Annex D

Northwest Wildlife Response Plan

Section Page

FIGURES AND TABLES ..... **V**

APPENDICES ..... **V**

ACRONYMS ..... **VII**

1 PREFACE **1**

1.1 Summary of Plan History, Revisions, and Process for Future Updates to the Wildlife Response Plan 1

2 INTRODUCTION **2**

2.1 Oil spill management – Incident Command System 2

2.2 ACTIVATING THE WILDLIFE BRANCH 2

2.2.1 Washington State Wildlife Branch Activation 3

2.2.2 Oregon State Wildlife Branch Activation 4

2.2.3 Idaho State Wildlife Branch Activation 4

2.3 WILDLIFE RESPONSE ACTIONS 4

3 STATUTORY BASIS FOR WILDLIFE BRANCH OPERATIONS **6**

3.1 Federal and State Law Mandates 6

3.1.1 Washington Regulatory Framework 7

3.1.2 Oregon Regulatory Framework 7

3.1.3 Idaho Regulatory Framework 7

3.2 Natural Resource Trustees for Wildlife 8

3.3 Interagency Agreements Regarding Joint Response Activities 9

3.4 Compliance with Federal and State Wildlife Regulations 9

3.4.1 Migratory Bird Treaty Act 10

3.4.2 Marine Mammal Protection Act 10

3.4.3 Federal Endangered Species Act 11

3.4.4 State of Washington Wildlife Regulations 11

3.4.5 State of Oregon Wildlife Regulations 13

3.4.6 State of Idaho Wildlife Regulations 13

3.5 How This Plan Relates to Other Plans 14

4 WILDLIFE BRANCH RESPONSIBILITIES AND ORGANIZATION **14**

4.1 WILDLIFE BRANCH STAFFING 14

4.1.1 Wildlife Response Contractors - Equipment and Personnel Capabilities 16

4.1.2 Wildlife Branch Cetaceans and Otters Management 16

4.1.3 Volunteers 16

4.2 Personnel Safety 17

4.3 Interaction with Local Agencies 18

5 WILDLIFE BRANCH ROLES AND RESPONSIBILITIES 19

5.1 Wildlife Branch Director 19
5.2 Deputy Wildlife Branch Director 20
5.3 Wildlife Safety Specialist 20
5.4 Wildlife Technical Specialist/Liaison 20
5.5 Reconnaissance Group 20
5.5.1 Reconnaissance: Wildlife Hotline 21
5.5.2 Reconnaissance: Aerial Team 22
5.5.3 Reconnaissance Boat Team 22
5.5.4 Reconnaissance Shoreline Team 23
5.5.5 Reconnaissance: Whale Monitoring Team 23
5.6 Deterrence Group 24
5.6.1 Deterrence General Team 25
5.6.2 Deterrence: Southern Resident Killer Whale Team 25
5.7 Recovery Group 26
5.7.1 Recovery General Team 26
5.7.2 Recovery Marine Mammals and Sea Turtle Teams 27
5.8 Field Stabilization Group 28
5.9 Recovery Group and/or Field Stabilization Group Transportation Unit 28
5.10 Care and Processing Group 29
5.10.1 Care and Processing Care Team 29
5.10.2 Care and Processing: Processing Team 30
5.10.3 Care and Processing Morgue Team 31

6 INTERACTION WITH OTHER INCIDENT COMMAND SYSTEM/UNIFIED COMMAND SECTIONS 32

6.1 Coordination with Situation Unit 33
6.2 Coordination with Environmental Unit 33
6.3 Coordination with the Liaison Officer and the Joint Information Center 33
6.4 Coordination with Natural Resource Damage Assessment 33

7 DEMOBILIZING WILDLIFE BRANCH OPERATIONS 34

APPENDIX A WILDLIFE BRANCH RESOURCES 35

APPENDIX A.1 KEY CONTACT INFORMATION 36
APPENDIX A.2 INTERNET RESOURCES 38
APPENDIX A.3 PRIMARY CARE AND PROCESSING CENTER REQUIREMENTS 40
APPENDIX A.4 REGIONAL MARINE MAMMAL OIL SPILL RESOURCES 50
APPENDIX A.5 REGIONAL WILDLIFE DETERRENCE RESOURCES 51

APPENDIX B WILDLIFE BRANCH POSITION DESCRIPTIONS AND UNIT GUIDANCE 52

APPENDIX B.1 WILDLIFE BRANCH DIRECTOR 53
APPENDIX B.2 WILDLIFE TECHNICAL SPECIALIST/LIAISON 55
APPENDIX B.3 RECONNAISANNCE GROUP 58
APPENDIX B.4 Deterrence Group 60
APPENDIX B.5 Recovery Group 61
APPENDIX B.6 Field Stabilization Group 64
APPENDIX B.7 Transportation Unit 65
APPENDIX B.8 CARE AND PROCESSING GROUP 66

APPENDIX C SPECIAL PROTOCOLS AND PLANS 69

APPENDIX C.1 Guidelines for Oil Spill Response Involving Marine Mammals 70
APPENDIX C.2 Oil Spill Emergency Response Killer Whale – Deterrence Implementation Plan 82
APPENDIX C.3 Guidelines for Spill Response Involving Snowy Plovers in Oregon and Washington 101
APPENDIX C.4 Guidelines for Preventing the Introduction of Aquatic Invasive Species 107
APPENDIX C.5 Implementing Response Countermeasures (Offshore and Shoreline Oil Recovery and Applied Response Technologies) 108
APPENDIX C.6 Reducing Disturbance-Related Impacts to Wildlife and Other Resources During Spill Response 109
APPENDIX C.7 Pre-emptive Capture of Wildlife 110

APPENDIX D WILDLIFE BRANCH INITIAL TASKING 111

APPENDIX D.1 Initial Wildlife Branch Objectives 112
APPENDIX D.2 Wildlife Branch General Tasks 113
APPENDIX D.3 Work Analysis Matrix 115
APPENDIX D.4 Initial Wildlife Plan 118

APPENDIX E SAMPLE WILDLIFE RESPONE FORMS 121

APPENDIX E.1 Wildlife Specific Safety Plan Template 122
APPENDIX E.2 Wildlife Reconnaissance (Recon) 122
APPENDIX E.3 Wildlife Collection and Documentation of Carcasses 122
APPENDIX E.4 Carcass Collection Job Aid for Small Carcasses 122
APPENDIX E.5 Transport Log for Carcasses Form 122
APPENDIX E.6 Live Animal Capture Form 122
APPENDIX E.7 Capture Log for Live Animals Form 123
APPENDIX E.8 Transport Log for Live Animals Form 123
APPENDIX E.9 Wildlife Search Effort Log 123
APPENDIX E.10 Wildlife Branch Daily Report Form 123

APPENDIX E.11 Care and Processing Group Information Form 123
APPENDIX E.12 Carcass Data Log 123
APPENDIX E.13 Oiled Animal Data Log 124
APPENDIX E.14 Wildlife Branch Initial Task Summary 125
APPENDIX E.15 Wildlife Branch Summary Information for PIO / JIC 129

GLOSSARY OF TERMS IN THE CONTEXT OF OILED WILDLIFE 138

FIGURES AND TABLES

Figure 9310-1 Wildlife Branch position within the Unified Command/ICS Organization

Figure 9310-2 Wildlife Branch Organization Chart

Table 9310-1 Wildlife Branch Management Recommended Staffing Table

APPENDICES

APPENDIX A WILDLIFE BRANCH RESOURCES

A.1 Key Contact Information

A.2 Internet Resources

A.3 Primary Care and Processing Center and Potential Deployment Locations

A.4 Marine Mammal Resources

A.5Regional Wildlife Deterrence Resources

APPENDIX B WILDLIFE BRANCH JOB AIDS

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 C SPECIAL PROTOCOLS & PLANS

C.1 Guidelines for Spill Response Involving Marine Mammals

C.2 Southern Resident Killer Whale Deterrence Implementation Plan

C.3 Guidelines for Spill Response Involving Snowy Plovers

Figures and Appendices (cont.)

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 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 E SAMPLE WILDLIFE RESPONSE 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 Log

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 Wildlife Branch Summary for PIO/JIC

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

Acronyms (cont.)

OPA-90	Oil Pollution Act of 1990
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

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.

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.

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.

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.

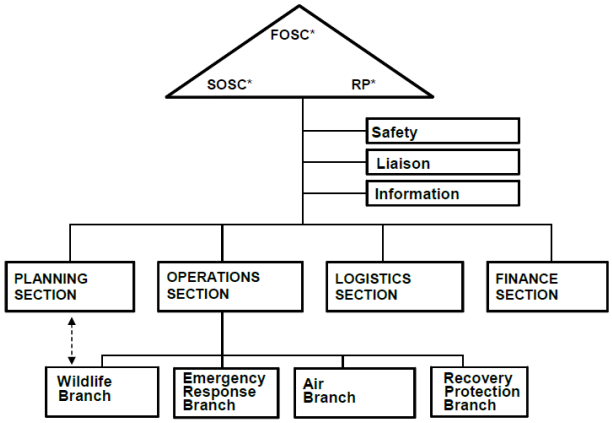


Figure 1. Wildlife Branch position within the UC/ICS Organization. The Wildlife Branch interacts closely with the Environmental and Situation Units within the Planning Section.

* Acronyms: FOSC = Federal On-Scene Coordinator (USCG or US EPA), SOSC = State On-Scene Coordinator, RP = Responsible Party

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.

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).

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.

2.2.2 Oregon State Wildlife Branch Activation

Coordinator receives and triages incident notices and responds based on the specified scenario.

2.2.3 Idaho State Wildlife Branch Activation

Coordinator receives and triages incident notices and responds based on the specified scenario.

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 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 permitted 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.

3 STATUTORY BASIS FOR WILDLIFE BRANCH OPERATIONS

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.

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.

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.

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.

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.

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.

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.

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.

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.

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 the ESA Compliance Guide).

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.

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. Per WAC 220-450-070, WDFW Wildlife Rehabilitation Permit (with an oiled-wildlife endorsement) authorizes recovery, temporary possession, transport, and rehabilitation of oiled threatened and endangered bird species. These permitted wildlife rehabilitators will run the operations as outlined in 5.8 - 5.10.2. 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

Non-native wildlife can be rehabilitated but there are limitations to where some non-native species may be released (WAC 220-450-110). Typically, wildlife-related spill response actions only focus on native wildlife. As a best practice, invasive, 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.
- Animals are not released back into the environment unless specifically directed by the UC with concurrence from state and federal trustee agencies.
- 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 wildlife care are specifically authorized by the UC.

3.4.5 State of Oregon Wildlife Regulations

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.

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).

4 WILDLIFE BRANCH RESPONSIBILITIES AND ORGANIZATION

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.

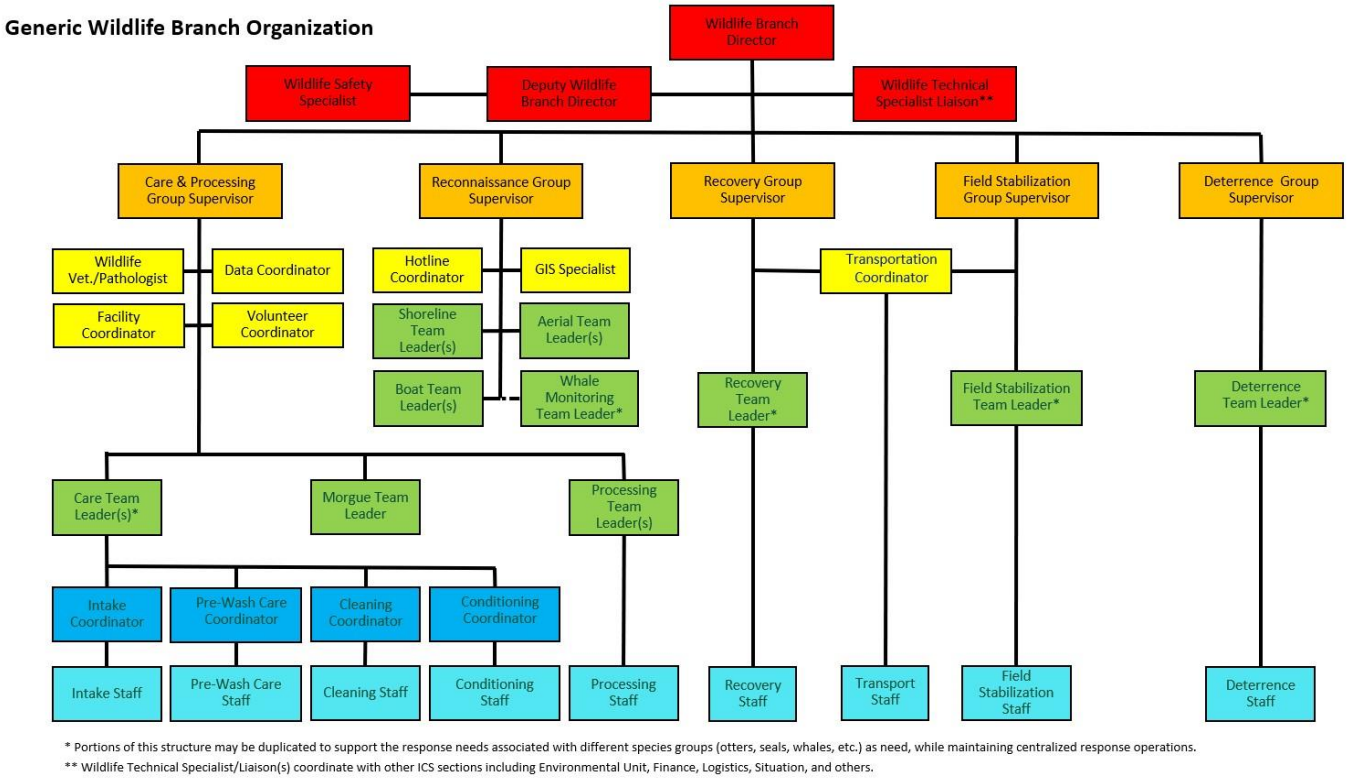


Figure 2. General Wildlife Branch Organizational Chart. Note that additional teams may be established within each Group if necessary.

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.

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.

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.

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 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

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.

5 Wildlife Branch Roles and Responsibilities

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.

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.

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.

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.

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.

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.

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.

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.

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.

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/).

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.

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.

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.

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.

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.

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.

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.

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.

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.

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/).

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.

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.

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.

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.

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 ESA Compliance Guide.

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.

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.

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.

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): (855) 266-7243 and ID code # 3605348233

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/

WA Permitted Rehabilitators with Oiled-Wildlife Rehabilitation Endorsement

- Focus Wildlife, 800-578-3048 (24/7), https://www.focuswildlife.org/
- PAWS Wildlife Rehabilitation Center, 425-412-4040, https://www.paws.org/

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 Regional Contingency Plan:
https://www.rrt10nwac.com/LinkPage?site=nwac&page=plans2

Region 10 Tools and Resources: https://www.rrt10nwac.com/ResponseTools

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

Oregon	
County	**Possible deployment location**
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.
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/

Oregon	
County	**Possible deployment location**
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.
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.

Oregon	
County	**Possible deployment location**
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.
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

Oregon	
County	**Possible deployment location**
Pierce	Port of Tacoma One East Sitcum Plaza Tacoma, WA 98421 Tel: 253-383-5841 LL: 47.2658, -122.4122 Web: http://portoftacoma.com/
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.

Oregon	
County	**Possible deployment location**
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
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

Oregon	
County	**Possible deployment location**
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:

- 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.
- 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.
- Maintain communication and coordination with various federal and/or provincial agencies if they are not present in the Command Center:
- Within the Command System serve as the primary liaison between the Wildlife Branch and:
    - 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.
    - Situation Unit (if any questions on the ICS 209 or other situations arise).
    - Logistics/Resources (address logistical or procurement issues).

- JIC, general wildlife background documents, POC for JIC).
- Command Staff
  - Liaison Officer (First Nations, stakeholder coordination, etc.).
  - Safety Officer (ensure Branch has a safety plan, facilitate safety discussions, etc.).

- Make sure all information from the above groups is circulated to the staff in the Wildlife Branch.
- Maintain Individual log (ICS 214a)

APPENDIX B.3 RECONNAISANNCE GROUP

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 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
Focus Wildlife	**Anacortes, WA**	**800-578-3048**	**Dr. Michael Ziccardi**
PAWS Wildlife Rehabilitation Center	**Snohomish, WA**	**425-412-4040**	**Jennifer Convy**

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 or permitted wildlife rehabilitator 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).

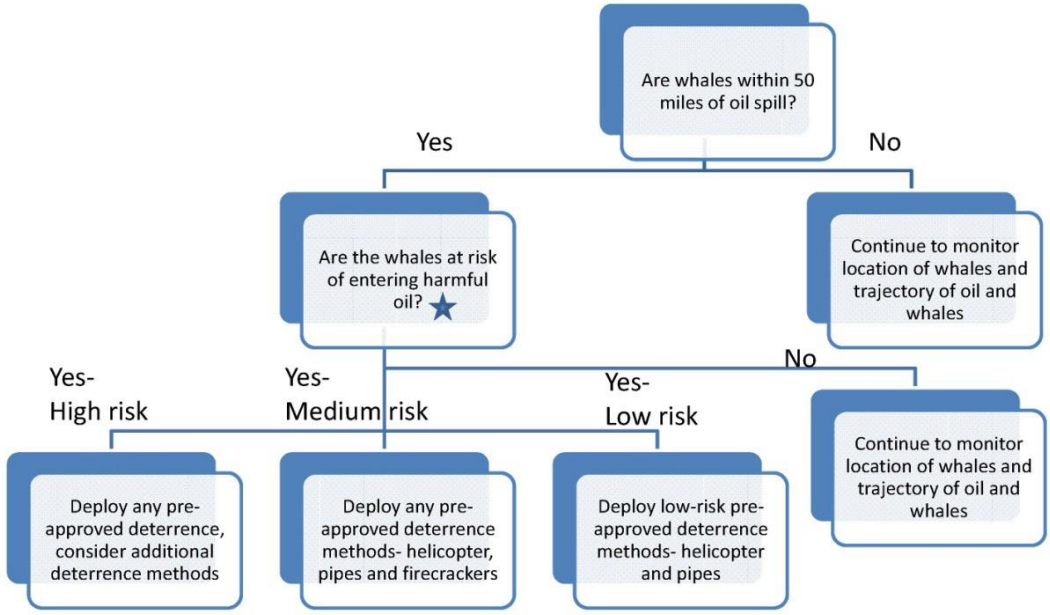


Figure 1. Decision Tree for immediate deployment of pre -approve d hazing technique s

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 NWRCP 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.

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)
		B2b. Use marine mammal stabilization unit(s) w/ 2+ wildlife personnel each to prepare 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.

<table>
<tr><td colspan="3">Incident Objective (typical): Recover and rehabilitate impacted wildlife.</td><td>WORK ANALYSIS MATRIX
ICS 234-CG</td></tr>
<tr><td colspan="2">1. Incident Name</td><td colspan="2">2. Operational Period
From: To:</td></tr>
<tr><td>3. Operations Section – Wildlife Branch Objectives</td><td>4. Optional Strategies (How)</td><td colspan="2">5. Tactics/Work Assignments (Who, What, Where, When)</td></tr>
<tr><td></td><td></td><td colspan="2">D1d. Use helicopter w/ flight crew to conduct aerial deterrence of whales.</td></tr>
<tr><td colspan="3">6. Prepared by: (Operations Section Chief)</td><td>7. Date/Time:</td></tr>
</table>

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 NWRCP 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 NWRCP 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.