Logistics Coordinator) because their responsibilities are covered by others in the SCAT Program.

ROLES & RESPONSIBILITIES

Environmental Unit Leader

- Establishes SCAT Coordinator
- Communicates Command objectives to SCAT Coordinator
- Communicates SCAT progress and challenges to PSC and/or IMT members
- May provide SCAT recommendations into IAP process

SCAT Coordinator

- Conducts reconnaissance to determine scope of shoreline oiling issues
- Develops a survey and reporting schedule to produce survey results in time for incorporation into the Incident Action Plans
- Sets SCAT field objectives
- Serves as the primary point of contact for all SCAT activities
- Coordinates development of treatment recommendations and cleanup endpoints for Command approval, possibly with the assistance of a Shoreline Treatment Advisory Group (see below) Leads the evaluation of treatment methods and cleanup endpoints and modifies them as necessary
- Works with Operations Section on implementation of cleanup method recommendations
- Attends tactics meetings as appropriate to help provide SCAT input into IAP development
- Briefs the IMT on issues raised by SCAT, particularly where cleanup methods must be modified to increase effectiveness or decrease impacts
- Coordinates with other members of the response effort with concerns on shoreline assessment to optimize data sharing, including NRDA team
- Integrates cleanup concerns of the various resource agencies and managers into the decision-making process, possibly through a Cleanup Endpoint Stakeholder Group.

Deputy SCAT Coordinator (optional position or may be fulfilled by the SCAT Coordinator)

- An optional, early phase position primarily responsible for establishing and maintaining communication for mutual understanding and cooperation between SCAT program and Division leaders in OPS
- May conduct work in the command post and/or in the field facilitating the implementation of early cleanup recommendations
- This position may function as a SCAT/Ops Liaison
- Additional duties as requested by SCAT Coordinator

SCAT Field Team Manager (May be combined with SCAT Coordinator)

- Serves as the primary point of contact for all SCAT field-based activities
- Develops daily assignments for each team
- Assigns SCAT teams to meet SCAT field objectives
- Ensures that teams use proper terminology and apply guidelines uniformly
- Ensures that all teams have the necessary representation and all members have the necessary training, equipment and transportation.
- Helps the team reach consensus and reports dissenting opinions when consensus is not reached to SCAT Coordinator
- Conducts briefings with SCAT team members as needed
- Ensures adequate data is collected and communicated
- Communicates physical location of SCAT teams to OPS, SO & others
- Verifies that all SCAT field teams return at the end of the day
- Receives reports from field teams and synthesizes them into a daily summary for SCAT Coordinator.

ROLES & RESPONSIBILITIES

Data Manager

- Ensures dataflow meets OPS and Planning needs
- Provides SCAT data entry forms and field manuals to field teams
- Reviews daily SCAT forms for completeness and consistency
- Enters or supervises the entry of daily SCAT data
- Conducts data QA/QC; identify common data problems and train SCAT members how to prevent future problems
- Generates daily summary reports, maps, and data summaries
- Maintains an archive of all SCAT data, forms, photographs, GPS data, etc.

SCAT Field Team

- Surveys shorelines as assigned by the SCAT Field Manager to evaluate oiling conditions, identify sensitive resources, determine cleanup needs, and recommend oil treatment/cleanup methods.
- If delegated by SCAT Coordinator, Field Team develops shoreline treatment recommendations
- Attends SCAT briefings as required

Operations Section Chief (or Designee)

- Coordinates on the development of treatment recommendations (may be done via STAG participation)
- Directs and oversees shoreline cleanup activities
- Coordinates specific information needs with SCAT Coordinator
- Requests SCAT cleanup verification once shoreline has been cleaned to designated endpoint

Cleanup Endpoints Stakeholder Group

- A stakeholder group external to the IMT whose input and comments are sought by the SCAT Coordinator regarding the general cleanup endpoints for Command approval.
- Coordinated by Liaison Officer with assistance from the SCAT Coordinator
- The group may be comprised of Federal, Tribal, State, Local, non-governmental organizations (such as an environmental advocacy group), or other interested parties

Shoreline Treatment Advisory Group (STAG) – Optional

- Optional workgroup typically comprised of staff from OPS and Planning Sections. Develops treatment recommendations and cleanup endpoints for Command approval
- Facilitated by SCAT Coordinator

Scheduler/Logistic Coordinator – Optional

- Works with Data Manager, SCAT Coordinator, and SCAT Field Team Manager to determine where SCAT Field Teams should deploy.
- Submits requests for field supplies, equipment, personnel, and transportation through the Logistics Unit
- Develops and maintains a SCAT Calendar.
- Ensures property access agreements are obtained and adhered to.

WORKFLOW & MILESTONES

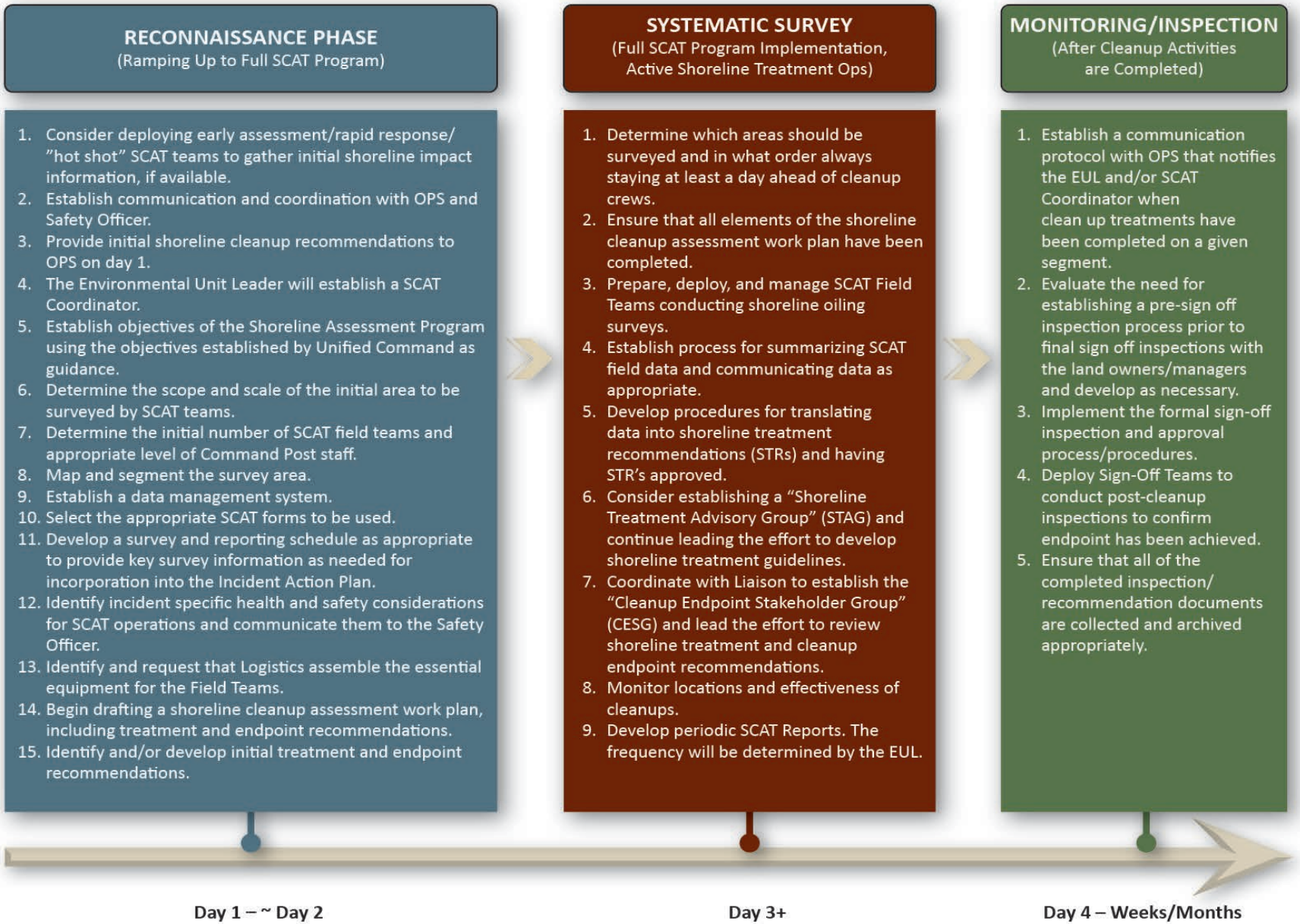

Figure 2: SCAT Workflow and Milestones (Short SCAT Coordinator Checklist). For more detailed information please refer to SCAT Program Implementation Checklist.

SCAT IN THE PLANNING "P"

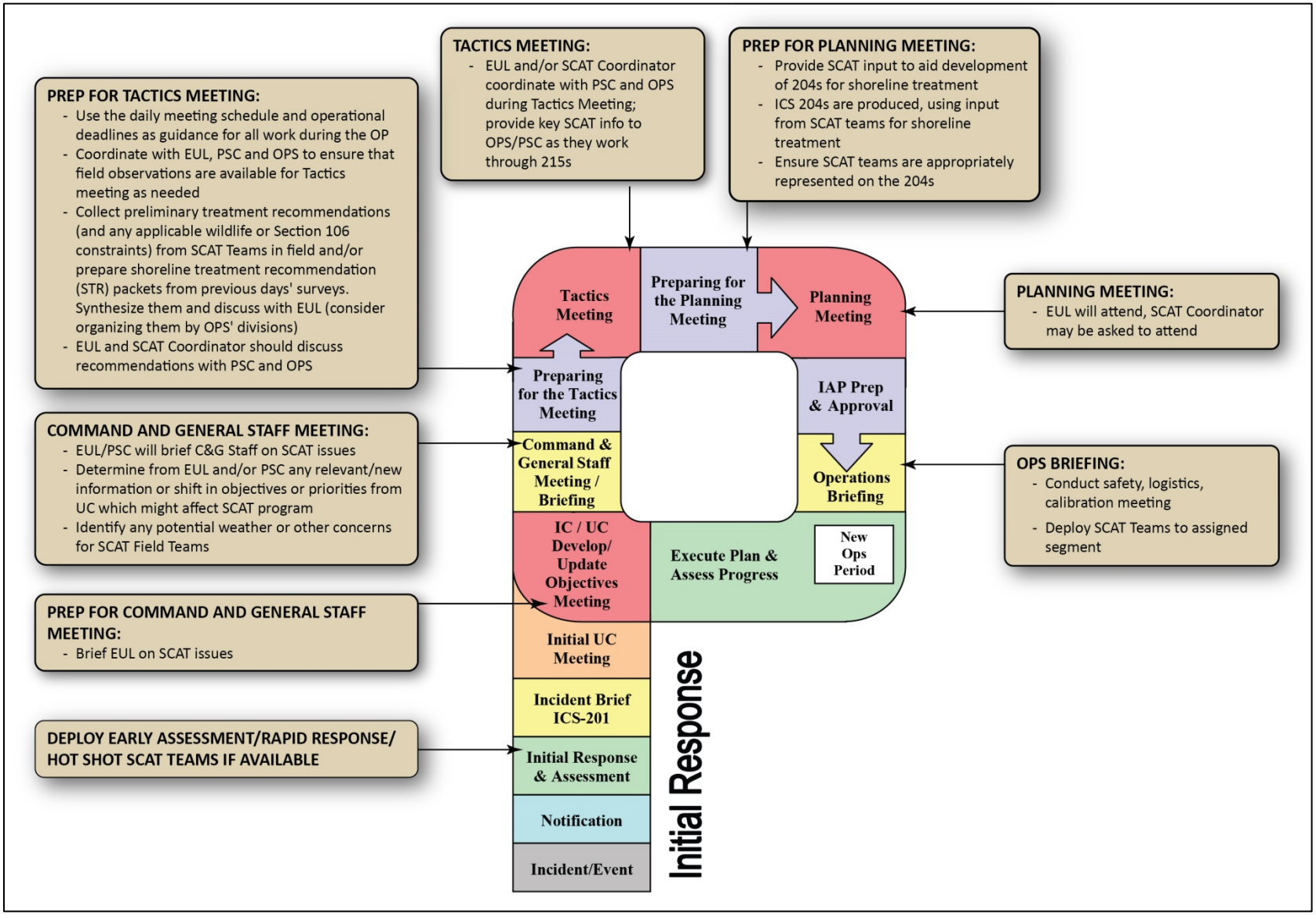

Figure 3. SCAT in the Planning "P."

SCAT Process Flow

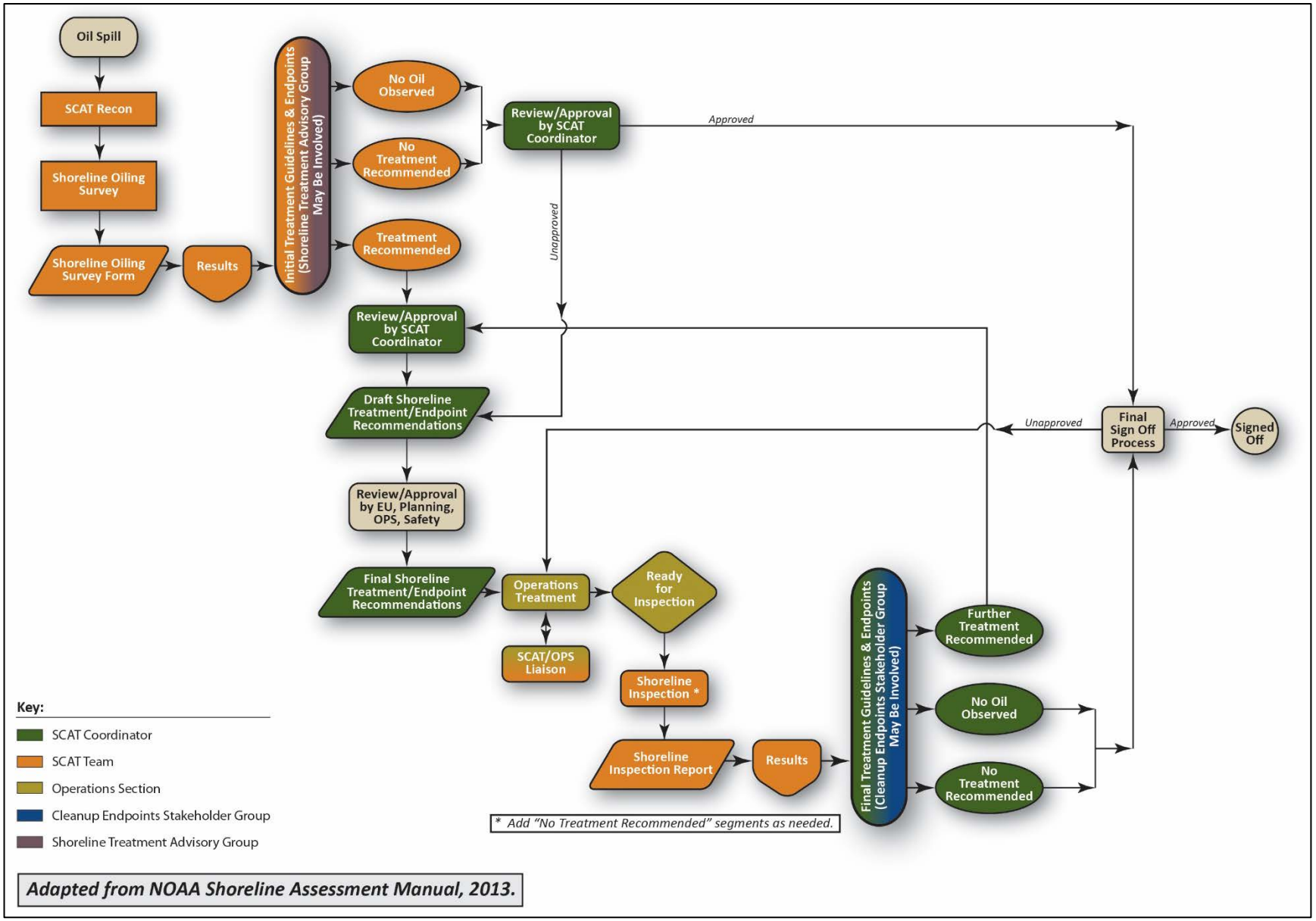

Figure 4. SCAT Process Flow.

SCAT PROGRAM IMPLEMENTATIONCHECKLIST

The following program implementation checklist is designed to aid users in establishing a SCAT program at an oil spill that has or will likely impact shorelines. The checklist is divided into three sections (Reconnaissance, Systematic Survey, and Monitoring/Inspection) to reflect the major phases in the SCAT process. The checklist is furthered organized by position-specific responsibilities and includes Best Practices where applicable.

RECONNAISSANCE PHASE CHECKLIST

The Reconnaissance phase begins when initial responders first receive notification that a spill has occurred. This phase typically lasts no more than a few days after the incident is reported and is comprised of planning and preparation for the Systematic Survey phase.

ENVIRONMENTAL UNIT LEADER

- ❑ **Consider deploying early assessment/rapid response/"hot shot" SCAT teams to gather initial shoreline impact information, if available.**

    - The goal is to obtain a general snapshot of the impacted areas or areas that may be impacted. These teams can provide valuable information that will support planning activities for the formal SCAT process as well as near-real time information to OPS. Any assessment conducted by these teams should be broad in scope and scale.

    - Reconnaissance should include:
        - Location and thickness of oil
        - Observed oil movements
        - Potential access points
        - Areas where no oil is observed

BEST PRACTICE: Start aerial reconnaissance as early as possible in the response.

BEST PRACTICE: Consider recommending the use of "hot shot" cleanup crews that are able to implement passive and other low-impact methods to prevent re-oiling.

- ❑ **Establish communication and coordination with OPS and Safety Officer.**

    - Determine the most appropriate point of contact in OPS. This may be the OPS Section Chief, or Division/Group Supervisor (e.g. Shoreline Cleanup Supervisor).

- ❑ **Provide general shoreline cleanup recommendations to OPS on day 1. This may be done on the ICS 204. Specify the passive and low impact techniques as well as ecological constraints. Refer to the Potential Initial Cleanup Guidelines on the following page.**

POTENTIAL INITIAL CLEANUP GUIDELINES

Potential Initial Cleanup Guidelines

For Collection of Oil Floating Adjacent to the Shoreline and Pooled Bulk Oil on the Shoreline:

- ❑ Highest priorities for oil removal are areas with thick, mobile oil that is at risk of re-mobilizing and contaminating clean areas.
- ❑ Do not stage boats such that shoreline vegetation is crushed. Boats should not be resting on or pressed against vegetation at any time.
- ❑ During flushing and herding, use the lowest pressure that is effective and prevent suspension of bottom sediments (do not create a muddy plume). All flushing adjacent to marshes is to be conducted from boats; there will be no foot traffic in marshes.
- ❑ In areas with intertidal and subtidal seagrass, avoid flushing oil over the seagrass and boat operations that results in anchor or prop-scarring of the vegetation.
- ❑ Sorbents may be placed at the water edge to recover floating oil. Sorbents should be used as a secondary treatment method after gross oil removal, and in sensitive areas where access is restricted. Recovery of all sorbent material is mandatory.
- ❑ Maintain a buffer of 100 yards from marine mammals (whales, sea lions, seals). If approached by a marine mammal, put the engine in neutral and allow it to pass.

For Gross Oil Removal from Shorelines:

- ❑ Use only established routes to access areas to be cleaned. No new roads or trails can be created unless specifically approved by the Environmental Unit.
- ❑ Establish work zones and access in a manner that reduces contamination of clean areas.
- ❑ Conduct flushing operations on the shoreline only when the lower intertidal zone is covered with water, to prevent contamination of these areas, which are usually clean or lightly oiled. Use only low pressures to remove bulk oil.
- ❑ Minimize removal of unoiled sediments during cleanup. Dig no deeper than necessary to remove the surface layer of heavily oiled sediment.
- ❑ Do not enter or attempt to clean oil in the interior of marshes or vegetated shorelines unless specifically approved by the Environmental Unit. Vacuuming pooled oil on the marsh edge, working from boats, is allowable.
- ❑ Do not walk in marshes and mudflats. Use wood plank walkways where possible if needed to cross vegetated areas.
- ❑ Do not cut, burn, or otherwise remove vegetation unless specifically approved by the Environmental Unit.
- ❑ Do not remove clean wrack; instead, move large accumulations of clean wrack to above the high-water line to prevent it from becoming contaminated.
- ❑ Remove all trash or anything that would attract wildlife to the site on a daily basis.
- ❑ Report oiled wildlife sightings to the Wildlife Hotline number (xxx-xxx-xxxx). Do not attempt to capture oiled wildlife. **Confirm incident specific wildlife reporting and collection procedures with wildlife and/or NRDA staff.*

RECONNAISSANCE PHASE CHECKLIST

- ❑ **The Environmental Unit Leader will establish a SCAT Coordinator.**

  - This position may be filled by a government agency, trustee agency, RP representative, or other stakeholder representative.
    - Considerations for SCAT Coordinator Selection:
      - Specific policy within appropriate area contingency plan, if one exists.
      - Level of training and experience with SCAT implementation and/or coordination.
      - Ability to maintain consistent participation throughout duration of response.
      - Ability to coordinate effectively and appropriately with NRDA.
      - Perception of government oversight and leadership.

  - If warranted by SCAT coordination workload, consider employing Deputy Coordinators to assist with various SCAT coordination functions. The decision to add a deputy may be based on incident specific circumstances such as the scale of the incident or the anticipated workload.

  - The SCAT Coordinator will establish and maintain the SCAT Program for a response. The SCAT Coordinator must be trained in SCAT and must have experience in implementing SCAT methodologies during a spill. The SCAT Coordinator also needs to be familiar with the ICS process and structure. This person needs to understand the role that SCAT recommendations from the field play in the planning cycle and the need for coordinating this information with the timing of the development of the IAP and the 204s for shoreline treatment.

BEST PRACTICE: When selecting SCAT Coordinators (or other SCAT positions), consider the need to swap individuals on a 2-3 week rotational calendar. Maintaining continuity of personnel is an important goal as SCAT is typically one of the longest lasting activities in a response.

RECONNAISSANCE PHASE CHECKLIST

SCAT COORDINATOR (or DEPUTY) /FIELD TEAM MANAGER

- ❑ **Ensure Operations has received Potential Initial Cleanup Guidance.**

- ❑ **Establish objectives of the Shoreline Assessment Program using the objectives established by Unified Command as guidance.**

    - Example SCAT Program Objectives (see the shoreline cleanup assessment work plan for more info):
        - Collect comprehensive information on shoreline oiling conditions using standard protocols and mechanisms;
        - Utilize shoreline oiling data to enhance and expedite shoreline treatment planning, decision-making, and response activities; and
        - Assure that a "net environmental benefit" (NEB) for an oiled shoreline can be achieved by shoreline treatment.
        - Ensure that impacts to tribal and cultural resources as well as endangered species and essential fish habitats are minimized.

BEST PRACTICE: Be clear about the objectives of the SCAT program to avoid mission creep – avoid assigning SCAT extra duties beyond the established objectives (e.g. sampling, NRDA).

- ❑ **Determine the scope and scale of the initial area to be surveyed by SCAT teams.**

    - Conduct reconnaissance via air, land, and/or water and use trajectory models, tides, winds, river flow, and other relevant environmental conditions to establish the boundaries of the initial survey area. Information collected during reconnaissance may help direct OPS to sites of immediate concern either for deployment of protection measures, or, where mobile or pooled oil on the shoreline has the potential for remobilization.

BEST PRACTICE: The total survey area should extend somewhat beyond the extent of the oiled areas.

BEST PRACTICE: Conducting reconnaissance via aircraft, boat, or land will greatly aid in the initial SCAT planning. Try to reserve a spot on an aircraft as soon as possible and establish a standing reservation on a routine flight to observe the extent of the oil. If possible, reserve a dedicated SCAT helicopter.

    - Select the appropriate initial survey method(s). Surveys may be conducted by different methods and at different scales depending upon the size of the affected area, character of the shoreline type, and level of detail that is required. Select a survey method which meets incident objectives and is achievable with the resources available.

RECONNAISSANCE PHASE CHECKLIST

- ❑ **Determine the initial number of SCAT field teams and appropriate level of Command Post staff.**

    - Determine the initial positions that need to be filled (SCAT Field Manager, Data Manager, SCAT Teams, other SCAT Support staff, etc.) and by whom. The exact number of roles and individuals to fill those roles can vary widely from spill to spill and during a spill as conditions change.

BEST PRACTICE: Conduct early outreach to organizations that may be asked to provide SCAT personnel.

BEST PRACTICE: Consider engaging an oil geomorphologist to assist in the Command Post as well as in the field.

- All personnel must meet or exceed incident specific health and safety requirements for field work and training as defined by the Safety Officer. Individual employers may require training that exceeds the incident specific standards.

- SCAT personnel should have:
    - Safety training that meets or exceeds applicable regulations under 29 CFR 1910 (e.g. 4, 8, 24, or 40 hour HAZWOPER training with current refresher and possibly enrolled in medical monitoring program) and the incident specific safety plan
    - Familiarity/experience with oil spill response
    - Basic ICS training
    - Basic SCAT training

- At minimum, the field SCAT teams should consist of an:
    - RP Representative
    - State government representative
    - Federal On Scene Coordinator representative or designee

- Other field SCAT team members may include:
    - Tribal government representative
    - Landowner or manager
    - Local government
    - Technical specialists

- A variety of technical specialists can support SCAT operations. Depending on the circumstance of the spill, individuals with the following skills should be considered:
    - Oil Geomorphologist: A specialist experienced in identifying the physical processes affecting oil on a shoreline.
    - Ecologist/Biologist: A specialist capable of identifying biological concerns/constraints and providing input on treatment options and endpoints.

- Archeologist or Cultural Resource Specialist: An individual who can advise on precautions and constraints to protect cultural resources, if needed.
- Oil Spill Response Cleanup Expert: An individual well-versed in oil removal and remediation techniques. May be an Operations Section representative.

BEST PRACTICE: Keep SCAT teams as small as practicable (e.g. 3-5) for safety and logistical reasons. Where possible, try to use individuals who can fill multiple specialty roles.

- Be sure to consider biological (ESA Section 7 and EFH) and/or cultural/historical (NHPA Section 106) constraints. Review the ICS 232 Resources at Risk Summary form(s). Determine the need to have a wildlife biologist and/or a cultural resources specialist join the SCAT Field Teams during surveys on shoreline segments that have been identified as having potential ESA or cultural concerns. Key information for complying with ESA and NHPA are located on the following pages.

- Consider including tribal representative(s) on SCAT teams as appropriate. Try to include tribal representatives that have received health and safety training appropriate for SCAT team activities (in compliance with the incident specific safety plan). Regulations under 29 CFR 1910 may or may not apply depending on who the tribal representatives are working for.

- Maintain continuity of staff to the extent possible, throughout the duration of the SCAT program. Develop a staffing calendar with 2-3 week rotations for team.

BEST PRACTICE: To improve consistency on teams, stagger rotations so that not all team members rotate at the same time.

BEST PRACTICE: Consider the long-term staffing needs for SCAT early. Continuity in assigning teams is a good practice. Avoid calibration drift (staff assigned months into the incident can have a different perspective). Consider developing training/guidance document for staff rotation during long-term responses. Training could include visits to oiled shorelines or photo history of a segment.

ESA- Section 7 Compliance

Complying with Section 7 of the Endangered Species Act (ESA) During Oil Spill Response

- ESA provides protection for listed species and their designated critical habitats.
- Section 9 of the ESA prohibits "take" of individual animals or adverse modification or destruction of critical habitat.
- Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.
- Federal agencies must ensure that their actions don't jeopardize the continued existence of listed species or destroy critical habitat.
- The FOSC (either USCG or USEPA), as the Lead Federal Agency, must determine whether or not listed species and/or critical habitats are present within the area of the operation.
- Action is defined as "…all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas."
- Federal agencies conduct interagency consultation, (aka Section 7 consultation), with the US Fish and Wildlife Service and National Marine Fisheries Service either formally or informally on any action that may affect listed species.
- Section 7 Team generates Best Management Practices (BMPs) for response-related activities to minimize impacts to listed species and critical habitats. These become part of the shoreline treatment recommendations that are issued to the Operations Section.
- Depending on the spill conditions, these recommendations may require special agency field monitors during operations to document compliance with the BMPs
- Furthermore, there may be a need to document SCAT compliance with any BMPs that have been developed for SCAT teams to follow during their field surveys.

NHPA –Section 106 Compliance

Complying with Section 106 of the National Historic Preservation Act (NHPA) During Oil Spill Response

- ❑ Under Section 106, Federal agencies are required to take into account the effects of their undertakings on historic properties that are listed in, or eligible for, inclusion in the National Register of Historic Places (NRHP).
- ❑ The FOSC (either USCG or USEPA), as the Lead Federal Agency, must determine whether or not NRHP-eligible Historic Properties are present within the area of the operation.
- ❑ If Historic Properties are present, the Lead Federal Agency must then determine whether or not the undertaking will have an adverse effect on them.
- ❑ This determination is made by consulting with State Historic Preservation Offices (SHPOs), Native American tribes, Federal land managers, and other stakeholders on the presence of and potential adverse effects to Historic Properties prior to the start of cleanup operations.
- ❑ After consultations, the FOSC, the SHPO, and other stakeholders reach an agreement on how the adverse effects on Historic Properties will be addressed. This could include avoidance, monitoring, mitigation, or some other procedure.
- ❑ A Historic Properties Specialist oversees the Section 106 process during the development of shoreline treatment recommendations and develops recommendations to be implemented by SCAT and Operations during their work. Examples include:
  - No Known Cultural Concern – Work can proceed without archaeological monitoring. If cultural concerns are discovered, work must stop and Section 106 Team must be notified.
  - Potential Cultural Concern – Project area requires archaeological survey before work can proceed.
  - 250 Meter Sensitivity Zone – Project is within 250 meters of a known cultural resource. Archaeological monitoring required during the undertaking.
- ❑ There is a Programmatic Agreement under the National Contingency Plan whereby this process is expedited during oil spill emergencies.
- ❑ One of the recommendations may be having archaeologists and/or tribal representatives on the SCAT teams to identify unknown historic sites, confirm current condition of known sites, and make sure that SCAT team activities do not disturb such sites.

RECONNAISSANCE PHASE CHECKLIST

- ❑ **Map and segment the survey area.**

  - An essential first step of a SCAT survey is to divide the coastline into working units called segments, within which the shoreline character is relatively homogeneous in terms of physical features and sediment type.

  - Each segment is assigned a unique location identifier. Segment boundaries are established on the basis of prominent geological features (such as a headland), changes in shoreline or substrate type, a change in oiling conditions, or establishment of the boundary of an operations area.

  - In general, most segments in oiled areas would be in the range of 0.2 – 2.0 km in length but this will be determined largely by the nature of a given shoreline. Segment lengths should be small enough to obtain adequate resolution and detail on the distribution of oil, but not so small that too much data is replicated (i.e. if multiple adjacent segments are of the same shoreline type, then it would be useful to create larger segments to facilitate quickly assessing them).

  - If applicable to the response, identify shoreline access points, restricted areas, and hazards that affect SCAT activities and ensure this information is communicated to SCAT Field Teams.

BEST PRACTICE: Create a map of the entire survey area that includes sensitive areas and is updated regularly.

BEST PRACTICE: Check to see if the survey area has been pre-segmented (e.g. in an Area Plan or by local industry).

BEST PRACTICE: When determining segment boundaries, coordinate with OPS on their shoreline Division Boundaries. To minimize confusion during planning, avoid creating segments that span multiple divisions whenever possible. If an area has been pre-segmented recommend that OPS select division boundaries that coincide with segment boundaries. In order to reduce confusion, segments and corresponding Divisions should use the same basic reference designations (Division A, Segment A1).

References: The following documents contain additional guidance on developing segment boundaries that may be useful:

- Shoreline Assessment Manual – 4th Addition. NOAA August 2013 http://response.restoration.noaa.gov/sites/default/files/manual_shore_assess_aug2013.pdf

- The UK SCAT Manual: A field guide to the documentation of oiled shorelines in the UK. John Moore, April 2007. Sec. 1.3.1 www.dft.gov.uk/mca/corp119ext.pdf

RECONNAISSANCE PHASE CHECKLIST

- ❑ **Establish a data management system.**

  - Consider appointing a SCAT Data Manager or refer to the Reconnaissance Phase Data Management checklist (page 23 of this document) for steps to accomplish this task.

  - Determine which types of data need to be collected for the response. Examples include:
    - Oiling conditions
    - Geospatial data
    - Photographs/Video
    - Field cleanup observations (e.g. treatment application by OPS)
    - Command post documentation
    - Access agreements (may be handled by EU, Logistics, or Liaison)

  - Considerations for determining best data management organization:
    - Which type of system best meets the response needs and/or scale (e.g. electronic vs. paper-based)?
    - Is it readily available?
    - Existing policies?
    - What are the long term issues in availability of and access to SCAT data? NRDA? Potential litigants? Scientific community? Public?

- ❑ **Select the appropriate SCAT forms to be used.**

  - Use forms appropriate for the conditions of the spill (marine, river, winter, tarball, etc.).

  - Adjust forms as necessary to meet the conditions of the spill.

  - Links to commonly used SCAT Forms are available below:
    - NOAA: http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/shoreline-cleanup-and-assessment-technique-scat.html
    - Owens Coastal Consulting: http://www.shorelinescat.com/
    - Polaris Applied Sciences. Inc.: http://www.polarisappliedsciences.com/

BEST PRACTICE: Ensure SCAT forms and associated data collection documents/tools are available and appropriate.

- ❑ **Develop a survey and reporting schedule as appropriate to provide key survey information as needed for incorporation into the Incident Action Plan.**

  - Consider the established meeting schedule and the data needs for ICS meetings.

- For large spills, you should consider long-range planning (strategic timeframes of weeks/months) and rolling tasks (5 to7 day task schedule) in addition to daily tasking.

BEST PRACTICE: Work with EUL to coordinate with IAP development and relay time-critical information as appropriate within the Command Post.

- ❑ **Identify incident specific health and safety considerations for SCAT operations and communicate them to the Safety Officer.**

- ❑ **Identify and request that Logistics assemble the essential equipment for the Field Teams.**

BEST PRACTICE: Try to ensure to that equipment (Cameras, GPS, Phones, etc.) is set to record the same time and coordinate units to ensure for data / logistical consistency.

- ❑ **Begin drafting a shoreline cleanup assessment work plan, including treatment and endpoint recommendations. When complete, the work plan should describe or include, at minimum:**
  - The purpose of the SCAT program including objectives and guiding principles
  - Health, safety, and environmental considerations specific to the SCAT operations
  - Organization, staffing, and schedules
  - Survey methods to be employed
  - Field documentation and data management processes
  - Acceptable treatment options
  - Cleanup endpoint standards (these will be preliminary).
  - Approval from EUL and/or UC.

BEST PRACTICE: Begin process of developing treatment method and endpoint recommendations early to ensure that OPS has clear guidance in place as on water recovery ramps down and they are ready to ramp up shoreline treatment.

- ❑ **Identify and/or develop treatment and endpoint recommendations.**
  - See Example SCAT Work Plan Appendix E: Example Recommended Treatment and Endpoint Plan, and resources listed at the end of this section.
  - Considerations for treatment and endpoints:

- Balancing values of stakeholders
- Impacts of oil on environment versus impacts of clean-up activities (e.g. foot traffic, heavy machinery) on environment
- Functions within the ecosystem that will naturally restore the environment
- Persistence in environment versus immediacy of human or wildlife use of that environment
- Set achievable endpoints.

- Recommended Components of Endpoint Criteria
  - Shoreline Characteristics
    - Shoreline use (high public use area, private, etc.)
    - Shoreline substrate (sand, pebble, cobble, per NOAA Guide) Shoreline type by ESI Rank (exposed rocky shores, tidal flats, swamp, marsh, wetland, etc.)
  - Location of oil (e.g. overbank oiling, intertidal, etc.
  - Oiling thickness
  - Oil Characteristics (fresh, sticky, etc.)
  - Oil type (Light, medium, heavy crude, bunker, diesel, etc.)
  - % Cover
  - Operational Endpoints
    - E.g.: cease water deluge when no brown or black oil appears, only an iridescent film; wipe stems until no sticky material can be removed

BEST PRACTICE: Use the same terminology for endpoints as the SCAT teams use to describe oiling conditions.

BEST PRACTICE: Consider establishing a "Shoreline Treatment Advisory Group" (STAG)" to assist in developing initial generic treatment recommendations and endpoints. The STAG should be comprised of staff from OPS and Planning.

Reference: The following documents contain additional guidance on developing treatments and endpoints:

- Guidelines for Selecting Shoreline Treatment Endpoints for Oil Spill Response (Environment Canada, 2007) http://publications.gc.ca/collections/collection_2011/ec/En4-84-2008-eng.pdf

- Selection and Use of Shoreline Treatment Endpoints for Oils Spill Response(Sergy and Ownes, 2008) http://www.shorelinescat.com/Documents/Publications/15%202008%20Shoreline%20Treatment%20End%20Points.pdf

- Options for Minimizing Environmental Impacts of Freshwater Spill Response (NOAA, API 1994)

RECONNAISSANCE PHASE CHECKLIST

http://response.restoration.noaa.gov/sites/default/files/shoreline_countermeasures_freshwater.pdf

BEST PRACTICE: A variety of permits (e.g. for shoreline access) may be required during the survey process. Coordinate with the EUL to identify applicable permits and constraints and include them in the work plan as appropriate. Private property access permission/agreements must also be obtained. Coordinate with the Liaison Officer to obtain these.

RECONNAISSANCE PHASE CHECKLIST

DATA MANAGEMENT

- ❑ **Establish general expectations, procedures, and accountability for SCAT data management tasks. Depending on the scale of the response, these responsibilities may be handled by SCAT Coordinator or a delegated Data Manager.**
    - Address data sharing protocols and data access issues between stakeholders (i.e. Fed/State/RP) when making these determinations.
    - Each agency/organization representative working on SCAT data should be familiar with their own organization's data policy and be able to discuss any critical issues including public disclosure requirements.

BEST PRACTICE: Be sure to discuss the following: frequency of data archiving, who can access the data and how, will copies be permitted, etc. If needed, consult NOAA for other data management considerations.

- ❑ **Ensure that the appropriate SCAT forms and associated data collection documents/tools are available, based on the stated needs and objectives of the SCAT program.**
    - Define the specific types of data SCAT teams will and will not collect (e.g. Photos, Pits/Trenches, Samples, Oiled wildlife observations, etc.).
    - Modify the forms to meet incident specific needs as appropriate. To the full extent possible, changes in standards must be done at the beginning of the spill, otherwise there is lack of consistency/reproducibility over time.
    - Ensure SCAT teams/forms are using standardized location naming conventions (e.g. shoreline segment identification numbers) that can be integrated into geodatabases/GIS systems being developed, and that are consistent with Operations Division naming conventions.
- ❑ **Evaluate equipment requirements/standards for data collection and management**
    - Coordinate this review with the SCAT Program Field Team Manager or Coordinator as appropriate.
    - Common data collection equipment may include: Digital cameras, hand-held GPS units, Forms, PDAs, Tablet Computers, etc.

BEST PRACTICE: Ensure that any equipment being used meets or exceeds accepted data quality standards.

RECONNAISSANCE PHASE CHECKLIST

BEST PRACTICE: Ensure that any devices deployed accurately reflect the local time. If possible, cameras should have the date and time set to match that of the associated team's issued GPS. It is a good practice to take a picture of the team GPS time screen with the digital camera prior to (and after) each deployment. This can then be used to post-process pictures if necessary.

- ❑ **Develop a document management system and/or SCAT database (if appropriate).**
    - Establish process for collecting and archiving paper documents.
    - For an electronic document management system or database:
        - Establish file directory structure and file naming conventions for managing documents, data, and photos.
        - Establish both on-site backup and an off-site, secure repository for all data and documentation. Coordinate with Documentation Unit for final archiving.
        - Determine/establish appropriate permissions for database access and editing.
- ❑ **As appropriate, identify predetermined standards for data verification, analysis, and reporting.**
    - Identify and put in place verification SOPs & checklists such as standard query language verification queries (auditing of data) and reporting SOPs & procedures and requirements.
- ❑ **Obtain and manage geospatial information.**
    - Coordinate data and map transfers with the SU and EU (e.g., base maps, overflight maps, etc.) as appropriate.
    - Acquire the spatial data and maps necessary to meet the data needs of the SCAT Program and (in particular) the field teams.
    - Create base maps for field planning and use.

BEST PRACTICE: Consider the need to have a dedicated SCAT mapping capability (separate from the SU) as part of SCAT data management. Ensure the maps are consistent with SU mapping systems.

- ❑ **Develop and maintain contact list for SCAT Team members.**

SYSTEMATIC SURVEY PHASE CHECKLIST

The Systematic Survey Phase may begin between one and several days into the response, depending on spill-specific conditions. This phase involves field surveys, data collection/analysis, treatment/cleanup endpoint recommendations, as well as shoreline treatment monitoring.

SCAT COORDINATOR (or DEPUTY)/FIELD TEAM MANAGER

- ❑ **Determine which areas should be surveyed and in what order always staying at least a day ahead of cleanup crews.**
    - Initial assessment from SCAT team should triage each segment into one of three categories:
        - Deferred – no oil observed or no treatment recommended at this time
        - Standard –the initial or generic shoreline treatment recommendations are appropriate
        - Holding – Segment requires special consideration, and will need a unique shoreline treatment recommendation from SCAT
    - Coordinate with the Operations Section.

BEST PRACTICE: Stay at least a day ahead of cleanup crews if possible, but not get too far ahead as conditions may change.

    - Continue to re-assess the scope and scale of the survey areas and adjust as needed.

BEST PRACTICE: Daily surveys should be prioritized based on shoreline oiling conditions noted during aerial reconnaissance flights. Segments where heavy oiling has been observed or which are of specific ecological importance should be prioritized for surveys first.

BEST PRACTICE: Ideally, surveys should be conducted during daylight hours and at low tide (if applicable). If the area had been flooded, remember to survey the extent of the flooding which may be well beyond the shoreline.

- ❑ **Ensure that all elements of the shoreline cleanup assessment work plan have been completed.**
- ❑ **Prepare, deploy, and manage SCAT Field Teams conducting shoreline oiling surveys. (may be managed by SCAT Field Team Manager). A variety of tools to help manage SCAT Teams are available in Appendix F of the Example SCAT Work Plan.**

SYSTEMATIC SURVEY PHASE CHECKLIST

- Assemble SCAT teams to meet SCAT field objectives and ensure that all teams have the necessary representation, training and equipment.

- Ensure that team assignments are made daily or as appropriate. Be sure the assignments are reflected in the 204s and passed on to the teams.

- Identify and ensure field team safety and logistical needs (transportation via helicopter or boat? PPE issues? Communication via radios, mobile or satellite phones? Lunch? Etc.) are met daily.

- Obtain weather, tidal charts and/or river flow data from credible sources such as NOAA (weather and/or tides) or USGS (river flow data) and distribute to field teams.

- Conduct joint calibration trip for SCAT teams prior to initial assessment.

- Conduct SCAT tailgate safety meeting at the beginning of shifts (as appropriate):
  - Review any special considerations that may exist for each team such as: site access (e.g. have legal access agreements been signed?; need for vehicle, boat, or aircraft), problematic terrain (streams, cliffs), special safety considerations, communications, limitations, etc.

BEST PRACTICE: Conduct calibration training with SCAT field team members on a periodic basis before sending teams in to the field. Ensure that teams use proper terminology and apply guidelines uniformly.

- Conduct debriefings with SCAT team members (or designated team member) and other SCAT associated members of the EU at the end of shifts. Debriefings may include the following topics:
  - Work completed during the shift.
  - The need for consensus among team members. Signatures on the assessment forms document consensus. If consensus is not reached in the field, make sure that conflicting opinions are documented.
  - Ensure that documentation and equipment for SCAT teams (maps, photography equipment, gear, communications, etc.) are adequate and all set to the same recording units prior to next deployment.
  - Solicit observations from the field team regarding cleanup processes, successes, failures, etc.
  - Discuss assignments for the next operational period.
  - Ensure that data is being collected and recorded appropriately.

❑ **Establish process for summarizing SCAT field data and communicating data as appropriate to meet the following needs:**

- Situation Unit updates:
  - Oiling degree and distances.

- Command And General Staff Meeting:
  - Determine from EUL and/or PSC any relevant/new information or shift in objectives or priorities from UC which might affect SCAT program.
  - Identify any potential weather or other concerns for SCAT Field Teams.

- Pre-Tactics and Tactics Meeting
  - Coordinate with EUL, PSC and OPS to ensure that field observations are available for Tactics meeting if that information may influence where cleanup crews are deployed.
  - Collect preliminary treatment recommendations (and any applicable wildlife or Section 106 constraints) from SCAT Teams in field and/or collect shoreline treatment recommendation (STR) packets.
  - Synthesize them and discuss with EUL (consider organizing them by OPS' divisions).
  - EUL and/or SCAT Coordinator coordinate with PSC and OPS during Tactics Meeting; provide key SCAT info to OPS/PSC to help develop 204s (treatment recommendations, safety constraints, etc.).

- Planning Meeting
  - 204s for shoreline treatment are produced, using input from SCAT teams and shoreline treatment recommendation forms.
  - 204s for continued SCAT team deployments are produced.
  - EUL typically attends, SCAT Coordinator may be asked to attend.

BEST PRACTICE: Coordinate with the EUL to ensure that there is a process for SCAT oiling data and STRs to get to OPS for consideration in the IAP process.

- Post-OPS Briefing
  - Conduct safety, logistics, calibration meeting
  - Deploy the SCAT Teams to assigned segments

BEST PRACTICE: Assist EUL in developing data sharing opportunities with NRDA and others.

- ❑ **Develop procedures for translating data into shoreline treatment recommendations (STRs) and having STR's approved. STRs may be developed by the SCAT Coordinator or designee.**

  - There are two types of shoreline treatment recommendations and endpoints that are generated by SCAT. One is a generic set of treatment recommendations and endpoints based on shoreline type. This is developed by the SCAT coordinator and incorporated into the IAP process, and will likely not change significantly throughout the response. This is shown as Appendix E in the Example SCAT Work Plan. The second is a segment specific

recommendation. These are called shoreline treatment recommendations and provide guidance for a specific segment. A shoreline treatment recommendation form is included in Appendix B in the Example SCAT Work Plan. In cases where cleanup crews should follow the generic treatment recommendations, the shoreline treatment recommendation will simply reference that.

- Confirm (or establish if necessary) the incident-specific process for developing STRs.

BEST PRACTICE: Typically, the process would be for the SCAT Coordinator or designee to develop STRs for each segment based on input from the SCAT Field Team, organize them by Division, and route them through the appropriate parts of the ICS for signatures (Scat Coordinator, Safety Officer, PSC, OPS, Sect 7, Sect 106, UC, etc.). The STRs would then be presented during the Prep for Tactics Work Period and at the Tactics Meetings.

- Ensure that above process is synchronized with IAP development.

BEST PRACTICE: Use shoreline treatment recommendation forms. Once approved, they will also serve as work orders to implement the cleanup recommendations.

- ❑ **Along with STAG (if established) continue leading the effort to develop shoreline treatment guidelines. Later in the cleanup process, the STAG will also contribute to the development of cleanup endpoints.**

BEST PRACTICE: If any chemical countermeasures, bioremediation, or in-situ burn are being considered by a SCAT Team, work with EUL and PSC to seek RRT approval.

- ❑ **Coordinate with Liaison to establish the "Cleanup Endpoint Stakeholder Group" (CESG) and lead the effort to review shoreline treatment and cleanup endpoint recommendations.**

  - Determine which agencies/organizations must be involved in treatment and endpoint selection process.

  - Integrate cleanup concerns of the various resource agencies and managers into the process of developing treatment and endpoint recommendations.

BEST PRACTICE: Endpoints are typically selected by shoreline type, but some segments may have specific sensitivities which require segment-specific endpoints. In some instances, endpoints may be legally driven by language in an order.

SYSTEMATIC SURVEY PHASE CHECKLIST

BEST PRACTICE: Take the CESG members on a tour of cleanup operations to ensure everyone understands the state of oiling and the impacts of cleanup operations. Additional field visits may be beneficial to achieve consensus on difficult segment-specific recommendations.

References:

- Guidelines for Selecting Shoreline Treatment Endpoints for Oil Spill Response. Environment Canada, 2007. http://publications.gc.ca/site/archivee-archived.html?url=http://publications.gc.ca/collections/collection_2011/ec/En4-84-2008-eng.pdf

- Shoreline Assessment Manual – 4th Addition. NOAA. 2013. http://response.restoration.noaa.gov/sites/default/files/manual_shore_assess_aug2013.pdf

- Shoreline Assessment Job Aid, NOAA. 2007. http://response.restoration.noaa.gov/sites/default/files/jobaid_shore_assess_aug2007.pdf

❑ **Monitor locations and effectiveness of cleanups.**

- Coordinate with the EUL and OPS liaison on any issues raised by SCAT team observations, particularly where cleanup methods must be modified to increase effectiveness or decrease impacts.

- Develop a process to ensure that the treatment recommendations on the 204s for shoreline treatment crews are being properly implemented and are effective. This may be achieved by using SCAT Team members, SCAT-OPS liaisons, or other trained oversight personnel.

    - These personnel are field-based and will work alongside Shoreline Operations/Cleanup to ensure SCAT instructions are understood, applied properly, and are effective. They are the eyes/ears in the field supporting the SCAT Coordinator.

BEST PRACTICE: Establish a feedback loop during the day to report when field monitors observe ineffective cleanup or when an adverse impact is resulting from an agreed upon treatment technique.

❑ **Develop periodic SCAT Reports. The frequency will be determined by the EUL.**

BEST PRACTICE: Document the highlights of each day for historical and training purposes

SYSTEMATIC SURVEY PHASE CHECKLIST

DATA MANAGEMENT

- ❑ **Implement protocols for the data handling, processing, quality assurance/quality control (QA/QC), outputs, and archiving of the shoreline oiling data collected during the incident.**

- ❑ **Closely coordinate with OPS/PSC to provide SCAT information to the IAP process.**

    - Data collected in the field should be transmitted to OPS for inclusion in 204s

    - Identify the Pre-tactics needs and develop a process for meeting those needs.

- ❑ **Closely coordinate with SU to ensure that maps and other outputs are up to date and accurate.**

- ❑ **As needed, meet with SCAT Teams prior to field mobilizations to instruct/review field documentation protocols and data forms.**

- ❑ **Ensure that QA/QC'd SCAT data are made available for internal use by response agencies and to support public affairs products and events.**

- ❑ **Retrieve data (in all formats) from the Field Teams or Field Team Manager as soon as possible after collection.**

    - Log incoming SCAT field forms, sketches, geo-referenced photos, and other information (films, videotapes, etc.) and review the field information. The review should involve checking to ensure that all sections of the forms have been completed and that the information appears reasonable and consistent.

> **BEST PRACTICE:** GPS units and digital cameras should be surrendered to the Data Manager immediately upon return to the Command Post. GPS track lines and photos should be deleted from the units once they have been saved in a secure repository. Photos should be labeled as soon as possible.

- ❑ **Provide quality control/quality assurance of field-collected data for use in the Incident Command Post.**

    - Manage and QA/QC SCAT Team GPS data capture and waypoints. Ensure GPS tracklogs, data capture, waypoints and digital photos/videos are accounted for, complete, and stored appropriately.

    - Manage and upload digital photos for spatial display as needed by the IMT.

- ❑ **Collect supplemental observations from other sources for survey planning purposes.**

- Other sources such as field observers, OPS, the public, and others may provide useful information on shoreline oiling for consideration and dissemination. This might require a separate system for data storage than that used by SCAT. Consider using a GIS Specialist in the Situation Unit to collect non-SCAT observations. Liaison will also be a resource for collecting supplemental information. It is acceptable to use these reports as a planning tool for survey schedules, but not in lieu of SCAT data.

❑ **Produce SCAT outputs that may include:**

- Maps of shoreline types
- Segment oiling conditions
- Surface oil volumes on the shoreline, changes in volume through time
- SCAT field survey status
- Treatment recommendations
- Cleanup treatment status
- Lengths of oiled shoreline (by oil rating and/or shoreline type)
- Lengths treated (by oil rating and/or treatment method)

BEST PRACTICE: Coordinate data needs with the EUL to ensure that there is sufficient time for data input and processing prior to the Tactics Meetings and Pre-Tactics Work Period.

- Produce daily status reports and maps showing current SCAT deployments and assessment activities.
  - Archive copies for distribution and reference; produce other reports as needed.
  - Confirm with SCAT Coordinator on future field map development needs or SCAT survey targets.

- Ensure production of SCAT maps and make them available in all appropriate formats, including hard copies, PDFs, Google Earth kml/kmz files, and web mapping services.

BEST PRACTICE: Develop and use map templates to standardize the layout elements, file path, reference of site location, map layers and naming conventions for mapping products.

SYSTEMATIC SURVEY PHASE CHECKLIST

- ❑ **With SCAT Coordinator, review data management performance after first SCAT field activities and modify forms and protocols as necessary. Continue coordinating with SCAT Coordinator and SCAT Teams; provide and receive feedback on data management performance at SCAT and Unified Command briefings.**

- ❑ **Maintain and ensure the data integrity/availability of the SCAT databases system and its standardization with other spatial and reporting databases as appropriate.**

- ❑ **Implement data archival strategy (e.g. offsite external drives/FTP/server, used for ongoing reference and long-term documentation). Ensure that a documented process exists for maintaining data consistency across the various repositories.**

- ❑ **Periodically review data requirements with the SCAT Coordinator.**

- ❑ **Ensure all SCAT data is archived with the Documentation Unit.**

MONITORING/INSPECTION PHASE CHECKLIST

The Monitoring/Inspection Phase begins when OPS has completed cleanup of affected shoreline segments and requests confirmation inspections by SCAT Teams and land owner/managers.

SCAT COORDINATOR (or DEPUTY)/FIELD TEAM MANAGER

- ❑ **Establish a communication protocol with OPS that notifies the EUL and/or SCAT Coordinator when clean up treatments have been completed on a given segment.**

- ❑ **Evaluate the need for establishing a pre-sign off inspection process prior to final sign off inspections with the land owners/managers and develop as necessary. A pre-sign off inspection is a particularly valuable practice during larger spills.**

- ❑ **Implement the formal sign-off inspection and approval process/procedures.**

    - Determine which team members have signatory authority and which can only provide comments. One FOSC representative, one SOSC representative, and one RP representative typically sign shoreline inspection report to indicate no further treatment (NFT) or no oil observed (NOO) for a segment. Landowners can comment but will not necessarily be signatories on the shoreline inspection report. In this manner, sign off participants will only be necessary when they will be most productive.

    - Depending on the conditions of the spill, the signatory authority of the team could be limited to simply making the "official" recommendations to UC for their signature or, if appropriate, the team could have the authority to represent the UC and serve as the "final" sign-off authority for a segment.

    - Identify or develop an appropriate segment inspection report (SIR) form to use with input from EUL/PSC/UC.

    - Determine composition of the sign-off team(s). If possible use the original SCAT team plus any additional representatives (e.g. land owner/manager)

    - After the Operations Division Supervisor or Shoreline Supervisor considers that cleanup in a segment has been completed, the segment is inspected by a SCAT team.

MONITORING/INSPECTION PHASE CHECKLIST

BEST PRACTICE: The SCAT Team that conducted the original survey is a good group to conduct the survey as they will have perspective on the original oiling conditions for a given segment.

- ❑ **Deploy Sign-Off Teams to conduct post-cleanup inspections to confirm endpoint has been achieved.**
    - If segment meets endpoints cleanup criteria, then recommend for sign-off/approval by indicating:
        - No oil observed (NOO)
        - No further treatment is recommended (NFT)
    - If segment does not meet endpoint cleanup criteria, then recommend
        - "Segment maintenance by OPS and monitoring by SCAT"
        - Continuation of the original cleanup treatment recommendation
        - Continuation of a modified shoreline treatment.
    - Document the results of the inspection.
- ❑ Consider assigning OPS Hot Shot crew to inspection team to do some final polishing during the sign-off inspection to allow segment to be completed.

BEST PRACTICE: Use a segment inspection report form. Link this form to the original shoreline oiling summary. The Data Manager should be consulted to help determine form type and content.

- ❑ **Ensure that all of the completed inspection/recommendation documents are collected and archived appropriately.**

MONITORING/INSPECTION PHASE CHECKLIST

DATA MANAGEMENT

- ❑ **Continue collecting segment-specific forms and other documentation recording when/if cleanup standards have been achieved.**
- ❑ **Determine the need for additional deliverables of SCAT data that may be needed for "maintenance and monitoring" efforts.**
- ❑ **Ensure that ongoing monitoring efforts adhere to data standards.**
- ❑ **Confirm final archival storage for all SCAT data from field teams, deliverables of maps, photos, GPS data and GIS outputs. Coordinate with all on data distribution list for final delivery of data and analysis.**
- ❑ **Close out all data and GIS deliverables for SCAT mapping and analysis.**
- ❑ **Ensure all SCAT data is archived with the Documentation Unit.**
- ❑ **Identify, evaluate, and report all known gaps, delays, or interruptions of all data deliverables to strengthen future performances in the management and implementation of SCAT data.**

SELECT SCAT RESOURCES

Some useful documents for marine & freshwater spills and where to find them are provided below. Please review the documents prior to using them to ensure that they are consistent with current policy.

Characteristic Coastal Habitats: Choosing Spill Response Alternatives. (NOAA, 2010 - Reprinted March 2013)
http://response.restoration.noaa.gov/sites/default/files/Characteristic_Coastal_Habitats.pdf

Fate and Environmental Effects of Oil Spills in Freshwater Environments. (API publication No. 4675, 1999)
http://www.api.org/environment-health-and-safety/clean-water/oil-spill-prevention-and-response/~/media/0c4e212c65de4a3d9c2eee1a9e604a05.ashx

An FOSC's Guide to NOAA Scientific Support. (NOAA, 2010)
http://response.restoration.noaa.gov/foscguide

Options for Minimizing Environmental Impacts of Freshwater Spill Response (NOAA, API 1994)
http://response.restoration.noaa.gov/sites/default/files/shoreline_countermeasures_freshwater.pdf

Selection and Use of Shoreline Treatment Endpoints for Oil Spill Response (Owens, Sergy, 2008)
http://www.shorelinescat.com/Documents/Publications/15%202008%20Shoreline%20Treatment%20End%20Points.pdf

Physical Processes Affecting the Movement and Spreading of Oils in Inland Waters. (NOAA, 1995)
http://response.restoration.noaa.gov/sites/default/files/inland.pdf

Shoreline Assessment Job Aid. (NOAA, 2007)
http://response.restoration.noaa.gov/sites/default/files/jobaid_shore_assess_aug2007.pdf

Shoreline Assessment Manual. (NOAA, 2013)
http://archive.orr.noaa.gov/book_shelf/72_manual_shore_assess.pdf

Field Guide to the Documentation and Description of Oiled Shorelines. (Environment Canada, 1994)
http://publications.gc.ca/site/eng/40483/publication.html

Guidelines for Selecting Shoreline Treatment Endpoints for Oil Spill Response (Environment Canada, 2007)
http://publications.gc.ca/site/archivee-archived.html?url=http://publications.gc.ca/collections/collection_2011/ec/En4-84-2008-eng.pdf

SELECT SCAT RESOURCES

The UK SCAT Manual: A field guide to the documentation of oiled shorelines in the UK. (Environment Canada, 2007)
http://webarchive.nationalarchives.gov.uk/20121107103953/http://www.dft.gov.uk/mca/corp119ext.pdf

Characteristics of Response Strategies: A Guide for Spill Response Planning in Marine Environments (NOAA, 2010)
http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/characteristics-response-strategies.html

Introduction to Coastal Habitats and Biological Resources for Spill Response
http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/coastal-habitats-biological-resources-job-aid.html

Shoreline Countermeasures Manuals (NOAA)
Alaska:
http://response.restoration.noaa.gov/sites/default/files/shoreline_countermeasures_alaska.pdf

Freshwater:
http://response.restoration.noaa.gov/sites/default/files/shoreline_countermeasures_freshwater.pdf

Temperate:
http://response.restoration.noaa.gov/sites/default/files/shoreline_countermeasures_temperate.pdf

Shoreline Assessment Forms (NOAA)
http://response.restoration.noaa.gov/jobaid/shoreline_forms

Oiled Shoreline Assessment Manual (Preparedness for Oil-polluted Shoreline Cleanup and Oiled Wildlife Manuals, Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea, 2012)
http://www.posow.org/documentation/manual/assessmentmanual.pdf

Assorted SCAT Resources:
www.shorelineSCAT.com
www.polarisappliedsciences.com/

Example SCAT Workplan

This EXAMPLE document is intended to be modified to meet incident specific needs during a response or drill. Content should be edited as appropriate to meet response objectives.

EXAMPLE SHORELINE CLEANUP ASSESSMENT TEAM WORK PLAN

(Insert Incident Name)

This incident-specific SCAT plan is approved:

FOSC	Date
SOSC	Date
RPIC	Date

(Insert other UC members as appropriate)

cc: Operations Section, Shoreline Cleanup Supervisor
Operations Section Chief
National Oceanographic and Atmospheric Administration, SSC
U.S. Environmental Protection Agency
U.S. Department of Interior, U.S. Fish and Wildlife Service
State Historic Preservation Officer
State Agencies

Acronyms:
SCAT – Shoreline Cleanup Assessment Team
EUL – Environmental Unit Leader
NEB – Net Environmental Benefit
QA/QC – Quality Assurance/Quality Control
SOS – Site Oiling Survey
STR – Shoreline Treatment Recommendation

This EXAMPLE document is intended to be modified to meet incident specific needs during a response or drill. Content should be edited as appropriate to meet response objectives.

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Appendix F: Management, Planning, and Tracking Forms

This EXAMPLE document is intended to be modified to meet incident specific needs during a response or drill. Content should be edited as appropriate to meet response objectives.

1. Plan Purpose and Objectives

a. Purpose

Shoreline Cleanup and Assessment Technique (SCAT) is a systematic method for surveying an affected shoreline after an oil spill. The SCAT approach uses standardized terminology to document shoreline oiling conditions. SCAT is designed to support decision-making for shoreline cleanup. It is flexible in its scale of surveys and in the detail of datasets collected. SCAT surveys begin early in the response to assess initial shoreline conditions, and ideally continue to work in advance of operational cleanup. Surveys continue during the response to verify shoreline oiling, cleanup effectiveness, and eventually, to conduct final evaluations of shorelines to ensure they meet cleanup endpoints.

This work plan has been developed to describe the process for initiating and implementing SCAT actions for shorelines impacted by the **XXX *Spill/Drill*.**

The SCAT process for this incident is intended to:

1. Systematically survey and document the area affected by oil to provide rapid and accurate geographic description of the shoreline oiling conditions and real-time issues or constraints;
2. Recommend treatment or cleanup options for oiled shorelines to OPS and UC;
3. Recommend shoreline cleanup endpoint standards to OPS and UC;
4. Monitor and evaluate shoreline treatment;
5. Provide inspection teams for segment sign off, and
6. Manage data collected from shoreline surveys.

b. Objectives

The objectives of the SCAT process for this incident are to:

1. Quickly collect data on shoreline oiling conditions using standard protocols and mechanisms;
2. Utilize shoreline oiling data to enhance and expedite shoreline treatment planning, decision-making, and response activities; and
3. Assure that a "net environmental benefit" (NEB) for an oiled shoreline is achieved by shoreline cleanup.
4. Ensure that impacts to Tribal and Cultural resources as well as endangered species and essential fish habitats are minimized.

c. Fundamental Principles:

The fundamental principles of the shoreline assessment surveys include:

1. A systematic assessment of all (oiled and non-oiled) shorelines in the affected area;

2. A division of shorelines into homogeneous geographic units or "segments";
3. The use of a standard set of terms and definitions for documentation;
4. A survey team that is objective and trained; and
5. The timely provision of data and information for decision making and planning.

2. Health and Safety

The Site Safety Officer prepares a Site Safety Plan addressing safety issues related to the incident. The Site Safety Plan addresses the principal safety and health hazards from boat and water operations and shoreline assessment and cleanup operations. The site safety plan covers training, equipment safety, protective clothing and equipment, decontamination, and first aid and medical evacuation procedures to be used during the response.

Specific safety considerations for SCAT operations include the following:

- Follow the Site Safety Plan.
- Attend daily safety meetings regarding SCAT work.
- Wear personal protective equipment.
- Use personal flotation devices when transiting across water and review safe boating practices
- Observe careful personal hygiene during the workday.
- Watch for slips, trips, and falls.
- Wear hearing protection when designated.
- Watch for heat and cold stress.
- Avoid interaction with wildlife.
- Protect hands.
- Operate equipment according to instructions.
- Practice good housekeeping in work areas.

3. Organization, Staffing, and Schedule

Organization

The SCAT Coordinator is in charge of the Shoreline Cleanup Assessment Technique operations. The SCAT Coordinator reports directly to the Environment Unit Leader, but must maintain a close working relationship with the Operations Section, resource agencies, and other affected parties. In the field, SCAT teams may receive priorities and technical directions from the SCAT Coordinator via the SCAT Field Team Manager.

Staffing

The field SCAT teams will consist of up to 6 members (plus vessel/aircraft operators as needed), ideally with the following representation (one or more roles may be combined, or not be applicable):

- Federal government representative
- State government representative
- Responsible Party
- Land owner/manager

- Tribal government representative
- Local government and/or oversight organization
- Geomorphologist or individuals with oil spill experience and SCAT training who can identify and document oil on the shore
- Ecologist/Biologist who can document the impacts of oil and recommend priorities, cleanup endpoints, and ecological constraints
- Archeologist or cultural resource specialist who can advise on precautions and constraints to protect cultural resources, if needed

A total of X SCAT teams have been assembled and deployed for the initial stages of this incident, including X aerial survey teams and X teams for ground surveys.

Field SCAT Team participants will be selected from representatives for industry; tribal state and federal agencies; and/or landowners to provide the primary expertise described above. SCAT Field Team members will be assigned for each team. A listing of the current organization (command & field) is outlined below.
The SCAT Data Manager is responsible for the maintenance of the SCAT data base and for the production of maps and tables as needed. The SCAT Data Manager may request the assignment of a SCAT Documentation specialist if the workload demands it.

Command Post
- **SCAT Coordinator (and Deputy, if needed)**
- **SCAT Field Team Manager**
- **Scheduler/Logistics Coordinator**
- **SCAT Data Manager**
    - **SCAT Data Entry**
- **Shoreline Treatment Advisory Group**

Aerial Reconnaissance Team
- **Team Member**
- **State**
- **Federal**

Aerial Video Team
- **Team Member**

Ground Team 1 – SCAT ST1
- **Federal**
- **State**
- **RP**
- **Landowner/manager (if needed)**
- **Archeologist/Cultural Specialist (If needed)**
- **Wildlife Biologist/Ecologist (if needed)**
- **Tribal/Local Gov't reps (if needed)**

Ground Team 2 – SCAT ST2 Team Lead:

Ground Team 3 – SCAT ST3 Team Lead:

Ground Team 4 – SCAT ST4 Team Lead:

Efforts will be made to minimize personnel substitutions and select team members who can stay with the SCAT operations, or to have a systematic schedule of alternates; people who see conditions change through time have a better frame of reference for assessing the success of cleanup operations.

Initial and subsequently new field team members will be "calibrated" by having them visit shorelines of differing morphology to review the agreed-upon shoreline descriptors and to confirm how oil impacts will be described throughout the response process. Currently deployed SCAT Teams have been calibrated.

Team Priority – Areas where heavy oiling has been noted or which are of specific ecological importance will be prioritized to maximize recovery opportunities and to reduce overall impacts.

Schedule
The schedule for SCAT Field Teams will change daily, and be reflected in the 204s as well as on SCAT planning tools (Appendix F).

Example: *Teams will be assigned specific survey locations as outlined on a daily basis in applicable 204s. Daily surveys will be prioritized based on shoreline oiling conditions noted during aerial reconnaissance flights. Areas where heavy oiling has been noted will be prioritized to maximize recovery opportunities as will sensitive areas identified on the ICS-232. Surveys will be completed at low tide to the extent practicable and during daylight hours. Personnel may be relocated to address changing conditions.*

4. SCAT Survey Methods

Shoreline surveys will be conducted for this incident by different methods and at different scales depending upon the size of the affected area, character of the shoreline type, and level of detail that is required. The following table presents a summary of the survey methods that will be used for this incident, key objectives of the survey methods, and the purpose of each survey method.

Table1
Summary of SCAT Survey Methods

Survey Method	Key Objectives	Purpose
Aerial Reconnaissance	Define the overall incident scale to develop regional objectives. Mapping or documentation not required.	Make specific observations, but not to map or document the oiling conditions, so that relatively large areas can be covered in a relatively short time period.
Aerial Survey	Systematically document or map to (i) create segments, (ii) develop regional	Prepare a map or maps that show the locations of stranded oil and the distribution and character of that oil by flying low altitude (<100

Table1 **Summary of SCAT Survey Methods**		
	strategies and plans, and (iii) define lengths of oiled shorelines.	feet) in a helicopter using a videotape camera linked to (1) an audio system for a detailed commentary, (2) a real time, moving map display, and (3) a Geographical Positioning System (GPS).
Systematic Ground Survey	Systematically document shoreline oiling conditions in all segments within the affected area.	Systematically document shoreline oiling conditions in all segments within the affected area and to complete shoreline oiling summary ("SOS") forms, generate sketch maps for each oiled segment and complete Shoreline Treatment Recommendations. ("STRs").
Spot Ground Survey	Systematically document shoreline oiling conditions for selected segments within the affected area.	Systematically document oiling conditions for selected segments within the affected area and to complete SOS forms, generate sketch maps for each oiled segment and complete Shoreline Treatment Recommendations ("STR").
Inspection Survey	Evaluate effectiveness of treatment methods employed by Operations in meeting shoreline treatment standards.	Systematically document shoreline conditions after treatment and cleanup of segments within the affected area against the applicable treatment standards and complete shoreline oiling summary forms and generate sketch maps for those segments. Make recommendations for closure or further cleanup actions and complete Shoreline Inspection Reports ("SIRs") for each segment for which "No Future Treatment" is being recommended.

Shoreline Segmentation Strategy

Example 1: *Initial SCAT segments are defined based on the NOAA Environmental Sensitivity Index delineations. In some cases, these ESI-based segments have been subdivided to provide a management length segment. The shoreline between within the response area have been segmented and given identifiers based on Operational Divisions.*

Example 2: *No pre-designated segments exist within the impacted areas associated with this incident. Shoreline segments will be established using methods outlined in The UK*
SCAT manual: Shoreline Cleanup Assessment Technique - a Field Guide to the Documentation of Oiled Shorelines in the UK. The SCAT Coordinator will work with various members of the IMT to identify and characterize shoreline segments.

5. Field Documentation and Information Transfer

Field documentation will consist, where possible, exclusively of standardized forms. Examples include the shoreline oiling summary (SOS) and shoreline treatment recommendation (STR) forms found in Appendices A and B, respectively.

Aerial Surveys
Completed field documents (notes, sketches, videos and photos) from aerial reconnaissance teams are to be provided by the team members and inspected at the Command Post for QA/QC the same day to ensure that any necessary revisions are made prior to the surveys of the next day.

Ground Surveys
The SCAT Field Team Manager and each Field Teams are responsible for ensuring that the following tasks and field documentation are completed.

- Complete SOS Form
- Complete STR Form
- Sketch(es) of the segment if oil is observed
- GPS coordinates of segment endpoints and specific features
- Digital photographs and log date/time/location if oil is observed
- Dig pits/trenches if subsurface oil is suspected

SCAT forms appropriate to the spill conditions (inland, tarball, winter, etc.) will be selected.

The completed field documentation (SOSs, STRs, sketches and photos) from the ground survey teams are to be provided to the Field Team Manager (or Data Manger). This documentation shall be inspected at the command post for QA/QC on the same day as the survey to ensure that any necessary revisions are made prior to the surveys of the next day.

All GPS units and digital cameras will be surrendered to SCAT Data Manger immediately upon return to the Command Post for downloading. The Data Manager will ensure that device times are synchronized and that all waypoints, tracklogs, and digital pictures are erased from each device prior to being redeployed with Field Teams.

In order to facilitate planning, the Team Members will notify the SCAT Field Team Manager on a daily basis if any segments are identified that will require Operations mobilization.

6. Command Post Data Management and Results

Data QA/QC
Data from SCAT field surveys is used to plan cleanup activities for the subsequent shoreline cleanup operations.

The SCAT Data Manager receives and logs incoming SCAT field forms, sketches, and other information (films, videotapes, etc.) and reviews the field information. The review involves a quick check to make sure that all sections of the forms have been completed and that the information appears reasonable and consistent. Any questions regarding missing information or apparent inconsistencies are discussed with the field team members before the next field assignment. After the quality control is complete, forms are copied and distributed as needed and key information is transferred to tables or computer data files.

Data Outputs
In general, the types of data, graphics, and tables that will be generated from the SCAT database may include:

- Maps of shoreline segments and soil/sediment types
- Oiling conditions
- Surface oil volumes, changes in volume through time
- SCAT field survey status
- Treatment recommendations
- Cleanup treatment status
- Lengths of oiled shoreline (by oil rating and/or shoreline type)
- Lengths treated (by oil rating and/or treatment method)
- Area surveyed

Record Keeping
Original SCAT field forms, sketches, and other information (photos, videotapes, etc.) and data, graphics, and tables generated during the incident will be provided by the SCAT Data Manager to the Documentation Section for retention. Only copies of these records will be distributed for use by stakeholders (i.e. RP, USCG, EPA, state agencies, etc.).

7. Spill Cleanup Endpoints Standards

All spills have a point at which active cleanup and removal gives way to the natural degradation of the oil. In many cases, this termination point is developed through a process lead by the SCAT Coordinator (Cleanup Endpoint Stakeholder Group) and formalized by the Unified Command. In most cases, the endpoint will be assumed to have been reached when worker safety would be compromised or the remaining oil presents less of a risk to the community or the resources than the treatment methods available.

The cleanup endpoints for this spill are detailed in Appendix E.

After the Operations Division Supervisor or Shoreline Supervisor considers that cleanup in a segment has been completed, the segment will be inspected by a Sign-Off team, that will (a) determine whether the cleanup criteria have been met and (b) make a

recommendation to the Unified Command regarding that segment. The team will use the criteria outlined in Appendix F to make this determination. At the time of the inspection, the land manager or representative will accompany the team and a segment inspection report (SIR) form will be completed. The Land Manager or representative may add notes in the "COMMENTS" text block on the SIR.

If the SCAT team (in consultation with the land manager) determines that no oil is present in the segment or that the cleanup has met the endpoint criteria, then the members of the SCAT team representing the UC will sign the SIR and forward a No Further Action recommendation to the UC for approval. Note that a determination that cleanup endpoints have been reached does not indicate that the segment is necessarily recovered or restored under the definition of the NRDA process.

If the SCAT team determines that a segment fails to meet the cleanup criteria the team will indicate this on the SIR. They will specify where work is still required in order for the segment to pass inspection and will forward the form to the Operations Section Chief via the SCAT Coordinator and the EUL.

The SCAT signoff process is intended to be a consensus-based team assessment. If, however, the team members are not in agreement regarding whether or not the endpoint criteria are met, then a sheet listing the reasons for disagreement is attached to the SIR and forwarded to the UC for resolution.

SCAT Work Plan Appendix A -
SHORELINE OILING SUMMARY FORM

The following page shows the traditional Shoreline Oiling Summary Form.

The following links provide caches of additional forms which are modified for specific environments.

NOAA: http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/shoreline-cleanup-and-assessment-technique-scat.html

Polaris Applies Sciences: http://www.polarisappliedsciences.com/

Owens Coastal Consulting: http://www.shorelinescat.com/

SHORELINE OIL SUMMARY (SOS) FORM: _____ **Page____ of _____**

1. GENERAL INFORMATION	Date (dd/mm/yyyy) (please use month name)	Time (24h standard/daylight) (00:00 to 00:00)	Tide Height
Segment ID:			L / M / H
Segment Name:		____:____ to____:____	Rising / Falling
Survey By: Foot /ATV/ Boat / Helicopter / Overlook / Other _____		Weather: Sun / Clouds / Fog / Rain / Snow / Windy / Calm	

2. SURVEY TEAM	Name	Organization	Name	Organization
Team Number				

3. SEGMENT	Total Length: m	Length Surveyed: m	Datum: WGS84

Survey Start GPS:	WP:	LAT: .	LONG: .
Survey End GPS:	WP:	LAT: .	LONG: .

4a. BACKSHORE CHARACTER: Indicate only ONE Primary type and ALL Secondary types

Cliff/Slope Lowland Beach Dune Wetland Lagoon Delta Channel Man-Made :

4b. ESI SHORELINE TYPE: Indicate only ONE Primary (P) and ANY Secondary (S) types. CIRCLE those oiled.

Primary: Secondary:

5. OPERATIONAL FEATURES	Oiled Debris? Yes / No	Type:	Amount: (bags)
Direct backshore access? Yes / No	Alongshore access from next segment? Yes / No	Suitable for backshore staging? Yes / No	
Access Description / Restrictions:			

6. OILING DESCRIPTION: Indicate overlapping zones in different tidal zones by numbering them (e.g. A1, A2)

Zone ID	ESI Type	WP Start	WP End	Tidal Zone				Oil Cover						Oil Thickness					Oil Character							
								Zone Area		1-100%	<1%	Size														
				LI	MI	UI	SU	Length (m)	Width (m)	Distr. %	# per unit area	Avg Size (cm)	Large Size (cm)	TO	CV	CT	ST	FL	FR	MS	TB	PT	TC	SR	AP	No

7. SUBSURFACE OILING CONDITIONS: Format: Zone ID dash Trench Number in that Zone, e.g., "A-1, B-1, B-2"

Pit #	WP	Substrate Type Surface / Subsurface	Tidal Zone				Pit Depth (cm)	Oiled Interval (cm-cm)	Subsurface Oil Character										Water Table (cm)	Sheen Color B,R,S,N	Clean Below Yes / No
			LI	MI	UI	SU			OP	PP	OR	OF	TR	TB	SR	AP	NO	%			

8. COMMENTS: Cleanup Recommendations; Ecological/Recreational/Cultural Issues; Wildlife Observations; Oiling Descriptions

Sketch: Yes / No Photos: Yes / No Photo Numbers: (-) Photographer Name:

Calibration IS VERY IMPORTANT! Do a calibration exercise to make sure that all teams are consistently using the same terminology and estimations.

Units: Use either metric (m, cm) or English (yd, ft, in). Circle the units used.

Tide Height: Circle the two letters indicating the progression of the tidal stage during the survey, either rising or falling.

Segment/Survey Length: Always record both segment and survey lengths on the first survey, especially where the SCAT team creates the segments in the field. On repeat surveys, always enter in the Survey Length, especially if only part of the segment is surveyed.

Start/End GPS: The preferred format for latitude and longitude is decimal degrees, but be consistent among teams. Record the datum if different than WGS84.

SURFACE OILING CONDITIONS

Zone ID: Use a different ID for each oil occurrence, e.g., two distinct bands of oil at mid-tide and high-tide levels, or alongshore where the oil distribution changes from 10 % to 50%. Describe each oil occurrence on a separate line. Record the shoreline type(s) present in each oiled zone using the terminology in section 4 or the ESI code.

Tidal Zone: Use the codes to indicate the location of the oil being described, as in the lower (LI), mid (MI), or upper (UI) intertidal zone, or in the supra (SU) tidal zone (above the normal high tide level).

Distribution: Enter the estimated percent of oil on the surface (preferred), or codes for the following intervals:

C	Continuous	91-100% cover
B	Broken	51-90%
P	Patchy	11-50%
S	Sporadic	<1-10%
T	Trace	<1%

Surface Oiling Descriptors - Thickness: Use the following codes:

TO	Thick Oil (fresh oil or mousse > 1 cm thick)
CV	Cover (oil or mousse from >0.1 cm to <1 cm on any surface)
CT	Coat (visible oil <0.1 cm, which can be scraped off with fingernail)
ST	Stain (visible oil, which cannot be scraped off with fingernail)
FL	Film (transparent or iridescent sheen or oily film)

Surface Oiling Descriptors - Type

FR	Fresh Oil (unweathered, liquid oil)
MS	Mousse (emulsified oil occurring over broad areas)
TB	Tar balls (discrete accumulations of oil <10 cm in diameter)
PT	Patties (discrete accumulations of oil >10 cm in diameter)
TC	Tar (highly weathered oil, of tarry, nearly solid consistency)
SR	Surface Oil Residue (non-cohesive, oiled surface sediments)
AP	Asphalt Pavements (cohesive, heavily oiled surface sediments)
No	No oil (no evidence of any type of oil)

SUBSURFACE OILING CONDITIONS

Oiled Interval: Measure the depths from the sediment surface to top/bottom of subsurface oiled layer. Enter multiple oil layers on separate lines.

Subsurface Oiling Descriptors: Use the following codes:

OP	Oil-Filled Pores (pore spaces are completely filled with oil)
PP	Partially Filled Pores (the oil does not flow out of the sediments when disturbed)
OR	Oil Residue (sediments are visibly oiled with black/brown coat or cover on the clasts, but little or no accumulation of oil within the pore spaces)
OF	Oil Film (sediments are lightly oiled with an oil film, or stain on the clasts)
TR	Trace (discontinuous film or spots of oil, or an odor or tackiness)

Sheen Color: Describe sheen on the water table as brown (B), rainbow (R), silver (S), or none (N).

SCAT Work Plan Appendix B –
SHORELINE TREATMENT RECOMMENDATION FORM

The following page shows the traditional Shoreline Treatment Recommendation Form.

The following link provides additional forms.

Owens Coastal Consulting: http://www.shorelinescat.com/

INCIDENT NAME

Shoreline Treatment Recommendation STR# ___
Operational Permit to Work

Segment: Survey Date:

Start Latitude: **End Lat:**
Start Longitude: **End Long:** **Length (m): _____**

Shoreline Type: *Primary* _____ *Secondary*_____

Oiled Areas for Treatment:

Auto entry directly populated from data base of:
Zone: Shoreline Type, L x W, Oil % Dist, Oil Character, Oil Thickness, Oiling Category
e.g. Zone A: Salt marsh, 200 m x 1 m, 10% Fresh oil, pooled, Oiling Category: Heavy

Cleanup Recommendations:

(Use standard terms and definitions from a Word document or populate database with these standard statements)

Staging and/or Logistics Constraints/Waste Issues:

Ecological Concerns:

Cultural / Historical Concerns:

Safety Concerns:

Attachments: ☐ Segment Map ☐ Sketch ☐ SCAT Form ☐ Fact Sheet ☐ Other

Prepared by: _____Date Prepared:_____

Date					
Time					
	to SOSC	to Land Mgr	to SHPO	to EU Leader	to _____

Final Approval _____ _____ _____ **Submitted to OPS**_____
State OSC Rep Federal OSC Rep EU Leader

** When Treatment is completed, send a Segment Completion Report to SCAT **

SCAT Work Plan Appendix C –
SEGMENT INSPECTION REPORT FORM

The following page shows the traditional Segment Inspection Report form.

The following link provides a cache of additional forms.

Owens Coastal Consulting: http://www.shorelinescat.com/

Segment Inspection Report for _____

Segment ID: _____ **Segment Name** _____
Survey Date: _____ **Survey Time:** _____
Tides: _____ **Weather:** _____
Inspection Completed Along Entire Segment: Yes / No
Result/Recommendation:

☐ No oil observed.

☐ Meets cleanup endpoints.

☐ No further treatment recommended.

☐ Further treatment recommended.

(Provide written details of issues and required actions.)

☐ Continued monitoring required.

(Provide written details of frequency and schedule.)

SCAT Team Members:

Name	Signature
FOSC Rep	
SOSC Rep	
RP Rep	
Landowner/Other Rep	

SCAT Work Plan Appendix D –
PHOTO CONTENT/LOG

SCAT PHOTO LOG FORMAT

These standards should be reviewed and confirmed during each incident by the Data Manager.

Item	Format	Example
Date	Date	dd mmm yyyy
Time	Time	24 hour
Team	Team	N or L
Location Name *	Location Name *	text
Segment Number	Segment Number	LLL-NN
Ops Division *	Ops Division *	N or L
Latitude	Latitude	dd.ddddd
Longitude	Longitude	ddd.ddddd
Waypoint *	Waypoint *	NNN
Subject	Subject	text

* optional

NOTES:

1. Ensure the GPS is on with the "trackline" active. For aerial tracks, use a 5-second fix, for ground/walking use about a 30-second fix. **DO NOT SAVE THE TRACKLINE TO THE GPS** – download tracks to a computer file each day; if you save to the GPS then the track fixes are averaged and so we lose the ability to sync the times of the track fixes to the photos with OziExplorer
2. Ensure GPS and camera times are in sync
3. Take photo of GPS time at least twice a day
4. **The purpose of the photographs is to document the character of any oil observed within a segment**. Do not take too many photos of the oiled zone or location as one or two good photos only are necessary for documentation.
5. If there is **no oil** found within in segment then only take one or two photos. Preferably take a photo alongshore approximately at the High Water Level to record the general character of the segment.
6. Photography would be required if any cultural resources are identified (see Appendix H).
7. **WAYPOINTS**: Not necessary to take a waypoint at every photo location, but is valuable for specific items of interest that are photographed (such as the start and/or end of an oiled area or a pit in which oil is found).
8. **SCALE**: For distant or panorama shots always try to have a person in the middle distance for scale. For close-up shots always use a scale (the back of the field note book scale is preferred rather than a pencil or a coin!!)

SCAT PHOTO LOG

INCIDENT NAME:

Time	Date	Team	Location	Segment	Ops Div	Lat	Long	Waypoint	Subject

SCAT Work Plan Appendix E –
EXAMPLE RECOMMENDED TREATMENT AND ENDPOINT PLAN

The following documents contain additional guidance on developing treatments and endpoints:

Guidelines for Selecting Shoreline Treatment Endpoints for Oil Spill Response (Environment Canada, 2007)
http://publications.gc.ca/collections/collection_2011/ec/En4-84-2008-eng.pdf

Selection and Use of Shoreline Treatment Endpoints for Oil Spill Response (Owens, Sergy, 2008)
http://www.shorelinescat.com/Documents/Publications/15%202008%20Shoreline%20Treatment%20End%20Points.pdf

Options for Minimizing Environmental Impacts of Freshwater Spill Response (NOAA, API 1994)
http://response.restoration.noaa.gov/sites/default/files/shoreline_countermeasures_freshwater.pdf

Shoreline Assessment Manual (NOAA, 2013)
http://archive.orr.noaa.gov/book_shelf/72_manual_shore_assess.pdf

Introduction

All spills have a point at which the active clean-up, removal, and recovery operations give way to natural processes of oil degradation. In most cases, this termination point is qualitative, developed through a consensus-based process and field verified by representatives from the Unified Command (UC) in consultation with the appropriate federal, state, and local trustees. In all cases, the endpoint is reached when responder safety would be compromised or the remaining oil presents less of a risk to the community and natural resources than the response and recovery methods available.

The determination as to cleanup methods, priorities, and termination will be made via UC representatives.

Completion of active shoreline countermeasures is a decision of the On-Scene Coordinator (OSC). Support of the OSC requires recommendations on shoreline countermeasures and also recommendations on when to terminate cleanup operations. Evaluating the results of countermeasures and the recommendation to terminate response efforts requires a consensus of members who may have varying interests and roles. One key element for all parties to examine is to determine if the continued use of a particular countermeasure will result in more damage to the environment than would occur as a result of terminating any active response measures.

The Endpoint Plan provides a cleanup endpoints and constraints for each shoreline type. There may be unique factors in any given segment that will require a different approach. At the end, there is a summary table of this information.

Endpoints for No Further Action

These guidelines establish endpoints for operations for the Phillips 66 Tacoma Earthquake Exercise DRILL, including free product release and containerized product. These endpoints may be amended to address as yet unforeseen circumstances and do not constitute shoreline restoration or full recovery criteria, which may be addressed through a longer-term process. These endpoints define the conclusion of cleanup operations while attempting to minimize overall impact (including those from operations) to sensitive resources.

Stranded Free Oil Product

- Oiled shorelines shall be free of bulk product and not produce rainbow sheen under all weather and tidal conditions.
- There shall be no appreciable mobile oiled debris that is recoverable. Oil film, stain and minor sheening may still be present if best professional judgment of the Environmental Unit determines that further recovery will not produce environmental benefit. Such residual oiling would be allowed to degrade naturally.

Specific Target Cleanup End-Points for Various Habitat Types:

Fine-Grain Sand Beaches

- Beaches shall be free of bulk oil and not produce rainbow sheen during tidal events.
- Light oil stain on beach sediment that does not produce rainbow sheen may be allowed to weather and degrade naturally.
- Some oil stain may still be present on sediments at the end of active cleanup if best professional judgment is that further treatment will not produce environmental benefit.
- Minor residual sheen that is dull in color or silver may remain and weather naturally.

Do not remove unoiled wrack. Access to upland areas must be restricted to prevent additional environmental damage. Snare may be used for passive recovery of sheen adjacent to shoreline.

Bulkheads and Piers

- All hard structures shall be free of bulk oil and not produce sheens that would represent a secondary oil source.
- Oil stains that cannot be removed easily and safely may be left to weather and degrade naturally.
- Minor residual sheen that is dull in color or silver may remain and weather naturally.

Where appropriate, clean-up crews may use a variety of flushing techniques from low pressure ambient water to high pressure/high volume ambient water flushing into containment and collection. High pressure should not be used where attached marine organisms (algae, bivalves, echinoderms) are abundant. Passive snare may be deployed. High pressure flushing will require segment specific approval from the EU.

Marshes /Tidal Mudflats

- These areas shall be free of free floating and potentially mobile oil, including oiled debris and wrack at the fringe marsh.
- There shall be no appreciable sheens released from marsh. Minor residual sheen that is dull in color or silver may remain and weather naturally.
- Oil stained and coated vegetation will not produce sheen or appreciable wildlife threats.
- **Stay out of these areas unless otherwise directed.**

Aggressive cleanup on marshes/mudflats may actually cause greater long- term damage. There must not be any physical cleanup activities in marsh areas that will cause damage to marsh vegetation or entrainment/entrapment of oil product into sediments. Snare boom should be staked along the front edge of oiled marsh for passively recovery of sheens. These snares must be inspected and replaced routinely. Low pressure deluge flushing with ambient water may also be deployed from the upper marsh to flush product into containment and collection. Deployment of this technique should not involve walking into soft sediments or marsh vegetation. Best professional judgment by the Environmental Unit/SCAT will be used to determine if further treatment

or cleanup would have no environmental benefit and may delay, rather than accelerate, recovery of the vegetation. This judgment will be based on fact, past studies or data from previous oil spills.

Riprap/Rubble
Type I Riprap is defined as shorelines that are not commonly accessed by the public or have sensitive wildlife concerns. Type I riprap should meet the following criteria:

- Oiled riprap shall be free of bulk oil and not produce appreciable sheen under all weather conditions.
- Oil stains that cannot be removed safely will be allowed to weather and degrade naturally.
- Some inaccessible patches of oil may not be feasible to remove.
- Safety is paramount. Areas of broken rebar and other damaged materials should be avoided.
- Minor residual sheen that is dull in color or silver may remain and weather naturally.

High Public Use Areas
High Public Use Areas are defined as shorelines that have a greater potential for members of the public (and their pets) coming into direct contact with residual oil pollution and will likely necessitate a higher cleanup standard. The following additional cleanup criteria apply to public use area.

- No oil residues that would present a contact hazard to the public (residents, visitors, or pets).
- No oiling that would easily rub off and stain clothing or pets.
- *High Public Use or Public Access Areas will require "case-by-case" assessment and identification of cleanup requirements.*

Where appropriate, clean-up crews may use a variety of flushing techniques from low pressure ambient water to high pressure/high volume ambient water flushing into containment and collection. High pressure should not be used where attached marine organisms (algae, bivalves, echinoderms) are abundant. Passive snare may be deployed.

Note: Because diesel has many light ends it is very odorous. It is possible that areas may have a lingering smell of diesel after they have met the clean-up end points.

General Shoreline Treatment Recommendations and Endpoints

Additional treatment options may be beneficial or necessary for specific shoreline segments. This will be handled on a case by case basis.

Habitat Type	Cleanup Endpoints	Recommended Cleanup Methods	Constraints
Wetlands	No mobile oiled debris, no rainbow sheen, no brown emulsion. Some silver sheen and stain may persist and be allowed to degrade naturally.	Snare boom should be staked along the front edge of oiled marsh for passively recovery of sheens. Collect heavily oiled debris by small boats at high tide. Any additional cleanup requires EU approval.	Do not disturb vegetated areas, even if oiled No foot traffic in vegetated wetland areas
Vegetated shorelines	No mobile oiled debris, no rainbow sheen, no brown emulsion. Some silver sheen and stain may persist and be allowed to degrade naturally.	Manual removal of oily debris less than 4" diameter. Skimming and vacuum of floating oil on the water surface. Use flushing with sea water along the vegetated fringe to release trapped oil. Where remaining oil poses a significant threat to bird concentration areas, sorbent snare may be deployed. Such areas will be identified by the EU	There will be limited foot traffic in vegetated areas (access points only) During flushing, prevent suspension of bottom sediments (do not create a muddy plume) No cutting of vegetation at this time
Marshes/Tidal flats (mud and/or sand)	No mobile oiled debris, no rainbow sheen, no brown emulsion. Some silver sheen and stain may persist and be allowed to degrade naturally.	Snare boom should be staked along the front edge of oiled tidal flat for passively recovery of oil and rainbow sheens. Collect heavily oiled debris by small boats at high tide, or on foot in firmer areas. Any additional cleanup requires EU approval.	Do not enter tidal flats to recover oil or oily debris if boots sink more than 2 inches into the mud.
Bulkheads and Piers	No mobile oil, as evidenced by silver sheen.	Flooding and low-pressure, ambient water flushing to remove mobile oil; flush only to the point where a silver sheen remains; use booms for containment and skimmers/vacuum for recovery of released oil Minimal use of sorbents	Do not remove or intentionally dislodge organisms on bulkheads or piers.
Rip rap/rubble shoreline	No mobile oiled debris, no rainbow sheen, no brown emulsion. Some silver sheen and stain may persist and be allowed to degrade naturally.	Flooding and low-pressure, ambient water flushing to remove mobile oil; flush only to the point where a silver sheen remains; use booms for containment and skimmers/vacuum for recovery of released oil. Passive snare may be deployed. Minimal use of sorbents	Do not remove or intentionally dislodge organisms on rip rap.
Fine grained sand shorelines, and mixed gravel	No mobile oiled debris, no rainbow sheen, no brown emulsion. Some silver sheen and stain may persist and be allowed to degrade naturally.	Flooding and low-pressure, ambient water flushing to remove mobile oil; flush only to the point where a sheen remains; use booms for containment and skimmers/vacuum for recovery of released oil Minimal use of sorbents, snare is preferred	Use barriers and signs to prevent public access to oiled areas Do not remove unoiled wrack. Access to upland areas must be restricted to prevent collateral damage High Public Use or Public Access Areas will require segment specific recommendations.
Oiled Debris	Removal of all readily accessible heavily oiled debris (releases liquid oil when disturbed)	Manual removal using appropriate hand tools (rakes, pitchforks, etc.) of items less than 4 inches in diameter.	Do not remove clean or possibly oiled debris No cutting of vegetation allowed

SCAT Work Plan Appendix F –
EXAMPLE Management, Planning, and Tracking Forms

The following pages provide example management, planning, and tracking documents that may be used by SCAT staff for: **long-range strategy and survey planning, short-term rolling missions,** and **daily field team tasking and logistics.** Templates for each of these three forms are provided on the following pages. Appendix materials were provided courtesy of Owens Coastal Consulting and are available via http://www.shorelinescat.com/.

1. The **long-range strategy and survey planning table (Table F-1)** provides a survey strategy plan for a period of a month or longer.

    - The survey strategy is developed by the SCAT Coordinator in consultation with the Environmental Unit Leader (EUL).
    - The table is created by the SCAT Logistics Coordinator and enables planning for long-term staffing and logistics support, taking into account factors such as survey priorities, low-tide windows, environmental constraints (e.g. bird or turtle nesting site timing), etc.
    - This same table tracks each mission and activity that has been completed and provides a program history.

2. The table for **short-term rolling mission planning (Table F-2)** covers several days and ensures appropriate data, logistics, and safety support. It requires continuous updating based on survey priorities and on work that has been completed.

    - This process is accomplished with a "SCAT Mission Planner" that is generated by the SCAT Coordinator or designee in consultation with the EUL.
    - This Mission Planner is updated and reissued daily by the SCAT Logistics Coordinator based on the completion of prior missions and provides a rolling 7-day (or 10- or 14-day) plan to accomplish the priorities set by the EUL.
    - Input to the Mission Planner also is provided by Operations (or SCAT Ops Liaison) who indicates when treatment in a segment or zone is nearing target end points, or has been completed, so that appropriate surveys or inspections can be scheduled.
    - This rolling plan is based on the long-range survey strategy as developed in the "SCAT Strategy and Tracking Table"

3. The **SCAT Team Daily Tasking and Logistics Plan (Table F-3)** links the management of the SCAT program to the ICS process and the planning cycle is the "SCAT Team Daily Tasking and Logistics Plan" which describes the planned activities for the following day, i.e. Next Operational Period (Figure 3).

    - The "SCAT Team Daily Tasking and Logistics Plan" is prepared by the SCAT Coordinator or designee and provided to the EUL to be discussed during preparation for the Tactics Work Period and Tactics Meeting during each Planning Cycle.
    - The field activities outlined in this daily tasking plan are part of the package of EU field assignments and activities reviewed in the Tactics Meeting to ultimately aid the

development of the Work Assignments that are captured on the ICS 204 forms (Assignment List) for the Next Operating Period. These field assignments are then included in the Incident Action Plan (IAP).

Additional tables and spreadsheets for program management can be created to track specific activities, such as the status and progress of STRs and of the inspection (PTA) and sign-off (SIR) surveys. One example of a summary table that records completed daily field activities is provided on the following pages. This SCAT Daily Field Activities table (Table F-4) records how many teams were deployed each day and the category of missions that were completed or attempted.

This SCAT Strategy and Tracking Table is populated with fictitious information. Gray rows represented completed missions and activities. The white rows indicate the planned strategy and missions. Typically this table would be used to plan forward up to 30 days or longer.

TABLE F-1:EXAMPLE SCAT STRATEGY AND TRACKING TABLE

	SCAT TEAM # 1	SCAT TEAM # 2	SCAT TEAM # 3
Wednesday, January 02, 2013	Travel Day	Travel Day	Travel Day
	TL = Team Lead	TL	TL
Thursday, January 03, 2013	N Barataria Bay (S4-032) MON LA PL01-029 & LA PL01-036-10 - both passed	Cancelled due to access issues / Wind West Timbalier (S4-027) SIR LA TB04-004-10	Fourchon BP
	TL	TL	TL
Friday, January 04, 2013	Cancelled Due to Small Craft Advisory Night Before Turtle Pen Isle (S4-038) SIR LA SB05-017-10	Cancelled Due to Small Craft Advisory Night Before Calumet Island (S4-035) MON LA LF01-044-30	Fourchon BP
	TL	TL	TL
Saturday, January 05, 2013	N Barataria Bay (S4-032) SIR LA PL01-036-10 - passed	N Barataria Bay (S4-032) PTA LA PL01-034-30 - failed MON LA PL01-053-30 - passed & LA PL01-053-70 - did not get to	Office- OSAT
	TL	TL	TL
Sunday, January 06, 2013	Canceled Due to Access Issues West Timbalier (S4-027) PTA LA LF01-036-20	Canceled Due to Fog Drum Bay (S4-007) partial MON LA SB06-002-10 Turtle Pen Isle (S4-038) SIR LA SB05-017-10	Grand Terre 3 (S4-024) SIR LA PL01-008-10 - passed
	TL	TL	TL
Monday, January 07, 2013	Fourchon Beach (S4-017) PTA LA LF02-007-10 - passed	N Barataria Bay (S4-032) PTA LA PL01-053-20 - passed	Calumet Island (S4-035) MON LA LF01-044-30 - failed
	TL	TL	TL
Tuesday, January 08, 2013	N Barataria Bay (S4-032) SIR LA PL01-029-10 - failed	Keelboat Pass (S4-038) SIR LA SB05-014-20 - passed due to ALARP	N Barataria Bay (S4-032) MON LA PL01-053-70 - passed due to NEB
	TL	TL	TL
Wednesday, January 09, 2013	N Barataria Bay (S4-032) SIR LA PL01-027-10 w/OPS	Grand Isle Augering	Grand Isle Augering

	TL	TL	TL
Thursday, January 10, 2013	N Barataria Bay (S4-032) PTA LA PL01-034-10	N Barataria Bay (S4-032) SIR LA PL01-053-20 - if has passed post treatment inspection	Grand Terre 3 Beach Profiles 1-5 for March and PM site #25
	TL	TL	TL
Friday, January 11, 2013	Augering Check-up at all areas	Grand Isle Augering	Grand Isle Augering
	TL	TL	TL
Saturday, January 12, 2013	Keel Boat Pass (S4-038) SIR LA SB05-015-10 w/ OPS - will need 3 crewboats	Grand Isle Augering	Grand Isle Augering
	TL	TL	TL
Sunday, January 13, 2013	GT- 2 BP	GT- 1 BP	N Barataria Bay (S4-032) SIR LA PL01-053-70 - i if has passed post treatment inspection
	TL	TL	TL

TABLE F-2: EXAMPLE SCAT MISSION PLANNER TEMPLATE

DATE	SCAT TEAM # 1	SCAT TEAM # 2	SCAT TEAM # 3	SCAT TEAM # 4
DD Month YYYY	Location Mission(s) Team Lead	Location Mission Team Lead	Location Mission Team Lead	Location Mission Team Lead
DD Month YYYY	Location Mission Team Lead	Location Mission Team Lead	Location Mission Team Lead	Location Mission Team Lead
DD Month YYYY	Location Mission Team Lead	Location Mission Team Lead	Location Mission Team Lead	Location Mission Team Lead
DD Month YYYY	Location Mission Team Lead	Location Mission Team Lead	Location Mission Team Lead	Location Mission Team Lead
DD Month YYYY	Location Mission Team Lead	Location Mission Team Lead	Location Mission Team Lead	Location Mission Team Lead
DD Month YYYY	Location Mission Team Lead	Location Mission Team Lead	Location Mission Team Lead	Location Mission Team Lead
DD Month YYYY	Location Mission Team Lead	Location Mission Team Lead	Location Mission Team Lead	Location Mission Team Lead

This is a rolling planning table that is updated DAILY and Provides a 7-day plan for upcoming missions.

MISSION KEY

SCAT	Shoreline Assessment Survey
PTA	Post-Treatment Assessment Survey
SIR	Shoreline Inspection Report Survey
OLS	Operations Liaison Support
BP	Beach Profiling
MON	Monitoring
PM	Photo Monitoring

TABLE F-3: EXAMPLE SCAT TEAM DAILY LOGISTICS PLANNER TEMPLATE

SCAT TEAM LOGISTICS for DD Month YYYY Time						Issued : Date
Team	**Staff**		**Survey Area**	**Mission**	**Logistical Arrangements**	**Time**
SCAT #1	Team Lead	Name Cell Phone	*County/Parish* *Place Name* Segment Number(s)			
	FED					
	STATE					
	Safety					
SCAT #2	Team Lead	Name Cell Phone	*County/Parish* *Place Name* Segment Number(s)			
	FED					
	STATE					
	Safety					
SCAT #3	Team Lead	Name Cell Phone	*County/Parish* *Place Name* Segment Number(s)			
	FED					
	STATE					
	Safety					
SCAT #4	Team Lead	Name Cell Phone	*County/Parish* *Place Name* Segment Number(s)			
	FED					
	STATE					
	Safety					

Mission Codes

SCAT = Standard Shoreline Oiling Assessment Survey **PTA** = Post-Treatment Assessment **SIR** = Segment Inspection Report Survey

OLS = OPS Liaison Support **BP** = Beach Profiling Survey **MON** = Monitoring **PM** = Photo-Monitoring

Time

Enter scheduled time for each logistics action.

TABLE F-4: EXAMPLE SCAT DAILY FIELD ACTITVITIES

		CANCELLED MISSIONS			FIELD DEPLOYMENTS							NOTES (*Special Circumstances)
Date	# of Planned Teams	WX or Safety	Logistics (Boat/UTV)	Other (See Notes at Right)	SCAT	PTA	SIR	BP - Beach Profiles	PM Photo Monitoring	Operations Support (OLS)	MON	
1/1/2013	0											New Years' Holiday
1/2/2013	0											Travel Day
1/3/2013	3	3										*Safety - Safety Stand-down Gulfport
1/4/2013	6			2						4		* Other - Office/*OLS - Auguring Meeting
1/5/2013	6	1								4	1	
1/6/2013	6	2								4		
1/7/2013	6	2								4		
1/8/2013	6			1			1			4		*Other- Office due to small craft adv
1/9/2013	6	2								4		
1/10/2013	6	2								4		
1/11/2013	5								1	4		
1/12/2013	6					2				4		
1/13/2013	6			6								*Other- augering meeting Houma
1/14/2013	6	1				1				4		
1/15/2013	9	2					1			6		
1/16/2013	9	3								6		
1/17/2013	9							3		6		
1/18/2013	9			1		0.5	1			6	0.5	*Office- OSAT
1/19/2013	9	2					1			6		
1/20/2013	6		1			1.5	1.5				2	
1/21/2013	10					2		1		6	1	
1/22/2013	9						2			6	1	
1/23/2013	9					2	1			6		
1/24/2013	9							0.5	2.5	6		
1/25/2013	5						4		1			
1/26/2013	4					1	1			2		*OLS- Middle Ground for final data collection
1/27/2013	4			3			1					*other- safety training at Holiday Inn Houma
1/28/2013	11			8			2	1				augering canceled- La One cal
1/29/2013	10	1		7			1	1				augering canceled- La One cal
1/30/2013	10	10										all teams canceled due to Wx
1/31/2013	10					1	2			7		
January	**210**	**31**	**1**	**28**	**0**	**11**	**19.5**	**6.5**	**4.5**	**103**	**5.5**	

Section 9422 Shoreline Segmentation Guidance for Shoreline Cleanup and Assessment Technique (SCAT)

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Shoreline Segmentation Guidance for Shoreline Cleanup and Assessment Technique (SCAT)

9422.1 Introduction

This section provides guidelines for processes through which shorelines in Washington and Oregon may be segmented for Shoreline Cleanup Assessment Technique (SCAT) programs and other activities supporting a response or other spill-related activities.

These guidelines were developed by the Northwest Area Committee (NWAC) 2014 SCAT Pre-Segmentation Task Force as part of a phased approach to encourage the "pre-segmentation" of the coastal shorelines in the NWAC region (i.e., Oregon and Washington shorelines), prior to a spill. The NWAC anticipates that these guidelines can be used during any shoreline segmentation efforts being conducted by stakeholders throughout the region.

The ultimate objective of the segmentation process is to generate a comprehensive, region-wide Phase 1 baseline to which data can be added on an as-needed basis for planning, drills, exercises, and surveys during a spill response or as part of a Phase 2 program. All segmentation efforts made in this region should be shared with the NWAC and should follow this structure and recommended template to ensure compatibility across the region. Phase 2 segmentation efforts are recommended as an expansion of documentation to include linkages with other spill response attributes (e.g., Geographic Response Plan strategies, cleanup options, etc.) and other information as appropriate.

9422.2 Objectives for Naming and Defining Segments

In determining shoreline segments, NWAC the following guiding objectives are recommended by the NWAC:

- Each segment should have similar geomorphology throughout.
- Segment endpoints should be easily recognizable in the field.
- Size may vary, but 0.2–2.0 kilometers (km) is a typical segment length range.

- The segment naming convention should be standardized based on the state, county, local geographic name, segment number, and sub-segment, to include:
  - Two-digit alphabetical state code
  - Four-digit alphabetical county code
  - Three-digit alphabetical geographic code
  - Four-digit numeric code for segment number
  - Single digit alphabetical code (typically lower case) for sub-segment, if needed to support operations
  - Example: **WA-KITS-EGL-0015d**
    - WA – state
    - KITS – county
    - EGL – geographic segment group = Eagle Harbor (ideally, this will be a unique statewide code, i.e., there will be no other "EGL" geographic codes in Washington; a 3-alpha system allows for [26x26x26] 17,576 alphanumeric options)
    - 0015 – segment number
    - d – operations sub-segment
- Crew access should be considered when defining sub-segments (i.e., breaks based on viable access points).
- Segments should break (end/begin) at county boundaries to facilitate jurisdictional tracking and reporting.
- Sub-segments of fixed lengths should be considered for use along uniform shorelines with consistent access but without visual reference points.

9422.3 Phase 1 of Segmentation of Northwest Area Committee Coastal Shorelines

Suggested actions for the initial phase of segmenting NWAC coastal shorelines include:

- The ShoreZone datasets are used as the basis for shoreline segmentation process. This dataset includes and employs more complete data, cross shore character, and visually identifiable endpoints for units.
- Apply a British Columbia (BC) Geographic Response Plan Class to Environmental Sensitivity Index (ESI) conversion, if needed, using an appropriate table provided in Section 9422.6, below.
- Identify standardized geographic areas (ex. Elliot Bay;
- Identify where sub-segmentation of ShoreZone units is required due to jurisdictional boundaries
  - Counties (if not already utilized)
  - Tribal Lands
  - Federal Lands
  - Military Lands
- Identify where sub-segmentation of ShoreZone units is required due to:
  - River or large stream mouths (or delta)

- Segment length. General guideline is for segment length to be less than 2 km.
- Develop and populate a standardized attribute table for each segmentation effort (see field descriptors below.

Once a section of shoreline has been segmented, and the associated attribute table is populated, the results will be posted on the NWAC website (www.rrt10nwac.com) for review. The NWAC Steering Committee will review the initial results of early segmentation efforts to ensure that the process is and remains viable.

If changes to process or new assumptions are required to make decisions or improve the output, these should be documented and reviewed by the NWAC Steering Committee (send to muller.lori@epa.gov and mailto:elizabeth.j.petras@uscg.mil).

9422.4 Phase 2 of Segmentation of Northwest Area Committee Coastal Shorelines

Once the initial segmentation process has been completed, the opportunity will exist to link additional information to the shoreline segments. The following are options identified to date.

ACTION

- Develop a simplified list of shoreline category types and conversion table to the 39 BC codes (and possibly ESI codes).
- Link/add new simplified shoreline type category information to the attribute table.
- Add coastal character and/or backshore information for each segment
- Link individual Geographic Response Plan booming strategies to relevant shoreline segments.
- Link potential cleanup options to relevant shoreline segments.
- Link shoreline access information to shoreline segments.

9422.5 General Guidelines for Conducting the Shoreline Segmentation Process

The following are examples and the locations of data layers that are needed to conduct the shoreline segmentation process.

From http://www.dnr.wa.gov/GIS

- Washington State Department of Natural Resources (DNR): szlineth.shp – Used as the base layer.
- DNR: county.shp for county boundaries.
- DNR: Major Public Lands (non-DNR) – June, 2013 primarily for identification (ID) of various (non-DNR) public entity ownership.
- DNR "Over Water Structures (Marine) on State Aquatic Lands"
- DNR "Transportation (by County) – April 2014"

From http://www.ecy.wa.gov/services/gis/data/data.htm

- Washington Public Beach Access Points
- State Tribal Lands

Attribute Table Edits

Create copy of szlineth.shp. Rename as "county"+ "_shrlineseg.shp" or similar. Delete all fields from copy of szlineth.shp except:

- FID
- Shape
- length
- unit_ID
- bcname
- shorename
- exp_class
- Sm1_type

Add fields (and aliases as needed) per final attribute table discussion:

ESI_Class
Countycode
County_seg
Subseg_code
Shoreline_type
Segment_length
Geo_code
Seg_ID
Seg_ID_short

Basic Data Entry Process

1. Input state name.
2. Input county name.
3. Edit shorename as necessary to define standardized location descriptions.
4. Develop and input geographic code (from shorename).
5. Input state code.
6. Develop and input county code.

Sub-division Process

1. Sub-divide ShoreZone segments at county boundaries.
2. Sub-divide ShoreZone segments at any tribal reservation boundaries.
3. Sub-divide ShoreZone segments at any federal boundaries.
4. Sub-divide ShoreZone segments at any military boundaries.
5. Query existing sz_lineth.shp length field for values greater than 2 km (note: values in this field are in feet). For segments with length values greater than 2 km, manually sub-divide segments at logical points (road ends, piers, boat ramps, obvious geological features, etc.). Use the transportation, overwater structures, public access, or other appropriate layers for this process as needed.

6. Create new sequential county segment number. (increasing E to W, N to S) where possible.
7. Create new segment ID for each segment (State_code)-(County_code)-(Geo_code)-(County_Seg)-(Subseg).
8. Calculate start latitude and longitude for each segment. Populate Lat_start and Long_start.
9. Calculate stop latitude and longitude for each segment. Populate Lat_stop and Long_stop.
10. Calculate midpoint latitude and longitude for each segment. Populate Lat_mid and Long_mid.
11. Calculate new segment lengths (meters). Populate Segment_length

9422.6 Conversion Guidance Table from Shorezone to Environmental Sensitivity Index Shoreline Types

(adapted from Alaska ShoreZone Coastal Mapping Protocol, 1/2014. pp. 47-48), recommended for use as needed.

Substrate	Shore Type	Environmental Sensitivity Index Designation Guideline
Rock	1 2	• If Exposure >= SE then ESI 2A • If Exposure <= SP then ESI 8A (possible ESI 8B if sediment pockets present or lots of fissures)
	3 4 5	• If Exposure >= SE then ESI 1A • If Exposure <= SP then ESI 8A (possible 8B if sediment pockets present or lots of fissures)
Rock + Sediment	6 7	• If >=50% beach sediment then ESI 6A and 6B • If > 50% rock with beach pockets and Exposure >= SE then 2A • If > 50% rock with cobble/pebble beach pockets and Exposure <= SP then 8B (boulders can be present but less abundant than cobble/pebble) • If > 50% rock with boulder/rubble beach pockets and Exposure <= SP then 8D (cobble/pebble can be present but less abundant than boulder)
	8 9 10	• If >=50% beach in unit then ESI 6A and 6B • If mostly talus and Exposure >= SE then 1C • If mostly cobble/pebble talus and Exposure <= SP then 8B (boulders can be present but less abundant than cobble/pebble) • If mostly boulder/rubble talus and Exposure <= SP then 8D (cobble/pebble can be present but less abundant than boulder)
	11 12 13	[There must be >25% sand in the unit for these BC classes to be assigned.]

Substrate	Shore Type	Environmental Sensitivity Index Designation Guideline
	14 15	• If Exposure >= SE and it meets ESI 7 requirements (see protocol) then ESI 7 • If Exposure <= SP and it meets ESI 9A requirements (see protocol) then ESI 9A • Otherwise assign ESI 5. If sand is <25%, reassess the BC class.
	16 17 18 19 20	[There must be >25% sand in the unit for these BC classes to be assigned.] • If Exposure >= SE and it meets ESI 7 requirements (see protocol) then ESI 7 • If Exposure <= SP and it meets ESI 9A requirements (see protocol) then ESI 9A • Otherwise assign ESI 3A or 4. If sand is <25%, reassess the BC class. Refer to BC 27 for guidelines on sediment size.
Sediment	21 22 23	• If Exposure >= SE and it meets ESI 7 requirements (see protocol) then ESI 7 • If Exposure <= SP and it meets ESI 9A requirements (see protocol) then ESI 9A • If it does not meet the above requirements then ESI 6A or 6B
	24	• If Exposure >= SE and it meets ESI 7 requirements (see protocol) then ESI 7 • If Exposure <= SP and it meets ESI 9A requirements (see protocol) then ESI 9A • If it does not meet the above requirements then ESI 5
	25	• ESI 5
	26	• ESI 5
	27	• If sediment size if less than 2 mm then ESI 3A • If sediment size is greater than 2 mm up to pebbles then ESI 4 • If there are pebbles in the XShr then lean towards ESI 4; if there are no pebbles then lean towards ESI 3A.
	28	• If Exposure >= SE and it meets ESI 7 requirements (see protocol) then ESI 7 • If Exposure <= SP and it meets ESI 9A requirements (see protocol) then ESI 9A • If it does not meet the above requirements then ESI 3A or 4. Refer to BC 27 for guidelines on sediment size.
	29	• If Exposure >= SE and it meets ESI 7 requirements (see protocol) then ESI 7 • If Exposure <= SP and it meets ESI 9A requirements (see protocol) then ESI 9A
	30	• ESI 3A or 4 (refer to BC 27)

Substrate	Shore Type	Environmental Sensitivity Index Designation Guideline
Estuarine	31	• If >50% marsh in the A and B zone combined then ESI 10A • If the biologist comments on the marsh being predominately freshwater, ESI 10B can be used. • If the ESI 9A requirements are met (see protocol), then 9A can be used for large tidal flats or deltas and 9B can be used in lagoon areas. • If none of the above requirements are met, assign ESI class based on the dominant Form.
Anthropogenic	32	• If it is rip rap then ESI 6C • If Exposure <=SP then 8B • If Exposure >=SE then 1B
	33	• If Exposure <=SP then 8B • If Exposure >=SE then 1B
Current - Dominated	34	• Decide what Shore Type you would assign if you did not assign a BC 34, then assign and ESI class based on that.

*** Wave Exposure Categories:** VE – Very Exposed; E – Exposed; SE – Semi-exposed; SP – Semi-protected; P – Protected; VP – Very Protected

** Per Alaska ShoreZone Coastal Mapping Protocol, 1/2014. pp. 47-48.

9422.7 Segment Attributes Table

The NWAC recommends that the following segment attributes be used as appropriate during segmentation efforts in the region to promote consistency.

Data Source	Field	Alias	Description	Notes	Process
DNR ShoreZone	FID	FID	ArcView unique ID		
DNR ShoreZone	Shape	Shape	ArcView shape type		
DNR ShoreZone	Length	Length	Original segment length field	Note: values in feet.	
DNR ShoreZone	unit_id	SZ Segment ID	Unique Identifier for Unit Records	This field can be used link back to SZ tables	
DNR ShoreZone	bc_class	BC Classification	Number code for the British Columbia 'coastal class' or 'shoreline type'.	# codes will be text in attribute table (Interim)	To be used in conversion to NOAA Shoreline Type.
DNR ShoreZone	shorename	Geographic name	Name of a prominent geographic feature near the unit	Used to facilitate searches. May need to be edited or modified.	
DNR ShoreZone	exp_class	Exposure class	Best info on segment exposure to wave energy	Used for ESI calculation. (Interim)	
DNR ShoreZone	szlnend	Segment End Points	Segment end points in Shorezone.	recalculate after sub segmenting	
DNR ShoreZone	Sm1_Type	Shoreline Modification Type	Primary type of shoreline modification occurring within the unit.	Modifying information to shoreline type	
Field calculate	ESI_Class	ESI Shoreline Classification	Describes the predominant shoreline type for the segment.	convert BC class to NOAA classes—all codes as text	

Data Source	Field	Alias	Description	Notes	Process
Field calculate	ESI_code	ESI Shoreline Type code	Code for predominant shoreline type	convert BC class to NOAA classes, entering all codes as text	Use AK process for converting from bc_class to ESI. Will require use of shoreline exposure (exp_class) and creating a lookup table.
Field calculate	Lat_Start	Latitude Start	Latitude of segment start endpoint	Use for defining segment ends.	
Field calculate	Long_Start	Longitude Start	Longitude of segment start endpoint	Use for defining segment ends.	
Field calculate	Lat_Stop	Latitude Start	Latitude of segment stop endpoint	Use for defining segment ends.	
Field calculate	Long_Stop	Longitude Start	Longitude of segment stop endpoint	Use for defining segment ends.	
Field calculate	Lat_Mid	Latitude Midpoint	Latitude of segment midpoint	This is the midpoint of a segment. This can be used for linking attributes to a segment for sit/stat.	
Field calculate	Long_Mid	Longitude Midpoint	Longitude of segment midpoint	This is the midpoint of a segment. This can be used for linking attributes to a segment for sit/stat.	
Field calculate	Seg_length	Segment Length	Calculated new segment length	Length in meters	
DNR county.shp	State_nm	State name	Name of state containing segment	listed to facilitate searches	Used for creation of Segment ID
DNR county.shp	Cnty_nm	County name	Name of county containing segment	Used for creation of Segment ID	
Field calculate	State_code	State code	Unique code of state containing segment	Used for creation of segment ID (Interim)	2 digit alpha code created from first letter of state name

Data Source	Field	Alias	Description	Notes	Process
Field calculate	Cnty_code	County code	Unique code associated with county	Used for creation of segment ID (Interim)	4 digit alpha code created from first four letters of county name
Manual	Geo_code	Geographic code	Unique code associated with geo area	Used for the creation of the segment ID (Interim)	3 digit alpha code created from shorename or other
Field calculate	Cty_id	County Segment Number	Unique segment number within county	Used for creation of Segment ID. (Interim)	4 digit numeric. Sequential numbering within each county. Follow format developed during DWH (increasing E to W, N to S) where possible.
Field calculate	Subseg_code	Sub segment Name	Unique sub-segment (if necessary)	Placeholder: Single digit alpha code to be used if an established segment needed to be subdivided at the time of a response.	1 digit alpha code. Likely only needed for operational considerations.
Field calculate	Seg_id	Segment ID	Unique Alpha Numeric Segment Name	Created from Segment ID + State+Geo+County+subsegment	14 digit alpha/numeric code
Field calculate	Seg_ID_short	Shortened Segment ID	Unique alphanumeric segment name that has been truncated for particular incident response	Placeholder: to be created from Segment ID by removing State/County/Geo/ as desired.	Similar to Seg_ID above but as reduced as needed.

Key:
AK Alaska
BC British Columbia
DNR Washington Department of Natural Resources
ESI Environmental Sensitivity Index
ID identifier
NOAA National Oceanic and Atmospheric Administration
SZ Shore Zone

9422.8 Example of Segmentation Process - Elliott Bay, Washington

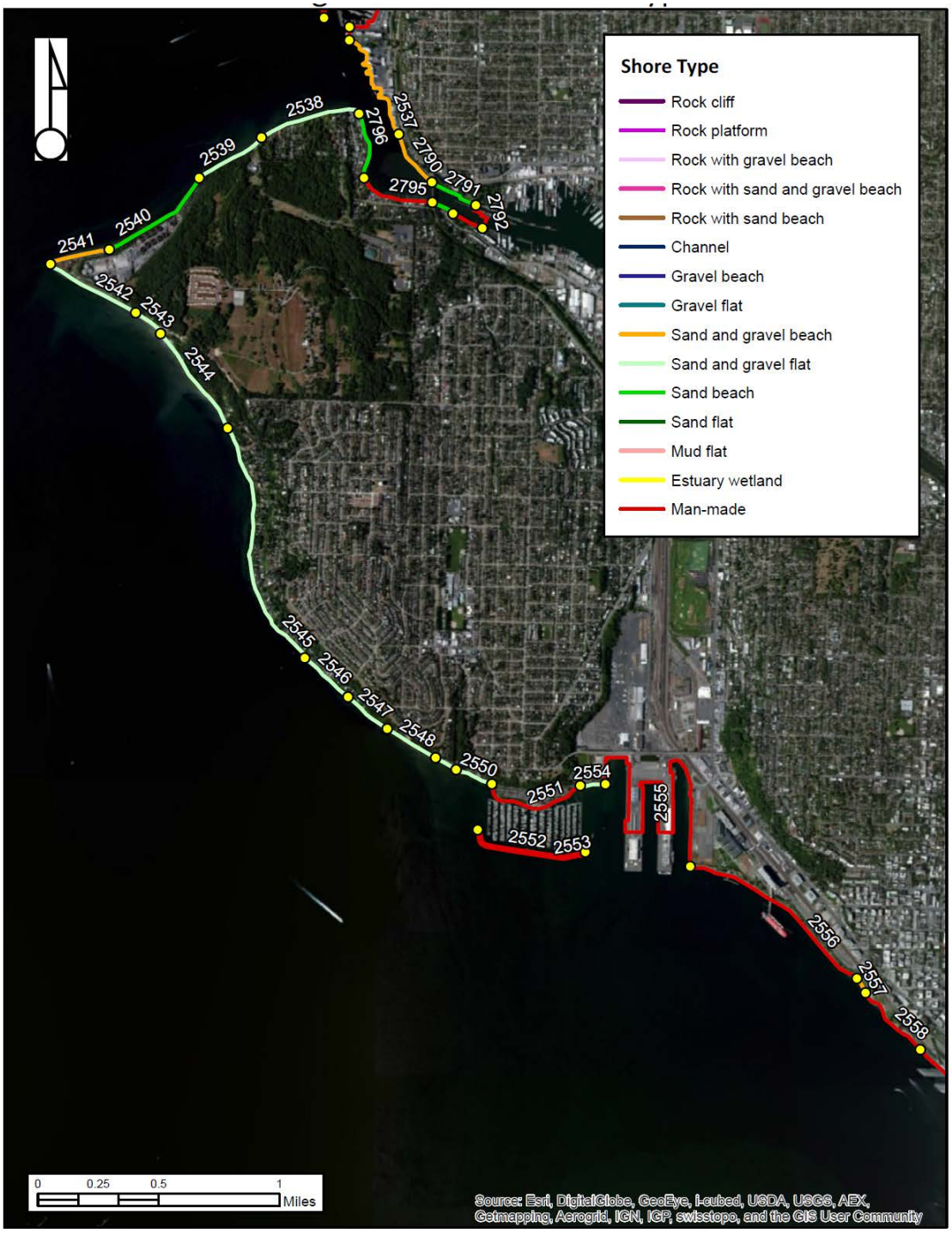

Figure 9422-1 Raw Segmentation Map Derived from Shorezone Based on the 15 Shore Types in the Database

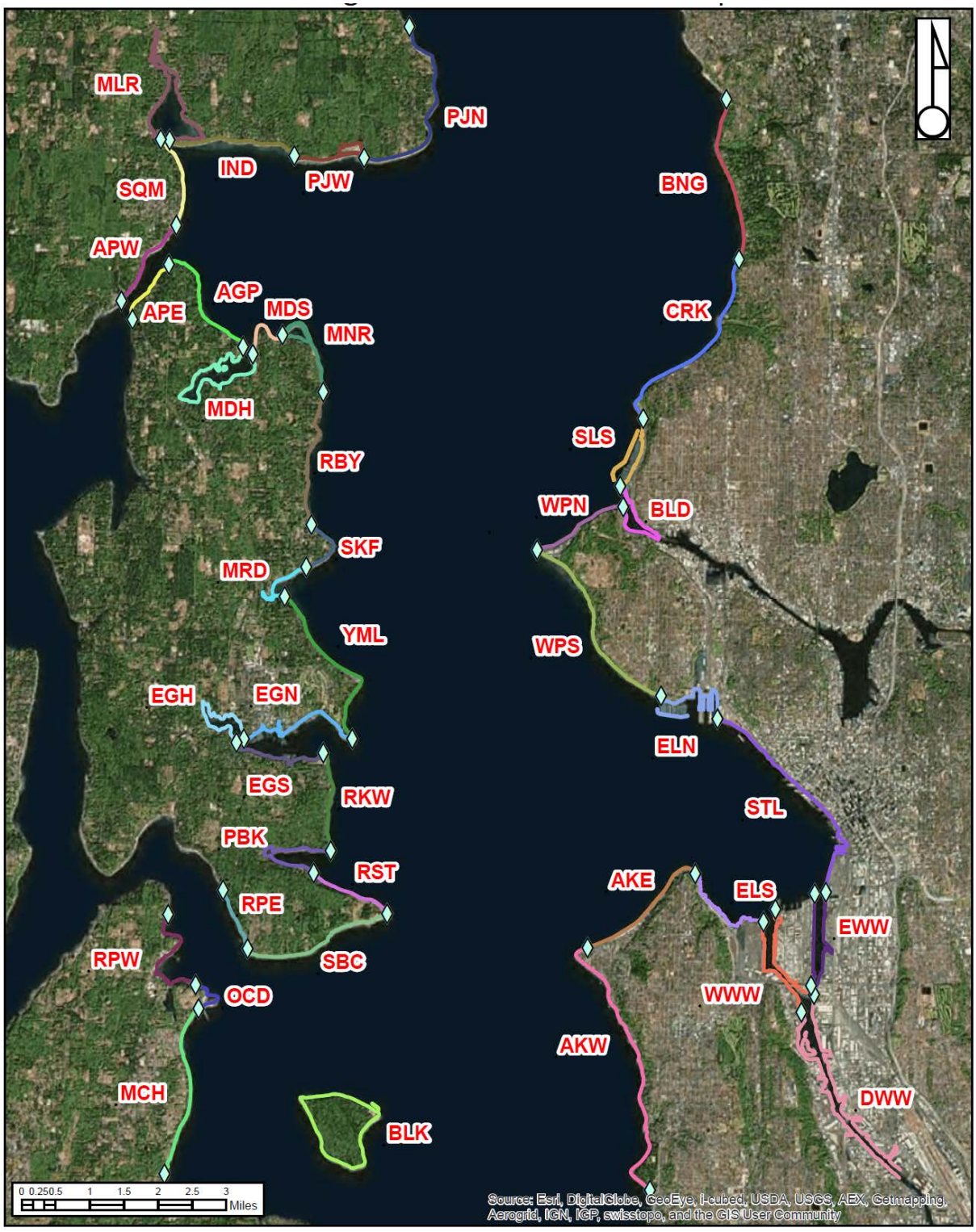

Figure 9422-2 Grouping of Segments by Geographic Area (Segment Group).
Names and abbreviations are summarized in Table 9422-1

STATE CODE	COUNTY CODE	GEOGRAPHIC AREA (SEGMENT GROUP) ID	GEOGRAPHIC AREA (SEGMENT GROUP) NAME	NUMBER OF SEGMENTS IN AREA/GROUP
WA	KNG	BNG	Boeing Creek	3
WA	KNG	CRK	Carkeek Park	10
WA	KNG	SLS	Shilshole	4
WA	KNG	BLD	Ballard	8
WA	KNG	WPN	West Point North	4
WA	KNG	WPS	West Point South	9
WA	KNG	ELN	Elliott Bay North	5
WA	KNG	STL	Seattle Downtown	7
WA	KNG	EWW	East Waterway	8
WA	KNG	WWW	West Waterway	6
WA	KNG	DWW	Duwamish Waterway	20
WA	KNG	ELS	Elliott Bay South	4
WA	KNG	AKE	Alkai Point East	5
WA	KNG	AKW	Alkai Point West	13
WA	KNG	MCH	Manchester	6
WA	KIT	BLK	Blake Island	11
WA	KIT	OCD	Orchard Point	5
WA	KIT	RPW	Rich Passage West	15
WA	KIT	RPE	Rich Passage East	5
WA	KIT	SBC	South Beach	9
WA	KIT	RST	Restoration Point	5
WA	KIT	PBK	Port Blakely	11
WA	KIT	RKW	Rockaway	5
WA	KIT	EGS	Eagle Harbor South	8
WA	KIT	EGH	Eagle Harbor	8
WA	KIT	EGN	Eagle Harbour North	13
WA	KIT	YML	Yeomalt Point	13
WA	KIT	MRD	Murden Cove	7
WA	KIT	SKF	Skiff Point	4
WA	KIT	RBY	Rolling Bay	6
WA	KIT	MNR	Point Monroe	6
WA	KIT	MDS	Port Madison	5
WA	KIT	MDH	Port Madison Harbor	16
WA	KIT	AGP	Agate Pont	9
WA	KIT	APE	Agate Pass East	4
WA	KIT	APW	Agate Pass West	5
WA	KIT	SQM	Suquamish	4
WA	KIT	MLR	Miller Bay	12
WA	KIT	IND	Indianola	3
WA	KIT	PJW	Point Jefferson West	4
WA	KIT	PJN	Point Jefferson North	11
WA	KNG	HRB	Harbor Island	2
			TOTAL	318

Table 9422-1 Geographic Area Abbreviations (Segment Groups)

Figure 9422-3 Map of Shore types and Segment Identification Based on Geographic Areas (Segment Group)

State	County	Group	Segment	Length (ft)	BC_CLASS	BC_NAME	REP_CODE	REP_NAME	Shorezone Unit_ID
WA	KIT	YML	1	122	21	Gravel flat, wide	15	Gravel flat	3155
WA	KIT	YML	2	245	22	Gravel beach, narrow	7	Gravel beach	3156
WA	KIT	YML	3	712	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3157
WA	KIT	YML	4	3609	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3158
WA	KIT	YML	5	347	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3159
WA	KIT	YML	6	328	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3160
WA	KIT	YML	7	2014	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3161
WA	KIT	YML	8	1960	30	Sand beach	9	Sand beach	3162
WA	KIT	YML	9	1718	24	Sand and gravel flat or fan	14	Sand and gravel flat	3163
WA	KIT	YML	10	1121	24	Sand and gravel flat or fan	14	Sand and gravel flat	3164
WA	KIT	YML	11	185	24	Sand and gravel flat or fan	14	Sand and gravel flat	3165
WA	KIT	YML	12	1424	24	Sand and gravel flat or fan	14	Sand and gravel flat	3166
WA	KIT	YML	13	601	28	Sand flat	10	Sand flat	3167
WA	KIT	AGP	1	2000	24	Sand and gravel flat or fan	14	Sand and gravel flat	3212
WA	KIT	AGP	2	1962	28	Sand flat	10	Sand flat	3213
WA	KIT	AGP	3	664	24	Sand and gravel flat or fan	14	Sand and gravel flat	3214
WA	KIT	AGP	4	1427	24	Sand and gravel flat or fan	14	Sand and gravel flat	3215
WA	KIT	AGP	5	916	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3216
WA	KIT	AGP	6	1657	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3217
WA	KIT	AGP	7	322	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3218
WA	KIT	AGP	8	526	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3219
WA	KIT	AGP	9	629	30	Sand beach	9	Sand beach	3220
WA	KIT	APE	1	2115	30	Sand beach	9	Sand beach	3221
WA	KIT	APE	2	1006	30	Sand beach	9	Sand beach	3222
WA	KIT	APE	3	1549	30	Sand beach	9	Sand beach	3223
WA	KIT	APE	4	783	30	Sand beach	9	Sand beach	3487
WA	KIT	APW	1	1012	30	Sand beach	9	Sand beach	3224
WA	KIT	APW	2	2445	30	Sand beach	9	Sand beach	3225
WA	KIT	APW	3	1819	27	Sand beach	9	Sand beach	3226
WA	KIT	APW	4	1181	30	Sand beach	9	Sand beach	3227
WA	KIT	APW	5	1074	27	Sand beach	9	Sand beach	3228
WA	KIT	BLK	1	681	30	Sand beach	9	Sand beach	3303
WA	KIT	BLK	2	3875	30	Sand beach	9	Sand beach	3304
WA	KIT	BLK	3	2380	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3305
WA	KIT	BLK	4	1463	24	Sand and gravel flat or fan	14	Sand and gravel flat	3306
WA	KIT	BLK	5	1505	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3307
WA	KIT	BLK	6	1189	24	Sand and gravel flat or fan	14	Sand and gravel flat	3308
WA	KIT	BLK	7	1922	27	Sand beach	9	Sand beach	3309

State	County	Group	Segment	Length (ft)	BC_CLASS	BC_NAME	REP_CODE	REP_NAME	Shorezone Unit_ID
WA	KIT	BLK	8	1564	32	Man-made, permeable	13	Man-made	3310
WA	KIT	BLK	9	804	32	Man-made, permeable	13	Man-made	3311
WA	KIT	BLK	10	4798	24	Sand and gravel flat or fan	14	Sand and gravel flat	3312
WA	KIT	BLK	11	761	27	Sand beach	9	Sand beach	3313
WA	KIT	EGH	1	1196	28	Sand flat	10	Sand flat	3134
WA	KIT	EGH	2	721	30	Sand beach	9	Sand beach	3135
WA	KIT	EGH	3	1397	29	Mud flat	11	Mud flat	3136
WA	KIT	EGH	4	1776	29	Mud flat	11	Mud flat	3137
WA	KIT	EGH	5	1762	29	Mud flat	11	Mud flat	3138
WA	KIT	EGH	6	1491	29	Mud flat	11	Mud flat	3139
WA	KIT	EGH	7	1145	29	Mud flat	11	Mud flat	3140
WA	KIT	EGH	8	2405	30	Sand beach	9	Sand beach	3141
WA	KIT	EGN	1	377	30	Sand beach	9	Sand beach	3142
WA	KIT	EGN	2	715	30	Sand beach	9	Sand beach	3143
WA	KIT	EGN	3	504	30	Sand beach	9	Sand beach	3144
WA	KIT	EGN	4	791	29	Mud flat	11	Mud flat	3145
WA	KIT	EGN	5	501	30	Sand beach	9	Sand beach	3146
WA	KIT	EGN	6	2368	29	Mud flat	11	Mud flat	3147
WA	KIT	EGN	7	661	32	Man-made, permeable	13	Man-made	3148
WA	KIT	EGN	8	2012	24	Sand and gravel flat or fan	14	Sand and gravel flat	3149
WA	KIT	EGN	9	2090	24	Sand and gravel flat or fan	14	Sand and gravel flat	3150
WA	KIT	EGN	10	922	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3151
WA	KIT	EGN	11	834	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3152
WA	KIT	EGN	12	350	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3153
WA	KIT	EGN	13	731	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3154
WA	KIT	EGS	1	547	24	Sand and gravel flat or fan	14	Sand and gravel flat	3126
WA	KIT	EGS	2	1065	32	Man-made, permeable	13	Man-made	3127
WA	KIT	EGS	3	416	32	Man-made, permeable	13	Man-made	3128
WA	KIT	EGS	4	463	26	Sand and gravel flat or fan	8	Sand and gravel beach	3129
WA	KIT	EGS	5	1496	30	Sand beach	9	Sand beach	3130
WA	KIT	EGS	6	380	26	Sand and gravel flat or fan	8	Sand and gravel beach	3131
WA	KIT	EGS	7	2754	26	Sand and gravel flat or fan	8	Sand and gravel beach	3132
WA	KIT	EGS	8	1126	24	Sand and gravel flat or fan	14	Sand and gravel flat	3133
WA	KIT	IND	1	1304	30	Sand beach	9	Sand beach	3245
WA	KIT	IND	2	3748	28	Sand flat	10	Sand flat	3246
WA	KIT	IND	3	5242	28	Sand flat	10	Sand flat	3247
WA	KIT	MDH	1	700	30	Sand beach	9	Sand beach	3196
WA	KIT	MDH	2	3195	29	Mud flat	11	Mud flat	3197
WA	KIT	MDH	3	1078	29	Mud flat	11	Mud flat	3198

State	County	Group	Segment	Length (ft)	BC_CLASS	BC_NAME	REP_CODE	REP_NAME	Shorezone Unit_ID
WA	KIT	MDH	4	1114	29	Mud flat	11	Mud flat	3199
WA	KIT	MDH	5	1298	29	Mud flat	11	Mud flat	3200
WA	KIT	MDH	6	1173	29	Mud flat	11	Mud flat	3201
WA	KIT	MDH	7	765	29	Mud flat	11	Mud flat	3202
WA	KIT	MDH	8	1598	31	Organics/fines	12	Estuary wetland	3203
WA	KIT	MDH	9	2650	29	Mud flat	11	Mud flat	3204
WA	KIT	MDH	10	739	29	Mud flat	11	Mud flat	3205
WA	KIT	MDH	11	347	29	Mud flat	11	Mud flat	3206
WA	KIT	MDH	12	913	30	Sand beach	9	Sand beach	3207
WA	KIT	MDH	13	1216	29	Mud flat	11	Mud flat	3208
WA	KIT	MDH	14	1500	29	Mud flat	11	Mud flat	3209
WA	KIT	MDH	15	961	30	Sand beach	9	Sand beach	3210
WA	KIT	MDH	16	821	28	Sand flat	10	Sand flat	3211
WA	KIT	MDS	1	1372	28	Sand flat	10	Sand flat	3191
WA	KIT	MDS	2	1208	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3192
WA	KIT	MDS	3	1127	30	Sand beach	9	Sand beach	3193
WA	KIT	MDS	4	1202	28	Sand flat	10	Sand flat	3194
WA	KIT	MDS	5	247	30	Sand beach	9	Sand beach	3195
WA	KIT	MLR	1	781	30	Sand beach	9	Sand beach	3233
WA	KIT	MLR	2	1613	31	Organics/fines	12	Estuary wetland	3234
WA	KIT	MLR	3	1928	29	Mud flat	11	Mud flat	3235
WA	KIT	MLR	4	3411	29	Mud flat	11	Mud flat	3236
WA	KIT	MLR	5	9069	31	Organics/fines	12	Estuary wetland	3237
WA	KIT	MLR	6	2466	29	Mud flat	11	Mud flat	3238
WA	KIT	MLR	7	1502	29	Mud flat	11	Mud flat	3239
WA	KIT	MLR	8	1153	29	Mud flat	11	Mud flat	3240
WA	KIT	MLR	9	825	29	Mud flat	11	Mud flat	3241
WA	KIT	MLR	10	1322	31	Organics/fines	12	Estuary wetland	3242
WA	KIT	MLR	11	2121	30	Sand beach	9	Sand beach	3243
WA	KIT	MLR	12	265	30	Sand beach	9	Sand beach	3244
WA	KIT	MNR	1	930	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3185
WA	KIT	MNR	2	2730	24	Sand and gravel flat or fan	14	Sand and gravel flat	3186
WA	KIT	MNR	3	721	24	Sand and gravel flat or fan	14	Sand and gravel flat	3187
WA	KIT	MNR	4	1534	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3188
WA	KIT	MNR	5	1736	30	Sand beach	9	Sand beach	3189
WA	KIT	MNR	6	5020	31	Organics/fines	12	Estuary wetland	3190
WA	KIT	MRD	1	375	28	Sand flat	10	Sand flat	3168
WA	KIT	MRD	2	379	28	Sand flat	10	Sand flat	3169
WA	KIT	MRD	3	201	28	Sand flat	10	Sand flat	3170

State	County	Group	Segment	Length (ft)	BC_CLASS	BC_NAME	REP_CODE	REP_NAME	Shorezone Unit_ID
WA	KIT	MRD	4	2639	31	Organics/fines	12	Estuary wetland	3171
WA	KIT	MRD	5	1136	28	Sand flat	10	Sand flat	3172
WA	KIT	MRD	6	1005	28	Sand flat	10	Sand flat	3173
WA	KIT	MRD	7	1554	28	Sand flat	10	Sand flat	3174
WA	KIT	PBK	1	1454	24	Sand and gravel flat or fan	14	Sand and gravel flat	3110
WA	KIT	PBK	2	393	30	Sand beach	9	Sand beach	3111
WA	KIT	PBK	3	341	28	Sand flat	10	Sand flat	3112
WA	KIT	PBK	4	334	30	Sand beach	9	Sand beach	3113
WA	KIT	PBK	5	1242	28	Sand flat	10	Sand flat	3114
WA	KIT	PBK	6	2327	29	Mud flat	11	Mud flat	3115
WA	KIT	PBK	7	834	15	Platform with gravel and sand beach	5	Rock with sand and gravel beach	3116
WA	KIT	PBK	8	1470	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3117
WA	KIT	PBK	9	430	24	Sand and gravel flat or fan	14	Sand and gravel flat	3118
WA	KIT	PBK	10	1054	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3119
WA	KIT	PBK	11	935	13	Cliff with gravel and sand beach	5	Rock with sand and gravel beach	3120
WA	KIT	PJN	1	3495	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3252
WA	KIT	PJN	2	376	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3253
WA	KIT	PJN	3	1109	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3254
WA	KIT	PJN	4	1137	24	Sand and gravel flat or fan	14	Sand and gravel flat	3255
WA	KIT	PJN	5	978	24	Sand and gravel flat or fan	14	Sand and gravel flat	3256
WA	KIT	PJN	6	1727	24	Sand and gravel flat or fan	14	Sand and gravel flat	3257
WA	KIT	PJN	7	2060	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3258
WA	KIT	PJN	8	1423	24	Sand and gravel flat or fan	14	Sand and gravel flat	3259
WA	KIT	PJN	9	573	30	Sand beach	9	Sand beach	3260
WA	KIT	PJN	10	1238	28	Sand flat	10	Sand flat	3261
WA	KIT	PJN	11	1428	28	Sand flat	10	Sand flat	3262
WA	KIT	PJW	1	3505	24	Sand and gravel flat or fan	14	Sand and gravel flat	3248
WA	KIT	PJW	2	1620	28	Sand flat	10	Sand flat	3249
WA	KIT	PJW	3	5772	31	Organics/fines	12	Estuary wetland	3250
WA	KIT	PJW	4	617	24	Sand and gravel flat or fan	14	Sand and gravel flat	3251
WA	KIT	QCD	1	666	30	Sand beach	9	Sand beach	3056
WA	KIT	QCD	2	1181	4	Rock ramp, narrow	3	Rock cliff	3057
WA	KIT	QCD	3	927	3	Rock cliff	3	Rock cliff	3058
WA	KIT	QCD	4	401	18	Cliff with sand beach	6	Rock with sand beach	3059
WA	KIT	QCD	5	1041	3	Rock cliff	3	Rock cliff	3060
WA	KIT	RBY	1	5599	24	Sand and gravel flat or fan	14	Sand and gravel flat	3179
WA	KIT	RBY	2	815	28	Sand flat	10	Sand flat	3180
WA	KIT	RBY	3	647	28	Sand flat	10	Sand flat	3181
WA	KIT	RBY	4	741	28	Sand flat	10	Sand flat	3182

State	County	Group	Segment	Length (ft)	BC_CLASS	BC_NAME	REP_CODE	REP_NAME	Shorezone Unit_ID
WA	KIT	RBY	5	574	28	Sand flat	10	Sand flat	3183
WA	KIT	RBY	6	2477	28	Sand flat	10	Sand flat	3184
WA	KIT	RKW	1	541	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3121
WA	KIT	RKW	2	1497	24	Sand and gravel flat or fan	14	Sand and gravel flat	3122
WA	KIT	RKW	3	3974	24	Sand and gravel flat or fan	14	Sand and gravel flat	3123
WA	KIT	RKW	4	813	24	Sand and gravel flat or fan	14	Sand and gravel flat	3124
WA	KIT	RKW	5	1162	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3125
WA	KIT	RPE	1	917	15	Platform with gravel and sand beach	5	Rock with sand and gravel beach	3091
WA	KIT	RPE	2	2322	12	Platform with gravel and sand beach, wide	5	Rock with sand and gravel beach	3092
WA	KIT	RPE	3	684	14	Ramp with gravel and sand beach	5	Rock with sand and gravel beach	3093
WA	KIT	RPE	4	439	19	Ramp with sand beach, narrow	6	Rock with sand beach	3094
WA	KIT	RPE	5	646	11	Ramp with gravel and sand beach, wide	5	Rock with sand and gravel beach	3095
WA	KIT	RPW	1	410	9	Ramp with gravel beach	4	Rock with gravel beach	3061
WA	KIT	RPW	2	271	9	Ramp with gravel beach	4	Rock with gravel beach	3062
WA	KIT	RPW	3	365	11	Ramp with gravel and sand beach, wide	5	Rock with sand and gravel beach	3063
WA	KIT	RPW	4	1673	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3064
WA	KIT	RPW	5	1258	24	Sand and gravel flat or fan	14	Sand and gravel flat	3065
WA	KIT	RPW	6	701	28	Sand flat	10	Sand flat	3066
WA	KIT	RPW	7	1510	24	Sand and gravel flat or fan	14	Sand and gravel flat	3067
WA	KIT	RPW	8	784	24	Sand and gravel flat or fan	14	Sand and gravel flat	3068
WA	KIT	RPW	9	744	9	Ramp with gravel beach	4	Rock with gravel beach	3069
WA	KIT	RPW	10	492	8	Cliff with gravel beach	4	Rock with gravel beach	3070
WA	KIT	RPW	11	263	14	Ramp with gravel and sand beach	5	Rock with sand and gravel beach	3071
WA	KIT	RPW	12	1033	24	Sand and gravel flat or fan	14	Sand and gravel flat	3072
WA	KIT	RPW	13	446	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3073
WA	KIT	RPW	14	348	32	Man-made, permeable	13	Man-made	3074
WA	KIT	RPW	15	276	32	Man-made, permeable	13	Man-made	3075
WA	KIT	RST	1	2393	16	Ramp with sand beach, wide	6	Rock with sand beach	3105
WA	KIT	RST	2	352	30	Sand beach	9	Sand beach	3106
WA	KIT	RST	3	2095	15	Platform with gravel and sand beach	5	Rock with sand and gravel beach	3107
WA	KIT	RST	4	1379	21	Gravel flat, wide	15	Gravel flat	3108
WA	KIT	RST	5	493	24	Sand and gravel flat or fan	14	Sand and gravel flat	3109
WA	KIT	SBC	1	3152	12	Platform with gravel and sand beach, wide	5	Rock with sand and gravel beach	3096
WA	KIT	SBC	2	1801	24	Sand and gravel flat or fan	14	Sand and gravel flat	3097
WA	KIT	SBC	3	1236	12	Platform with gravel and sand beach, wide	5	Rock with sand and gravel beach	3098
WA	KIT	SBC	4	1190	12	Platform with gravel and sand beach, wide	5	Rock with sand and gravel beach	3099
WA	KIT	SBC	5	1454	12	Platform with gravel and sand beach, wide	5	Rock with sand and gravel beach	3100
WA	KIT	SBC	6	1321	12	Platform with gravel and sand beach, wide	5	Rock with sand and gravel beach	3101
WA	KIT	SBC	7	794	17	Platform with sand beach, wide	6	Rock with sand beach	3102

State	County	Group	Segment	Length (ft)	BC_CLASS	BC_NAME	REP_CODE	REP_NAME	Shorezone Unit_ID
WA	KIT	SBC	8	215	17	Platform with sand beach, wide	6	Rock with sand beach	3103
WA	KIT	SBC	9	1043	17	Platform with sand beach, wide	6	Rock with sand beach	3104
WA	KIT	SKF	1	2789	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3175
WA	KIT	SKF	2	409	24	Sand and gravel flat or fan	14	Sand and gravel flat	3176
WA	KIT	SKF	3	1304	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3177
WA	KIT	SKF	4	757	24	Sand and gravel flat or fan	14	Sand and gravel flat	3178
WA	KIT	SQM	1	2532	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3229
WA	KIT	SQM	2	1917	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3230
WA	KIT	SQM	3	2089	28	Sand flat	10	Sand flat	3231
WA	KIT	SQM	4	781	30	Sand beach	9	Sand beach	3232
WA	KNG	AKE	1	2825	28	Sand flat	10	Sand flat	2570
WA	KNG	AKE	2	948	28	Sand flat	10	Sand flat	2571
WA	KNG	AKE	3	2729	28	Sand flat	10	Sand flat	2572
WA	KNG	AKE	4	2259	28	Sand flat	10	Sand flat	2573
WA	KNG	AKE	5	2258	27	Sand beach	9	Sand beach	2574
WA	KNG	AKW	1	1175	25	Sand and gravel beach, narrow	8	Sand and gravel beach	2575
WA	KNG	AKW	2	1334	24	Sand and gravel flat or fan	14	Sand and gravel flat	2576
WA	KNG	AKW	3	2516	24	Sand and gravel flat or fan	14	Sand and gravel flat	2577
WA	KNG	AKW	4	2587	24	Sand and gravel flat or fan	14	Sand and gravel flat	2578
WA	KNG	AKW	5	796	24	Sand and gravel flat or fan	14	Sand and gravel flat	2579
WA	KNG	AKW	6	5010	24	Sand and gravel flat or fan	14	Sand and gravel flat	2580
WA	KNG	AKW	7	1421	25	Sand and gravel beach, narrow	8	Sand and gravel beach	2581
WA	KNG	AKW	8	1507	24	Sand and gravel flat or fan	14	Sand and gravel flat	2582
WA	KNG	AKW	9	368	24	Sand and gravel flat or fan	14	Sand and gravel flat	2583
WA	KNG	AKW	10	895	24	Sand and gravel flat or fan	14	Sand and gravel flat	2584
WA	KNG	AKW	11	521	25	Sand and gravel beach, narrow	8	Sand and gravel beach	2585
WA	KNG	AKW	12	2531	25	Sand and gravel beach, narrow	8	Sand and gravel beach	2586
WA	KNG	AKW	13	2042	25	Sand and gravel beach, narrow	8	Sand and gravel beach	2587
WA	KNG	BLD	1	3045	25	Sand and gravel beach, narrow	8	Sand and gravel beach	2537
WA	KNG	BLD	2	1314	25	Sand and gravel beach, narrow	8	Sand and gravel beach	2790
WA	KNG	BLD	3	1114	30	Sand beach	9	Sand beach	2791
WA	KNG	BLD	4	747	33	Man-made, impermeable	13	Man-made	2792
WA	KNG	BLD	5	723	33	Man-made, impermeable	13	Man-made	2793
WA	KNG	BLD	6	524	30	Sand beach	9	Sand beach	2794
WA	KNG	BLD	7	1684	32	Man-made, permeable	13	Man-made	2795
WA	KNG	BLD	8	1473	30	Sand beach	9	Sand beach	2796
WA	KNG	BNG	1	647	25	Sand and gravel beach, narrow	8	Sand and gravel beach	2520
WA	KNG	BNG	2	3502	28	Sand flat	10	Sand flat	2521
WA	KNG	BNG	3	8891	28	Sand flat	10	Sand flat	2522

State	County	Group	Segment	Length (ft)	BC_CLASS	BC_NAME	REP_CODE	REP_NAME	Shorezone Unit_ID
WA	KNG	CRK	1	1520	25	Sand and gravel beach, narrow	8	Sand and gravel beach	2523
WA	KNG	CRK	1	1235	32	Man-made, permeable	13	Man-made	2532
WA	KNG	CRK	2	2749	30	Sand beach	9	Sand beach	2524
WA	KNG	CRK	3	800	24	Sand and gravel flat or fan	14	Sand and gravel flat	2525
WA	KNG	CRK	4	4103	28	Sand flat	10	Sand flat	2526
WA	KNG	CRK	5	798	28	Sand flat	10	Sand flat	2527
WA	KNG	CRK	5	293	32	Man-made, permeable	13	Man-made	2536
WA	KNG	CRK	6	2460	27	Sand beach	9	Sand beach	2528
WA	KNG	CRK	7	1689	25	Sand and gravel beach, narrow	8	Sand and gravel beach	2529
WA	KNG	CRK	8	716	28	Sand flat	10	Sand flat	2530
WA	KNG	CRK	9	1363	30	Sand beach	9	Sand beach	2531
WA	KNG	WWW	1	7477	32	Man-made, permeable	13	Man-made	2786
WA	KNG	WWW	2	2568	32	Man-made, permeable	13	Man-made	2787
WA	KNG	WWW	3	1735	32	Man-made, permeable	13	Man-made	2788
WA	KNG	WWW	4	5112	32	Man-made, permeable	13	Man-made	2783
WA	KNG	WWW	5	2643	32	Man-made, permeable	13	Man-made	2784
WA	KNG	WWW	6	1361	32	Man-made, permeable	13	Man-made	2785
WA	KNG	ELN	1	2364	32	Man-made, permeable	13	Man-made	2551
WA	KNG	ELN	2	2612	32	Man-made, permeable	13	Man-made	2552
WA	KNG	ELN	3	2721	32	Man-made, permeable	13	Man-made	2553
WA	KNG	ELN	4	559	24	Sand and gravel flat or fan	14	Sand and gravel flat	2554
WA	KNG	ELN	5	10520	32	Man-made, permeable	13	Man-made	2555
WA	KNG	ELS	1	1371	32	Man-made, permeable	13	Man-made	2566
WA	KNG	ELS	2	2130	32	Man-made, permeable	13	Man-made	2567
WA	KNG	ELS	3	1954	32	Man-made, permeable	13	Man-made	2568
WA	KNG	ELS	4	3927	32	Man-made, permeable	13	Man-made	2569
WA	KNG	EWW	1	616	32	Man-made, permeable	13	Man-made	2757
WA	KNG	EWW	2	916	32	Man-made, permeable	13	Man-made	2758
WA	KNG	EWW	3	3607	32	Man-made, permeable	13	Man-made	2759
WA	KNG	EWW	4	1046	32	Man-made, permeable	13	Man-made	2760
WA	KNG	EWW	5	1695	32	Man-made, permeable	13	Man-made	2761
WA	KNG	EWW	6	1910	32	Man-made, permeable	13	Man-made	2762
WA	KNG	EWW	7	1233	32	Man-made, permeable	13	Man-made	2789
WA	KNG	EWW	8	6079	33	Man-made, impermeable	13	Man-made	2563
WA	KNG	HRB	1	1670	32	Man-made, permeable	13	Man-made	2564
WA	KNG	HRB	2	2276	32	Man-made, permeable	13	Man-made	2565
WA	KNG	MCH	1	1298	24	Sand and gravel flat or fan	14	Sand and gravel flat	3050
WA	KNG	MCH	2	452	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3051
WA	KNG	MCH	3	3130	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3052

State	County	Group	Segment	Length (ft)	BC_CLASS	BC_NAME	REP_CODE	REP_NAME	Shorezone Unit_ID
WA	KNG	MCH	4	4779	24	Sand and gravel flat or fan	14	Sand and gravel flat	3053
WA	KNG	MCH	5	1211	24	Sand and gravel flat or fan	14	Sand and gravel flat	3054
WA	KNG	MCH	6	3035	25	Sand and gravel beach, narrow	8	Sand and gravel beach	3055
WA	KNG	SLS	2	4843	32	Man-made, permeable	13	Man-made	2535
WA	KNG	SLS	3	4497	32	Man-made, permeable	13	Man-made	2534
WA	KNG	SLS	4	4523	32	Man-made, permeable	13	Man-made	2533
WA	KNG	STL	1	4539	32	Man-made, permeable	13	Man-made	2556
WA	KNG	STL	2	368	25	Sand and gravel beach, narrow	8	Sand and gravel beach	2557
WA	KNG	STL	3	1781	32	Man-made, permeable	13	Man-made	2558
WA	KNG	STL	4	6466	32	Man-made, permeable	13	Man-made	2559
WA	KNG	STL	5	1518	32	Man-made, permeable	13	Man-made	2560
WA	KNG	STL	6	2660	32	Man-made, permeable	13	Man-made	2561
WA	KNG	STL	7	3816	33	Man-made, impermeable	13	Man-made	2562
WA	KNG	WPN	1	2292	24	Sand and gravel flat or fan	14	Sand and gravel flat	2538
WA	KNG	WPN	2	1636	24	Sand and gravel flat or fan	14	Sand and gravel flat	2539
WA	KNG	WPN	3	2575	30	Sand beach	9	Sand beach	2540
WA	KNG	WPN	4	1346	25	Sand and gravel beach, narrow	8	Sand and gravel beach	2541
WA	KNG	WPS	1	2160	24	Sand and gravel flat or fan	14	Sand and gravel flat	2542
WA	KNG	WPS	2	724	24	Sand and gravel flat or fan	14	Sand and gravel flat	2543
WA	KNG	WPS	3	2551	24	Sand and gravel flat or fan	14	Sand and gravel flat	2544
WA	KNG	WPS	4	5572	24	Sand and gravel flat or fan	14	Sand and gravel flat	2545
WA	KNG	WPS	5	1273	24	Sand and gravel flat or fan	14	Sand and gravel flat	2546
WA	KNG	WPS	6	1111	24	Sand and gravel flat or fan	14	Sand and gravel flat	2547
WA	KNG	WPS	7	1233	24	Sand and gravel flat or fan	14	Sand and gravel flat	2548
WA	KNG	WPS	8	517	24	Sand and gravel flat or fan	14	Sand and gravel flat	2549
WA	KNG	WPS	9	849	24	Sand and gravel flat or fan	14	Sand and gravel flat	2550
WA	KNG	DWW	1	2336	32	Man-made, permeable	13	Man-made	2763
WA	KNG	DWW	2	1199	32	Man-made, permeable	13	Man-made	2764
WA	KNG	DWW	3	961	32	Man-made, permeable	13	Man-made	2765
WA	KNG	DWW	4	1105	32	Man-made, permeable	13	Man-made	2766
WA	KNG	DWW	5	1776	32	Man-made, permeable	13	Man-made	2767
WA	KNG	DWW	6	4780	32	Man-made, permeable	13	Man-made	2768
WA	KNG	DWW	7	1217	32	Man-made, permeable	13	Man-made	2769
WA	KNG	DWW	8	2181	32	Man-made, permeable	13	Man-made	2770
WA	KNG	DWW	9	654	32	Man-made, permeable	13	Man-made	2771
WA	KNG	DWW	10	7307	32	Man-made, permeable	13	Man-made	2772
WA	KNG	DWW	11	3078	32	Man-made, permeable	13	Man-made	2773
WA	KNG	DWW	12	6096	32	Man-made, permeable	13	Man-made	2774
WA	KNG	DWW	13	1484	32	Man-made, permeable	13	Man-made	2775

State	County	Group	Segment	Length (ft)	BC_CLASS	BC_NAME	REP_CODE	REP_NAME	Shorezone Unit_ID
WA	KNG	DWW	14	1296	32	Man-made, permeable	13	Man-made	2776
WA	KNG	DWW	15	4391	32	Man-made, permeable	13	Man-made	2777
WA	KNG	DWW	16	2585	29	Mud flat	11	Mud flat	2780
WA	KNG	DWW	17	2670	30	Sand beach	9	Sand beach	2778
WA	KNG	DWW	18	1724	31	Organics/fines	12	Estuary wetland	2779
WA	KNG	DWW	19	604	32	Man-made, permeable	13	Man-made	2781
WA	KNG	DWW	20	1151	32	Man-made, permeable	13	Man-made	2782

BC_CLASS 35 shore types 15 grouped
REP_CODE shore types used for mapping

Table 9422-2 Summary Table of Shore Type Information for the Segments Mapped in Figure 9422-3

Section 9423

Surface Washing Agent Authorization Process and Decision Support Tools

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Surface Washing Agent Authorization Process and Decision Support Tools

Part A Description of Surface Washing Agent Approval Zone in RRT Region 10 and Approval Process

There is one type of surface washing agent zone (case-by-case) in Regional Response Team (RRT) Region 10 (which includes the Captain of the Port zone for Sector Puget Sound and for Sector Columbia River), please see Chapter 4000, Section 4624 for details on surface washing agent use policy.

Part B Typical/Recommended Timing and Work Flow for Surface Washing Agent Authorization Process

The typical surface washing agent use review and authorization process is anticipated to follow these general steps. Key members for this process may need to be involved remotely, depending upon the timing of the request and deployment schedules. (*Note:* these are not prescriptive steps, rather recommended "good practices".

Each spill response is unique, and the exact steps used in this process and their timing may vary between responses).

- Unified Command (UC) establishes an Objective to consider the use of dispersants.
- Planning Section Chief (PSC) will inform (directly or by delegation) the Environmental Unit Leader (ENVL) of the need to start **(a)** evaluating the use of surface washing agents and **(b)** the development of the Surface Washing Agent Support Decision Support Tools.
- If appropriate to consider use of surface washing agents, mobilize necessary resources.
- PSC should, in coordination with the ENVL, establish a timeline for completion of the Surface Washing Agent Support tools which coordinates with a schedule for setting a time to **(a)** brief the FOSC/UC about the completed Surface Washing Agent Decision Support Tools, and **(b)** a meeting/conference call for the FOSC/UC to brief the RRT10 members on the Surface Washing Agent Decision Support Tools and for the UC to make their request to the appropriate RRT10 members for the use of surface washing agents.

- ENVL will then establish a group of technical experts (which will likely include the NOAA SSC or one or more of their team members, as well as resource trustees, agency reps, and industry/consultant technical experts, and other reps as appropriate) to evaluate whether the use of surface washing agents is feasible and appropriate for the specific incident, and to complete the Surface Washing Agent Decision Support Tools.
- ENVL will also ensure (either directly or through delegation) critical coordination with Operations Section Chief and Operations members, Safety Officer, Liaison Officer, Information Officer and other key personnel as appropriate.
- It is anticipated that the ENVL and the team convened to complete the Surface Washing Agent Decision Support Tools will in most cases use the same Surface Washing Agent Use review process and develop the same Surface Washing Agent Decision Support Tools when evaluating surface washing agent use in Case-by-Case Areas.

Part C Decision Support Tools Summary for the Development of a Surface Washing Agent Use Recommendation

There are 5 key tools in this Section which are designed to be utilized as appropriate to help aid the authorization decision process (Table 9423.1). Other tools, documents and information may be used during a specific incident to support the surface washing agent decision and/or application process

Engagement with Tribes, Local government, public and others

Robust engagement and coordination with potentially affected tribes and local governments, as well as members of the public and other key stakeholders, are a critical part of any Surface Washing Agent use consideration and decision. There are tools and guidelines for helping ensure this engagement and coordination takes place at the appropriate times during the evaluation and use of surface washing agents, some of which are in the Liaison Manual and Joint Information Center (JIC) Manuals as well as other areas of the Northwest Area Contingency Plan (NWACP). The Unified Command for each response, and the RRT10 are committed to ensuring this coordination occurs early in the process and that robust and thorough mechanisms are established to allow these critical communications to take place effectively.

Table 9406.1 Decision Support Tools Summary for the Development of a Dispersant Use Recommendation

Tools	Purpose	Who is Responsible
1: FOSC Surface Washing Agent Standard Conditions Checklist	The purpose of this checklist is to provide confirmation to the RRT from the FOSC/UC about standard/necessary conditions and other activities that will take place or be initiated before a surface washing agent application operation would take place.	FOSC/UC

Tools	Purpose	Who is Responsible
2: Environmental Unit Recommendation Memo to the FOSC/UC	The purpose of this tool is to provide incident specific information on whether surface washing agents are appropriate for use, tradeoffs in their use, recommended constraints on application, and to document concerns of trustee agencies. Audience is RRT and UC.	EU
3: RRT10 Record of Surface Washing Agent Decision	The purpose of this tool is to provide a formal record of the decision the RRT makes regarding authorizing the use of surface washing agents	PSC
4: Surface Washing Agent Operations Plan (to be completed in the Operations Section)	Written by Operations Section, must incorporate constraints from EU Memo, approved and delivered through Planning Cycle and Incident Action Plan (IAP) production. The Operations Surface Washing Agent Plan will be completed by members of the Operations Section, with input from the EU and other Incident Management Team (IMT) members as appropriate.	Operations Section
5: Tribal and other Trustee Technical Coordination Master List	The purpose of this tool is to identify at the start of the Surface Washing Agent Recommendation process a comprehensive list of Tribes, Trustees and other key technical members who need to be engaged in the technical discussion.	EU
6: After Action Report Guidelines	FOSC and their staff are responsible for generating a report. The target audience for this report is RRT10 and this report will be available to the public and other interested parties.	FOSC/UC

Tool 1 FOSC Dispersant Standard Conditions Checklist

This checklist is to be completed for all surface washing agent applications.

Purpose

The purpose of this checklist is to provide confirmation to the RRT from the FOSC/UC about standard procedures and other activities that will take place or be initiated before a surface washing agent application would take place. This information is to help inform the RRT, to provide information on conditions that must and will be met by the FOSC/UC before a surface washing agent application would commence. Additional information may be added to this checklist as appropriate or applicable for the RRT.

Who Could Fill Out This Form

To be designated by the FOSC/UC. Could be an EU member; Operations member; UC member; other suitable member of the IMT identified by the FOSC.

Cleaning Agent Process and Decision Support Tools

TOOL 1: FOSC Cleaning Agent Standard Conditions Checklist

Form Completed (Date/Time/Name/Title)

_____

FOSC Name/Signature:_____

Y	N	
		Necessity: Available technical information or experience suggests that the spilled product cannot be solely cleaned by conventional methods.
		National Contingency Plan (NCP): The cleaning agent to be used is listed in the current NCP Product Schedule; considered appropriate for oil type and conditions.
		Operational Considerations – Summary Statement: **A. Environmental Conditions:** Environmental conditions will not be adversely impacted by the product used. **B. Application Control:** The cleaning agent operation provides reasonable control over the application zone able to effectively direct the product platform in carrying out the cleaning agent operation, including the avoidance of wildlife that may be in the area.
		Wildlife Observation: An aerial wildlife surveillance specialist(s), designated by the appropriate Trustee agency(s), is available to observe and will be deployed prior to surface washing agent application, minimum of Tier I.
		Endangered Species Act and Essential Fish Habitat Consultations: Have been initiated in accordance with applicable guidance. Guidelines/conversation measures/Best Management Practices will be incorporated into operations plan as appropriate.
		Consultations with Tribes, local government and other key stakeholders (including National Historic Preservation Act Section 106 if applicable**):** Initiated in accordance with applicable guidance, been communicated to UC, incorporated into recommendations.
		Safety and Communications Plans: A thorough, specific Cleaning Agent Operations Safety and Communications Plans have been/will be completed prior to any cleaning agent test or application.
		Cleaning Agent Operations Plan: The Cleaning Agent Operations Plan is under development by the Planning Section with input from the Operations Section. The expected completion date is:
		Other: Any additional specific information/condition requested by or relevant to RRT10 (remove if not used).

Tool 2 Environmental Unit Recommendation Memo to the FOSC/UC

Section 1 UC Signature Page for Dispersant Recommendation Memo

Incident Name and Location:	
Forwarded to RRT10 (Date/Time):	

The FOSC and Unified Command have determined that the use of surface washing agents (**IS/IS NOT**) a recommended response measure for the _____ Incident.

	DATE/TIME
Federal On-Scene Coordinator Name (Print): Signature:	
State On-Scene Coordinator Name (Print): Signature:	
Responsible Party Incident Commander Name (Print): Signature:	
Local On-Scene Coordinator (as present/appropriate) Name (Print): Signature:	
Tribal On-Scene Coordinator(s) (as present/appropriate) Name(Print): Signature:	

Section 2 Environmental Unit Dispersant Use Recommendation Memo

This memo has been developed by the EU in accordance with NCP and Northwest Area Contingency Plan dispersant use policy, in coordination with other IMT members and key members. The memo provides the FOSC and Unified Command with a recommendation on appropriate action regarding surface washing agent application for this incident.

The Environmental Unit_____**Does**__**Does Not** recommend authorizing the use of surface washing agents at this time. (Differing opinions are captured on attached memo as applicable).

This document provides information that went into the tradeoff discussions and other input that lead to the EU's recommendation on the use/no use of surface washing agents for this incident.

As appropriate, this document may also include recommendations on whether to start with a trial use before deciding on a thorough application.

Section 2 Overview of the Incident (relevant to proposed surface washing agent use)

Please see attached forms and incident status information (which *may* include copies of the ICS forms 201, 202, 209, Trajectory Maps, weather forecast, and/or any other applicable status and incident information)

Section 3 Spill-Specific Information Highlights for the RRT10 Decision Process

Spilled Product Type(s) (details such as properties, SDS, ADIOS run, and/or other information *may* be attached:
Approximate Time Window for Surface Washing Agent Application: (*source of information: ADIOS? Expert Opinion? Etc.)*
Summary of Proposed Surface Washing Agent Action: *(As applicable, attach a map, highlight targeted slick area proposed for agent application and provide any other information to help describe proposed application specifics and action area_. Describe key information (as available) such as:* ▪ *Distance from shore, water depth(s) of agent application area, setback area from shore or other sensitive habitats as appropriate, etc.* ▪ *Predicted oil movement and how surface washing agent use will help mitigate that.*

Surface washing agent proposed for use:

Rationale for Recommendation:
The following information is provided for consideration by the UC and RRT and as rationale for the EU recommendation.

Environmental Considerations, Adequacy of Mechanical Recover and Other Measures:
This section summarizes the evaluation of available information by technical specialists within the EU and other contributors as applicable regarding the potential use of surface washing agents as a response tool for this incident in the proposed action area, as well as the environmental tradeoffs between applying a surface washing agent versus relying on mechanical recovery and protection strategies. Considerations may include:

A: Resources at Risk
(Description of the potentially impacted resources at risk for this incident (attach ICS-232 and/or other information as appropriate)

B: Adequacy of Mechanical Recovery
(Consideration points about adequacy of mechanical response equipment alone: including magnitude of the spill, availability, weather conditions, and timelines of equipment to protect potential resources at risk.

C: Environmental Tradeoffs
(Description of the potential environmental trade-offs of surface washing agent use, e.g., whether some species or their habitat will benefit from surface washing agent application use while others will be negatively impacted.)

D: Other Issues as Applicable:

Tribal Coordination Input (as applicable):

Describe which tribes and specifically which members of each tribe (and their title) were coordinated with on a technical level during the development of these Surface Washing Agent Application Decision Support Tools. Describe specific concerns and requested/recommended actions to take to ensure tribal concerns are appropriately addressed. (Continue on additional sheets as needed). Describe how tribal priorities and concerns identified will be addressed in the recommendation decision and/or Surface Washing Agent Application Operations Plan, as appropriate.

Endangered Species Act and Essential Fish Habitat Consultations:
Endangered Species Act (ESA) Section 7 consultations have been initiated with the US Fish and Wildlife Service and NOAA's National Marine Fisheries Service at the following date/time:

A Summary of ESA and EFH recommendations/conservation measures/BMPs and/or guidelines for this operation are listed below (or attached other applicable documentation). (The NWACP Emergency Consultation form may also be attached).

This memo was developed and reviewed by:		
ICS Role	**Signature**	**Name (Print)**
Environmental Unit Leader (Developed)		
Planning Section Chief (Reviewed)		
Operations Section Chief (Contributor, Reviewed)		
Safety Officer (Contributor, Reviewed)		
Information Officer (Informed)		
Liaison Officer (Informed)		

List of Attachments (list is not mandatory)	
▪ SDS of Spilled Oil	Attached Y/N
▪ Trajectory forecast maps	Attached Y/N
▪ Weather forecast	Attached Y/N
▪ SDS of Surface Washing Product	Attached Y/N
▪ Current ICS-232	Attached Y/N
▪ Map, including overflight information and potential trial application site	Attached Y/N
▪ Other	

Signature Page for Technical Specialists and Other Contributors:

The following is a list of technical specialists and other members that contributed to the EU recommendation. In order that all views can be considered by the UC/RRT, each technical specialist may provide a statement in support of his/her opinion to be included in the recommendation package.

Name and Agency/Organization (Print)	Signature	Recommendation

Tool 3 Region 10 Response Team Record of Dispersant Decision

Incident Name and Location

Date and time of RRT 10 Consultation:

In accordance with Subpart J of the National Contingency Plan (NCP), RRT 10 has addressed the desirability of using appropriate surface washing agents through the area planning process and has established Case-by-Case Approval Zones for the use of dispersants. It is RRT 10 policy that any surface washing agent application requires concurrence from the EPA and state representatives to the RRT with jurisdiction over the waters threatened by the release or discharge. The decision to use surface washing agents must be made in consultation with the United States Department of Commerce and United States Department of the Interior representatives to the RRT and tribal governments with off-reservation treaty rights in the navigable waters threatened by a release or discharge of oil.

For purposes of this record of decision, the designated FOSC has completed a Surface Washing Agent Decision Memo (attached), formally recommends the use/recommends against the use of surface washing agents and requests a surface washing agent use decision from the appropriate members of RRT 10.

RRT 10 was convened on this date with these agencies in attendance:

1. *List all agencies and state whether decision makers or monitoring role.*

The following decision(s) was made (Note the RRT should add any pertinent rationale for the decision).

- ☐ RRT 10 does not concur with the use of surface washing agents for this incident.
- ☐ RRT 10 concurs with the use of surface washing agents as outlined in the attached plan.
- ☐ RRT 10 concurs with the use of surface washing agents with the following modifications to the dispersant plan.

Regional Response Team 10 Signature Page

Signatures will be obtained once the decision is made. This document will be retained to record the decision.

	Signature	Name and Title (Print)
EPA Co-Chair (Concurrence)		
State Representative to the RRT (Concurrence)		
Department of the Interior (Consultation)		
Department of Commerce (Consultation)		

Tool 4 Surface Washing Agent Operational Plan

Name of the Incident: _____

Date: _____

Introduction

This plan should be submitted as an addendum to the Environmental Unit Surface Washing Agent Memo Package. The plan outlines the operations to apply a surface washing agent to (describe the scenario, volume spilled, product type, and geographic area).

The plan contains:

- Details of the surface washing agent product (see attached SDS for the cleaning agent);
- The operational application process (vessel application or surface application);
- Equipment and personnel needed to implement the plan;
- Safety considerations of the application;
- A description of the intended area for application;
- Best Management Practices to minimize impacts to threatened or endangered species; and
- A description of the monitoring process.

Objectives of the Dispersant Operational Plan

The plan has the following objectives:

- Apply the product within the Surface Washing Agent Use Area as approved by Unified Command;
- Describe the Daily Application Methodology; and
- Monitor the effectiveness.

Safety

Operations staff must coordinate early in the response with Safety to ensure Site Safety Plans cover all aspects of the response including the surface washing agent operations. See site safety plan, and applicable 204s for surface washing agent operations safety messages.

Application tracking/frequency photographs, videos, and observation logs will be recorded and submitted daily.

Proposed Surface Washing Agent Application Area

The attached map (developed by the Environmental Unit) shows the approved surface washing agent application area.

Map (developed by the EU), should include a legend, north arrows, incident location and indicate the limits of potential application of dispersant.

Best Management Practices to Protect and Minimize Response Impacts to Threatened and Endangered Species

- Watch for and report all distressed or dead marine mammals to the Wildlife Unit;
- No flights below 500 feet over sighted marine mammals;
- No flights below 500 feet over wildlife refuges/management areas;
- Vessels restricted from getting closer than 200 yards to whales (by regulation);
- Vessels restricted from getting closer than 100 yards to pinnipeds (seals, sea lions) (recommendation);
- No application of dispersants within 3 nautical miles of observed whales;
- No application of dispersants within 3 nautical miles of observed pinnipeds; and
- Aerial survey by a NOAA NMFS wildlife observer for whales and other marine mammals required prior to and during any dispersant application.

Surface Washing Agent Implementation and Monitoring

In accordance with the RRT10 guidelines, the following steps are the minimum requirements which must be addressed prior to the consideration and implementation for the use of surface washing agents in the application area:

- Conventional methods (including warm-water flushing) have been attempted, but failed to meet the cleanup objectives.
- Only approved surface washing agents on the NCP Product Schedule should be considered for oil spill cleanup and recovery operations.
- Consultation with the FOSC or SOSC and natural resource protection managers to determine if any additional restrictions or additional safety precautions are required in the proposed operations.
- Cleanup areas requiring the use of surface washing agents shall be boomed off. Boom shall be placed as appropriate to both prevent potential oil and/or surface washing agents from escaping the cleaning area, and to establish a perimeter to prevent potential fish, marine mammals, and other marine life from entering the cleanup site.
- An observer shall be posted to ensure the safety of all responders involved in the surface washing agent operations. Additionally, the observer shall ensure the use of surface washing agents will not pose harm to the surrounding environment, including to marine life and/or sensitive shoreline. Trained observers will report any potential harmful impacts immediately to the FOSC or designated representative.
- Surface washing agents are not intended to be used in or near sea grass areas or on environmental riprap.
- In consideration of the safety of workers assigned to the application of surface washing agents, and in consideration of the protection of the environment, it is preferred that surface washing agents are applied during daylight hours only.
- Ensure that the cleanup contract organization develops an approved work plan that is included in the site safety plan.
- It is a requirement that the FOSC ensure all provisions of this plan are met

and to notify RRT10 of any changes.

Aerial and Wildlife Operations

The Aircraft TYPE (tail number) operating from XXX airfield will commence operations on DATE with NAME NOAA as the wildlife observer.

The wildlife observers performing aerial observations will be personnel from NOAA. The observers will notify the surface washing agent team should they observe wildlife that must be avoided. Wildlife observers and wildlife aircraft pilots will attend operational briefings.

Surface Washing Agent Checklist

- ☐ The product to be used is on the NCP Product Schedule.
- ☐ Check SDSD to confirm the proper product is being utilized.
- ☐ Provide visual monitoring to ensure that the surface washing agent is being applied as recommended by the manufacturer.

Technique 1

See attachment

- ☐ Apply agent ton sorbent pad then wipe
- ☐ Apply agent on soiled surface then wipe with pad
- ☐ Other: apply agent on brush then scrub vessel.

Technique 2

See attachment. *Only to be used if technique 1 is unsuccessful; must be approved by FOSC/SOSC.*

- ☐ Apply agent, flush with high pressure ambient or hot water
- ☐ Apply agent then steam clean
- ☐ High pressure or hot water wash to remove bulk of oil, then apply agent, then low pressure wash to remove residual stain
- ☐ Other
- ☐ Evaluate effectiveness
    - Can the flushing pressure and temperature be reduced without loss of effectiveness?
    - What fraction of the treated (removed) oil is recovered?
- ☐ REMINDERS
    - Photographic documentation is recommended but not required.
    - If subsurface plumes are observed, water sampling should be requested.
    - If sampling is being conducted, record oil concentrations in the water adjacent to the treated areas.

Best Management Practices to Protect and Minimize Response Impacts to Threatened and Endangered Species

The following BMPS should be considered during surface washing agent applications:

- Watch for and report all distressed or dead marine mammals to the Wildlife Unit.

- Restrict use to certain tidal elevations so that the oil/water effluent does not drain across sensitive low-tide habitats (damage can result from exposure to oil, oiled sediments, and hot water).
- Protect nearby sensitive environments (salmon spawning streams, shellfish beds, submerged aquatic vegetation, nursery areas, etc.) from the effects of increased oil runoff by the proper deployment of booms, sorbents, etc.: monitor for effectiveness of protection measures.
- Ensure safety of responders by maintaining proper span of control under experienced crew bosses.

Surface Washing Agent Response Information

Daily Aerial/Vessel Dispersant Application Plan (DADAP)					
Date:	Time:	Location or ID:			
Dispersant Staging Airport Supervisor (Name and Phone #)					
Spill Site Information:					
Spill Location:	**Latitude**	**Longitude**	**Spill Size (bbls)**		
Water Body:					
Spill Site Weather					
Wind (knts)	**Direction**	**Visibility**	**Sunset**	**Seas (ft)**	
Attach Weather Report					
Communications					
Primary (VHF)		**Sat Phone #:**			
Secondary (VHF)		**Marine Radio**			
Emergency (VFH)					
Aircraft Information					
Type	**Tail #**	**Call Sign**	**Airport ETA**	**PIC/Crew**	**Passen-gers**
Vessel Information					
Name	**Port**	**Purpose**	**Captain**	**Other**	

Activity Schedule, Staging Base Briefing, and Staging Base Information

Daily Activity Schedule at Staging Base	
Date:	
Surface Washing Agent Group Staging Base Supervisor:	
Time	**Activity**
Daily Operational Briefing Agenda	
Safety	Per safety plan (new info?)
Weather	Review weather report
Communications	See DADAP
Dosage	5 gpa?
Approach Info	
Oil Spill Location and Description	Oil is moving (direction/approach)
Operations Procedure Changes CALL	
Review Flight Schedule	
Reporting Requirements and Procedures	
Photographic and Videos	Every flight
Observation Logs	Every flight
Attachments Safety Data Sheet for the Surface Washing Product ICS Form 232 Resources at Risk FOSC Surface Washing Agent Authorization Checklist	

Tool 5 Tribal and other Trustee Technical Coordination Master List

The purpose of this tool is to gather a comprehensive list of all the Tribal, agency resource trustee and other key representatives who should be coordinated with and engaged on a technical level for input into the overall tradeoff discussion which is part of the Environmental Unit Recommendation process. This list is designed to be completed at the time of an incident, and will most likely be different during each incident. This form should be completed by the EU.

Organization Name (e.g. Tribe, Federal/State/County agency, etc.)	POC Name and Contact Info	Comments

Tool 6 After Action Report Guidelines

A Surface Washing Agent Use After Action Report is completed at the direction of the FOSC within a timeframe designated by the Unified Command to document how surface washing agents were used during the response and to communicate lessons learned for future surface washing agent use to pertinent stakeholders. Each Surface Washing Agent Use After Action Report should characterize the site, surface washing agent effectiveness, oil behavior, and any other relevant information specific to the incident and the surface washing agent operation including known or observed environmental impacts. The Surface Washing Agent Application After-Action Report shall focus on the following elements of the Environmental Unit Recommendation Memo and shall include the elements identified in the Report Outline below:

1. An overview of the incident and current operating period.
2. A description of how the surface washing agent application(s) were conducted including the volume of surface washing agent used, estimate of oil treated, estimated surface washing agent to oil ratio, surface washing agent application platforms, etc.
3. Description of how other surface washing agent monitoring was conducted and the results, if applicable.
4. Description of any known or observed adverse environmental effects associated with the surface washing agent application, such as impacts to fish and/or wildlife (e.g. disturbance, unintentional overspray).

Section 9501

Communications Manual

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9501

Communications Manual

9501.1 Introduction

This document has been prepared for Northwest Area Contingency Plan (NWACP)-Regional Response Team (RRT) agency planners and managers, as well as the communicators that would be involved in the emergency communications aspects of incident response. It describes how the Communications Unit is organized and incorporated within the Incident Command System (ICS) and identifies the main organizational, equipment, and training requirements to be addressed by planners and managers prior to an incident. Appendix A, "Communications," and Appendix B, "The 5300 (Frequency and Communications Resource Summary)" identify the emergency communications offices and operating frequencies of the principal federal and state agencies and private organizations involved in incident response activities.

9501.1.1 Discussion

Effective communication among all involved parties and agencies is crucial when coordinating an effective response to an incident. Use of ICS and a well thought-out communications plan are imperative to a coordinated response. Within the ICS structure, the Communications Unit is located within the Logistics Section, which is managed by the Logistics Section Chief or Service Branch Director, depending on the size of the incident. The Communications Unit is managed by the Communications Unit Leader.

Planners and managers addressing anticipated communications requirements should consider what personnel, training, and equipment would likely be needed for the "Design Incident," as well as for preparing for a "Semi-Worst Case." Prior to an incident, members of the RRT and local government, together with community business representatives, should be involved with the selection and preparation of potential Incident Command Centers and equipment staging areas. With suitable preparation, the initial Communications Unit responders will be able to facilitate rapid installation of an emergency communications system.

Failure to properly plan, position, command, and control resources will prove devastating to the response. Cost and operability are important considerations when obtaining equipment and services.

9501.1.2 Initial Notice

Actions to be taken by planners and managers when receiving initial notification of an incident include designating a reporting location and providing initial assignments for communicators, a reporting time, local travel instructions, and the need for cell or satellite phones, radios, or any special communications equipment. There are likely to be serious delays of equipment or personnel if these initial actions are not considered and addressed prior to an incident.

Following the initial notification, communicators should report to the Staging Area or Logistics Section Chief for assignment to the Communications Unit Leader. The Communications Unit Leader will then assign communicators to specific ICS Sections as necessary.

9501.1.3 Initial Requirement (First 24 Hours)

Prior to an incident, planners and managers of response activities should complete pre-disaster preparations such as determining short- and long-range communications requirements, establishing standard radio communications procedures, selecting and training staff, and obtaining radios and other necessary initial response equipment in coordination with the Communications Unit Leader. RRT Communicators should be familiar with and be able to utilize regional very high frequency (VHF) repeaters and be able to incorporate trained radio operators from the United States Coast Guard (USCG) Reserve, Auxiliary, or Amateur Radio Emergency Services (ARES). Cellular phones, charging units, and landlines are considered basic communications for initial incident response and should be brought to the incident or obtained on site. If the local telephone service cannot provide the number and type of circuits you require, request the Federal Emergency Management Agency (FEMA) and/or Marine Spill Response Corporation (MSRC) van with satellite power branch exchange (PBX) capability. Contact the Lease/Purchase Officer for funding authority. Contact the selected phone company to arrange for installation and request expected delivery date. The Communications Unit Leader or equivalent is to receipt for leased equipment at the Emergency Operations Center (EOC), including satellite telephones, other portable satellite telephone equipment, pagers, and portable VHF/ultra high frequency (UHF) radios, including batteries and charging units.

The Communications Unit Leader or equivalent has overall responsibility for the following communications equipment and personnel requirements with support from the Staging Site Manager.

9501.1.3.1 Distribution and Inventory Control

One of the most important issues associated with incident response is resource inventory and material control. Without a proper inventory, materials become lost or stolen. The Communications Unit Leader or Equipment Staging Area Custodians must thoroughly control equipment issue and recovery. This section outlines the actions to be taken for receipt and resupply of communication equipment and services.

9501.1.3.2 Fixed Landline

The Communications Unit Leader, or equivalent, is responsible for approval and receipt of any commercial telephone installation, reporting damage to leased equipment, and obtaining replacements as required. Requests for hardware, circuit installations, or deinstallations must be approved by the Communications Unit Leader. Contact the appropriate vendor for new or additional services, and obtain an expected delivery date. Receipt for the equipment at the EOC. The Communications Unit Leader will arrange for circuit deinstallations as required or after unit demobilization.

9501.1.3.3 Cellular Phones

The Communications Unit Leader estimates the need for new or additional cellular phones and then obtains funding authority from the Lease/Purchase Officer to purchase or lease the additional equipment. Contact the appropriate cellular service provider to arrange for new or additional services and obtain an expected delivery date. Receipt for the equipment at the EOC and arrange transportation for the equipment to the staging site. The Staging Site Manager accepts, inventories, and disburses the new equipment as required. Unrepairable equipment is to be surveyed and reordered as required. The Staging Site Manager returns the equipment to the Communications Unit Leader after unit demobilization. The Communications Unit Leader returns any leased equipment back to the vendor.

9501.1.3.4 Satellite Phones

The Communications Unit Leader estimates the need for satellite telephone services and obtains funding authority from the Lease/Purchase Officer to purchase or lease the additional equipment. Contact appropriate vendors to arrange for purchase of portable satellite hardware and service. Obtain an expected delivery date. Receipt for the equipment at the EOC and arrange transportation for the equipment to the staging site. The Staging Site Manager accepts, inventories, and disburses the new equipment as required. Unrepairable equipment is to be surveyed and reordered as required. The staging area site manager returns the equipment to the Communications Unit Leader after unit demobilization. The Communications Unit Leader returns any leased equipment back to the vendor.

9501.1.3.5 Pagers

The Communications Unit Leader estimates the need for new or additional paging services and then obtains funding from the Lease/Purchase Officer to purchase or lease the additional equipment. Contact the appropriate vendors to arrange for new or additional services and then obtain an expected activation date. Receipt for the equipment at the EOC and arrange transportation for the equipment to the staging site. The Staging Site Manager accepts, inventories, and disburses the new equipment as required. Unrepairable equipment is to be surveyed and reordered as required. The Staging Site Manager returns the equipment to the Communications

Unit Leader after unit demobilization. The Communications Unit Leader returns any leased equipment back to the vendor.

9501.1.3.6 Phone Book (Incident-Specific)

The Communications Unit Leader or staff develops a small, incident-specific phone book to contain email addresses, primary/secondary radio frequency working channels and assigned telephone numbers of pagers, satellite, and cellular telephones.

9501.1.3.7 Portable (Mobile or handheld) Radio

The Communications Unit Leader estimates the need for additional portable radios and then obtains funding authority from the Logistics Officer to purchase or lease the portable (handheld) radio equipment. Contact commercial vendors to arrange for new or leased portable radio hardware and obtain an expected delivery date. To obtain a cache of portable handheld radio equipment, contact the National Interagency Fire Center point of contact listed in Section 9501.4, below. Receipt for the equipment at the EOC and arrange transportation for the equipment to the staging site. The Staging Site Manager accepts, inventories, and disburses the new equipment as required. Equipment that is inoperable is to be surveyed and reordered as required. The Staging Site Manager returns the equipment to the Communications Unit Leader after unit demobilization. The Communications Unit Leader returns any leased equipment back to the vendor.

9501.1.3.8 Fixed (Base Station) Radio

The Communications Unit Leader determines short and long-range communications (UHF/VHF/high frequency [HF]) needs. To request fixed radio communications support from state and federal agencies, private companies, or volunteer organizations, refer to Sections 9501.3 and 9501.4, below.

9501.2 Equipment Capabilities

9501.2.1 Types of Communication Systems

The following briefly describes some of the many different communications systems that may be employed during incident response. Planners and managers should recognize the capabilities and limitations of such equipment prior to an incident and undertake measures to obtain equipment, train personnel, provide support, and maintain these systems, before, during, and after the incident.

9501.2.1.1 Cellular Telephone Systems

Battery powered cellular phones can free the user from dependence on commercial power or vehicle batteries. Systems are now available that permit facsimile as well as voice transmissions over cellular phone equipment. As cellular telephone service becomes more widely available, it is helping to fill many communication gaps, giving incident response managers immediate access to the telephone system. It should be recognized, however, that cellular communications systems quickly become saturated with traffic during an emergency.

9501.2.1.2 Satellite Telephone Systems

The use of satellite telephones is increasing with improved service capabilities and reduced costs. Due to the limitations of cellular telephones, particularly during emergencies, the satellite telephone has frequently become the preferred form of backup emergency communications for response agencies.

9501.2.1.3 Government Emergency Telecommunications Service

This section is adapted from the United States Department of Homeland Security website: http://www.dhs.gov/government-emergency-telecommunications-service-gets

The Government Emergency Telecommunications Service (GETS) is an emergency phone service provided by the National Communications System in the Information Analysis and Infrastructure Protection Division of the Department of Homeland Security. GETS supports federal, state, and local government, industry, and non-governmental organization personnel in performing their National Security and Emergency Preparedness (NS/EP) missions. GETS provides emergency access and priority processing in the local and long distance segments of the Public Switched Telephone Network (PSTN). It is intended to be used in an emergency or crisis situation when the PSTN is congested and the probability of completing a call over normal or other alternate telecommunication means has significantly decreased.

GETS is necessary because of the increasing reliance on telecommunications. The economic viability and technical feasibility of such advances as nationwide fiber optic networks, high-speed digital switching, and intelligent features have revolutionized the way we communicate. This growth has been accompanied by an increased vulnerability to network congestion and system failures. Although backup systems are in place, disruptions in service can still occur. Recent events have shown that natural disasters, power outages, fiber cable cuts, and software problems can cripple the telephone services of entire regions. Additionally, congestion in the PSTN, such as the well-documented "Mother's Day phenomenon," can prevent access to circuits. However, during times of emergency, crisis, or war, personnel with NS/EP missions need to know that their calls will go through. GETS addresses this need. Using enhancements based on existing commercial technology, GETS allows the NS/EP community to communicate over existing PSTN paths with a high likelihood of call completion during the most severe conditions of high-traffic congestion and disruption. The result is a cost-effective, easy-to-use emergency telephone service that is accessed through a simple dialing plan and personal identification number card verification methodology. It is maintained in a constant state of readiness as a means to overcome network outages through such methods as enhanced routing and priority treatment.

GETS uses three major types of networks, described below:

- The major long-distance networks provided by Interexchange Carriers—AT&T, MCI, and Sprint—including their international services;
- The local networks provided by local exchange carriers; wireless carriers; and
- Government-leased networks, including the Federal Telecommunications System and the Defense Information System Network.

GETS is accessed through a universal access number using common telephone equipment such as a standard desk set, STU-III, fax machine, modem, or wireless phone. A prompt will direct the entry of your personal identification number and the telephone number. Once you are authenticated as a valid user, your call is identified as an NS/EP call and receives special treatment.

See the GETS web site for program information, eligibility, and registration procedures. Interested agencies must establish their own GETS account.

9501.2.1.4 Marine VHF Radio

All marine operations should include provisions for marine VHF radio communications among all vessels in the area and designated coordinators. Communicators on the water should be provided with properly licensed marine VHF radio equipment. Such equipment makes it possible to warn other vessels about operations and can also be used for coordinating the operations. However, other channels may be preferred where suitable equipment is available.

9501.2.1.5 VHF and UHF Channels in the Petroleum Radio Service

Much of the VHF and UHF equipment in the Petroleum Radio Service utilizes automatic coded audio frequency signals to open the target receiver's squelch. "Private Line" (PL) codes must be controlled during incident response for proper radio reception. Multiple PL codes on a frequency during a response will limit the effectiveness of the radio hardware likely to arrive on the scene. Operators may wish to consider deactivation of squelch controls during emergencies so that all users of the frequencies will be aware of and give priority to emergency communications.

Some of the Petroleum Radio Service VHF channels are close in frequency to the band assigned to the Marine VHF Radiotelephone Service (156.025-157.425 megahertz [MHz]). This presents the technical possibility that a single radio and antenna system can be used to access both services. Equipment with digital frequency control and scanning capability could thus be used to monitor radio traffic and communicate on several channels in both services.

9501.2.1.6 HF Single Sideband Radios

For communications over long distances, at sea, and in undeveloped areas such as much of northern Canada and Alaska, HF, 2MHz to 30 MHz, single-sideband (SSB) voice radio equipment is commonly used. Contingency Planners should recognize that radio propagation by HF radio changes widely over daily and

yearly cycles and is strongly influenced by changes in solar activity. One may have an excellent radio communications link with a station several hundred miles away, and a few hours later, be completely unable to hear that station. Despite these limitations, HF radio remains the primary backup emergency communications system in the United States.

9501.2.1.7 Paging System

The familiar "beeper" is essentially a one-way radio communication system that enables persons within range of the paging system transmitter to be alerted or receive a brief message.

Pagers are widely used by persons with response contingency responsibilities. Integrated paging systems are now in commercial use, which permits an individual to be paged and receive a short message in virtually any populated area throughout the United States and Canada.

9501.2.1.8 Written Documentation

Memos, letters, reports, journals of activities, phone logs, radio logs, and other written documents all play important roles in coordinating emergency response activities and building a history of decisions and activities in response to an incident. Careful and accurate documentation will help produce orderly and efficient incident response. Poor documentation produces only confusion.

9501.2.1.9 Telex

Telex service, which permits wire communication through automated exchanges, can be useful for responders. This service permits passing written communication quickly between subscribers.

9401.2.1.10 Fax

Fax systems permit text and graphic information (maps, diagrams, signatures, etc.) to be transmitted over telephone lines or by radio. With special attachments, cell phones can be used for transmission of facsimile traffic.

9501.2.1.11 Microcomputers with Modem

Microcomputers with telephone modems, particularly battery-operated laptop units, offer a wide variety of communication options previously not available. For example, a control computer can be set up to receive telephone or radio calls from other computers at any time. With proper authentication, portable computers at widely separated locations can "upload" information to the control computer or "download" information from it. With appropriate software and accessories, a microcomputer can be made to emulate fax equipment.

9501.2.1.12 Internet

The Internet has wide applicability for incident response. In addition to the preparatory communications activities that are conducted prior to an event, such as training notifications, equipment research and procurement, etc., public announcements and warnings may be quickly sent to a widespread audience.

9501.2.1.13 Radio Communication Support Systems

Regardless of the frequency band involved (HF, VHF, or UHF) all radio communication systems require certain resources and ancillary equipment to operate. These are briefly discussed in the following subsections.

9501.2.1.14 Power

The source of electrical power for a given radio may be domestic power, internal or external batteries (rechargeable or one-time use), or a dedicated electrical generator. Twelve- or 24-volt direct current radios are available for use in vehicles and boats. Output wattages are the same as for 120-volt alternating current systems. Battery recharging energy may come from a domestic power source, from a vehicle electrical system, or from solar cells. Where power outages would cause unacceptable disruption of communication, an uninterruptible power supply may be provided. Uninterruptible power supplies for communications generally utilize a storage battery and power inverter system to provide temporary ac power at an appropriate voltage.

9501.2.1.15 Shelter

Some radio equipment is designed with weather-resistant cases, permitting considerable flexibility in where the equipment may be transported. However, much of the communication equipment in common use must be protected from harmful weather conditions. Heating may be required at some locations, and air conditioning at others. Security guards or a suitable alarm or security system should be considered at locations where vandalism or theft of equipment may occur. Some operators may also require shelter.

9501.2.2 Incident Response Communications

9501.2.2.1 Communication of Initial Observations

Communication of initial observations will typically be made by telephone or radio. Written confirmation to appropriate governmental agencies should be made as soon as possible after the initial report. In a given situation, there may be a number of federal, state, and local government entities each with requirements for incident reporting. Each may need a somewhat different set of information, each may impose different reporting time constraints, and each may specify a unique reporting format. Because of the complexity of reporting requirements, organizations may wish to assign the responsibility for reporting an incident to a single interagency office. This will facilitate the use of consistent information, avoid duplicate reporting, and permit the accumulation of a historical database.

Current best practice is for Unified Command to publish information through an incident-specific website.

9501.2.2.2 Logistics Coordination

Food, transportation, and, in some cases, shelter, must be provided to workers during incident response operations. This is generally conducted over landline

phone, but could require a radio net in some cases. Supplies such as fuel, sorbents, and machine parts must be procured and delivered to locations where needed. Worn and broken equipment must be repaired or replaced. All of these activities require good communication. For large operations, it may be desirable for the Logistics Section to have communications channels separate from those used for directing and coordinating the incident.

9501.3 State/Volunteer Radio Communications

9501.3.1 State of Washington

The Washington State Emergency Management Division (EMD) maintains a 24-hour communications center for the State of Washington, located in the EOC at Camp Murray. Initial notification should be made to EMD, and the Duty Officer will record the information and make the appropriate local, state, and federal notifications as prescribed in Washington's Standard Operating Procedures. The phone numbers for contacting the EOC are as follows.

Primary Phone	**1-800-258-5990**
Secondary Phone	253-912-4901 Or 4904
Business Phone	**1-800-562-6108**
Satellite Phone	888-862-8459
Fax	253-512-7203
Email Address:	Dutyofficer@Emd.Wa.Gov
Website:	http://mil.wa.gov/emergency-management-division

9501.3.1.1 Washington State Department of Ecology

The Washington State Department of Ecology (Ecology) does not operate or maintain its own statewide radio system but has permission to utilize both the Comprehensive Emergency Management Network (CEMNET) system and the Washington State Department of Natural Resources (DNR) statewide VHF system. Ecology also has a cache of 30 high band programmable radios that are available for use in case of a major incident.

As the designated On-Scene Coordinator for statewide environmental emergencies, Ecology is required to be notified through Emergency Management (as per Chapter 90.56.280 Revised Code of Washington) of any spill or release of hazardous material into the environment. Ecology maintains, on 24-hour duty, up to eight spill response specialists located throughout the state. They can be contacted in case of any environmental or hazardous materials incident by calling one of the following numbers.

Emergency Management Division **1-800-258-5990**
OR
Department of Ecology (24 hours)

SW Regional Office (Olympia)	360-407-6300
NW Regional Office (Bellevue)	425-649-7000

Central Regional Office (Yakima)	509-575-2490
Eastern Regional Office (Spokane)	509-329-3400
Headquarters (M-F 0800-1700)	360-407-6000

9501.3.1.2 Comprehensive Emergency Management Network

CEMNET is a statewide, Lo-band VHF radio system. This system is the primary backup communications link between the State EOC and the local EOCs throughout the state. This network also supports the daily operation of Ecology statewide. CEMNET is the only state network capable of providing communications between base stations and mobiles, and mobiles to mobiles statewide. The CEMNET system utilizes base stations and repeaters controlled through the Washington State Patrol microwave system and operates on the following frequencies:

Lo Band Channel F1 transmits on 45.200 MHz.
Lo Band Channel F2 transmits on 45.360 MHz.
Lo Band Channel F3 transmits on 45.480 MHz.

The **On-Scene Command and Coordination Radio** operates on 156.135 MHz. This network is managed by EMD through a mutual planning agreement between the Associated Public Safety Communications Officers (APCO), the Washington Department of Transportation, and EMD. All potential emergency responders are eligible to apply through APCO for authorization to operate mobile and portable units on this network for on-scene use only.

The **Washington State Department of Natural Resources** operates a statewide VHF system, with communication provided on a regional basis. Radio repeaters support each of the seven DNR regions. Each region is assigned area frequencies for operations within the region. Any communications between regions occurs only where there is overlap in the repeater system. Each region is also licensed to operate on the DNR Common and State channels to coordinate with other agencies.

DNR State channel transmits on 151.295 and receives on 159.420. Ecology has permission to use the DNR frequencies on an emergency basis. Use of these frequencies for emergency purposes should be coordinated with the DNR radio communications manager.

9501.3.2 State of Oregon

The Oregon Emergency Response System is the 24-hour communications center component for EMD. Initial notification will be made to a Duty Officer, who will then make appropriate local, state, and federal notifications as prescribed in standard operating procedures.

To contact the Duty Officer with the Oregon Emergency Response System, call:

Primary Phone	1-800-452-0311 (nationwide) 1-503-378-6377 (local to Salem, Oregon)
Secondary Phone	1-888-695-1674 (Satellite phone)
Secondary Radio	State Fire Net (154.280 MHz). 800 MHz radio system (National Calling Frequency 866.0125MHz) Amateur radio (ARES/RACES)
Email Address	oemd@oem.state.or.us
Web Page Address	https://www.oregon.gov/OMD/OEM/Pages/tech_resp/oers.aspx

9501.3.3 State of Idaho

The Idaho Bureau of Hazardous Materials
Military Division

Primary Phone	208-846-7610 (24/7)
Secondary Phone	800-632-8000 (Idaho only, 24 hours)
Web Page Address	https://ioem.idaho.gov/Pages/HazardousMaterials.aspx

9501.3.4 Volunteer Radio Communications Resources

ARES consists of trained radio communications enthusiasts who can provide communicators and operate from numerous locations throughout the Pacific Northwest.

ARES is accessed through EMD or County Emergency Management offices.

Primary Radio	146.5200 MHz ARES Communications GEN Hailing & Emergency Notification	
145.6300MHz	ARES Packet Operations	Packet Communications

9501.3.5 Industrial-Commercial Radio Communications Resources

9501.3.5.1 The Petroleum Radio Service

(See Appendix B for individual frequencies)

The Petroleum Radio Service (PRS) was one of 20 networks of radio frequencies once assigned to business and commercial entities. The PRS network connects parties working with petroleum or petroleum products, including natural gas. In June 1995, the Federal Communications Commission (FCC) created a

narrowband channel plan and determined that the 20 Private Land Mobile Radio Services would be consolidated. In February 1997, the FCC created the Public Safety and the Industrial/Business Frequency Pools. As a result, the PRS frequencies dealing with incident response are now located in the Industrial/Business Frequency Pool.

9501.3.5.2 Marine Spill Response Corporation Communications Van *1-800-OIL-SPILL*

The MSRC van contains a full suite of radio, satellite, and telephone equipment. It is a fully mobile, self-contained unit capable of being deployed on short notice to any drivable location. The MSRC maintains one of these vans at their facility in Everett, Washington. Other such vehicles are maintained nationwide.

9501.3.5.3 Maritime Fire and Safety Association Columbia River Communications System

503-220-2055
Web page: www.mfsa.com

The Maritime Fire and Safety Association communications system is actually four different systems combined to provide an integrated communication network for communicating on marine and oil spill communication channels. The system provides radio coverage on the lower Columbia and Willamette Rivers from approximately the city of Portland to greater than 3 miles beyond the Columbia River bar. The four communications systems are:

- **Marine Channel Radio System**. This system provides communications on various marine channels for communicating directly to ships and other marine traffic.
- **Oil Spill Command and Control Radio System**. This system provides continuous coverage from the city of Portland to Astoria and will allow mobile units in Portland to communicate directly with units along the Columbia River.
- **Oil Spill Tactical Radio System**. This system provides a series of radio repeaters that are designed to provide coverage over a local area for the local communications needs of incident response.
- **Microwave Radio System**. This system links all of the radio sites and radio equipment back to the Merchant's Exchange for control and to the radio consoles located there.

9501.4 Federal-Canadian Radio Communications

The Region 10 United States Environmental Protection Agency (EPA) is Co-Chair (with the USCG) of the RRT. The Region 10 EPA headquarters is located in Seattle, Washington, with an area of responsibility that includes Alaska, Washington, Idaho, Oregon, and Native Tribes. EPA operates a VHF Base Station in Seattle, with access to the FEMA and USCG radio repeaters.

EPA Communications point of contact is Jeffry Rodin.
Primary telephone 206-553-6709
Fax # - 206-553-0175
Primary Radio Frequency -
Email – rodin.jeffry@epa.gov

The 13th Coast Guard District is Co-Chair (with EPA) of the RRT. The 13th District's Information Technology and Communications Office, located in Seattle, Washington, coordinates the USCG communications system throughout the region. The system incorporates numerous fixed base radios operating within the VHF-FM marine band, MF/HF maritime frequencies, and specific VHF-FM land/mobile frequencies. These radios monitor distress calls, provide liaison with the public, and include USCG command and control working channels, which are operated by USCG telecommunications personnel at designated group units.

Phone # - (206) 220-7147
Fax # - (206) 220-7009
After Hours Phone (800) 982-8813 or (206) 220-7001

Transportable Communications Center: The Commander, Pacific Area, maintains a Transportable Communications Center (TCC), located at the Coast Guard Communications Area Master Station Pacific at Pt. Reyes, California. It is a self-contained, rapidly deployable USCG resource that can provide a full range of telecommunications capabilities to support a major incident response in a six-hour recall status. Electronic Technicians and Telecommunications Specialists accompany the unit. The TCC can be powered by generator (included) or directly connect to a power source. The full antenna array setup requires an open area of approximately 200 by 200 feet. These are important considerations in the decision where to locate the unit and perhaps the forward command post. Requests for the TCC are coordinated through the13th District Seattle office. Capabilities include point to point, air/ground and ship/shore communications in the HF/VHF/UHF bands. Agency interoperability is enhanced through use of an ACU-100.

The **USCG Reserve** capabilities consist primarily of providing trained radio Communicators. Requests for this support are coordinated through the 13th District office.

The **USCG Auxiliary** consists of volunteer Auxiliarist Communicators, who operate radios from fixed base stations, land mobiles, boats, and aircraft throughout the Pacific Northwest. Requests for this support are coordinated through the 13th District office.

The **Federal Emergency Management Agency** operates a number of communications assets in Alaska, Oregon, Idaho, and Washington from the Region 10 headquarters buildings located in Bothell, Washington. FEMA can also support incident response with a large self-propelled, self-contained radio van

containing HF, VHF, UHF, KU band and Citizens Band radios, Merlin Switch capability, cellular phone, fax, antennas, testing and repair facilities.
Point of Contact – 24/7 Watch Desk
Phone # - 425-487-4600 or (800) 395-6042, (425) 487-4448
Secondary Phone – 888-579-0019 (Satellite)
Email – bothell.moc@fema.gov
Web Page– http://www.fema.gov

The Seattle District **United States Army Corps of Engineers** operates HF and VHF radios within most of Washington, northern Idaho, and northwestern Montana in support of the Northwestern Division. Satellite and cellular telephones are also used, in conjunction with normal commercial telephone and fax systems. Other VHF radio communications facilities are located at Chief Joseph Dam, Albeni Falls Dam, and Libby Dam.

	Primary Phone
Emergency Management Branch	(206)-764-3406
Northwestern Division EM	(503)-808-3902/3901/3903

Primary VHF Radio Frequencies -

Seattle District Office	163.4125 MHz	South of Seattle
Mud Mountain Dam	163.4125 MHz	Enumclaw
Lake Washington Ship Canal	163.0000 MHz/163.4125 alt.	North of Seattle

Fax # -	(206)-764-3319
Email	vic.k.yoshino@nws02.usace.army.mil

Other United States Army Corps of Engineers offices within the NWACP-RRT10 area of operations include Portland and Walla Walla Districts; however, the Seattle District is the primary support to Northwestern Division and the RRT.

Portland District Emergency Management

Emergency Operations (24-hour)	503-808-4402

Walla Walla District Emergency Management

Emergency Operations Center	509-527-7146
Email	CENWW-EOC@usace.army.mil
Satellite Telephone	877-559-4651 NWW EOC

The **National Interagency Fire Center** is located at the Boise, Idaho, airport and owns and operates a large cache of portable radio and satellite communications equipment. Although this equipment is used primarily by the United States Forest Service for fighting forest fires, certain components and training may be available for RRT incident response.

Phone # - (208) 387-5485
Fax # - (208) 387-5560
Web Page– http://www.nifc.gov/

Coordination Duty Officer
Phone # - (208) 387-5644
Fax # - (208) 387-5892

The **General Services Administration** manages numerous United States Government facilities. Locally, the Regional Manager coordinates RRT incident-specific requirements with the appropriate General Services Administration facility.

Point of Contact - Regional Manager for Emergency Management
Phone # - (253) 931-7508

9501.4.1 Canadian Communications Resources

Environment Canada is the primary contact for incidents that may affect Canadian lands or waters. Contact the National Environmental Emergencies Centre for communications contacts and other information necessary for incident response.

Phone # - 866-283-2333

9501A Appendix A: Communications

9501A.1 Background

This section incorporates the Operational aspects of the RRT Communications Plan.

9501A.1.1 Repeater Frequency Assignments and Access Systems Coordination

There will likely be increasing use of multiple repeaters to serve incident response communication needs in many geographic areas. Coordination among the sponsors of repeater systems is needed to ensure that communication systems in various areas will remain compatible, avoiding radio interference but permitting portable radios from one area to supplement the radios from other areas, based on guidelines developed by the American Petroleum Institute and the United States Federal Communications Commission. Agency managers and planners should address such interoperability issues during 2003 RRT Communications exercises.

9501A.1.2 Command and Control Communications

Incident response plans generally specify internal documentation and reporting procedures in addition to properly completed ICS Forms. A bound logbook or similar permanent record may be required for legal purposes. Plans typically call for periodic reports from supervisors, pinpointing problems, and providing information on expenditures for labor and materials. Portable computers can also be used to help organize the information in such reports and transmit it over radio or telephone communication channels.

9501A.1.3 Voice Communication Procedures Standardization

Standardized communications procedures, emphasizing brevity and clarity, will help responders make optimum use of available communications resources. Voice communication procedures should be included in all emergency response training plans. Coordination of radio frequency usage will ensure that neighboring response operators do not conflict with one another.

9501A.1.4 Mobile Communications Staging Areas

The selected shoreside staging areas for multi-agency operations will be directed via landline, cell or satellite phone, or radio from the Incident Command System (ICS) Command Post. Once a communications site has been selected, mobile

communications vehicles and trailers should be located no closer than 25 feet to each other. The need for alternate or multiple staging areas and attendant communications coverage will depend upon the extent of the area affected by the incident.

9501A.1.5 Security Awareness

Radio communications, unless encrypted for secure transmission, are subject to electronic surveillance and monitoring by private citizens and the public media. All agencies should be security conscious before transmitting information by radio that may be considered media sensitive, proprietary, or private. Good judgment is the only rule that applies; however, public affairs officers should be consulted for guidance in specific instances if necessary.

9501A.1.6 Incident Command System Forms

Under the ICS, the roles of different people, their lines of command, and specific tasks are carefully defined. An important aspect of ICS implementation is the use of standard ICS forms. For example, early in a response, the people responsible for planning the response complete a Response Objectives Form. Responders refer to this form when they need to review the objectives of the response. The Communications Unit is responsible for preparing the following Radio and Frequency Assignment Forms to provide adequate ICS documentation.

9501A.1.6.1 Radio Frequency Assignment Worksheet (ICS Form 217)

Purpose

The Radio Frequency Assignment Worksheet is used by the Communications Unit Leader to assist in determining frequency allocations.

Preparation

Cache radio frequencies available to the incident are listed on the Radio Frequency Assignment Worksheet. Major agency frequencies assigned to the incident should be added to the bottom of the worksheet.

Distribution

The worksheet, prepared by the Communications Unit, is for internal use only.

9501A.1.6.2 Radio Requirements Worksheet (ICS Form 216)

Purpose

The Radio Requirements Worksheet, ICS 216, is used to develop the total number of personal portable radios required for each Division, Group, and Branch involved in the incident. It provides a listing of all units assigned and thus depicts the total incident radio needs.

Preparation of Form 216

The worksheet is prepared by the Communications Unit for each operational period and can only be completed after specific resource assignments are made and designated on Assignment Lists. This worksheet need not be used if the

Communications Unit Leader can easily obtain the information directly from assignment lists.

Distribution

The worksheet is for internal use by the Communications Unit, and therefore there is no outside distribution of this form.

9501A.1.6.3 Incident Radio Communications Plan Worksheet (ICS Form 205)

Purpose

The Incident Radio Communications Plan provides, in one location, information on all radio frequency assignments for each operational period. ICS Form 205 is a summary of information obtained from the Radio Requirements Worksheet (ICS Form 216) and the Radio Frequency Assignment Worksheet (ICS Form 217). Information from the Radio Communications Plan on frequency assignments is also placed on the appropriate assignment list (ICS Form 204).

Preparation

The Incident Radio Communications Plan is prepared by the Communications Unit Leader and given to the Planning Section Chief. Detailed instructions on preparing this form may be found in ICS 223-5, the Communications Unit Position Manual.

Distribution

The Incident Radio Communications Plan is duplicated and given to all recipients of the Incident Action Plan including the Incident Communications Center. Information from the plan is normally placed on the appropriate assignment list (ICS Form 204).

9501A.2 Glossary

Common Definitions

Effective incident response depends on good communication at all levels, from the initial planning, through management of personnel, equipment selection, and interagency training, to the final restoration, finance and accounting, and project documentation efforts. Information from the initial observation must be quickly brought to the attention of responders and specific government agencies and transmitted without delay to the appropriate parties. Response Team members must be contacted without delay and critical information conveyed to them in an efficient manner. Persons responding at the scene must have instant communication with others, sometimes over a considerable distance. Response managers must be able to communicate with government permit authorities and with individuals and teams in the field. Coordination of transportation, material support, equipment repair and other logistics matters also require good communication. The use of common terms will reduce misunderstandings and provide clearer messages.

This glossary describes communications terms that should be familiar to those members that Plan, Manage or Respond to a Northwest Area Contingency Plan-Regional Response Team incident.

Amplitude Modulation (AM). Refers to radio signals in which the information content is created by varying the power level or amplitude of an electromagnetic carrier wave. With sufficient power, this can result in longer range communications.

Antennas. Every radio requires some sort of antenna system. For efficient operation, an antenna must be electrically resonant at the intended operating frequency. The length requirement dictates that larger antennas be used for lower radio frequencies. As a rule, the higher the antenna, the greater its coverage area. Areas designated for antenna placement should be large enough to erect the largest antennas that would be used at the site.

When a radio must operate on various widely spaced frequencies within a band, or where space for antennas is limited, an antenna tuning circuit may be required. Antenna towers or poles may be required to raise the antenna system above the surrounding terrain. A given antenna system generally radiates better in certain directions than in other, and some “high gain” antennas are designed with the ability to focus their output in desired directions. Antenna feed lines should be kept short to reduce energy losses, particularly at high frequencies, and lines must be selected to match the electrical impedance of radio equipment and antennas. Special matching circuits may be required to correct poor impedance matches. In cold regions, it may be necessary to design antenna systems strong enough to resist the destructive effects of ice build-up. The presence of ice may also affect electrical properties of the antenna and ground system resulting in shifts in the resonant frequencies for the system.

Frequency Modulation (FM). Refers to radio signals in which the information content is created by varying the wavelength or frequency of an electromagnetic carrier wave. FM transmissions can eliminate much of the noise found in an AM signal. Short-range communications using VHF and UHF radios commonly utilize the FM mode.

High Frequency (HF). Includes those radio frequencies between 2 and 30MHz. Generally, this method is employed when long-range communications are required, i.e., beyond 100 miles. HF radio is subject to solar and atmospheric conditions and requires trained radio operators, suitable HF radios, and antennas for use.

Hertz (Hz). Refers to the number of cycles per second and is often preceded by “kilo” (kilohertz; kHz), “mega” (megahertz; MHz), or “giga” (gigahertz; GHz); referring to the radio frequency ranges of thousands to millions of cycles per second.

Single Sideband (SSB). With ordinary amplitude modulation (AM) transmissions, audio frequency information is electronically combined with a radio frequency carrier wave. This results in a complex signal that includes an upper sideband component (which is the sum of the carrier frequency plus the audio frequencies present) and a lower sideband component (which is the difference between the carrier and the audio frequencies present).

With single-sideband transmissions, the AM signal is processed to remove the carrier and one of the sidebands. The signal then occupies a smaller part of the radio spectrum and uses all of its energy for the transmission of information. Single-sideband emissions are commonly used for long distance HF transmissions.

Ultra-High Frequency (UHF). Those radio frequencies between 300 MHz and 3 GHz. Transmission distances over UHF are limited to line of sight and terrain; generally, point-to-point range at sea level is approximately 5 miles.

Very High Frequency (VHF). Those (frequencies) between 30MHz and 300 MHz. Transmission distances over VHF are limited to line of sight and terrain; generally, point-to-point range at sea level is approximately 7 miles.

Communications Pro-Words

Pro-Word	Meaning
Break	(As a statement) A separation between portions of a message. (As a request) An interruption in conversation (usually to request use of the frequency during an emergency).
Clear	Transmission has ended; no response is expected.
Monitoring	Station is clear of last transmission; no response is expected; station will continue monitoring this frequency.
Out	My transmission is ended and no response is expected.
Over	My transmission is ended and I expect a response from you.
Roger	I have received all of your last transmission.
Say Again	Please repeat last transmission.
Words Twice	(As a request) Communication is difficult; please send every phrase twice. (As information) Since communication is difficult, every phrase in this message will be sent twice.

Radio-Phonetic Alphabet

The phonetic alphabet is one in which each letter is associated with a particular word. The phonetic alphabet is used to ensure that certain letters or words are clearly understood.

Letter	Word	Letter	Word
A	**Alpha**	N	**November**
B	**Bravo**	O	**Oscar**
C	**Charlie**	P	**Papa**
D	**Delta**	Q	**Quebec**
E	**Echo**	R	**Romeo**
F	**Foxtrot**	S	**Sierra**
G	**Golf**	T	**Tango**
H	**Hotel**	U	**Uniform**
I	**India**	V	**Victor**
J	**Juliet**	W	**Whiskey**
K	**Kilo**	X	**X-ray**
L	**Lima**	Y	**Yankee**
M	**Mike**	Z	**Zulu**

9501B Appendix B: The 5300 (Frequency and Communications Resource Summary)

9501B Radio Frequencies

The following is a list of working frequencies used by federal, state, local, and private agencies. A list of frequencies to be used during incident reporting and response are located in the National Interoperability Field Operations Guide (U.S. Department of Homeland Security office of Emergency Communications Version 1.4).

9501B.1 Federal Government Frequencies

9501B.1.1 Coast Guard Frequencies

Group	Channel/Frequency	Purpose
Port Angeles	81A[1] (157.075 Mhz)	Primary Working Frequency
Port Angeles	83A (157.175 Mhz)	Secondary Working
Sector Puget Sound	21A (157.05 Mhz)	Working
Sector Columbia River	23A (157.15 Mhz)	Working
Station Portland	83A (157.175 Mhz)	Working
Group Northbend	21A (157.05 Mhz)	Working
Non-Coast-Guard Ships 22A Marine	(157.100 Mhz)	Coast Guard Liaison

Note:
[1] Channel 81A shall be preempted for oil discharge removal operations whenever necessary.

9501B.1.2 National Oceanic and Atmospheric Administration Weather Radio Frequencies

May be received on multiple frequencies, depending on location.

9501B.1.3 Environmental Protection Agency

May monitor/transmit on various frequencies, depending on location.

9501B.1.4 Federal Emergency Management Agency

Bothell Mobile Emergency Response System Detachment

139.950 MHz Transmit 143.250 Receive 118.80 Tone

9501B.2 State of Washington

9501B.2.1 Wildlife Operations

Radio frequencies for wildlife response operations will be assigned by the Communications Unit leader.

9501B.2.2 Fish & Wildlife

151.4150 megahertz (MHz) DNR Common (WDOE)
Branch Tactical

9501B.2.3 Comprehensive Emergency Management Network

The Comprehensive Emergency Management Network (CEMNET) system utilizes base stations and repeaters controlled through the Washington State Patrol microwave system.

Lo Band Channel F1 transmits on 45.200 MHz
Lo Band Channel F2 transmits on 45.360 MHz
Lo Band Channel F3 transmits on 45.480 MHz

Channel F3 is the primary contact channel for the Washington State Emergency Management Department.

9501B.2.4 Search and Rescue

The Search and Rescue frequency transmits on 155.160MHz and is also managed by the Emergency Management Division.

9501B.2.5 Law Enforcement Radio Net

The Law Enforcement Radio Net operates on 155.37 MHz and is a mutual frequency used by state and local law enforcement agencies.

9501B.2.6 On-Scene Command and Coordination Radio

The On-Scene Command and Coordination Radio operates on 156.135 MHz.

9501B.2.7 Department of Natural Resources

State DNR transmits on 151.295 and receives on 159.420 MHz.

9501B.3 State of Oregon

9501B.3.1 Department of Environmental Quality

The State of Oregon Department of Environmental Quality utilizes the Oregon State Fire Net during a pollution or potential pollution incident.

The State Fire Net transmits on 154.280 MHz.

9501B.3.2 Maritime Fire and Safety Association Columbia River Communication System

Channel	Description	Transmit	Receive	RX
	Marine Ch 16	156.800	156.800	Carrier Squelch (CSQ)
	Marine Ch 11	156.550	156.550	CSQ
	Marine Ch 13	156.650	156.650	CSQ
	Marine Ch 14	156.700	156.700	CSQ
	Marine Ch 18A	156.900	156.900	CSQ
	Marine Ch 80	157.025	157.025	CSQ

9501B.4 State of Idaho

9501B.4.1 State of Idaho Office of Emergency Management

Transmit	Varies
Receive	Varies

9501B.4.2 National Interagency Fire Center

Transmit	Varies
Receive	Varies

9501B.5 Private/Commercial Frequencies

9501B.5.1 Clean Sound Cooperative

Transmit	454.000 MHz	Ch 1	Internal Comms
Receive	459.000		

9501B.5.2 Marine Safety Response Corporation

150.9800 MHz	S	Ch 1	Internal Comms
150.9800MHz	TX	Ch2	Internal Comms
154.5850Mhz	RX		
159.4800MHz	S	Ch3	Internal Comms
159.4800MHz	TX	Ch4	Internal Comms
158.4450MHz	RX		
454.0000MHz	TX	Ch8	Internal Comms PL 100
459.0000MHz	RX		PL 136

9501B.5.3 FOSS Telecommunications Network

All Foss Maritime vessels have VHF-FM capability. Operating tugs and tank barges monitor the appropriate VHF-FM channel for the house/working frequency as denoted below.

State	Foss Maritime Location	Channel	Frequency (MHz)
WA	Seattle	7A	156.350
	North Sound	7A	156.350
	Everett	18A	156.900
	Tacoma	18A	156.900
	Port Angeles	7A	156.350
OR	Portland	10A	156.500
	Astoria	10A	156.500

Ocean and coastwise tugs, while at sea, monitor single sideband radio, and standby on channel 8B (8297.000 kilohertz; kHz). Foss Maritime tugs also monitor the following frequencies:

SSB	2182.0000kHz	International Distress
VHF	156.800MHz	International Distress
Bridge to Bridge	156.650MHz	

The following Single Sideband radio frequencies are available aboard all Foss ocean-going tugs and shoreside base stations for conducting private communications in agreement with 47 Code of Federal Regulations (CFR) 80.373.

2182.0000kHz	8297.000kHz
4149.000kHz	12353.000kHz
8294.000kHz	16534.000kHz

9501B.5.4 The Petroleum Radio Service

47 CFR Part 90.65 designates the frequencies listed below as available for use in oil spill containment and cleanup operations.

Frequency (MHz)	Mode/Private Line Tone	Use
25.040	simplex	Base/Mobile
25.080	simplex	Base/Mobile
36.250	simplex	Base/Mobile
41.710	simplex	Base/Mobile
150.980	simplex/repeater, Pair 1 103.5	Base/Mobile
154.585	repeater receive, Pair 1	Mobile
158.445	simplex or repeater receive, Pair 2 103.5	Mobile
159.480	simplex or repeater transmit, Pair 2	Base/Mobile
454.000	simplex or repeater transmit, Pair 3 103.5	Base/Mobile
459.000	repeater receive, Pair 3	Base/Mobile

9501B.5.5 Amateur Radio Emergency Services

Volunteer Communicators and various frequencies are available for emergency use. Contact ARES via the Washington State Emergency Management Division or County Emergency Management offices.

9501B.6 International Frequency Listing

9501B.6.1 Environment Canada

Environment Canada coordinates incident response with the United States Coast Guard and Environmental Protection Agency in the lands and waters of British Columbia.

150.980MHz	154.585MHz	Tone 103.5

9501B.6.2 Future International Contacts

Section 9502

Logistics Resource List

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9502

Logistics Resource List

9502.1 Resource Directory

For resource list see: http://www.wrrl.us/

9502.2 Oil Response Equipment

See http://www.wrrl.us/

9502.3 Hazardous Substance Response Equipment

See http://www.wrrl.us/

9502.4 Salvage Companies/Divers

For more information see: http://www.americansalvage.org/members.php

9502.5 Wildlife Rescue

http://www.tristatebird.org/
http://w.bird-rescue.org/site_index.html

9502.6 Air Support

- Fixed wing
- Helicopter
- Float planes

9502.6.1 Washington Aerial Support Resources

Kenmore Air Harbor
Kenmore, WA
(425) 486-1257
Fax (425) 485-4774
www.kenmoreair.com/

Worldwind Helicopters
Renton, WA
(425) 271-8441
Fax (425) 271-8442
www.wwheli.com/

Classic Helicopters Corporation
Seattle, WA Boeing Field
(206) 767-0515
www.classichelicoptercorp.com

Kenmore Aero Services
Seattle, WA
(866) 410-6376
http://kenmorefbo.com/

Helicopters Northwest
Seattle, WA
(206) 767-0508
www.helicoptersnw.com

Executive Flight Inc.
East Wenatchee, WA
(509) 884-1545
www.execflight.com

Washington Airports: http://www.airnav.com/airports/us/WA

9502.6.2 Oregon Aerial Support Resources

Hillsboro Aviation
Hillsboro, OR
(503) 648-2831
www.hillsboroaviation.com

Oregon Airports: http://www.airnav.com/airports/us/OR

9502.6.3 Idaho Aerial Support Resources

Idaho Airports: http://www.airnav.com/airports/us/ID

9502.7 Analytical Support

9502.7.1 Washington Analytical Support

https://fortress.wa.gov/ecy/laboratorysearch/

9502.7.2 Oregon Analytical Support

https://public.health.oregon.gov/LaboratoryServices/Pages/index.aspx

9502.7.3 Idaho Analytical Support

http://www.healthandwelfare.idaho.gov/Health/Labs/tabid/99/Default.aspx

9502.8 State Support

9502.8.1 Washington Support

Cities, State, and Local Government
http://www.statelocalgov.net/state-wa.cfm

Fire Departments
http://www.50states.com/washington/fire_departments.htm

Hospitals
http://theagapecenter.com/Hospitals/washington.htm

Oil Spill Cleanup Contractors
http://cleanupoil.com/washington/
http://www.wsmcoop.org/

Marine Exchange of Puget Sound
http://www.marexps.com/

Wildlife Rescue
Focus Wildlife https://www.focuswildlife.org/
Islands' Oil Spill Association http://iosaonline.org/
International Bird Rescue http://www.bird-rescue.org/

Tribes
http://www.kstrom.net/isk/maps/wa/wamap.html

9502.8.2 Oregon Support

Cities, State and Local Government
http://www.statelocalgov.net/state-or.cfm

Police
http://www.policechief.org
http://www.oregon.gov/OSP/

Hospitals
http://www.theagapecenter.com/Hospitals/Oregon.html

Oil Spill Contractors
http://cleanupoil.com/oregon/

Marine Exchange of Portland
http://www.pdxmex.com/

Wildlife Rescue
http://theiwrc.org/resources/emergency
http://www.audubonportland.org/

Tribes
http://www.kstrom.net/isk/maps/or/ormap.html

9502.8.3 Idaho Support

Cities, State, and Local Government

http://www.statelocalgov.net/state-id.cfm

Hospitals
https://www.idmed.org/idaho/Idaho_Public/Resources/Idaho_Hospitals/Idaho_Public/Resources/Idaho_Hospitals.aspx?hkey=b89bea50-4345-4624-be76-7b8cd25e9135

Cleanup Contractors
http://cleanupoil.com/idaho/

Police
http://www.isp.idaho.gov/
http://www.usacops.com/id/pollist.html

9502.9 Fisheries

Pacific States Marine Fisheries Commission
http://www.psmfc.org/

West Coast Seafood Processors
http://www.wcspa.com/

Pacific Coast Shellfish Growers Association
http://pcsga.org/

Western Fish Boat Owners Association
http://www.wfoa-tuna.org

9502.10 Foreign Embassies

https://www.state.gov/s/cpr/32122.htm

Section 9701

Northwest Area Contingency Plan Hazard Assessment Worksheet

Hazard Assessment Worksheet

Northwest Area Contingency Plan
Hazard Assessment Worksheet

Name(s) of Responding Personnel: _____

Date: _____ Contact Person or Reference (s): _____

I. Information as first reported

Location/Site Name: _____

Type of Incident: _____

Owner of Property (if known): _____

II. Information upon arrival and BEFORE first perimeter reconnaissance
Arrival Time: _____ Wind from the _____ at approx. speed of _____

Other Personnel On-Scene (fire, police, contractors, etc.): _____

Nearest Hospital and Phone Number: _____

General Site Description & Potential Hazards, as seen from arrival position, and Recon plans:

_____

_____

III. Perimeter Reconnaissance PPE – Check **Personal Protective Equipment** being used:

☐ Level A ☐ Level B ☐ Level C ☐ Level D

NOTE: Based on FIRST recon results, addl. recon w/higher PPE levels may be needed!

IV. Information AFTER all perimeter reconnaissance is completed

Indicate Hazards (**Key**: K=Known, S=Suspected, X=Other, or ~~Line through~~ item if "N/A")

____ Explosive ____ Corrosive ____ Vehicles
____ Flammable Liquid ____ Oxidizer ____ Noise
____ Flammable Solid ____ Biohazard ____ Heat/Cold
____ Flammable Gas ____ Radioactive ____ Falling
____ Poisonous Gas ____ Oxygen Deficiency ____ Slipping/Tripping
____ Poison ____ Confined Space ____ Water
____ Other
(specify)_____
____ Unknowns (describe color, size, shape of container(s), etc.) _____

In addition to above, note anything else observed during perimeter recon action(s):

_____

Provide Data on Known or Suspected Compounds, if any:

Attach MSDS/Chemical Database Print-out/Bill of Lading (if available)

If Site Entry is not indicated based on the perimeter reconnaissance, the Spill Response Flow Chart, available resources or responder training levels, go to Part VI, below:

V. Workplan/Information prior to Site Entry

a) **Workplan** for Site Entry Team (briefly describe the Team's scope & objective):

_____

_____

b) **Site Map Sketch** (indicate wind direction, safety zones, escape routes, hazards, etc.)

c) **Personal Protective Equipment (PPE)** to be used for site entry (Check One):

☐ Level A ☐ Level B ☐ Level C ☐ Level D

Will **Air Monitoring Instruments** be used during the investigation? ☐ Yes ☐ No

If Yes, what type? _____

List "Exit Action Reading(s)": _____

d) **Entry Team Check-off** (if an item that applies is not checked, **DO NOT ENTER SITE**)

____ Training/MedMon is up to date
____ Buddy System/Communication and Equipment check completed
____ Decon line ready
____ Hazard Assessment Worksheet Reviewed and Workplan clear to members of Response Team
____ Site entry time and/or Time on air: _____

VI. Site Entry Summary and/or Conclusion of Response

If samples were obtained and analyzed (HazCat) after site entry, list the results below:

_____

_____

What are subsequent work plans or additional incident response actions to be taken?

_____

_____

Debriefing Results/Follow-up: _____

_____

Site Departure Time: _____

Total Time Spent on Site: _____

Lead Responder Signature: _____

Section 9702

Initial Hazmat Incident Objectives

Initial Incident Objectives

ICS -201, Page 2, Box 4. Initial Incident Objectives

- **Identify the Hazards.** Placards, physical properties, shipping papers, facility inventory, ask informed person, etc. If you don't know, plan for the worst. Fill out your Hazard Assessment Worksheet as soon as possible. (May record this information on Page 1, Box 3 map border of ICS-201)

_____
_____
_____
_____

- **Isolate the Hazard Area.** Deny access to spill area, establish control zones, etc. (note zones on Page 1, Box 3, of ICS-201)

_____
_____
_____
_____

- **Protect the Safety of the Public and Responders.** Conduct evacuations, shelter-in-place, limit access inside control zones to appropriate response personnel, etc.

_____
_____
_____
_____

- **Establish Command.** Establish Command Post, staging areas, etc. (note locations on Page 1, Box 3, of ICS 201). Diagram initial incident command structure. (Page 3, Box 3 of ICS 201). **Determine Initial Incident Commander**. **Assign Safety Officer**. Anticipate staffing and resource needs (record on page 4, box 7).
IC:_____
___Safety:_____
_____
_____

- **Complete Notifications.** Conduct appropriate notifications to state, federal, local and private resources. (911, Ecology, EMD, natural resource trustees, USCG /EPA, fire, hazmat, Responsible Party, contractors, etc. Record contacts and numbers on Page 2, Box 5, ICS-201)

_____
_____
_____
_____

(OVER)

- **Activate Response Plans.** Implement pre-designed contingency response plans. Follow your plan! Implement source control measures if trained and appropriate PPE is available.

  _____
  _____
  _____

- **Other.** Other initial objectives specific to the incident.

  _____
  _____
  _____
  _____

Record initiation and/or completion of Initial Incident Objectives plus other pertinent initial information in Box 5, Page 2, Summary of Current Actions, ICS-201.

August 2009

Section 9703

Initial Incident Objectives for Oil Spills

Overview

The following information is provided as guidance by the Northwest Area Committee (NWAC) to assist as appropriate the Incident Commander (IC)/Unified Command (UC) when determining Objectives, Priorities, Critical Information Requirements, and Tasks (Tasks that are tracked on the Incident Command System [ICS] 233 Open Action Tracker).

The information is not prescriptive, and it is not the intention of the NWAC that all the suggested example items be utilized, unless warranted by incident specifics.

It is crucial for the IC/UC to quickly determine a set of clear, high level objectives during any incident or exercise and then convey those to Operations, who will then be able to expeditiously develop appropriate Strategies and Tactics from those Command Objectives.

Incident Objectives: Below is an example ICS 202 form which contains high-level objectives relative to incidents envisioned under the Northwest Area Contingency Plan. This list is not exhaustive; however, it does provide some Incident Objectives that would most likely be appropriate when responding to spills of oil. If the incident is more complex, it is expected by the NWAC committee that the IC/UC will expeditiously set additional Incident Objectives most appropriate to the incident or exercise. The NWAC recommends that the IC/UC refer to Chapter 4 of the 2014 United States Coast Guard (USCG) Incident Management Handbook for choosing the most appropriate Incident Objectives for each specific incident/exercise.

The NWAC also recommends that when IC/UC is preparing Incident Objectives, Priorities, and Critical Information Requirements that a large paper copy of the ICS 233 Open Action Tracker is posted for the IC/UC to add and assign tasks that will come up in IC/UC meetings.

1. Incident Name	2. Operational Period (Date/Time) From: To:	INCIDENT OBJECTIVES ICS 202-OS
3. Overall Incident Objective(s) **1. Ensure the Safety of Citizens and Response Personnel** **2. Control the Source of the Spill** **3. Manage Response Effort in a Coordinated Manner** **4. Protect Environmentally and Culturally Sensitive Areas** **5. Contain & Recover Spilled Material** **6. Recover & Rehabilitate Injured Wildlife** **7. Clean Up Product from Impacted Areas** **8. Keep the Public and Stakeholders Informed of Response Activities** **9. Minimize Economic Impacts** **10. Terminate the Response (Demobilization)**		

4. Objectives for specified Operational Period (Example)

Ensure the Safety of Citizens and Response Personnel
Protect Environmentally and Culturally Sensitive Areas
Contain & Recover Spilled Material
Keep the Public and Stakeholders Informed of Response Activities

4. Objectives for specified Operational Period (Continued)
5. Safety Message for Specified Operational Period **Approved Site Safety Plan Located at:**
6. Weather **See Attached Weather Sheet**
7. Tides/Currents **See Attached Tide/Current Data**
8. Time of Sunrise **Time of Sunset**
9. Attachments (mark "X" if attached) ☐ **Organization List (ICS 203-OS)** ☐ **Medical Plan (ICS 206-OS)** ☐ **Resource at Risk Summary (ICS 232-OS)** ☐ **Assignment List (ICS 204-OS)** ☐ **Incident Map(s)** ☐ _____ ☐ **Communications List (ICS 205-OS)** ☐ **Traffic Plan** ☐
10. Prepared by: (Planning Section Chief) **Date/Time**
INCIDENT OBJECTIVES June 2000 ICS 202-OS

Key Decisions/Procedures, Priorities and Limitations/Constraints

Another important function of the IC/UC is to identify and document IC/UC strategic direction and guidance through Key Decisions/Procedures, Priorities and Limitations/Constraints for use during the next operational period. This information is captured in an ICS202A form, an example of which is shown below. While these are all critical elements for the IC/UC to identify and capture, the Key Decisions/Procedures, Priorities and Limitations/Constraints are not Incident Objectives and should not be treated as such. The NWAC recommends the IC/UC refer to Chapter 4 of the 2014 USCG Incident Management Handbook for guidance on these key factors.

1. Incident Name	2. Operational Period (Date/Time) From: To:	Command Direction ICS 202A-CG
3. Key Decisions and Procedures:		
4. Priorities:		
5. Limitations and Constraints:		
6. Prepared by: (Planning Section Chief)	Date/Time	

Command Direction ICS 202A-CG (rev 03/2013)

Additional TASKS/WORK ASSIGNMENTS

In addition to operational and management objectives, the IC/UC will assign tasking not captured in the Incident Action Plan. These functional tasks and open actions are typically captured on an Incident Open Action Tracker (ICS 233-CG) during IC/UC meetings. Some examples of common tasks/work assignments can be found in Chapter 4 of the 2014 USCG Incident Management Handbook.

This form is used by the IC/UC to track time sensitive tasks/actions assigned to Incident Management Team personnel. This form is duplicated and provided to Command and General Staff members, giving them the open tasks/actions needing to be completed and a means to track what has been assigned.

The Planning Section Chief reviews and updates the ICS 233 Open Action Tracker at the following meetings: Command and General Staff, Tactics, and Planning. Below is an example ICS 233 form.

1. Incident Name					INCIDENT OPEN ACTION TRACKER ICS 233-CG		
2. No.	3. Item	4. For/POC	5. POC Briefed	6. Start Date	7. Status	8. Target Date	9. Actual Date
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
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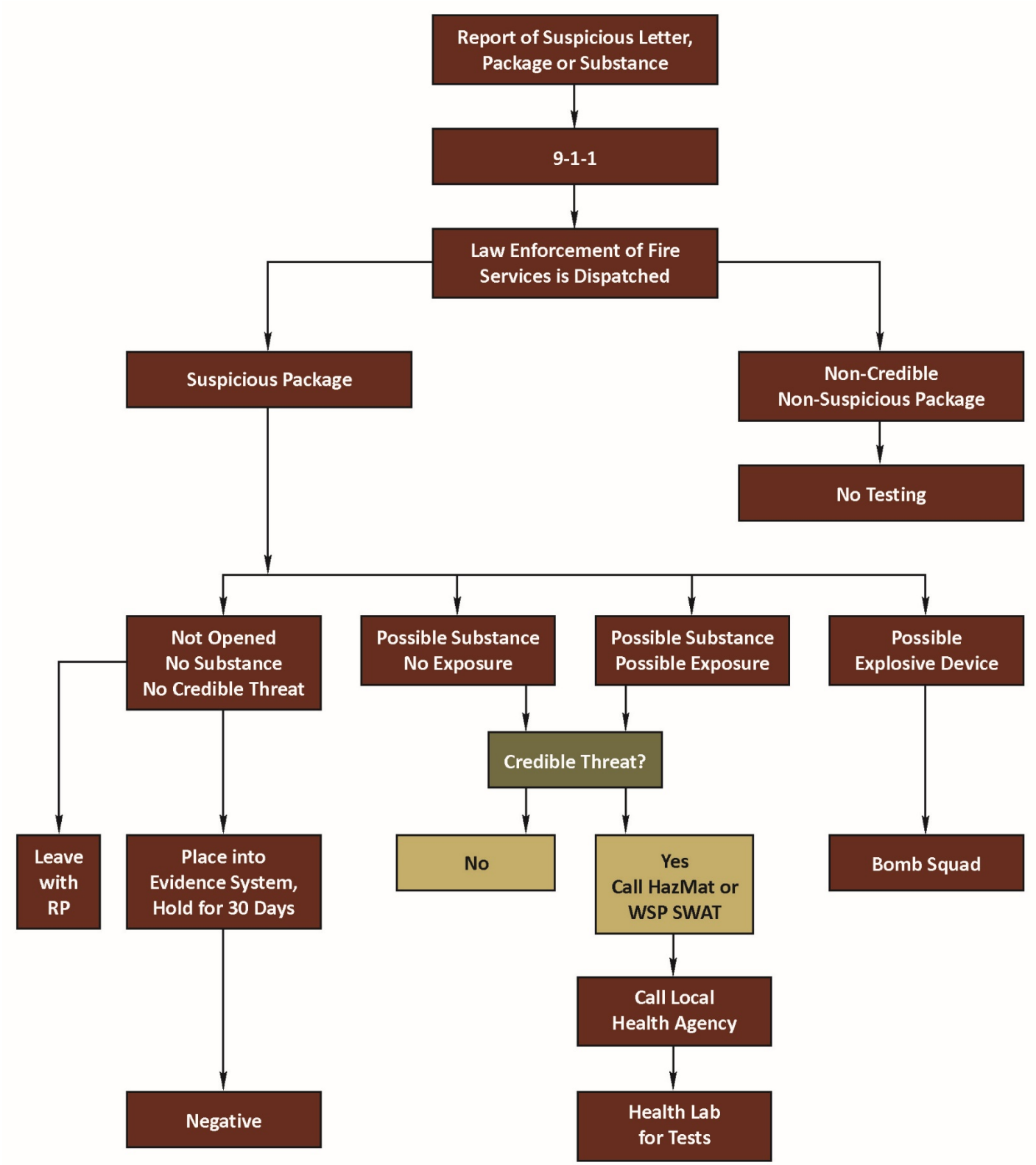
33							
34							
35							

INCIDENT OPEN ACTION TRACKER Page 1 of 1 ICS 233-CG (Rev 07/2012)

Section 9710

Suspicious Package/Envelope Decision Matrix

Suspicious Envelope, Package Decision Making Matrix