

# Alaska Region Marine Mammal Stranding Network



Summer/Fall 2015 Newsletter

## SAVE THE DATE!

- **Society for Marine Mammology, 21<sup>st</sup> Biennial Conference, San Francisco, CA. 13 - 18 December 2015.**
- **2016 AK Regional Stranding Network Annual Meeting is likely to be tagged on to the Alaska Marine Science Symposium, Anchorage AK. 25 - 29 January 2016. Stay tuned.**

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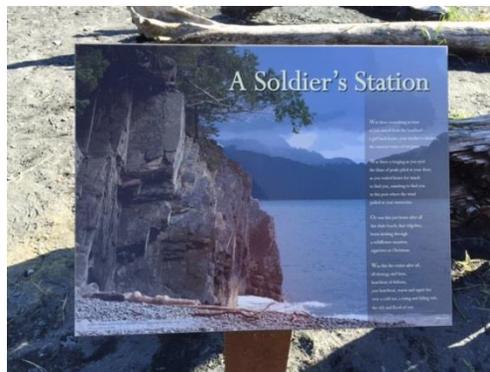
# Congrats to the Coordinator

Kate Savage, NMFS

Plenty of challenging events in this newsletter: loads of dead whales and sea lions, struggling harbor seal pups, intentional and accidental human-induced injury and mortality. Amid all this gloom and doom, however, there are some rays of light, one of which is our own Stranding Coordinator and poetess extraordinaire Aleria Jensen!

This summer Aleria's poem, [A Soldier's Station](#), was awarded a permanent place of honor in Seward's Caines Head State Recreation Area as part of the prestigious Poems in Place program.

The Poems in Place program was started after [What Whales and Infants Know](#), a poem by Kim Cornwall, was installed and dedicated at Beluga Point in Chugach State Park in 2011. The experience of reading the poem in the particular setting was powerful enough to initiate the program, a collaborative effort designed to celebrate the natural beauty of Alaska's state parks with poetry. Starting in 2013, an annual statewide competition has been held to find poems that express an evocative kinship and conversation with a natural, cultural or spiritual place. Poems now appear on permanent signs in Ketchikan, Fairbanks, Palmer and Dillingham Parks as well as at Beluga Point in Chugach State Park. Poems at each placement include those written by Alaskan poets and submitted by appreciative readers as well as original work by Alaskan poets written in response to this invitation. More outstanding poems may be found at: <http://www.alaskacenterforthebook.org/poetry-in-place/>.



**Congratulations Aleria!**

## A Soldier's Station

Was there something to miss  
as you stared from the headland  
a girl back home, your mother's chicken,  
the summer tonic of cut grass.

Was there a longing as you eyed  
the blaze of peaks piled at your door,  
as you waited hours for attack  
to find you, *something* to find you  
in this post where the wind  
pulled at your memories.

Or was this just home after all  
this shale beach, that ridge line,  
boots kicking through  
a wildflower meadow,  
cigarettes at Christmas.

Was this the center after all,  
all strategy and buzz,  
heartbeat of defense,  
*your* heartbeat, warm and rapid fire  
over a cold sea, a rising and falling tide,  
the ebb and flood of war.

# 2015 Western Gulf of Alaska UME

Kate Wynne, UAF/MAP, August 21, 2015

It began like so many stranding events.....at the start of a 4-day holiday weekend.

On May 23d the ferry M/V *Kennicott* submitted photos of a fresh dead, fully inflated adult female fin whale carcass they encountered adrift off the east side of Kodiak, near Marmot Bay. With a fresh carcass in the middle of an active shipping corridor and lacking signs of killer whale predation, we prepared ourselves to investigate a possible shipstrike if/when the carcass (FW01) was re-seen.



Photo: D. Nystrom, AMHS Kennicott

**FW01 sighted on May 23, 2015.**

By the end of that 4-day weekend we had received many reports of FW01 as she drifted in and around Marmot Bay. Luckily, 'double-counting' this animal was avoided when we discovered that pigments on the inflated throats of fin whales are distinctive and can aid in ID of individuals. But after the long weekend, we also received photos of a dead fin whale neonate that was seen fresh, intact, and floating in the same general area the *day before* FW01 was first seen.

Hmm, what are the odds that BOTH a mother and calf would have been hit and killed by a ship? What else could explain multiple mortalities in close spatial and temporal proximity— toxins? sonar? explosions? We started asking questions: did the US Navy start their *Northern Edge* sonar exercises early? Has anyone reported Harmful Algal Blooms elsewhere on the coast? If a HAB, are sea lion seizures being reported? Are any bird or fish die offs being reported anywhere? Why now and here?



Photo:, R. Bauer, ADF&G

**Neonate FW02 sighted on May 22, 2015.**

# 2015 Western Gulf of Alaska UME

continued

Meanwhile, FW01 — fully inflated—sailed around Marmot Bay before finally coming ashore on Whale Island (!! ) on June 2<sup>nd</sup>. By the time we had OAS approval and floatplane access to collect samples, it was June 5<sup>th</sup>, almost 2 weeks after FW01 was first seen afloat. Despite its Code3 condition and limited time on site, we collected a vitreous humor sample for HABs testing, muscle tissue for radionuclide testing, and determined FW01 was *not* lactating (so FW02 was not likely her calf).

It was during that last week of May— while FW01 was adrift— that we realized something unusual was happening. By June 2<sup>nd</sup> the stranding network had fielded calls about 4 more dead fin whales from Kodiak, down Shelikof Strait, and out to Unimak Pass. Now 6 dead fin whales.... why *FIN WHALES?*



Photo: T. Wilkie

**FW04 sighted on May 30, 2015.**



Photo: D. Miller, F/V Anna D

**FW05 sighted on June 3, 2015.**

The following week there were more reports. More dead fin whales and then a few dead humpbacks were reported and photographed on remote beaches by many boaters, pilots, and field biologists traveling around Kodiak and down the AK Peninsula.

With each week that passed, the carcasses were found in more advanced stages of decomposition. By comparing condition of these carcasses to the visibly decomposing FW01, it seemed these whales had died at approximately the same time....the latter part of May. Biologists up and down the coast were contacted, stimulating discussion and monitoring of water, plankton, fish, birds, and other mammals.

# 2015 Western Gulf of Alaska UME

continued



Photo: A. Fiske

**FW07 sighted on June 13, 2015.**

Things remained quiet until mid-August, when four Code 2 humpbacks were found in BC waters in four days. Fortunately two were promptly accessed and necropsied by Dr. Stephen Raverty for full analytical testing. With full sampling of fresh carcasses, we hope Dr. Raverty can determine the cause of death for at least two of the whales. Which may help shed light on the May-June deaths further west in the GOA.

The whale carcass count began to slow by late June but by then the unprecedented number of dead fin and humpbacks was recognized as “unusual” and wheels began moving to declare this an Unusual Mortality Event under the MMPA (20 August 2015) . Although a few Code 3 and 4 (“rubber mat”) whales have been seen in the western GOA since mid-July, the only fresh (Code 2) large whale carcasses have been victims of killer whale predation.



Photo: C. Bianco

**HW05 sighted on July 6, 2015.**

## **LESSONS learned (or re-iterated):**

- **Beware the 4-day weekend.**
- **Public reports are invaluable. Maintain local contacts year-round.**
- **Floaters can be elusive but don't go upstream.**
- **Secure the floaters you can catch. Tie them to the highest anchorpoint on the highest tide.**
- **Decomposition waits for no one.**
- **Multiple reports could be the same whale- or multiple whales. Get photos for ID.**
- **A large whale necropsy is a team sport. Bring your best friends and oldest uniform.**
- **Treat even 2 simultaneous deaths as a potential UME. Ask questions and network with other biologists ASAP.**

# Bering Strait Bowhead Entanglement

from a report by Gay Sheffield and the Savoonga Whaling Captains Association, Aug. 10, 2015.



Photo: SWCA

**Adult bowhead whale found entangled with fishing gear 20 miles east of Savoonga.**

On July 7, 2015, a floating, dead bowhead (2015-FD2) was encountered approximately 15-20 miles east of Savoonga on the north shore of Saint Lawrence Island by a small boat traveling from summer camp. On July 8, members of the Savoonga Whaling Captains Association (SWCA) returned to salvage the skin/blubber from the carcass and noted the presence of lines around the tail stalk and two floats under the fluke. Over the next few days, they were able to recover all the gear from the carcass, which was then shipped to Nome for inspection and documentation.

After the carcass came ashore on July 13<sup>th</sup>, an observer reported that tendons were apparent where the ropes had been, indicating significant trauma from the entanglement. Based on all observations and the level of detail provided by the recovered equipment, bowhead whale 2015-FD2 had been entangled in commercial crab fishery gear prior to death.

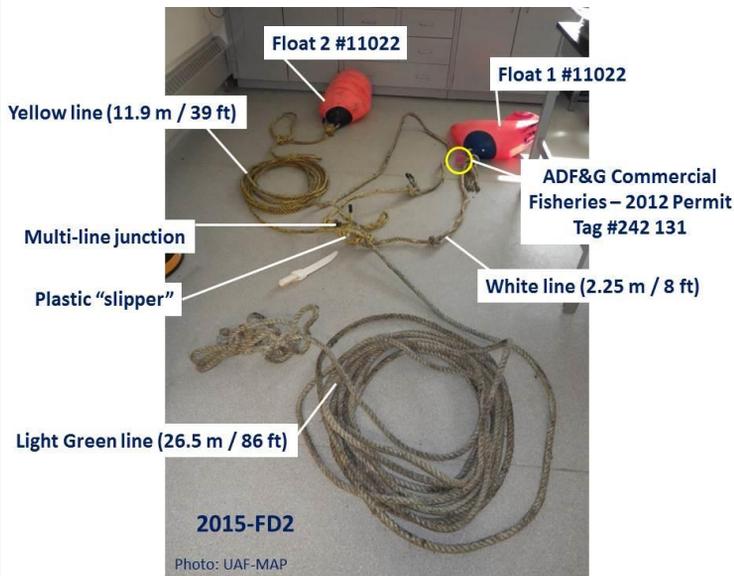


Photo: UAF-MAP

Photo: UAF-MAP

**Commercial crab fishery gear recovered from the peduncle region of a floating dead bowhead whale found near St. Lawrence Island in July, 2015. Included in the gear was a vinyl tag issued for the Saint Matthew Island waters during the 2012/2013 commercial season.**

# Cordova Carcass Surveys

Sadie Wright, NMFS, Aug. 19, 2015

On June 1, 2015, the AK NMFS Stranding Network received reports of at least 5 dead Steller sea lions near Softuk cabin on the Copper River Delta, including one branded animal. Two NMFS biologists flew to Cordova on June 2 and conducted a survey of all barrier islets in front of the Delta via floatplane that day. They recorded at least 18 pinniped carcasses, most of which were sea lions.

On June 3 and 5, the PRD biologists and an officer with NOAA's Office of Law Enforcement flew with the USCG via Jayhawk helicopter to 12 of the Steller sea lion carcasses, one harbor porpoise, one sea otter, and one gray whale. The carcasses were examined for cause of death, and samples and measurements were taken (including whiskers, organ tissues, and skin). Six of the sea lions were determined to have been intentionally killed by humans, and two others had evidence strongly suggesting that they had also been intentionally killed.



Photo: NMFS

**Biologist Sadie Wright takes measurements from one of the sea lions examined on June 5.**



Photo: NMFS

**NMFS Office of Enforcement personnel scan a sea lion carcass for the presence on metal.**

Two PRD biologists returned to Cordova on July 3 following additional reports of dead sea lions on Copper River Delta islets. They flew with the USCG to visit three sea lions carcasses, one of which had been previously visited on June 5. The other two had likely died near the same time as that individual, but had not yet been sampled, and one showed evidence suggesting that it had been intentionally killed.

# Cordova Carcass Surveys

continued



Photo: NMFS

**Gray whale in foreground as biologist Sadie Wright examines a stranded harbor porpoise on June 3.**

**Veterinarian Kate Savage collects samples from a stranded harbor seal on July 27.**

Photo: NMFS



PRD conducted another survey of the Copper River Delta on July 27 via fixed wing plane. They returned with the USCG on July 28 to visit and sample three harbor seal carcasses in moderate to advanced decomposition, one of which showed evidence suggestive of an intentional killing. PRD biologists observed two harbor seals on an August 18 overflight, but were unable to conclusively determine if they were new carcasses. The final carcass survey of the Copper River Delta by the NMFS Stranding Network was completed on September 14. No carcasses were observed during this survey.

## **Note:**

**This was not the first year interactions have occurred between marine mammals and the salmon drift net fishery along the Copper River Delta. In 1947, harbor seal depredation was considered about 2% of the catch (Imler and Sarber 1947). In 1978, an estimated 1000 marine mammals were caught or killed as a result of fishery activities (Matkin and Fay 1980). In 1988, 3.3% of salmon were considered damaged due to marine mammals. In the same year, a total of 91 marine mammal carcasses were located during beach surveys, including Steller (northern) sea lions, sea otters, harbor porpoise, harbor seals and an elephant seal (1).**

**NMFS is attempting to coordinate funding and manpower which will enable a continuation of surveys in 2016.**

**(1) From Wynne, K. 1990. Marine Mammal Interactions with the Salmon Drift Gillnet Fishery on the Copper River Delta, Alaska 1988-1989. Alaska Sea Grant College Program Technical Report No. 90-05. Fairbanks, AK. 35 pages.**

# Case Study: Humpback Fluke Injury

Janet Neilson and Chris Gabriele GBNP, Sept. 8, 2015

On June 19<sup>th</sup> 2015, we documented a significant injury on the left fluke blade of adult male humpback whale (SEAK ID #1083) in Glacier Bay. During our previous encounter with #1083 on August 27<sup>th</sup> 2014, both of his flukes were intact. We speculate that the incision to this whale's fluke is anthropogenic, possibly from an entanglement in line or a vessel collision. Based on the red and yellow color of the tissue around the wound, the injury appears to be recent.

**Dorsal side of whale #1083's left fluke blade. NPS photo taken under National Marine Fisheries Service research permit #15844**



.After documenting #1083's injury and noting that it appeared to be recent, we wondered if this whale might have been the "adult-sized" humpback whale reported on June 2<sup>nd</sup> to be entangled in commercial halibut longline gear near Willoughby Island in Glacier Bay. During our surveys around this time, we had observed numerous humpback whales feeding near Willoughby Island, as well as numerous longline sets. The entangled whale was described as thrashing at the surface with two orange buoys visible. A short time later, a National Park Service response team found a pair of orange buoys floating free near the island with the line frayed as if it had parted under great force. We concluded that the entangled whale had freed itself without human intervention. The next day we searched the area for entangled and/or injured whales but we did not observe anything unusual.

Although we did not photograph #1083 in the area before the reported entanglement, he was documented very close to where the entanglement occurred about a month later, on July 9<sup>th</sup>. While the wound is not typical of an entanglement, according to scientists familiar with entanglement scarring (Ed Lyman and Janet Neilson), it seems possible that this brief entanglement might have produced a unique set of wounds.

Whale #1083 was first documented as a calf in 1990, making him 25 years old this year. He is a "regular" in Glacier Bay and Icy Strait, with sightings every summer since 1993. Since June 19<sup>th</sup>, we have observed him on multiple occasions and he appears to be behaving normally. Although we may never know whether #1083's injuries arose from entanglement, we will continue to monitor his behavior and the progression of healing in the wound.

# Alaska SeaLife Center – 2015 Stranding and Rehabilitation

Halley Werner, ASLC, Sept. 1, 2015

2015 started off with a bang in the late winter, with the Annual Alaska Stranding Meeting being held at Alaska SeaLife Center once again. Mike Ziccardi and Sarah Wilkin led another fantastic oil spill drill, HAZWOPER Training was provided, and the presentations given by all did not disappoint. It was great to see everyone that was able to join us this year. HAZWOPER training was also offered in Homer this spring. Additional ASLC staff and a group of volunteers in ASLC's Homer Stranding Network became HAZWOPER-24 certified. Congratulations! The HAZWOPER training in Homer marked the beginning of our busy stranding season.

While in Homer, our Wildlife Response Team picked up the first live admit of the year – a white, fluffy, premature harbor seal pup. The pup, named Silky, is one of the 13 live harbor seals admitted this year to date. Though the harbor seal rehabilitation season is typically coming to a close by now, as I write this we are expecting our 14<sup>th</sup> young of the year harbor seal to arrive tomorrow. 2015 is a year that keeps on giving.



Photo: NMFS

Left: PV1515 on a public beach July 20 in Juneau. Cristine Crooks and Cris Zack were diligent in keeping dogs away from the pup before it was picked up.

Right: PV1515 at the ASLC with release in Juneau scheduled for this month



Photo: A. Havens

Releases have already begun – the first took place in Cordova on August 14. Six other harbor seals are working toward fall releases. As they fatten up in preparation for release, we look forward to returning them to Juneau, Homer and Naknek.

A few non-releasable animals have made their way into ASLC's rehabilitation program this year as well. A spotted seal from Nome, a ringed seal from Stebbins and a young otter that found himself in a fisherman's net have all been treated for ailments or lack of maternal care. These young animals have all improved tremendously, and will remain in the care of ASLC while they await placement.

Last but not least, Alaska SeaLife Center was proud to host Ed Lyman for his Whale Entanglement Response training the first week of August. The classroom portion was well attended by ASLC, NOAA, and USCG, while the on-water training proved to be an invaluable experience for those lucky enough to snag a spot on the boats.

As always, I'd like to extend a huge "Thank You" to everyone who has helped make this year a success!

# Announcements/Odds and Ends



**Walrus in Flames. Photo by G. Sheffield.**

An odd report that came through Barb Mahoney:

On Sept. 2, two long-time residents of Kachemak Bay watched a single adult humpback whale slide onto their floating dock, looking "like the killer whales feeding on beached pinnipeds that you see on TV". In the middle of their dock they have a wooden box nailed down, which prevented the whale from swimming/sliding further onto the structure. They thought the whale would tip it over, but it didn't. However, the floating dock was nearly vertical. Sea gulls were flopping around, off the dock where they usually hang. They have watched whales for many years, but have never seen anything close to the behavior of this animal.

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

**Heidi Pearson,  
UAS,  
Juneau**



**Melissa Good,  
MAP,  
Dutch Harbor**

**Welcome!**

**Sadie Wright,  
NMFS,  
Juneau**



# Announcements/FYIs - continued

## Albino Sperm Whale

From (Julie Jourdan) Marmam:

A white sperm whale (*Physeter macrocephalus*) was spotted from an helicopter off Toulon, France, on the 6th of August 2015. The animal, completely white, was probably a leucistic individual. Interestingly, two others sightings of white sperm whales have been made this year in the italian waters, near Sardinia.



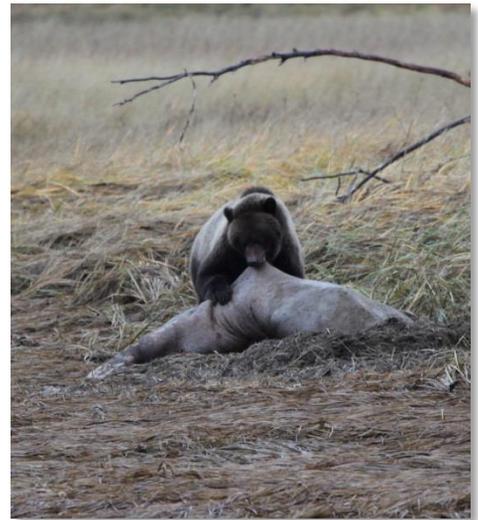
## Yakutat Stranding Articles Available Upon Request

Sarah Cleaver, wildlife technician working with USFS Wildlife Biologist and stranding network member Susan Oehlers, has written some great informative articles on marine mammals and the stranding network for the local paper. One of the articles includes the legalities of collecting marine mammal parts, always of interest to members of the public. They have kindly offered to share the articles with anyone wanting to provide similar information to their community. Nicely done Sarah and thanks to you and Susan for sharing!



Left: Aerial shot of HW16, Aug. 14, 2015. Photo: USCG LT Leo Lake.

Right: The marine-terrestrial energy cycle, bear and sea lion in Dyea, Skagway, Sept. 2015 Photo Sean Smith-Kearon.



THANK YOU for your hard work during the summer 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 the Level A police:

[Kate.Savage@noaa.gov](mailto:Kate.Savage@noaa.gov)

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

# Recent Stranding and Health Articles

By first author. Let me know if you would like a copy and I will be happy to email to you.

- AALDERINK, M. T.** Dental and temporomandibular joint pathology of the northern fur seal (*Callorhinus ursinus*).
- AALDERINK, M. T.** Dental and temporomandibular joint pathology of the eastern Pacific harbor seal (*Phoca vitulina richardii*).
- ADAMS, JOSH.** Stomach contents of a Cuvier's beaked whale (*Ziphius cavirostris*) stranded in Monterey Bay, California.
- ANDERSON, CHELSEA E.** Clinical and epidemiologic considerations of *Clostridium difficile* in harbor seals (*Phoca vitulina*) at a marine mammal rehabilitation center
- BALL, HOPE C.** Seasonal and ontogenetic variation in subcutaneous adipose of the bowhead whale (*Balaena mysticetus*).
- BARBOSA, LORRAINE.** A novel *Sarcocystis neurona* genotype XIII is associated with severe encephalitis in an unexpectedly broad range of marine mammals from the northeastern Pacific Ocean..
- BATTAILE, BRIAN C.** Accelerometers identify new behaviors and show little difference in the activity budgets of lactating northern fur seals (*Callorhinus ursinus*) between breeding islands and foraging habitats in the eastern Bering Sea.
- BENTZ, JULIA.** Crowding in marine environments: Divers and whale watchers in the Azores.
- BERTA, ANNALISA.** Introduction to the anatomy of the head of a neonate gray whale (*Mysticeti*, *Eschrichtius robustus*).
- BERTA, ANNALISA.** Eye, nose, hair, and throat: External anatomy of the head of a neonate gray whale (*Cetacea*, *Mysticeti*, *Eschrichtiidae*).
- BI, JIANLING.** Characterization of the hypoxia-inducible factor 1 alpha gene in the sperm whale, beluga whale, and Yangtze finless porpoise.
- BLACKWELL, SUSANNA B.** Effects of airgun sounds on bowhead whale calling rates: Evidence for two behavioral thresholds
- BLANCHET, MARIE-ANNE.** Seasonal, oceanographic and atmospheric drivers of diving behaviour in a temperate seal species living in the High Arctic.
- BLUNDELL, GAIL M.** Factors affecting haul-out behavior of harbor seals (*Phoca vitulina*) in tidewater glacier inlets in Alaska: Can tourism vessels and seals coexist?
- BODEWES, ROGIER.** Avian influenza A(H10N7) virus-associated mass deaths among harbor seals.
- BODEWES, ROGIER.** Identification of DNA sequences that imply a novel gammaherpesvirus in seals.
- BOGOMOLNI, ANDREA L.** Development of a one-step duplex RT-qPCR for the quantification of phocine distemper virus.
- BRAITHWAITE, JANELLE E.** From sea ice to blubber: Linking whale condition to krill abundance using historical whaling records.
- BRAUN, VERONIKA.** Focal bacterial meningitis following ascending bite wound infection leading to paraparesis in a captive California sea lion (*Zalophus californianus*).
- BROWN, TANYA .** Local contamination, and not feeding preferences, explains elevated PCB concentrations in Labrador ringed seals (*Pusa hispida*).
- BROWNING, HELEN M.** Common cancer in a wild animal: The California sea lion (*Zalophus californianus*) as an emerging model for carcinogenesis.
- BUREK-HUNTINGTON, KATHLEEN A.** Morbidity and mortality in stranded Cook Inlet beluga whales *Delphinapterus leucas*.
- BUTLER, J. R.** Evaluating adaptive co-management as conservation conflict resolution: Learning from seals and salmon.
- CARLSON-BREMER, DAPHNE.** Epidemiology and pathology of *Toxoplasma gondii* in free-ranging California sea lions (*Zalophus californianus*).
- CHEREL, YVES** Milk isotopic values demonstrate that nursing fur seal pups are a full trophic level higher than their mothers.
- CITTA, JOHN J.** Ecological characteristics of core-use areas used by Bering-Chukchi-Beaufort (BCB) bowhead whales, 2006-2012.
- CLARK, CHRISTOPHER W** A year in the acoustic world of bowhead whales in the Bering, Chukchi and Beaufort Seas.
- CONSTANTINE, ROCHELLE.** Mitigation of vessel-strike mortality of endangered Bryde's whales in the Hauraki Gulf, New Zealand.
- CORDES, LINE S.** Mark-resight estimates of seasonal variation in harbor seal abundance and site fidelity.
- CORTES-HINOJOSA, GALAXIA.** Phylogenomic characterization of California sea lion adenovirus-1.
- CRANCE, JESSICA L.** Northeasternmost record of a North Pacific fin whale (*Balaenoptera physalus*) in the Alaskan Chukchi Sea.
- CRANFORD, TED W.** Fin whale sound reception mechanisms: Skull vibration enables low-frequency hearing.
- CRAWFORD, JUSTIN A.** A comparison of ringed and bearded seal diet, condition and productivity between historical (1975-1984) and recent (2003-2012) periods in the Alaskan Bering and Chukchi Seas
- DAHLHEIM, MARILYN E.** Temporal changes in abundance of harbor porpoise (*Phocoena phocoena*) inhabiting the inland waters of Southeast Alaska.
- DALTON, A. J.** Resting metabolic rate and activity: Key components of seasonal variation in daily energy expenditure for the northern fur seal (*Callorhinus ursinus*).
- DEHART, PIETER A. P.** Stable oxygen and hydrogen isotope analyses of bowhead whale baleen as biochemical recorders of migration and arctic environmental change.
- DONALDSON, MICHAEL R.** Making connections in aquatic ecosystems with acoustic telemetry monitoring.
- DRAKE, S. E.** Sensory hairs in the bowhead whale, *Balaena mysticetus* (*Cetacea*, *Mammalia*).

# Recent Stranding and Health Articles - continued

- DREHMER, CESAR JAEGER.** Dental anomalies in pinnipeds (Carnivora: Otariidae and Phocidae): Occurrence and evolutionary implications.
- DYNDO, MONIKA.** Harbour porpoises react to low levels of high frequency vessel noise.
- EKDALE, ERIC G.** Vascularization of the gray whale palate (Cetacea, Mysticeti, *Eschrichtius robustus*): Soft tissue evidence for an alveolar source of blood to baleen.
- EKDALE, ERIC G.** Passive restriction of blood flow and counter-current heat exchange via lingual retia in the tongue of a neonatal gray whale *Eschrichtius robustus* (Cetacea, Mysticeti).
- EL ADLI, JOSEPH J.** On the anatomy of the temporomandibular joint and the muscles that act upon it: Observations on the gray whale, *Eschrichtius robustus*.
- EMBLING, C. B.** How much effort is enough? The power of citizen science to monitor trends in coastal cetacean species.
- ERDSACK, NICOLA.** Unique fur and skin structure in harbour seals (*Phoca vitulina*) – thermal insulation, drag reduction, or both?
- ESCALLE, LAURIANE.** Cetaceans and tuna purse seine fisheries in the Atlantic and Indian Oceans: Interactions but few mortalities.
- FAIS, A.** Sperm whale echolocation behaviour reveals a directed, prior-based search strategy informed by prey distribution.
- FLOWER, JENNIFER E.** Circulating concentrations of thyroid hormone in beluga whales (*Delphinapterus leucas*): Influence of age, sex, and season.
- FORNEY, KARIN A.** Habitat-based models of cetacean density and distribution in the central North Pacific.
- GARLAND, ELLEN C.** Population structure of humpback whales in the western and central South Pacific Ocean as determined by vocal exchange among populations.
- GANNIER, A.** Sperm whales ability to avoid approaching vessels is affected by sound reception in stratified waters.
- GARLAND, ELLEN C.** Temporal peaks in beluga whale (*Delphinapterus leucas*) acoustic detections in the northern Bering, northeastern Chukchi, and western Beaufort Seas: 2010-2011
- GARLAND, ELLEN C.** Beluga whale (*Delphinapterus leucas*) vocalizations and call classification from the eastern Beaufort Sea population
- GEORGE, JOHN C.** Bowhead whale body condition and links to summer sea ice and upwelling in the Beaufort Sea.
- GERO, SHANE.** Individualized social preferences and long-term social fidelity between social units of sperm whales.
- GOUNDIE, ELIZABETH T.** Low prey abundance leads to less efficient foraging behavior in Steller sea lions.
- GUSTAVSON, LISA.** Hydroxylated polychlorinated biphenyls decrease circulating steroids in female polar bears (*Ursus maritimus*).
- HAELTERS, J.** Towards a numerical model to simulate the observed displacement of harbor porpoises *Phocoena phocoena* due to pile driving in Belgian waters
- HAMER, DEREK J.** Two devices for mitigating odontocete bycatch and depredation at the hook in tropical pelagic longline fisheries.
- HAMPE, OLIVER.** Prenatal cranial ossification of the humpback whale (*Megaptera novaeangliae*).
- HASHIMOTO, OSAM.** Brown adipose tissue in cetacean blubber.
- HASTIE, GORDON D.** Sound exposure in harbour seals during the installation of an offshore windfarm: predictions of auditory damage.
- HILL, HEATHER.** Young belugas diversify adult beluga (*Delphinapterus leucas*) behavior.
- HUCKABONE, SARA E.** Coccidioidomycosis and other systemic mycoses of marine mammals stranding along the Central California, USA coast: 1998-2012
- HUGGINS, JESSICA L.** Increased harbor porpoise mortality in the Pacific Northwest, USA: Understanding when higher levels may be normal.
- HUI, TABITHA C. Y.** Assessment of competition between fisheries and Steller sea lions in Alaska based on estimated prey biomass, fisheries removals and predator foraging behaviour.
- ISOJUNNO, SAANA.** Sperm whale response to tag boat presence: Biologically informed hidden state models quantify lost feeding opportunities.
- JANSEN, JOHN K.** Spatially estimating disturbance of harbor seals (*Phoca vitulina*).
- JENSEN, SILJE-KRISTIN.** Detection and effects of harmful algal toxins in Scottish harbour seals and potential links to population decline.
- JOY, RUTH.** Linking northern fur seal dive behavior to environmental variables in the eastern Bering Sea.
- KASTELEIN, RONALD A.** Hearing thresholds of harbor seals (*Phoca vitulina*) for playbacks of seal scarer signals, and effects of the signals on behavior.

# Recent Stranding and Health Articles - continued

- KEOGH, MANDY J.** Endocrine and immunological responses to adrenocorticotrophic hormone (ACTH) administration in juvenile harbor seals (*Phoca vitulina*) during winter and summer.
- KIENLE, SARAH S.** Tongue and hyoid musculature and functional morphology of a neonate gray whale (Cetacea, Mysticeti, *Eschrichtius robustus*).
- KILIAN, MEIKE.** How harbor seals (*Phoca vitulina*) pursue schooling herring.
- KISHIDA, TAKUSHI.** Organization and distribution of glomeruli in the bowhead whale olfactory bulb.
- KISZKA, JEREMY.** Behavioural drivers of the ecological roles and importance of marine mammals.
- KONIGSON, SARA.** Seal exclusion devices in cod pots prevent seal bycatch and affect their catchability of cod.
- KOSKI, WILLIAM R.** Evaluation of UAS for photographic re-identification of bowhead whales, *Balaena mysticetus*.
- KREY, ANKE.** Assessment of neurotoxic effects of mercury in beluga whales (*Delphinapterus leucas*), ringed seals (*Pusa hispida*), and polar bears (*Ursus maritimus*) from the Canadian Arctic.
- KUHN, CAREY E.** Linking northern fur seal behavior with prey distributions: The impact of temporal mismatch between predator studies and prey surveys.
- KULETZ, KATHY J.** Seasonal spatial patterns in seabird and marine mammal distribution in the eastern Chukchi and western Beaufort seas: Identifying biologically important pelagic areas.
- KUZMINA, TETIANA A.** The cestode community in northern fur seals (*Callorhinus ursinus*) on St. Paul Island, Alaska.
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- MATTHEWS, CORY J. D.** Weaning age variation in beluga whales (*Delphinapterus leucas*).
- MENCE, DAVID.** The cetacean right to life revisited.
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- PARSONS, E. C. M.** Key research questions of global importance for cetacean conservation.
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- SAMARRA, FILIPA I. P.** Prey-induced behavioural plasticity of herring-eating killer whales.
- SAUVE, CAROLINE C.** Mother-pup vocal recognition in harbour seals: Influence of maternal behaviour, pup voice and habitat sound properties.
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