

Hawaiian Islands Humpback Whale National Marine Sanctuary

Threat Analysis: Large Whale Entanglements

Management Issue

The humpback whale is iconic and a key living marine resource throughout the waters of the Hawaiian Islands which support a multi-million dollar tourist industry. Entanglement in marine debris and active fishing gear is a major threat to cetaceans. Entanglement can impact humpback whales at population and individual levels. It also impacts humans through various industries and causing public safety concerns. In order to continue managing and conserving this key resource, the Hawaiian Islands Humpback Whale National Marine Sanctuary needs to monitor, quantify, and as appropriate, mitigate the threat of entanglement to humpback whales, and other marine species, throughout the Sanctuary waters as well as beyond where applicable.

Description

The central North Pacific stock of humpback whales feed in Alaskan waters but breed, mate and give birth in Hawaiian waters. While the stock population is recovering, entanglement in debris and gear remains a major anthropogenic threat. Scientists estimate that more than 300,000 whales worldwide fall victim to entanglement each year (Reid *et al.*, 2006). The number is certainly higher as the reported sightings only account for a small fraction of the animals out in the open ocean. Scar studies indicate that the threat is ubiquitous and that for many large whale populations more than half of the population has been recently entangled. Unfortunately, humpback whales are frequently entangled in fishing gear representing unintentional bycatch by the fishing industry. With increasing population numbers of whales, incidents of whale entanglement in fishing gear is likely to increase. The public endears these animals so much that they are willing to risk their lives to free them, which also creates public safety concerns.



Adult humpback whale entangled in marine debris. The animal was freed of all gear through authorized, well planned response. Photo credit: Sanctuary/ NOAA Fisheries MMHSRP (permit #932-1489)

The Sanctuary coordinates a multiagency response effort toward entangled humpback whales and other large whale species in Hawaiian waters under NOAA Fisheries' Marine Mammal Health and Stranding Response Program. The primary goal is not to free every entangled whale, but to gain information from the response efforts towards reducing the threat in the future and maintaining public safety by having trained; well-equipped personnel mount response efforts as opposed to the general, well meaning public.

Questions and Information Needs

- What is the magnitude and impact of entanglement to the central North Pacific stock of humpback whales?
- What is the best and most appropriate level of response towards freeing animals and gaining information while reducing risk for animals and humans?
- What are the best means – methodology and equipment, to gain information on large whale entanglement threat?
- How can entanglement data be interpreted towards reducing entanglement threat for humpback whales in Hawaii, as well as for other species worldwide, while considering human stakeholders (e.g. tour and fishing industry)?
- What are effective mitigating measures, and are these measures without peripheral risks (e.g. pingers), productive, and feasible?

Updated: 9/13/2014

For More Information -- <http://www.sanctuaries.noaa.gov/science/assessment>

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Scientific Approach and Actions

- Development and implementation of tools and equipment to assist in large whale entanglement response.
- Development and implementation of documentation and assessment techniques, equipment and criteria towards assessing impact of entanglement and means to reduce that impact.
- Establish a network of qualified personnel to use tools, carry out procedures and help gain information
- Work with fishing industry and pursue gear investigation towards reducing entanglement threat (i.e. prevention)
- Increase awareness as to increase reporting and maintain safety
- Maintain a database to compile information gained
- Maintain a website as to alert network for response, and share information with partners and network members

Potential Key Partners and Information Sources

NOAA Fisheries' Office of Protected Resources Marine Mammal Health and Stranding Response Program, Protected Resources Division (Alaska and Pacific Islands regions), Pacific Islands Fisheries Science Center, NOAA Office of Law Enforcement; Hawaii Department of Land and Natural Resources, United States Coast Guard, tour industry, researchers, and the fishing industry

Management Support Products

- Acquisition and development of tools for safe and productive large whale entanglement response
- Outreach materials and public awareness for reporting and maintaining appropriate actions
- Database for compiling information gained from reporting and response efforts
- Websites to compile and share appropriate information with partners
- Trainings for appropriate personnel to reduce response risk

Planned Use of Products and Actions

Management would use information gained through safe and authorized response efforts to large whales reported entangled in gear to: free some whales, maintain public safety, and gain information towards reducing the threat of entanglement within Sanctuary waters and beyond. Information gained would be shared with partners worldwide to address a global threat of entanglement.



Sanctuary response team works to free an entangled humpback whale and gain information toward reducing the threat in the future. Photo credit: Sanctuary/ NOAA Fisheries MMHSRP (Permit# 932-1489)

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Program References

HIHWNMS Management Plan

- RM-2 Activity 2A: Monitor threats/impacts to humpback whales
- RM-2 Activity 2B: Maintain a data and information system.

HIHWNMS Condition Report

- What is the status of key species and how is it changing?
- What is the status of health of key species and how is it changing?
- What are the levels of human activities that may influence living resource quality and how are they changing?

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