

Soundings



American Cetacean Society- Monterey Bay Chapter

January 2012

PO Box H E, Pacific Grove, CA 93950

AMERICAN CETACEAN SOCIETY- MONTEREY BAY CHAPTER

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

Date: Thursday, January 26, 2012 Time: 7:30 PM.

PLEASE JOIN US AT 7:00 FOR REFRESHMENTS

Speaker: Steve Webster, Retired Marine Biologist,
Monterey Bay Aquarium

Subject: My Close Encounters with Minke Whales
of the Great Barrier Reef...

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It is well documented that many species of baleen whales suffered significantly from the pressures of commercial whaling. Minke whales, perhaps in part because of their smaller size, seemed to have escaped the ravages of past commercial whaling. The future outlook, however, may not be as positive for the minkes. While their world wide population seems generally healthy today, these same numbers make them targets for expanded quotas by modern whaling nations.

Our speaker this month has been diving on and photographing coral reefs for about 50 years, including Pacific coral reefs in Fiji, Niue, West Samoa and Tonga. When invited on a trip to the Great Barrier Reef last July, Steve expected to broaden his familiarity with Pacific coral reefs. He heard he might see some dwarf minke whales near Lizard Island, but being an invertebrate zoologist this didn't make much of an impression. However, those minke whales soon saw to it that his mental frameset and photo library for coral reefs would soon be revised to include these amazing whales.

Please join us for a special first meeting for 2012 during which Steve will share another of his adventures with us. He will tell us about his experiences with two separate sessions with these minke whales and he will relate what is known of the biology and ecology of this unnamed subspecies of the northern(!) minke whale.

Hope to see you there,

Bob Mannix, Chair, ACS MB Programs Committee

CALENDAR

Jan 19th: Lecture Dr. Sarah Mesnick-Sperm Whales:

Kith and Kin-the social life of the worlds largest toothed whale. Cost \$5.00, Location PGMNH 7pm-8pm. For more info call 831-848-5716

Hopkins Marine Station Winter Seminars

Jan. 13th: 12-1pm: Ty Hendricks, UNC, Chapel Hill Animal Flight Dynamics: Stability & Maneuverability

Jan. 20th: 12-1pm: Shiela Patek Univ. of Mass. End-Permian Mass Extinction in the Ocean. An Ancient Analog for the 21st Century and Beyond

Jan 21st 9am—5 pm: Whalefest 2012 at Fisherman's Wharf and Custom House Plaza in Monterey. Join us for a day of fun and educational activities all about whales. For a complete schedule, visit montreywharf.com. Info: Bob Massaro, 649-6544

Jan 22nd 8am—10 am : Gray Whales! Accompany ACS Monterey Bay to view gray whales on their annual migration on Sunday morning Cost of this fundraiser for ACS is \$35 per person, which will be used for research, education and conservation of whales and dolphins. Trip generously provided by Princess Monterey on Fisherman's Wharf. Please mail checks to ACS at PO Box HE, Pacific Grove, CA, 93950. Dress warmly, bring binoculars and cameras, and meet at Princess Monterey on the wharf at 7:40am. More info? Call 831-214-1016 or for reservations and info please call Tony Lorenz at 831-901-7259 or Sally Eastham at 372-6919

Feb.3rd-4th: Whale Tales/Whale Quest Ritz Carlton, Kapalua. Presenters will include Bruce Mate, James Darling, Craig Matkin and Flip Nicklin. For more info: info@whaletrust.org or call 808-572-5700

Mar. 8-12: 9th Annual San Francisco Ocean Film Festival. Films will be shown at the Bay Theatre Pier 39 in San Francisco. For more info call 415-501-6251

Chapter Elections:

Chapter elections will be held at the 1/26/12 general membership meeting to accept the following additions to the ACS/MB Board of Directors.

Jerry Loomis, President
Richard Ternullo, Vice-President
Jennifer Thamer, Secretary
Tim Thomas, Historian
Debbie Ternullo, Member-at-large

Viva Vaquita Donation: Thanks to the generosity of our members, ACS Monterey Bay donated \$8000 to CEDO in Puerto Penasco, Mexico. CEDO is working with the indigenous fishermen near the vaquita habitat in Baja California, Mexico, to develop new ways to coexist with the highly endangered cetacean. It gets better! Save the Whales also donated \$8000 to CEDO, and our combined donation of \$16,000 was matched by a Packard Foundation grant, making it possible to give \$32,000 to CEDO for their important work to help save the vaquita. Thank you all! Viva Vaquita!

Media Recommendations

Plastic Ocean: How a Sea Captains Chance Discovery Lunched a Determined Quest to Save the Oceans. By Captain Charlie Moore. Algalita Marine Research Group

Ghost Wave: The Discovery of the Cortes Bank and the biggest wave on earth By Chris Dixon.

Once and Future Giants: What Ice Age Extinctions Tell Us About the Fate of the Worlds Largest Animals. By Sharon Levy.

The Tangled Bank: An Introduction to Evolution. By Carl Zimmer

DVD-A Fall From Freedom: The Untold Story Behind The Captive Whale And Dolphin Industry. A Film By Stanely Minasian

CHILEAN WIND FARM FACES TURBULENCE OVER WHALES

Jimmy Langman For National Geographic News

Published November 29, 2011

Off the northwest coast of Isla Grande de Chiloé in southern Chile (map), cold-temperate waters influenced by the west wind drift pound against the South American continent. This flow, also known as the Antarctic Circumpolar Current, causes nutrient-rich water to collide with land, generating a phytoplankton bloom and an abundance of krill.

It's a veritable buffet for the world's largest mammal, the great blue whale. On average, weighing 200 tons and at 100 feet (30 meters) from head to tail, the blue whale is longer than a regulation-sized basketball court. Despite its tremendous size, it feeds almost entirely on the tiny krill, which makes this area off Chiloé a favorite feeding ground every year from January to April.

These favorable marine currents are matched by air currents on land that the energy industry now is seeking to capture. On Mar Brava beach in Cocotué Bay, about 13 miles north of the town of Ancud, plans are under way to build a large-scale wind-energy park. Although the turbines would be on shore, scientists are worried about the potential impact in the sea, especially for the blue whale, an endangered species that saw its numbers in the Southern Hemisphere reduced by 97 percent over the past century.

Environmental groups and citizens in Chile generally support wind power as an environmentally friendly source of electricity, one that's especially important as the South American nation moves aggressively to diversify its energy supply. But more than a dozen organizations here oppose the \$235 million wind farm project in Chiloé being built by Ecopower of Santiago. They argue that the construction and operation of the onshore turbines sited on 2,471 acres (1,000 hectares) along the coast potentially could harm not just the blue whale, but dozens of migratory birds, penguins, and several other marine species.

"This project needs to file not a declaration of impacts, but a full environmental impact study," says Barbara Galletti, president of Centro de Conservación Cetacea in Santiago, who is leading the opposition.

DRIVE FOR RENEWABLES

The conflict between wind power and

whales comes as Chile is working to develop alternative energy sources to meet rising demand. With the economy growing at about 6 percent per year, the country projects its energy demand will double by 2025.

More than 80 percent of electricity is used by industry, and mostly for Chile's world-leading copper mining exports. Currently, hydroelectric dams provide nearly half the nation's energy, with the rest from coal and natural gas imports. The government has set a goal that by the end of this decade, at least 10 percent of Chile's electricity should come from geothermal, wind, solar, and other alternative sources.

The Ecopower project could contribute to that effort, with 56 turbines providing 112 megawatts of power, triple Chiloé Island's current needs. It would allow the island to export electricity rather than depend on the mainland.

Julio Albarran, general manager of Ecopower, said in an interview that even though the company was not legally obligated to do so, it conducted several studies, mostly focused on the project's potential effects on migratory birds, and made changes aimed at mitigation.

Albarran firmly refuted criticisms that his company plans could pose a threat to the whales or marine life: "Offshore wind power facilities could harm whales, but there exists no study that says land-based wind power affects whales."

But Ecopower was not required to produce a detailed environmental-impact study. Instead the government determined that sufficient information was contained in a shorter-form environmental "declaration" filed by the company, and that the project was not likely to have the "significant" environmental effects that would warrant a full impact study.

Chile's environmental authorities approved the project in August, but before the end of the year the Chilean Supreme Court is likely to decide on a lawsuit from opposing groups.

Scientific research on the impact of wind farms on whales and other marine species is indeed an emerging field. But scientists say there is enough evidence to suggest that wind farms offshore or on the coast can potentially harm whales and other cetaceans. The scientific committee of the International Whaling Commission (IWC) studied the Chiloé project and recommended last June in its formal

report "the urgent development of an environmental impact assessment in this region and to reconsider locating the wind farm towers further away from coastline."

BOATS AND NOISE

High on the list of environmentalists' concerns is the fact that construction of wind farms, whether offshore or along coastlines, can mean an increase in boat traffic. At the proposed wind farm on Cocotué Bay, Ecopower proposes building a port to facilitate the construction and maintenance of its wind turbines. Mark Simmonds, international director of science at the Whale and Dolphin Conservation Society, based in Wiltshire, England, says that raises red flags.

"The construction of a new port on the site of an important blue whale habitat, that on its own is enough reason for experts around the world to speak out," said Simmonds. "Perhaps the biggest problem across the seas at the moment for whales is the sheer amount of boat traffic."

Simmonds says whales use low frequency to communicate with each other, and low-frequency noise from boat traffic interferes with their communication. Worldwide, this traffic has increased several times over in recent decades. Whales are often also struck and killed by boats.

Scientists and policymakers who study construction of wind farms offshore or on coasts share a widespread concern about the loud noise generated by turbine installation. Hydraulic hammers are used to drive piles for the turbine foundations into the sea floor or ground below, generating noise levels as high as 300 decibels or more.

Humans can experience hearing loss at 120 decibels. But scientists say whales and other marine mammals are even more sensitive to sounds, in part because they are hearing-centric. For instance, many marine mammals use echolocation, or biosonar, to help them navigate or find food. Sound underwater also travels faster and farther.

"For cetaceans, sound is absolutely fundamental to their existence," said Jason Gedamke, director of the acoustics program for the United States National Oceanic and Atmospheric Association (NOAA).

"Anything that introduces sounds into the ocean needs to be looked at. You would assume that for projects like this that an environmental impact assessment would be done."

Stefan Gsanger, secretary general of the

World Wind Energy Association, said the industry recognizes that precautions need to be taken during the construction of wind farms. "There is major noise during construction of a wind turbine, and offshore wind is still a new technology and requires more study. These issues have to be taken very seriously to determine how these effects can be minimized."

Studies show nearly half of the 363 blue whales documented to frequent the waters off Chiloé's coast regularly congregate in the vicinity of the proposed wind farm. This exceptionally large concentration of blue whales in northwest Chiloé waters makes it the most important habitat for blue whales in the entire Southern Hemisphere.

About 40 percent of the 56 wind turbines planned by Ecopower are located on wetlands close to the Mar Brava shoreline, some as little as 10 meters from the water. Galletti, who has been studying the blue whale off Chiloé's coast for more than a decade, says blue whales in the area have been known to come 400 meters or less from the coast. The critically endangered southern right whale has been seen as close as 5 meters from shore.

Galletti said these unique conditions increase her concern over the potential for chronic noise effects from the operation of wind turbines here. "Planes over whale-watching areas emit about 110 decibels and are known to drive whales away. There will be 56 wind turbines, which according to the company can each emit as much as 121 decibels," said Galletti, emphasizing that the noise would be continuous over the following 25 years. "We ought to follow the precautionary principle in such a fragile habitat," she said.

While studies to date may not conclusively show whether the continuous operation of wind farms on coasts can affect whale habitat; there are few if any wind farms like the one proposed for Mar Brava.

NOAA's Gedamke says, in the worst case, "it is possible that, over a very long time, a particular habitat could be acoustically swamped and cause abandonment."

"If these animals are aggregating right near where these installations are going in, then impacts from operational noise are more of a concern," he said.

HOPE IN THE AGE OF MAN

By Emma Marris. Peter Kareiva, Joseph Mascaro, and Erle C. Ellis Published: December 7, 2011

Scientists interested in drawing attention to the human transformation of planet Earth have begun calling the current geological epoch the Anthropocene — the age of man. Naming an epoch is serious business — and in this case the new name is well deserved, given humanity's enormous alteration of the Earth. We have acidified the oceans and changed global climate with our use of fossil fuels. We have bent more than 75 percent of the ice-free land on Earth to our will. We have built so many dams that half of the world's river flow is regulated, stored or impeded by human-made structures. We have transported plants and animals hither and yon as crops and livestock and as accidental stowaways.

Some environmentalists see the Anthropocene as a disaster by definition, since they see all human changes as degradation of a pristine Eden. If your definition demands that nature be completely untouched by humans, there is indeed no nature left.

But in fact, humans have been changing ecosystems for millennia. We have learned that ecosystems are not — and have never been — static entities. The notion of a virgin, pristine wilderness was understandable in the days of Captain Cook — but since the emergence of modern ecology and archaeology, it has been systematically dismantled by empirical evidence.

Yet even scientists are still misled by the idea of an untouched, natural paradise. A paper published in October by a group of scientists at the University of California, Davis, in the journal *Conservation Biology* criticizes the idea of the Anthropocene because it leaves “the impression that nowhere on earth is natural” and because “the concept of pervasive human-caused change may cultivate hopelessness in those dedicated to conservation and may even be an impetus for accelerated changes in land use motivated by profit.”

We defend the term “Anthropocene,” and we do not accept the argument that the concept opens the floodgates of unrestricted development. To assert that without the ideal of pristine wilderness, humanity will inevitably go on ruining our best-loved landscapes is analogous to Dostoyevsky's dictum that without God, everything is permitted.

Yes, we live in the Anthropocene — but that does not mean we inhabit an ecological hell. Our management and care of natural places and the mil-

lions of other species with which we share the planet could and should be improved. But we must do far more than just hold back the tide of change and build higher and stronger fences around the Arctic, the Himalayas and the other “relatively intact ecosystems,” as the scientists put it in their article.

We can accept the reality of humanity's reshaping of the environment without giving up in despair. We can, and we should, consider actively moving species at risk of extinction from climate change. We can design ecosystems to maintain wildlife, filter water and sequester carbon. We can restore once magnificent ecosystems like Yellowstone and the Gulf of Mexico to new glories — but glories that still contain a heavy hand of man. We can fight sprawl and mindless development even as we cherish the exuberant nature that can increasingly be found in our own cities, from native gardens to green roofs. And we can do this even as we continue to fight for international agreements on limiting the greenhouse gases that are warming the planet.

The Anthropocene does not represent the failure of environmentalism. It is the stage on which a new, more positive and forward-looking environmentalism can be built. This is the Earth we have created, and we have a duty, as a species, to protect it and manage it with love and intelligence. It is not ruined. It is beautiful still, and can be even more beautiful, if we work together and care for it.

Emma Marris is the author of “Rambunctious Garden: Saving Nature in a Post-Wild World.” Peter Kareiva is the chief scientist for the Nature Conservancy. Joseph Mascaro is a postdoctoral associate at the Carnegie Institution for Science and the Smithsonian Tropical Research Institute. Erle C. Ellis is an associate professor of geography and environmental systems at the University of Maryland, Baltimore County.

HAWAIIAN SWORDFISH FLEET SHUTTERED FOR KILLING ENDANGERED SEA TURTLES

The National Marine Fisheries Service (NMFS) has shut down the Hawaiian long-line swordfish fishery through year's end because the fleet captured too many critically endangered leatherback sea turtles as by-catch, called “incidental take.” The swordfish is shipped to the U.S. West Coast and mainland for sale in restaurants and supermarkets.

This is the second time in five years that the Hawaiian swordfish longline fishery has had to shut down after exceeding its “legal” take of critically

endangered Pacific sea turtles. The legally mandated fishery closure provides only a temporary reprieve for the critically endangered leatherback and also loggerhead sea turtles that are caught: the long-line boats and their high-impact gear are prohibited from fishing only through the end of the year.

The fishery will remain closed until 2012, when its “allowable” capture of sea turtles is “reset” to zero. The maximum take in the fishery is 16 Pacific and 17 Pacific loggerheads, which were recently uplisted from threatened to endangered. Critical habitat for leatherbacks was recently delayed by NMFS.

“Longline fishing is nothing more than a massacre of ocean wildlife in a relentless hunt for profit, and the Hawaiian fishery is no exception—killing sea turtles, marine mammals and seabirds,” said Todd Steiner, biologist and executive director of SeaTurtles.org. “It’s bad enough that endangered species are dying—but swordfish is so high in mercury that Americans shouldn’t be eating it anyway.” The answer, Steiner added, is to begin to phase out this and similar high by-catch fishing gears entirely.

The fishery was closed for nearly four years, ending in 2004, with the current rules that require the fishery to close when its allowable take of turtles is reached. The fishing fleet is also required to use special hook and bait designed to protect sea turtles, which has not reduced levels of take that force a closure. The fishery also was closed in 2006 for harming too many Pacific loggerhead turtles.

Incidental take—otherwise known as “by-kill”—describes a destructive consequence of industrial fishing, when “non-target” species such as sea turtles or dolphins are hooked by gear deployed for commercial fish such as tuna or swordfish. These animals often die or are critically injured as a result of being hooked by the quarter-inch thick stainless steel hooks; held underwater by the fishing gear, they are unable to surface and thus drown.

The Pacific leatherbacks killed in the Hawaii longline fishery nest in Indonesia and swim 6,000 miles across the ocean to forage along the U.S. West Coast. The sea turtles often stop-over in Hawaii to rest and feed. The largest of all sea turtles, leatherbacks can grow to be up to eight feet long and weigh up to 1,800 pounds. Pacific leatherback sea turtles have declined more than 95 percent since the 1980s; as few as 2,300 adult female western Pacific leatherbacks remain. SeaTurtles.org’s Leatherback Watch

Program documented over twenty sightings of leatherbacks along the U.S. West Coast this summer alone. The species has survived for 100 million years virtually unchanged; now their kind risks disappearing from the planet.

RECORD NUMBER OF BLUE WHALES SIGHTED OFF WASHINGTON COAST

On 8 December 2011, six blue whales were sighted feeding off the Washington coast intermixed with humpback and fin whales. Blue whales are the largest animal that has ever lived and still endangered due to whaling. This is the most blue whales we know of ever being sighted off Washington and only the third confirmed sighting in the last 50 years. One of the previous sightings was also in winter. The other sightings in 2009 were of single animals. Blue whales are more commonly seen off California in summer and fall. This lack of sightings off Washington could in part be because of the lack of survey effort in winter months off the Washington coast, a period where poor weather makes surveys difficult.

The current sightings were part of a new research effort conducted by Cascadia Research in collaboration with Washington Department of Fish and Wildlife and Oregon Department of Fish and Wildlife and supported by NOAA to learn more about the occurrence of endangered whales off Washington and Oregon. This three-year effort will include surveys, photographic identification, and satellite tagging to learn more about the large whales occurring in this region.

The most recent sightings came about as a result of one of these surveys. A concentration of whales (thought to be mostly humpback and fin whales) had been spotted in the morning of 8 December by the WDFW vessel *Corliss* when it surveyed through an area about 25 miles off the Westport. A smaller inflatable boat operated by Cascadia researchers Greg Schorr and John Calambokidis followed-up these sightings later that morning. They identified and photographed the whales including confirming the presence of at least six different blue whales. These will be photographically compared to Cascadia’s catalog of over 2,000 identified blue whales to search for previous sightings of these individuals.

WHALE FOSSIL BONANZA IN DESERT POSES MYSTERY

By Eva Vergara, Ian James updated 11/20/2011

Researchers have begun to unearth one of the world's best-preserved graveyards of prehistoric whales

SANTIAGO, Chile — More than 2 million years ago, scores of whales congregating off the Pacific Coast of South America mysteriously met their end.

Maybe they became disoriented and beached themselves. Maybe they were trapped in a lagoon by a landslide or a storm. Maybe they died there over a period of a few millennia. But somehow, they ended up right next to one another, many just meters (yards) apart, entombed as the shallow sea floor was driven upward by geological forces and transformed into the driest place on the planet.

Today, they have emerged again atop a desert hill more than a kilometer (half a mile) from the surf, where researchers have begun to unearth one of the world's best-preserved graveyards of prehistoric whales.

Chilean scientists together with researchers from the Smithsonian Institution are studying how these whales, many of the them the size of buses, wound up in the same corner of the Atacama Desert.

"That's the top question," said Mario Suarez, director of the Paleontological Museum in the nearby town of Caldera, about 700 kilometers (440 miles) north of Santiago, the Chilean capital.

Experts say other groups of prehistoric whales have been found together in Peru and Egypt, but the Chilean fossils stand out for their staggering number and beautifully preserved bones. More than 75 whales have been discovered so far — including more than 20 perfectly intact skeletons.

They provide a snapshot of sea life at the time, and even include what might have been a family group: two adult whales with a juvenile between them.

"I think they died more or less at the same time," said Nicholas Pyenson, curator of fossil marine mammals at the Smithsonian's National Museum of Natural History. Pyenson and Suarez are jointly leading the research.

As for why such a great number perished in the same place, Pyenson said: "There are many ways that whales could die, and we're still testing all those different hypotheses."

The scientists have yet to publish their find-

ings about the fossil bed and the extensive remains, which began to emerge in June last year during a highway-widening project that is now on hold.

So far, the fossils have been found in a roadside strip the length of two football fields — about 262 yards long and 22 yards wide.

Pyenson said the spot was once a "lagoon-like environment" and that the whales probably died between 2 million and 7 million years ago.

Most of the fossils are baleen whales that measured about 8 meters (25 feet) long, Pyenson said.

The researchers also discovered a sperm whale skeleton and remains of a now-extinct dolphin that had two walrus-like tusks and previously had only turned up in Peru, he said.

"We're very excited about that," Pyenson said in a telephone interview. "It is a very bizarre animal."

Other unusual creatures found elsewhere in the fossil-rich Atacama Desert include an extinct aquatic sloth and a seabird with a 17-foot wingspan, bigger than a condor's.

Erich Fitzgerald, a vertebrate paleontologist at Museum Victoria in Melbourne, Australia, emailed that the latest find is very significant.

"The fossils are exceptionally well preserved and quite complete — a rare combination in paleontology and one that will likely shed light on many facets of the ... ecology and evolution of these extinct species," Fitzgerald said.

He said it's possible "these fossilized remains may have accumulated over a relatively long period of time."

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

| Date | # | Type of Animal(s) |
|------------|----|-----------------------------|
| 12/30 a.m. | 5 | Gray Whales |
| | 30 | Risso's Dolphins |
| 12/29 p.m. | 10 | Gray Whales |
| | 30 | Risso's Dolphins |
| 12/29 a.m. | 11 | Gray Whales |
| | 10 | Risso's Dolphins |
| 12/28 p.m. | 5 | Gray Whales |
| 12/28 a.m. | 15 | Gray Whales |
| | 5 | Killer Whales |
| 12/27 p.m. | 7 | Gray Whales |
| 12/27 a.m. | 10 | Gray Whales |
| 12/26 p.m. | 6 | Gray Whales |
| 12/26 a.m. | 12 | Gray Whales |
| 12/25 | | No trip - Christmas holiday |
| 12/24 p.m. | 6 | Gray Whales |
| 12/24 a.m. | 13 | Gray Whales |

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