



**ALOHA FRIENDS AND SUPPORTERS! HERE IS OUR ANNUAL NEWSLETTER TO SHARE OUR WORK AND THANK THE MANY PEOPLE WHO HELPED MAKE IT ALL POSSIBLE. AS ALWAYS, FEEL FREE TO CONTACT US AT [info@hmmc.org](mailto:info@hmmc.org).**

## RESEARCH

### HUMPBACK WHALES



HUMPBACK WHALE  
OFF THE KOHALA  
COAST



ADAM FRANKEL  
MONITORING A  
HUMPBACK  
WHALE SONG  
RECORDING



SPINNER DOLPHINS  
OFF THE KOHALA  
COAST

The HMMC 2010 field season focused on continuing our efforts to correlate the size of individual singers with the details of song characteristics. With support from the Norcross Wildlife Foundation in 2009 and 2010, we are investigating our working hypothesis that the songs of larger males may have different qualities than songs of smaller males, such that female humpbacks could potentially assess a male's quality as a mate just by hearing his song. In 2010 we obtained measurements of 12 additional singers and nearly 9 hours of song recordings of those whales. For 2009 and 2010, this brings us to a total of 22 singers with song recordings and fluke measurements. Preliminary results indicate that the song 'units' from different whales are statistically distinct from one another. For the technical details, our web site has a short primer on humpback whale song that defines 'unit' and other terms. Data collection is expected to continue in 2011 to gather a sufficient sample size to address our hypothesis.

During the course of the singer data collection, we also collected individual identification photos of approximately 295 whales, in 23 days on the water. We are using these data to better understand humpback whale habitat use, behavior and mating system structure.

### SPINNER DOLPHINS

In 2010, we encountered and photo-identified spinner dolphins on three occasions, with a combined total group size estimated at 256 dolphins. We didn't encounter any bottlenose dolphins, although we did see one group during our shore-based scans.

HMMC's collaboration with the Pacific Islands Photo-ID Network (PIPIN) has continued, with board member Susan Rickards closely working with NOAA Pacific Island Fisheries Science Center's Marie Hill on grant applications and securing equipment to facilitate collaborative studies of spinner dolphins in the Hawaiian Islands. For more information, see the PIPIN web site:  
[www.pipin.org/community/?page\\_id=2](http://www.pipin.org/community/?page_id=2)

### MELON-HEADED WHALES

HMMC has collected years of data on melon-headed whales we've encountered and recently published a paper describing their vocalizations - only the second paper published on this topic and the first from the Pacific Ocean (see "Recent Publications" below). HMMC has also shared photo-identification data on melon-headed whales with Dr. Robin Baird of the Cascadia Research Collective, contributing to his studies which are revealing evidence of a relatively small separate population of these animals, resident to the Kohala Coast region of the Big Island.

*Continued on page 2*

# HMMC WINTER FIELD REPORT 2010

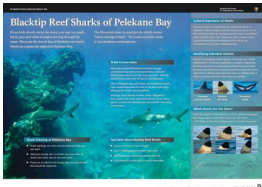
## RESEARCH, CONTINUED

### SHORE-BASED OBSERVATIONS



SUSAN RICKARDS  
OBSERVING BLACKTIP  
REEF SHARKS AT  
PELEKANE BAY

Our 2010 shore-based effort consisted of 20 scans from our customary observation site near Akoni Pule Highway mile marker 7, covering the period from early February until mid-March. During these scans, we saw 419 humpback whale groups, including 31 calf pods. Altogether, 700 whales were seen during the scans, which is the highest count in all our years of scan sampling. Whale abundance seemed extraordinarily high in 2010, and the results of the Sanctuary's Ocean Count for West Hawai'i and elsewhere seem to suggest that Kawaihae Bay was a regional whale hotspot this season. It will be very interesting to see if this dramatic upward trend continues in 2011.

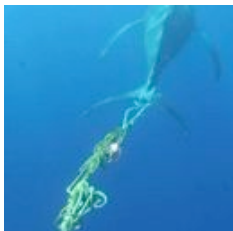


### BLACKTIP REEF SHARKS

In 2010, HMMC continued its weekly surveys for blacktip reef sharks at Pu'ukohola Heiau National Historic Site. March continues to be the month when the highest numbers of sharks are observed. Our highest count was 11, but there were many weeks where we saw no sharks. For the first time, in April 2010, HMMC used a theodolite to track the movements of sharks to better understand habitat use.

HMMC was pleased to receive a grant from the National Park Service (NPS) Challenge Cost Share program to design an exhibit in cooperation with the NPS and prepare a scientific paper about the research. The new sign (at left) provides general information about the sharks and some of the HMMC's research results. The exhibit should be installed along the shoreline of Pelekane Bay by fall 2010.

## CONSERVATION



ENTANGLED WHALE  
PHOTO COURTESY OF  
NOAA HUMPBACK  
WHALE SANCTUARY  
(PERMIT # 932-1905)

On January 5, 2010, the HMMC field season began with board member Chris Gabriele helping out with a whale entanglement response. Chris was part of the team, that included Maui and Big Island staff from the Hawaiian Islands Humpback Whale National Marine Sanctuary, and Jupiter Research Foundation, attempting to disentangle a whale that was first reported on January 4th off Kawaihae Harbor. That day, Sanctuary staff determined that the whale was severely entangled in polypropylene line, buoys and other

fishing gear. Conditions were too rough to begin rescue operations that day, so a satellite and VHF radio-tag were attached to the gear trailing the animal, in order to be able to re-locate the whale the following day. Crews set out early the next morning to the tag location at Upolu Point, but unfortunately, the whale had disappeared. All that was found was the tag. The whale was sighted a few more times elsewhere in Hawai'i over subsequent weeks, but was not disentangled – its fate remains unknown.

# HMMC WINTER FIELD REPORT 2010

## RECENT PUBLICATIONS

“Alternative methods for determining the altitude of theodolite observation stations” was published in the January 2009 issue of Marine Mammal Science.

“A description of sounds recorded from melon-headed whales (*Peponocephala electra*) off Hawai‘i” was published in the Journal of the Acoustical Society of America in May, 2010 (*JASA*, 127: 5: 3248-3255).

## EDUCATION

For the fourth consecutive year, HMMC spent several days working with Native Alaskan students. This ongoing work with University of Alaska Southeast (Sitka campus) researcher, Jan Straley, is funded by a grant from the USDA’s Cooperative State Research Education and Extension Service (CREES) program.

On our first day, we braved big swells and rain aboard the University of Hawai‘i’s new research vessel, the RV *Makani ‘Aha*, for a whale watch in Hilo Bay. Hosted by Dr. Jason Turner, students tried their luck at taking fluke photographs, learned about whale behavior, and were lucky enough to get a close look at one that repeatedly made close approaches to the drifting research vessel. Later that day, Chris gave a talk about fluke identification and taught the class how to match flukes, with the students looking for matches among known males and females from the HMMC photographic dataset. Several matches were made.

On day two, Yin colorfully taught the students how to use a theodolite to track whales, on an overlook north of Hilo. Following the tradition started by UH Hilo student Trisann Bambico, Adam Frankel made his entrance by graciously providing the class with a box of freshly baked malasadas, a Portuguese pastry that is popular in the islands.

Adam gave a general lecture on humpback whale behavior and sound, and then a very spirited laboratory exercise on song analysis.

For the seventh consecutive year, HMMC collaborated with Cornell University in teaching a field course on bioacoustics and humpback whale behavior. The class of students from several universities alternated between lectures and several field classes, learning shore station scan sampling methodology, humpback whale singer size techniques and photo-identification.

*See the [hmmc.org](http://hmmc.org) website for more details on the HMMC outreach efforts.*



CHRIS GABRIELE LEADING A HUMPBACK WHALE FLUKE MATCHING LABORATORY EXERCISE TO ALASKA STUDENTS



SUZANNE YIN TEACHING SHORE STATION TRACKING TECHNIQUES TO CORNELL UNIVERSITY STUDENTS

## SUPPORTING HMMC

Direct donations to our non-profit can be made online through:

[www.networkforgood.org](http://www.networkforgood.org)

[www.onepercentfortheplanet.org](http://www.onepercentfortheplanet.org)

or contacting us at [info@hmmc.org](mailto:info@hmmc.org)

Big Island folks: Bring your recyclables to **Arc of Hilo Recycling Centers** & tell them you want to donate to the HMMC!



Mahalo!

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“DONATE YOUR HI-5 CANS AND BOTTLES TO THE HMMC.”

## HMMC WINTER FIELD REPORT 2010

### MAHALO TO ALL OUR VOLUNTEERS

*“MANY THANKS TO ALL OUR VOLUNTEERS FOR MAKING 2010 SUCH A SUCCESSFUL FIELD SEASON.”*



### ACKNOWLEDGEMENTS

We gratefully acknowledge the Norcross Wildlife Foundation and the National Park Service Challenge Cost Share Program for financial support of the field research, as well as Jan Straley (University of Alaska Southeast, Sitka Campus) and Chuck Greene (Cornell University) for financial support of our educational efforts. Endless thanks to Ed Lyman and David Mattila (NOAA Hawaiian Islands Humpback Whale National Marine Sanctuary) for their dedication to large whale disentanglement and always being at the other end of the phone line when we call for expert assistance. Thanks to David Nichols (State of Hawai'i DLNR) for helping the whale research community minimize state permitting issues in 2010. For the continued excellent performance of our trusty skiff, *Malolo*, we thank Joe Mobley of University of Hawai'i, Honda Motor Corporation of America and Kona Coast Marine. We also thank Gabriela Serra-Valente and Susan Chivers (NOAA Southwest Fisheries Science Center) for biopsy equipment loans. We appreciate the collaborative spirit of Jason Turner and his students at the University of Hawai'i at Hilo and wish them all the best with their new cetacean rehabilitation center (<http://www.dolphinrehab.org/stranded-animals>). Sincere thanks to all our field volunteers, especially Kim New and Holly Sargeant-Green who have consistently and cheerfully helped us out since 2003. Cetacean photos were taken under the authority of scientific research permits issued by the National Marine Fisheries Service.