

# Soundings



American Cetacean Society – Monterey Bay Chapter  
PO Box H E, Pacific Grove, CA 93950

**MARCH 2017**

**MONTHLY MEETING AT HOPKINS MARINE STATION,  
LECTURE HALL BOAT WORKS BUILDING  
(ACROSS FROM THE AMERICAN TIN CANNERY OUTLET STORES)  
MEETING IS OPEN TO THE PUBLIC**

**Thursday, March 30, 2017  
Time: 7:30 PM**

PLEASE JOIN US AT 7:00 FOR REFRESHMENTS

**Speaker: Dr. Wallace J. Nichols**

**Title: “Go Deeper: The Seven Ages of Water”**

Dr. Wallace "J." Nichols is currently a Senior Fellow at the Middlebury Institute for International Studies' Center for the Blue Economy, a Research Associate at California Academy of Sciences and co-founder of several non-profit organizations. He is an innovative, silo-busting, entrepreneurial scientist, movement maker, renown marine biologist, voracious Earth and idea explorer, wild water advocate, bestselling author, sought after lecturer, and fun-loving Dad. He also likes turtles (a lot).



His research interests span ocean and aquatic ecosystems, migratory species, marine protected areas, fisheries management, and plastic pollution with special emphasis on building new action networks and developing novel interdisciplinary solutions, sometimes involving so-called enemies.

His current focus is on what he refers to as Blue Mind, a powerful new universal story of water. In this story society accurately describes all of the physical, ecological, economic, cognitive, emotional, psychological, and social benefits of healthy oceans and waterways. By connecting neuroscientists and psychologists with aquatic experts and artists to ask and answer exciting new questions his work is transforming many sectors, including: health and well-being; education and parenting; arts, architecture and design; real estate and urban planning; travel and leisure; and sports and recreation.

**Please join** us for refreshments before the program begins. More information is available on our website, [www.acsmb.org](http://www.acsmb.org). Limited copies of Wallace's new book will be available at the meeting.

**Next month:** Our next meeting will be at Hopkins Marine Station Boatworks Hall at 7:30 PM on Thursday, April 27. Please save the date and join us!

## INSIDE THIS ISSUE

CALENDAR .....2

STUDY SAYS SEALS EAT MORE  
CHINOOK THAN SOUTHERN  
RESIDENTS .....2

BEFORE VAQUITAS VANISH, A  
DESPERATE BID TO SAVE  
THEM.....3

DATA ON BLUE WHALES OFF  
CALIFORNIA HELPS PROTECT  
THEIR DISTANT RELATIVES....5

HOW DISAPPEARING SEA ICE  
HAS PUT ARCTIC ECOSYSTEM  
UNDER THREAT.....6

SIGHTINGS.....7

MEMBERSHIP.....8

*Do you know - or want to know - experts in the field of marine science who could be a guest speaker at our monthly meetings?*

*ACSMB is looking for a **Programs Coordinator** to contact and schedule speakers and serve on the Board of Directors. Please contact any current board member for more information!*

CALENDAR

**Mar. 16:** Presentation by Salvador Jorgensen of the Monterey Bay Aquarium, from 4:00 PM to 5:00 PM: Tracking Great White Sharks in the White Shark Café. Presentation will take place at Moss Landing Marine Labs. For more information go to: [mlml.calstate.edu](http://mlml.calstate.edu).

**Mar. 28:** Pacific Grove Museum of Natural History Lecture: Living Under the Sea – Featuring aquanauts Ed Clifton and Kip Evans. 7:00 -8:30 PM.

**Apr. 8:** 2017 Marine Ocean Colloquium: "Make Your Message Matter." This event will take place at the Moss Landing Marine Labs from 9:00 AM to 4:00 PM.

**Apr. 13:** Presentation by Douglas McCauley at the Channel Islands National Park Robert J. Lagomarsino Visitor Center in Ventura, CA: "Marine Defaunation: Animal Loss in the Global Ocean." 7:00 PM.

**May 6:** 18<sup>th</sup> Annual Bay Area Conservation Biology Symposium at UC Santa Cruz. Keynote Speakers will be Dr. Jim Estes and Dr. Karen Poiani. 8:30 AM - 7:00 PM.

**Jul. 13:** Presentation by John Calambokidis McCauley at the Channel Islands National Park Robert J. Lagomarsino Visitor Center in Ventura, CA: "Whale Protection and Vessel Speed Reduction in the Santa Barbara Channel." 7:00 PM.

## STUDY SAYS SEALS EAT MORE CHINOOK THAN SOUTHERN RESIDENTS

By Hayley Day

Feb. 20, 2017 — Seals are eating more Chinook than Southern resident killer whales.

That's bad for both endangered species' recoveries.

"The seals might not be the enemy as much as the problem is that we've lost forage fish available to them," said Joe Gaydos, science director of the SeaDoc Society on Orcas Island.

According to a recent Canadian study, the amount of Chinook salmon eaten by seals in the Salish Sea has increased from 68 metric tons in 1970 to 625 metric tons in 2015. That's double the amount Southern resident killer whales ate in 2015 in the same location, and six times more than commercial and recreational fisheries according to the study.

*American Cetacean Society – Monterey Bay*

Lesanna Lahner of SR3 (Sealife Response, Rehabilitation and Research) in Snohomish County, said salmon are not seals' first food choice.

"When the ecosystem is balanced and forage fish are available, we know that harbor seals and sea lions will preferentially eat those forage fish and leave the salmon alone," said Lahner.

The population of seals' main food source of the smaller, forage or bait fish, according to additional recent studies, are depleting due to toxins in the water and overfishing, Lahner added.

Those are similar threats to the Chinook salmon, which have been listed under the Endangered Species Act since 1999, and are the Southern resident orcas main food source. Southern resident killer whales live in the waters surrounding the San Juan Islands for parts of the year.

Harbor seals were hunted for sport until 1972, according to the study. In the Salish Sea, they are now at the same levels they were 100 years ago, before human interaction, said Lahner.

However, there are currently only 78 Southern resident killer whales, compared to the 220 recorded by the Center for Whale Research's first study in 1976. The Southern residents lost seven orcas since 2016, alone. The loss of Chinook salmon is one of 10 threats to killer whales, according to the National Oceanic and Atmospheric Administration.

According to the recent study, seals are eating the smaller, juvenile Chinook, migrating from the streams where they were hatched, to the ocean. The report estimates roughly 162,000 adult Chinook never make it to the Salish Sea, each year.

"This project is really looking at when seals are eating young salmon that are migrating out, so it's not the big salmon people are catching on their fishing



A harbor seal eats salmon in the San Juan Channel. (Credit: Phil Green).

poles,” said Gaydos.

However, predation by marine mammals is not a threat to the Chinook or Southern residents recovery, said Lahner. The seal increase may be the indirect cause of orcas deaths, but the decrease in forage fish is the direct cause.

“It’s kind of like saying, if a person dies of smoke cigarettes, they died of a heart attack, when ultimately it was the cigarettes that caused the death,” said Lahner. “We should be looking at the cigarettes, not the heart disease.”

According to Gaydos, seals eat up to 60 different varieties of fish in the Salish Sea. Southern resident orcas only eat certain types of salmon (mostly Chinook) and will go hungry if they aren’t available, said Lahner.

The study, said Gaydos, gives an additional reason for the Chinook population decrease, but not all the reasons why.

“The seals are doing what they’ve always done, but because we’ve changed the streams and damaged the habitat for the salmon spawning areas, that’s more of an issue now,” said Gaydos. “The study doesn’t give us all the answers, but lets us know we need to pay attention to something else.”

For more information on Salish Sea marine wildlife, contact the SeaDoc Society at [seadoc@seadocsociety.org](mailto:seadoc@seadocsociety.org) or 376-3910 or visit [www.seadocsociety.org](http://www.seadocsociety.org).

<http://www.sanjuanjournal.com/news/study-says-seals-eat-more-chinook-than-southern-residents/>

## BEFORE VAQUITAS VANISH, A DESPERATE BID TO SAVE THEM

By Elisabeth Malkin

Feb. 27, 2017 — In the shallow sea waters of the Gulf of California swims a porpoise that few have seen, its numbers dwindling so fast that its very existence is now in peril.

Known mostly by its Spanish name, the snub-nosed vaquita is the world’s smallest cetacean, a miniature porpoise with a cartoonlike features and dark smudges around its eyes. The species lives only in the fertile waters of the gulf’s northern corner.

The size of its population has always been precarious, but now voracious demand in China for a fish that shares the vaquita’s only habitat has pushed the tiny porpoise to the brink of extinction.

No more than 30 vaquitas are left, according to a November estimate based on monitoring of their echolocation clicks. Half of the vaquitas counted a year earlier have disappeared.



From left, Gina Coll, Guiga Pira, Thomas Le Coz and Carrie Cervantes aboard the Sam Simon, run by the Sea Shepherd Conservation Society. They have been patrolling the vaquita habitat, pulling illegal nets out of the water and spotting poachers. (Credit: Tara Pixley for the New York Times).

This calamity has hardly gone unnoticed. The vaquita has been vanishing in plain sight, to the despair of conservationists who have been advising the Mexican government on how to save it. All of the resources brought to bear, including the protection of the Mexican Navy, have proved to be no match against the illegal wildlife trade.

“If we continue on the path we’re on, we’ll have no vaquitas in two years,” said Barbara Taylor, a marine mammal expert at the National Oceanic and Atmospheric Administration.

The vaquitas are simply bycatch, trapped and drowned in curtains of illegal gillnets set for an endangered fish called the totoaba. The fish’s swim bladder is dried and smuggled to China, where wealthy diners pay thousands of dollars for the delicacy, believing it to have medicinal powers.

To feed that appetite, totoaba poachers have killed 90 percent of the vaquita population since 2011, according to the acoustic monitoring program led by Armando Jaramillo Legorreta at the Mexican government’s National Ecology and Climate Change Institute, known as INECC.

With so few vaquitas left, experts advising the Mexican government have proposed capturing several specimens and holding them in a sea pen as a way of conserving the species until the threat to its habitat is removed. It’s a last-ditch measure that conservationists had hoped they would never have to resort to.

“We had always been opposed to captivity,” said Lorenzo Rojas Bracho, a marine mammal expert at INECC and the chairman of an advisory group, the International Committee for Vaquita Recovery. But

nobody expected that the population would decline so quickly.

“There are risks,” Dr. Rojas Bracho said of the capture plan. “But they are fewer than leaving them with the fishing as it is.”

The plan would entail training United States Navy dolphins to locate vaquitas, capturing them for transfer to a temporary pool and then to a sea pen to be built in their habitat along the Gulf of California coast. The majority of vaquitas would remain in the wild.

But the unknowns loom large. “We don’t know whether they find them,” Dr. Taylor said of the dolphins. “We don’t know whether we can catch them. We don’t know how they will react.”

“If you get a negative result in any one of these steps,” she added, “it’s basically game over” for the capture plan. Even in the best of scenarios, breeding in captivity is unlikely to restore the population. A female vaquita gives birth to one calf every two years on average.

If the proposal goes forward, the vaquita would join other species at the brink of extinction — like the California condor and the golden lion tamarin, in Brazil — that are being closely managed in some form distinct from their natural setting. It would be the first such effort for a marine mammal.

A managed-conservation plan designed with the expectation that the animals can eventually be returned to the wild “is not a permanent solution,” he added. “It’s an emergency stopgap with an exit strategy.”

Nor would it be a quick fix. “It requires intensive sustained efforts for decades to recover species from these catastrophic low levels,” said Richard Young, the head of conservation science at the Durrell Wildlife Conservation Trust .

Dr. Turvey speaks from experience. He witnessed the first human-caused extinction of a cetacean, the Yangtze River dolphin. Like the vaquita, the baiji, as it was more commonly known, occupied a limited habitat in small numbers and was decimated as bycatch in local fisheries.

For a decade, researchers discussed removing individual baiji to a semi-natural reserve as a short-term conservation measure. But when Dr. Turvey and other researchers led an expedition down the Yangtze in 2006 to look for specimens, they found none.

Two years ago, the Mexican government imposed a two-year ban on all gillnets across 5,000 square miles of the vaquita habitat and sent its Navy to enforce it. To support the communities of the upper Gulf, which depend on fishing and shrimping, the

government allocated \$74 million in compensation over the two years.

The hope was that the military could halt the totoaba trade and that two years would be long enough to complete development of vaquita-safe trawl nets to substitute for shrimp gillnets. (Even before the totoaba trade surged, legal gillnet fishing had depleted the vaquita population.)

But local fishermen argue that the new nets’ catches are too meager to provide a living, and the authorities have been sympathetic. “While there is no alternative to fishing practices, nobody will give up their gillnets,” Dr. Rojas Bracho said.

The promised enforcement also has fallen short. That was evident this month aboard the *Sam Simon*, a 57-meter antipoaching vessel operated by the Sea Shepherd Conservation Society, an environmental organization.

In an agreement with the Mexican Navy, Sea Shepherd has been patrolling the vaquita habitat, pulling illegal nets out of the water and spotting poachers. “We see illegal activity almost every day,” said Oona Layolle, the leader of the Sea Shepherd campaign, called Operation Milagro (Spanish for “miracle”).

At about 4 p.m. one afternoon this month, a fishing boat pulled up just a few hundred meters from the *Sam Simon* carrying four men guided by a hand-held GPS device. One of the men dragged a hook in the water, looking for a gillnet they had hidden there.

The *Sam Simon* sent a drone over the small boat and it sped off, only to return with six men aboard, who threw objects at the drone before leaving again. Despite a call to the Mexican Navy, nobody came.

Even when arrests are made, conservationists say, the prosecution is too slapdash to win a conviction for a serious crime.

Last year, Mexican Navy patrols succeeded in scaring off the totoaba poachers by day, forcing them to haul in their nets at night. But this year, the poachers work openly during the day, some wearing balaclavas, apparently undeterred by desultory government patrols. Some poachers even post photos of their weapons on Facebook.

At the same time, four boats belonging to Mexico’s environmental prosecutor are parked on a side street running above the dock here, their motors broken or simply unused because fuel is in short supply.

The nets tell a similar tale. Over 10 weeks last spring, Operation Milagro pulled 42 totoaba nets from these waters. In the fall, a broad government-sponsored survey succeeded in finding 36 totoaba nets, 28 of which were in use.

In mid-December, Operation Milgro resumed and found 56 more totoaba nets in nine weeks. Almost all were new, and some were set in the same places that the government effort had cleared just weeks earlier.

During night patrol aboard the Sam Simon last week, the crew pulled up yet another totoaba net of wide blue mesh, its unweathered red buoys evidence that the net was brand new.

"The situation is so dramatic that we have to take huge measures," Ms. Layolle said. "It is a desperate time."

Mexico's environment minister, Rafael Pacchiano Alamán, promised this month to send 45 federal police officers to patrol the beaches and to dismantle poachers' camps.

But he did not respond to the main recommendation of conservationists: a permanent gillnet ban. The legal fishing season for corvina has begun, which means dozens of small boats will be out on the water, giving cover to poachers.

Despite a promise last year by President Enrique Peña Nieto, the government has yet to act on the gillnet ban. Without that, warn conservationists, there is no way to begin to save the vaquita.

"If you can't remove the threats, the population keeps declining," Dr. Turvey said. "You don't have time for complacency."

<https://mobile.nytimes.com/2017/02/27/science/vaquitas-dolphins-mexico-extinction.html>

## **DATA ON BLUE WHALES OFF CALIFORNIA HELPS PROTECT THEIR DISTANT RELATIVES**

Feb. 8, 2017 — Scientists know a great deal about blue whales off California, where the endangered species has been studied for decades.

But they know far less about blue whales in the Northern Indian Ocean, where ships strike and kill some of the largest animals on Earth.

Now a research team has found a way to translate their knowledge of blue whales off California and in the eastern tropical Pacific Ocean to the other side of the world, revealing those areas of the Northern Indian Ocean where whales are likely to be encountered. The team of scientists from NOAA Fisheries and the Sri Lankan Blue Whale Project published the findings in the journal *Diversity and Distributions*.

The Scientific Committee of the International Whaling Commission included the results of the study when assessing a shift in busy shipping lanes off the south coast of Sri Lanka that will reduce the danger to whales in an important feeding area.

"Small changes in shipping routes can be a very effective way to address a serious conservation issue with minimal inconvenience to the shipping industry, but rely on a good understanding of the relationship between whale distribution and habitat," said Russell Leaper, a member of the Scientific Committee. "This study makes an important contribution towards that understanding."

To meet requirements of the U.S. Marine Mammal Protection Act, NOAA Fisheries regularly conducts marine mammal and ecosystem assessment surveys. Surveys off the U.S. West Coast and in the eastern tropical Pacific have shown that the upwelling of deep ocean water rich in nutrients supports dense patches of krill that blue whales feed on. This information has proven critical in addressing the emerging problem of ships striking blue whales, and has informed the management of ship traffic to and from the busy ports of Los Angeles and Long Beach to mitigate this problem.

"We are fortunate in the United States to have some of the best marine mammal data sets in the world," said Jessica Redfern, a research scientist at NOAA Fisheries Southwest Fisheries Science Center in La Jolla, Calif., and lead author of the new study. "It was exciting to explore how we could use these data sets to aid conservation efforts in parts of the world where few data exist."

The research developed computer models of blue whale habitat off the U.S. West Coast and in the eastern tropical Pacific, including upwelling and underwater topography that affects areas of krill concentration. The models then identified similar upwelling and feeding regions in the Northern Indian Ocean that are also likely to be important habitat for the endangered species.

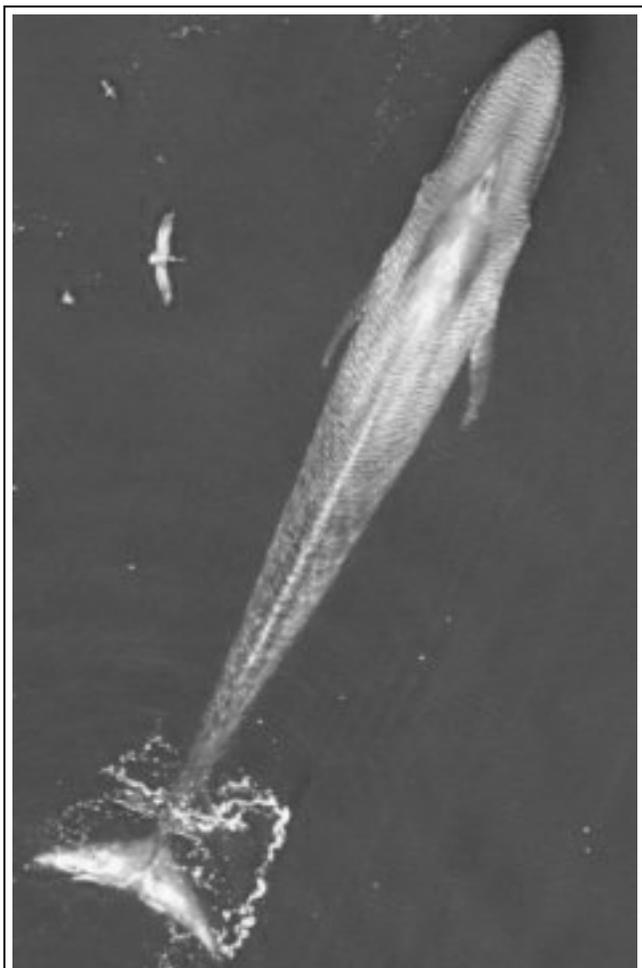
"The Sri Lankan Blue Whale Project has spear-headed efforts to draw attention to and mitigate the risk of ships striking blue whales in Sri Lankan waters. To best protect this species in this data-limited region, it is essential to adapt approaches developed in other parts of the world. Our collaboration achieves just that," said Asha de Vos, founder of the Sri Lankan Blue Whale Project and a coauthor on the study.

The Northern Indian Ocean and its inhabitants have not been surveyed to the same extent as the eastern Pacific Ocean, and much of the information about whale distributions comes from Soviet whaling several decades ago. However, the model results matched up well with the limited information available, the scientists reported. The model suggests that the distribution of blue whales in the Northern

Indian Ocean may shift seasonally, following their food as monsoon climate patterns alter the most productive habitat. The scientists concluded that research and monitoring is critical in the areas identified as blue whale habitat in the Northern Indian Ocean because many of these areas overlap with some of the busiest shipping routes in the world.

"Marine mammals face threats from human activities in most of the world's oceans, but we lack the data needed to address these threats in many areas," Redfern said. "The data collected aboard our surveys allow us to predict species habitat in other parts of the world. Understanding species habitat allows us to address conservation problems that are often unexpected and critical to maintaining healthy populations."

<https://www.sciencedaily.com/releases/2017/02/170208131841.htm>



This is a blue whale photographed during a survey of marine mammals in the eastern Pacific Ocean conducted by the Marine Mammal and Turtle Division at NOAA Fisheries' Southwest Fisheries Science Center. (Credit: NOAA Fisheries/Southwest Fisheries Science Center/James W. Gilpatrick, Jr. and Morgan S. Lynn).

## HOW DISAPPEARING SEA ICE HAS PUT ARCTIC ECOSYSTEM UNDER THREAT

By Robin McKie

Mar. 4, 2017 — In a few days the Arctic's beleaguered sea ice cover is likely to set another grim record. Its coverage is on course to be the lowest winter maximum extent ever observed since satellite records began. These show that more than 2 million square kilometres of midwinter sea ice have disappeared from the Arctic in less than 40 years.

The ice's disappearance – triggered by global warming caused by rising carbon emissions from cars and factories – is likely to have profound implications for the planet. A loss of sea ice means a loss of reflectivity of solar rays and further rises in global temperatures, warn researchers.

But there are other pressing concerns, they add. Sea ice loss is now posing serious threats to the Arctic's indigenous species – its seals, fish, wolves, foxes and polar bears. "The Arctic food chain relies on a stable sea ice platform and that is now disappearing, putting the region's wildlife at risk," said marine ecologist Tom Brown, of the Scottish Association for Marine Science (Sams), in Oban.

Sea ice provides a platform from which polar bears can hunt, and it links communities of land animals such as foxes and wolves. "The sea ice cap has been retreating for decades, and as it does the animals who live on its edge have had to move north," said Andrew Shepherd, professor of Earth observation at Leeds University.

"But that process takes them further and further away from land – and there is likely to be a limit about the distance they can tolerate."

In fact, the erosion of sea ice strikes at the very root of the Arctic ecosystem, for it provides a surface on which algae – the basic material on which the entire food chain in the region depends – can grow. "Algae lingers on the underside of sea ice and as spring begins there is a major increase in its growth," said Brown. "It is then eaten by tiny creatures called zooplankton, and they in turn are eaten by fish that are in turn eaten by seals, which are in turn consumed by polar bears. But if algae levels drop the whole food chain is disrupted."

This point was backed by Professor Geraint Tarling, of the British Antarctic Survey. "The most important of the consumers of algae is a species of zooplankton called *Calanus glacialis*. It is rich in fats like omega-3 and is consumed by Arctic cod and baleen whales," he said. "Crucially, in recent years levels of *Calanus glacialis* have been found to be

declining and are retreating in their range. In its place a temperate species called *Calanus finmarchicus* has appeared, but it contains much less fat and that is of poorer quality. As a foodstuff it is simply inferior.”

The base of the Arctic food chain is being depleted, in other words. However, it is not the only threat to wildlife in the region. In 2015 the journal *Science* published a paper – by Professor Eric Post, of Penn State University and colleagues – that shows that populations of wolves and foxes are currently isolated only in summer. For most of the year these groups are connected by sea ice.

But as its sea ice coverage declines over the years, this is extending the length of time that packs are kept away from each other, which threatens to lead to diminished cross-breeding and genetic wellbeing.

Then there are the narwhals. These tusked whales – sometimes called the unicorns of the sea – are prized by Inuits who use their blubber and skin to make a traditional, chewy meal called *muktuk*. Narwhals can hide safely in sea ice and so avoid their natural predator, the killer whale. Robbed of that protection, narwhal numbers could dwindle dangerously, marine biologists warn.

To uncover greater details of these issues, the UK Natural Environment Research Council (Nerc) has launched a programme called PRIZE, productivity in the seasonal ice zone, which will use underwater robot craft to study how nutrient flow and other factors are changing as the Arctic sea ice retreats. It will probe variations that are occurring in zooplankton behaviour, the composition of the seabed and other factors that could influence wildlife disruption.

Other dangers facing the Arctic were highlighted by Professor Julienne Stroeve, of University College London. “Consider the example of harp seals,” she said. “They often give birth on snow mounds on sea ice. But if that sea ice is thin or formed late it breaks and the seal pups are dumped into the ocean and they drown.” In addition, Stroeve pointed to the problem of increasing numbers of warm spells during which rain falls instead of snow. “That rain then freezes on the ground and forms a hard coating that prevents reindeer and caribou from finding food under the snow,” she added.

Caribou face another danger posed by climate change. Normally they try to take advantage of a range of nutritious plants that bloom in the Arctic spring in order to help them recover from the fierce Arctic winter and to strengthen females before giving birth. But the plant species on which they rely are now blooming earlier and earlier as spring in the far north arrives sooner each year – while the caribou’s internal

clock remains unchanged and locked into the wrong biological cycle. As a result, the plants on which they rely are past their best when caribou arrive and so there is less nutrition available when they give birth. As a result, fewer calves are born.

It is a problem of synchronicity. The alignment of different lifecycles is being disrupted by sea ice loss and it is affecting animals on both land and in the ocean. Species under threat include:

**CARIBOU** - As the Arctic warms, rain more frequently falls instead snow and then freezes over the ground preventing caribou and reindeer from finding food.

**HARP SEALS** - Harp seals give birth on mounds of snow on sea ice. If this is weakened or thinned because it has formed late in the year, it can break apart, causing pups to drown.

**ZOOPLANKTON** - Zooplankton form a critical part of the food chain. They live off algae that form on the underside of sea ice and in turn they are eaten by fish such as Arctic cod and also by baleen whales.

**POLAR BEAR** - Polar bears use sea ice as platforms from which to hunt seals and other creatures. Male and female bears also meet on ice sheets to mate.

**NARWHAL** - Slow swimming whales like the narwhal use sea ice to hide from predators like killer whales and could also be affected as shipping in the region increases as ice retreats.

<https://www.theguardian.com/world/2017/mar/04/arctic-ecosystem-ice-disappear-ecosystem-polar-bears-fish>

## SIGHTINGS

Sightings are compiled by Monterey Bay Whale Watch. For complete listing and updates see <http://www.montereybaywhalewatch.com/slstcurr.htm>

Date	#	Type of Animal(s)
2/28 10 am	2	Gray Whales
	1	Humpback Whale
2/27 1:30 pm	7	Gray Whales
2/27 10 am	16	Gray Whales
	200	Long-beaked Common Dolphins
	20	Risso’s Dolphins
2/26 1:30 pm	5	Gray Whales
2/26 10 am	14	Gray Whales
2/25 11:30 am	6	Gray Whales
	12	Risso’s Dolphins
2/24 11:30 am	10	Gray Whales
	60	Long-beaked Common Dolphins
2/22 10 am	5	Gray Whales
	90	Risso’s Dolphins
2/21 10 am	10	Gray Whales
	10	Pacific White-sided Dolphins

American Cetacean Society  
Monterey Bay Chapter  
P.O. Box H E  
Pacific Grove, CA 93950



RETURN SERVICE REQUESTED

Nonprofit  
Organization  
U.S. Postage  
PAID  
Monterey, CA  
Permit No. 338

**MONTEREY COUNTY HOTLINES for  
Marine Mammals**  
  
**Strandings / Entanglements / Distress**  
**24-hour toll-free**  
**877-767-9425**  
  
**Harassment**  
**NOAA Enforcement, Monterey**  
**831-853-1964**

**American Cetacean Society Membership Application** Chapter#24  
Membership/Subscription Type: New \_\_\_ Gift \_\_\_ Renewal \_\_\_  
Name \_\_\_\_\_  
Address \_\_\_\_\_ Email \_\_\_\_\_  
City, State, Zip \_\_\_\_\_  
Membership Level \_\_\_\_\_  
**Membership Levels and Annual Dues**  
Lifetime \$1000 Patron \$500 Contributing \$250  
Supporting \$85 International \$55 Family \$55  
Individual \$45 Student \$35 Teacher \$35  
Senior (62 plus) \$35  
Subscription only \* \$15/11 issues (\*not entitled to membership benefits)  
Check\_\_\_ Mastercard\_\_\_ Visa\_\_\_ Expiration date \_\_\_\_\_  
Signature \_\_\_\_\_  
**Make checks payable to: ACS/Monterey Bay Chapter**  
**Return to: Membership Secretary, ACS Monterey Bay Chapter**  
**P.O. Box H E Pacific Grove, CA 93950**

**Monterey Bay Chapter  
Officers & Chairs, 2017**

- Melissa Galieti, *President*
- Katlyn Taylor, *Vice President and Events*
- Katy Castagna, *Treasurer*
- Sally Eastham, *Membership*
- Jennifer Thamer, *Secretary*
- Melissa Galieti, *Programs*
- Art Haseltine, *Grants*
- David Zaches, Debbie Ternullo,  
*Members at Large*
- Diane Glim, *ACS National Representative*
- Randy Puckett, Jerry Loomis, *Emeriti*

Evelyn Starr, *Webmaster*  
Tony Lorenz, Oren Frey, *Editors*  
Email: [tonylorenz@bigbluebay.com](mailto:tonylorenz@bigbluebay.com)  
[soundingsnewsletter@gmail.com](mailto:soundingsnewsletter@gmail.com)