LARGE WHALE ENTANGLEMENT RESPONSE IN HAWAIʻI

Two year old humpback whale entangled in line. Photo: K. Grant/ NOAA MMHSRP (permit no. 24359)

THREAT

Marine mammal entanglement, or bycatch, is a global problem that every year results in the death of hundreds of thousands of whales, dolphins, porpoises, and seals. Entanglement may result in starvation or drowning due to restricted movement, physical trauma, and systemic infections; and contribute to other threats such as ship strikes. For smaller marine mammals in Hawaiʻi, like monk seals and dolphins, death is typically immediate due to drowning. However, large whales, including humpback whales, can typically tow and lift gear over a longer period and are generally not at immediate risk of drowning.

ACCOMPLISHMENTS (2002 – Present)

- > 200 whales reported and confirmed entangled
- > 150 response efforts mounted
- > 44 whales known freed (3 of 4 when animal located and engaged)
- > 15,500 feet of gear removed; > 2,300 from one animal
- > 90 sets of gear identified

Authorized responders cut a mother humpback whale free of entangling gear. Photo: Marc Lammers/ NOAA MMHSRP (permit no.18786)

DISENTANGLEMENT

Cutting free a 45-foot, 40-ton, free-swimming animal is not an easy task, and can be dangerous. Response teams are experienced, highly trained, and well-equipped. To free a whale safely, a boat-based technique called “kegging” is typically used to gain access to the animal and the entanglement. Historically, ‘kegging’ was used during whaling and involved attaching barrels or kegs to whales by harpooning them. The extra drag and buoyancy of the kegs would slow the whales and keep them near the surface. For disentanglement purposes, rescuers attach large buoys to the entangling gear. Once the whale is approachable, rescuers safely assess the animal and entanglement, and use specialized knives on the end of long poles to attempt to free them of all entangling gear.

View from suction-cup tag camera on the back of an entangled whale Photo: NOAA MMHSRP (permit no. 24359)

AUTHORIZATION

Due to risks to the animals and humans, response efforts are permitted, authorized, and overseen by NOAA Fisheries' Marine Mammal Health and Stranding Response Program (permit no. 24359).

COMMUNITY-BASED NETWORK

The Hawaiian Islands Entanglement Response Network (Network) is a community-based network, coordinated by Hawaiian Islands Humpback Whale National Marine Sanctuary. Network partners include NOAA Fisheries and their Office of Law Enforcement, Hawai'i Department of Land and Natural Resources, the United States Coast Guard, whale researchers, the tour industry, fishers, and other members of the on-water community. The Network comprises over 400 participants. To learn how to be a large whale entanglement first responder, see QR code below.

INNOVATION

The Network uses satellite and VHF tags attached to entangling gear to track whales until they can be freed, and suction-cup tags to gain additional information on the threat and its impacts. Uncrewed Aerial Systems (UAS; drones) provide safe and less-invasive assessment, and are being assessed as a new tool to actively cut whales free. Underwater cameras on poles and towed by drones provide a more comprehensive assessment.

GOALS

The Network's goals go beyond freeing whales and other marine animals from life-threatening entanglements. They also include maintaining safety, increasing awareness and stewardship, and garnering valuable information that will reduce entanglement threat and its impacts for many more animals in the future. Recovered gear has been identified as marine debris, mooring gear, cable, local fishing gear, and fishing gear set far from Hawai'i. In some cases, gear has been traced over 2,450 nautical miles from Hawai'i back to the Aleutians, Southeast Alaska, and British Columbia, Canada, where we are working with partners to reduce the threat.

Some of our agency partners

Responder attempts to cut an adult humpback whale free. Note orange suction-cup tag attached. Photo: T. Grupenhoff/ NOAA MMHSRP (permit no. 24359)

Online training

To support