

**Hawaiian Islands Humpback Whale National Marine Sanctuary**  
**Agency Report to the Sanctuary Advisory Council**  
**August 9 - November 8, 2023**

**Agency:** NOAA/NOS/ONMS/HIHWNMS  
**Presented by:** Kim Hum, Superintendent

**Recent Activities**

**Supporting the Response and Recovery in Maui**

In August, Hawaiian Islands Humpback Whale National Marine Sanctuary supported response and recovery efforts for victims of the Maui fires. NOAA staff with the Office of National Marine Sanctuaries assisted the U.S. Coast Guard by providing vessel support with the R/V Koholā in deploying side scan sonar and an ROV in Lahaina Harbor to search and assess for underwater debris. The NOAA vessel was also used to transport supplies to the Lahaina community before the highway was open. NOAA staff have also been helping the community directly by volunteering for the Red Cross, Humane Society, and the Maui Emergency Management Agency distributing supplies in Lahaina to community members directly impacted by the fires.



*Photo: The NOAA vessel R/V Koholā can be seen at the entrance to Lahaina Harbor as it provides support to the U.S. Coast Guard. The waters surrounding Lahaina are part of the Hawaiian Islands Humpback Whale National Marine Sanctuary.*



*Photo: A group of tourists helped fill the NOAA vessel with supplies at the Kīhei Boat Ramp before going to Lahaina.*

**The Hawaiian Islands Humpback Whale National Marine Sanctuary partners with NOAA Fisheries to mitigate risks associated with large whale entanglements while mitigating human risks associated with Maui wildfires**

While NOAA Hawaiian Islands Humpback Whale National Marine Sanctuary assisted emergency services and the local community with the aftermath of the numerous and damaging wildfires on Maui, it was also leading another emergency response effort – large whale entanglement response in Alaska. The sanctuary works with its partners NOAA Fisheries' Office of Protected Resources to lead and coordinate large whale entanglement response efforts around the Hawaiian Islands, and NOAA Fisheries Protected Resources in the Alaska Region to provide training, assist with response readiness, and help respond to entangled whales around Alaska. Ed Lyman, the sanctuary's Natural Resource Specialist and Large Whale Entanglement Response Coordinator recently conducted whale response trainings for more than 40 responders, representing 18 agencies, organizations, and tribal communities, in four communities of Sitka, Kodiak, Homer, and Juneau over a span of less than two weeks. The training involves both classroom and hands-on components and are intensive with each training session representing approximately 12 hours. Over 120 trainings have been conducted from Dutch Harbor to Ketchikan, Alaska through this long-term partnership (18 years) between NOAA Fisheries and Sanctuary. Ed also provided advice and logistic support for five authorized response efforts to entangled whales over the last month and a half, at times acting as Incident Commander for the efforts. The sanctuary has been working with NOAA Fisheries, state and federal agencies, indigenous communities, and communities in general in Alaska for 18 years.



*Photos (Ed Lyman/NOAA): (Left) Trainees, including agency partners, in Sitka, Alaska involved in multi-day large whale entanglement response training. (Right) Responders aboard a NOAA Office of Law Enforcement vessel practice large whale entanglement response techniques and become familiar with the tools in Kodiak, Alaska.*



*Trainees, including agency partners, in Homer, Alaska involved in multi-day large whale entanglement response training (Photo credit: Ed Lyman/ NOAA)*

### **HIHWNMS staff leads deployment of acoustic moorings in collaboration with PIFSC and DLNR-DAR**

On August 30 HIHWNMS staff deployed two acoustic moorings in La Perouse Bay on Maui as part of a collaborative effort to monitor spinner dolphin occurrence in the bay in partnership with the Pacific Islands Fisheries Science Center (PIFSC) and the Hawai'i Department of Land and Natural Resources' Division of Aquatic Resources (DAR). The moorings will be retrieved with DAR's assistance in early December 2023 and the data will be analyzed by University of Hawai'i at Manoa PhD student Megan McElligott for the occurrence of spinner dolphin acoustic signals. The results will be compared to similar acoustic monitoring efforts in other parts of Maui Nui to better understand the importance of La Perouse Bay to spinner dolphins. This information will be used by PIFSC to determine whether a proposed time-area closure of the bay to limit

disturbance of spinner dolphin resting behavior by public and commercial dolphin watching activities is warranted.

### **Hawaiian Islands Humpback Whale National Marine Sanctuary joins an on-water memorial for those impacted by the August 8 Lahaina wildfires**

Hawaiian Islands Humpback Whale National Marine Sanctuary staff onboard the sanctuary research and response vessel, R/V Koholā, participated in the community memorial “Paddle Out” and flower drop on September 8th, 2023, which marked the one-month anniversary of the Lahaina fires. The event was held offshore of Ukumehame, Maui. Over 1,000 surfers, paddleboarders, kayakers, and swimmers escorted by dozens of boats were part of the very touching and emotional memorial. Maui Fire Department’s Air One helicopter released flowers over the crowd. The event gave the community and our ‘ohana an opportunity to honor those who were lost and begin to heal.



*Sanctuary research and response vessel, Koholā, provides safety and emotional support during the “Paddle Out” memorial ceremony, marking the one-month anniversary of the Maui wildfires. Photo credit: E. Lyman*

### **The Center for Coastal Studies replaces whale disentanglement tools that were lost in the Lahaina fires.**

The Center for Coastal Studies generously donated whale disentanglement tools to replace some of those lost in the Lahaina fires. For over a decade now, the West Maui Rapid Response Team (WMRPT), led by Lee James, and their dedicated research and response platforms have been major contributors and supporters of the sanctuary’s monitoring programs and large whale response efforts. On August 8th, the Maui fires that devastated Lahaina also melted the WMRT’s disentanglement tools. The replacement gear donated by the Center for Coastal

Studies is valued at \$6,000 and will enable the West Maui team to start rebuilding its cache and aid the sanctuary in response efforts this upcoming season.



*The Center for Coastal Studies logo. The organization is located in Provincetown, MA, on Cape Cod. This area is another epicenter for whale entanglement, response, and training. Photo credit: CCS*

### **Hawaiian Islands Humpback Whale National Marine Sanctuary participates in OEM training to further use of Uncrewed Aerial Systems in sanctuary whale monitoring and response programs**

Hawaiian Islands Humpback Whale National Marine Sanctuary staff participated in a multi-day Original Equipment Manufacturer (OEM) training provided by TeeDee UAS LLC as part of the sanctuary's goal to broaden the use of Uncrewed Aircraft Systems (UAS) for whale research and response efforts. Hawaiian Islands Humpback Whale National Marine Sanctuary has been using UAS platforms since 2016 to provide critical risk assessment in their monitoring and large whale response programs. Over the years, the sanctuary has collaborated with Woods Hole Oceanographic Institute, NOAA Fisheries Office of Protected Resources, Oceans Unmanned, and others to advance the use of UAS platforms to help protect whales. Last season, the sanctuary worked with Ocean Alliance, experts in the use of UAS platforms to study whales, to build our capacity to use UAS to deploy non-invasive suction-cup tags, towed camera arrays, and disentanglement tools. The sanctuary plans to continue working with Ocean Alliance this upcoming season. The OEM training, along with other requirements and assistance from Uncrewed Aircraft Systems Division (UASD) will allow the sanctuary to safely and effectively make use of tools like UAS and telemetry to better garner information on whales and the risk factors that threaten them.



*Hawaiian Islands Humpback Whale National Marine Sanctuary staff, affiliates, and UAS trainers pose for a drone-obtained team shot at the end of their OEM training (photo credit: Jesse Hoffman)*

## Hawaiian Islands Humpback Whale National Marine Sanctuary assists with rescue of humpback whale outside Glacier Bay National Park and Preserve



Serving in his capacity as Regional Large Whale Entanglement Response Coordinator, HIIHW's Natural Resources Specialist, Ed Lyman, recently assisted with and advised on the rescue of an entangled humpback whale outside of Glacier Bay National Park and Preserve, Alaska. On October 10, 2023, the adult animal was reported entangled in a crab pot buoy line that was through its mouth and around its tail – essentially hogtying the animal in place and representing a complex, life-threatening entanglement. Ed provided critical assessment on the entanglement, helped formulate an appropriate action plan, and helped oversee the response operation. On October 11, a trained and authorized team from the National Park Service, the Alaska Whale Foundation, and others successfully freed the whale from its life-threatening entanglement. Ed provided large whale entanglement response training to Glacier Bay National Park and Preserve just last year and, over the past 17 years, has helped train multiple communities across Alaska through a partnership with the NMFS'

Marine Mammal Health and Stranding Response Program.

*Photo\_Fred Sharpe, Alaska Whale Foundation*

## Community Turns Out for Hōkūleʻa Waʻa Model Building at Kauaʻi Ocean Discovery

Kauaʻi Ocean Discovery partnered with a Hōkūleʻa crew member and Kauaʻi maritime educator to host a “Build a Waʻa” event on Saturday, October 14, the last Saturday of Fall Break for Hawaiʻi public school students. The free make-&-take event to build wooden models of Polynesian voyaging canoe Hōkūleʻa celebrated its multi-year pan-Pacific voyage, Moananuiākea. Guests built 115 model canoes during this three-hour event.



Five activity stations for building and testing models of voyaging canoe Hōkūle‘a were set up outside of Kaua‘i Ocean Discovery at Kukui Grove Center. (Photo: Jean Souza/NOAA)

### **HIHWNMS Research Team Publishes Findings from Acoustic Research**

During the month of October, the HIHWNMS research team led or co-authored the publication of two new papers based on results from the sanctuary’s acoustic monitoring efforts. The first paper authored by Marc Lammers,\* Eden Zang,\* Anke Kügler,\* and Aran Mooney is titled *Measuring fluctuation in Humpback whale presence in Hawaii based on song chorusing levels* and was published in the book Effects of Noise on Aquatic Life: Principles and Practical Considerations (Springer. A.N. Popper, J. Sisneros, A. Hawkins and F. Thomsen, Eds.). It describes changes in the abundance of humpback whales off Maui during an eight-year period as determined by the volume of whale song recorded at a long-term acoustic monitoring site off Olowalu, Maui. The second paper authored by Pina Gruden, Junsu Jang, Anke Kügler,\* Thomas Kropfreiter, Ludovic Tenorio-Halle, Marc Lammers,\* Aaron Thode, and Florian Meyer is titled *Automating multi-target tracking of singing humpback whales recorded with vector sensors* and was published in the Journal of the Acoustical Society of America. It describes a novel algorithm for more accurately tracking singing humpback whales using acoustic vector sensors. In 2020 and 2021, HIHWNMS collaborated with Dr. Aaron Thode of the Scripps Institution of Oceanography to deploy three passive acoustic vector sensors in waters off West Maui to record singing humpback whales. This collaboration has expanded to include partners at the University of Hawai‘i who developed the algorithms described in the paper. NOTE: \* denotes current or former HIHWNMS staff.

## **HIHWNMS Records the “First Sightings” of Humpback Whales on Their Seasonal Return to Sanctuary Waters**

For the past two decades, HIHWNMS has logged the annual return of humpback whales to sanctuary and surrounding waters around the Hawaiian Islands. This year, the first sighting was confirmed on October 9th off the island of Kaua‘i. The date equates to the median for first sightings over all Hawaiian Islands for the past 20 years. The first sighting off Maui was reported 15 days later on Oct 24th, representing the latest initial sighting off the island in over 20 years. In most years (10 out of the last 13) the initial statewide sighting was off Maui. This may simply represent the effects of a reduced reporting base in and around Maui resulting from fewer boats – and therefore eyes – on the water. Nearly half of the commercial fleet (tour vessels, fishing charters, ferries, etc.) were either lost or are out of commission due to the loss of supporting infrastructure (harbor space, fueling dock, storage, etc). These changes pose many challenges, and it is incumbent upon HIHW and our research partners to better understand the possible impacts of these changes on humpback whales. For example, this year the sanctuary will look at stress hormones in the animals obtained from both biopsy and breath samples (collected via drones) to quantify the possible effects of changes in vessel traffic on the animals, and assess contaminant levels in the animals should water-quality tests show elevated levels of harmful materials in the water column once the whales arrive. For now, we are happy to welcome the whales back to the islands as we prepare for a busy research season.



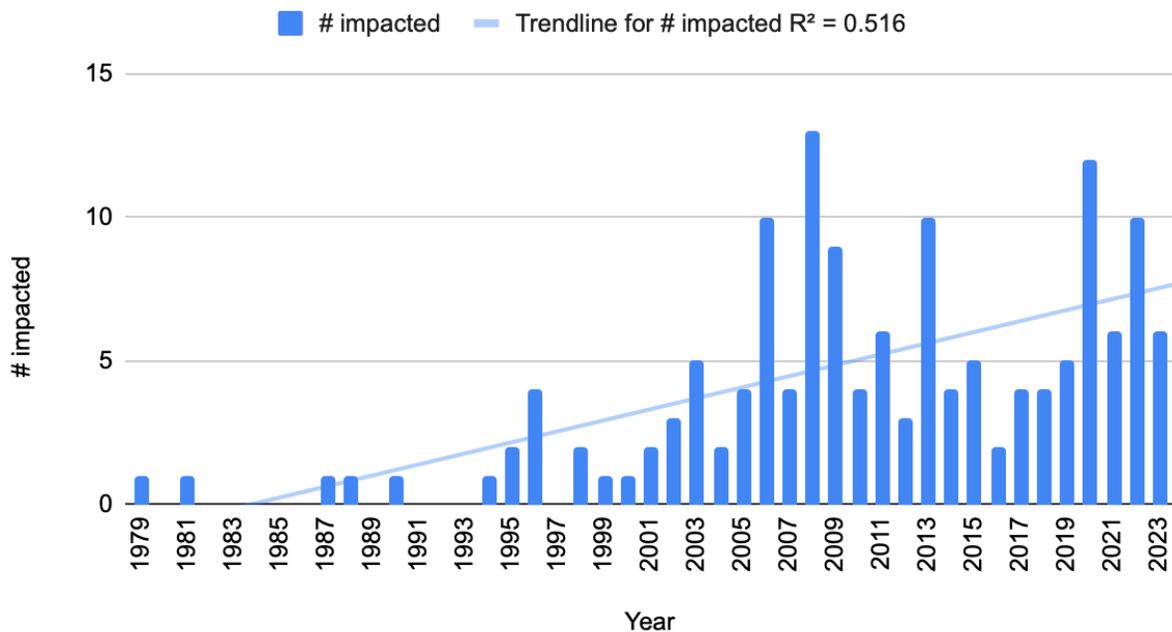
A humpback whale eyes the camera that is documenting health and risk parameters. Photo Ed Lyman, NOAA permit 20311

## **HIHWNMS conducts targeted outreach to members of Maui’s tour industry on the risk of whale-vessel contacts to animals and ocean users.**

In preparation for the upcoming whale season, HIHWNMS staff provided targeted outreach to members of Maui’s tour industry on the threat that whale-vessel collisions pose to both the animals and the industry itself. Over 40 vessel captains, naturalists, crew, and pursers attended the hour-long presentation. The presentation provided background on the threat, what the sanctuary has learned over the years, a review of best practices to mitigate the risk, and some

new guidance quantifying what represents a safe speed during whale season. In the past, the sanctuary has referred to values based on research from the East Coast focused on North Atlantic right whales and very large vessels. However, recent research conducted by the sanctuary and its partners, Pacific Whale Foundation (PWF), have determined that vessel speeds of 15 knots or less transiting during whale season (December - April) and speeds of 6 knot or less around directed approaches within 400 yards or less to the animal will reduce risks and impacts of whale-vessel collisions. The sanctuary and PWF, working with the State of Hawai'i Division of Aquatic Resources, are conducting multiple outreach efforts, including a website outlining best practices, and outreach efforts like the one with the tour industry off Maui.

### # impacted vs. Year



*The sanctuary also works with NOAA Fisheries to review reports towards serious injury determinations, which further quantify the impact of vessel contact to the animals and feed stock assessment reports.*

### **Hawaiian Islands Humpback Whale National Marine Sanctuary prepares for 22<sup>nd</sup> Hawai'i whale entanglement response season**

Over the past 22 years, Hawaiian Islands Humpback Whale National Marine Sanctuary (HIHW) has been working in partnership with the NMFS's Marine Mammal Health and Stranding Response Program (MMHSRP), other state and federal agencies, and the on-water community to free large whales from life-threatening entanglements while collecting valuable information to reduce the threat. The successful disentanglement of multi-ton animals relies heavily on experience and training to mitigate risks for the whales and the authorized teams that respond. During the last week of October, Maria Harvey, the Sanctuary and Lynker's Large Whale

Entanglement Response, Resource Protection, and Monitoring Assistant, led multiple trainings in Kona on the island of Hawai'i for 13 individuals representing eight organizations, including our sanctuary co-managers from the State Division of Aquatic Resources (DAR), Captain Zodiac, UnCruise, Kaimana Ocean Safari, and others. Together, we completed shoreside training, classroom briefs, and two hands-on on-water trainings with trainees volunteering more than 20 hours over the course of three days to learn about disentanglement techniques.



*Photo: Hawai'i Island disentanglement trainees posing in front of the whale-training fluke. Donated Captain Zodiac vessel (for training) in the background. Credit: Maria Harvey*



*Photo: Hawai'i Island disentanglement trainees learning how to make strategic cuts on an entangled whale, using the wooden Gladden training tail. Credit: C. Dabney*

## HIHWNMS Celebrates Halloween with the Community at Maui Ocean Center

Ghosts and goblins mixed with jellyfish, sharks, and angler fish to celebrate Halloween at Maui Ocean Center. HIHW Education Coordinator, Patty Miller, and six HIHW volunteers joined the festivities, making shark hats and Baby Shark puppets with hundreds of kids. The sanctuary hosted an information table with puzzles, challenges, and craft activities. Maui Ocean Center featured special talks and exhibits about the scarier critters found in the Aquarium, frightful movies in the big dome theater, a parade of costumed kids, and a costume contest. Maui Ocean Center is sponsoring fun special activities for local families that have been impacted by the Lahaina fires. Sanctuary staff and volunteers are always happy to support their efforts.



*Photo, Left: Local student modeling a shark headband, Credit: Patty Miller*

*Photo, right: Sanctuary volunteers get into the Halloween spirit to help, Credit: Patty Miller*

[In 1991, just 5000 humpback whales went to Hawaii. Now, they're rebounding. - SFGATE](#)

SFGATE-Lyman is the natural resource specialist for the Hawaiian Islands Humpback Whale National Marine Sanctuary. Based on Maui, he monitors and ..

[Federal Government to Form Team to Protect Pacific Humpbacks From Deadly Entanglements](#)

Center for Biological Diversity-A response team led by the Hawaiian Islands Humpback Whale National Marine Sanctuary working closely with NOAA Fisheries successfully rescued an ...

[Caution urged with mother and calf whales back in Hawaii waters - Maui News](#)

Maui News-The Maui News The Humpback Whale National Marine Sanctuary is asking ocean users to use caution with the start of whale season and early reports ...

[Officials urge ocean vigilance during humpback whale ...](#)

Honolulu Star-Advertiser-The Hawaiian Islands Humpback Whale National Marine Sanctuary says careful attention is particularly critical due to early reports of mother and calf pairs ...

[Mother, Calf Whale Pairs Spotted In Hawai'i Waters - Big Island Video News](#)

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