

HMMC NEWS



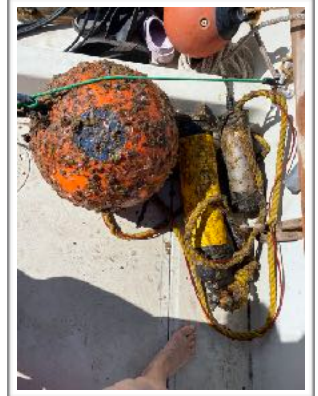
Our First Full Season of Underwater Sound Monitoring

As you may remember from our fall 2021 newsletter, we were very excited when HMMC was awarded a \$5,000 grant from the National Marine Sanctuary Foundation to start monitoring underwater sound offshore of where we visually count whales every year. Supply-chain issues slowed us down right out of the gate - the SoundTrap recorder we wanted to order was not available. Thankfully, our collaborators with the Hawaiian Islands Humpback Whale National Marine Sanctuary, Marc Lammers and Eden Zang, were able to loan us a recorder and an acoustic release to accomplish the project this year. An “acoustic release” is a device that allows a researcher to anchor a hydrophone or other piece of equipment on the ocean floor at a chosen spot. When they want to recover the instrument, they electronically “release” it by sending an acoustic code to the release to tell it to come on up. A very buoyant float that is attached to the release brings the equipment to the surface. You’ve never

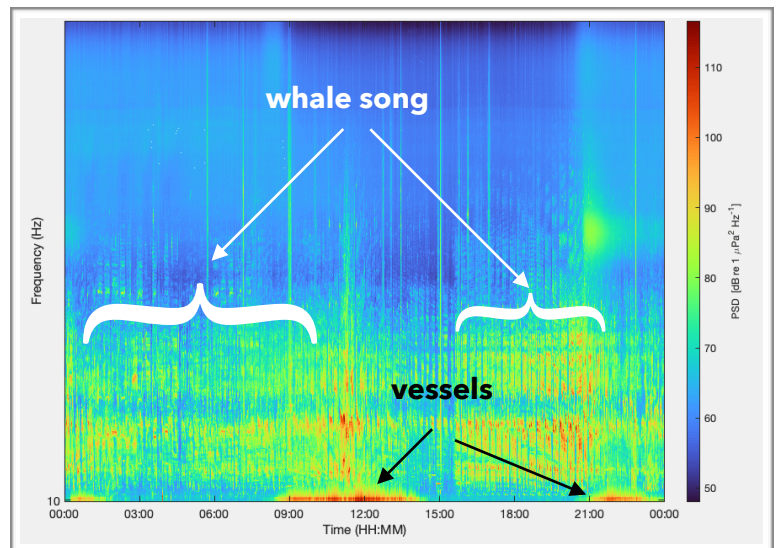
been so happy to see a buoy as when you see it break the surface right on command!

2022 at a glance:

- ◆ New this year, 146 days of underwater sound recordings (Jan 30-June 25)



Board member Adam Frankel has started to analyze the recordings with Manta software. Our ultimate goal with this work is to correlate the amount of whale song energy in the underwater recordings with the number of whales in our scan counts. As it continues over the long term, in collaboration with others, this research will help monitor trends in the abundance of humpback whales using Sanctuary waters. This is the first time that HMMC has had a hydrophone in the water through the end of humpback whale season.

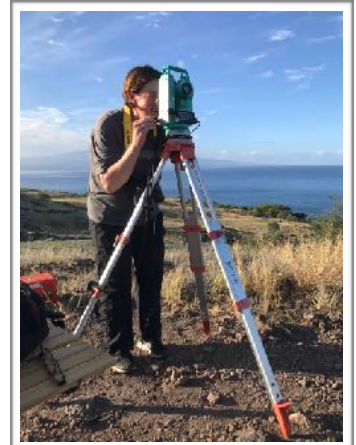


Top: Adam types in a code to bring the acoustic release to the surface. Middle left:

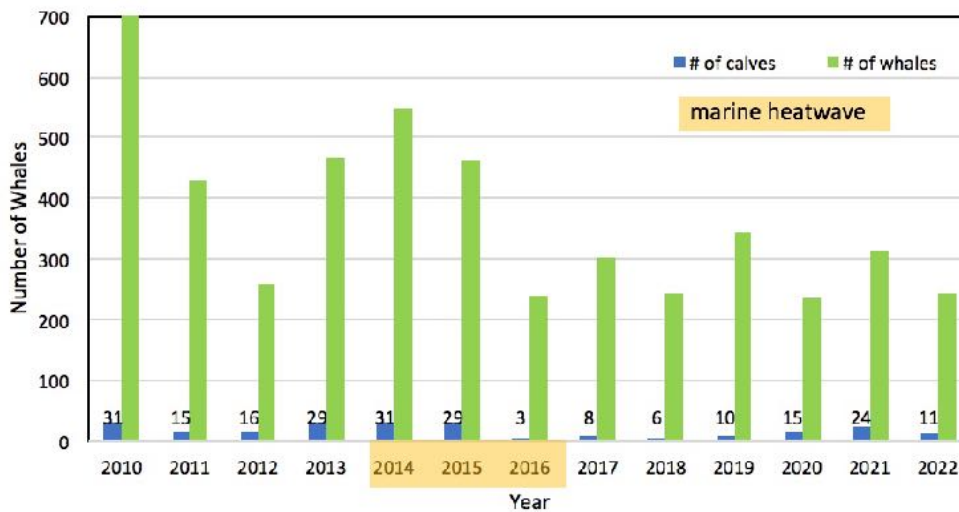
Mooring buoy at the surface. Middle right: The SoundTrap recorder and acoustic release after 6 months underwater. Bottom: Sound spectrogram of our first day of recording, with frequency (pitch) on the vertical axis and time on the horizontal axis. Colors represent sound intensity with blue the quietest and red the loudest. Arrows indicate whale song for most of the day, and a few louder passing vessels.

Our 20th Year of Whale Scans

Our 20th year of humpback whale (*Megaptera novaeangliae*) scans began on January 31 and continued through March 3, 2022, for a total of 20 scan samples during humpback whale season, as part of our longterm monitoring that began in 2001. It was great to have the band back together as the pandemic waned enough for it to be safe to (carefully) travel. We were glad to have a full HMMC contingent (Yin, Susan, Adam, and Chris) this year and excellent help from many volunteers. We hosted two whale scan demonstration days (February 12 and February 27, 2022) for students and their 'ohana from nearby Parker School, where Board member Susan Rickards teaches.



Number of Whales and % Calves Sighted During Scans
2010-2022



2022 at a glance:

- ◆ Whale scans found 242 humpback whales in 147 pods, and 11 calves.
- ◆ Lower calf counts suggest conditions may still be difficult for reproductive females after the Northeast Pacific Marine Heatwave. Read about our work on the effects of ocean climate on whale counts in Hawai'i [here](#).

Whale observations at Old Ruins shore station. From top: Kim New, Adam Frankel, Chris Gabriele, Yoda, Suzanne Yin, and Susan Rickards with Parker School Students



Great Days on the Water

We got out on the water on 17 days between January 30 and March 27, 2022. During those surveys, we photographed a grand total of 132 humpback whales in 77 pods including 19 pods with a calf (a few of those calves were sighted on more than one day). We took 97 fluke identification photographs, which have been submitted to HappyWhale.com as part of the North Pacific Photo-ID Collaboration. HappyWhale revealed that “our” 2022 whales had been previously sighted in places as close as Maui and as far away as Baja California, Mexico and Kodiak, Alaska. We had 4 whales whose flukes did not match any in the Happywhale catalog. In our time on the water, we also made three humpback whale song recordings. We observed 7 groups of spinner dolphins (*Stenella longirostris*) ranging in number from 50 to over 150 dolphins and sent the dorsal fin photos to researcher Marie Hill



at the Pacific Islands Fisheries Science Center. We observed an injured calf on February 12th, and reported it to Diane Kramer, the NMFS Stranding Coordinator for Hawai'i. On that day, we were photographing a mother/calf pair with an (adult male) escort when we noticed that the calf had a wound

Above: Whale fluke photos allow us to identify individual whales over days, weeks and years. HappyWhale tells us that this female, nicknamed Anvil, feeds in British Columbia in the summer. Left: We observed a calf with a head injury in February. While we can't be certain, a collision with a vessel seems the most likely cause of the injury.

on the top of its head on the right side. The calf was breaching before we approached, and the calf spent much of our observation rolling on its mom's head and raising its head out of the water. The mother was resting on her back (ventral side up) for extended periods. As far as we can tell, the mother did not appear to be injured. The calf's wound seems most likely to be a vessel strike injury, although no incident was reported. No other research groups or whale watch companies reported sighting an injured calf matching this description.

2022 at a glance:

- ◆ We photographed 97 humpback whales in 77 pods, including 19 calves, and recorded 3 singing males.
- ◆ We encountered 7 groups of spinner dolphins, ranging in size from 50 to over 150 dolphins.
- ◆ In February, we observed an injured humpback whale calf.



Blacktip reef shark monitoring in Pelekane Bay



With the help of Parker School students and their *’ohana*, we have continued our counts and photo-identification of blacktip reef sharks (*Carcharhinus melanopterus*) in Pelekane Bay at Pu’ukoholā Heiau National Historic Site. Most of our shark sightings happen in the winter, when we see one to ten or more sharks. While conducting shark observation on 6 July, 2022, we had a sad encounter. No sharks were seen until a young blacktip reef shark pup was sighted near shore, swimming erratically. Sadly, this beautiful little animal subsequently died in the shallows nearby. After obtaining the appropriate legal permitting and offering an *oli*, Susan collected the pup from the water. It was a young male, approximately 65cm (26 in)

long. Some species of sharks are oviparous, meaning they lay fertilized eggs, but most, including blacktip reef sharks, are ovoviviparous, meaning the eggs hatch within the mother and she gives birth to the pups, typically 2-4 each litter. Pups of this species have a *piko*, or umbilical scar, between the pectoral fins for the first few months of life, until it heals completely. The visible umbilical scar suggests that this pup was less than a year old. You can also see from the photo below that he had a hook lodged in his mouth after apparently being accidentally caught and released by a fisherman. In January 2022, Hawai’i became the first state to ban the fishing of all sharks. It is now [illegal](#) to knowingly capture, entangle, or kill any species of shark in state marine waters. Incidental capture and release of sharks while targeting other species is not a violation.



2022 at a glance:

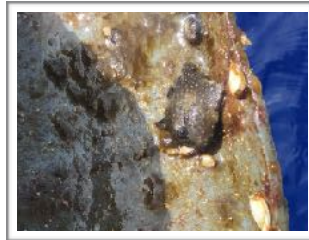
- ◆ We have documented 11 blacktip reef sharks in 10 hours of observation so far this year.

It was a sad but amazing opportunity to get a close look at the blacktip reef sharks we have been studying since 2006. Upper left: fishhook in shark’s mouth. Lower left: dorsal fin markings we use to identify individuals. Far right: Ventral side of shark, showing *piko* between his pectoral fins.

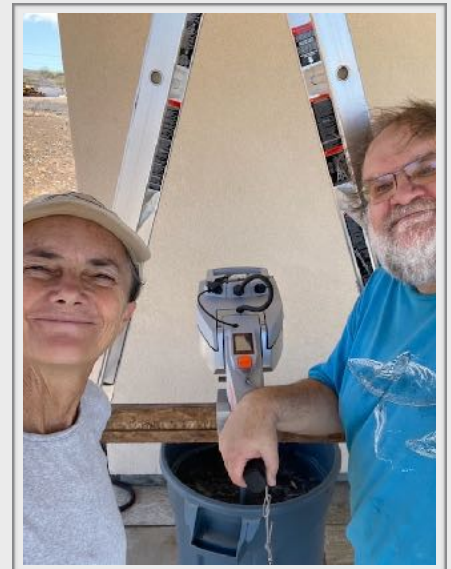


Marine Debris

We love the ocean, and we know whales can ingest marine debris, so whenever we can, we try to remove and dispose of any floating debris that we find. A 2016 study estimated that over 19 million tons of plastic entered the marine environment in that year alone! Mostly, we find ropes and nets associated with fishing (right) but also a lot of bottles, buckets and random plastics. Some things are too big to bring home (below, left). On the bright side, we've seen some really cool hitchhikers living on or around the debris, including barnacles, fish, and the tiniest crabs and octopus you can imagine (below). We always do our best to return the critters to the ocean before bringing the debris back to land for disposal.



Your Donation Dollars At Work The mighty research vessel *Malolo* worked perfectly in 2022, and we love her dearly. But to be prepared for engine trouble, we were thrilled to be able to purchase a Torqueedo electric “kicker” motor (right) to get us home if the main engine quits. But we STILL hope to upgrade the truck and the boat to make our work safer, more efficient and climate-friendly.



Kim's First Alaska Migration

HMMC's longtime friend and volunteer Kim New made her first trip to Alaska to visit Board member Chris and her husband Paul in July. Chris and Kim went out on whale surveys in Glacier Bay, where they saw many whales, including some that are known to visit Kohala in the winter. In the photo at right, Kim is checking out Steller sea lions (*Eumetopias jubatus*) hauled out on a small island in Glacier Bay.



A Sad Farewell

On May 5th, 2022, we lost a trusted colleague and friend, when Ben Saldua, Chief of Interpretation at Pu'ukoholā Heiau National Historic Site, passed away at 70 years young. Over the years, Ben has been our main contact at the Park for our blacktip reef shark research. He was our key collaborator in creating a shark wayside exhibit at the park visitor center. We will miss his gentle way of talking story and his enthusiasm about all things in the natural world.



Above: 2018 photo of Chris Gabriele with Ben Saldua, Chief of Interpretation, and Leanne Baskin, Hawai'i Pacific Parks Association sales associate at Pu'ukoholā Heiau National Historic Site.

Yin Makes Classroom Visits from the Arctic (!?)

Board member Suzanne Yin (left) gave several remote talks to school groups from the National Science Foundation icebreaker research vessel, the *Sikuliaq*, while the ship was in the sea ice in the Arctic Ocean. Yin was aboard as a marine mammal observer for a 6-week cruise for the Arctic Mobile Observing System (AMOS). She spoke to Mrs. Suzanne Williams' 9th-grade Biology class at Parkview High School, in Lilburn, Georgia and to Board member Susan Rickards' 6th-grade Earth Science class at Parker School (above) in Waimea, on Hawai'i Island. The students saw live action of the pack ice, ice-breaking operations, moorings and gliders via video while hearing about the aims of the project, life at sea, and career opportunities.



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We Wili Wili Enjoyed the Festival

In March, HMMC joined other community and conservation partners at the 11th Annual Wiliwili Festival at the Waikōloa Dry Forest Preserve. Lured in by the sound of humpback whale song, over 115 people came by our table to talk about whales, dolphins and marine conservation. Many of our visitors were local, although we met folks from as far away as New York and Texas.

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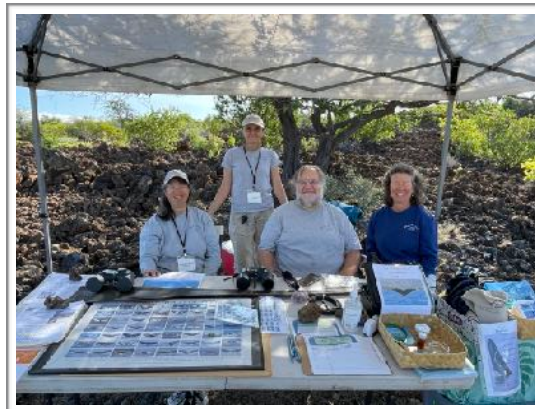


Photo Highlights from the Field



Left: A spinner dolphin looks at us while riding the bow wave of *Malolo*. Right: Spinner dolphin with a pink belly, indicating exertion or excitement. All photos: NMFS Scientific Research permit #20605.



Above left: Breach!
Above right: Strong exhalation from this whale shows the two-nostril blowholes of a baleen whale; unlike toothed whales which have only one visible nostril. Each humpback whale blowhole is at least 10 inches in diameter.
Right: Traveling spinner dolphins off Puakō.



Superstar Volunteers 2022



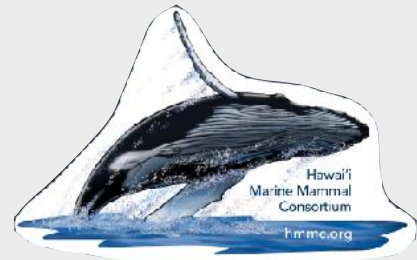
Mahalo Means Thank You

Huge gratitude goes out to returning volunteers Kim, Paul, Noa, Mele, Holly, Tamera, Molly, and Andrea. It was great to see old friends Mia and Allie, David and Brittney, and new friends Rani, Joe and Jarett. Thanks to all the Parker School students, teachers, and 'ohana who came to observe and help out. Thanks to National Marine Sanctuary Foundation and Eden Zang and Marc Lammers (Hawaiian Islands Humpback Whale National Marine Sanctuary) for their *kokua*, Pu'ukoholā Heiau National Historic Site for facilitating the shark monitoring, and HappyWhale for revolutionizing collaborative whale fluke ID. Mahalo to colleagues Robin Baird (Cascadia Research Collective), Marie Hill, and Erin Oleson (NOAA Pacific Islands Fisheries Science Center). 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 parking for us at Kawaihae Harbor, and the friendly harbor gate staff. Thanks to all the donors who help make our work possible. New donors, the Koester Family Fund, Hamilton Ahlo, Betti Alleman, and Doug Perrine joined us this year. Special thanks to our repeat donors: Marjorie Erway, Annette Henry, the Levitan 'ohana, Annie Lewandowski, Kim New, Sally and Tom Reeve, Marilyn Wright, AmazonSmile Foundation, Give Lively Foundation, Network for Good, PayPal Giving Fund, and Benevity-Apple Matching Gifts Program. Mahalo also to our Facebook Giving Tuesday donors, R. Baird, B. Bays, M. & D. Berry, S. Bonadonna, K. Bosworth, C. Carroll, A. Carroll, D. Fowler Dunn, T. Freeman, J. Gordon, M. Grifalconi, P. Knapp Jr, J. Mobley, J. Neilson, A. Wilhelm, D. Woodruff and M. Wright.

Hawai'i Marine Mammal Consortium

Get Your HMMC Stickers!

Everyone loves a sticker for their favorite water bottle or notebook. This fall, HMMC seized a golden opportunity to work with Alaska artist Kathy Hocker, who created a custom breaching



whale sticker for HMMC to use as a fundraiser and educational item. Very soon we will also have two more of Kathy's art stickers available at the HMMC store, a whale fluke and an octopus compass. You can learn more about Kathy's amazing artwork and books at her website, [here](#).



- Visit the [HMMC online store](#) for stickers (soon!), tees, hats, posters, and cards.
- Make a donation at <https://www.hmmc.org/Contribute.html> and
- 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

- Susan Rickards
- Chris Gabriele
- Suzanne Yin
- Adam Frankel



Contact us at info@hmmc.org