# Alaska Region Marine Mammal Stranding Network

**Winter/Spring 2015 Newsletter**

## SAVE THE DATE!

**The National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), and the Alaska SeaLife Center (ASLC) proudly announce their 10th Annual Alaska Marine Mammal Stranding Network Meeting, Wednesday April 1st through Friday, April 3rd, 2015 at the ASLC in Seward.**

## In this issue:


**Page 2 - 3**

Greetings from the Coordinator

**Page 4 - 12**

2014 in Review

**Page 13 – 14**

Disentangling Sea Lions in SEAK

**Page 15**

ASLC: 2014 Stranding and Rehabilitation

**Page 16 – 17**

Announcements and FYIs

**Page 18 - 20**

Recent Stranding and Health Articles


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# Greetings from the Coordinator

Greetings Alaska Stranding Network,

We look forward to seeing you soon for the 10th annual Alaska Stranding Network Meeting in Seward, hosted by the Alaska SeaLife Center (ASLC), from April 1-3, 2015. This is the second year of ASLC's grant to focus on oil spill preparedness and response, including a spill scenario with wildlife response for the network to work through, capitalizing on what was learned at last year's meeting.

In this issue of the newsletter, Kate Savage gives you a comprehensive look at 2014 strandings as compared to historical data, Justin Jenniges from ADF&G covers Steller sea lion entanglement response, and Halley Warner from the ASLC provides a retrospective of their 2014 cases. In addition, a few announcements:

- **Membership:** We have a new member in our midst! The Sitka Sound Science Center (SSSC) signed a Stranding Agreement with NMFS in September 2014. Their primary geographic response area is Sitka Sound and adjacent waters in Southeast Alaska. SSSC is an education and research facility dedicated to increasing understanding of Gulf of Alaska marine and terrestrial environments, and has been involved with stranding response in and around Sitka for a number of years. We look forward to continued collaboration with SSSC under the umbrella of the Alaska Stranding Network.

- **Prescott:** NMFS received 51 eligible proposals for the FY2015 funding cycle of the John H. Prescott Marine Mammal Rescue Assistance Grants. The following four members of the Alaska Stranding Network submitted proposals: Seward Association for the Advancement of Marine Science, Sitka Sound Science Center, University of Alaska Anchorage, and University of Alaska Fairbanks. To see project titles, funding requests, other national submissions, or learn more about the funding opportunity, visit http://www.nmfs.noaa.gov/pr/health/prescott/received2015.htm.

# Greetings from the Coordinator - continued

- **Large Whale Entanglement Response:** NMFS Alaska Region will again be partnering with NOAA's Hawaiian Islands Humpback Whale National Marine Sanctuary to build capacity for large whale entanglement response in 2015. Ed Lyman will be detailing to Alaska from mid-July through August (trying to strategically plan his time in case we again see some of the late-season entanglement reports we've had in recent years!). We'll be focusing training in Southcentral this year, specifically Prince William Sound and Seward.

- **Oil spill preparedness and response**: 2015 sees continued focus on spill response planning efforts. In addition to the network spill drill in Seward, NMFS Protected Resources staff will be attending drills in Sitka April 22-24 and in Valdez September 28-30 (BP Tanker drill). Meanwhile, the *Effects of Oil on Wildlife Conference*, an international meeting in its 12th iteration, will be held in Anchorage the week of May 18-22. Several stranding network members have submitted poster abstracts representing case studies of oiled wildlife response in Alaska.

Finally, looking ahead, you can expect to see NMFS National Marine Mammal Oil Spill Response Guidelines and NMFS Arctic Marine Mammal Disaster Response Plan to be distributed in 2015.

Thank you for all that you do for marine mammal health and stranding--and for your ongoing teamwork across the State!

Best,

Aleria Jensen
NMFS Alaska Region Stranding Coordinator

# 2014 Strandings in Review

by Kate Savage, NMFS

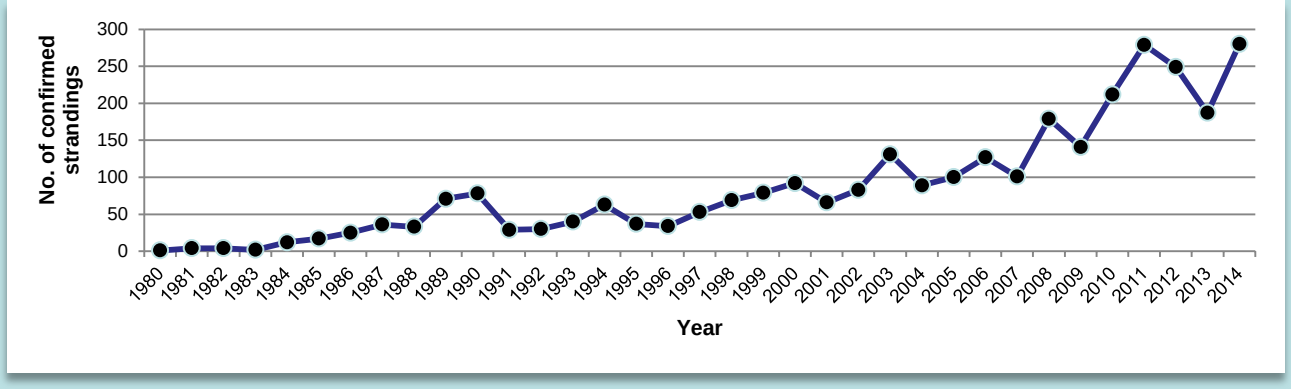



Figure 1. Number of Confirmed Strandings by Year*

NMFS received 280 confirmed stranding reports in 2014, the greatest number of reports in any given year. The number of submitted reports has increased substantially over time, likely due to increased surveillance and avenues for reporting, such as the inception of the ASLC in 1998 and the growth of a formal regional stranding network following the adoption of the MMHSRP in 1992. In 2011, the number of reports spiked to 279 due to a ringed seal unusual mortality event. During this time the incidence of ringed seal stranding reports rose to 32% of all reports as compared to a more typical 2 – 4%. By 2014, the number of ringed seals reports was back to 3%.

Photo courtesy of C. Christman

One of 13 dead gray whales reported stranded in 2014. This carcass was reported floating in the Chukchi Sea. Many reports, especially from the Arctic and Western Alaska, arise from aerial observations.

Another of the year's stranded gray whales, observed rolling in the surf near Barrow. Nine of the 13 stranded gray whales were reported from the Arctic, 2 from Western Alaska and 2 from Southcentral Alaska.

Photo courtesy of R. Stimmelmayr

*Northern fur seal data not included.

# 2014 Strandings in Review - continued

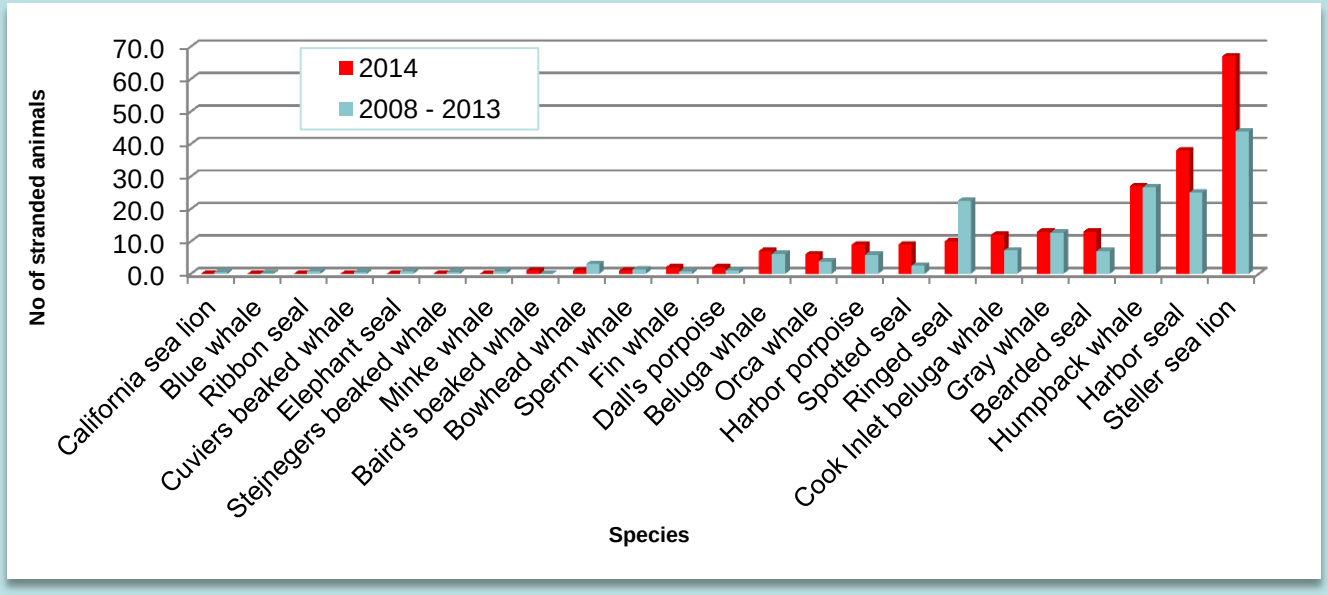



Figure 2. Number of Confirmed Strandings by Species, 2014 as Compared to 2008-2013.*

2014 was similar to earlier years in the predominance of the consistently top five reported species: Steller sea lions, harbor seals, humpback whales, bearded seals and gray whales. Other species, including harbor porpoise, killer whales, bowhead whales spotted and ringed seals and both ESA listed and non-listed beluga whales are seen consistently each year, but in lower numbers.

Photo courtesy A. Fischbagh

This bowhead whale was reported floating in the Chukchi Sea in July.

A necropsy of a young killer whale found near Homer in July. Stomach contents included remnants of at least 9 harbor seals, mostly pups.

Photo courtesy K. Burek

*Northern fur seal data not included.

# 2014 Strandings in Review - continued

There are also a number of species observed on a much more sporadic basis, maybe one or two animals a year or every few years. These include Dall's porpoise, fin and sperm whales, elephant seals and the even less common minke whale, ribbon seal, California sea lion and the different beaked whale species.

Photo courtesy H. Kashevarof

This Baird's beaked whale, found on St. George in June, was the only beaked whale stranding in 2014. Questions about the animal's morphology lead to genetic testing and verification that this animal was of the "black" stock, one of two possible stocks of *B. bairdii* per Kitamura et al. 2013 (see Articles, p 18).

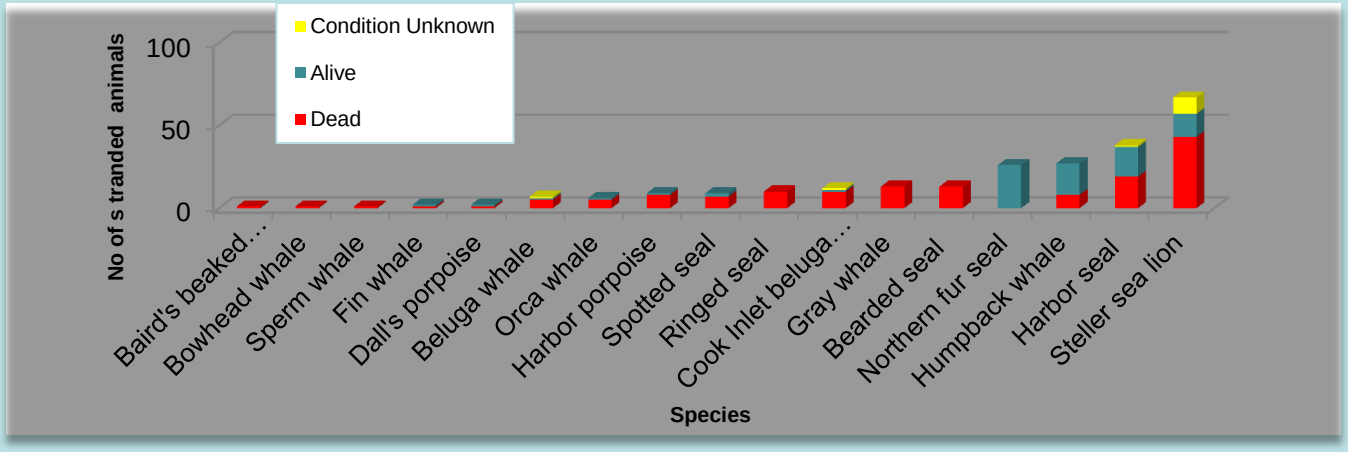



Figure 3. Number of Confirmed Strandings by Species and Initial Condition

The vast majority of stranded animals were found dead. Live Steller sea lions and humpback whales were primarily reported due to human interactions (see below) whereas the vast majority of harbor seals found alive were young animals considered abandoned/orphaned. Northern fur seal reports were only on entangled animals, all of which were observed alive.

Photo courtesy M. Packila

This young killer whale was reported in April off Port Heiden in Bristol Bay. The animal was alive when first observed, but died soon thereafter.

# 2014 Strandings in Review - continued

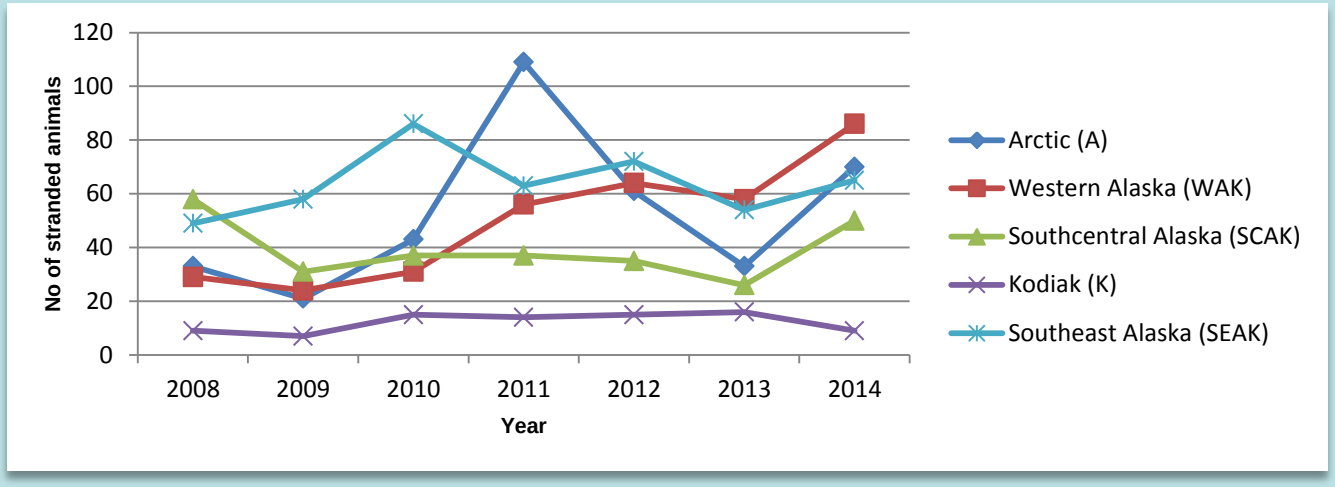



Figure 4. Number of Confirmed Strandings by Year and Region

In 2014, Western Alaska showed the greatest change in regional stranding report contributions. The percentage of reports from WAK rose to 31%, a 10% increase over a 6 year average of 21%. In 2009 - 2010, for reasons unknown, a greater than average number of Steller sea lion deaths were reported in northern Southeast Alaska (see Winter 2010 newsletter).

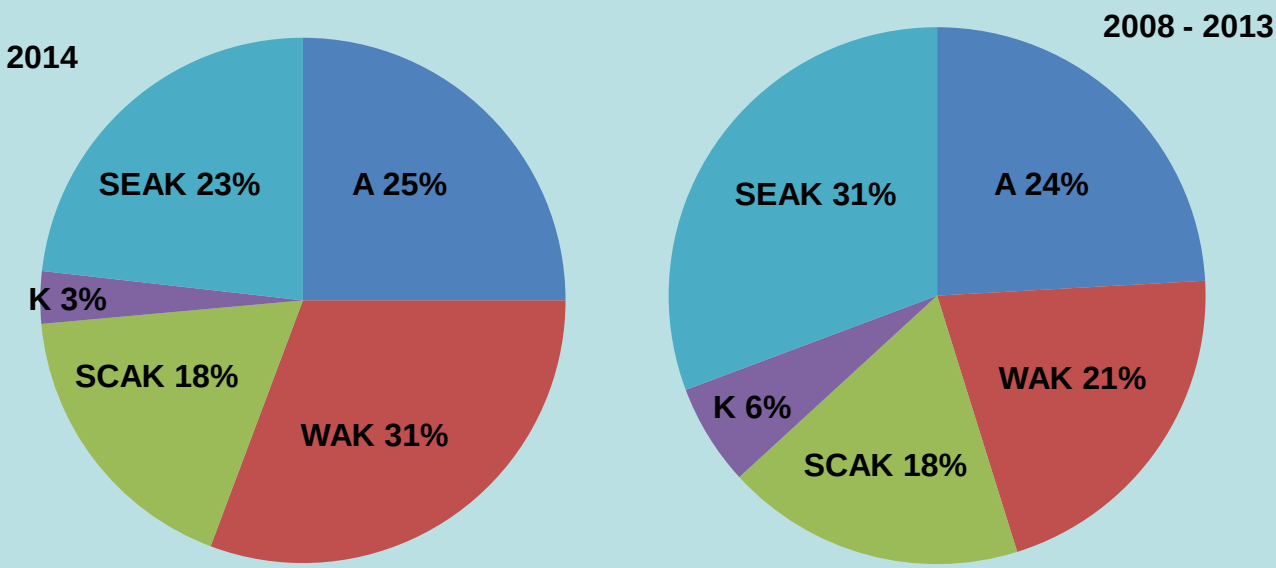



Figure 5. Contribution of Each Region to Total Strandings, 2014 as Compared to 2008-2013.

# 2014 Strandings in Review - continued

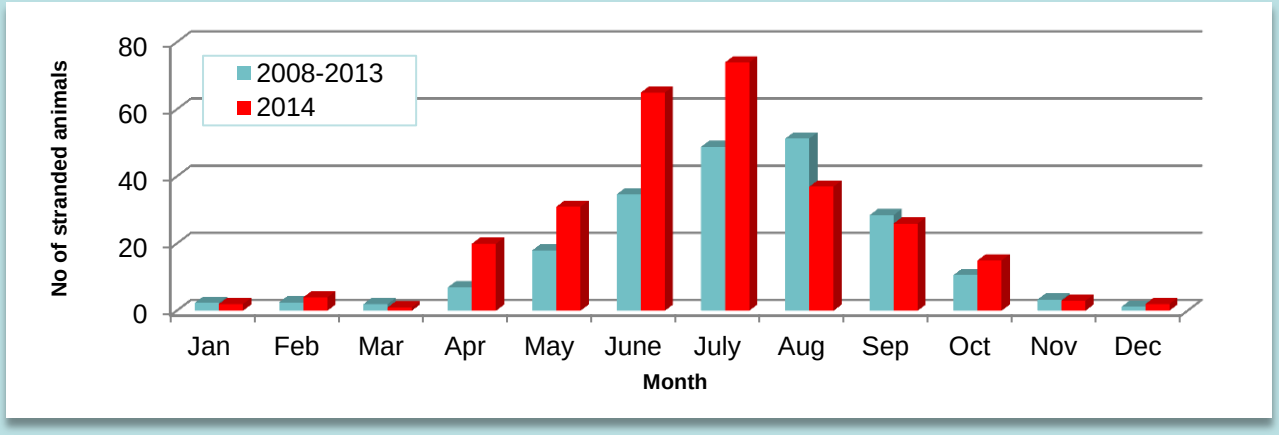



Figure 6. Number of Confirmed Strandings by Month, 2014 as compared to 2008 - 2013

Similar to earlier years, stranding reports in 2014 increased substantially over the summer months. From January through March, reports involved harbor seals and Steller sea lions around Southeast, Southcentral and Western Alaska, with a single killer whale report from the Bering Sea. In April, the number of reports started to increase significantly with 9 dead Steller sea lions found on St. Paul Northern fur seal rookeries, a couple more killer whale reports, multi-day sightings of a humpback whale in the Turnagain Arm area of upper Cook Inlet, and the year's first report of an humpback whale entangled in fishing gear near Wrangell. By May, there were many more reports that included a wider variety of species – Dall's and harbor porpoise, Cook Inlet beluga whales, a spotted seal - as well as the start of reports concerning orphaned/abandoned harbor seal pups. In June and July, still more species were added to the mix – gray whales, bowhead whale, fin whale, sperm whale, a Baird's beaked whale and Northern fur seals. There were also many reports of bearded and ringed seals as well as unknown seal species that came in from Western Alaska and the Arctic, mainly through aerial observations. Although the number of reports started tapering off in August and September, there was still a wide variety of species being reported from many areas, including many human interactions. The same was true for October and November with fewer reports. December's two reports included a Dall's porpoise found near the Kenai River and a young, healthy spotted seal that wandered into the town of Nome and was quickly returned to the water.

Photo courtesy G. Sheffield

Nome, December 2014: a young, healthy spotted seal gets escorted back to the water.

# 2014 Strandings in Review - continued

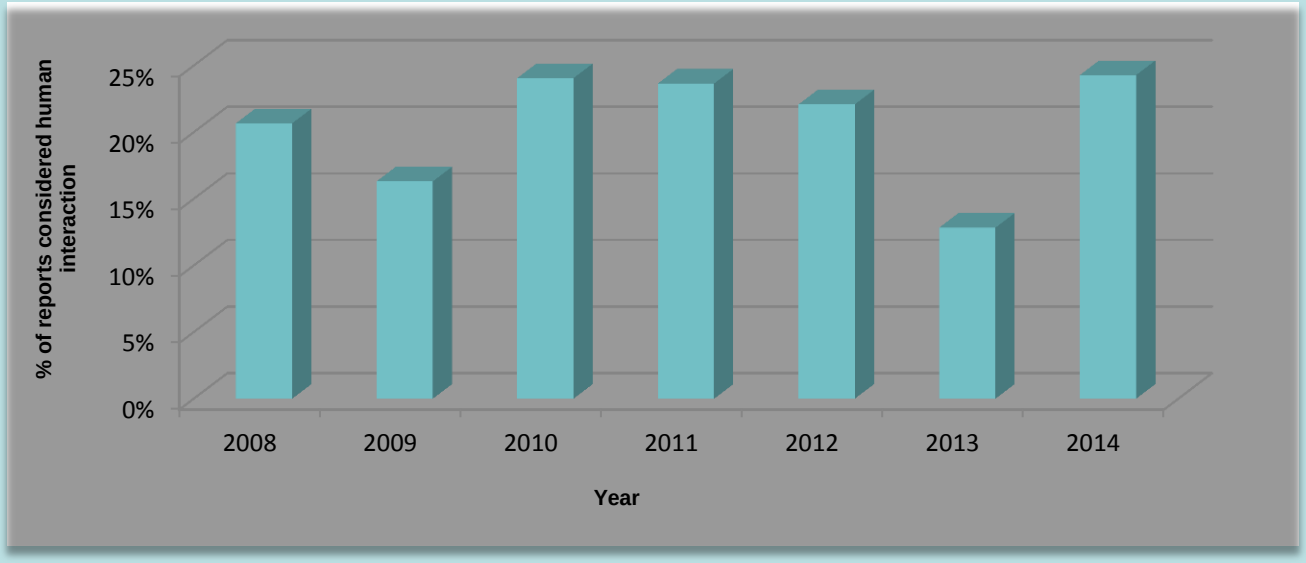



Figure 7. Percentage of Total Confirmed Reports Involving Human Interaction

Since 2008, confirmed reports of cases involving human interaction have ranged between 13 and 24% of total reports. In 2014, 68 confirmed reports, or 24% of all reports, were positive for human interaction.

The prevalence of human interaction is partially a function of the species. In 2014, reports involving human interaction ranged from 16% of all harbor seal reports to 70% of all humpback whale reports. The form of human interaction also differs between species. Of the 68 reports in 2014 involving human interaction, 58 were associated with entanglements, 7 were ship strikes and 3 were gunshot wounds.

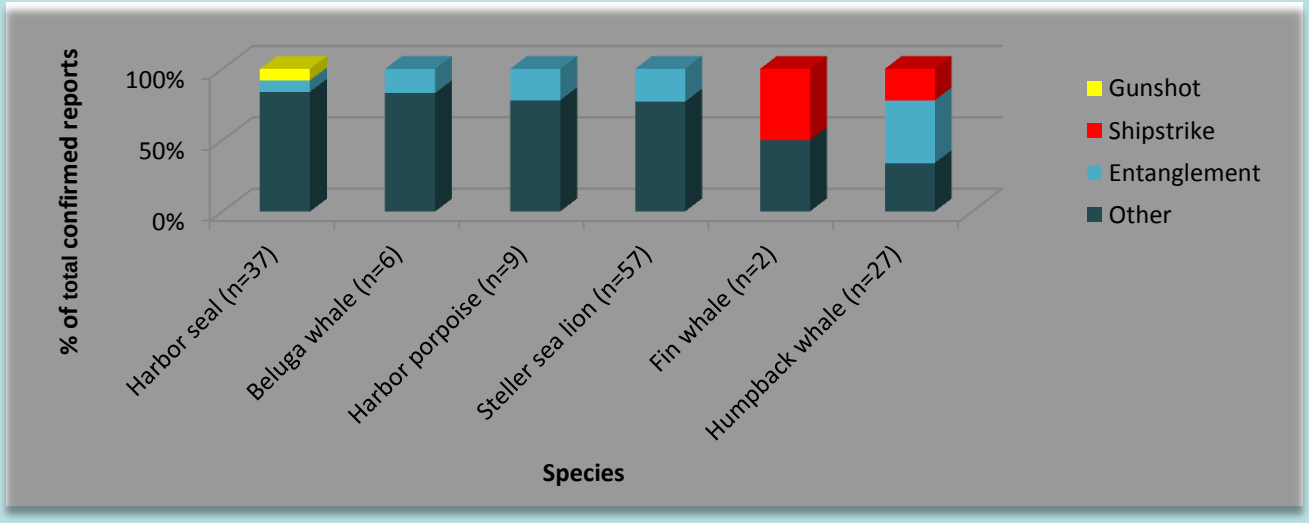



Figure 8. Percentage of Reports Involving Human Interaction in Vulnerable Species

# 2014 Strandings in Review - continued

**Human Interaction by Species:**

- Humpback whales - Of the 18 confirmed reports involving humpback whales and human interaction, 6 were ship strikes and 12 were entanglements. Four of the ship strike reports were from vessel personnel that either saw or felt the boat strike the whale, with no follow-up information available. Two of the reports were from dead whales that were necropsied and found to have injuries consistent with ship strike. Five of the ship strikes occurred in Southeast, 1 in Southcentral and 1 in Kodiak. Regarding entanglements, two reports were from Southcentral Alaska and the remainder were from Southeast Alaska. Fishing gear observed included buoys and polyballs, anchor line, cork line and other gillnet gear. A lack of further sightings of most entangled whales precluded the opportunity for response. A response was mounted to assist one animal, but weather hindered a through search and the animal was not relocated. One whale was documented to have lost the entangling gear on its own.

  This animal was first noted carrying gillnet gear north of Juneau. NMFS personnel were able to locate the animal, but the animal's behavior (evasive and short surface interval) prevented tagging and further monitoring.

Photo courtesy J. Moran

Photo courtesy J. Neilsen

This calf was first noted in Glacier Bay National Park with a hoochie line and lure attached to the left fluke tip. While the tail stock was noted to be free of entanglement, other parts of the calf's body were not observed. On 3 separate occasions following the initial observation, the calf no longer appeared to be with the mother.

- Fin whale - In July, this fin whale was found on the bulbous bow of a freighter en route from Dutch Harbor to Yokohama, Japan. Based on records indicating an unexplained drop in speed, the whale was likely hit about 12 hours before detection.

Photo courtesy C. Volke

# 2014 Strandings in Review - continued

- Steller sea lion – Of the 68 entanglement reports, 13 were of Steller sea lions. Of these entanglements, 3 were neck entanglements and the remaining 10 were reports of animals that had ingested fishing gear. While methods are now possible to remove entanglements (see Disentangling Sea Lions, p. 13) , issues associated with Steller sea lion depredation - including complaints from the fishing community of aggressive animals – are increasing.

Photo courtesy L. Stahl

A Steller sea lion with a neck entanglement observed on Benjamin Island in May. In 2013, ADF&G and NMFS personnel were able to successfully dart a large male sea lion hauled out on Benjamin Island to address a neck entanglement, a technique only recently possible.

This was the only animal with an ingested hoochie fishing lure. The remainder of ingested entanglements were all flashers. This was also the only entangled Steller sea lion reported from Southcentral Alaska; all other reports were from Southeast.

Photo courtesy L. Lowrey

- Northern fur seal –26 reports of entangled Northern fur seals were received in August, September and October, all from rookeries on St. Paul and St. George. Unlike Steller sea lions, Northern fur seal entanglements appear to be limited to gear or debris encircling the neck or long line gear hooked through the jaws. Encircling materials included packing bands, netting, plastic bags, rubber banding, fishing line, plastic rings and material of unknown origin. Most of the entangled animals were subadults or pups.

A young Northern fur seal with plastic neck entanglement.

Photo courtesy H. Kashevarof

# 2014 Strandings in Review - continued

A Northern fur seal moves in and out of a packing band.

- Harbor seals – In 2014, harbor seal mortality as a result of human interaction was reported in 3 seals that were entangled and 3 seals that died of gunshot injuries. The entanglement reports included harbor seals as bycatch in a set net near Halibut Cove, in a gillnet north of Kenai and in a research trawl in Shelikof Strait. A pregnant adult harbor seal that was shot in the head was also found near Kenai, with a bullet recovered during a necropsy. The other two reports described firearm casualties found near the mouth of East River near Dry Bay. There was some question whether the animals were shot in relation to a nearby Alsek River commercial salmon fishery or possibly lost as subsistence harvest.

Photo courtesy K. Lourie

Harbor seal mortalities: a Dry Bay animal with a bullet wound in the head and an animal accidentally caught in a research trawl.

Photo courtesy ADF&G

- Harbor porpoise – There were two harbor porpoise entanglement reports in 2014. Very little information was available on the first animal, which was caught in a Yakutat gillnet. The second was a young female found near Kachemak Bay. A necropsy of the animal revealed evidence of net trauma. Since 2008, 1 – 2 harbor porpoise entanglement reports have been received every year.

- Beluga whale – Since 2008, beluga entanglements have averaged about one every year and the same was true for 2014. On June 27, a beluga whale was found entangled in a shore-set salmon subsistence net near Nome. The net had been set the night before and the adult whale was found in the net the following morning, coming up to breath regularly. The fisherman was eventually able to free the whale.

## Disentangling Sea Lions in Southeast Alaska

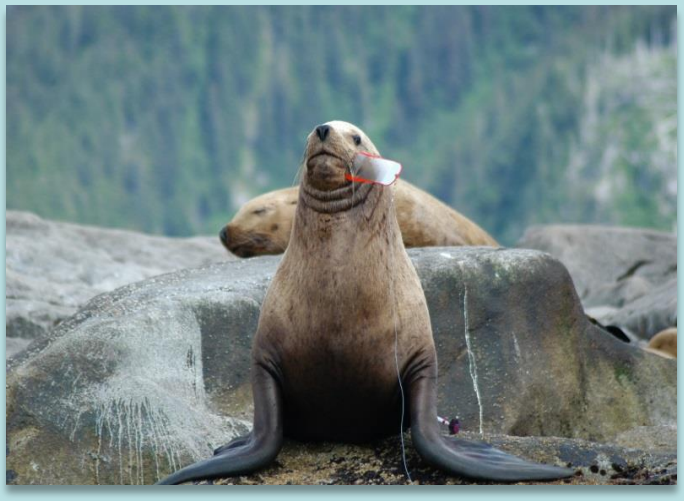
**By Justin Jennniges**

Each year, marine mammal researchers observe or receive reports from the public about Steller sea lions in Alaska with either neck entanglements or ingested fishing gear. Sea lion entanglements have been of continuous concern in Alaska, so a "Pinniped Entanglement Group" was formed to address entanglement issues through both research and outreach (see "The Problem with Packing Bands", Summer 2012).

Until recently, capturing and removing foreign objects from otherwise healthy wild pinnipeds (seals and sea lions) has not been practical because these animals actively evade their rescuers. However, recent development of a drug combination that allows for sedation without compromising their ability to breathe (a real necessity when working with animals near water) has enabled targeted captures of individual wild pinnipeds.

Last summer, ADF&G researchers teamed up with veterinarians from the Vancouver Aquarium and NMFS to successfully disentangle two Steller sea lions - one with a packing band around its neck and one with an ingested hook, line and flasher.

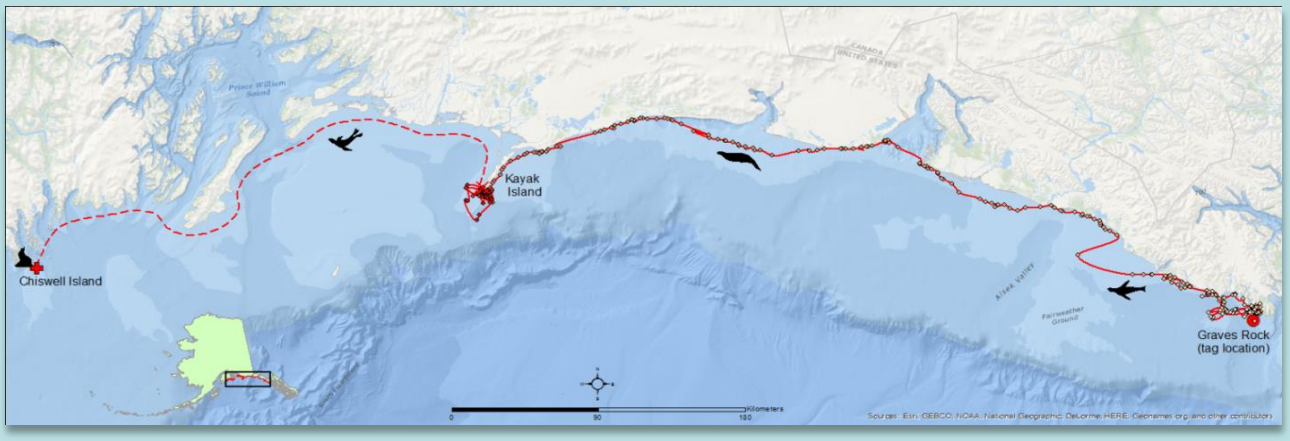
This work represented many years of effort by sea lions researchers and rescuers who collected data about the types of entanglements seen, considered myriad methods to disentangle sea lions, and developed safe immobilization drug combinations to facilitate capture. ADF&G researchers secured the necessary permits to allow sea lion captures and disentanglements, and were able to piggy-back disentanglements efforts with their ongoing sea lion field research. This was an efficient means to accomplish this work because most of the logistics, gear, and trained staff were already in place and collecting data on entangled animals. Collaborating VA and NMFS veterinarians trained in chemical immobilization rounded out the team.



A young male Steller sea lion trailing a flasher and line was darted in the left flank on July 5, 2014 at the Graves Rocks rookery just outside Icy Strait. We determined a hook was probably embedded in the animal's esophagus because the flasher's orientation changed from horizontal to vertical when the animal shifted position.

# PEG Board - continued

Here is the same sea lion after we removed the flasher and line, ready to enter the water. To determine the short-term outcome of this disentanglement effort, the sea lion was marked with a satellite tag glued to its head, plastic tags on its flippers, and black dye markings on its sides. After tagging, the animal moved north and west along the coast, spending time in the Fairweather Grounds and an area south of Kayak Island where the tag fell off. The animal was last spotted 30 miles south of Seward at Chiswell Island on August 2nd by the Alaska SeaLife Center's biologists that monitor remote cameras at this site.




This map illustrates the movements of the satellite tagged Steller sea lion in the weeks following removal of flasher.

# Alaska SeaLife Center – 2014 Stranding and Rehabilitation

by Halley Werner, ASLC

2014 was a busy year for the Alaska SeaLife Center's Wildlife Response Team. The season began April 30, with our first admit of the year – a Spotted Seal from Clark's Point in Bristol Bay. Those of you who were able to visit ASLC may have been able to catch a glimpse of her in the I.Sea.U, where she was cared for during her rehabilitation.

As we welcomed new interns and staff, the Harbor Seal pups also began to arrive. 15 pups in total, they seemed to come from every corner of Alaska. In addition to the typical areas on the Kenai Peninsula and Bristol Bay, we admitted pups from the Alaska Peninsula, Juneau, Kodiak and three from the fishing grounds of Softuk out of Cordova. I am grateful to all of those who aided with the care and transport of these animals, as logistics proved to be challenging at times!

"Sphinx", an orphaned harbor seal pup from Port Moller that was successfully rehabilitated and released on October 7, 2014

"Bryce", the blind harbor seal from Homer

Of the 15 Harbor Seal pups admitted, 13 were released in the areas where they were found and one died during admit. The final pup of the year, named Bryce, proved to be our most challenging case. Shortly after arriving at Alaska SeaLife Center in August, it was clear that Bryce was unable to see. Despite intensive treatments, Bryce did not regain his sight and therefore was deemed non-releasable by NOAA-NMFS. Bryce is currently residing at ASLC while he waits to be placed in his permanent home.

In addition to the pinniped patients, the ASLC team cared for two young Northern Sea Otter pups. One pup thrived, and was transferred to Seattle Aquarium in late January. We wish Mishka all of the best with her new otter family!

Over the past year, the Alaska SeaLife Center's Wildlife Response Team responded to reports of 32 live marine mammals and almost 40 birds. Field necropsies of particular interest in 2014 included five adult Belugas and one fetus, and a Harbor Porpoise.

As I look back on our season of seal pups, I can't help but wonder – What will 2015 bring?

# Announcements/FYIs

## An Unusual Report Rings in the New Year

A Northern fur seal yearling is found stranded in Southeast Alaska.

2015 started off with a very unusual stranding report when a bird-watcher in Gustavus came upon the carcass of a young Northern fur seal on January 23. While reports of Northern fur seals in Western Alaska are not uncommon, particularly involving entangled animals on rookeries, it is very uncommon to receive Northern fur seal reports from further afield. Since 1980, only 6 fur seals strandings have been reported outside of Western Alaska. These include 2 pups and 1 animal of indeterminate age that were found stranded in Southeast Alaska between May of 1997 and Feb. of 1998, a pup found in Seward in 1998, a yearling also found in Seward in 2009, as well as a subadult reported from Barrow in 2003. Unfortunately, due to either tides or a pack of wolves in the immediate area, searchers were later unable to recover the 2015 carcass for further examination.

## Congratulations!

## BC Pinniped Disentanglement Team!

Our hats are off to the staff at the Vancouver Aquarium for their successful disentanglement of 7 California sea lions and 2 Steller sea lions! It was a fantastic collaborative effort on the part of many agencies and organizations including DFO. Parks Canada, the Canadian Wildlife Federation and the Clayoquot Biosphere Trust.

Some previously rare pinniped “before and after” shots!

# Announcements/FYIs - continued

**10th Annual Alaska Marine Mammal Stranding Network Meeting** will be held April 1 - 3 at the ASLC in Seward. The focus this year will be on oil spill preparedness and response. Please contact Lisa Hartman (lisah@alaskasealife.org) for more information.

## Welcome Aboard!

The Alaska Marine Mammal Stranding Network would like to welcome our newest member:

**The Sitka Sound Science Center!**

## Marine Mammal Health MAP

**(Monitoring and Analysis Platform)**

The formation of a national platform designed to collect, collate and visualize marine mammal health data is currently underway. While the project is still in initial stages, the ultimate goal is the centralization of health data collected from all regions which can then be used to visualize disease "hot spots", enable management decisions, aid in emergency response, enhance communication and collaboration, and to forecast challenges to marine mammal health. More to come!

## Hot Off the Press!

(well, sort of)

The latest Level A may be found at:

**http://www.nmfs.gov/pr/pdfs/health/levela.pdf**

Virtually the same as the 2010 form except for an expiration date of 2017.

## OAS Certified Companies

To figure out which aircraft companies are OAS certified in your area, follow this path:

**http://oas.doi.gov** ⇒ *Aircraft & Pilot Source List* ⇒ "Accept" ⇒ *Aircraft Source List* ⇒ (submit values to the query) ⇒ **BINGO!**

THANK YOU in advance for your hard work during the upcoming stranding season. Many calls come in to NMFS from all over the state, demonstrating a true team effort to respond to stranded animals in Alaska. Thank you for your help! A reminder to please submit any 2015 level As, photos, and necropsy reports to:

**Kate.Savage@noaa.gov**

Your reports allow us to track marine mammal health in Alaska and beyond.

# Recent Stranding and Health Articles

**Let me know if you would like any of the following publications and I will be happy to email to you!**

ADACHI, TAIKI; JENNIFER L. MARESH; PATRICK W. ROBINSON; SARAH H. PETERSON; DANIEL P. COSTA; YASUHIKO NAITO; YUUKI Y. WATANABE and AKINORI TAKAHASHI. PROCEEDINGS OF THE ROYAL SOCIETY OF LONDON SERIES B BIOLOGICAL SCIENCES 281(1797). Article 20142120. 9pp. 2014. The foraging benefits of being fat in a highly migratory marine mammal.

AKMAJIAN, ADRIANNE; JOHN CALAMBOKIDIS; JESSICA L. HUGGINS and DYANNA LAMBOURN. NORTHWESTERN NATURALIST 95(2):83-91. 2014.Age, region, and temporal patterns of trace elements measured in strandedharbor seals (*Phoca vitulina richardii)* from Washington inland waters.

ALLEN, AINSLEY S. MARINE POLICY 50A:215-226. 2014. The development of ships' routeing measures in the Bering Strait: Lessons learned from the North Atlantic right whale to protect local whale populations.

BELLEHUMEUR, CHRISTIAN; STEPHANE LAIR; CARLOS H. ROMERO; CHANTALE PROVOST; OLE NIELSEN and CARL A. GAGNON. JOURNAL OF WILDLIFE DISEASES 51(1):244-249. 2015. Identification of a novel herpesvirus associated with a penile proliferative lesion in a beluga (Delphinapterus leucas).

BLUNDELL, GAIL M.; ANNE A. HOOVER-MILLER; CHRISTINE A. SCHMALE; RACHEL K.BERNGARTT and SHAWNA A. KARPOVICH. JOURNAL OF MAMMALOGY 95(4):707-721. 2014.Efficacy of subcutaneous VHF implants and remote telemetry monitoring to assess survival rates in harbor seals.

BROWN, SUSIE; DAVID REID and EMER ROGAN. PLOS ONE 9(8) e104468. 10pp. 2014. Characteristics of fishing operations, environment and life history contributing to small cetacean bycatch in the Northeast Atlantic.

BROWN, SUSIE L.; DAVID REID and EMER ROGAN. MARINE POLICY 51:267-280. 2015. Spatial and temporal assessment of potential risk to cetaceans from static fishing gears.

BROWN, TANYA M.; SEBASTIAN LUQUE; BECKY SJARE; AARON T. FISK; CAREN C.HELBING and KEN J. REIMER. ENVIRONMENTAL SCIENCE & TECHNOLOGY 48(22):13110-13119. 2014. Satellite telemetry informs PCB source apportionment in a mobile, high trophic level marine mammal: The ringed seal (*Pusa hispida*).

BROWN, TANYA M.; PETER S. ROSS; KEN J. REIMER; NIK VELDHOEN; NEIL J. DANGERFIELD; AARON T. FISK and CAREN C. HELBING. ENVIRONMENTAL SCIENCE & TECHNOLOGY 48(21):12952-12961. 2014. PCB related effects thresholds as derived through gene transcript profiles in locally contaminated ringed seals (Pusa hispida).

CONN, PAUL B.; DEVIN S. JOHNSON; LOWELL W. FRITZ and BRIAN S. FADELY. CANADIAN JOURNAL OF FISHERIES AND AQUATIC SCIENCES 71(8):1229-1242. 2014. Examining the utility of fishery and survey data to detect prey removal effects on Steller sea lions (Eumetopias jubatus).

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