

# HMMC NEWS



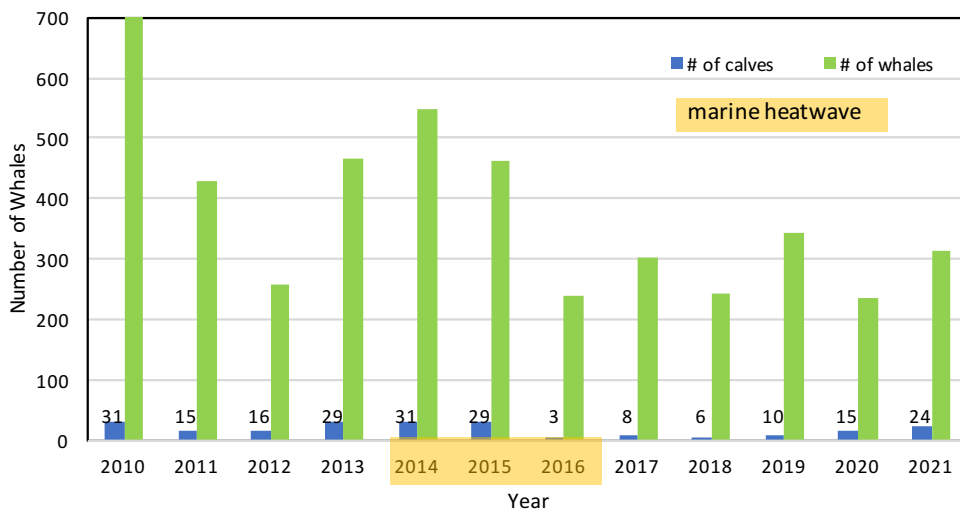
## Socially Distant Whale Counting

In February and March 2021, we happily continued our long tradition of staring at the ocean for science. It felt like an accomplishment just to be able to conduct field research despite the COVID-19 pandemic. Our 19th year of shore-based whale scans consisted of 20 timed counts of whales between February 2nd and March 11th. Understandably, two Hawai'i Marine Mammal Consortium (HMMC) board members and our longtime volunteer Kim did not feel safe traveling before getting vaccinated, so we were shorthanded. The silver lining was that we had more volunteer and student participants than usual. New volunteer Tamera Loveday (photo at [right](#)) went above and beyond the call of duty by driving all the way from the Hilo-side of the island with her daughter Molly once or twice a week to help out. Mahalo to Tamera for her essential help and extraordinary dedication.



Whale observations at Old Ruins.

Number of Whales and Calves Sighted During Scans 2010-2021



**The 2020 and 2021 calf counts suggest conditions may finally be improving after the Northeast Pacific Marine Heatwave.**

### 2021 at a glance:

- ◆ 315 humpback whales in 217 pods, and 24 calves.
- ◆ The number of whales and the proportion of calves (7.6%) increased compared to 2020.
- ◆ In contrast, the calf proportion in 2016-2019 ranged from 1.3 - 2.9% after an intense marine heatwave in the North Pacific disrupted the food web in the whales' Alaska feeding grounds.

# Just a Few Days on the Water

Due to short staffing and more than our share of mechanical issues with the boat, we only got out on the water three partial days. But we made the most of the time we had out there. Between February 20 and March 14, 2021 we approached 11 groups of humpback whales containing a total of 30 whales. Five of these were mother/calf pods. We matched the photos using HappyWhale and found that 15 whales had previous sightings in Maui and two had wintered in Mexico in prior years.



The whales we sighted had sightings in feeding grounds in Southeast Alaska and British Columbia, as well as Kodiak and Kachemak Bay. If you happen to take a photo of a whale fluke, you can submit it at [www.Happywhale.com](http://www.Happywhale.com) and “follow” your whale to be notified if it is sighted in the future.



It is always humbling to be at sea in a boat that won't work. We are eternally grateful to all those who helped us in our times of need, both towing us back to the harbor, including an outrigger canoe (above right ) and an amphibious skiff, and friends lending us a boat (below right ). In 2022, we hope to upgrade our research vessel to make our work both safer and more efficient. See the back page to find ways that you can help.



Above: Susan Rickards at the helm, with students Johana Dubova and Lucas Duba who helped with shore scans and boat-based research. Below: Flukes from four of the eight whales we photographed in a large and rowdy competitive group on March 14th.



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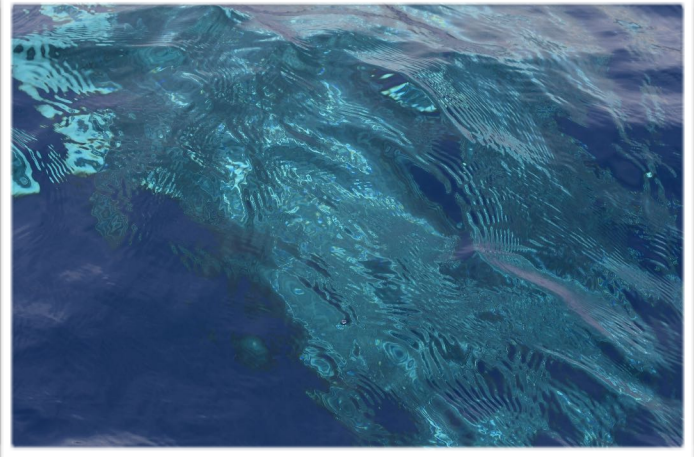
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## Suzanne Yin Honored as Society for Marine Mammalogy Fellow

In 2019, the members of the Society for Marine Mammalogy voted to establish a “Fellow” designation for members who are recognized as having “rendered conspicuous service or made truly notable contributions to the advancement and diffusion of the knowledge of marine mammal science or the fostering of its practical applications through conservation of marine mammals.” HMMC board member Suzanne Yin was among the very first class of fellows recognized. Kudos to Yin and our thanks for contributing your excellence in data collection consistency to the HMMC’s research.



## Photo Highlights from the Field



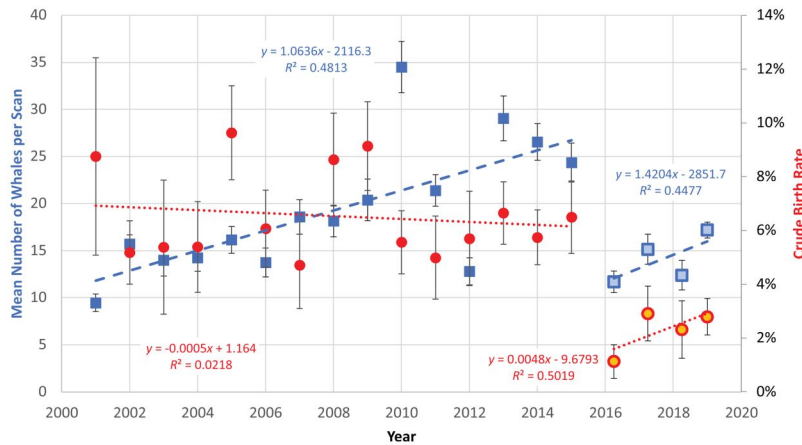
Left: We saw more brown boobies on Feb 28th than ever before. We are not sure why there were so many, but they appeared to be feeding. Right: “Is that a whale under the boat? Yes, yes it is a whale under the boat!” *All whale photos taken under NMFS Scientific Research permit number 20605-03.*



Left: Humpback whale escort “head-lunging” in competitive group. He has a barnacle on his blowhole. Right: A breaching calf, learning what it’s like to be a humpback whale.

# “Decades of Data” Published in Marine Mammal Science

This summer, after an extensive peer review process, HMMC published the results of 19 years of scan samples. HMMC board member Adam Frankel led the data analysis which used statistics to investigate the trend in whale and calf counts over time, relative to oceanographic patterns such as El Niño. The main findings were that whale



numbers steadily increased from 2001-2015, with some ups and downs after 2010. Numbers then sharply declined, including a 60% drop between 2015 and 2016. The crude birth rate (i.e. the proportion of calves in the population) fell from 6.5% in 2015 to 1.1% in 2016. We also found that whale numbers and the crude birth rate increased in years when climate indices reflected colder water in high latitude waters (e.g. Alaska) waters where whales feed in summer.

Interestingly, the effect is delayed by more than a year. The oceanographic

conditions in the feeding season 18 months earlier have the strongest effect on the birth rate and the number of whales in Hawai‘i. Thanks again to Whale Tales for supporting this research. The paper, entitled “Humpback whale abundance in Hawai‘i: temporal trends and response to climatic drivers” is [available on our web site](#).

## National Marine Sanctuary Foundation Grant Helps HMMC Get Wired for Sound



In September 2021, HMMC was one of four research groups awarded a \$5,000 National Marine Sanctuary Foundation mini-grant for our proposal entitled “Monitoring Long-Term Distribution and Abundance Trends in Humpback Whales off the Kohala Coast of Hawai‘i Island.” With these funds and a matching donation from an anonymous donor, HMMC will deploy an automated sound recorder underwater near our shore-based observation site, to try to quantify and correlate the amount of whale song energy underwater with the number of whales in our annual visual counts. First we plan to identify which sound frequencies represent the bulk of humpback



song energy and then calculate sound levels for every 30 minutes to allow a direct comparison to the 30-minute visual scan samples. The deployment of this acoustic recorder will be the first long-term scientific sound device off the Kohala Coast in nearly 20 years. The resulting recordings can later be used to describe the ambient noise conditions of one of the least anthropogenically impacted areas in the sanctuary. With these data we can also begin to understand other types of whale vocalizations as well, including those between mothers and their calves. On November 4th, Adam gave a seminar presentation about this work, along with the three other research groups who received a National Marine Sanctuary Foundation grant.

## Meanwhile, Back in Alaska

When she's not in Hawai'i, board member Chris Gabriele studies the humpback whale population and the underwater sound environment in Glacier Bay National Park. This year, her work on the effects of the Northeast Pacific Marine Heatwave on Alaska's humpbacks was covered on National Public Radio and in the international media (Canada, England, France, Germany, Sweden, and Switzerland). She also had the privilege of appearing in the poignant BBC documentary "The Year the Earth Changed", about changes in the natural world when the world became suddenly quiet with the onset of the COVID-19 lockdown. Her only regret is not getting to meet Sir David Attenborough, since the film was made in 2020 with an (excellent) all-Alaskan film crew.



Chris and her husband Paul Berry at McBride Glacier in Glacier Bay.

## Whale Listening Project Event at Cornell University

In late September, board members Chris Gabriele and Adam Frankel had the pleasure of representing HMMC at a weeklong celebration called Whale Listening Project at Cornell University to honor the 50th anniversary of the Songs of the Humpback Whale album that sparked the Save the Whales movement in the 1970s.

Our 2019 collaboration with Katy Payne and Annie Lewandowski to record humpback whale songs culminated in an audiovisual art installation called Siren – Listening to Another Species on Earth. The work is a collaboration between composer and performer Annie Lewandowski, artist and coder Kyle McDonald, and set designer Amy Rubin that “explores humpback whale song in a meeting of intelligences – humpback whale, human, and artificial”. The keynote addresses were given by Katy Payne and Roger Payne on “The Ever



Evolving Songs of Humpback Whales”, detailing their early work that led to the discovery that whales were more than just cows-in-wetsuits, that they have minds that create and sing complex, beautiful songs. The following day,

Adam and Chris, along with Annie and Kyle McDonald, spoke at a panel discussion on “Hawaiian Humpback Whales: Scientific and Creative Perspectives”. The events and HMMC travel expenses were funded in part by Cornell University and the Atkinson Center for a Sustainable Future. In-person attendance at the events were at full capacity and 822



people joined the keynote virtually, and 125 people joined the panel virtually. You can listen to the talks and see an excerpt of Siren at the links above.

## Video on Exploring STEM Careers In Hawaii



HMMC board member Susan Rickards has taught science, math, Hawaiian Studies and other subjects at Parker School since 2011. She takes every opportunity to get students (and their parents) involved in field research including whale and shark work with HMMC. It's no surprise that Susan was asked to do an [interview](#) for the “[Exploring STEM Careers in Hawai'i](#)” video series created by the Māla'ai Culinary Garden at Waimea Middle School. STEM stands for Science, Technology, Engineering and Math. Holly Sargeant-Green, a longtime volunteer for HMMC has been a driving force at Māla'ai Culinary Garden for many years. These videos were made possible by a Hawai'i Community Foundation Career and Connected Learning grant.



## So You Want to Be a Marine Mammal Scientist?

HMMC board member [Suzanne Yin](#) was [interviewed](#) for the Society for Marine Mammalogy's interviews for aspiring marine mammal scientists. You can click the link above or find the whole video series [here](#).

## HMMC Student Volunteer Creates Blacktip Reef Shark Citizen Science Web Site

International student Johana Dubova did her senior honors project under the guidance of Susan Rickards, assisting with shark fieldwork in 2020-2021 in Pelekane Bay in Pu'ukoholā Heiau National Historic Site. Johana was raised in the Czech Republic and did her senior year at Hawai'i Preparatory Academy. Johana's project culminated in a [citizen science website about shark conservation](#) that encourages visitors to Pelekane Bay to contribute shark photos to HMMC's growing catalog of individuals. Thanks to Johana for all her efforts and dedication to ocean conservation. We wish her all the best as she starts college in fall 2021 at University of Hawai'i at Mānoa.



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

## Superstar Volunteers 2021



BRAYDEN BYRON

MELE RICKARDS



JOHANA DUBOVA



NOA RICKARDS



LUCAS KORANDA



PAUL BERRY



TAMERA & MOLLY LOVEDAY



LUCAS DUBA

## Mahalo to Our “Bubble” and Extended ‘Ohana

Keeping it in the family is especially important during the pandemic. Our sincere thanks to returning field volunteers Paul Berry, Noa Rickards, and Mele Rickards who were instrumental in helping us staff the shore scans. It’s no exaggeration to say that the work could not have happened without our volunteers Tamera Loveday and Molly Loveday (extra points for the long commute from Kea’au!), Johana Dubova, Lucas Duba, Lucas Koranda, and Brayden Byron. Thanks to Tom and Sarah Reeve, and all the Parker School students, parents, and teachers who came to observe. Thanks to our collaborators Robin Baird (Cascadia Research Collective) and Erin Oleson (NOAA Pacific Islands Fisheries Science Center). Thanks to all the donors who help make our work possible. New donors joined us this year: Terry Henry, the Levitan ‘ohana, Sally and Tom Reeve, William L Rickards III, and Ann Wilhelm. Special thanks to our repeat donors Annette Henry, Ann Lewandowski, Kim New, Marilyn Wright, AmazonSmile Foundation, Network for Good, PayPal Giving Fund and Benevity-Apple Matching Gifts Program. Thanks to Joe Mobley at the University of Hawai’i, Honda Motor Corporation of America and Kona Coast Marine. Mahalo nui loa to Denny Ferrari at the State DOT for finding boat trailer space for us at Kawaihae Harbor.

## Your Donation Dollars At Work

In 2021, donations funded a new Nikon camera and 80-400 mm zoom lens that greatly improved our research photography.



A substantial anonymous donation will help get us *part-way* toward upgrading our research boat and pickup-truck. Please help us keep our studies and education work going.

- Make a donation at <https://www.hmmc.org/Contribute.html> and Visit the HMMC online store for tees, hats, posters, and cards.
- Forward this newsletter to others who are interested in Hawai’i’s marine environment.
- Use our [Amazon Wish List](#) to donate something specific and designate HMMC as your charity at [smile.Amazon.com](https://smile.amazon.com).

## Our Board

Adam Frankel, Chris Gabriele, Susan Rickards, Suzanne Yin

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

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Peter Tyack, Ph.D.