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Palmyra Atoll

Removing Shipwrecks, Restoring Coral Reefs



Three shipwrecks are removed from the coral reefs at Palmyra Atoll and nearby Kingman Reef.

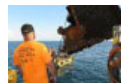
Photos



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Barge & crane

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Wreck removal

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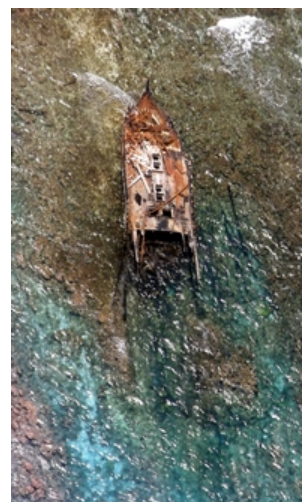
Last January, a barge carrying nearly a million pounds of debris arrived at Kalaeloa Harbor in West O‘ahu. Consisting of large scraps of rusted iron, fiberglass and other materials, the debris represented the remains of three shipwrecked vessels removed by the [U.S. Fish and Wildlife Service](#) at the Palmyra Atoll and Kingman Reef Wildlife Refuges, 1,000 miles south of Hawai‘i.

Susan White, the USFWS’s project leader for the removal effort, said the debris was “the equivalent of 67 large elephants or 31 city buses” and was removed to protect some of the world’s most pristine coral reefs. The operation took 79 days and cost \$5.5 million to complete.

“Iron leaching from the vessels was fueling the growth of green algae and hundreds of acres of corallimorph – an invasive species that smothers coral and destroys related ecosystems,” White said. “Removing the nutrient sources for these invasive organisms was the first step in returning the reefs to health.”

The three shipwrecks included a 121-foot Taiwanese fishing vessel and an 85-foot pontoon barge wreck, both at Palmyra Atoll, and a third ship of unknown origin on Kingman Reef. To remove them, the USFWS contracted West Coast marine salvage experts and collaborated with federal partner agencies and The Nature Conservancy, which owns the largest island at Palmyra and operates a research station there in conjunction with the USFWS and the [Palmyra Atoll Research Consortium](#).

A 16-person project team utilized a full range of tools and techniques to dispose of the vessels. At Palmyra, a 40 x 20-foot floating barge served as the work platform for commercial divers removing the largest and most



**“THE USFWS
PULLED THIS OFF
WITHOUT INJURY TO**

complex wreck, the **618,350-pound** Taiwanese longline fishing vessel known as the Hui Feng No. 1, which ran aground near Palmyra in 1991. A corallimorph outbreak covered 740 acres of coral habitat surrounding the vessel.

A REMARKABLE ACCOMPLISHMENT

According to the USFWS, five divers spent 880 hours cutting up the 121-foot ship with exothermic torches, burning rods, underwater chainsaws and jackhammers. In addition, they safely removed 605 gallons of fuel products discovered in tanks on board. The crew carefully rigged and hoisted each piece—some weighing in excess of 30,000 pounds—and skillfully loaded them onto awaiting shallow-draft transport vessels. The pieces were then carried through shallow coral heads to Palmyra’s deep water lagoon, where a 150-foot crane loaded them onto the barge for transport.

A second shipwreck was a pontoon barge grounded at Palmyra Atoll since the 1950s. Known as “Rust Island,” it was used during World War II to dredge the shipping channel into the atoll’s lagoons. Breaking loose from its moorings, it settled on the reef on the atoll’s western terrace, where it had disintegrated over time into small shale-like pieces of rust. To remove the vessel, team members painstakingly shoveled 277,800 pounds of debris into buckets and totes.

At Kingman, team members manually retrieved 44,000 pounds of iron, teak and fiberglass from an unmarked vessel grounded on the reef since 2007. Working in dangerous surf, the team used floats to secure heavy iron machinery and carry it off of the reef. The next step in the reef restoration effort is to halt the progression of corallimorph and green algae at the wreck sites. “With the shipwrecks gone, these otherwise very healthy reefs will have the opportunity to recover from the onslaught of added nutrients and the explosion of invasive corallimorph and algae,” White said.

Suzanne Case, The Nature Conservancy's executive director for the Hawai'i and Palmyra programs, praised the U.S. Fish and Wildlife Service for their oversight of the project. “Removing these shipwrecks was a complex and dangerous task,” she said. “The Fish and Wildlife Service pulled it off without injury to anyone involved and without damaging the fragile reefs ecosystems they are working to protect. It’s a remarkable accomplishment. ”

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Suzanne Case

The Conservancy’s Palmyra
and Hawai’i Executive
Director

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