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Alaska Region

# Alaska Marine Mammal Stranding and Entanglement Newsletter

## Winter 2024



24-hour stranding hotline:  
**1-877-925-7773**

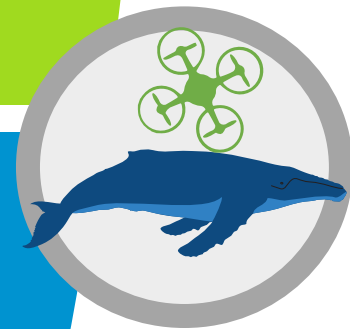
# Alaska Marine Mammal Stranding and Entanglement Newsletter

## Winter 2024



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# Alaska Marine Mammal Stranding and Entanglement Network

2025 Annual Meeting

January 31 8:00 a.m. – 1:00 p.m.

*Location: Captain Cook Hotel (room pending)*



Google Meet Link: Pending

**For more information contact:** [mandy.keogh@noaa.gov](mailto:mandy.keogh@noaa.gov)

# Greetings from the stranding coordinator

By  
Mandy Keogh



As of October 22, 2024 there have been 209 strandings reported in Alaska. We rely on the public to report stranded, injured, or entangled marine mammals. Often the initial report and photos collected by the public will be the only opportunity to learn about these events. And thanks to Kim Raum-Suryan, Pinniped Entanglement Coordinator, we have new outreach materials on 'How to report marine mammal Strandings & Entanglements' and 'How to report sea lion brands'. These one page flyers can be posted or shared, and provide guidance on the information and photos to collect if you comes across a stranded and/or entangled marine mammal or if you see a branded sea lion. Both flyers are included in this newsletter, but please let us know if you would like a separate electronic or printed version.

In 2024, NOAA Fisheries recommended awarding 37 grants totaling more than \$4 million, through the [John H. Prescott Marine Mammal Rescue and Assistance Grant Program](#) to stranding network members in 16 states. Two awards were recommended For Alaska Marine Mammal Stranding Network members: University of Alaska Anchorage and the Alaska SeaLife Center.

We are currently planning for the annual Alaska Stranding Network Meeting on Friday, January 31, 2024 as an in person and virtual meeting. While we are still working on the logistics and agenda we have requested the meeting as a workshop at the Captain Cook hotel during the 2025 Alaska Marine Science Symposium (see the invitation on page 3). We will also send updates with the final details and meeting agenda as they are finalized. Reach out to me ([mandy.keogh@noaa.gov](mailto:mandy.keogh@noaa.gov)) if you have any questions or to request topics for the stranding meeting.

There were several noteworthy events throughout Alaska, with a few recent events highlighted below:

- ***Entangled Cook Inlet beluga whale:*** On October 1st and 2nd, a Cook Inlet beluga whale with a black object wrapped around its body was reported to NOAA's stranding hotline. This report documented with photographs, led to a massive effort involving more than 18 organizations, agencies, businesses and volunteers. Learn more about this effort and the planning involved [here](#)



*An entangled Cook Inlet beluga whale was observed on October 1st and 2nd with a black object wrapped around its body. Credit: Drew Lenz, 61 North Environmental, used with permission.*





- **St Paul Island Group Event:** On August 18, 2024 the Aleut Community of St Paul Island reported 10 northern fur seal carcasses on Benson Beach along with a large number of dead halibut and rock sole. ACSPI collected and froze several carcasses, three northern fur seals and several fish were sent to AVPS for necropsies. On October 7, 2024 an additional two fur seals were necropsied on St Paul Island by veterinarians and community members with samples sent to AVPS. Samples were collected for HABs, multiple pathogens including high path avian influenza (HPAI). All samples were negative for HPAI and the other laboratory results are pending.



These two events highlight just how well our Alaska Marine Mammal Stranding and Entanglement network operates, as we continually work together to respond to critically important events for live and dead animals. Reach out to me ([mandy.keogh@noaa.gov](mailto:mandy.keogh@noaa.gov)) if you have any questions or to request topics for future newsletters..

## Alaska Veterinary Pathology Services

AVPS is looking for **FRESH entire, intact, marine mammal carcasses** from SW/Western Alaska including the Aleutian Islands to examine for the **ECOHAB: Trophic Transfer and Impacts of Harmful Algal Toxins in Arctic and Subarctic Food Webs project**.

This can be any marine mammal including sea otters and walruses. AVPS can provide funds for supplies and shipment. If you come across a carcass, please contact Natalie Rouse at [avps.natalie.rouse@avps.com](mailto:avps.natalie.rouse@avps.com) or 402-499-9515 **to get permit approvals** and arrange shipment. Thank you!



Humpback whale (2024097), Elfin Cove



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### What is a stranded marine mammal?

An animal that is either dead, or is alive but unable to return to the water and/or in need of medical attention.

### What is an entangled marine mammal?

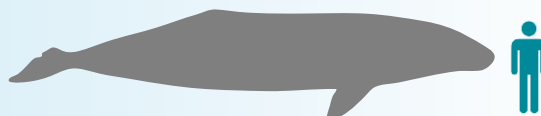
An animal that is wrapped in or has ingested fishing gear or other marine debris, which can cause injuries, infection, or make it difficult for the animal to swim or feed.

# HOW TO REPORT MARINE MAMMAL STRANDINGS & ENTANGLEMENTS

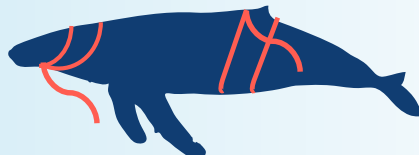
## How do I collect information?



- If the animal is dead, take a photo of the entire animal with a person or object next to the animal to show scale then close-up photos.

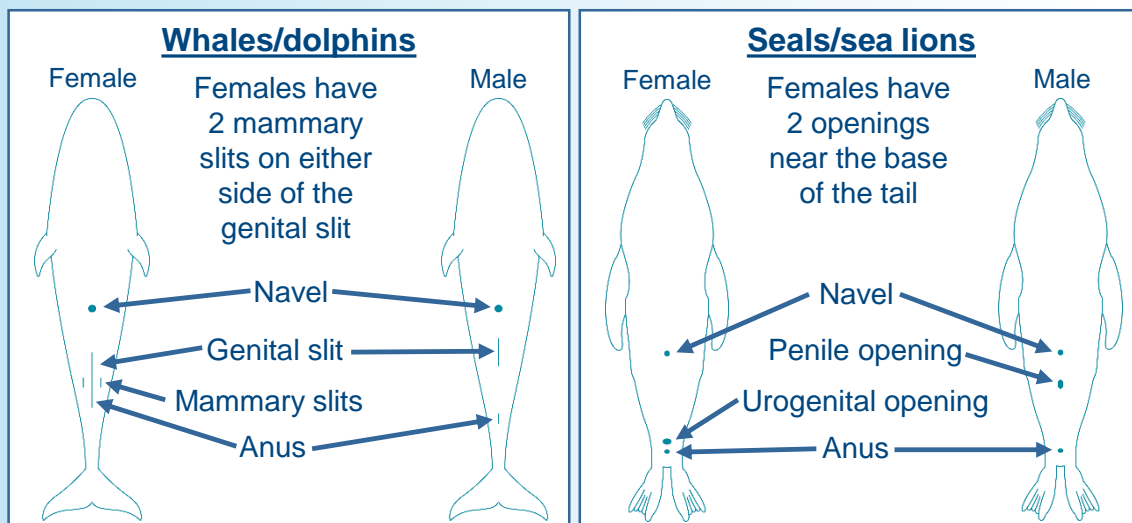


- If the animal is alive, on land or in the water, stay at least 100 meters away, take photos of the entire animal, the injury, or entanglement.



## How can I determine if the animal is male or female?

If the ventral surface (or belly) is showing, take photos of the entire ventral surface and close up photos of the characteristics below:



## How do I report?

- To report a dead, injured, or entangled marine mammal in Alaska, call (877) 925-7773 (24/7 hotline).
- Provide date, location (including latitude/longitude), number of animals, and species. Take pictures from different angles if you are able.



## What does it cost to be a humpback whale?

### *Using drones to measure the size, growth, and energy requirements of humpback whales across Hawai'i and Southeast Alaska*



In 2018, the Marine Mammal Research Program (MMRP) at the University of Hawai'i at Mānoa and the Alaska Whale Foundation (AWF) initiated a long-term collaboration to assess the body size and condition of North Pacific humpback whales throughout their migration. Leveraging recent advancements in Unoccupied Aerial Systems (UAS or drones) and aerial photogrammetry, we now have a powerful, non-invasive method for measuring baleen whale growth and body condition over large spatial and temporal scales. To measure a whale, we launch a drone from the boat, fly it towards the whale, and position it ~130ft above the whale as it surfaces. Once overhead, a video is recorded with the drone altitude constantly measured by the custom altimeter. Ideally, the whale is positioned flat on the surface, stretched out with all body contours clearly visible (see Figure 1 for an example). Drone altitude and camera focal length are used to scale the image, allowing us to convert the length of a whale (in pixels) into an absolute length (measured in meters). The total body length and width (in 5% intervals) of an individual whale is measured using customized software, providing estimates of body proportions standardized by body length. Using these proportions, we can then calculate the total body volume of the whale at that point in time. By comparing the body volume of whales across a range of body lengths, we can develop a metric of body condition that can be directly compared over space and time.

By Martin van Aswegen  
Marine Mammal Research Program  
Hawaii Institute of Marine Biology  
University of Hawaii at Manoa

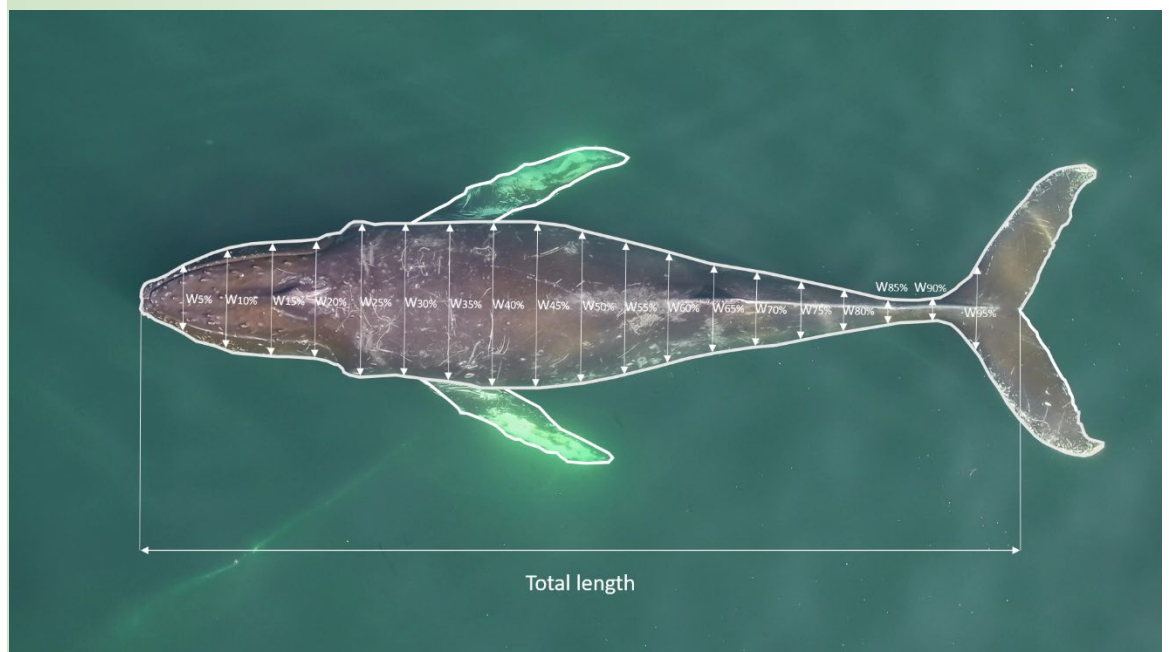


Figure 1. An example of an aerial image used to measure whale length and body width (in 5% increments). Research activities under NOAA Permit Nos 19703 and 21476.



Body condition, which reflects an animal's energy reserves, serves as a proxy for health and provides valuable insights into ecosystem productivity. Animals in better body condition typically maintain greater resilience and survival (Clutton-Brock & Sheldon, 2010), with energy reserves representing a form of currency used by organisms to fund key life functions including but not limited to growth, migration and reproduction (Costa & Maresh, 2018; Lockyer, 2007). Several recent studies have emphasized the widespread and ongoing effects of the 2015-2016 Pacific Marine Heatwave on ecosystems (Arimitsu et al., 2021; Piatt et al., 2020; Suryan et al., 2021). Notably, these impacts include significant declines in humpback whale abundance, reproductive output, and calf survival declining markedly (Cartwright et al., 2019; Cheeseman et al., 2024; Gabriele et al., 2022; Kügler et al., 2020). With marine heatwaves already increasing in frequency, duration, and severity due to changing climate (Frölicher et al., 2018), it is vital we determine how the energy budgets and health of top predators vary naturally and in response to such environmental stressors.

To date, our team has measured over 10,500 humpback whales across their Hawaiian breeding and Southeast Alaskan feeding grounds, with many whales sampled within the same season, over multiple years and across the Pacific. Between 2019 and 2023, I had the pleasure of sampling these whales across their breeding and feeding grounds as part of my PhD program at the Hawai'i Institute of Marine Biology. The primary focus of my PhD work has been to quantify the amount of energy required for reproduction and growth, focusing primarily on females and their calves. By following whales for up to eight months of the year, I have been lucky to track specific individuals over large spatial and temporal scales.

One example is SEAK-181, a well-known mature female first observed in the 80s. We have been tracking her body condition in southeast Alaska and Hawai'i every year since 2018. We have been able to quantify how her body condition changes throughout the year relative to her reproductive status (resting, pregnant, and lactating). Figure 2 provides visual examples of how her body shape differs across years and reproductive statuses while Figure 3 shows the respective body width measurements of SEAK-181 while she was a resting female in 2018 (no calf present and not pregnant), in early and mid-pregnancy in 2019 and in mid-lactation with a calf in 2020. Note the relative changes in her body width around the 50-60% measurement sites. The peak difference in body width between mid-pregnancy and mid-lactation (about one year), was 53cm with SEAK-181 in worse body condition during mid-lactation despite being on the feeding grounds for several months. Since we could not measure SEAK-181 in late-pregnancy, the absolute body width decrease is likely much greater, highlighting the high energetic costs associated with lactation.



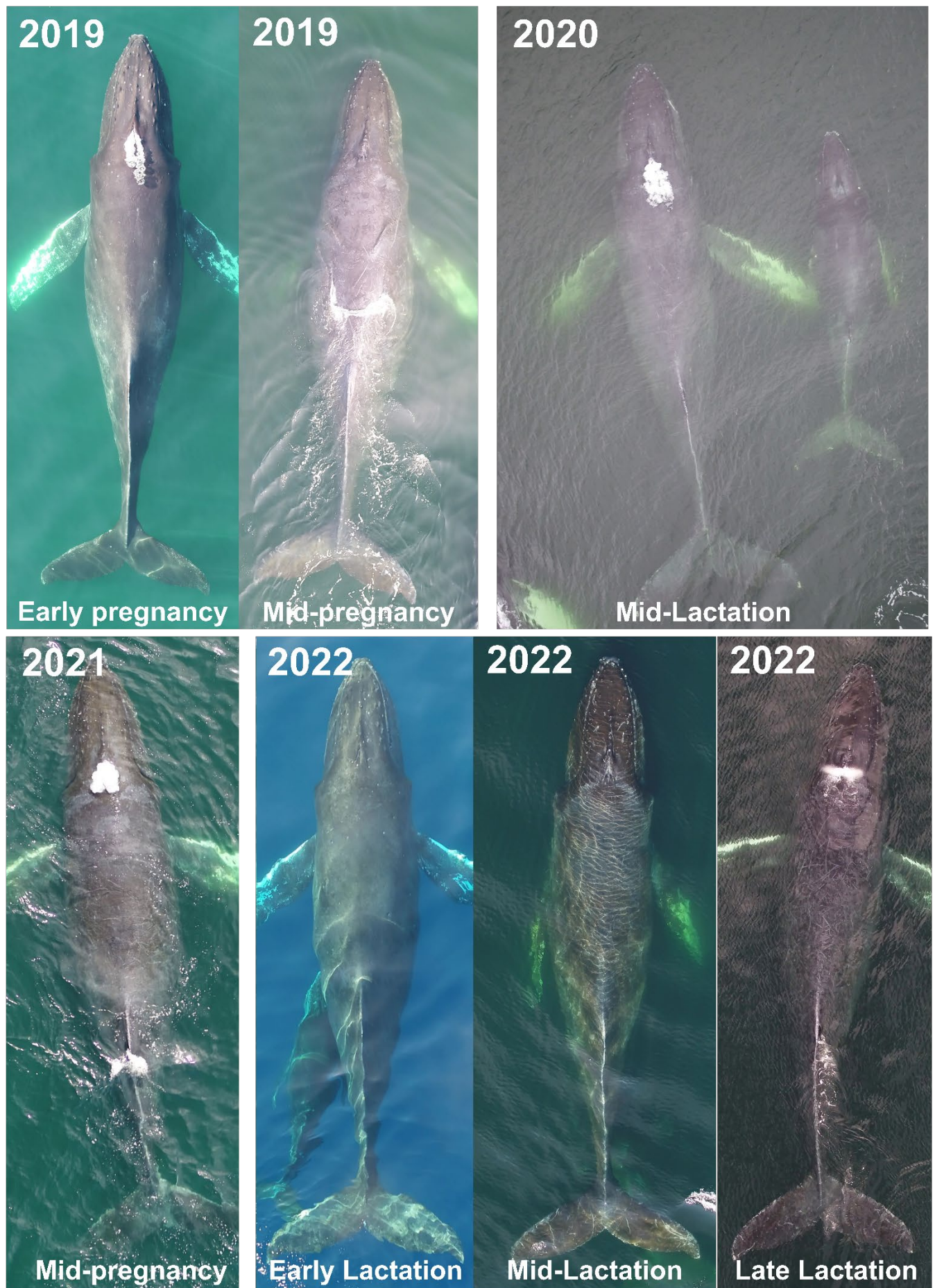


Figure 2. Aerial images of SEAK-181 over four years in Southeast Alaska and one measurement in Hawai'i. She was pregnant in 2019 and raised a large calf in 2020. She was measured as pregnant again in 2021, with subsequent measurements of SEAK-181 with her calf in Hawai'i and Southeast Alaska throughout 2022. Research activities under NOAA Permit Nos 19703 and 21476.

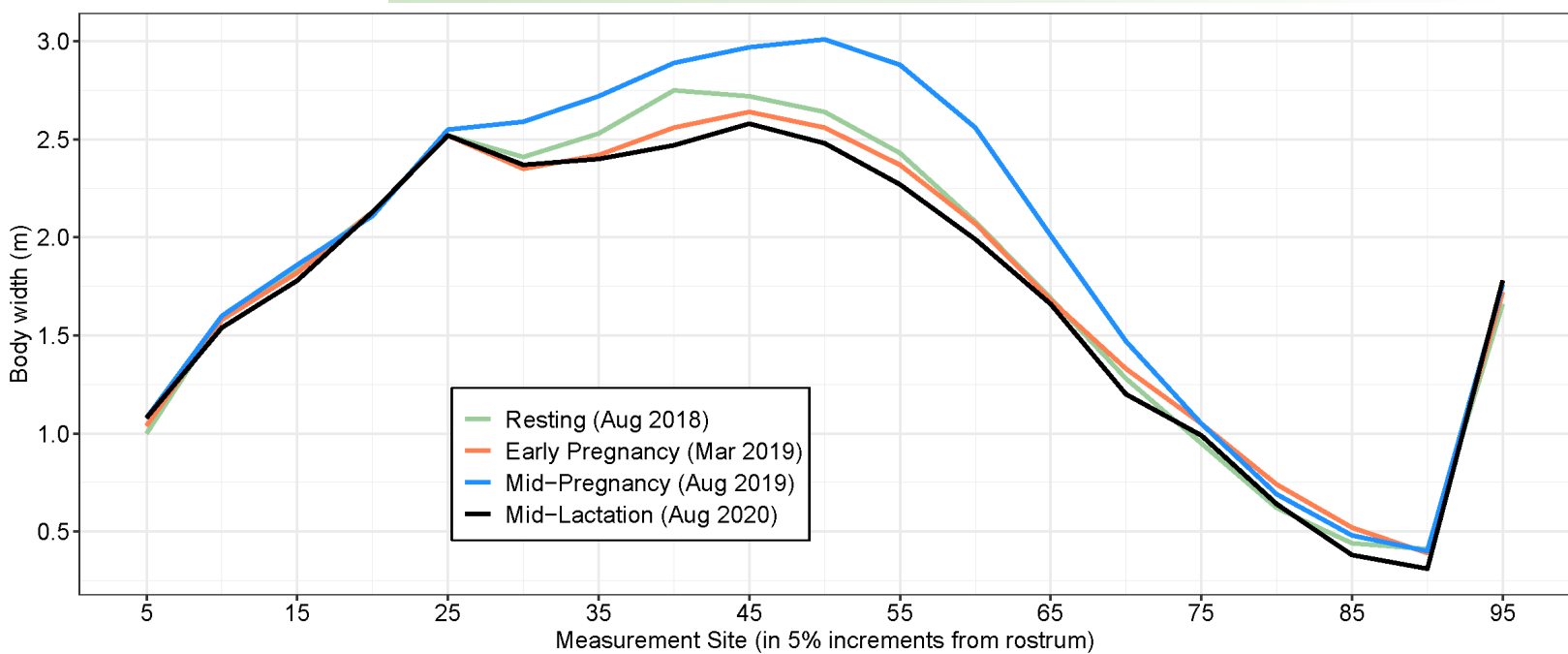


Figure 3. Body width measurements of SEAK-181 across years and reproductive phases as shown by the top row in figure 2. Note the classic ‘baby bump’ profile at the 55% measurement site measured during mid-pregnancy (in blue). The 5%, 25% and 95% measurement sites on the x-axis represent the rostrum (snout), eye and fluke sites on the whale.

We recently had two manuscripts accepted following peer review, with the goal of publishing both studies in November 2024. The first study quantifies the energetic cost of pregnancy in humpback whales, incorporating fetal growth, placental tissue development, and associated metabolic costs. The second study estimates the cost of reproduction following birth, focusing on maternal investment, body condition and calf growth across the Hawaiian breeding and Southeast Alaskan feeding grounds. This work would not be possible without the support of many hard working individuals and groups in the Pacific and abroad. I would like to thank all the wonderful folks who have assisted with this work over the years, the various funding groups who have made this work possible and our research partners in Southeast Alaska and Hawai‘i.

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By  
Natalie Rouse

## Stranding network highlight: Alaska Veterinary Pathology Services

AVPS has held a Stranding Agreement and has been responding to dead stranded marine mammals statewide since 2010. It has two full time employees: Dr. Kathy Burek Huntington - board-certified veterinary pathologist, and Natalie Rouse, necropsy biologist. Based out of the University of Alaska Anchorage (UAA), AVPS has more than 75 volunteers who assist with stranding responses including veterinary pathologists, veterinarians and veterinary technicians. We are thankful to our collaborators who took time this last year from their busy schedules to help lead necropsies throughout the state. These responses are no small chore and we are lucky to work with such a talented and dedicated team!



Dr. Melanie Iverson, veterinary pathologist



Dr. Emily Iacobucci, Dr. Emmanuelle Furst, and technician  
Charlene Woodward



## Did you know?



Dr. Burek and Natalie Rouse measuring a Cook Inlet beluga whale

Since 2019, AVPS/UAA has been supported by Prescott grants to maintain a necropsy laboratory and freezer bank which serves as a central repository for marine mammal samples located at UAA. Grant funds provide for samples from necropsies performed by AVPS/UAA as well as network partners to be shipped to Anchorage, sorted, labeled, sub-sampled (if necessary), inventoried, housed at optimal temperatures and distributed to permitted researchers and archives via bulk shipments from the Anchorage hub. Network partners are provided with annual summaries of all samples submitted to AVPS/UAA, sample dispositions, test results and

associated information in the 1st quarter of every year. This allows for maximum efficiency and use of samples and information collected from stranded animals.

AVPS/UAA also offers remote assistance to stranding network members across Alaska with guidance on sample collection, shipping, laboratory analysis, necropsy supplies and sample tracking as required by NOAA permit No 24359. Some communities have even hosted us for in-person trainings which helps to expand and improve the stranding response on remote coastlines. For current samples lists, necropsy forms and Standard Operational Protocols for sample handling and shipping please visit our website at:

<https://veterinarypathologyservicesalaska.com/>

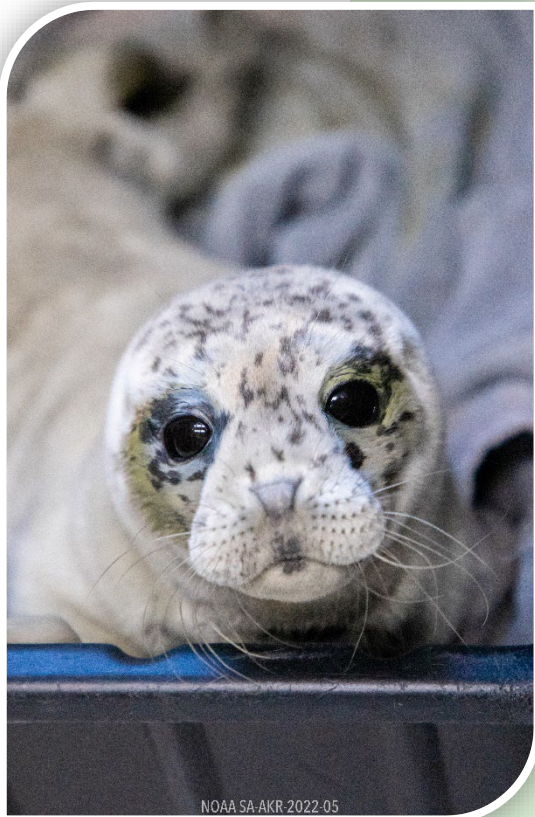




## *Successful Rehabilitation Season!!!*

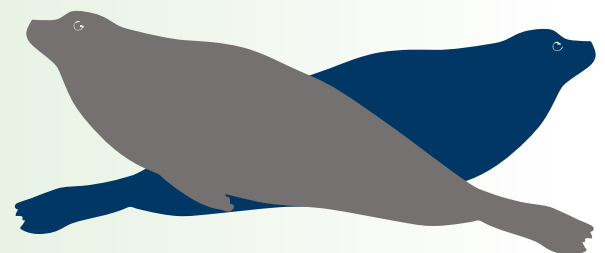
The Alaska SeaLife Center is pleased to report another successful season. 2024 was the year of “peppers!” This year, we admitted seven harbor seal pups, of which six were successfully released at the end of summer. Unfortunately, one premature pup, Ghost, was humanely euthanized shortly after admission due to being too underdeveloped to survive independently.

Among the pups admitted was Pepperoncini, a female who came to us on May 9th with the highest total bilirubin level we’ve ever recorded. After specialized treatment and around-the-clock feeds, she recovered and was fitted with a satellite tracker before release. Zorro, admitted on May 20th, arrived significantly dehydrated and with superficial wounds. Cayenne, admitted on May 27th, was found at just three days old and required treatment for elevated liver values and symptoms of megaesophagus.



Picosita, rescued on June 4th, received care for dehydration and injuries, and like Pepperoncini, she was also fitted with a satellite tracker after rehabilitation. All four pups shared a large pool to promote competitive hunting, and they were released on September 5th in Kenai, where over 100 community members gathered to celebrate their return to the ocean.

By  
Savannah Costner  
Animal Care Specialist





Shishito and Reaper rounded out the group. Shishito overcame dehydration, high liver values, and megaesophagus, while Reaper recovered from tremors and other health challenges after being found wedged in rocks. Shishito was released with a satellite tag, enabling us to track his post-release behavior.

Stranding locations for these pups included Nikiski, Kenai, Bradley Lake, the Copper River Delta, Naknek, and Wrangell. The releases took place at various sites, including Kenai (four pups), Naknek (one pup), and Wrangell (one pup). Following the releases, ASLC's Wildlife Response staff conducted educational programs for local school children, fostering community awareness about marine mammal conservation in both Naknek and Wrangell.

As we wrap up this successful season of seal rehabilitation, we want to extend our heartfelt gratitude to all our partners and supporters who made this possible. In addition to the seven harbor seal pups, we also successfully rehabilitated a walrus calf, six goldeneye ducklings, and a pigeon guillemot chick, highlighting the breadth of our wildlife care efforts. Stay tuned for our next update, where we'll share insights from the satellite tags fitted to some of our released seals, shedding light on their journeys post-release!





## Aleut Community of St Paul Island update

By  
Chelsea Kovalcsik  
Aleut Community  
of St Paul Island  
University of  
Alaska Fairbanks

For our third summer of dedicated disentanglement surveys we successfully disentangled 27 northern fur seals on St. Paul Island and one fur seal on St. George Island. We disentangled 12 adult male fur seals, 13 subadults (11 confirmed male, two unconfirmed), and two pups. We successfully disentangled more adult male NFS this year than in previous years – in part due to our increased skill levels and comfort working together – and this was all done with our noose poles (not the capture nets). However, we did lose three noose poles this summer and have been unable to replace them yet. NOAA Protected Resources Division sent us two new nets, with zippers down both sides, and we are particularly excited about using these nets next year! One issue we ran into with our current nets (that only have one zipper down the side) is that we would sometimes need to reposition the animal to access the marine debris. We are hoping that with these new nets, with two zippers, we won't have to move the animal nearly as much. Overall, our numbers were lower this summer than previous summers due to staffing – we had multiple members of our crew leave island this summer for extended periods of time and that made getting a full team together challenging, but not impossible. We focused on using our nets, crawling in to minimize disturbance, and only making attempts on seals we felt confident our smaller team could successfully handle.

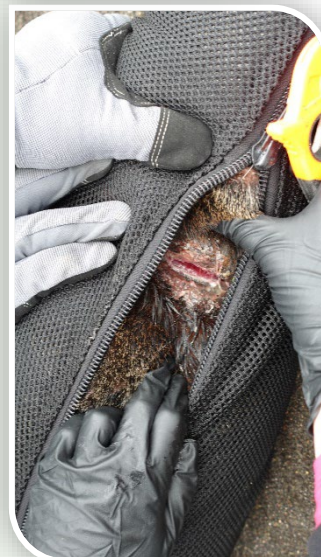
Out of the 27 seals we disentangled, 18 involved packing bands while seven were trawl net/rope of some kind. Out of the 27 seals we disentangled, 11 were considered a D2, four were considered a D3, and 10 were considered a D4 according to the Guide to Pinniped “Degree of Entanglement Severity” Codes created by NOAA. We continue to have tremendous success with our disentanglement program on island – from our skills at disentanglement to community and network-wide support for our little group. We truly appreciate all the support and guidance we have been given and look forward to sharing more at the Society for Marine Mammalogy Conference in Perth, Australia this November!







*Summer 2024 disentangling northern fur seals on St Paul Island*







*Way to go!!*

*ACSPI disentangled  
more adult male  
northern fur seals  
this year than in  
previous years!!*





## Entangled humpback whales in Unalaska Bay in 2024

Humpback whales can be spotted in Unalaska Bay year-round, but most sightings occur in the summer months when locals look forward to large groups of whales coming into the bay to feed and put on a show. In 2024, locals from Unalaska came together twice to respond to two entangled humpback whales visiting the area.

Krista Milani with the National Marine Fisheries Service (NMFS) and Asia Beder with the Alaska Department of Fish and Game (ADF&G) were in the process of organizing a Large Whale Entanglement Response (LWER) training for later in the summer when a call came in on April 1st that was no April Fools' Day joke. A young, male humpback found itself hogtied in fishing gear and anchored in a high traffic area in Iliuliuk Bay. Although in good condition and able to breathe without issue, the threat of vessel strikes was a high concern. Thanks to help from drone pilots with the City of Unalaska and some underwater video that Ethan Nichols and Asia Beder at ADF&G obtained, the Alaska Marine Mammal Entanglement Response Network determined that with strategic cutting there was a good chance of freeing the whale. With the help of two NOAA LWER experts, Ed Lyman, Large Whale Entanglement Coordinator for the Hawaiian Islands Humpback Whale National Marine Sanctuary from Maui, Hawaii, and Sadie Wright, LWER Coordinator for the NOAA Fisheries Alaska Region from Juneau, Alaska, local volunteers assisted with successfully freeing the whale on April 5th. See the full web story [here](#) for more details and video on this response.

By  
Asia Beder, ADF&G  
Assistant Area Management  
Biologist



Large whale entanglement experts, Ed Lyman and Sadie Wright, coordinate an approach plan with vessel captain Ethan Nichols before engaging with an entangled humpback whale in Iliuliuk Bay. Photo Credit: Asia Beder, ADF&G.

In early June, Ed Lyman returned to Unalaska to lead a LWER training and assist the community in creating a response team for future stranding and entanglement efforts in the area. Joined by Dr. Suzie Teerlink from Juneau, Alaska, 19 folks participated in classroom and shoreside training. Additionally, Ed and Suzie collaborated with the Museum of the Aleutians to offer an evening of talks on whales for the community. Their talks and the community discussion can be watched on the [Museum of the Aleutians YouTube channel](#).



Local volunteers attend a large whale entanglement response training in Unalaska in June led by Ed Lyman, Large Whale Entanglement Coordinator for the Hawaiian Islands Humpback Whale National Marine Sanctuary from Maui, Hawaii. Photo courtesy of Asia Beder, ADF&G.

On July 21st, local boaters encountered another humpback whale in Nateekin Bay that was entangled in what is assumed to be subsistence crab gear. Asia Beder at ADF&G organized two vessels with volunteers to go out the following afternoon to see if the whale could be resighted. Both vessels surveyed Nateekin Bay and then split up to survey other parts of Unalaska Bay. The whale was resighted heading out of the bay and would not cooperate to allow further data on the entanglement to be collected. The whale was trailing an orange bullet shaped buoy with an unknown amount of line and no sightings have been reported since.





An entangled whale was last spotted on July 22 leaving Unalaska Bay trailing a faded orange bullet-shaped buoy about one foot long and 4.5 inches wide, along with an unknown length of loose line. Photo Credit: David Gibson.

Asia Beder has been volunteering with the stranding network since 2020 and attended a LWER training in Seward in 2021. This year offered opportunities for some huge hands-on learning experiences. The largest obstacles during the April response were tracking down poles/knives/etc that had been sent to the island many years prior, organizing vessels and volunteers, and pulling together safety equipment before Ed and Sadie arrived. Collaboration with Alaska Marine Traffic, USCG, local processors, and harbor staff was essential in advising vessels in the area on the current location of the whale to minimize the potential of a vessel strike. Although adjustments had to be made, the whale disentanglement exoscope was a great piece of equipment to have. When ADF&G got on the water earlier in the week to collect underwater video footage, they attached a GoPro to the carbon fiber polls and blindly hoped they caught decent footage. The exoscope allowed a real time view of where the whale was compared to the previous equipment and allowed the vessel operator an opportunity to better align the boat. Although more mobile and less willing to work with us, I felt more prepared when the second whale was reported in July. I learned a lot during the response in April and also have a better list of volunteers and local resources available after spending time with other locals during the LWER training.



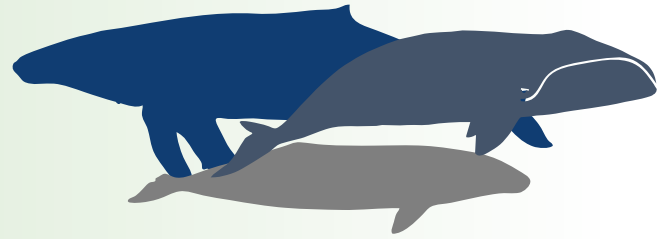
Map of Unalaska Bay showing the location where each humpback whale was seen in 2024.

Highlight your efforts by submitting photos of stranding responses for use in outreach to:

[mmhsrp.images@noaa.gov](mailto:mmhsrp.images@noaa.gov)







## Stranded Baleen Whales in Alaska: 2010-2022

### Baleen Species in Alaska:

Blue whale  
Bowhead whale  
Fin whale  
Gray whale  
Humpback whale  
Minke whale  
North Pacific Right whale  
Sei whale

By  
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Kate Savage  
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Jamie Musbach  
Michelle Trifari  
Caroline Cummings

Eight species of baleen whales inhabit Alaska waters for at least part of the year, seven of which have one or more distinct population segment listed as threatened or endangered under the Endangered Species Act. To better understand baleen whale strandings in Alaska, we reviewed all stranding records for baleen whales (Level A and Human Interaction forms, necropsy reports, and images) between 2010-2022. We also reviewed records listed as unknown whale, unknown cetacean or similar, to determine if these strandings could be identified to a more specific taxonomic level (Table 1). Records were reviewed to confirm species, sex, and for evidence of killer whale predation, vessel strike, and entanglement. All data was queried from the National Stranding Database and are current as of October 17, 2024. Only confirmed reports are included. Reports of free swimming, entangled baleen whales or vessel strikes observed at sea with no associated carcass are not included in this dataset.

Table 1. Categories and definitions used to classify unknown or unidentified cetaceans when we could not determine the species.

Balaenoptera whale	Cannot determine species within family Balaenoptera (blue, fin, sei, or minke)
Rorqual whale	Cannot determine family level: Balaenoptera or Megaptera (humpback whale)
Baleen whale	Cannot be identified to a lower taxonomic level
Cetacean	Cannot distinguish if it is a toothed or baleen whale; not included in the dataset

### Summary

Over the 12-year dataset, 728 strandings were confirmed comprising of six baleen species. No sei whales or North Pacific right whales were reported, though three whales were classified as unidentified Balaenoptera and 63 as unidentified baleen whales. The vast majority of stranded whales were dead (98.1%), and only 12 whales were alive when initially observed. The state of decomposition (Figure 1) and the remote location of most strandings limited the data and samples that were collected.

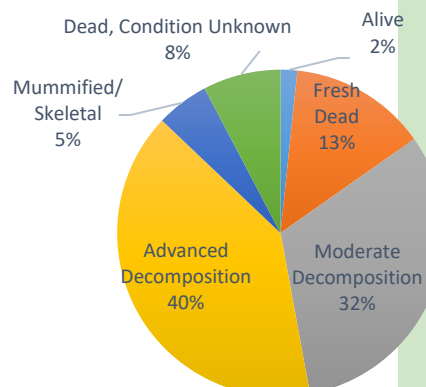


Figure 1. Proportion of strandings by decomposition at the initial observation.

Annually, strandings ranged between 25 and 96 baleen whales (Figure 2). The most common species reported were gray whales (n=295), followed by humpback whales (n=233) and bowhead whales (n=70). Across all years of the dataset, humpback whales were the dominate species stranded in southeast, southcentral and Gulf of Alaska subregions (Figure 3). Gray whales and bowhead whales were the dominate species reported in the Bering Sea and Arctic subregions (Figure 3).

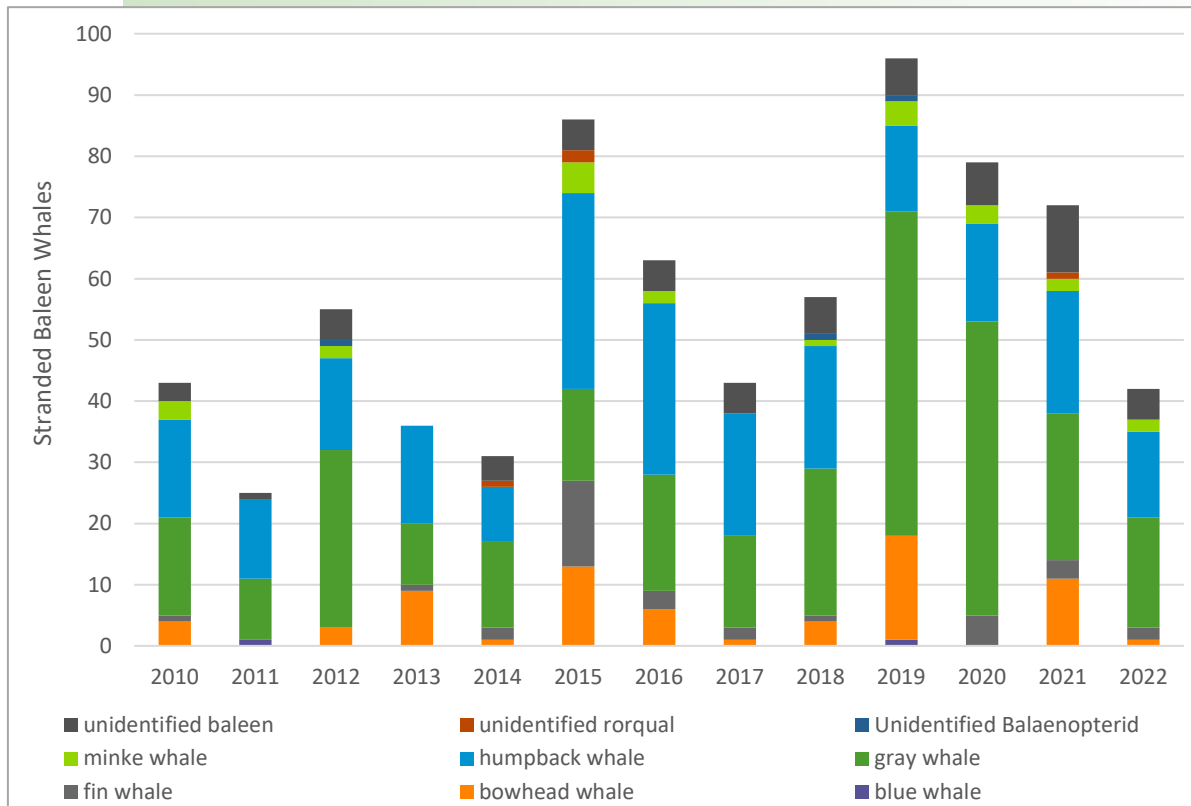


Figure 2. Strandings of baleen whales in Alaska (2010-2022) by species and year.

## Humpback whales



In addition to the spatial differences in humpback whale strandings in Alaska, we also found variation among years. Between 2010 and 2014 humpback whale strandings ranged between nine and 16 each year ( $14 \pm 3$  whales). In 2015, there were 32 stranded humpback whales reported, a more than a two-fold increase compared to the previous four years. The elevated strandings continued through 2016 with 28 humpback whale strandings in Alaska. The increase in strandings in 2015 and 2016 were largely driven by strandings in the Gulf of Alaska and to a lesser extent Southeast (Figure 4). There was an Unusual Mortality Event (UME) declared in the Western Gulf of Alaska involving [22 humpback whales and 12 fin whales](#) in 2015 and six humpback whales in 2016. This increase in humpback whale strandings coincided with the 2014-2016 Northeast Pacific marine heatwave. The UME was determined to be one of many indicators of a broader ecologic change and these changes were most likely a contributory factor to the UME. While the UME did not include the southeast region when it was declared, since then researchers have found a decline in survival and reproductive success of humpback whales in southeast Alaska (Gabriele et al., 2023).





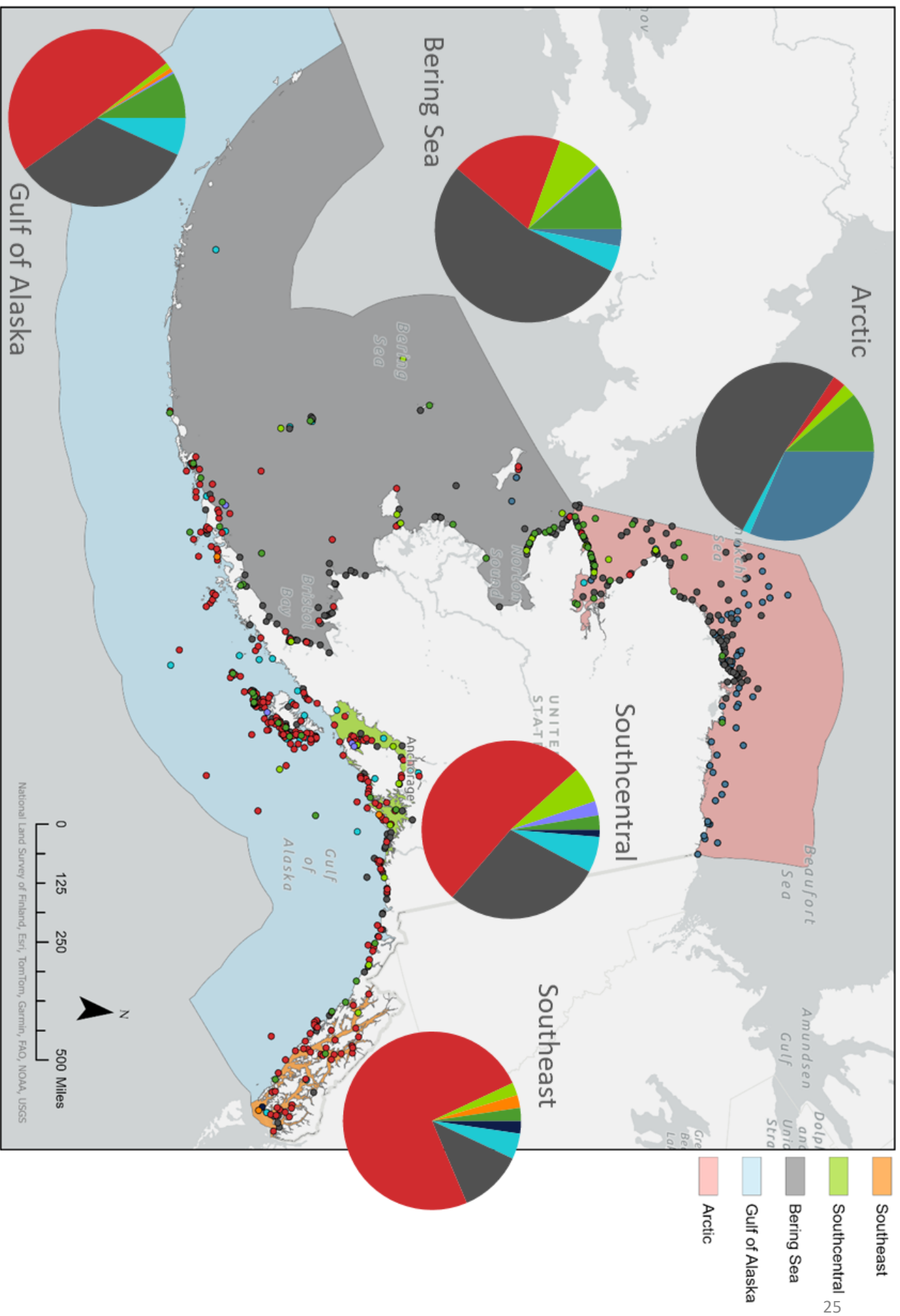


Figure 3. Map of baleen whale strandings in Alaska (2010-2022) by species. Pie charts display the proportion of baleen whale by species within each subregion (Arctic, Bering Sea, Gulf of Alaska, Southcentral, and Southeast).

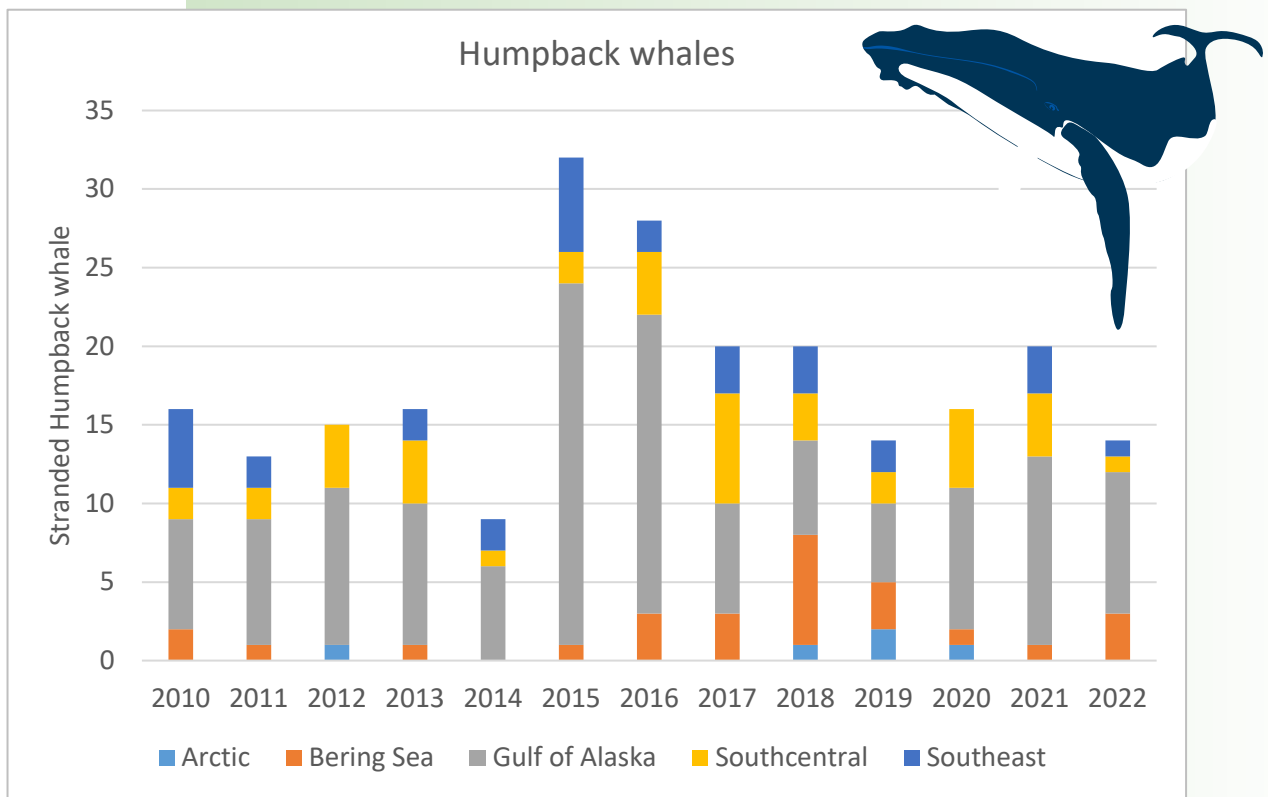


Figure 4. Humpback whale strandings in Alaska (2010-2022) by subregion and year.

While humpback whale strandings were less frequent in northern latitudes (Figure 5), they were the second most common baleen whale to strand in the Bering Sea subregion (Figure 2) and were reported stranded in the Arctic subregion in 2012 and each year from 2018 to 2020 (Figure 4).

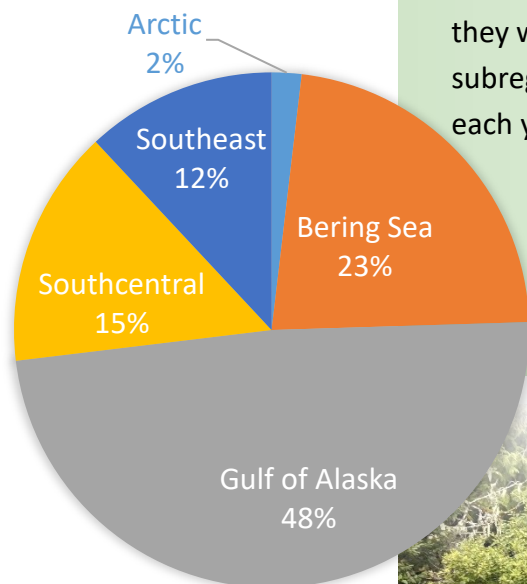


Figure 5. Humpback whale strandings in Alaska by subregion across all years (2010-2022) .



Humpback whale (2024227) Squam Bay Prince of Wales Island





## Gray whales

Gray whales stranded in all subregions within Alaska and became the dominate species reported in the more northern latitudes (Figure 3). Annual gray whale strandings ranged between 10 and 53 whales. Gray whale strandings increased by 2.2 fold in 2012 but returned to previous levels in 2013 (Figure 6). The subregion with the most gray whale strandings reported varied each year, though across years the Arctic was the predominate subregion while the Gulf of Alaska and Southeast showed the most variation.

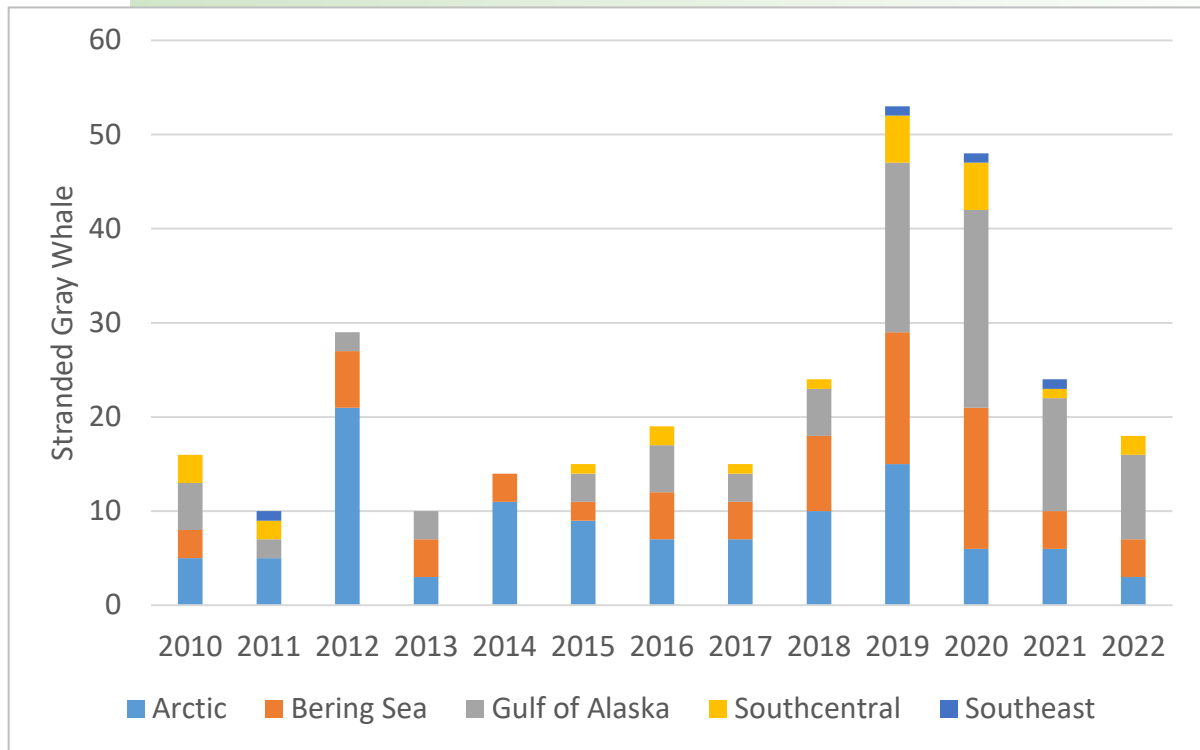
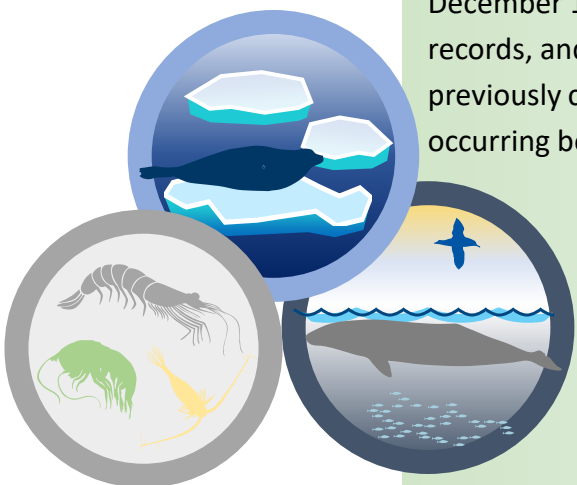
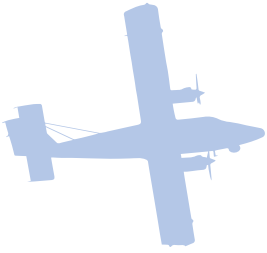


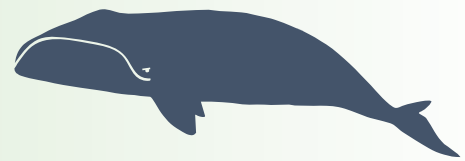
Figure 6. Gray whale strandings in Alaska (2010-2022) by subregion and year.

There was a dramatic increase in reported strandings in 2019 and 2020 (Figure 6). First observed in their breeding grounds in Mexico, increased strandings rippled north along the entire migratory route north to the Arctic feeding grounds. This increase in strandings lead NMFS to declare an UME for the [eastern North Pacific gray whales](#) from December 17, 2018 through November 9, 2023. Additional stranding reports, review of records, and genetic analysis has revealed higher numbers of stranded gray whales than previously captured by previous summaries, with 143 total gray whale strandings occurring between 2019 and 2022 in Alaska.





## Bowhead whales



Bowhead whale strandings were reported in the Arctic (n=66) and northern portion of the Bering Sea (N=4) subregions (Figure 3). The majority of reported bowhead whales (60%) originated from dedicated surveys for live whales by NOAA, Bureau of Ocean Energy Management, and the North Slope Borough. These surveys documented entanglement, vessel strike, and killer whale predation of bowhead whales (and other species observed opportunistically) in the high Arctic, but were ended in 2019. With the end of these surveys we expect the number of reported stranded marine mammals in the Arctic, Chukchi, and Beaufort Seas, to show a dramatic decline in the coming years due to loss of survey effort, rather than a true reduction in occurrence of dead stranded baleen whales.

## Killer whale predation on baleen whales

We applied a case definition protocol for determining cause of death due to killer whale predation on 562 baleen whale carcasses (Figure 7; as of 10/16/2024). Ninety-four strandings did not have photos to evaluate and the review of 62 carcasses are pending. Of the 562 strandings that have been evaluated, the likelihood of killer whale predation as a cause of death could not be determined in 231 cases (42%), often due to advanced decomposition, scavenging, position of the carcass, low-quality imagery, and/or photographic perspective of carcass precluded accurate full evaluation. An additional 2.5% of the cases did not have a final classification as the three reviewers did not come to a majority agreement.

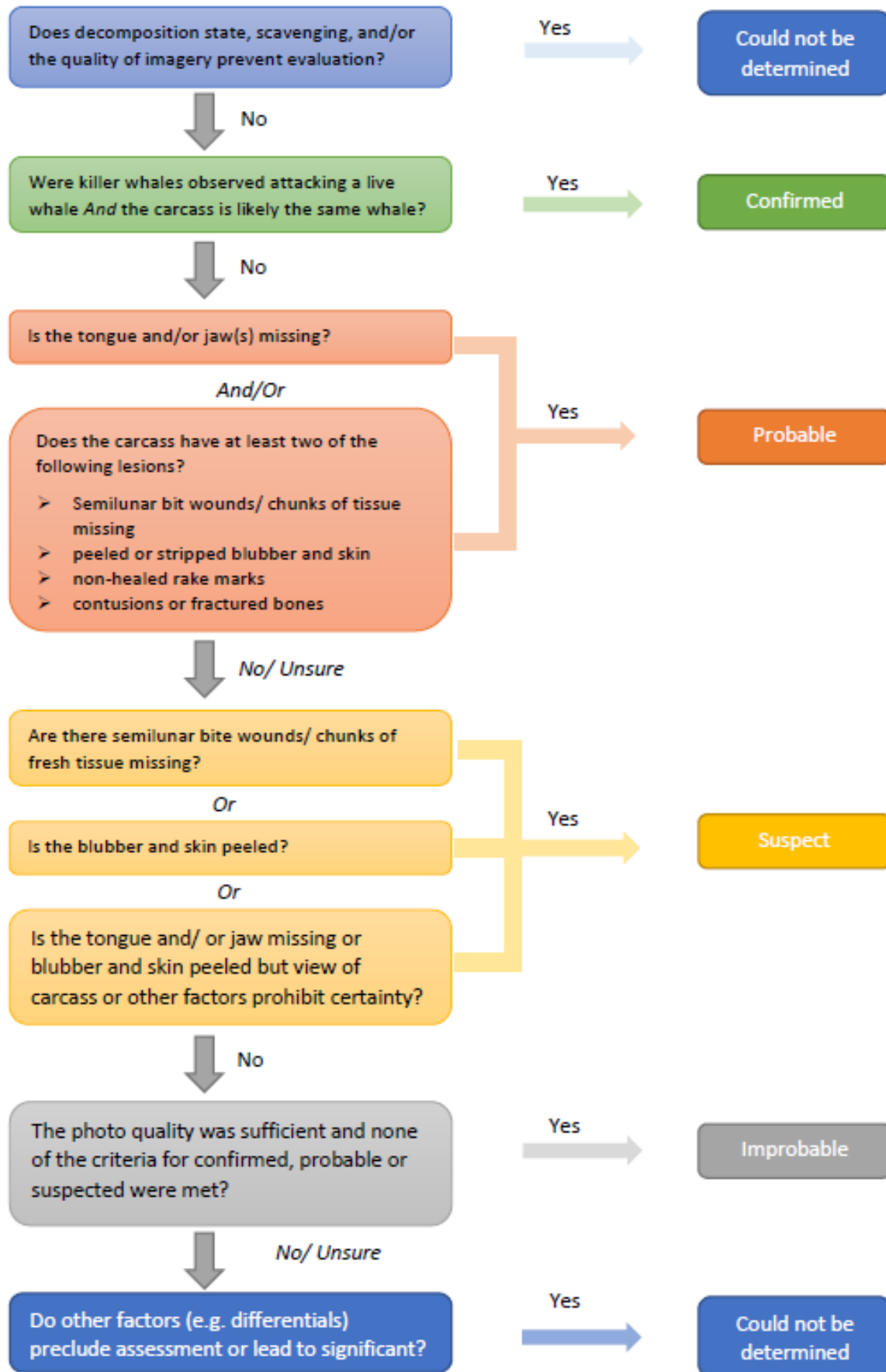
The carcasses with a final determination were: 33.1% improbable, 4.1% suspect, and 18.9% probable cause of death from killer whale predation. There were two confirmed cases where the killer whale predation of a live whale was observed and the carcass found. When we combine confirmed, probable, and suspected cases, four species of baleen whales were likely to have been predated on by killer whales within Alaska waters (Table 2). None of these carcasses were observed within the inside waters of southeast Alaska, though there were four humpback whale carcasses on the outer coast near Sitka with evidence of killer whale predation (Figure 7).

Table 2. Carcasses likely to have died due to predation by killer whales in Alaska by baleen whale species.

	Confirmed	Probable	Suspect
Bowhead whale		10	7
Gray whale		46	5
Humpback whale	2	49	9
Minke whale		1	2



**APPENDIX I: Flow chart to determine killer whale predation as a cause of death in large whales**



Note: The level of confidence may increase if killer whales were observed in the area

Figure 7. Flow chart showing the protocol for evaluating photos for signs of killer whale predation.

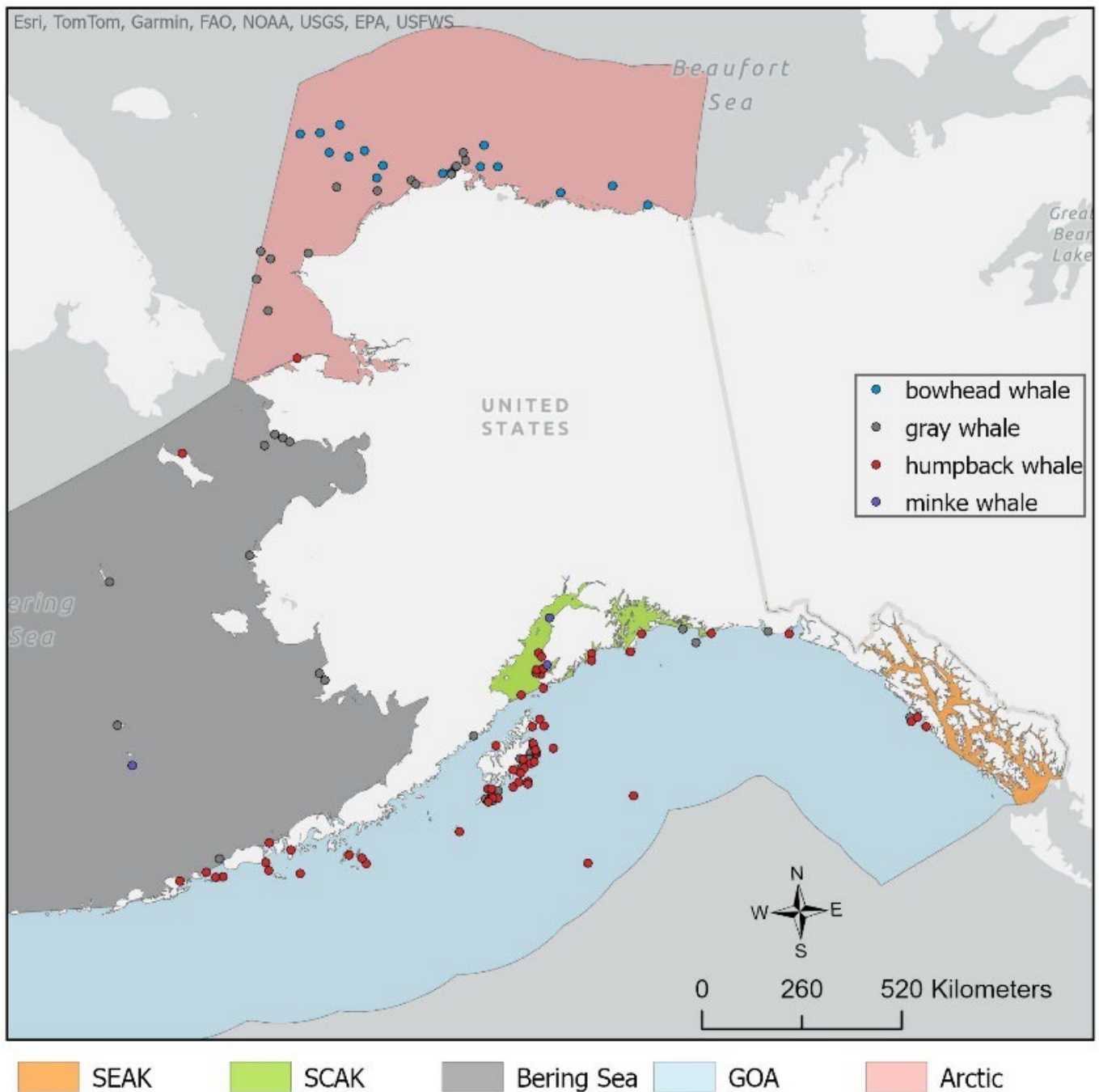


Figure 7. Stranding location of baleen whales with evidence of killer whale predation as a cause of death. These reports include confirmed, probable, and suspected cases.

### What's next?

Our next steps are to complete the evaluation of the remaining 62 strandings with photos for likelihood of killer whale predation as a cause of death. We also plan to summarize the human interactions documented in these strandings and to explore more the spatial and temporal patterns of baleen whale strandings in Alaska.





## NOAA FISHERIES Alaska Region



The population of Steller sea lions declined by more than 80% from the 1970's through early 2000's. Steller sea lions west of 144° W longitude are listed as endangered under the Endangered Species Act (ESA).

To report a dead, injured, or entangled marine mammal in Alaska, call (877) 925-7773 (24/7 operator).

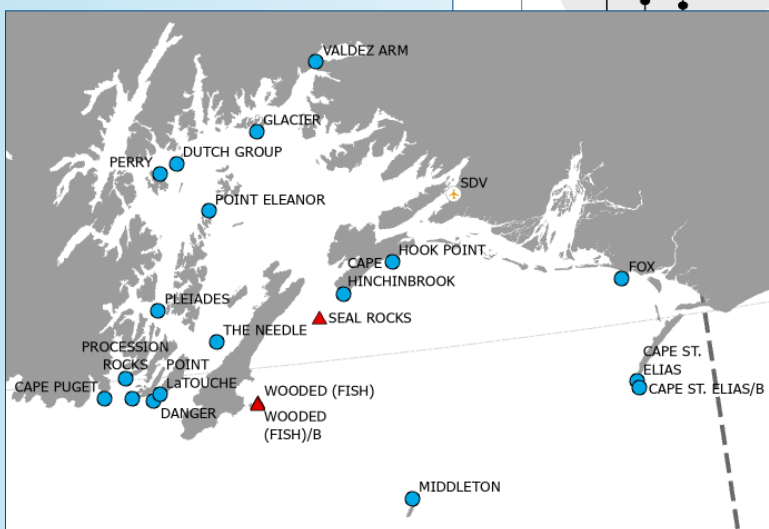
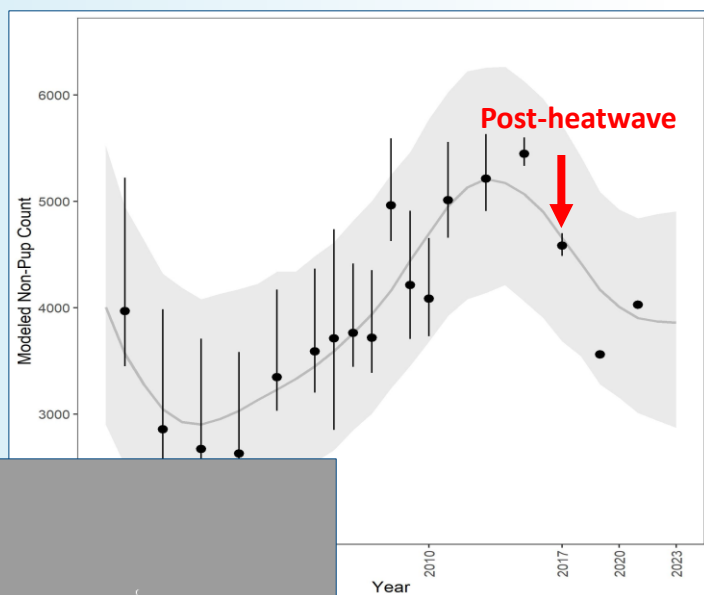
# SEA LIONS – KNOW THE FACTS

It is illegal to harass, hunt, capture, or kill sea lions (or attempt such) unless you are an Alaska Native and the take is for subsistence purposes (food or handicraft) and is not accomplished in a wasteful manner.

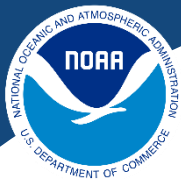
## Status

- While the endangered western population of Steller sea lions has been increasing slowly overall since 2003, there are strong regional differences across the range. The population continues to decline in the central and western Aleutian Islands and recent declines in the eastern and central Gulf of Alaska regions are of high concern.
- The 2014-2016 North Pacific marine heatwave was one of the most severe ever recorded and resulted in reduced prey, a decline in pup births between 2015 and 2017 in the Gulf of Alaska, and a significant decline in adult female Steller sea lions in the Gulf of Alaska, Southeast Alaska, and the Aleutian Islands.

Right: Modeled counts of non-pup Steller sea lions in Prince William Sound and surrounding area from 1993-2023 showing the decline of Steller sea lions after the 2014-2016 heatwave.



Above: Steller sea lion haulout and rookery locations in Prince William Sound used to show modeled counts.



**NOAA**  
**FISHERIES**  
Alaska Region



### Brand Locations

A: Ugamak Is.

E: Fish Is./Chiswell Is.

F: Forrester Is.

H: Hazy Is.

J: Seal Rocks (Prince William Sound)

R: Rogue Reef, OR

T: Marmot Is.

V: Graves Rocks

W: White Sisters

X: Sugarloaf Is.

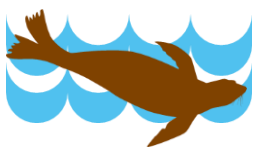
Y: St. George Reef, CA/Rogue Reef, OR

~ Agattu

> Ulak

= various locations

\*Steller sea lions are also branded in Russia



**To report a  
dead, injured, or  
entangled marine  
mammal in  
Alaska, call (877)  
925-7773 (24/7  
operator).**

# HOW TO REPORT SEA LION BRANDS

## Why do we brand sea lions?

- Permanent marking allows scientists to monitor survival, reproduction, and movements from known individuals over their lifetime.

## How are Steller sea lions branded?

- They are hot-branded while under anesthesia administered by veterinarians.

## Brand description

- Brands are on the left side of the body only
- The first or last letter/symbol denotes birth site
- Numbers identify the individual



Above: examples of branded Steller sea lions

## How do I approach sea lions?



- Under the Marine Mammal Protection Act, it is unlawful to harass sea lions. This includes acting in a manner that disrupts their normal behavioral patterns.
- Maintain 100 yards or more from sea lions. Sea lions have a keen sense of smell and can be easily disturbed.
- Approach from downwind. If the wind is behind you, stay further away and use extra caution.

## How do I report branded Steller sea lions?



- Take photos of the entire animal, showing the full brand (partial brands may still be useful too). You may need to take several photos to capture the entire brand.
- Send date, location of observation, and photos to:  
[akr.prd.sealions@noaa.gov](mailto:akr.prd.sealions@noaa.gov) and  
[dfg.dwc.sealions@alaska.gov](mailto:dfg.dwc.sealions@alaska.gov)





Harbor seal pup (2024061), Kenai

## Alaska Region Stranding Agreement Holders

- Alaska Consortium of Zooarcheologists
- Alaska SeaLife Center
- Alaska Veterinary Pathology Services
- Alaska Whale Foundation
- Aleut Community of St. Paul
- Chichagof Conservation Council
- Glacier Bay National Park
- North Slope Borough
- Petersburg Marine Mammal Center
- Sun'aq Tribe of Kodiak
- University of Alaska Fairbanks, Alaska Sea Grant, Marine Advisory Program
- University of Alaska Southeast, Juneau
- University of Alaska Southeast, Sitka
- University of Alaska Fairbanks, Museum of the North

## 109(h) Federal, State, Tribal, and Local Officials

- Alaska Department of Fish and Game  
Division of Wildlife Conservation
- Yakutat Ranger District, Tongass National Forest
- NOAA Fisheries Alaska Region Protected Resources Division
- NOAA Office of Law Enforcement
- Alaska State Wildlife Troopers
- U.S. Coast Guard



Cuvier's beaked whale (2024208), Shemya Island

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24-hour stranding hotline:  
1-877-925-7773

