Hawai'i Marine Mammal Consortium

Non-profit marine mammal research, education and conservation

WINTER FIELD REPORT – AUGUST 2006

Aloha friends and supporters! Our 2006 field season was very productive in terms of all three of our consortium's main goals: conservation, research and education, and we'd like to take this opportunity to tell you about it. This newsletter also gives us a chance to thank the many people who helped make it all possible. As always, if you have any questions you are welcome to contact us at info@hmmc.org. All whale and dolphin photos were taken under NMFS permits # 774-1714-00 or # 782-1719-02 and State DLNR permit #SH2006-06.

CONSERVATION:

HMMC researchers Suzanne Yin, Chris Gabriele and Susan Rickards (back from holidays with family on the mainland) all arrived on the Big Island in early January, just in time to participate in the disentanglement training given by Ed Lyman, the Marine Mammal Response Manager for the Hawaiian Island Humpback Whale National Marine Sanctuary (HIHWNMS), and sponsored by the Hawaiian Disentanglement Network. This network is a consortium of Federal, State and non-profit organizations working collaboratively to rescue whales from life-threatening entanglements. It was founded in 2002 by David Mattila, the HIHWNMS Science and Rescue Coordinator, and is co-managed by Ed Lyman. The two-day course included classroom training as well as hands-on practice with the disentanglement tools and techniques. A boat (towing a rope and buoy) filled the role of an entangled whale. The major take home message was that, even when authorized by state and local permits to disentangle a whale, and carrying all the appropriate safety and disentanglement gear, disentangling a whale is a very serious endeavor. Cutting a line off a whale is very dangerous and could do more harm than good, as it may actually hamper future disentanglement efforts by eliminating the trailing line used by experts to get close to the whale. It was a very good experience for us to learn of all the different disentanglement gear and techniques. Little did we know how often we would get the opportunity to use our training during the season.

We sighted two different entangled humpback whales this year, the first in January, and the second just a few weeks later, in mid-February. We also assisted with two additional reported entanglements, one in February and the final one at the end of March. For both of the entangled whales which we found, we first contacted Ed and David of HIHWNMS, who advised us on the primary necessity of documenting the entanglement and relaying information back to them on Maui. When we found the first entangled whale, on

the 29th of January, it was too late in the day to rally the equipment and people to attempt a disentanglement, so we took numerous above-water and underwater photographs, took detailed notes on the entanglement, documented the location and behavior of the whale, and then returned to the harbor at the end of the day. From the photographs, it was determined that the entanglement was life-threatening, cutting through the peduncle area (SEE PHOTO) and resulting in an infestation of red whale lice (cyamids). The line was very tight, meaning that it was clearly not going to be easy for rescuers to get hold of the entangling line. That night Ed and David flew over to the Big Island from Maui, but the next day, we were unable to find the entangled whale again. The story does have a happy ending. A few weeks later, on the 5th of March, this whale was re-sighted off West Maui as the nuclear animal in a competitive group and was disentangled by David, Ed and other Sanctuary staff. They freed the whale of over 100 pounds of line that was wrapped several times around its tail stock. Often, when a whale becomes entangled in active fishing gear, the entanglement gets worse over time because the trailing gear snags other fishing gear or marine debris floating in the ocean. This year, HMMC removed several globs of floating line and net from the ocean like the very large tangle shown in the photo here.

Our second entangled whale sighting occurred mid-morning on the 9th of February. We immediately called Ed Lyman and arranged a rendezvous at sea with Justin Viezbicke, the HIHWNMS West Hawai'i Marine Conservation Coordinator. After conducting the initial assessment and determining that the entanglement was life threatening we continued to follow the entangled whale. "Standing by" is a crucial component to any disentanglement or assessment, as it is very easy to lose sight of the whale, especially when there are many other whales around. This adult whale was dragging from its mouth loops of four different kinds of rope and three buoys, including two large orange floats. It also appeared emaciated and had lots of patches of cyamids covering large areas of its head. Justin drove his truck up from Kona to Kawaihae, with a VHF radio transmitter buoy. He got a ride out to our vessel, *Malolo*, on the whale watch boat, *Malaialena,* transferred gear over to our boat and, as the *Malaialena* stood off, we drew alongside the whale. The VHF buoy is a radio-tracking device housed on a large hard-shelled buoy, which enables rescuers to track the location of the whale in order to attempt a disentanglement effort when personnel and conditions allow. After four attempts, Justin was able to hook the transmitter onto the line trailing from the whale using a grapple. The whale continued swimming south, but this time, taking the VHF transmitter buoy with it. This was the first time researchers in Hawai'i have deployed a radio tracking device to later

locate an entangled animal, although it is a relatively common practice for whale rescue in the North Atlantic. Ed and David both flew over that night and, along with experienced personnel from the Department of Aquatic Resources, we were all out on the water attempting to locate the whale the next morning. We heard the tag on the VHF receivers early in the morning, but were unable to find the whale. In late morning we received reports from Blue Hawaiian helicopters, a commercial tour operation, that a whale dragging two large orange buoys was sighted just south of the windmills at Upolu Point, the north tip of the Big Island. We motored the *Malolo* north with the VHF receiver, and heard faint chirps on the receiver. Big seas prevented us from being able to reach the whale and made it an inappropriate place to attempt disentanglement. Three days later, the whale was located over on Maui, and again Ed and David were able to disentangle it. Investigations are underway to determine the source of the fishing gear, as it may not necessarily be from Hawai'i.

A few weeks later, we responded to our fourth and final entanglement report of the season. On the morning of March 31, local boaters reported an entangled whale off Puako, and offered to stay with the whale until Justin could get there to assess the situation. Justin arranged for private vessel *April Maru* to stop by Kawaihae Harbor and pick up Justin & Yin, and bring them out to the whale. Once they found the whale, they consulted with Ed Lyman, assessed the condition of the whale, photo-documented the entanglement and were advised to attach the VHF tag to the line trailing the whale. Justin & Yin successfully attached a VHF transmitter buoy on the line that the whale was trailing, but unfortunately after a possible sighting of the whale the next day off Waipio, the animal was not seen or heard from again. Many researchers will go for years without seeing an entangled whale, so it was unexpected for us to be involved with four entanglements in the same season. It is not clear whether whale entanglement rates are on the increase or if it is a coincidence that most of the entanglement reports in 2006 occurred off the Big Island this season.

Something very interesting happened during the search for the January 29th entangled whale: the *Malolo* crew came upon a 14-foot great white shark (SEE PHOTO). One of our volunteers, Todd Buczyna, had his underwater digital camera on board to help us document the entangled whale, if we should find it. Todd took some photos of the shark, by sticking his camera in the water over the side of the boat, while we kept an eye on it. Great white sharks are not commonly seen off the main Hawaiian Islands, but two sightings were reported in winter 2006. After seeing Todd's images of the great white shark, a local expert at the University of Hawaii determined that this was a different female shark than the female that was seen off the north shore of O'ahu in the last few days of December 2005. One of Todd's photos made the front page of the *West Hawaii Today* newspaper on the 1st of February, and he was interviewed on the local TV news. The *West Hawaii Today* article quoted Dr. Bill Walsh of the state Division of Aquatic Resources as saying that there are probably more great white sharks here than people realize, but that there have only been about a

dozen confirmed sightings in the last 150 years. The sharks are typically spotted off the coast of central California, South Africa, the East Coast of the U.S. and Australia. Walsh also said that a tagged great white was recently tracked from California to Kaho'olawe, and that the predators seem to travel to Hawai'i during the same months as humpback whales.

RESEARCH: The HMMC 2006 SPLASH season was one of our most productive years in terms of field work. Once again, we were conducting vessel-based research in conjunction with the international collaborative SPLASH project, which stands for Structure of Populations, Levels of Abundance and Status of Humpbacks. For more information see:http://hawaiihumpbackwhale.noaa.gov/special_offerings/sp_off/splash/splash.html.

We were out on the water for 40 days, collecting 218 biopsy and skin samples of 286 pods, with about 446 fluke photographs and at least 353 individual whales identified. We also collected eight recordings of the 2006 whale song. 2006 marks the end of the three winter/two summer SPLASH project fieldwork and, though it will be some time before all the results are published, it will be interesting to see what the end results are of the work of hundreds of researchers in 11 countries. One of the major goals for SPLASH is to determine a population estimate for humpbacks in the entire North Pacific Ocean, something that has never before been attempted.

We also had nine sightings of spinner dolphins (*Stenella longirostris*), six sightings of bottlenose dolphins (*Tursiops truncatus*), one sighting of spotted dolphins (*Stenella attenuata*) and one sighting of melon-headed whales (*Peponocephala electra*). Valuable identification photographs and biopsy samples were obtained from these odontocete encounters. The melon-headed whale sighting was very interesting as it was a loose group of several hundred animals in close association with at least 15 humpback whales, all moving north like a slow freight train. We obtained some high quality underwater acoustic recordings and hope to have these and previous year recordings analyzed before the end of the year.

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Here are a few of the most interesting observations we documented this year:

One whale, which we have nicknamed "Beautiful" (for the beautiful pattern on his flukes), was re-sighted for the third year in a row (SEE PHOTO). Susan and Chris recognized this whale in the field and, when we checked the database, it turns out we've now seen this whale as a singer, part of a dyad with long dive times, and in a competitive group in February and March. Yin recognized this distinctive fluke in the Canadian Department of Fisheries and Oceans' online catalog of humpback whales sighted off British Columbia, where this whale was sighted in summer 1995, 1996 and 1999. In the future, HMMC would like to create an online catalog of whale and dolphin photographs to enable other researchers to find matches with individuals we have identified off the Kohala coast.

In mid-February, we also had a very interesting sighting of bottlenose dolphins, closely associated with three humpback whales. The bottlenose dolphins were closely bow-riding the heads of the whales (SEE PHOTO), with the humpbacks head lunging. Researchers on other islands have actually observed humpback whales lifting individual *Tursiops* completely out of the water. Although no one understands the motivation behind this behavior, it seems to require the active participation of both parties.

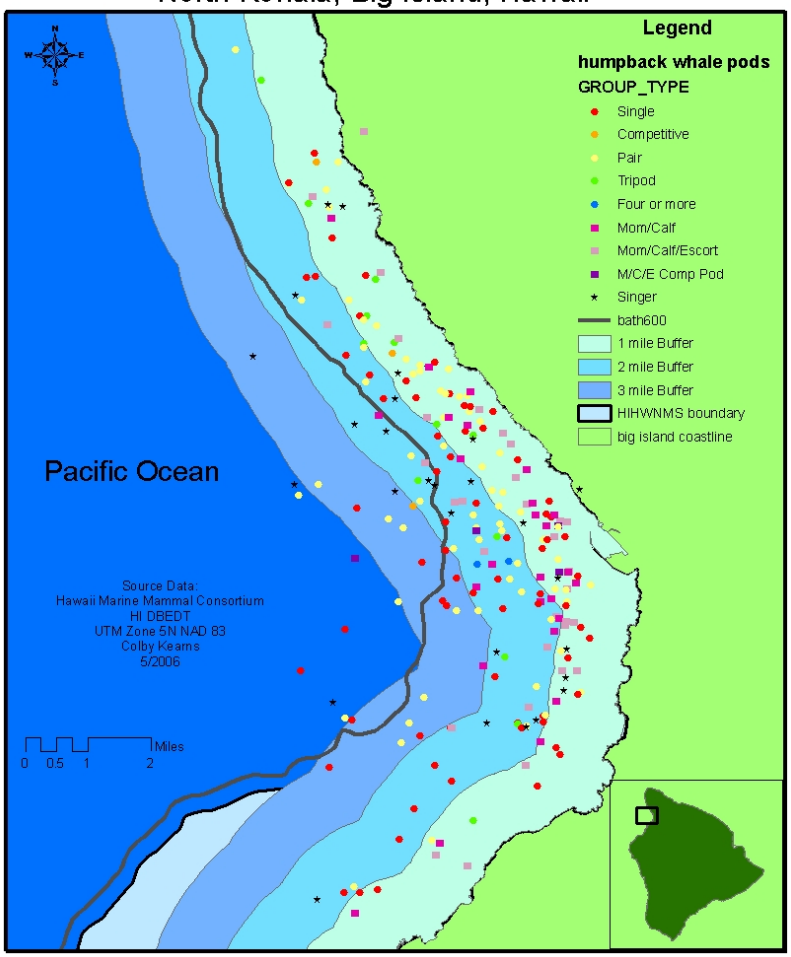
We've continued our shore-based observation efforts, chalking up 20 more days on the hill. We've seen approximately 167 pods consisting of 275 humpback whales, as well as 3 sightings of spinner dolphins. Data from this year will be added to the long-term data we have collected on temporal trends in abundance and distribution of humpbacks off the Kohala Coast.

EDUCATION: Adam Frankel arrived on island in early March and continued his collaboration with Chuck Greene, teaching several components of a Cornell University bioacoustics course. We invited a group of students from UH Hilo, led by faculty member Jason Turner, to join us for a demonstration of combined visual and acoustic observations of humpback whales that was part of the Cornell course. Susan, Yin and Kim New deployed two sonobuoys (hydrophones with radio transmitters that we can listen to with a radio

receiver from shore) in front of the shore station. We all gathered at the shore station, with Adam monitoring the acoustic receivers and Yin, Susan and Kim tracking whales with the theodolite and binoculars. We tracked several whales visually, while listening to the sonobuoys. From the visual observations, the Cornell and UH Hilo students 'guessed' that the single whale right in front of the shore station, stationary, with long dive times was the singer. Adam confirmed our guess acoustically, as he was able to determine that the recording of the song would get significantly louder just after the whale fluked and started its dive.

This spring, Susan worked with UH Hilo student Colby Kearns, who used the 2005 HMMC vessel-based whale location data to produce a map for her class on GIS (Geographic Information Systems). Her map (SHOWN HERE) shows the various types of humpback whale groups and their distances from shore.

Humpback Whale Group Structure and Stratification:
North Kohala, Big Island, Hawaii



This winter, HMMC researchers were featured in various media venues, possibly as a result of publicity about HMMC involvement in attempts to rescue entangled whales. On the 27th of February, Susan was interviewed live on a local Hilo radio station, KHBC Radio, 1060 AM. On the Mel "Mynah Bird" Medeiros morning show, Susan discussed the role of the HMMC in the community, entangled whales and SPLASH field work effort. On the 8th of March, a full-page, color photograph, depicting Yin & Chris observing whales at the shore station and an extensive accompanying article, was printed in the West Hawaii Today, describing volunteer involvement (featuring our long-time local volunteer, Holly-Sargeant Green) in our shore work.

We presented a poster at the 16th Biennial Conference for the Society of Marine Mammalogy, comparing locations from shore-based theodolite fixes and binocular reticles. We've posted the abstract on our web site.

We've made a number of improvements to our web site, adding several new pages, so check it out!

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Mahalo to all our loyal volunteers for their roles in the success of the field season.

Volunteers: (left to right starting at top left) Mele Rickards, Holly Sargeant-Green, Kim New, Billy Rickards, Steve Lewis, Rachel Myron, Carla Buczyna, Justin Viezbicke, Mike Hoffhines and Todd Buczyna.

ACKNOWLEDGEMENTS: Essential assistance from the volunteers shown above, and funds provided by the Hawaiian Islands Humpback Whale National Marine Sanctuary and State of Hawaii Department of Land and Natural Resources, made the 2006 field season possible. For the continued excellent performance of our trusty skiff, *Malolo*, we thank Joe Mobley of University of Hawaii, Honda Motor Corporation of America and Kona Coast Marine. We greatly appreciate the use of scientific research permits held by the National Marine Mammal Laboratory and the Southwest Fisheries Science Center (SWFSC). Also, thanks to Kerri Danil and Susan Chivers (SWFSC) for equipment loans, Mike Hoffhines for equipment donations, Rob for computer programs and Chuck Greene of Cornell University for providing us with the opportunity to help out with the bioacoustics course.

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