

HMMC NEWS



Our Mission

The mission of the Hawai'i Marine Mammal Consortium is to increase and promote knowledge and education about marine mammals and the marine environment to help island communities value, understand and protect Hawai'i's marine life.

Contact us at info@hmmc.org



Your Donation Dollars At Work

In 2020, donations funded vital theodolite repairs and fieldwork expenses.



Marine Research

Goodbye Field Season, Hello Pandemic!

When we packed up our field gear in March, little did we know that we would all be facing one of the most challenging eras in our lifetime. Our hearts go out to everyone whose lives have been turned upside-down, or have lost loved ones or friends to the COVID-19 pandemic. We send this newsletter as a cheerful reminder of the beauty, importance, and resilience of nature, friendship, and science. Honestly, we greatly enjoyed pulling together these photos of people working closely together. We have high hopes to be able to continue the work in winter 2021.

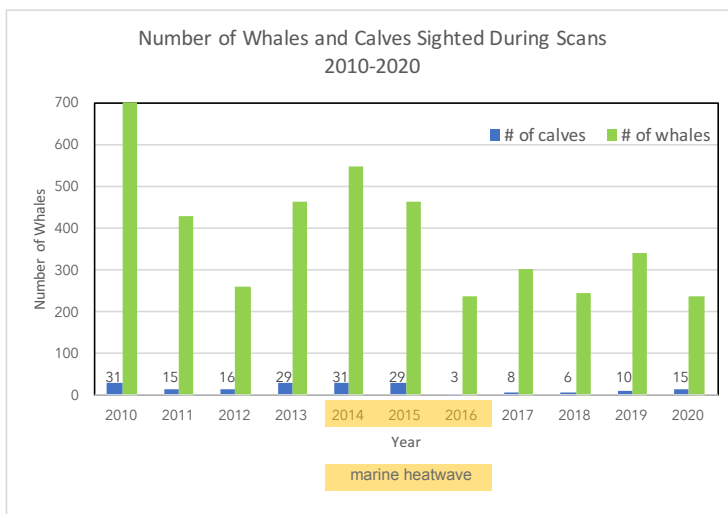
18 Years and Still Counting

In 2020, we happily continued our long tradition of staring at the ocean for science. Our 18th year of shore-based whale scans consisted of 20 timed counts of whales between February 2nd and March 11th.



In 2020, we counted 236 humpback whales in 139 pods, and 15 calves. We also saw 4 spinner dolphin pods. While the number of pods and whales were lower than in 2020, we were very glad to see more calves (6.4% of the total number of whales). Things may finally be turning around after the

Northeast Pacific marine heatwave in 2014-2016 apparently diminished the whales' food supply in Alaska and had long-lasting effects.



Education

Conservation

You Can Help HMMC

Our most pressing needs are a camera and lens upgrade (see Amazon wishlist) and funds for COVID-quarantine housing for arriving researchers this winter. Here are a few ways you can help us keep our work going.

- ✓ Make a donation at <https://www.hmmc.org/Contribute.html>



- ✓ Use our [Amazon Wish List](#) to donate something specific.
- ✓ [Shop online with HMMC](#) for tees, hats, cards and more. The holidays are coming right up!
- ✓ Designate HMMC as a your charity at [smile.Amazon.com](https://smile.amazon.com).



- ✓ Last but not least, please forward this newsletter to others who are interested in Hawai'i's marine environment.



Marine Research

Not Just a Fluke

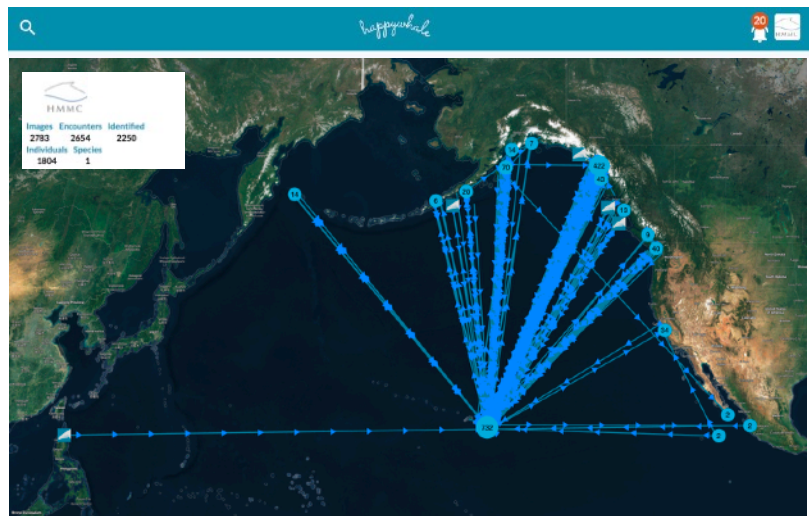
On 10 days on the water in February and March 2020, we photographed 121 whales in 59 pods and took 82 fluke identification photographs. We approached 21 pods with a calf and one group of spinner dolphins (*photos at far left*). The flukes of these whales are as individual and recognizable as the smiling faces of our friends.

We also made three whale song recordings (to hear one [click here](#)).



HappyWhale Collaboration is Bearing Fruit

Last year, we reported that we were submitting the entire HMMC collection of digital fluke photographs (2,783 fluke photographs so far) to the new North Pacific Humpback Whale Study Group collaboration. The study, led by Ph.D. student Ted Cheeseman, seeks to study whale movement and population structure using automated fluke-matching through HappyWhale.com. The work is still in progress, but as the sneak-preview map of HMMC data shows above, Hawai'i whales really get around, even to other tropical breeding grounds! In the future, we'll be following up with individual researchers on the interesting migratory transits and learning more about the whales and their amazing journeys.



Education

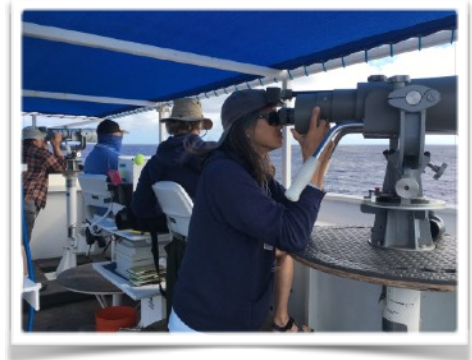
Conservation

Yin's Excellent Adventure on the High Seas

Board member Suzanne Yin missed most of the 2020 HMMC field season because she was off doing her 'other' job—serving as a marine mammal observer. Yin spent many hours on the “Big Eyes” binoculars

(*photo at right*) on the Winter Hawaiian Islands Cetacean and Ecosystem Assessment Survey (WHICEAS) with NOAA Pacific Islands Fisheries Science Center and their partners, the Bureau of Ocean Energy Management and the US Navy. WHICEAS was the

first-ever large scale study of the winter distribution of cetaceans and seabirds around the Main Hawaiian Islands. For 51 days aboard the NOAA ship *Oscar Elton Sette*, (*top left photo*) a team of researchers led by chief scientist Dr. Erin Oleson (NOAA) surveyed both visually and acoustically for cetaceans and visually for seabirds. By the end of the cruise in mid-March, the team had over 300 cetacean sightings, with humpback whales making up about half of the sightings! The photo (*bottom left photo*) shows a humpback whale tail-slapping near South Point. *Photos courtesy of NOAA Pacific Islands Fisheries Science Center.*

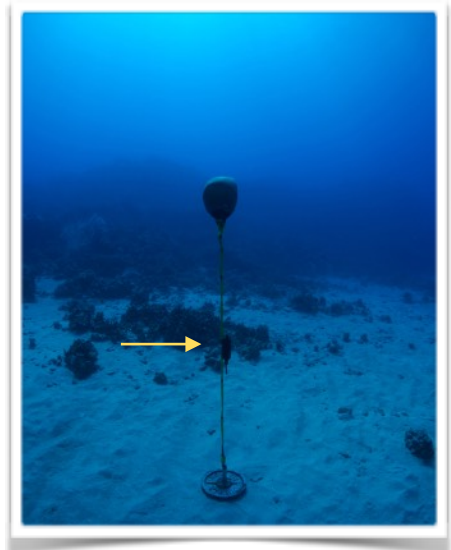


Whale Song Studies with Liquid Robotics and CORALS Students

From February 3rd to 7th, we recorded underwater sound (and singing whales!) with three SoundTrap audio recorders on the seafloor, as part of a long term education/research collaboration with Cornell University professor Chuck Greene and Liquid Robotics Incorporated. The Liquid Robotics® crew (Billy, Garrett, Eric and Jason, left) snorkeled down to anchor the recorders in about 60 ft of water (example at right, with arrow pointing to SoundTrap). The HMMC team taught six students from the Cornell Ocean

Research Apprenticeship for Lynch Scholars (CORALS) program to locate whales from shore using reticle binoculars. Later, HMMC Board member Adam Frankel taught them how

to use *Raven* software to acoustically localize whales, so they could compare their visual observations with singer locations with the SoundTraps on the seafloor and one SoundTrap hydrophone attached to a Wave Glider® (*see photo in 2019 newsletter*).



Parker School Sharkwatchers

HMMC Board member Susan Rickards teaches at Parker School, and our blacktip reef shark study in Pelekane Bay in Pu'ukoholā National Historic Site creates a perfect opportunity to get her students (and their parents, photo at right) involved in our field work. Their contributions have kept the study going over the past several years, although in 2020,

the pandemic made things difficult. We've never seen a shark pup, although local knowledge gave us reason to believe that pupping season is in the summer. This year, we heard our first direct report of a blacktip reef shark pup! In late May, Parker School teacher Katie Woods shared a photo (left) and video of a small blacktip reef shark pup cruising the shoreline in clear water near the Orchid Hotel. Our study site in Pelekane Bay is very silty, so we never get views like this. [Click here to see the video](#), courtesy of Silvia Guijarro Parra.



Blacktip Reef Shark Photo Catalog Is Growing

When dedicated volunteer Kim New gets to Hawai'i Island for her annual volunteer stint, she is always raring to go on identifying individual sharks and managing our data. Thanks to her work, we have a photo-id catalogue with over 37 individual sharks, with numerous sightings over the 13 years that we've been observing and photographing them. Shark #005 was sighted when our study began in 2007, making him at least 13 years old. Thirteen years is thought to be close to the life expectancy for a blacktip reef shark. This year, Kim noted: "I was there for a day with ten different fins moving back and forth across the bay! It never gets old. Shark #005 was photographed on our first day collecting data in 2003 and is the individual that has been the most sighted over our years of research. The first couple of years #001 (nicknamed Bruce) was the most common shark. When shark #001 disappeared, it seemed like #005 took its place." That said, #005 was only sighted on five of the sixteen days we have photographed sharks in the bay in the March peak-season. It makes us all wonder if this is another transition taking place, and who will be the new "regular"? The more we watch, the more we learn about these fascinating animals - and the more questions we have!



Above are some of our most frequently identified sharks (left to right: 005, 020 and 014). Can you tell them apart?

Thanks To Our Volunteers



Talks and Papers

Adam Frankel presented HMMC's whale scan work at the World Marine Mammal Conference in Barcelona, Spain in December 2019.

Chris Gabriele gave a talk entitled "Humpback Whales in Glacier Bay National Park: Navigating Oceans of Change" at the Mokupāpapa Discovery Center in Hilo on February 27, 2020.

Cates, K.A., Atkinson, S., Pack, A.A., Straley, J.M., Gabriele, C.M. and Yin, S., 2020. Corticosterone in central North Pacific male humpback whales (*Megaptera novaeangliae*): Pairing sighting histories with endocrine markers to assess stress. *General and Comparative Endocrinology*, 296, p.113540. [Read the article here.](#)

Whale Song performance at Cornell: coming up April 2021. Read about HMMC's collaboration with Annie Lewandowski and Katy Payne [here.](#)

It's All About the People

In 2020, we were sad to lose one of our Scientific Advisors, Whitlow W. L. Au (July 31, 1940 – February 12, 2020). We valued his good humor and guidance in the formation of HMMC. We are grateful to our field volunteers and associates who make the fieldwork fun and productive! Eternal gratitude to returning field volunteers Kim New, Paul Berry, Marilyn Wright, Holly Sargeant-Green, and Noa Rickards. Kim New deserves special mention for her annual commitment to working with HMMC. Mahalo to Whale Tales for fieldwork funding in 2019. New donors joined us this year: Ann Lewandowski, Brittany Hancock, Charles Fleenor, Katy Payne, Marianne Bickett, and Michael Force. Special thanks to our repeat donors Marilyn Wright, Kim New, Mike Morton, Annette Henry, Emily Herb, AmazonSmile Foundation, Network for Good, and Benevity-Apple Matching Gifts Program. All of you help make our work possible. On the water we relied on Joe Mobley at the University of Hawai'i, Honda Motor Corporation of America and Kona Coast Marine. Mahalo nui loa to Denny Ferrari and the State DOT for boat trailer space at Kawaihae harbor. For whale song work with CORALS we thank Chuck Greene and Joleah Lamb at Cornell, and Pono Thronas, Billy Middleton and others at Liquid Robotics. Whale and dolphin photos were taken under scientific research permits issued by the National Marine Fisheries Service in collaboration with Robin Baird (Cascadia Research Collective) and Erin Oleson (NOAA Pacific Islands Fisheries Science Center).



Our Board

Chris Gabriele, Adam Frankel, Suzanne Yin, Susan Rickards

Scientific Advisors

Christopher Clark, Ph.D.
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Jan Östman-Lind, Ph.D.
Peter Tyack, Ph.D.