Case Study: Multi-Faceted Response to an Entangled Humpback Whale in Southeast Alaska, August 23-September 5, 2013

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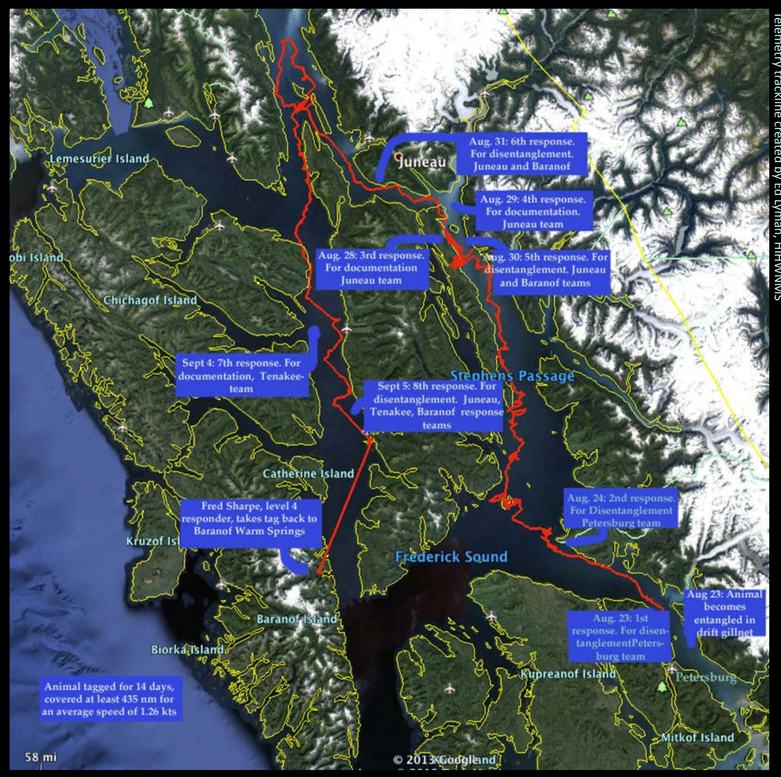
Abstract

On August 23, 2013, an adult humpback whale became entangled in a commercially-fished gillnet in Frederick Sound near Petersburg, AK. A local response team, trained and authorized by NOAA Fisheries, responded immediately and attempted to free the whale while it was still attached to the fishing vessel. Deteriorating weather and safety issues necessitated cutting the whale free of the vessel and standing down. However, the team attached a GPS-based satellite tag package to the entangling gear to monitor and thus re-locate the animal for future efforts. Over the next 14 days, while the whale covered 435 nautical miles, NOAA Fisheries coordinated seven additional, highly coordinated efforts to assess, document and respond to the entanglement. The efforts involved trained and dedicated teams with specialized gear from four communities in Southeast Alaska. To date, this response represents the most complex, long-term large whale entanglement response in the history of the Alaska Stranding Response Network. The effort resulted in an unprecedented level of communication, coordination, gear readiness and exchange, attention to safety, and ultimately, a partial removal of gear from the animal. The response provided valuable hands-on experience and problem-solving opportunities for responders while underscoring the importance of assessment and documentation, collaborative decision-making among experts, timely communication with media and the boating public, and the use of satellite technology to address large whale entanglements. The entanglement was a challenge to assess; representing tightly wrapped leadline and net behind the blowholes, and trailing behind. Due to the whale's continued evasive behavior, additional challenges in making contact with gear, remoteness of location, and declining seasonal weather, the effort was terminated and tag retrieved after eight responses. It is hoped that the whale will shed the remainder of gear on its own. Currently, NOAA Fisheries Alaska Region maintains an ongoing partnership with the Hawaiian Humpback Whale National Marine Sanctuary to train personnel and respond to events in Alaska. Since 1998, the network has received over 130 large whale entanglement reports and mounted more than 80 on-water responses (some reports could not be responded to due to time-of-day, weather, and/or remoteness). These responses totally or partially freed more than 40 large whales from life threatening entanglements.

Photo credit: Robert Marvelle, NOAA Fisheries. NMFS permit 132-1905.



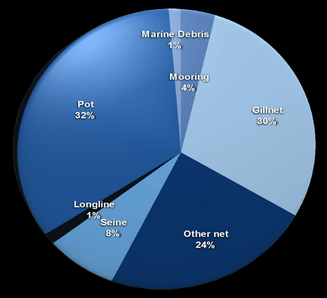
Telemetry trackline created by Ed Lyman, HIHWNMS

Challenges

- Continuous evasive whale behavior.
- Water clarity low due to glacially-fed water. Prevented assessment via underwater photography during initial response to document entanglement.
- Lack of consistent response inflatable. Numerous malfunctions with several inflatables which inhibited response (leakage, wrong size, lack of engine).

Photo credit: Kaili Jackson, NOAA Fisheries. NMFS permit 132-1905.

Image from early documentation mission. Here one can see the difficulty in making an accurate assessment when responding to an entanglement in areas which lack water clarity. This is often the case in Southeast and Southcentral Alaska where glacial inputs cause turbidity.



Percentage of known gear types removed from, or documented on, entangled whales in Alaska between 1990 and 2013. Chart courtesy of Ed Lyman, HIHWNMS.

Accomplishments

- Protocols were followed and no responders were injured during the response
- Telemetry buoy was added during initial response allowing follow up attempts
- Good team work from Southeast AK: moving gear from cache to cache, "whale passing" and working together
- Clear communication between NMFS and responders
- Valuable hands on experience
- Two teams were able to execute the use of the contour cameras for the first time
- Exposure to how to handle a gillnet entanglement
- Good flow with NMFS public affairs to get timely and accurate information to the public
- Teams knew when to stand down
- Excellent decision-making process by seasoned and level-headed teams
- Teams remained patient and committed to appropriate response for a long-term (14 day) and complex response effort

Photo credit: John Moran, NOAA Fisheries. NMFS permit 132-1905.

Photo credit: Robert Marvelle, NOAA Fisheries. NMFS permit 132-1905.

Photo credit: Gordon Chew, CCC. NMFS permit 132-1905.

Underwater visual of tailstock. Whale never sighted diving or using its flukes. Discussion among experts across country as to whether animal may have suffered from pre-existing injury which compromised flukes.

Sketch of the entanglement configuration. Courtesy of Ed Lyman, HIHWNMS.

Photo credit: Steve Lewis, CCC. NMFS permit 132-1905.

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Photo credit: Robert Marvelle, NOAA Fisheries. NMFS permit 132-1905.

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Lessons Learned

- Collect ID photos during initial assessment because there may not be another chance
- Importance of assessment and documentation
- Need backup approach vessels
- Need reliable inflatables to augment caches throughout Southeast AK
- Need for additional tools (cutting grapple, knives, lighter poles for other caches)
- Need equipment to specifically address leadline

Future Goals and Needs

- Improved quality of reporting and efforts to validate reports
- Gear investigation to assign accurately to fishery
- Development of a gear guide to ID nature of entanglement
- Enhanced capacity to respond (resources, training, coordination)
- Dedicated stand-by vessels to monitor entangled animals until a trained response team can be mobilized
- Increased public awareness and outreach
- Post-release monitoring
- Overall emphasis on accurate information-gathering for *prevention* rather than response (proactive rather than reactive approach)

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