

**2013-2014 Hawai'i Large Whale Entanglements
and Response Efforts
around the Main Hawaiian Islands**

Season-end Report



NOAA MMHSRP (permit# 932-1905)

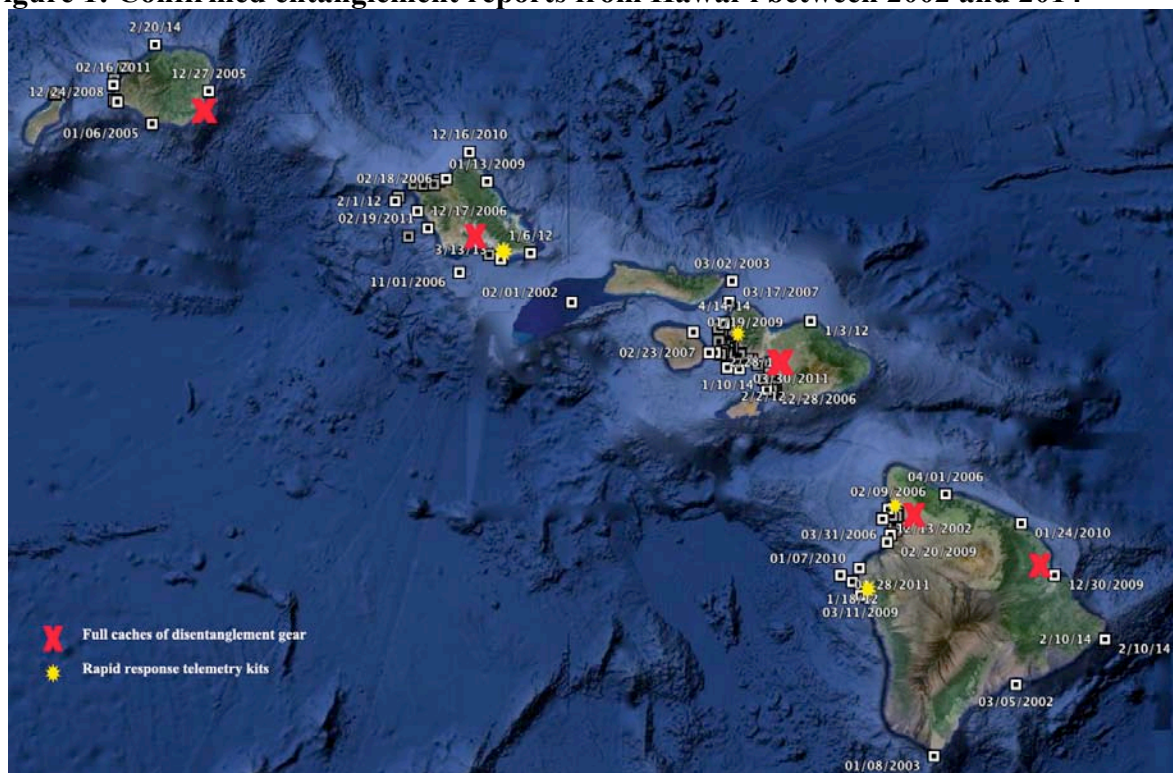
**Compiled by:
Ed Lyman
Hawaiian Islands Humpback Whale National Marine Sanctuary
April 30, 2014**

Background:

The Hawaiian Islands Humpback Whale National Marine Sanctuary (Sanctuary) receives, and when appropriate, responds to, reports of humpback whales, and other marine animals in distress. The Sanctuary works closely with NOAA's National Marine Fisheries Services' (NOAA Fisheries) Office of Protected Resources (OPR), Pacific Islands Regional Office (PIRO), Pacific Islands Fisheries Science Center (PIFSC), NOAA Corps, and Office of Law Enforcement (OLE); Hawai'i's Department of Land and Natural Resources (DLNR); and the United States Coast Guard (USCG). The Sanctuary coordinates response efforts involving entangled large whales around the main Hawaiian Islands, under the Hawaiian Islands Large Whale Entanglement Response Network (Network), which is a collaborative effort between the state and federal agencies already mentioned, local whale researchers, the tour industry, fishers, and many private citizens. The primary objectives of the Network are to provide safe and authorized response to entangled large whales; free some from life threatening entanglements; and to gather valuable information that may mitigate entanglement threat and other threats, like ship strikes, in the future. All Network efforts involving close approach to large whales are authorized, and permitted, under NOAA Fisheries' Office of Protected Resource's Marine Mammal Health and Stranding Response Program (MMHSRP; permit # 932-1905).

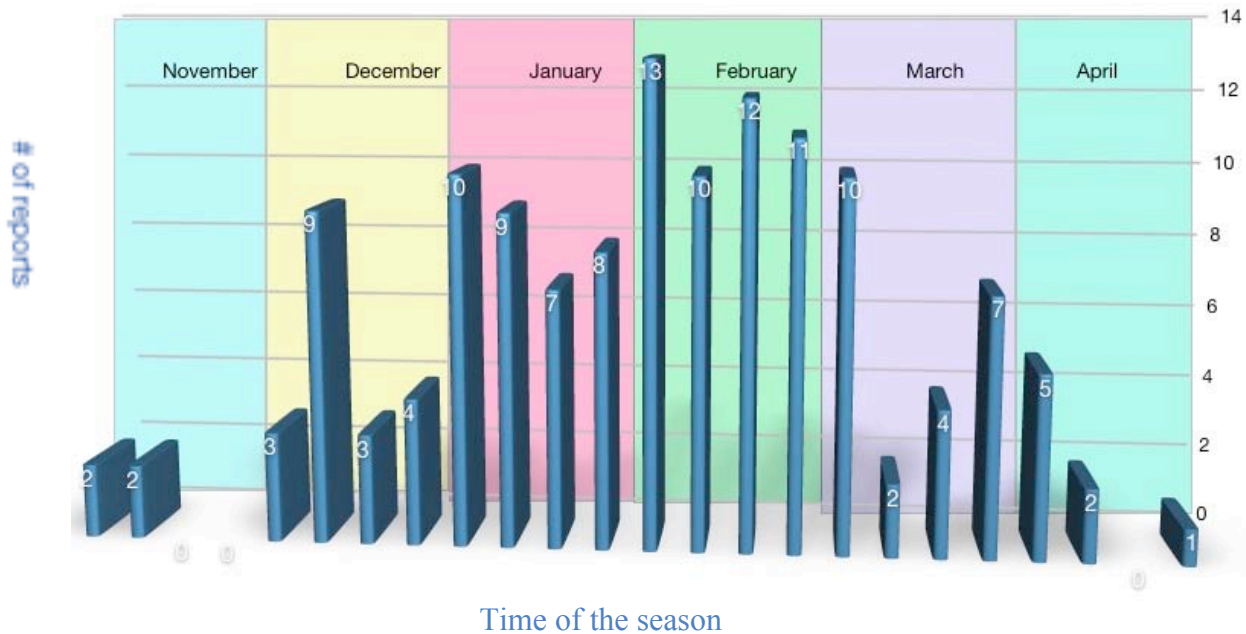
The Hawaiian Islands Large Whale Entanglement Response Network, now in its 12th season, comprises over 250 members who have received various levels of training in order to support large whale response efforts statewide. More than 375 hours of training have been conducted since 2002. Caches of specially designed equipment have been established on the islands of Hawai'i, Maui, O'ahu, and Kaua'i to support entanglement response efforts (see Figure 1).

Figure 1: Confirmed entanglement reports from Hawai'i between 2002 and 2014



Since 2002, the Sanctuary has received more than 267 reports of large whales entangled in gear. The earliest confirmed report of a humpback whale entangled based on the breeding/calving season was Nov 1 (2007), while the latest was April 25 (2008). Confirmed reports generally start in December, increase in frequency through February, and then decline into April (see Figure 2). The number of reports has generally increased each season (see Figure 3). Overall, 139 reports were confirmed as truly involving entangled large whales, representing as many as 88 different individuals (see Figure 4). All but three of these reports – a sei whale and two sperm whales, were humpback whales.

Figure 2: Entanglement reports throughout the season (2002 – 2014).



The Network does not, or cannot, respond to every report of an entangled whale. Past responses and thorough vetting of initial entanglement reports has shown that approximately half (48.0%) of reports here in Hawai'i have been misreported or cannot be confirmed (Lyman *et al*, 2007; HIHWNMS data, 2014). Today that value is 52.1%. This last season the percentage of unconfirmed reports (i.e. unable to confirm or confirmed as not representing an entangled whale) was 43.2% (N=37). Examples of misreports include: white-flipped humpback whales interpreted as carrying gear; animals in the proximity of gear, but not entangled; reflections off the wet backs of animals interpreted as buoys; calves being interpreted as gear; and surface behaviors, like breaching, being interpreted as animals trying to throw an entanglement. Figure 3 shows the total number of reports received each season broken down by confirmed and unconfirmed.

Since 2002, the Network has a mounted over 140 on-water or in-air responses. In those cases when an on-water response should and could be mounted, the network has a 40% success rate freeing entangled large whales of all or significant amounts of gear. Many reports come in too late in the day; represent animals too far offshore, or in conditions that are not conducive (e.g. rough sea state) for mounting rescue efforts. However, the biggest contributor to an unsuccessful response is simply not re-locating the animal. If there is no standby vessel, then an entangled whale ends up being a rather large needle in an even larger haystack. Over the

years standby support has increased, resulting in a greater success rate. In addition to the Network, the tour industry and whale researchers have been extremely valuable towards monitoring the animals until additional help can arrive.

Figure 3: Large whale entanglement reports in Hawai'i between 2002 and 2014 seasons.

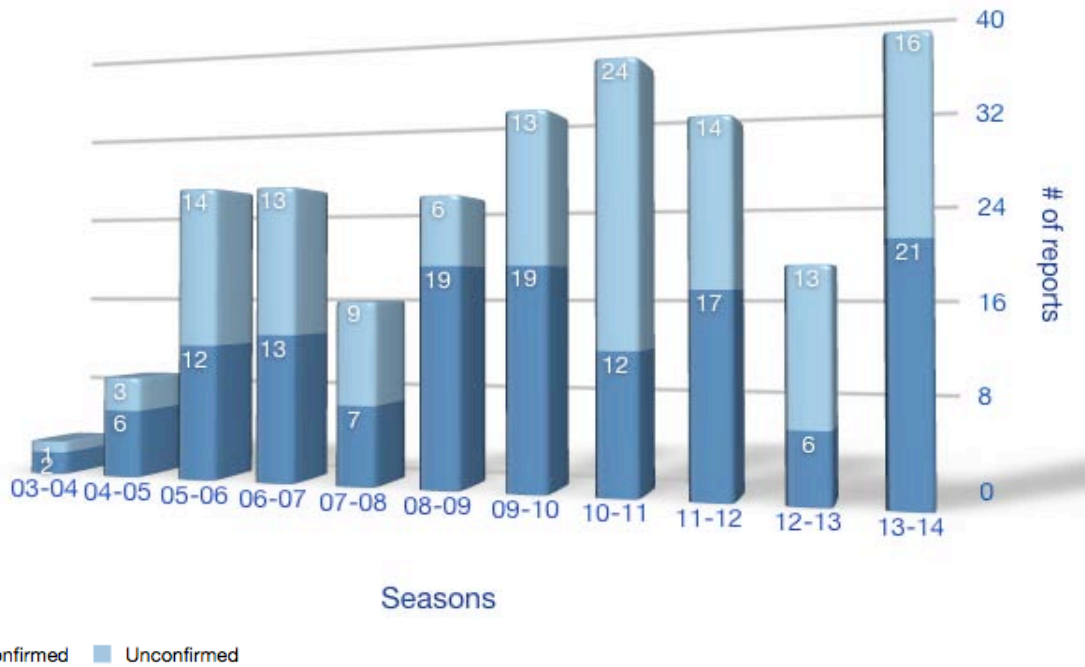


Figure 4: Number of confirmed animals reported entangled in Hawai'i between 2002 and 2014 seasons.

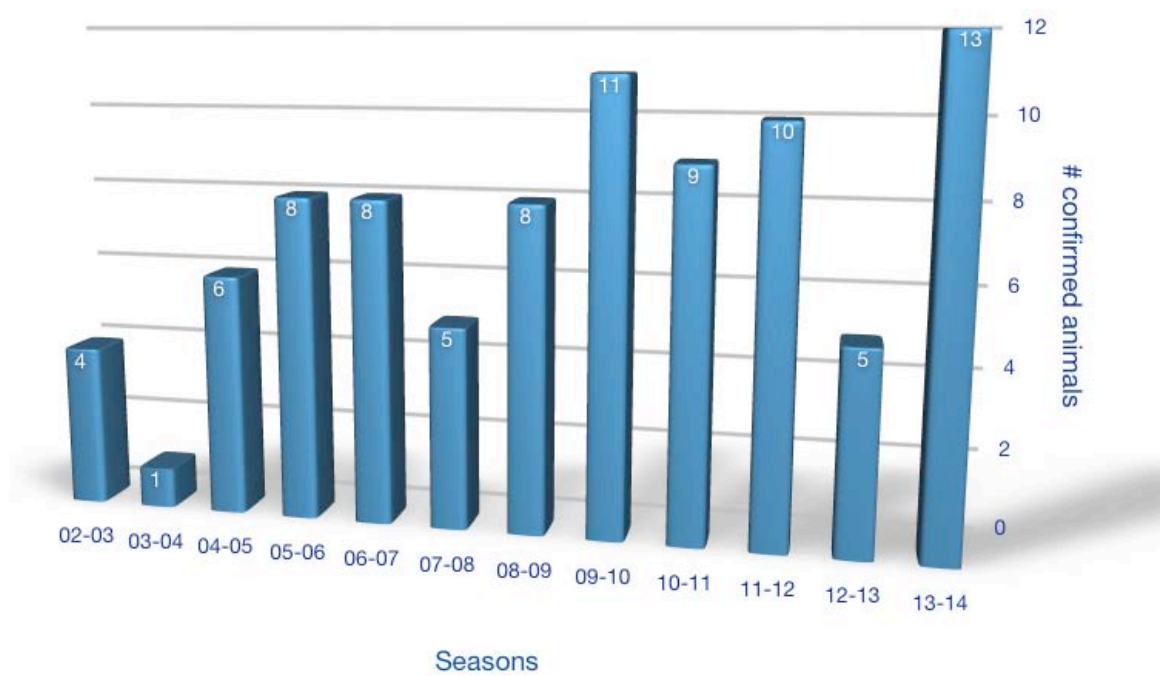
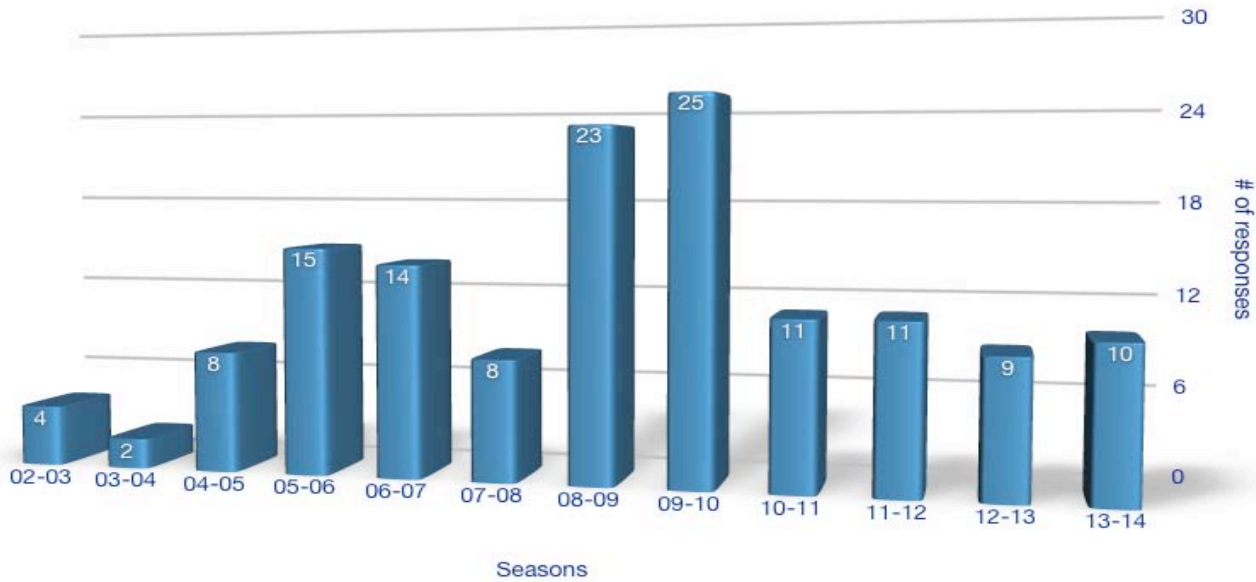
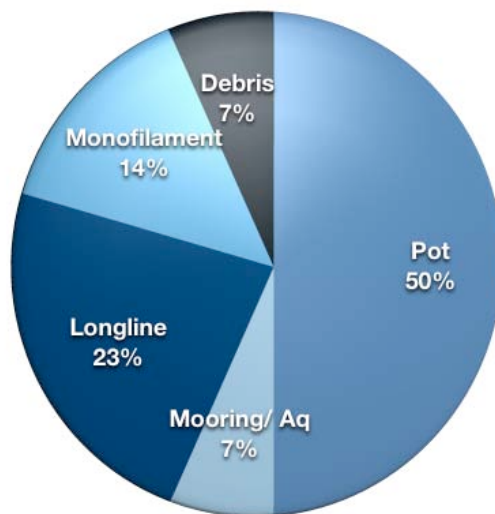


Figure 5: Number of responses to entangled whales in Hawai'i between 2002 and 2014 seasons.



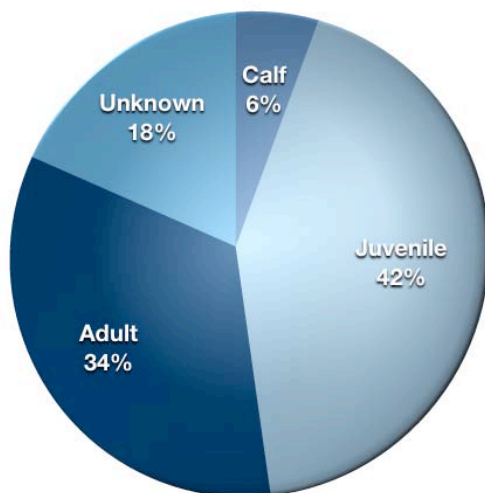
Since 2002, the Network has removed or recovered over 8,000 feet of entangling gear¹ from 20 large whales (19 humpbacks and 1 sei whale) around the main Hawaiian Islands. Animals have been confirmed entangled in local fishing gear (traps, longline and monofilament), mooring gear, marine debris, and active fished gear set as far away as Alaska. To date, 12 humpback whales reported entangled in Hawai'i have been confirmed to have gear from Alaska. Eight (8) of the reports of Alaska gear were commercial trap gear. The greatest known straight-line distance (accounting for obstacles) a whale has carried gear is over 2,450 nm (between Wrangell, Alaska and the island of Maui). Over the last several years the number of entanglements reported in local pot gear has increased. To date, at least 10 animals have been reported entangled in trap gear set around the main Hawaiian Islands.

Figure 6: Percentage of gear types removed from, or documented on entangled humpback whales off Hawai'i between 2003 and 2014.



Since 2002 the largest percentage of animals confirmed entangled have been juveniles (n=37). Many of these reports were received early in the season. Reports of juveniles are based on size, and thus may represent a degree of error (e.g. a small adult male may be reported as a juvenile). Adults were the next most frequent age class at 34% (n=30). Only 5 calves have been confirmed entangled in Hawai'i since 2001 (see Figure 7).

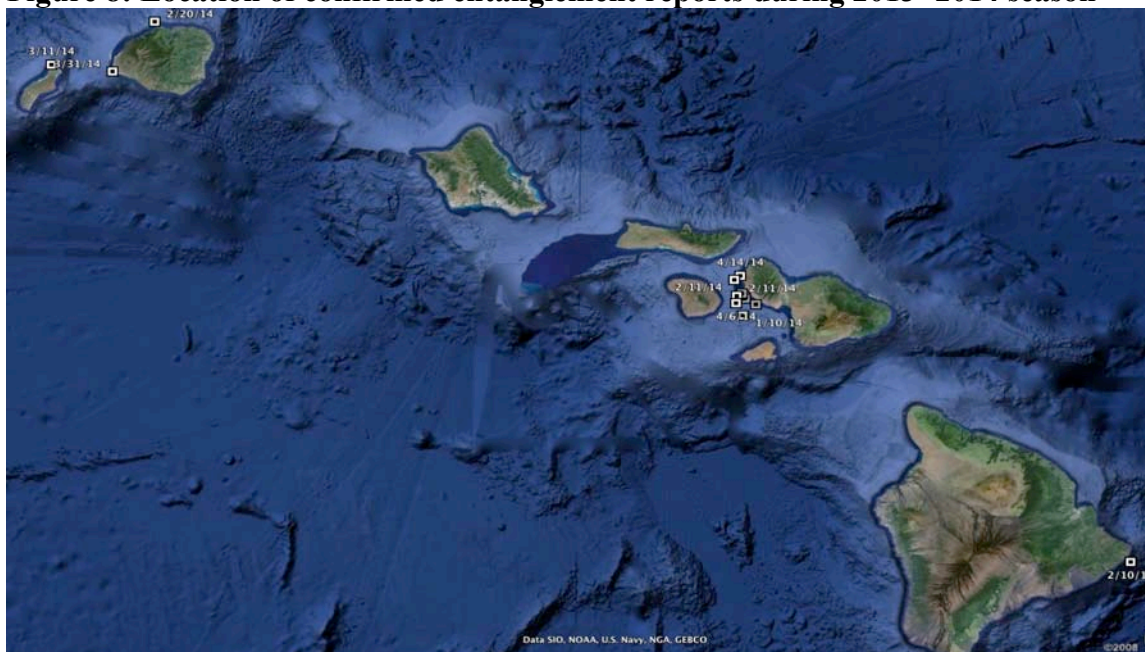
Figure 7: Age class² reported entangled in Hawai'i between 2002 and 2014.



2013-2014 season:

The 2013-2014 humpback whale season (November 1, 2013 – May 15, 2014) had the highest number of confirmed large whale entanglement reports of any season since 2002. Twenty-one (21) reports were received. The large number of reports represented at least 13 different animals, which was also the greatest number of whales reported entangled in any season.

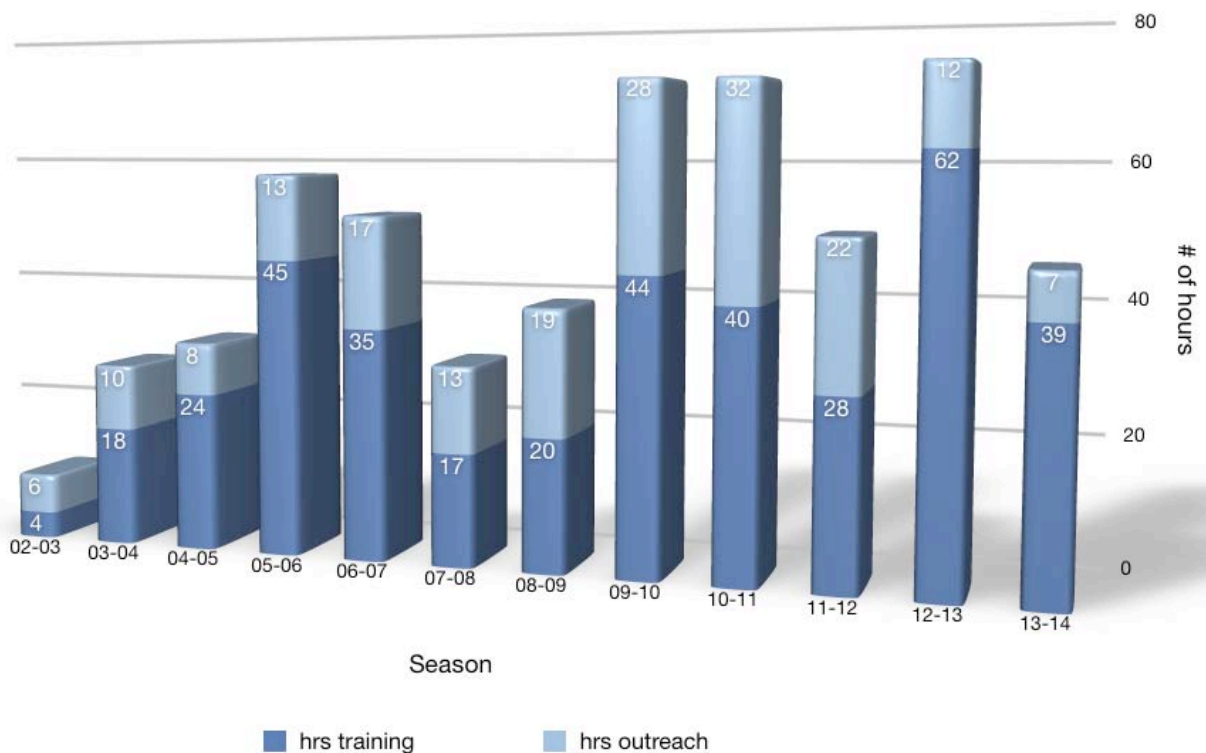
Figure 8: Location of confirmed entanglement reports during 2013- 2014 season



The network mounted 10 on-water response efforts to 9 different entangled whales. Five (5) animals were never re-located or lost during response efforts. One (1) disentanglement effort to free a whale was unsuccessful. One (1) entangled humpback was tagged and subsequently disentangled. Three humpback whales, including a calf, were freed of all entangling gear. Maui Nui (waters leeward of the island of Maui) had the most confirmed cases of entangled large whales this season with 9 cases. There were also 3 confirmed cases off Kaua‘i and one off the island of Hawai‘i (see Figure 8).

Of the gear removed or documented on the animals this season, 2 were crab pot (trap) gear from Alaska, 1 was longline gear and 10 were not identified. Seven (7) of the entangled humpback whales were adults, 4 juveniles, and 1 was a calf. This was the second consecutive season in which calves have been reported entangled.

Figure 9: Amount of outreach and training targeted towards entanglement threat and response (2002 – 2014) in Hawai‘i.



The season was unique in several ways:

1. Was a busy season with a large number of reports, responses and successful outcomes. The season started fairly early, with the first report being November 11, 2013 and went till late in the season, with the last report being April 17, 2014.
2. For a second consecutive year a humpback whale calf was reported entangled. The entanglement ended up being very similar to what was reported the previous season – a tightly embedded wrap forward of the pectoral flippers with nothing trailing. This season, however, a

specially designed and fabricated multi-edged hooked knife was used to successfully cut the calf free. This was an extremely difficult task and was unique for the overall national network.

3. It is becoming more and more apparent the important role the tour industry plays towards the large whale entanglement response effort. In almost all cases they were the reporting party, and provided initial assessment, documentation, and standby support. Tour industry on several occasions organized themselves to lend standby support until the authorized response team could arrive. They were the difference between just receiving a report of an entangled animal; and that of being able to mount an effort towards freeing an animal from a life threatening entanglement. Their actions are the catalyst that helps us save an animal, and at the same time, gain valuable information towards threat reduction that might help us save many more animals in the future.

4. Reports were received from a greater variety of sources, including tour operators, commercial airline pilots, ultra-light pilots, tugboat captain, fishers, researchers, and private citizens - perhaps an indication of our greater outreach and awareness efforts.

5. While Hawai'i's waters might be conducive to mariners wanting to jump in the water to observe or otherwise assist an entangled whale, reports of such actions have been few over the years. Since the Network's inception, a large amount of outreach has focused on reducing, or better yet, eliminating, instances of in-water responses. Unfortunately, this past season, two cases were recorded. A tour operator got into the water to photo-document an entangled animal, and another tour operator, similarly wanting to better assess the entanglement, ended up cutting off the trailing buoys when the opportunity presented itself. Both efforts were followed up with debriefs, enforcement, and additional outreach efforts.

6. This season, a large number of appropriate Network members were provided opportunities to have hands-on experience with core large whale entanglement response actions. These included throwing grab and cutting grapples, wielding knives on poles, attaching buoys (kegging and telemetry), and piloting approach vessels. Eight (8) trained responders got valuable hands-on experience.

Summary of 2013-2014 season disentanglement reports and efforts:

- Thirty-seven (37) reports of entangled whales were received this season (16 unconfirmed and 21 confirmed).
- As many as 13 humpback whales were confirmed entangled in gear, which represents the highest number of animals reported within a season.
- Nine (9) of the entangled whales were initially sighted within Sanctuary waters.
- Maui Nui waters had the most reports (9, compared to 3 off Kaua'i, and 1 off Hawai'i).
- Seven (7) reports involved adults, 4 were juveniles, 1 was a calf, and 1 was a of unknown age class.
- There were 10 responses mounted to nine different animals.
- Eight (8) trained Network members got hands-on experience in large whale entanglement response (e.g. disentanglement or tagging efforts).
- Research organizations, Hawai'i Marine Education and Research (Mark Deakos), Hawai'i

Marine Mammal Consortium (Chris Gabriele and Suzanne Yin), Hawai‘i Whale Research Foundation (Jeff Kalbach, Jill Michelson, and Doug Perrine), Jupiter Foundation (Beth Goodwin, Murray Taylor) and NOAA’s Pacific Islands Fisheries Science Center (Chad Yoshinaga), assisted with response efforts.

- Tour industry platforms from Ultimate Whale Watch (Wiki Wahine), Pacific Whale Foundation (Ocean Discovery, Ocean Quest, Ocean Freedom, Ocean Adventurer, Ocean Intrigue, Ocean Odyssey), Cane Fire, the Maui Nui Explorer, Trilogy Excursions (Trilogy III), Great White, Sea Quest, Kauai Sea Tours, Holo Holo Charters, Ocean Sports, Bubbles Below diving, Wild Hawai‘i Ocean Adventures, Atlantis Excursions (Navitek I), Safari Explorer, Napali Explorer II, Napali Riders, and Leilani assisted and were instrumental in providing sightings, documentation, and monitoring of entangled animals.
- The charter fishing vessels, Lucky Strike II and Marjorie Ann provided assistance and/or reports. Crews from a commercial fishing vessel, Kanaloa, and a tugboat, provided reports and assistance.
- Aerial reporting was provided by Blue Hawaiian Helicopters, Mauna Loa Helicopters, Island Air, Birds of Paradise Ultra-lights, and Ni‘ihau Helicopters.
- Support was also provided by the United States Coast Guard (Sector, Oahu and Maui stations); Hawai‘i’s Department of Aquatic Resources (DAR); Kahoolawe Island Reserve Commission (KIRC); and NOAA’s National Marine Fisheries Services’ Pacific Islands Regional Office (and Observer Program), Pacific Islands Fisheries Science Center, NOAA Corps, and the West Maui, and the University of Hawai‘i’s West Hawaii response teams.

Case report of disentanglement efforts:

12/15/2013 Response to an entangled humpback whale calf off Maui:



N. Davis, NOAA MMHSRP (permit# 932-1905)

09:16 Report of entangled humpback whale calf, with mother and escort received from Pacific Whale Foundation (PWF) vessel, Ocean Discovery, 1 nm outside Lahaina Harbor, Maui.

10:00 Response team assembles at Sanctuary's response vessel, Koholā, for pre-brief and role assignments.

10:28 Koholā is underway with team made up of Ed Lyman and Bo Petty of Sanctuary, Joseph Carrier, LTJG of NOAA Corps, Nicole Davis of NOAA Fisheries, Grant Thompson of Kaho'olawe Island Reserve Commission, Casey Cohan of PWF, and Alice Walker.

Ocean Discovery has monitored the animals and passed them off to Ultimate Whale Watch vessel, Wiki Wahine, with Lee James onboard.

11:10 Koholā arrived on scene and begins additional assessment and photo documentation. Entanglement confirmed to only represent the deeply embedded line(s) around the calf's body. No gear trails. Calf is accompanied by its mother and an escort. Decision made to use larger (safer) and higher (visibility) platforms to access animal and to reach out with a 25-foot carbon fiber pole with a hooked knife on the end. Knife angle is adjusted to hopefully provide best chance to get into the wound and catch wraps entangling the animal. A combination of passive positioning, in the hopes that the calf will approach the vessel, and several more active approaches are enlisted. Three attempts provide contact of knife to animal. One of these may have made contact with the entangling gear.

Animals became more agitated. Escort made several approaches toward response vessel.

12:20 Standing off to allow animals to calm down.

12:35 Effort moved to vessel Wiki Wahine (sans passengers), a large, but more responsive vessel.

12:45 - 13:20 Two more contacts were made with animal/ gear. The latter one may have caught gear, but elicited a tail flick from calf, which disengaged the knife.

13:27 Between the evasive behavior of the animals and somewhat aggressive behavior of the escort, and the fact that weather and winds were forecasted to arrive in the area within 30 minutes, a decision was made to abort the mission for the day. It is possible that contact was made with the entangling gear twice and that it has been weakened and may part with time.

14:07 Koholā back at Ma'alaea Harbor.

12/18/2013



Grant Thompson attempts to cut the calf free. B. Petty, NOAA MMHSRP (permit# 932-1905)

12:15 Call from Na Pali Explorer of entangled calf off Maneli Bay, Lanai. The animal has a tight wrap of line around its body just forward off its pectoral flippers. The entanglement is considered life threatening as the animal is rapidly growing into the tightly wrapped gear.

Several tour vessels, including Maui Adventure Cruises vessel, Safari Explorer and Hawai'i Whale Research Foundation, and the Pacific Whale Foundation's Ocean Odyssey worked together to monitor the animal while a response was mounted.

12:55 Authorized and trained response team made up of personnel from Sanctuary, NOAA Corps, NOAA Fisheries and USCG depart Ma'alaea Harbor on vessel Koholā.

15:03 First attempt to cut the line made. Contact was made, but line was not cut.

15:38 Second attempt was made. Contact made, however line was not cut.

16:21 Third attempt is made with a specially designed knife, which resulted in the line appearing to be successfully cut. The animals headed south.

16:29 Fourth attempt -a follow-up cut is made, due to how deep the wound is and the uncertainty that all the line has been cut. This cut does make it evident that the animal is free of gear.

16:30 The whales are evasive and moving south. The response team attempted to obtain documentation.

16:40 The animals are continuing south and the team ends effort to obtain further documentation.

16:45 Last sighting of animals. Response team departs for harbor.

Mahalo to everyone for their assistance, especially the Explorer vessels and the Pacific Whale Foundation vessel, Ocean Odyssey, for monitoring the animal. Special thanks to Grant Thompson for designing and fabricating the knife that cut the animal free, and to the U.S Coast Guard for their continued assistance.

1/10/2014 Response to an entangled adult humpback whale off Maui:



E. Lyman, NOAA MMHSRP (permit# 932-1905)

1/10/2014

13:55 Captain Jill Michelson and crew aboard Maui Nui Explorer sighted an entangled adult humpback whale trailing gear off its right flipper. Animal assessed in poor condition. Status of entanglement was uncertain. Animal was in the company of several other animals, and heading rapidly to the SSE. Maui Nui Explorer provided initial assessment and documentation. However, considering distance offshore they could not continue monitoring the animal. Tour vessel Wiki Wahine attempted to re-locate the fast moving animals, but was unsuccessful.

Considering offshore location, time of day, fast moving animal, and uncertainty of status, response was not mounted.

1/12/2013



Casey Cohen and Grant Thompson deploying the cutting grapple. J. Moore, NOAA MMHSRP (permit# 932-1905)

08:40 Captain Steve and crew aboard the vessel, Cane Fire, re-sighted the adult humpback whale with its right flipper entangled in gear approximately, 3 nm to the west of Mala Wharf, Maui. Signs of the entanglement's impact on the animal were light-colored and rough skin, a heavy load of reddish cyamid amphipods throughout the body, and the animal being slightly emaciated. Gear was briefly visible upon surfacing.

10:00 The Hawaiian Islands Humpback Whale National Marine Sanctuary's vessel, Koholā, departed Ma'alaia Harbor with a trained and authorized response team consisting of personnel from HIHWNMS, NOAA Corps, Kaho'olawe Island Reserve Commission, Pacific Whale Foundation, and Jason Moore for photography (1° documenter).

10:05 Ultimate Whale Watch vessel, Aloha Kai, underway from Lahaina Harbor with trained responders Lee James of Ultimate Whale Watch and Mark Deakos of Hawai'i Marine Education and Research on board.

10:35 Aloha Kai on scene of entangled whale.

11:22 Koholā arrived at site of entangled whale. Position was 20° 56.83'N / 156° 48.91'W with Beaufort of 4.

12:00 The first approach was made with Grant Thompson of Kaho'olawe Island Reserve Commission using a pole with a fixed knife and Casey Cohan of Pacific Whale Foundation providing back-up. The decision to use a pole was made based on reports of the whale closely approaching vessels. Unfortunately the whale did not allow for a close enough approach, leading to the decision to switch to using the cutting grapple.

12:30 A second close approach was made, but the grapple was not thrown.

12:55 Aloha Kai left the scene to respond to a vessel taking on water. The distressed vessel is fine and the Aloha Kai returns to join the response.

13:10 Beaufort is 4-5. A third attempt was made with an excellent grapple throw by Casey Cohen coming just three feet shy of the gear.

13:20 (approx.) Aloha Kai departs.

13:30 Beaufort is 5-6.

13:55 Due to the evasive nature of the whale and the deteriorating sea-state that the animal traveled into, the response is halted and the Koholā departs for the harbor.

15:38 Koholā arrives at Ma'alaea Harbor.

2/10/2014 Report and response to an entangled adult humpback whale off Maui:



J. Moore, NOAA MMHSRP (permit# 932-1905)

2/10/14

Adult humpback whale reported by commercial fisherman with line draped over body and trailing to a bundle of gear approx. 30 ft. behind the animal just south of Kumukuhi Point, Hawai'i. What is believed to be a white Clorox bottle is part of the entanglement, residing near the tail. The animal is active (tail slapping) and appeared "disturbed".

2/14/14

13:15 Liam Powers aboard the tour vessel Sea Quest reported an entangled humpback whale in Kealahue Bay, Hawai'i. The animal is either a large subadult or perhaps smaller adult. The entanglement involved a white buoy trailing 30 feet behind the animal. The origin of the entanglement on the animal was unknown. The animal was in poor condition, being

extremely emaciated, light-colored, and with a heavy load of brownish cyamid amphipods (whale lice). The animal was believed to be moving slowly (not anchored). It is possible that the report represents the same animal reported entangled SE of Hilo Bay on February 10. No immediate response was possible.

2/16/14

Daren Verbeck, aboard a Wild Hawai'i Ocean Adventures vessel, re-sighted the humpback whale trailing the white buoy 30 feet behind off Kailua-Kona. Verbeck obtained excellent opportunistic underwater imagery of entangled animal. An authorized and trained first responder team made up of Steve Cotton (Hawai'i's Division of Aquatic Resources - DAR), Bob Gladden, Julie Steelman, and others were able to attach a telemetry buoy to the trailing gear and at this time the animal is off Honokohau Harbor. Plans were made to mount a full response the next day if the animal remained in protected waters.

2/17/14

05:30 Last fix at 20° 02.5'N / 155° 55.17'W

Chad Yoshinaga of NOAA Fisheries Pacific Islands Science Center and Ed Lyman of Hawaiian Islands Humpback Whale National Marine Sanctuary flew to Hawai'i (Big Island) to work with Bill Walsh, Steve Cotton and Ross Martin, all of DAR and Bob Gladden using both Bob's and the DAR vessel.

Chris Gabriele, Suzanne Yin, and others aboard Hawai'i Marine Mammal Consortium vessel attempted to track and re-locate animal along the Kohala Coast. Chad Wiggins of The Nature Conservancy provided some opportunistic effort in the area as well. Jeff McConnel of Ocean Sports and Murray Taylor of The Jupiter Foundation moved rescue gear to Kawaihae Harbor for possible transfer to Gladden vessel. Animal continued swimming north and moved into rougher seas between islands. Decision made to stand-down. Animal crossed Channel during afternoon and made south shore of Maui by early evening.

19:35 Animal off Kaupo Gap, Maui. Last transmission before transmitter stopped broadcasting.

21:30 Lyman departed Big Island for Maui. Chad Yoshinaga returned to Oahu.

2/18/14

Recon team of Joseph Carrier (NOAA Corps), Rachel Finn, and Ed Lyman from the Humpback Whale Sanctuary drove coastline to search for tag from shore. Search unsuccessful. No VHF signal received.



Making the cut

J. Moore, NOAA MMHSRP (permit# 932-1905)

2/19/14

08:30 Ryne Hall of Ultimate Whale Watch re-sighted entangled animal off Lahaina, Maui. Stands by until West Maui rapid response vessel, Aloha Kai, with Tiffany Thomas and Lee James onboard arrived on scene and takes over monitoring responsibilities.

09:20 Sanctuary vessel, Koholā, underway from Ma‘alaea Harbor with Rachel Finn, Joseph Carrier, Jason Moore, and Ed Lyman onboard. Team arrived on site and performs additional assessment and formulates action plan.

10:00 Approach made to cut line over the head is successful, and is enough to free animal of all gear.

10:05 Gear recovered. Additional images and a biopsy sample obtained.

11:44 Depart animal, which is still moving slowly to north in company of another adult humpback whale.

3/11/2014 Report and response to an entangled subadult humpback whale off Ni‘ihau:

3/11/2014:

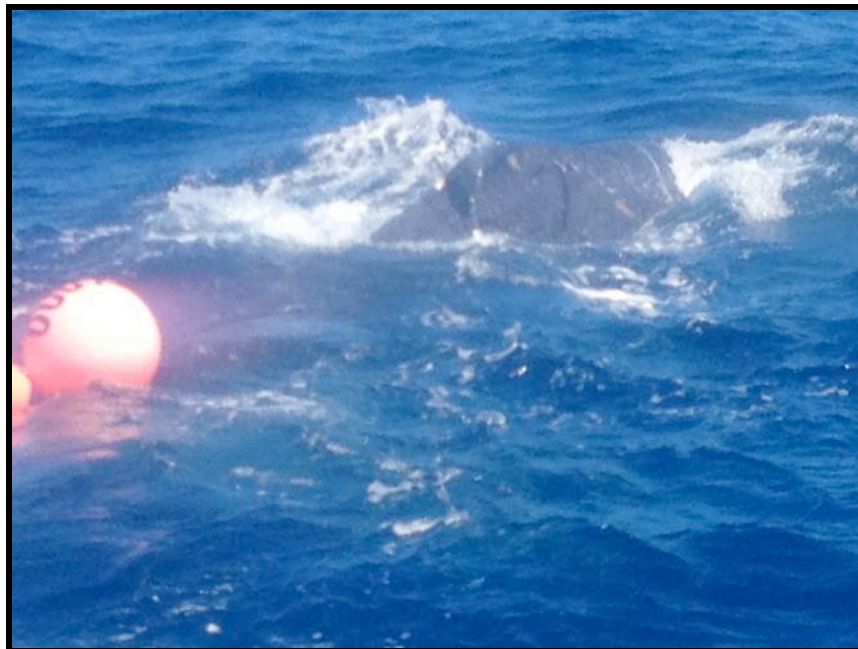


Image courtesy of HoloHolo Charters

10:20 Mel Wills of Holo Holo Charters reported that one of their vessels returning to port has sighted an entangled humpback whale in Lehua Crater off the north end of Ni‘ihau. A Ni‘ihau Helicopter pilot reported the same animal soon after landing on Ni‘ihau.

10:30 - 12:00 Unknown at the time, but remaining vessel at crater - a dive charter vessel, put someone in the water to better assess the animal and ended up cutting the two buoys off the trailing gear. The rest of the gear, including what is likely the lethal wraps are left on the animal. While well meaning, the act was illegal and not a very prudent action. Enforcement is notified, the person spoken to, and additional outreach performed on the topic of approaching animals for any means.

13:00 The pilot of the Ni'ihau Helicopter flew over the crater and did a quick search of the area for the entangled animal. The animal was actually sighted, but the pilot did not realize it at the time, since no one realized the buoys had been removed. Thinking the animal is mobile and needs to be re-located, response is put on hold.

Alerts are sent out to notify the authorized response network to keep a sharp lookout for the animal. The U.S. Coast Guard investigates whether they can redirect training ops towards providing air support. Broadcast to mariners initiated.

3/12/2014:

No reports on the animal were received.

3/13/2014:

Network is notified that a NOAA Fisheries employee has received information indicating that an unauthorized individual cut the animal free.

By early afternoon it is determined that indeed a dive tour operator had cut the two buoys from the entangling gear. The network is alerted of the status change.

3/14/2014:

19:05 The Hotline receives a report relayed by Lihue Air Traffic Control that an Island Air pilot coming into Lihue airport had sighted an entangled humpback whale with line or net around its tail. The description is similar enough in description, place and time to represent the Ni'ihau animal.



Courtesy of J. Souza, NOAA

4/6/2014 Report and response to an entangled subadult humpback whale off Maui:

4/6/2014:



J. Moore, NOAA MMHSRP (permit# 932-1905)

07:45 Whale reported entangled by Captain Bryson of Pacific Whale Foundation vessel, Ocean Discovery.

08:05 Response teams alerted and initial action plan formulated. Tour vessel, Wiki Wahine, takes over from Ocean Discovery.

08:40 West Maui Response Team vessel, Aloha Kai, arrived on scene and takes over from Wiki Wahine. Lee James, Lindsey Zahaner, Jeff Martin on board.

09:20 Sanctuary response vessel Koholā underway from Ma'alaia Harbor with Joseph Carrier, Nicole Davis, Jason Moore, Casey Cohan, and Ed Lyman on board.

10:00 Koholā on scene. Animals on 20 minute dives and only taking 3 - 5 breaths. Beaufort at 3 - approaching 4. Response teams continued assessment. Approaches made to get underwater documentation via polecam and holding camera over side of vessel.

11:00 Assessment completed. Beaufort has climbed to 4/5. Animal has bridle of line through mouth. Line exiting left side runs 40 feet from mouth with only one knot and no buoys observed. Considering entanglement and conditions, decision made to work from larger vessel (not deploy the rescue inflatable), and apply drag to line exiting right side of the mouth.

12:00 Casey Cohan aboard Koholā successfully grapples line trailing behind right side of animal. Telemetry buoy deployed.

12:24 Jeff Martin aboard the Aloha Kai attached second buoy - an A3 polyball.

12:27 Casey Cohan attached third buoy - another polyball, from Koholā.

12:30 All buoys go slack/ still. Response team carefully recovered gear and determined that all gear is off animal. Team attempted to get additional assessment and skin samples.

13:05 Jason Moore successfully biopsy sampled animal.

13:20 Nicole Davis successfully captured fluke of entangled animal. Teams depart for respective harbors.

14:00 Everyone back at their slips.



*Casey Cohen and Ed Lyman haul gear removed from a whale
N. Davis, NOAA MMHSRP (permit# 932-1905)*

References:

Lyman, E., J. Cordaro, K. Jackson, A. Jensen, D. Mattila, B. Norberg, L. Spaven, S. Wilkin, K. Wilkinson. A preliminary investigation of gear entangling humpback whales, *Megaptera novaeangliae*, in the North Pacific. Abstract for SPLASH Symposium. at 18th Biennial Conference of the Biology of Marine Mammals. October 11, 2009. Quebec, Canada

Lyman, E. G., J. Kenney, S. Landry, D. Mattila, and J. Robbins. Reliability of Eyewitness Reports of Entangled Large Whales: what do formal disentanglement programs tell us about the global problem? Abstract in the Proceedings of the 17th Biennial Conference of the Biology of Marine Mammals. Nov. 29 – Dec 3, 2007 Cape Town, South Africa.

Robbins, J., J. Kenney, S. Landry, E. Lyman, and D. Mattila. Reliability of eyewitness reports of large whale entanglement. International Whaling Commission Paper. SC/59/BC2

Acknowledgements:

Finally, much credit goes to the on-water community of tour boat operators, fishermen (fishers), biologists, and others that report, assess, help document, and many times stand by the animals until additional help can arrive. Ed Lyman of the Hawaiian Islands Humpback Whale National Marine Sanctuary coordinates the large whale entanglement response effort, and David Schofield of NOAA Fisheries Pacific Islands Regional Office coordinates the overall marine mammal response efforts for the Pacific islands region. However, it is the efforts of the on-water community that make the difference on whether an entangled whale is ultimately saved, and valuable information collected to reduce the entanglement threat to these magnificent animals in the future. This season the captains and crew aboard tour vessels, Pacific Whale Foundation's Ocean Discovery, Ocean Adventurer, Ocean Freedom, Ocean Intrigue, and Ocean Odyssey; Ultimate Whale Watch Wiki Wahine; Napali Explorer II; Maui Nui Explorer; Ocean Safari; Great White; Cane Fire; Holo Holo Charters; and Wild Hawai'i Ocean Adventures; were all instrumental during the different response efforts and deserve a great deal of credit. Our rescue efforts are likely to be successful when the on-water community reports, assesses, documents, and monitors the animal(s) until trained and well-equipped teams arrive.

Acknowledgements also go to the efforts of the Network's State and Federal partners, including the Hawaiian Islands Humpback Whale National Marine Sanctuary, U.S. Coast Guard, Hawai'i's Department of Land and Natural Resources (DLNR, DOCARE, DAR), NOAA's Pacific Islands Fisheries Science Center, NOAA Corps, and NOAA Fisheries' Pacific Islands Regional Office and Office of Protected Resources, and the U.S. Navy (PMRF).

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protocols. Trained and appropriately prepared network members are extremely valuable toward meeting protocols and fulfilling roles that make response efforts possible. Their efforts, and especially those of volunteers, are greatly appreciated.

MAHALO

¹ Represents line greater than or equal to 3/8" diameter

² Age class determination based on size, rather than known age of animal.