

Soundings



JANUARY 2016

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

**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**

MEETING DATE:

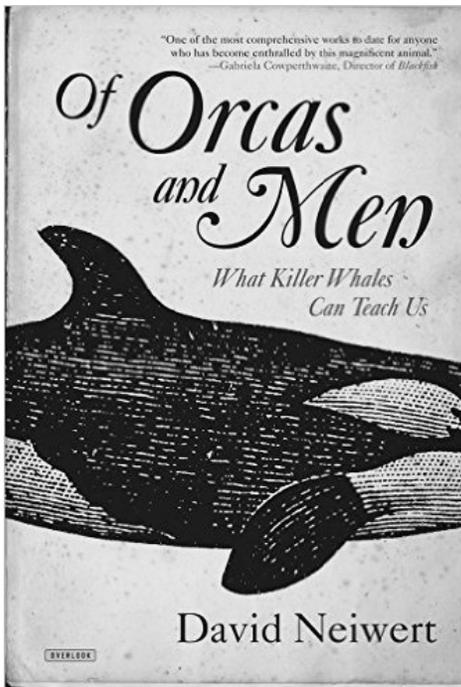
Thursday, January 28, 2016

Time: 7:30 PM

PLEASE JOIN US AT 7:00 FOR REFRESHMENTS

Speaker: David Neiwert

Topic: What Killer Whales Can Teach Us



The orca is one of earth's most intelligent animals. Remarkably sophisticated, orcas have languages and cultures and even long term memories, and their capacity for echolocation is nothing short of a sixth sense. They are also benign and gentle, which makes the story of the captive orca industry and the endangerment of their population in Puget Sound that much more damning.

David Neiwert will speak about his recent book, *Of Orcas and Men*, a marvellously compelling mix of cultural history, environmental reporting, and scientific research. In the tradition of Barry Lopez's classic *Of Wolves and Men*, David Neiwert's book is a triumph of reporting, observation, and research, and a powerful tribute to one of the animal kingdom's most remarkable members.

David Neiwert is a Seattle-based freelance journalist and blogger. He produces an award-winning blog, *Orcinus*, and has written several books.

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Please join us for refreshments before the program begins. More information is available on our website, www.acsmb.org.

Next month: Please join us for our February meeting and presentation at Hopkins Marine Station on the last Thursday of the month, February 25.

CALENDAR

Jan. 18-20: Bluefin Futures Symposium at the Monterey Plaza Hotel, 400 Cannery Row, Monterey. Three-day symposium on the status and future of bluefin tunas in our global oceans. For registration and program please go to bluefinfutures2016.org.

Jan. 23-24: 6th Annual Whalefest Monterey at Old Fisherman's Wharf in Monterey. Among the highlights of this festival will be a symposium with lectures and documentaries related to ocean and marine life conservation. The two-day event will offer a wide array of fun and educational activities including: whale watching, 60-foot humpback whale model, squid dissection by scientist from Hopkins Marine Station, displays from the Shark Research Center and demonstrations and educational material from ACS Monterey Bay. For more information call 831-238-0777.

Jan. 24, 2016: Welcome Whales! ACS Monterey Bay Gray Whale Fundraiser. Accompany members of the Monterey Bay Chapter of ACS on their annual fundraiser to welcome and observe California Gray Whales as they travel south on their annual migration. The two-hour trip will take place on the *Princess Monterey* departing from Monterey Bay Whale Watching. Monterey Bay is one the best locations along the West Coast to observe the southbound migration of the Pacific Gray Whale, and the Point Pinos migratory corridor is just a short boat ride from Monterey Harbor. This trip coincides during the peak of the southbound migration and observing upwards of 30-50 gray whales is within the realm of possibility. Long Beaked Common Dolphin have been observed frequently in Monterey Bay over the last year so we will also be on the lookout for these beautiful and gregarious cetaceans. A local naturalist will be onboard discussing gray whale natural history and answering questions. Trip time will be from 8:00 AM - 10:00 AM (meet on the Wharf at 7:30 AM). The cost is \$40 and all proceeds benefit research, conservation and education programs funded by ACS. For more information and reservations please call 831-831-2203.

Feb. 19-20: 2016 Southern California Marine Mammal Workshop in Newport Beach, CA. For more information go to socalmarinemammals.org.

BOOK RECOMMENDATIONS

Of Orcas and Men: What Killer Whales Can Teach Us, by David Neiwert. 2015 The Overlook Press.
Orca: The Whale Called Killer, by Eric Hoyt. 1990 Camden House.

*Killer Whales: The Natural History and Genealogy of *Orcinus Orca* in British Columbia and Washington State*, by John K.B. Ford, Graeme M. Ellis, and Kenneth Balcomb. 2000 University of Washington Press.

Transients: Mammal Hunting Killer Whales of British Columbia, Washington, and Southeastern Alaska, by John K.B. Ford and Graeme M. Ellis. 2005 University of Washington Press.

A GRAY WHALE BREAKS THE RECORD FOR LONGEST MAMMAL MIGRATION

By Jane J. Lee

Apr. 14, 2015 — The gray whales cruising along California's coast during their annual fall migration are well known to science. But there is another small, mysterious group of related whales off the Russian coast—the western north Pacific gray whale population—that researchers are just now beginning to track.

Researchers have long believed that this critically endangered western group has remained isolated from their eastern Pacific counterparts. But new research is changing that view, and has documented a female in that population who completed the longest migration on record for a mammal.

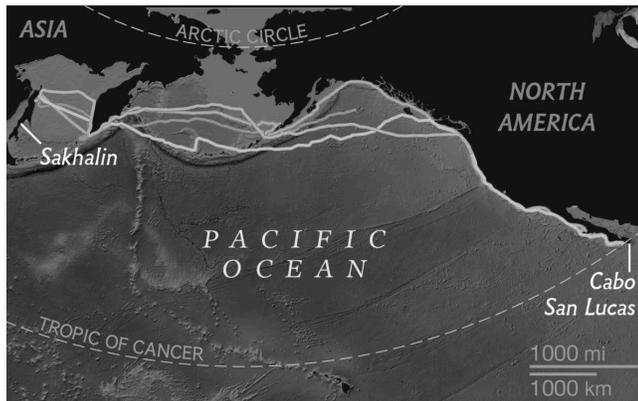
The nine-year-old whale, named Varvara, swam from Sakhalin island, Russia, to Cabo San Lucas, Baja California, and back beginning in November 2011. She logged 14,000 miles (22,511 kilometers) during her 172-day trip, researchers report online April 14 in the journal *Biology Letters*.

In an effort to understand their migratory patterns, Bruce Mate, director of Oregon State University's Marine Mammal Institute, and colleagues used satellite tags to follow seven western Pacific gray whales. Only three tags lasted long enough for researchers to track the migrating animals.

All three headed east from Sakhalin, with two joining the southward migration of eastern Pacific

Gray Whale Migration Routes

Varvara (Southbound; Northbound), Whale 2, Whale 3



NG MAPS; ANDREW UMENTUM
SOURCE: *BIOLOGY LETTERS*

gray whales to Baja California. The third whale's tag stopped working halfway across the Gulf of Alaska, but "I would be extremely surprised if she didn't continue on," says Mate.

Why It Matters

There have been reports of about 30 western gray whales appearing off British Columbia and Baja California over the years, Mate explains. When researchers spotted Varvara off the coast of southern Oregon, she was with a group of eastern Pacific gray whales.

"Usually calves follow their mothers from breeding areas to foraging grounds," Mate says, and they'll stick to those routes as they get older. So the appearance of western gray whales in the eastern Pacific could mean that those whales were born there, he explains.

That could upend the idea of an isolated western gray whale population.

The Big Picture

The question now, Mate says, is whether there is a small group of eastern Pacific gray whales among western gray whales, or if western gray whales are an extension of the eastern population and not a separate group at all.

"The genetics work to date says they are separate," Mate says. But other researchers are analyzing a larger genetic dataset, so "we'll have to wait and see what they find out."

<http://news.nationalgeographic.com/2015/04/150414-gray-whale-pacific-migration-endangered-ocean-animal-science/>

WHY WHALES CAN HELP SAVE OUR PLANET – IF WE LET THEM

Dec. 8, 2015 — As Icelanders spend today assessing the damage caused by last night's "double hurricane force" winds which battered their island, and people in north west England and southern Scotland begin the grim process of mopping up after widespread flooding in the wake of Storm Desmond, few are likely to link these extreme weather events with whales and whaling. Yet maybe the connection between this extreme weather and whales, the health of our oceans, and the ultimate fate of our planet, should give us all pause for thought.

This week in Paris, a life-size metal sculpture of a blue whale was erected on the Left Bank of the Seine to coincide with the UN Climate Conference. The sculpture is modelled upon 'Bluebelle', a blue whale who was killed in the South Atlantic in 1912. Although it is intended to prompt delegates to think about how the future of endangered species lies in their hands, it is an ironic reminder that only days ago, the Japanese whaling fleet, in brazen defiance of a ruling from the UN's International Court of Justice (IJC), left port with a mission to kill minke whales in the Antarctic.

Bluebelle helps us remember that we are custodians of the planet and have a responsibility to protect all of its inhabitants, large and small. She is also a stark reminder of our mutual dependency.

And this is the crux of the matter - whales are valuable not only for their own sake, but for our sake, too.

Research suggests that some whale populations have declined by up to 90% over the past 300 years, while a recent study reveals that *nearly 3 million whales were wiped out in whaling last century* in what is likely to be the largest cull – in terms of total biomass – of any species in human history!

This year, 155 fin whales were killed by Icelandic whalers. At around 27m/86ft in length, fin whales are massive, the second largest animal on the planet. Despite their 'endangered' status, over 700 of these majestic creatures have been killed since 2006.

Why does this matter to us in climate terms? It matters because the intentional removal of whales from the ocean is essentially agreeing to increase carbon emissions. Whales play a significant role in marine ecosystems and their intentional removal is no more sustainable than deforestation in the Amazon.

Think of it this way - plants on land need to be fertilized to survive and produce the oxygen we need to breathe. Similarly, in the ocean there are microscopic, plant-like organisms called

phytoplankton which produce approximately one-half of the earth's oxygen. Like their cousins on land, phytoplankton use CO₂, water, sunlight, and nutrients to produce their own food, a chemical reaction we know as photosynthesis. The byproduct of photosynthesis is oxygen, which much of the rest of the planet relies. Phytoplankton must remain in the sunlit surface waters, called the photic zone, in order to access the sun's energy to photosynthesize. However, many of the nutrients they need, like iron, do not remain free-floating in the photic zone. Instead, these nutrients are pulled down by gravity to the abyss where they would be lost, if it were not for whales.

According to Nicole et al. (2010), whale faeces are rich in iron, an essential nutrient for phytoplankton colonies to reproduce at a rapid rate, or "bloom". This faecal iron is a direct result of the iron-rich krill on which whales feed. Through the process of digestion, the iron is "freed" from the krill and made available as nutrients to phytoplankton, on which krill themselves feed, *creating an endlessly positive feedback loop for a healthy marine ecosystem.*

Researchers from the University of Vermont and Harvard University have determined that because whales feed at depth but defecate at the surface, they create a "whale pump" for nutrients. This cycles the useable nitrogen back to the photic zone where it can be used to "fertilize" phytoplankton, the very base of the marine food web. The authors found the role of whales so significant that they concluded that the "full recovery from one serious anthropogenic impact on marine ecosystems, namely the dramatic depletion of whale populations, can help to counter the impacts of another now underway—the decline in nutrients for phytoplankton growth caused by ocean warming." In simpler terms, allowing whale populations to recover can help fight climate change.

Data supporting the direct link between healthy whale populations in the fight against climate change



American Cetacean Society – Monterey Bay

continues to grow. Research published in 2014 estimated that rebuilding the Southern Hemisphere blue whale population "would be equivalent to preserving 43,000 hectares of temperate forest, an area comparable in size to the City of Los Angeles".

Given the mounting scientific evidence documenting the important role that whales play in combating climate change, it is ironic to hear the world's top three whaling nations claim to take this issue seriously.

- Iceland has determined that one of its 10 key actions to combat climate change will be afforestation and revegetation. Yet Icelandic whalers have killed a total of 184 fin and minke whales this year.
- Earlier this year Norway's parliament approved legislation to reduce climate change. Yet Norwegian whalers killed 660 minke whales this year.
- Japan is attending the UN Framework Convention on Climate Change (UNFCCC) in Paris with a commitment to set 'concrete policies' to address carbon emissions. Yet its whaling ships are out once more in pursuit of whales.

The life-size statue of Bluebelle should not only be a symbol to the UN delegates of the impact of climate change on the world's species, but should also be reminder that whales are a significant part of the solution.

Whaling is not sustainable.

Whales, however, can make the future sustainable for us all.

<http://us.whales.org/blog/2015/12/why-whales-can-help-save-our-planet-if-we-let-them>

NO REPRIEVE FOR DOLPHINS IN TAIJI

Dec. 23, 2015 — December has been a brutal month for dolphins in Taiji, Japan. Reports from the ground reveal the tragic chase, capture and slaughter of over 100 dolphins in an intense few weeks of hunting. At least eight Risso's dolphins were herded and killed on December 17th, and a day later, a large pod of striped dolphins were driven into the cove, 36 of whom were slaughtered.

Most recently, and just a few days after the slaughter of these striped dolphins, a large group of at least 80 bottlenose dolphins were driven into the cove on December 20th. The dolphins were reportedly held for several days as the selection process for captive facilities commenced, resulting in at least 30 individuals being taken alive into captivity. Tragically, when the selection process ended on

December 23rd, at least 30 dolphins had died, victims of stress and trauma associated with the chase, confinement, rough handling, injury and suffocation in the nets during the selection process. An estimated 20 dolphins were released back to sea, their fate uncertain after the trauma of three days in the cove.

This recent drive and selection of bottlenose dolphins reveals the cruelty associated with the entire drive hunt process, from chase out at sea, to confinement and handling in the cove. Despite claims that this herding process is humane, trauma, injury and death can result from the capture and selection process alone, separate from the actual killing methods employed by the fishermen who dispatch the dolphins for their meat.

It is not clear whether the dolphins released will have a chance at survival: a significant body of peer-reviewed scientific literature details the physiological, behavioral, psychological, and socio-ecological impacts that chase, encirclement and capture have on dolphins. The majority of the literature reveals that acute and chronic stress-related impacts, as well as direct mortality, may result from prolonged and sustained capture techniques, such as those associated with the drive hunts.

With these recent hunts, since the start of the season on September 1st, at least 474 dolphins have been driven into the cove in Taiji, Japan. Of this total, at least 300 have been slaughtered or have died during the process, and 90 have been taken alive into captivity.

Despite the recent decision by JAZA-member aquaria not to acquire dolphins from these brutal hunts, it is clear that the Taiji Whale Museum and other non-JAZA aquaria continue this bloody process. Last season, 80 dolphins from the hunts were taken alive into captivity, a number already surpassed in this current year with several months still left in the hunt season.

Although the drive hunts may run into the month of April (for pilot whales), the beginning of January will signal the onset of the last few months of the hunting season which will hopefully end in February or early March. Hunting quotas set for the 2015-16 season allow for 1,873 dolphins to be taken in the drive hunts in Taiji alone. Of this total, over 900 bottlenose and striped dolphins may be killed, along with hundreds of other spotted, Risso's, Pacific white-sided dolphins, false killer whales, and short-finned pilot whales. The town of Futo has been given a quota of 137 dolphins.

<http://uk.whales.org/blog/2015/12/no-reprieve-for-dolphins-in-taiji>

WEST COAST MARINE MAMMALS RESPOND TO SHIFTING CONDITIONS, NEW RESEARCH SHOWS

SEA OTTERS, HARBOR PORPOISES RETURNING, SCIENTISTS REPORT AT MARINE MAMMAL CONFERENCE

Dec. 16, 2015 — Humpback whales off the West Coast consume thousands of pounds of krill, plankton and small fish each day. Research shows that humpback diets reflect their surroundings, with the truck-sized whales filter-feeding on vast amounts of krill when cold upwelling waters prevail, but switching to schooling fish such as anchovies when warmer waters take over and the fish grow abundant.

The findings presented at the Society of Marine Mammalogy's Biennial Conference in San Francisco demonstrate that humpback foraging responds to environmental changes, and illustrates how marine mammals serve as sentinels of ever-changing ocean conditions. "Whales can be great indicators but only if we know what they are indicating," said Alyson Fleming, a postdoctoral researcher at the Smithsonian Institution who is lead author of the study. "Once we know that, they can shed light on the whole ecosystem as it is today and help us predict what it might look like in the future."

The Society's conference has attracted more than 2,000 marine mammal researchers, agency representatives, educators and conservation groups to San Francisco for its first return to California in 25 years. "This is the world's largest meeting of marine mammal professionals, and the place we all compare notes and look for patterns and trends that help us piece together important changes out in the ocean," said NOAA Fisheries research scientist Jay Barlow, a co-author of the new humpback research and president-elect of the Society.



(Credit: Copyright M. Olsen).

Many presentations at the meeting revealed new details about the West Coast's diverse mix of marine mammals from whales to otters, including:

- Harbor porpoises are recolonizing San Francisco Bay and Puget Sound after decades of absence. The porpoises disappeared abruptly from San Francisco Bay when World War II shipyards sprang up and vessel traffic increased. Marine scientists speaking at the conference said the return of the popular and highly visible porpoises that were once frequent fixtures reflect habitat recovery and improved ecosystem health.
- Sea otters are recovering in key areas of southern and central California, and through their role as an apex predator they are helping to restore ecosystem health by keeping populations of sea urchins in check and preying on invasive species, for example. Otters have reached environmental carrying capacity in central parts of the state, especially from Monterey to Morro Bay, but recovery in other areas has recently been hemmed in by increased mortality from shark-bites, studies show. In Elkhorn Slough, south of Santa Cruz, otters have recolonized estuary habitat and appear to be thriving in unexpected ways, while boosting the health of eel grass and salt marsh ecosystems. Research on this population suggests that it could provide a model for an eventual return to San Francisco Bay, where historical records indicate thousands of sea otters once thrived prior to the fur trade. "The real story here is that we probably need sea otters more than they need us, as they play key roles in the functioning and resiliency of kelp forest and estuarine ecosystems that provide a wide range of services to human societies," said Dr. M Tim Tinker, a research scientist with the U.S. Geological Survey who is presenting an overview of the latest research on southern sea otters and is coauthor of several other new studies presented at the conference.
- New mapping of blue whale feeding areas off Northern California show that the areas, which include high densities of krill, also overlap with busy San Francisco shipping lanes. The findings suggest that seasonal speed restrictions on ship traffic may reduce the threat of deadly ship strikes.
- The ongoing stretch of record California sea lion strandings along the California Coast that began in 2013 coincided with a change in the diet of sea lions from high-energy anchovies and sardines. The sea lions switched to leaner market squid, shortbelly rockfish and other less-common prey



Sea otters have now reached carrying capacity on parts of the Central California Coast, scientists report. (Credit: NOAA/National Ocean Service).

such as mackerel and hake, according to new studies of their scat. Unusually warm ocean conditions have led to species shift along the West Coast, which continue reverberating through the marine food web.

Shifting conditions off the West Coast are continuing this winter with the arrival of an El Nino climate pattern, which in the past have typically affected marine mammals, their habitat and the species they prey on. Sea lions are only one example of the species affected by a changing environment, but they also may be more vulnerable than more mobile whales, dolphins and porpoises, Barlow said.

"We've seen a record warm year off California in 2014 and this year is lining up to be a huge El Nino," he said. "We are seeing many changes in the distribution of whales and dolphins. However, I worry more about climate changes affecting pinnipeds than cetaceans. Pinnipeds are tied to land sites for molting and pupping whereas cetaceans can move fluidly in response to changing conditions."

"We found the key to their energetics," Block said. "Our results suggest that physiological constraints on the tunas' whole organismal performance constrain their thermal distribution, and thus the latitudinal distribution of the fish. Digestion is metabolically costly, and the bluefin are doing it most efficiently."

Block calls this portion of the ocean the "Blue Serengeti," an open ocean ecospace where currents concentrate nutrients and plankton, attracting forage fish such as sardines or anchovy, which in turn lure larger fish such as bluefin tuna.

Understanding the locations of these "watering holes" for these large migratory fish remains largely a mystery, but is a key part in planning better

conservation efforts. Linking the regions both physiologically and to environmental correlates has been an objective of this team.

The new work helps close that gap by identifying feeding hotspots (areas of highly successful feeding) for Pacific bluefin tuna along the Baja Peninsula in June and July, off Northern California from October to November and near Central California in January and February.

"Our results add to our understanding of predator-prey dynamics in the California Current," Block said. "By understanding where bluefin forage most, we can help protect these places and improve efforts to rebuild Pacific bluefin tuna stocks."

<http://www.sciencedaily.com/releases/2015/12/15/1216105120.htm>

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)
12/31 pm	13 300	Gray Whales Long-beaked Common Dolphins
12/31 am	15	Gray Whales
12/30 1:30 pm	19 200	Gray Whales Long-beaked Common Dolphins
	10	Risso's Dolphins
12/30 11:30 am	13 80	Gray Whales Long-beaked Common Dolphins
12/30 8 am	11 25	Gray Whales Risso's Dolphins
12/29 1:30 pm	10 1	Gray Whales Elephant Seal
12/29 11:30 am	13 1000 12	Gray Whales California Sea Lions Southern Sea Otter
12/29 10 am	10 67 1000	Gray Whales Killer Whales Short-beaked Common Dolphins
12/28 1:30 pm	5 20 25	Gray Whales Long-beaked Common Dolphins Pacific White-sided Dolphins
12/28 11:30 am	4 200	Gray Whales Risso's Dolphins
12/28 10 am	12 2 200 200	Gray Whales Humpback Whales Long-beaked Common Dolphins Risso's Dolphins
12/28 8 am	22 200	Gray Whales Risso's Dolphins
12/27 1:30 pm	11 1600 1 20	Gray Whales Long-beaked Common Dolphins Pacific White-sided Dolphin Risso's Dolphins

12/27 11:30 am	17 2000 65	Gray Whales Long-beaked Common Dolphins Risso's Dolphins
12/27 10 am	10 1600 20	Gray Whales Long-beaked Common Dolphins Risso's Dolphins
12/27 8 am	23 1	Gray Whales Humpback Whale
12/26 pm	10	Gray Whales
12/26 am	11	Gray Whales
12/21 am	6	Gray Whales
12/20 pm	1 7 850	Gray Whale Humpback Whales Long-beaked Common Dolphins
12/20 am	4 4 200	Gray Whales Humpback Whales Long-beaked Common Dolphins
12/19 am	5 2 50	Gray Whales Humpback Whales Long-beaked Common Dolphins
12/18 pm	6 3	Gray Whales Humpback Whales
12/18 am	7 2000 50 2	Gray Whales Common Dolphins Risso's Dolphins Bottlenose Dolphins
12/17 pm	4 1 1700	Gray Whales Humpback Whale Common Dolphins
12/17 am	7 1 50	Gray Whales Fin Whale Long-beaked Common Dolphins
12/16 pm	3 1 50 30	Gray Whales Humpback Whale Long-beaked Common Dolphins Risso's Dolphins
12/16 am	3 4	Gray Whales Humpback Whales
12/15 am	5 1 1	Gray Whales Humpback Whale Risso's Dolphin
12/12 all day	1 2 60 1 2000	Gray Whale Humpback Whales Offshore type Killer Whales Transient type Killer Whale (Lonesome George) Long-beaked Common Dolphins
12/11 pm	2 10	Gray Whales Harbor Porpoise
12/11 am	1 25 1500	Gray Whale Killer Whales Long-beaked Common Dolphins
12/9 am	8 2 1 5 15	Humpback Whales Gray Whales Minke Whale Pacific White-sided Dolphins Risso's Dolphins
12/8 pm	4	Humpback Whales (active juvenile)

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- Evelyn Starr, *Webmaster*
- Tony Lorenz, Oren Frey, *Editors*
- Email: tonylorenz@bigbluebay.com
soundingsnewsletter@gmail.com