

# Coral Restoration After the Grounding of M/V Aubi



Michael Nemeth, NOAA Restoration Center

Collaborators:

Puerto Rico DRNA, US Coast Guard

Caribbean Reef Life Conservation, VIDAS

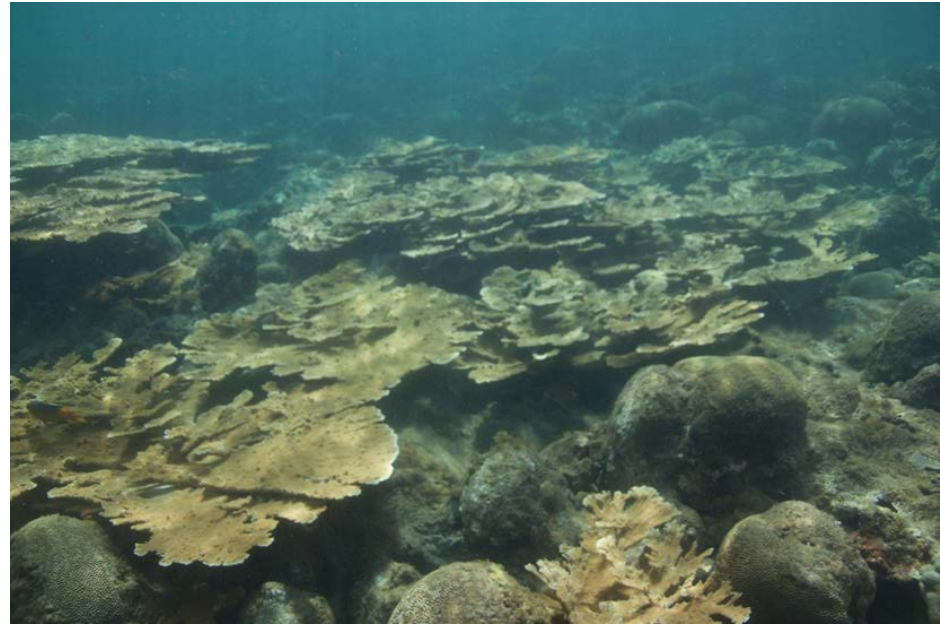
Sea Ventures Marine Response Unit



The M/V Aubi, a 49' powered catamaran, ran aground on a coral reef on 14 May 2015 near La Cueva del Indio, Arecibo, Puerto Rico within a newly established Marine Reserve.







- Well developed fringing reef
- Composed of large brain and boulder corals
- Significant stands and large colonies of the ESA threatened Elkhorn coral

- Thanks to response by Coast Guard an oil spill was prevented
- However the grounding resulted in significant impacts to coral reef resources
  - Flattening hundreds of square meters of reef structure in 0.5 -1.5 m depth
  - Detaching and fragmenting thousands of corals
  - Created two large berms of loose corals and rubble







- Vessel impacted  $\sim 366 \text{ m}^2$  of coral reef
- Approximately 7,000 corals detached, fragmented, pulverized
- Estimate of number of corals quantified from adjacent unimpacted reef





Immediately following the removal of the vessel, over 20 people worked 2 days to cache corals and remove as much rubble as possible before the swells increased



Caribbean Reef Life Conservation



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Caribbean Reef Life Conservation



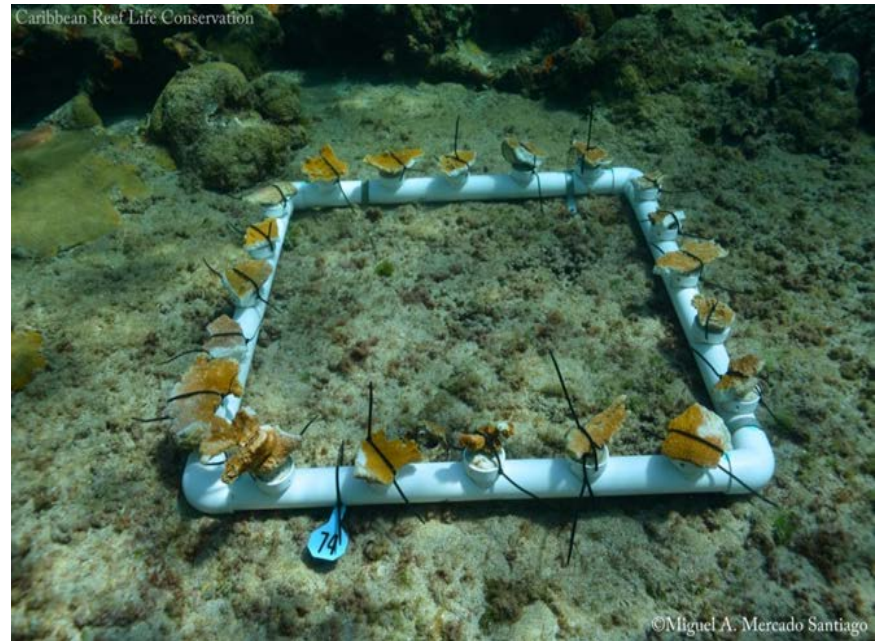
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- NOAA Restoration Center mobilized a restoration crew led by Sea Ventures
- Utilized an emergency response fund set up with support from various NOAA programs
- Approximately 1,500 corals, including 100 fragments of Elkhorn coral, were reattached
- Additional restoration needed but funding was not available









- The large amount of rubble generated by this grounding posed an immediate risk in damaging healthy corals when mobilized by swells
- 10m<sup>3</sup> of rubble were removed from the site during restoration





# NOAA IN THE CARIBBEAN

CONNECTING NOAA & PARTNERS ACROSS THE CARIBBEAN



## NOAA and community respond to major ship grounding

### Successful collaboration to rescue corals

The M/V Aubi, a 49' powered catamaran, ran aground on a coral reef on 14 May 2015 near La Cueva del Indio, Arecibo, Puerto Rico, within a newly established Marine Reserve. The hulls of the vessel contained integrated fuel tanks, and the USCG (in coordination with NOAA's National Ocean Service Emergency Response Division & Assessment and Restoration Division and NOAA NMFS Southeast Regional Office & Restoration Center) ordered the fuel removed prior to moving the vessel to minimize the risk of an oil spill.



MV Aubi aground on *Acropora* reefs near Arecibo

While an oil spill was prevented, the grounding resulted in significant impacts to coral reef resources, flattening almost 400 m<sup>2</sup> of reef and creating two large berms of coral and rubble. The rubble posed an immediate risk since it buried many live corals and, when mobilized by swells, would impact areas containing healthy colonies of ESA listed elkhorn coral (*Acropora palmata*) and other species. "The damage at this site is on par with damage seen at some tanker grounding sites and certainly the worst coral damage from a recreational vessel seen in many years" said Tom Moore of NOAA Restoration Center. Immediately following the removal of the vessel, 20 people worked together for two days to collect detached live corals and remove rubble before the swells increased. The group included personnel from NOAA Restoration Center, Puerto Rico's Department of Natural and Environmental Resources, Sea Ventures Inc.,

NGO volunteers from Caribbean Reef Life Conservation, VIDAs (Vegabajeños Impulsando Desarrollo Ambiental Sustentable) and Yo Amo el Tinglar (I Love Turtles), and members of the local community. Using buckets and their hands, the team filled kayaks with corals and rubble to transport them offshore into deeper water. Once the seas improved, the Restoration Center mobilized a restoration crew led by Sea Ventures using an emergency response fund set up with support from the NOAA NMFS Southeast Regional Office, Coral Reef Conservation Program, and Assessment and Restoration Division. Approximately 1,500 corals, including 100 fragments of *Acropora palmata*, were reattached and 10 m<sup>3</sup> of material were removed from the site during the restoration. Thanks to the efforts of everyone involved, impacts to coral resources were minimized after the grounding. ■

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# Questions?

