

Soundings



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

JANUARY 2014

**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 30, 2014**

Time: 7:30 PM

PLEASE JOIN US AT 7:00 FOR REFRESHMENTS

**Speaker: Dr. James Harvey, Director of Moss Landing Marine
Laboratories**

Title: Science and Conservation of Marine Animals

Dr. James Harvey has been a noted researcher and educator with Moss Landing Marine Laboratories for the past 25 years. Last year he was named director of the institution, which is the marine labs and marine science graduate program for a consortium of seven California State Universities.

Jim has a wide interest in the ecology and biology of marine vertebrates and has researched, among other things, migration and diving of gray and humpback whales; foraging, diving, ecology and population dynamics of harbor seals; the ecology of Leatherback turtles; interactions between marine mammals and fisheries; and foraging, ecology and growth of blue sharks. He has studied the relationships of oceanographic conditions and marine animals, and assessed the health and conditions of marine mammals, turtles and birds.

As a professor, he has been the major advisor for 74 masters students and, currently, 11 graduate students. Jim has also published 99 scientific papers and obtained 134 research grants worth more than \$6 million. He got his B.A. from San Jose State University, his masters from Moss Landing and his doctorate from Oregon State University, then conducted research at the National Marine Mammal Laboratory in Seattle on a National Resources Council fellowship before joining the staff of Moss Landing Marine Laboratories in 1989.

In the wider community, he chairs the Research Activity Panel for the Elkhorn Slough National Estuarine Research Reserve, is treasurer of the Society for Marine Mammalogy's board of governors, serves on the San Jose State University Research Foundation, and is an advisor for the Monterey Bay National Marine Sanctuary, the National Marine Fisheries Service and the Marine Mammal Center.

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Coming in February:

Thursday, Feb. 27, at 7 p.m., in the Monterey Boat Works building at Hopkins Marine Station: Dr. Karin Forney, research biologist with the Marine Mammal and Turtle Division of NOAA's National Marine Fisheries Service, will be our speaker. Dr. Forney is a specialist in cetacean abundance and population trends.

CALENDAR

Hopkins Marine Station Lectures Fridays, 12pm-1pm

Jan. 17: Chris Lowe, Stanford University
Early Evolution of Deuterostome Body Plans

Jan. 24: Douglas Erwin, Smithsonian Museum
of Natural History
The Cambrian Conundrum: The Construction
of Animal Biodiversity

Feb. 21: Edith Widder, Ocean Research and
Conservation Association
The Kraken Revealed: The Science Behind the
First Video Recordings of Live Giant Squid in
the Deep Sea

Jan. 19: 1pm at the Seymour Marine Discovery
Center, Santa Cruz
Remember the Titans: Communication and Social
Learning Among Northern Elephant Seals.
Presented by Caroline Casey, Field Research
Coordinator, Pinniped Cognition and Sensory
Systems Laboratory, Long Marine Lab, Santa
Cruz.

Jan. 31-Feb. 1: 2014 Southern California Marine
Mammal Workshop, Newport Beach, CA. For
more info contact SCMMWorkshop@gmail.com

Feb. 19-22: Pacific Seabird Group 41st Meeting.
Centennial Hall Convention Center, Juneau,
Alaska.

Apr. 10-17: 34th Annual Symposium on Sea
Turtle Biology and Conservation, New Orleans,
LA. *More information to follow.*

Sep. 22-26: The 5th Bio-logging Science
Symposium, Strasbourg (France).

Save The Date:

**Jan 26th 2014, 8-10 am: ACS Monterey Bay
Gray Whale Fundraiser. Cost \$40.
Boat-Princess Monterey. For reservations
and more info please call Jerry Loomis at
831-419-1051**

BOOK RECOMMENDATIONS

Channel Islands National Park and National Marine
Sanctuary: California's Galapagos. Photography by
Tim Hauf; text by Catherine French. 2013 Tim Hauf
Photography.

Telling Our Way To The Sea: A Voyage of Discovery
In The Sea Of Cortez, by Aaron Hirsh. 2013 Farrar,
Straus and Giroux.

Sharks: Ancient Predators in a Modern Sea, by
Salvador Jorgensen. 2013 Firefly Books.

Reef Creature Identification: Florida, Caribbean,
Bahamas, 3rd Edition, by Paul Humann and Ned
DeLoach. 2013 New World Publications.

Reef Coral Identification: Florida, Caribbean,
Bahamas, 3rd Edition, by Paul Humann and Ned
DeLoach. 2013 New World Publications.

FIVE DISTINCT HUMPBACK WHALE POPULATIONS IDENTIFIED IN NORTH PACIFIC

Dec. 4, 2013 — The first comprehensive genetic
study of humpback whale populations in the North
Pacific Ocean has identified five distinct populations -
- at the same time a proposal to designate North
Pacific humpbacks as a single "distinct population
segment" is being considered under the Endangered
Species Act.

Results of the study are being published this week
in the journal *Marine Ecology -- Progress Series*. It
was supported by the National Fisheries and Wildlife

Foundation, the Office of Naval Research, and the Marine Mammal Endowment at Oregon State University.

The scientists examined nearly 2,200 tissue biopsy samples collected from humpback whales in 10 feeding regions and eight winter breeding regions during a three-year international study, known as SPLASH (Structure of Populations, Levels of Abundance and Status of Humpbacks). They used sequences of maternally inherited mitochondrial DNA and "microsatellite genotypes," or DNA profiles, to both describe the genetic differences and outline migratory connections between both breeding and feeding grounds.

"Though humpback whales are found in all oceans of the world, the North Pacific humpback whales should probably be considered a sub-species at an ocean-basin level -- based on genetic isolation of these populations on an evolutionary time scale," said Scott Baker, associate director of the Marine Mammal Institute at Oregon State University's Hatfield Marine Science Center and lead author on the paper.

"Within this North Pacific sub-species, however, our results support the recognition of multiple distinct populations," Baker added. "They differ based on geographic distribution and with genetic differentiations as well, and they have strong fidelity to their own breeding and feeding areas."

Humpback whales are listed as endangered in the United States under the Endangered Species Act, but had recently been downlisted by the International Union for the Conservation of Nature (IUCN) on a global level. However, two population segments recently were added as endangered by the IUCN -- one in the Sea of Arabia, the other in Oceania -- and it is likely that one or more of the newly identified populations in the North Pacific may be considered endangered, Baker said.

How management authorities respond to the study identifying the distinct North Pacific humpback populations remains to be seen, Baker said, but the situation "underscores the complexity of studying and managing marine mammals on a global scale."

The five populations identified in the study are: Okinawa and the Philippines; a second West Pacific population with unknown breeding grounds; Hawaii, Mexico and Central America.

"Even within these five populations there are nuances," noted Baker, who frequently serves as a member of the scientific committee of the International Whaling Commission. "The Mexico population, for example, has 'discrete' sub-populations off the mainland and near the Revillagigedo Islands,

but because their genetic differentiation is not that strong, these are not considered 'distinct' populations."

The SPLASH program has used photo



Humpback whales are shown feeding. (Credit: Photo by Jan Straley, National Oceanic and Atmospheric Administration)

identification records to estimate humpback whale populations. The researchers estimate that there are approximately 22,000 humpbacks throughout the North Pacific -- about the same as before whaling reduced their numbers. Although recovery strategies have been successful on a broad scale, recovery is variable among different populations.

"Each of the five distinct populations has its own history of exploitation and recovery that would need to be part of an assessment of its status," said Baker, who is a professor of fisheries and wildlife at OSU. "Unlike most terrestrial species, populations of whales within oceans are not isolated by geographic barriers. Instead, migration routes, feeding grounds and breeding areas are thought to be passed down from mother to calf, persisting throughout a lifetime and from one generation to the next.

"We think this fidelity to migratory destinations is cultural, not genetic," he added. "It is this culture that isolates whales, leading to genetic differentiation -- and ultimately, the five distinct populations identified in the North Pacific."

<http://www.sciencedaily.com/releases/2013/12/131204091612.htm>

AN ALBATROSS'S FLIGHT FROM EXTINCTION'S EDGE

Apr. 20, 2012 — Early this week I was sent an encouraging update from a conservation group on the status in the Hawaiian Islands of the short-tailed albatross, a remarkable ocean-roaming bird that once numbered in the millions but, devastated by the feather trade and other impacts, nearly vanished early

in the 20th century. Here's an excerpt from the release, followed by some valuable context from the biologist (and frequent Dot Earth voice) Carl Safina, whose books include the marvelous "Eye of the Albatross":

From the American Bird Conservancy:

Maybe ten rare Short-tailed Albatrosses showing up at several Hawaiian Islands doesn't count as a new population, but those sightings are still causing a buzz in the conservation and birding worlds.

"This is a bird that was once thought extinct and even now inhabits only a very small geographic area in Japan. The fact that it is now showing up in Hawai'i in double-digit numbers around breeding season is huge news and potentially a major development in the efforts to protect this species from extinction," said Dr. George Wallace, Vice President for Oceans and Islands at American Bird Conservancy, the nation's leading bird conservation organization. Wallace said that three birds have been seen on Kure Atoll, five on Midway Island, one on Laysan Island, and one on Tern Island....

The uptick in U.S. sightings coincides with two successful Short-tailed Albatross breeding efforts, one in 2011 and one in 2012, both by the same pair of birds on Midway. These are the only known successful breeding attempts of the species in the US. Midway is located more than 1,300 miles northwest of Honolulu, and consists of a circular barrier reef and several sand islets managed as Midway Atoll National Wildlife Refuge. It is home to the world's largest colonies of Laysan and Black-footed Albatrosses, as well as millions of other seabirds.

The State of Hawai'i and the Kure Atoll Conservancy have been engaged in an active



A short-tailed albatross incubates an egg on its nest on Midway Atoll in 2010. (Credit: Photo by Fish and Wildlife Service volunteer Sarah Gutowsky)

campaign to rid the island of the invasive weed golden crownbeard so that it offers higher quality habitat for nesting seabirds. The weed overwhelms albatross nesting areas and grows so quickly that it can even prevent albatross chicks from fledging. Both Midway and Kure are part of the Papahānaumokuākea Marine National Monument, designated by President George W. Bush in 2006.

From Carl Safina:

The arrival of ten or so Short-tailed Albatrosses in the Northwest Hawaiian Islands, and two successful nestings, is a highly significant development. This species once numbered in the millions on breeding islands off Japan, but so many were killed for feathers and meat, they went extinct. Or so it appeared. For twenty years, despite searches, no one saw a Short-tailed Albatross. Then one foggy day in the 1940s, a worker at a weather station on the island where almost all the birds had lived and died decided to take a walk. On a hillside, he saw six large birds, like ghosts returned from the dead. Japanese scientist Hiroshi Hasegawa made it his life's work to shepherd the birds to security, protecting nests and stabilizing hillsides. The population grew to over a thousand. One day on a fishing boat in the Gulf of Alaska, I was lucky enough to see one at close range. Fishermen worked with conservationists to devise methods to avoid hooking the exceptionally rare birds. Now the population is expanding to new islands. It's one of the most significant recovery stories in nature in our time. Given a chance, life tries to find a way.

To see an example of what can come from giving wildlife a chance, I encourage you to read Christopher Pala's dispatch in this week's Science Times section from a windswept point in Hawaii, just 30 miles from Waikiki, where the first predator-proof fence in the United States has been deployed.

Here's an excerpt:

The fine-mesh green fence zigzags about four-tenths of a mile, from the south coast to the north on Oahu's westernmost spit of land. It is fitted with an overhang that lets rats climb out but not in. People enter through a two-door chamber, in which one door won't open unless the other is closed.

What has resulted is a slow-motion explosion of life.

"The fence is doing its job," said Eric VanderWerf, a biologist who, with his wife, Lindsay C. Young, is studying populations of albatrosses and shearwaters on a grant from the Packard Foundation.

“The cats and mongooses were killing 15 percent of the chicks every year, and now they’re all gone.”

http://dotearth.blogs.nytimes.com/2012/04/20/an-albatross-flight-from-extinctions-edge/?_r=2

INTERNATIONAL RED LIST RANKS PACIFIC LEATHERBACK SEA TURTLES AS CRITICALLY ENDANGERED

NEW IUCN RED LIST IDENTIFIES BYCATCH IN FISHERIES AS A PRIMARY THREAT TO LEATHERBACKS WORLDWIDE

Nov. 27, 2013 — Populations of critically endangered Pacific leatherback sea turtles continue to slide toward extinction due primarily to capture and death as bycatch in commercial fisheries, according to the new IUCN Red List assessment by the world's leading sea turtle scientists.

Almost all leatherback populations around the globe are considered critically endangered and vulnerable to extinction or are considered data deficient. Only the Northwest Atlantic leatherback sea turtle populations are considered of "least concern" as they number about 34,000 mature adults. Based on the apparent stability of these leatherbacks, the worldwide population was changed from "critically endangered" to "vulnerable."

"Some fisheries managers will seize on this information to push for higher takes of leatherbacks in commercial fisheries around the world -- which is the primary threat to the long-term survival and recovery of leatherbacks particularly in the Pacific," said Teri Shore, Program Director of Turtle Island Restoration Network. "It is a mixed message for leatherbacks."

As few as 2,071 mature adult leatherback sea turtles (males and females) remain in the entire Pacific Ocean, and the new IUCN Red List assessment predicts a 96 to 99 percent total population decline by 2040. Both the Eastern and Western Pacific leatherback populations were ranked as critically endangered populations in urgent need of protection from fisheries and direct harvest to avoid extinction.

The Red List Assessment names fisheries bycatch as the biggest threat to leatherbacks globally, along with human consumption of eggs, meat, or other products, and coastal development followed by pollution and climate change. Scientists have warned that the Pacific leatherback sea turtle may become extinct within 10-30 years if its adult mortality from industrial fishing bycatch is not drastically reduced.

"While the Red List is based on science and

designed to prevent extinction, the misinterpretation of the science by seafood interests could undermine the conservation of endangered leatherbacks," said Shore.

Longline fishing is a primary threat to the survival and recovery of leatherbacks, which get hooked on the fishing gear and drown. However, even with extinction on the horizon, the number of leatherback sea turtles allowed to be captured and killed in the Hawaii longline fleet was raised this year from 16 to 26 by National Marine Fisheries Service.

In California, a push to re-open longlining for swordfish along the West Coast prompted a recent longlining fishing project in the Pacific Leatherback Conservation Area. The results confirmed the wasteful nature of the gear with 98 percent of the fish caught not the target species of swordfish but blue shark and other non-target fish such as sunfish.

The U.S. government also allows fish from foreign longline fleets to be sold in the U.S. even though they don't meet domestic fishing standards for protection of sea turtles. Thousands of leatherbacks are captured and killed by longlines every year on the High Seas.

Leatherback sea turtles are the largest sea turtles on the planet. Some of these turtles, weighing between 550 and 2,000 pounds with carapace lengths of up to six feet or nine feet from head to tail, migrate across the Pacific Ocean to feed in waters off the U.S. coast. Leatherback sea turtles have been protected under the Endangered Species Act since 1970, and in February 2012 the United States designated critical habitat in more than 40,000 square miles of coastal waters off Washington, Oregon and California, where

Leatherback Population	IUCN Red List Status	Estimated Number of Mature Adults (Females + Males)	Nesting Region
Western Pacific	Critically Endangered	1,438 adults	Indonesia, Papua New Guinea, Solomon Islands,
Eastern Pacific	Critically Endangered	633 adults	Pacific Coast of Americas from Mexico to Ecuador
Southwest Atlantic	Critically Endangered	35 adults	Brazil
Southwest Indian Ocean	Critically Endangered	148 adults	South Africa
Northwest Atlantic	Least Concern	33,810 adults	Southeastern U.S., Gulf of Mexico, Caribbean, Mediterranean, Northwestern Africa
Southeast Atlantic	Data Deficient	15,730 to 41,373 breeding females in Gabon	Gabon, Congo, East Africa
Northeast Indian Ocean	Data Deficient	100 to 600 nesting females	India and Sri Lanka

Source: Wallace, B.P., Tiwari, M. & Girondot, M. 2013. *Dermochelys coriacea*. In: IUCN 2013. IUCN Red List of Threatened Species. Version 2013.2. <http://www.iucnredlist.org>.



An Atlantic leatherback caught in fishing gear. (Credit: Photo by Projeto Tamar, Brazil)

leatherbacks feed on jellyfish.

Turtle Island Restoration Network (SeaTurtles.org) is an international marine conservation organization headquartered in California whose 60,000 members and online activists work to protect sea turtles and marine biodiversity in the United States, Costa Rica, Australia and around the world.

<http://seaturtles.org/article.php?id=2544>

SILENT STALKERS OF DARK OCEAN WATERS: KILLER WHALES HUNT MARINE MAMMALS AT NIGHT IN NEAR TOTAL DARKNESS

Dec. 3, 2013 — The mating roar of a male harbor seal is supposed to attract a partner, not a predator. Unfortunately for the seals, scientists have found evidence that marine-mammal-eating killer whales eavesdrop on their prey. The researchers will present their work at the 166th Meeting of the Acoustical Society of America (ASA), held Dec. 2 -- 6 in San Francisco, Calif.

Previous research had shown mammal-eating killer whales are nearly silent before making a kill, neither vocalizing nor using their echolocation. The

likely reason, says Volker Deecke, a researcher at the Centre for Wildlife Conservation at the University of Cumbria in the U.K., is the excellent hearing of the seals, porpoises, and other animals the whales stalk.

"If the mammal hunters just swam around clicking all the time, then all the prey would be warned," he said. "It looks like the whales are using a stealth approach instead."

While biologists had evidence that the whales do not echolocate while hunting, they were still unsure exactly how the animals do find their prey in the murky northern waters off the west coast of North America. To help answer that question Deecke and his colleagues traveled to Alaska and placed acoustic recording tags on 13 killer whales over the course of a two-year study.

The tags, which are about the size of a cell phone, were attached to the whales with four suction cups and could stay on for up to 16 hours. The tags' accelerometers, compass, depth sensor, and hydrophone recorded data on the animals' movements and any sounds it heard or made. Deecke and his colleagues were able to identify predation events by the characteristic sound of a whale dispatching its prey with a hit from its tail fluke.

After analyzing many hours of data, Deecke and his team found that killer whales were successfully locating prey even in near-complete darkness. Deecke notes that this new evidence of nighttime hunting rules out visual cues as the only means of prey detection.

"We now suspect that mammal-eating killer whales are primarily eavesdropping on sounds generated by their prey to find food," he said. Deecke recounted one unfortunate seal whose demise was captured by the sensors in an acoustic story of life and death.

"As soon as we put one of the tags on, it started to record seal roars, which are part of the display that male harbor seals use to attract females. Over the next half-hour the roars got louder and louder, then there are a sequence of three quite loud roars that suggest the seal is within a few hundred meters of the killer whale. Twenty-seven seconds later there are the sounds of a predation event, and then no more roars."

Deecke notes that such a story is compelling but does not provide direct evidence that killer whales are tuning in to the sounds of their prey. Going forward, he hopes to use playback experiments to test killer whales' responses to recorded seal roars and porpoise echolocation clicks.

Finding out how much killer whales rely on acoustic cues to hunt could help scientists better

understand the potential ecological impact of shipping noise and other activities that generate underwater sound. "We need to understand how the foraging process works so that we, as humans, can know how our behavior might impact the animals negatively and what we can do to minimize our impact," Deecke said.

<http://www.sciencedaily.com/releases/2013/12/131203141753.htm>

SIGHTINGS

Sightings are compiled by Monterey Bay Whale Watch. For complete listing and updates see www.gowhales.com/sighting.htm

Date	#	Type of Animal(s)
12/31 pm	3 16 60	Humpback Whales Gray Whales Rissos's Dolphins
12/31 am	3 13 500	Humpback Whales Gray Whales Rissos's Dolphins
12/30 pm	11 200	Gray Whales Risso's Dolphins
12/30 am	31 25 500	Gray Whales Pacific White-sided Dolphins Risso's Dolphins
12/29 pm	24 250	Gray Whales Risso's Dolphins
12/29 am	32 300	Gray Whales Risso's Dolphins
12/29 early am	2 18 200	Humpback Whales Gray Whales Risso's Dolphins
12/28 pm	5 15 25 500	Humpback Whales Gray Whales Pacific White-sided Dolphins Risso's Dolphins
12/28 am	2 17 600	Humpback Whales Gray Whales Risso's Dolphins
12/28 early am	1 21 350	Humpback Whale Gray Whales Risso's Dolphins
12/27 pm	5 5 150	Humpback Whales Gray Whales (one breaching) Risso's Dolphins

12/27 am	2 24 300	Humpback Whales Gray Whales Risso's Dolphins
12/26 pm	23 450	Gray Whales Risso's Dolphins
12/26 am	22 5 350	Gray Whales Killer Whales (predation on sea lion) Risso's Dolphins
12/24 pm	8 10 400	Humpback Whales Gray Whales Risso's Dolphins
12/24 am	4 10 25 350	Humpback Whales Gray Whales Pacific White-sided Dolphins Risso's Dolphins
12/23 pm	7 8 100 150	Humpback Whales Gray Whales Pacific White-sided Dolphins Risso's Dolphins
12/23 am	6 8 40 200	Humpback Whales Gray Whales Pacific White-sided Dolphins Risso's Dolphins
12/22 pm	5 14 20 200	Humpback Whales Gray Whales Pacific White-sided Dolphins Risso's Dolphins
12/22 am	5 11 200	Humpback Whales Gray Whales Risso's Dolphins
12/21 am	11 200	Gray Whales Risso's Dolphins
12/20 pm	8	Humpback Whales
12/20 am	12 3 30 50	Humpback Whales Gray Whales Pacific White-sided Dolphins Risso's Dolphins
12/18 am	8 5 40 150	Humpback Whales Gray Whales Pacific White-sided Dolphins Risso's Dolphins
12/17 pm	12 20	Humpback Whales Risso's Dolphins
12/17 am	18 3 100	Humpback Whales Killer Whales Risso's Dolphins

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