

# Soundings



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

January 2010

**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 28, 2010

Time: 7:30 PM. **PLEASE JOIN US AT 7:00 FOR  
REFRESHMENTS**

SPEAKER: COLLEEN YOUNG, M. S. MARINE SCIENCE

SUBJECT: HARBOR SEALS: MONTEREY BAY AND BEYOND

Harbor Seals are, at the same time, common and enigmatic. We see them all the time resting on rocks, sandy beaches and near shore waters. But what are we seeing? Since these are nocturnal hunters, we are watching them sleep or rest, for the most part. So much of their life happens out of sight, underwater or at night, when most of us are sleeping.

Our speaker recently received her masters from San Jose State University/Moss Landing Marine Labs where she studied in Jim Harvey's Vertebrate Ecology Lab. Colleen's Thesis focused on the effects of disturbance on Harbor Seals in Glacier Bay National Park, Alaska. As an avid diver, she has also spent time in the water, "up close and personal," with these amazing pinnipeds.

Colleen's presentation will take us through some basics about Harbor Seals, including our own Monterey Bay Population. She will then spend some time sharing the methodology and results of her research in Alaska.

Please join us for our first meeting of the New Year and learn more about our daytime near shore neighbors.

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## CALENDAR

Jan 15: Hopkins Marine Station Winter 2010 Seminars: Larry Crowder, Duke University  
Bycatch of Marine Megafauna: From Synthesis to Solutions. Lecture time is 12:00-1:00

Thru-Feb 28, 2010- Darwin: Evolution/Revolution. San Diego Museum of Natural History.

### GO WHALE WATCHING WITH ACS

Join us early Saturday morning, **January 16**, as we search for California gray whales as they pass Monterey during the peak of their annual migration. Local experts will be on board to identify and discuss the marine life we are sure to encounter. If you go on one gray whale adventure this year, choose to accompany the Monterey Bay Chapter of the American Cetacean Society on this annual fundraising trip. All proceeds from the trip are generously donated by Monterey Whale Watching to ACS to help fulfill our mission of research, education and conservation of whales and dolphins. The 2-hour trip departs Monterey Whale Watching on Fishermans Wharf at 7am. ACS members pay \$20, and non-members pay \$30, which includes a year-long membership to the world's oldest whale conservation organization. We'll be on the largest vessel in the Monterey fleet, the 100' Princess Monterey. We anticipate that a group of Salinas students and chaperones will be on board, many to catch their first view of a whale.

Bring warm clothes, binoculars and cameras. A comfortable inside galley offers beverages and snacks for sale.

Payment and reservations can be mailed ahead to ACS, PO Box HE, Pacific Grove, CA 93950, or we'll be accepting payment at the Dec. 3 meeting. For more

information, please call Jerry Loomis at 419-1051, Sally Eastham at 372-6919 or Tony Lorenz at 901-7259. Be at Fishermans Wharf by 6:45am on January 16, and we'll be off to see the whales!

Feb.3-7 : 7th Annual San Francisco Ocean Film Festival. J' LA Chic Theatre 39 at Pier 39. More Info to Follow.

Feb. 17-20: 37th Annual Meeting of the Pacific Seabird Group. Long Beach, CA. Lifetime Achievement Award (Dr. Dan Anderson).

Feb.19- 21: Marine Science Weekend at Camp Ocean Pines. Marine Mammal Field Sketches and Gray Whale Seminar with world renowned marine mammal illustrator Peter Folkiens. Lectures, field trip to Piedras Blancas and a Boat Trip in search of gray whales and other marine mammals will be included in this weekend of marine mammal immersion. For more info call Chris Cameron at Camp Ocean Pines at 805-927-0254.

April 27-29 : International Sea Turtle Society: 30th Sea Turtle Symposium. Goa, India.

May 17-20: 61st Tuna Conference. Lake Arrowhead, CA. It's Not About the Catch but the Bycatch.

Nov.12-14: The American Cetacean Society 12th International Conference will be held in Monterey at Embassy Suites Hotel and Conference Center. Local Monterey Bay ACS chapter volunteers are needed, and sign-ups will be available at the monthly meetings

## CONSERVATION GROUPS FILE SUIT CHALLENGING NEW RULE ALLOWING HAWAII SWORDFISH FLEET TO TRIPLE ITS CATCH OF SEA TURTLES

December 16th, 2009

Today, conservation groups Turtle Island Restoration Network, Center for Biological Diversity, and KAHEA, represented by Earthjustice, filed a lawsuit in federal district court in Honolulu, Hawai'i challenging the National Marine Fisheries Service's issuance on December 10, 2009 of a rule removing all limits on effort in the Hawai'i-based longline swordfish fishery, and allowing the fleet to catch nearly three times as many loggerhead sea turtles as was previously permitted. Read the complaint. The new rule conflicts with the Fisheries Service's own assessment that the North Pacific loggerhead sea turtle is in danger of extinction. (Loggerhead Status Review.) That report, released only four months ago, noted that incidental capture in longline fisheries is a primary threat to the species' continued existence.

The new regulations increase allowable capture of threatened North Pacific loggerhead sea turtles from 17 per year to 46 per year. The rule continues to allow the capture of 16 endangered Pacific leatherbacks each year. The fishery also catches, injures, and kills false killer whales, humpback whales, albatross, blue sharks, and other "bycatch."

"The sea turtles are swimming toward extinction, yet this plan seems intent on continuing the same old fishery policies hastening their demise," said Teri Shore, Program Director of Turtle Island Restoration Network in Forest Knolls, CA. "We are disappointed, given Obama's new directives to protect the oceans." The president's Ocean Task Force recently held hearings around the country to develop a national ocean policy, including one in Hawai'i last September.

"The US government is going to allow even more sea turtles to be injured and killed to provide US consumers with swordfish, a product that is tainted with high levels of mercury. This is

what we experienced and learned to expect from the Bush Administration, but we 'hoped' for something better from the Obama administration. It appears the fishing industry is still calling the shots when it comes to protecting oceans and human health," said Todd Steiner, biologist and Executive Director of Turtle Island Restoration Network.

Swordfish longline vessels trail up to 60 miles of fishing line suspended in the water with floats, with as many as a thousand baited hooks deployed at regular intervals. Sea turtles become hooked while trying to take bait or entangled while swimming through the nearly invisible lines. These encounters can drown the turtle or leave it with serious wounds. Sea birds such as albatross dive for the bait and become hooked, and marine mammals, including endangered humpback whales, become hooked when they swim through the floating lines.

"The Fisheries Service has admitted that loggerhead and leatherback sea turtles in the Pacific face a significant risk of extinction unless we reduce the number of turtles killed by commercial fisheries," said Andrea Treece, an attorney with the Center for Biological Diversity in San Francisco. "Unfortunately, rather than take action to better protect sea turtles, the agency is proposing measures that would actually increase the number of turtles killed."

"The law requires the Fisheries Service to minimize harm to sea turtles, and prohibits harm to albatross, both of which are being driven to extinction mainly because of irresponsible fishing practices," said Paul Achitoff, an attorney with Earthjustice in Hawai'i. "The agency is once again pandering to WESPAC's insatiable appetite for short-term profits, disregarding the law in favor of maximizing swordfish catch."

"Expanding the commercial swordfish fishery in this way will have devastating consequences for the future of Hawai'i's public trust ocean resources," said Marti Townsend. "The Fisheries Service must manage Hawai'i's ocean resources more responsibly for the benefit of us all." said Marti Townsend, program director

of KAHEA: The Hawaiian-Environmental Alliance.

Overview of the new regulation:

- The "preferred" or weakest alternative was chosen.
- Sea turtle "take" meaning hooking, both harmed and killed:
- New rule: Loggerheads 46; Old rule: 17 (more than 3 times as many)
- Leatherbacks, 16, (both new and old rule - no change)
- Sets: New rule: No limit. Old rule: 2,120 (each set is one longline going out into the ocean; so each is NOT a permit; The 2,120 was spread out among all the permit holders). Note: The proposal to eliminate the set limit is odd, since fishermen have never come close to meeting it since the fishery re-opened in 2004. Last year 2008, 1,587 sets were recorded, and 1,570 the year before in 2007.
- Number of hooks "could increase to historic levels of 4,000 to 5,000 sets per year (3.4 to 4.2 million hooks/yr)."
- Number of Vessels: About 30 under old rule, probably about the same with new rule. But "some increased participation in the shallow-set fishery is anticipated with fishermen from the Hawaii-based deep-set tuna fishery moving into the fishery as a result of quotas being established for bigeye tuna. Entry into the Hawaii longline fishery, including both shallow (swordfish)- and deep-set (tuna) techniques, would remain limited to 164 vessels."

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## **THE 'BYCATCH' DOWNED BY INDUSTRIAL FISHING**

By Michael McCarthy

Concern is growing about the huge number of seabirds being killed by fisheries in the North Atlantic and the Mediterranean, the Royal Society for the Protection of Birds (RSPB) said yesterday.

Although conservationists' fears have so far focused on seabirds in the Southern Ocean,

especially albatrosses, there is mounting alarm over the numbers of northern species, such as shearwaters and petrels, falling victim to large-scale industrialised fishing methods.

The most deadly of these is longlining, which involves hooks set with bait on lines which stream out for great distances behind fishing vessels. Seabirds swoop on the bait when it is on the surface, before being hooked themselves as a so-called "bycatch".

It is estimated that 200,000 seabirds are being killed in fisheries in European waters every year, the RSPB said, with one species, the great shearwater, suffering an exceptionally high annual bycatch rate of 50,000 birds in the Spanish longline hake fishery to the west of Ireland.

Europe's rarest seabird, the Balearic shearwater, which is critically endangered with a population of just 2,000 pairs, is predicted to become extinct within 40 years if losses continue. Up to 50 individuals have been caught on hooks on a single longline.

The Cory's shearwater may suffer an annual bycatch rate of up to 10 per cent of the population in longline fisheries off Malta, according to Maltese fishermen.

The RSPB and BirdLife International are calling on the European Commission to implement an EU Community Plan of Action for reducing the incidental catch of seabirds in fisheries.

"Europe is incredibly important for seabirds, with some species occurring nowhere else, and this is a situation that Europe must tackle urgently," said RSPB spokesman Grahame Madge.

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## **PITCH OF BLUE WHALE SONGS IS DECLINING AROUND THE WORLD, SCIENTISTS DISCOVER**

ScienceDaily (Dec. 9, 2009)

The sound level of songs blue whales sing across the vast expanses of the ocean to attract potential mates has been steadily creeping downward for the past few decades, and a scientist at Scripps Institution of Oceanography at

UC San Diego and his colleagues believe the trend may be good news for the population of the endangered marine mammal.

Mark McDonald of WhaleAcoustics in Bellvue, Colo., along with John Hildebrand of Scripps Oceanography and Sarah Mesnick of NOAA Fisheries Southwest Fisheries Science Center studied blue whale song data from around the world and discovered a downward curve in the pitch, or frequency, of the songs. The decline was tracked in blue whales across the globe, from off the Southern California coast to the Indian and Southern Oceans.

"The basic style of singing is the same, the tones are there, but the animal is shifting the frequency down over time. The more recent it is, the lower the frequency the animal is singing in, and we have found that in every song we have data for," said Hildebrand, a



professor of oceanography in the Marine Physical Laboratory at Scripps.

The study's results are published in the most recent issue of the journal *Endangered Species Research*.

The researchers examined a list of possible causes for the frequency drop—from climate change to a rise in human-produced ocean noise—and believe it may be explained by the increase of blue whale numbers following bans on commercial whaling activities.

While the function of blue whale songs is not known and scientists have much more to learn, they do know that all singers have been determined to be males and that the high-intensity, or loud, and low-frequency songs propagate long distances across the ocean. Blue

whales are widely dispersed during the breeding season and it is likely that songs function to advertise which species is singing and the location of the singing whale.

In the heyday of commercial whaling, as blue whale numbers plummeted, it may have been advantageous for males to sing higher frequency songs, the researchers believe, in order to maximize their transmission distance and their ability to locate potential mates (females) or competitors (other males).

"It may be that when (blue whale) densities go up, it's not so far to get to the closest female, whereas back when they were depleted it may have been that the closest female was a long way away," said Hildebrand.

In the 1960s, when blue whale numbers were substantially reduced and recordings of the animals were first made, there may

have been a tradeoff in which the male suitors chose to sing higher frequencies that were louder and heard over greater distances, Hildebrand said. In more recent years, as population sizes have increased, it may now be more advantageous for males to sing songs that are lower in frequency rather than louder.

"When they make these songs they need to use most of the air in their lungs," said Hildebrand. "It's like an opera singer that sees how long he can hold a note. The (male) songs are made to impress the females and/or other males, so I think that's how the boy blue whales are impressing the girls, or are showing off to other boys: by making a loud and long song."

The scientists say the same downward pitch phenomenon may be true in other whales

such as fin and humpbacks, but the blue whale song, with a comparatively easier song to analyze, is a good springboard to study other species. Hildebrand says such knowledge about whale songs could be important in monitoring whale populations and recovery efforts.

During the study the researchers analyzed thousands of blue whale songs divided into at least 10 worldwide regions. These include the Northeast, Southwest and Northwest Pacific Ocean; the North Atlantic; the Southern Ocean near Antarctica; and the North and Southeast Indian Ocean. Blue whale songs have been recorded for the last 45 years through scientific and military applications by seafloor seismometers tracking regional earthquakes and dedicated whale acoustic recording packages.

In addition to NOAA National Marine Fisheries Service's Southwest Fisheries Science Center, Mesnick is affiliated with Scripps' Center for Marine Biodiversity and Conservation.

This research was funded by the U.S. Navy, NOAA and the National Science Foundation.

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## AUSTRALIAN FOSSIL UNLOCKS SECRETS TO THE ORIGIN OF WHALES

ScienceDaily (Dec. 23, 2009)

Museum Victoria paleobiologist Dr. Erich Fitzgerald has made groundbreaking discoveries into the origin of baleen whales, based on a 25-million-year-old fossil found near Torquay in Victoria, Australia.

Dr Fitzgerald's study, which is published in the Zoological Journal of the Linnean Society, is centred on *Mammalodon colliveri*, a primitive toothed baleen whale, one of a group of whales that includes the largest animal ever to have lived, the blue whale. Although *Mammalodon* was discovered in 1932 and named in 1939, it has remained relatively unknown until now.

"Through study of *Mammalodon*, I hypothesise that it was a bottom-feeding mud-sucker that may have used its tongue and short, blunt snout to suck small prey from sand and mud on the seafloor. This indicates early and varied

experimentation in the evolution of baleen whales," explained Dr Fitzgerald.

The research conducted by Dr Fitzgerald supports Charles Darwin's speculation in *The Origin of Species*, that some of the earliest baleen whales may have been suction feeders, and that their mud grubbing served as a precursor to the filter feeding of today's giants of the deep.

Although *Mammalodon* had a total body length of about 3 metres, it was a bizarre early offshoot from the lineage leading to the 30 metre long blue whale. The new research shows that *Mammalodon* is a dwarf, having evolved into a relatively tiny form from larger ancestors.

*Mammalodon* belongs to the same family as *Janjucetus hunderi*, fossils of which were also found in 25 million year old Oligocene rocks near Torquay in Victoria. This family is unique to southeast Australia, their fossils only being discovered in Victoria. "Clearly the seas off



Fossil skull of the whale *Mammalodon colliveri*. Length of skull about 45 cm. (Credit: Image: Rodney Start / Source: Museum Victoria)

southern Australia were a cradle for the evolution of a variety of tiny, weird whales that seem to have lived nowhere else," said Dr Fitzgerald.

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**SIGHTINGS** compiled by Monterey Bay Whale Watch. For complete listing and updates see [www.gowhales.com/sighting.htm](http://www.gowhales.com/sighting.htm)

Date	#	Type of Animal(s)
1/3 p.m.	5	Gray Whales
	7	Killer Whales
	800	Long-beaked Common Dolphins
	180	Risso's Dolphins
	16	Dall's Porpoise
1/3 a.m.	2	Gray Whales
	7	Killer Whales (transient type)
1/2 p.m.	7	Killer Whales (transient type)
	600	Long-beaked Common Dolphins
	60	Risso's Dolphins
1/2 a.m.	3	Gray Whales
1/1 p.m.	13	Gray Whales
	45	Risso's Dolphins
1/1 a.m.	6	Gray Whales
	30	Risso's Dolphins
12/31 p.m.	8	Gray Whales
	1500	Long-beaked Common Dolphins
12/31 a.m.	4	Gray Whales
	50	Northern Right Whale Dolphins
12/30 p.m.	9	Gray Whales
	135	Risso's Dolphins
12/30 a.m.	1	Gray Whale
	320	Risso's Dolphins
12/29 p.m.	3	Gray Whales
	200	Long-beaked Common Dolphins
	60	Risso's Dolphins
12/29 a.m.	2	Gray Whales
	115	Risso's Dolphins
12/28 p.m.	3	Gray Whales
	75	Risso's Dolphins
12/28 a.m.	2	Gray Whales
	1400	Long-beaked Common Dolphins
12/27 p.m.	3	Gray Whales
	4	Humpback Whales
	8	Long-beaked Common Dolphins
	80	Risso's Dolphins
	3	Harbor Porpoise
12/27 a.m.	6	Gray Whales
	8	Long-beaked Common Dolphins
	270	Risso's Dolphins
12/26 p.m.	1	Gray Whale
	250	Risso's Dolphins
	2	Harbor Porpoise
12/26 a.m.	250	Risso's Dolphins
12/24 p.m.	65	Risso's Dolphins

12/24 a.m.	4	Gray Whales
	50	Risso's Dolphins
12/23 p.m.	9	Killer Whales
	40	Long-beaked Common Dolphins
	80	Risso's Dolphins
12/23 a.m.	9	Killer Whales (transient type)
	70	Risso's Dolphins
12/22	5	Gray Whales
	800	Long-beaked Common Dolphins
12/21 p.m.	250	Risso's Dolphins
12/21 a.m.	4	Gray Whales
12/20 p.m.	3	Killer Whales
(transient type)		
	200	Risso's Dolphins
12/20 a.m.	40	Risso's Dolphins
	15	Dall's Porpoise
12/19 p.m.	30	Long-beaked Common Dolphins
	1800	Risso's Dolphins
12/19 a.m.	1	Gray Whale
	1800	Risso's Dolphins
12/15	2	Gray Whales
	1	Humpback Whale
	1200	Risso's Dolphins
	300	Northern Right Whale Dolphins
12/2	2	Humpback Whales
	9	Killer Whales (transient type)
	4	Dall's Porpoise
12/1	2	Humpback Whales
	7	Harbor Porpoise

## BOOK RECOMMENDATIONS

Waterbirds by Theodore Cross.  
2009 (W.W. Norton and Company)

Tuna: Love, Death, and Mercury  
by Richard Ellis with a new epilogue

Polar Obsession by Paul Nicklin.  
2009 National Geographic Publishing  
Remarkable photos of Polar Bears, Walrus,  
Elephant Seals, Leopard Seals and Penguins to  
name just a few.

Great White: The Majesty of Sharks by Chris  
Fallows. A critical achievement by Chris Fallows  
in his attempt to save this magnificent apex  
predator.

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**American Cetacean Society Membership Application** Chapter#24

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Renewal \_\_\_\_\_

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**Membership levels and Annual dues:**

Lifetime \$750 Patron \$500 Contributing \$250  
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Student \$25 Teacher \$25 Senior \$25

Subscription only \* \$15/11 issues (\*not entitled to membership benefits)

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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**

**ACSMB  
Board Members for 2010**

- Diane Glim, *President*
- Randy Puckett, *Vice-President*
- Jerry Loomis, *Past-President*
- Katy Castagna, *Treasurer*
- Sally Eastham, *Membership*
- Gina Thomas, *Secretary*
- Diane Glim, *Publicity*
- Tony Lorenz, *Special Events*
- Carol Maehr, *Conservation*
- Barbara Oliver, *Mailing*
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*Programs*
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- David Zaches, Dida Kutz,  
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FEBRUARY 2010

**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, FEBRUARY 25, 2010

TIME: 7:30 PM. **PLEASE JOIN US AT 7:00 FOR  
REFRESHMENTS**

SPEAKER: GREG CAILLIET, PH. D.,  
PROFESSOR EMERITUS, MOSS LANDING MARINE LABS  
AND PROGRAM DIRECTOR, PACIFIC SHARK RESEARCH CENTER

TITLE: "UNRAVELING THE SECRET LIVES OF SHARKS AND RAYS"

Sharks and Rays form an interesting group of fishes that have been swimming in the oceans for hundreds of millions of years. From the largest fish in the ocean to sleek predators and uniquely shaped rays they are a very varied group of fishes. Some feed on plankton, some target prey in the water column and some feed on the bottom, sharks and rays serve a wide range of roles in their respective ecosystems. As interesting and amazing that these denizens of the ocean are, the sad fact is that when you say the word shark most people respond with fear and terror.

Our speaker will share with us some of his experience and knowledge about sharks and rays which will allow us to look at them more clearly, without a veil of fear and terror. Dr. Cailliet recently received Emeritus status from MLML and continues to serve as the Program Director of the Pacific Shark Research Center. He recently attended the White Shark Conference in Hawaii so he will have the latest information about this well-known species. His presentation will focus on the sharks and rays that occupy Monterey Bay.

Please join us for what promises to be an exciting and informative presentation about this often maligned but critically important group of fishes.

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## CALENDAR

Thru-Feb 28, 2010- Darwin: Evolution/ Revolution. San Diego Museum of Natural History.

Thru- April 24 : "World of Fishes" Exhibit at the Pacific Grove Museum of Natural History. Exhibit will showcase diversity and biology of fishes from around the world.

Feb. 17-20: 37th Annual Meeting of the Pacific Seabird Group. Long Beach, CA. Lifetime Achievement Award Dr. Dan Anderson.

February 20<sup>th</sup> (Sat.) 2pm. Exhibit Lecture with Dr. Dave Greenfield. "Chasing Fishes Around the World". Lecture to be held at the PGMNH

February 20-21 (Sat and Sun) 10 am-5pm  
Shark Days at the Monterey Bay Aquarium

Feb.19- 21: Marine Science Weekend at Camp Ocean Pines. Marine Mammal Field Sketches and Gray Whale Seminar with world renowned marine mammal illustrator Peter Folkiens. Lectures, field trip to Piedras Blancas and a Boat Trip in search of gray whales and other marine mammals will be included in this weekend of marine mammal immersion. For more info call Chris Cameron at camp ocean pines at 805-927-0254.

Saturday, March 6, 2pm. Exhibit Lecture with Dr. Greg Caillet "Fish Habitats 'R' Us: Assemblages in Monterey Bay". Lecture will be held at the PGMNH

April 10<sup>th</sup> 8am-3pm. Sanctuary Currents Symposium: Saturday Symposium will be held at CSUMB-More info to follow

May 22 (Sat) 8am-4pm. ACS National Humpback Whale Fundraiser Trip will take place on the Condor Express Santa Barbara. For more info and to make reservations call Bernardo Alps at (310) 597-0449

April 27-29 : International Sea Turtle Society: 30th Sea Turtle Symposium. Goa, India.

May 17-20, 2010. 61st Tuna Conference. Lake Arrowhead, CA. It's Not About the Catch but the Bycatch

Nov.12-14: The American Cetacean Society 12th International Conference will be held in Monterey at Embassy Suites Hotel and Conference Center. Local Monterey Bay ACS chapter volunteers are needed, and sign-ups will be available at the monthly meetings

Once again this year Monterey Peninsula College is fortunate to offer a one-month course taught by marine mammal biologist Dr. Shawn Noren Kramer. Dr. Kramer's research interests in physiology and swimming hydrodynamics of marine mammals, coupled with her passion for teaching, have led to her develop a very unique classroom and field learning experience that goes far beyond covering the usual natural history of our local species

### BIOL75.3 Marine Mammals

Learn about the evolution, behavior, ecology & conservation of marine mammals through lectures & field trips. Sample Schedule:

Week 1: Lecture & Marine Mammal Skull Lab

Week 2: Monterey Bay Marine Mammal Boat Survey Lab

Week 3: Sea Otter Observations & MBA Behind The Scenes Tour

Week 4: Long Marine Laboratory & Elephant Seals at Ano Nuevo

Week 5: Project Presentations

Course Section #5159

Meets: Sat 9am-4:30pm on

Feb 20, 27 & Mar. 6, 13, 20

E-mail instructor: Dr. Shawn Noren  
[snoren@biology.ucsc.edu](mailto:snoren@biology.ucsc.edu) for more information

## WATCHING FOR SPOUTS SATURDAY, JANUARY 16, 2010

A few things about going out on a 100-foot boat to look for whales occurred to me before and after the excursion last Saturday—besides realizing the whales just might not be in the area to see. That happened six years ago when my husband and I joined the Cetacean Society’s Valentine’s Day cruise (the first time in 25 years, they had said). Mainly I thought about the size of the oceans, that they take up about 70 percent of the area of the planet, but are mostly flown over than ridden on—so that leaves out a huge chunk of a possibility for people experiencing the lives under the water—especially whales and dolphins like those we were so fortunate to see on Saturday when they came up to take a breath.

Lucky, too, for the school kids from Salinas, some who hadn’t been in a boat, and for all of us, gray whales surrounded us—in groups of six or more at times, on every side of the boat. Just to get a short look at a spout, a back, a fluke, excited us to say “oohh!” or to stand silent, with tears filling our eyes. There’s something about their presence, even at a distance, that can connect us—as strong as we are connected to our cats, our dogs. The connection feels like there are cords or bones running through it, rather than just the feeling. Again, I came to feel myself as a part in the universe when the gray whales came up and the Risso’s dolphins came alongside greeting us, and when I looked down at the swirling of jellyfish shined on by the morning sun.

-Susan Rautine

## FEDS MOVE TO PROTECT FALSE KILLER WHALES: TEAM ESTABLISHED TO REDUCE FISHING-RELATED WHALE DEATHS

Prodded by seven years of litigation by conservation groups, the National Marine Fisheries Services announced today a new measure aimed at protecting Hawaii’s false killer whales from the lethal impacts of the longline fishery.

The agency published a notice in the Federal Register on January 19, 2010 that formally establishes a “take reduction team” for false killer whales. The team will consider ways to reduce harm to false killer whales caused by commercial tuna and swordfish longline operations. Longline vessels trail up to 60 miles of fishing line suspended in the water with floats and as many as 1,000 baited hooks. Approximately 60 whales were killed or injured in 2009 by the Hawaii longline fleet fishing for tuna and swordfish.

Creation of the team was the goal of the most recent litigation filed by Earthjustice on behalf of Turtle Island Restoration Network, Hui Mālama i Koholā, and the Center for Biological Diversity.

Recent data shows the false killer whales living in waters surrounding the main Hawaiian Islands represent a very rare subspecies that numbers fewer than 120 individuals. The Fisheries Service is currently conducting a 12-month study to determine if these “insular” false killer whales warrant protection under the federal Endangered Species Act, due to threats from, among other things, longline fishing.

The total number of false killer whales in Hawaiian waters, including both the insular population and a “pelagic” population that also interacts with longlines, is estimated at only about 600.

Based on observer data, the Fisheries Service estimates that, each year, the Hawaii-based longline fishery kills or seriously injures at least seven false killer whales.

“The Fisheries Service’s own data show that Hawaii’s false killer whales are getting hooked and entangled in longlines at rates nearly



three times what the agency has determined the population can sustain,” Cummings said.

“As a commercial fisherman myself, I’m confident we can find ways to fish sustainably and responsibly,” Ailā said. “As a Hawaiian cultural practitioner, serving on the TRT helps fulfill my kuleana (responsibility) to mālama (to care for) Hawaii’s false killer whales.”

Earthjustice staff attorney David Henkin applauded the creation of the team.

“Under the Marine Mammal Protection Act, NMFS is charged with protecting Hawaii’s false killer whales,” Henkin said. “It took a lawsuit to prod them to act, but I’m glad they’re now taking their responsibility seriously.”

The action culminates seven years of efforts by Hui Mālama i Koholā, the Center for Biological Diversity, Turtle Island Restoration Network, and Earthjustice to compel the Fisheries Service to comply with its legal duties.

The coalition first filed suit in 2003 to force the Service to classify the Hawaii longline fishery as a “Category I” fishery due to its unsustainable “take” of false killer whales. The Fisheries Service made the classification in 2004, but failed to follow up on the listing with a take reduction team. That failure prompted the conservation groups to file suit again in 2009.

“In response to our latest lawsuit, the Fisheries Service finally asked Congress for the money it needed to form the TRT,” said Turtle Island Restoration Network executive director Todd Steiner. “We’re gratified that serious discussions aimed at protecting the whales from unsustainable drowning and hooking will finally begin.”

False killer whales are large-toothed whales that resemble killer whales (orcas). According to a December 2008 study by the federal Government Accountability Office, they are “the only marine mammal for which incidental take by commercial fisheries is known to be above its maximum removal level that is not covered by a take-reduction team.”

## **KILLER WHALES OFF THE COAST OF SCOTLAND. FORMING A NEW SPECIES? THE 'TYPE 2' DOLPHIN HUNTING KILLER WHALES**

Scientists have revealed that there is not one but two types of killer whale living in UK waters. Each differs in its appearance and diet, with males of one type being almost two metres longer than the other.

The killer whales could be at an early stage of becoming two separate species, the researchers say. The international group of scientists has published its results in the journal *Molecular Ecology*.

"It's exciting to think about two very different types of killer whale in the waters around Britain," says Dr Andy Foote from the University of Aberdeen, UK, who undertook the study. This divergence may eventually lead to the two types becoming different species

"Killer whales aren't really a species that we think of as being a regular visitor to Britain, but in fact we have two forms of these killer whales in our waters," he told the BBC.

Scientists have found different forms of killer whale that occupy particular niches in the Pacific and the Antarctic, but this is the first time that they have been described in the North Atlantic.

Dr Andy Foote undertook the study along with colleagues from universities and museums in Denmark and the UK.

Killer whales (*Orcinus orca*), otherwise called orcas, live in family groups called pods. As the largest member of the dolphin family, killer whales are known for their intelligence and range of hunting behaviours.

### *TOOTH WORK*

There was very little prior to this study to suggest that different types of killer whale would be found in the North Atlantic. However, Dr Foote and colleagues studied teeth from remains of killer whales stranded over the past 200 years and found a difference in tooth wear.

Killer whale jaws showing the difference in tooth wear

"We found that one form, which we call 'type 1' had severely worn teeth in all adult specimens," explains Dr Foote. "The other form, 'type 2', had virtually no tooth wear even in the largest adults."

In the wild, killer whales that "suck up" herring and mackerel display this tooth wear.

Knowing this, the researchers suspected a difference in diet and ecological niche between the two groups.

#### *DOLPHIN PREDATOR*

Using stable isotope analysis that gives clues to the orcas' diet, the scientists found that type 1 is a generalist feeder, consuming fish and seals. Type 2, on the other hand, is a specialist feeder that scientists suspect exclusively feeds on marine mammals such as small dolphins and whales.

This specialisation for alternate ecological niches has also resulted in a difference in shape and appearance.

"The two types also differed in length, with type 2 adult males being almost two metres larger than types 1 males," Dr Foote says.

The researchers also found that colour, pattern and number of teeth vary between the groups. Dr Foote says the fish feeding type 1 killer whales are found across the North East Atlantic and around Britain. The cetacean hunting type 2 killer whales are regularly seen off the west coast of Scotland and Ireland.

#### *NEW SPECIES*

Genetic analysis indicates the two types belong to two different populations.

"Type 1 specimens were from closely related populations, but the type 2 whales were

more closely related to a group of Antarctic killer whales," Dr Foote explains.

Comparing the findings with studies on killer whales around the world shows that killer whales have radiated to fill different ecological niches.

"It's similar to how Darwin's finches have adapted to different ecological roles in the Galapagos, but on a larger scale," Dr Foote notes.

He suggests this could be an important discovery for the future of the animals.

"They seem to have occupied completely different ecological niches and have started to diverge morphologically. This divergence may eventually lead to the two types becoming different species."

He also recommends the two types be considered "evolutionary significant units" and monitored separately in order to more effectively conserve one of the oceans most charismatic

animals.



Differences in tooth wear: Type 1 (top) and type 2 (below)

#### **ICCAT LEAVES ALBATROSS CONSERVATION DEAD IN THE WATER**

(Nov.11, 2009)After a 3-year seabird risk assessment that found tuna and swordfish longline fishing has significant impacts on Atlantic seabird populations, the International Commission for the Conservation of Atlantic Tunas (ICCAT) failed to act at a recent meeting in Recife, Brazil.

"Albatrosses and petrel populations in the Atlantic Ocean and Mediterranean Sea are undergoing some of the most severe decreases anywhere in the world", said Dr Cleo Small - Senior Policy Officer for the BirdLife Global Seabird Programme, based at the RSPB (BirdLife in the UK).

More than 40 fishing nations are members of ICCAT, and they gathered recently in Recife, Brazil for the annual meeting of the commission. Collectively they control longline fishing effort in

the Atlantic Ocean that is conducted on a massive scale.

“In Recife we recommended that fishers use a few simple, cheap but effective measures to reduce the rate at which seabirds get caught and drown”, added Dr Small. “However, ICCAT refused to endorse our recommendation which is a big blow for Globally Threatened seabirds”.

Each year hundreds of millions of longline hooks are set in the Atlantic. The impact of longline fishing on albatrosses and other seabirds has been a source of concern for scientists and conservationists for decades. Globally, 18 of 22 albatross species are threatened with extinction, and longline fishing is known to be the leading cause of decreases for many species.

“... a big blow for Globally Threatened seabirds” —Dr Cleo Small, International Marine Policy Officer for BirdLife’s Global Seabirds Programme

ICCAT has recently completed a three year assessment of the impacts of controlled longline fishing on seabirds, concluding that there was an impact and it needed to be addressed.

During the Commission meeting, proposals were put forward that would reduce the number of seabirds being killed. Japan was one of the countries that supported action, but a major stumbling block was the insistence from Japan to include mitigation measures for which no scientific information exists to indicate whether they work to protect seabirds or not.

Other countries which have already made great efforts to reduce their seabird bycatch problem could not accept such unproven measures, which would disregard the advice by ICCAT’s scientists, and could result in no reduction in impact on seabirds

Andrew Carroll from DEFRA’s Sea Fish Conservation Division who attended the meeting on behalf of the UK Overseas Territories said: “To put it politely, I am immensely disappointed and frustrated that ICCAT has failed to make progress”. The UK Overseas Territories are home to around one third of the total breeding pairs of albatrosses. The declines of some of these populations are among the fastest in the world.

“Many parties worked hard to take effective action to reduce the bycatch of these declining species, but ICCAT is plagued by the necessity to gain consensus of all parties, and the work of many can be blocked by a very few”, said Dr Ross Wanless, Africa Coordinator for BirdLife’s Global Seabird Programme and the head of BirdLife South Africa’s (BirdLife Partner) Seabird Division. “This is a major problem not only for tuna populations but also associated species such as seabirds, sharks and sea turtles”.

“We’re doing some great work, and urgently need to reach out to more fisheries” —Oli Yates, Albatross Task Force Coordinator

BirdLife’s Global Seabird Programme are tackling seabirds deaths around the world by working at the regional, national and international levels to influence the development and adoption of agreements and measures to reduce seabird bycatch.

On the ground we have established the Albatross Task Force, whose members spend weeks at a time onboard fishing vessels, braving some of the harshest conditions on earth, to help save the albatross from extinction. “We’re doing some great work, and

urgently need to reach out to more fisheries and the crews of fishing vessels to prevent these majestic birds being killed from indiscriminate longline fishing”, said Oli Yates – ATF Coordinator.



Richard Cuthbert

**Tristan Albatross are particularly susceptible to longline fisheries as their dispersal areas overlap that of commercial fisheries.**

“By donating to BirdLife’s Albatross Task Force, you will be helping fund our global campaign to save the albatross - helping pay for tori lines, up to the minute data recording equipment and sea safety gear such as water-proof suits, life vests and sea boots that will keep the men and women of the Task Force safe and able to do their job”, appealed Oli Yates.

## Message From the President

Just before dawn on January 16, adventurous whale enthusiasts embarked on our annual excursion to see gray whales migrating through Monterey Bay. Initially elusive, a group of gray whales was skillfully located by Captain Leon Oliver. On our way back in, we were charmed by a large group of Risso’s dolphins that appeared around the Princess Monterey. We greatly enjoyed the enthusiasm of Martin Luther King Academy students and chaperones who accompanied us. Jerry Loomis was the primary naturalist onboard, and he did an exceptional job of explaining the marine animals we encountered. We welcome eight new members to ACS Monterey Bay who joined as a result of the fundraiser. We are grateful to Benji Shake and Monterey Whale Watching for providing the trip to ACS. We also are very appreciative of the crew who donated their time: Capt. Leon Oliver, lead deckhand Monty Truitt, Keith Stemler, Gina Thomas and A.J. Young.

Thank you!

-Diane Glim, President ACS Monterey Bay

**SIGHTINGS** compiled by Monterey Bay Whale Watch. For complete listing and updates see [www.gowhales.com/sighting.htm](http://www.gowhales.com/sighting.htm)

Date	#	Type of Animal(s)
1/24 p.m.	26	Gray Whales
	400	Long-beaked Common Dolphins
	220	Risso's Dolphins
1/24 a.m.	6	Harbor Porpoise
	38	Gray Whales
	70	Risso's Dolphins
1/23 p.m.	9	Harbor Porpoise
	25	Gray Whales

1/23 a.m.	28	Gray Whales
	60	Risso's Dolphins
	10	Harbor Porpoise
1/22	27	Gray Whales
	300	Risso's Dolphins
	21	Gray Whales
1/17 a.m.	30	Risso's Dolphins
	18	Gray Whales
1/17 early a.m.	18	Gray Whales
1/16 p.m.	32	Gray Whales
1/16 a.m.	17	Gray Whales
	380	Risso's Dolphins
1/16 early a.m.	16	Gray Whales
1/15 p.m.	150	Risso's Dolphins
	30	Gray Whales
1/15 a.m.	2	Blue Whales
	45	Risso's Dolphins
	25	Gray Whales
1/14	35	Risso's Dolphins
	28	Gray Whales
1/11	400	Long-beaked Common Dolphins
	40	Risso's Dolphins
	23	Gray Whales
1/10 p.m.	2	Killer Whales
	10	Risso's Dolphins
	4	Gray Whales
1/10 a.m.	8	Killer Whales*
	800	Long-beaked Common Dolphins
	4	Gray Whales
1/9 p.m.	800	Long-beaked Common Dolphins
	9	Gray Whales
1/9 a.m.	3200	Pacific White-sided Dolphins
	1500	Risso's Dolphins
	60	Northern Right Whale Dolphins
1/8 p.m.	18	Gray Whales
	45	Risso's Dolphins
1/8 a.m.	19	Gray Whales
	80	Risso's Dolphins
1/8 a.m.	8	Gray Whales
	1800	Risso's Dolphins

Skipped dates indicate no trip

\*transient types

## BOOK RECOMMENDATIONS

The Dusky Dolphin: Master Acrobat Off Different Shores by Bernd Wursig. 2009 Academic Press

Drifters: Plastic, Pollution, and Personhood by Pam Longobardi

Nina Delmar: The Great Whale Rescue by Carl Safina (his first children's Book). Illustrated by Dawn E. Navarro

American Cetacean Society  
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# Soundings



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

MARCH 2010

**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, MARCH 25, 2010

TIME: 7:30 PM. **PLEASE JOIN US AT 7:00 FOR  
REFRESHMENTS**

SPEAKER: GUY OLIVER, PH. D.

TITLE: NORTHERN ELEPHANT SEALS (*Mirounga angustirostris*)

The Northern Elephant Seal is one of the largest mammals on the planet with males approaching 5000 pounds and females exceeding 2000 pounds. They are found in the eastern Pacific from Baja California, Mexico to the Gulf of Alaska and the Aleutian Islands. They are one of the deepest diving mammals only surpassed by the sperm whale.

Like many species of whales, Northern Elephant Seals were hunted to near extinction by the end of the 1800s. Hauling out for extended periods of time during puping and breeding season they were easy targets for hunters. When rendered, their blubber yielded a highly sought after, clean burning oil used in lamps. Eventually they were reduced to a single breeding colony off the west coast of Baja, California.

In the early 1900s Northern Elephant Seals were protected by law in Mexico and United States. Further protection came with the passing of the Marine Mammal Protection Act of 1972. As a result of legal protection the population has made a robust recovery. Somewhat ironically, the demise of the grizzly bear in California has also contributed to their recovery allowing the Elephant Seals to expand their haul outs from off shore islands to include mainland sites.

Our speaker is a field investigator who has been studying the Northern Elephant Seal especially those just up the coast from us at Ano Nuevo. Not only has he studied the animal itself, he has also been fundamentally involved in designing instrument tags which allow collection of data from this deep diving hunter. Currently in the field, Guy is gathering data and checking up on individuals he has been following for some time.

Please join us for an informative presentation about this amazing creature that also represents a very successful conservation effort.

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## CALENDAR

Thru April 24: "World of Fishes" Exhibit at the Pacific Grove Museum of Natural History. Exhibit will showcase diversity and biology of fishes from around the world.

April 10<sup>th</sup> (Sat) 8am-3pm. Sanctuary Currents Symposium: "Voices of Hope: Science and Innovation for the Ocean" Symposium will be held at CSUMB. ACS will be participating and is seeking volunteers. Contact Diane Glim at [dianeglim@comcast.net](mailto:dianeglim@comcast.net) to volunteer.

April 16-18: Sea Otter Classic bicycle event at Laguna Seca. Viva Vaquita will have a booth to inform participants and spectators about the most endangered cetacean.

April 18 (Sun) 10am-4pm: Earth Day Whale Festival. Leo Carrillo State Park 35000 W. PCH Malibu, CA.

April 27-29 : International Sea Turtle Society: 30th Sea Turtle Symposium. Goa, India.

May 17-20, 2010. 61st Tuna Conference. Lake Arrowhead, CA. It's Not About the Catch but the Bycatch

May 22 (Sat) 8am-4pm. ACS National Humpback Whale Fundraiser Trip will take place on the Condor Express Santa Barbara. For more info and to make reservations call Bernardo Alps at (310) 597-0449

August 25-29: Blue Ocean Film Festival Monterey, CA. A global Ocean Film and Conservation Event ([www.bluefilmfest.com](http://www.bluefilmfest.com)). More Info To Follow

August 28, 9am-1pm ACS Monterey Bay Chapter Summer Whale Watch Fundraiser. Cost-\$50.00 Boat-Sea Wolf 2  
Location-Monterey Bay Whale Watch-Fisherman's Wharf, Monterey ,CA.

Whales of the summer include blue, humpback, fin, minke and killer whales  
For more info and reservations call Tony Lorenz at 831-901-7259

### **UCSC Summer Marine Science Courses:**

Biology of Marine Mammals Bio 129  
Session Two: July 26-August 27, 2010

Marine Science Illustration SCIC 126  
Session Two: July 26-August 27, 2010

Nov.12-14: The American Cetacean Society 12th International Conference will be held in Monterey at the Embassy Suites Hotel and Conference Center. Local Monterey Bay ACS chapter volunteers are needed, and sign-ups will be available at the monthly meetings

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*ACS National Executive Director Cheryl McCormick is currently attending preliminary meetings to prepare for the IWC meeting in Morocco. Daily postings are available at <http://iwcblogger.wordpress.com/>*

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## BOOK RECOMMENDATIONS

The Whale: In Search of the Giants of the Sea  
By Philip Hoare ( Winner of the Samuel Johnson Prize for Nonfiction)

People of the Whale. By Linda Hogan (Pulitzer Prize Finalist)

Southern Resident Community Orca Family Group 2010. Photos and descriptions of J, K and L Pods in their family groups. Available at the Whale Museum in Friday Harbor, Washington

Rare: Portraits of America's Endangered Species.  
By Joel Sartore. 2010 National Geographic Publications

## **EXPERTS OBSERVE WHALE HUNT NOISE**

Scientists on Shetland believe they may have discovered a previously unobserved technique being used by killer whales to catch herring.

Researchers from Aberdeen and St Andrews Universities recorded the whales emitting a low-pitched noise which caused the fish to bunch up.

The mammals then stun the fish with their tails before eating them.

The scientists said this behaviour has not been seen anywhere else in the world.

The findings have come to light in the BBC2 series "Simon King's Shetland Diaries".

Whale researcher, Dr Volker Deecke, demonstrated how his team used underwater microphones to record unusual sounds made by killer whales.

They included a low-pitched noise that the researchers believe caused the herring to bunch up in a tight shoal.

The whales then slap the shoal with their tails to stun the fish before killing and feeding on them.

It is only a theory at this stage and studies will resume in the summer, but the evidence is described as compelling, even though this behaviour hasn't been seen before in any orcas anywhere else in the world.

The use of a herding call was first described from Iceland by research colleagues of Dr Deecke.

However, it was believed that this hunting technique was confined to Iceland, as other killer whale populations feeding on herring did not appear to use it.

### **ACOUSTIC RESEARCH**

Scientists said the fact that the herding call had been recorded in the waters around Shetland suggested that the large groups of killer whales seen feeding offshore are part of the Icelandic herring-feeding population.

Volker Deecke said: "It illustrates the value of doing acoustic research when trying to determine the population identity of killer whale populations.

"Even a short recording of sounds can answer questions that could take years of work using other methods such as photographic identification of individuals".

Simon King said: "There is something about the beast from the deep rising up. It is just amazing.

"These are sentient animals, with complex family structures, but being so close you really get the sense that there is so much more to these creatures than we currently know".

The research was funded by the Carnegie Trust for the Universities of Scotland with additional support from Scottish Natural Heritage and SEERAD.

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## **DOLPHINS TURN DIABETES OFF AND ON -- HOPE FOR HUMANS? EVOLUTIONARY ADAPTATION MAY MIRROR ICE AGE MUTATION IN HUMANS**

Victoria Jaggard in San Diego, National Geographic News. Feb19, 2010

Bottlenose dolphins have what could be called type 2 diabetes, but unlike humans, the animals are able to turn it off and on—perhaps an evolutionary adaptation to maintain their big brains, new research suggests.

Diabetes may have arisen in Ice Age humans for similar reasons, so the newfound dolphin on-off switch may be a key to curing type 2 diabetes in people.

Like humans, dolphins have relatively large brains compared to their body sizes—in fact, dolphins are second only to humans in the ratio between body and brain size.

Scientists know that humans need plenty of a sugar called glucose to keep their brains functioning. Some researchers think the same might be true for dolphins, since both species send high amounts of glucose through their bloodstreams.

Dolphins, however, primarily eat fish, which are high in protein and low in sugar. To get enough glucose from this diet, dolphins have evolved a mostly harmless form of insulin resistance, according to Stephanie Venn-Watson, director of clinical research for the U.S. nonprofit National Marine Mammal Foundation.

Insulin is a hormone that helps the body turn blood sugar into energy. People with type 2 diabetes either don't make enough insulin or are resistant to its effects. Without insulin to break down glucose, too much sugar builds up in the blood, leading to complications such as glaucoma, nerve damage, arterial disease, and kidney failure.

But unlike people, dolphins can activate their diabetes only when the animals need it—and without the serious side effects, Venn-Watson said. Dolphin diabetes "turns on during their short overnight fast and turns off when they have breakfast in the morning," she said.

Not all experts, however, are convinced that dolphins use blood sugar in the same ways that humans do. Even though both species are mammals, dolphins and people have very different metabolisms, noted Lori Marino, a neuroscientist and behavioral biologist who specializes in bottlenose dolphins at Emory University in Georgia and was not involved in the foundation's research.

"Dolphins have a layer of blubber, for example, but humans don't. That shows we have very different ways of storing energy," Marino said. "Whether dolphins have the same energy requirements we do is doubtful."



A bottlenose dolphin at the National Aquarium in Baltimore, Maryland.  
 Photograph by Vincent J. Musi, National Geographic Stock

#### DON'T FEED THE DOLPHINS TWINKIES

The link between dolphins and diabetics first surfaced several years ago, when researchers at the National Marine Mammal Foundation began analyzing data from U.S. Navy studies done in the 1970s.

Those studies used blood and urine samples taken from captive bottlenose dolphins and examined changes in blood chemistry due to high-sugar versus high-protein diets.

The data showed that dolphins that were fed sugar developed long-lasting high glucose levels that mimic those seen in people with diabetes.

"If we started feeding dolphins Twinkies, they would develop type 2 diabetes," the foundation's Venn-Watson said Thursday at a meeting of the American Association for the Advancement of Science in San Diego, California.

In recent experiments, Venn-Watson's team found that dolphins that fast overnight experience changes in their blood chemistries like the fluctuations seen in human diabetics. But the dolphins go back to healthy blood sugar levels after they eat.

#### ICE AGE CONNECTION?

Most recently, the foundation's preliminary data has shown that some dolphins can develop harmful side effects from having too much insulin, such as kidney stones and a form of iron overload in the blood called hemochromatosis.

Hemochromatosis has been linked to insulin resistance in humans, and its symptoms can include everything from arthritis to liver cancer.

For the most part, however, dolphins seem to be able to control their diabetes-like condition to maintain healthy blood-sugar levels.

Venn-Watson pointed out that previous research had proposed a similar evolutionary event in humans: During the Ice Age, sugar-rich foods such as fruits became scarce in cold regions, so humans switched to a high-protein diet. Diabetes may have developed as a way for these early humans to cope.

#### CAPTIVE DOLPHIN DATA UNRELIABLE?

The combined evidence suggests to Venn-Watson and her colleagues that dolphins could be used as guinea pigs, broadly speaking, in the search for a cure for type 2 diabetes in humans.

Venn-Watson's team is now reaching out to diabetes researchers to help determine whether dolphins will in fact be good stand-ins for diabetic patients.

Marino, the brain expert, remains dubious. "In a general way our brains are very much alike," Marino said. "They're highly differentiated with a big neocortex"—the region of the brain associated with higher thought.

Still, there are vast differences among dolphin and human brain structures and nervous systems, which would make the marine mammals unlikely models for clinical trials, she said.

Marino and her colleagues are instead tying together a recent explosion of imaging data on dolphin brains to try and change how the marine mammals are treated.

"We want to talk about the implications of things like drive hunts"—herding dolphins into coves for slaughter—"and the effects of captivity," she said.

Those discussions would include a careful look at the reliability of data from captive dolphins, such as those used in the National Marine Mammal Foundation's original 1970s data and in the recent research highlighted at yesterday's meeting.

"You're talking about dolphins under high amounts of stress," she said. "There're questions about how good data on physiological processes affected by stress from captive animals can be."

Though their recent findings relied on captive dolphins, Venn-Watson emphasized that her team would not encourage any

pharmaceutical researchers to use live dolphins in the lab.

Instead, researchers could search the dolphin genome, which has been sequenced, for clues to the diabetic switch and compare the findings to observations of human genes.

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#### **HERRING THAT SURVIVED ALASKAN OIL SPILL MAY BE ENDANGERED BY HUMPBACK WHALES**

February 23, 2010 ANCHORAGE -- Something is holding down the herring population of Alaska's Prince William Sound, and marine scientists are tailing some rather large suspects: humpback whales.

Humpbacks, once hunted to near extinction, are thriving in waters fouled 21 years ago by the Exxon Valdez, the supertanker that ran aground and leaked nearly 11 million gallons of crude oil.

The herring population crashed after the spill but should have rebounded by now. One hypothesis is that humpbacks, traditionally summer residents in the sound, are taking a big bite out of vast herring schools that form in the deep water of the sound's fjords each autumn.

Jan Straley, a marine biology professor at the University of Alaska Southeast, and other researchers have studied whales the last two winters with surprising results. Humpbacks are showing up in significant numbers, even in winter.

This research "did show that whales were exerting predation pressure on Prince William Sound herring, which is potentially impeding the recovery," Straley said.

The gash in the 987-foot-long Exxon Valdez on March 23, 1989, oozed oil into the sound about the time adult herring were laying eggs. By 1993, just 25 percent of the expected adults were returning to spawn. State regulators closed commercial fishing in 1993, and it has stayed closed most of the time since then.

Herring play a vital role in the food chain. The silvery fish with blue-green upper bodies, considered large when they reach nine inches, are

food for eagles and other seabirds, halibut, cod and -- most important to humans -- five varieties of Pacific salmon.

The Exxon Valdez Oil Spill Trustee Council, formed to oversee restoration of the injured ecosystem, says the reasons for the poor recovery remain largely unknown. It sees no indication that herring spawning areas overlap with remaining oil. Other suspects include disease, ocean changes, contaminants and competition from other fish. Straley and others funded by the trustee council are looking at humpbacks.

Humpbacks are baleen whales. Their throats expand to ingest large volumes of water, which the whales force out across baleen, which are flat, flexible plates that filter out and catch herring, zooplankton or krill, tiny floating crustaceans.

Though still listed as endangered, humpbacks have made a promising comeback, increasing 5 to 7 percent per year in the North Pacific.

Anecdotal evidence from fishermen and other boaters, Straley said, indicated that humpbacks were increasingly using Prince William Sound in winter. Straley's research confirmed that whales were feeding mostly on herring. Ron Heintz, another research biologist, set up a model to estimate the proportion of spawning biomass that could be consumed by whales in winter, when herring bunch in schools that can be miles long and hundreds of feet deep.

Heintz's model gave a range of how much herring the whales might be eating: between 2,200 and 13,000 metric tons over the winter, a significant portion of the estimated total.

"The whales were able to consume somewhere between 10 and 66 percent of that pre-spawning biomass," Heintz said. "Another way to look at that is that the last commercial fishery in Prince William Sound was about 3,500 metric tons, so the whales are clearly capable of consuming a biomass that would be in the ballpark of a commercial fishery in Prince William Sound." The biologists say that their work is just a snapshot and that more research is

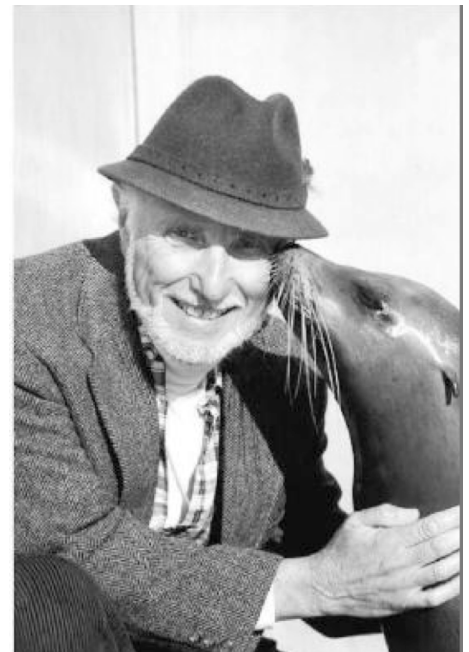
needed. They want to find out if whales are feeding at night and whether humpbacks have reached juvenile herring.

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## **PIONEERING MARINE MAMMAL SCIENTIST RONALD SCHUSTERMAN DIES AT AGE 77**

By Alia Wilson  
LA SELVA BEACH -- Ron Schusterman, a pioneer in studying the behavior of marine mammals, died on Feb. 11 at Stanford Hospital. He was 77.

Schusterman was a research marine biologist and adjunct professor of ocean sciences at UC Santa Cruz from 1985 until his retirement in 2003. He founded the Pinniped Cognition and Sensory Laboratory at UCSC's Long Marine Laboratory. He worked there with California sea lions, harbor seals and elephant seals conducting experiments to understand how they perceive and think about the world.



Ron Schusterman, who established one of the first marine mammal labs in the country at Coyote Hills in the 1960s, died Feb. 11. His research program moved to Long Marine Lab at the UC Santa Cruz in 1985 where it continues today. He did pioneering research on the behavior and cognitive abilities of marine mammals and is credited with dispelling the notion that pinnipeds echo-locate.

"Ron carried out truly pioneering work on cognition and sensory physiology of marine mammals," said Daniel Costa, professor of ecology and evolutionary biology at UCSC. "He was an exceptional experimentalist, and his research has stood the test of time, ranking among the classic

works on marine mammals and animal cognition."

Schusterman was born in New York and grew up in the Bronx. He earned a bachelor's degree in history and political science at Brooklyn College and a master's and doctorate in psychology at Florida State University. His first research position was at the Yerkes Laboratory of Primate Biology in Florida, where he investigated the cognitive and social behavior of chimpanzees, gibbons and monkeys.

In 1963, Schusterman was recruited to the Stanford Research Institute in Palo Alto to study the behavior and sensory physiology of pinnipeds. There he helped debunk the idea that pinnipeds use echo-location like dolphins and bats. He continued to study hearing and vision in pinnipeds, first at Stanford and later at CSU East Bay where he held a joint appointment in the psychology and biology departments. In 1985, he moved his research program to the Long Marine Lab.

A photo of a sea lion on the cover of World Magazine first sparked Colleen Reichmuth's interest in working for Schusterman at the Long Marine Lab.

"I came all the way from the Midwest to learn more about the research and fell in love with whole program," said Reichmuth, who now directs the research program that Schusterman founded.

A founding and honorary member of the Society for Marine Mammalogy, Schusterman was a fellow of the Animal Behavior Society, Acoustical Society of America, American Psychological Association, American Association for the Advancement of Science and the California Academy of Sciences.

"He was a very intelligent man, a hard worker, and he definitely loved what he did," said Nicole Montez, one of Schusterman's daughters. "He was a great teacher and a dedicated father. He always took the time to take us to cultural and sporting events and of course aquariums and all the different marine parks in the states. I have a lot of great memories."

**SIGHTINGS** compiled by Monterey Bay Whale Watch. For complete listing and updates see [www.gowhales.com/sighting.htm](http://www.gowhales.com/sighting.htm)

<u>Date</u>	<u>#</u>	<u>Type of Animal(s)</u>
2/18	11	Gray Whales
	120	Risso's Dolphins
2/17	9	Gray Whales
2/16	8	Gray Whales
	25	Risso's Dolphins
2/15 p.m.	5	Gray Whales
2/15 a.m.	3	Gray Whales
2/14 p.m.	10	Gray Whales
	445	Risso's Dolphins
2/14 a.m.	2	Gray Whales
	1	Humpback Whale
2/13 p.m.	3	Gray Whales
	850	Risso's Dolphins
2/13 a.m.	9	Gray Whales
	850	Risso's Dolphins
2/13 early a.m.	2	Gray Whales
	25	Risso's Dolphins
2/12 p.m.	6	Gray Whales
	30	Risso's Dolphins
2/12 a.m.	9	Gray Whales
	150	Risso's Dolphins
2/11 p.m.	6	Gray Whales
2/11 a.m.	8	Gray Whales
	45	Risso's Dolphins
2/10 p.m.	3	Gray Whales
	15	Pacific White-sided Dolphins
	400	Long-beaked Common Dolphins
	40	Risso's Dolphins
2/10 a.m.	9	Gray Whales
2/9 p.m.	11	Gray Whales
2/9 a.m.	8	Gray Whales
2/7	1	Gray Whale
	185	Risso's Dolphins
2/6	16	Gray Whales
	200	Risso's Dolphins
2/5 p.m.	3	Gray Whales
	60	Risso's Dolphins
2/5 a.m.	9	Gray Whales
2/4 a.m.	5	Gray Whales
	500	Risso's Dolphins
2/3 p.m.	13	Gray Whales
2/3 a.m.	11	Gray Whales
2/2 p.m.	8	Gray Whales
2/2 a.m.	16	Gray Whales
	125	Risso's Dolphins
2/1	12	Gray Whales
	125	Pacific White-sided Dolphins
	450	Northern Right Whale Dolphins
	8	Killer Whales *

Skipped dates indicate no trip  
\*transient types

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# Soundings



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

APRIL 2010

**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

### ***SPECIAL MEETING DATE***

DATE: THURSDAY, APRIL 15, 2010

TIME: 7:30 PM. **PLEASE JOIN US AT 7:00 FOR REFRESHMENTS**

SPEAKER: THOMAS A. JEFFERSON, PH. D., SOUTHWEST FISHERIES SCIENCE  
CENTER, NOAA FISHERIES SERVICE

TITLE: **VIVA VAQUITA...CAN WE SAVE THE WORLD'S MOST ENDANGERED  
MARINE MAMMAL?**

“The Vaquita is the world’s smallest porpoise and the world’s most endangered cetacean. They live only in the northern reaches of the Gulf of California, Mexico. Scientists estimate that about 150 animals remain. This shy, elusive porpoise is disappearing primarily due to accidental entanglement in fishing nets set for shrimp. Following the loss of the Baiji (Yangtze River Dolphin) in 2006, the Vaquita is the next marine mammal in line for extinction.”\*

Under the leadership of President, Diane Glim, our chapter has championed the cause of the Vaquita. We have co-sponsored a web site: [www.vivavaquita.org](http://www.vivavaquita.org), which was designed by chapter member and vaquita researcher, Tom Kieckhefer. At-large board member Dida Kutz added a merchandising link: !Viva Vaquita La Tienda! to provide a fund raising opportunity, [www.printfection.com/vivavaquita](http://www.printfection.com/vivavaquita).

Additionally, other fund-raising opportunities include board member and renowned sculptor, Randy Puckett’s Vaquita Sculpture and our chapter’s special Vaquita Fund. Randy’s purchase arrangements can include a donation to our chapter to support this conservation effort.

Other chapter members involved in the Viva Vaquita Task Force include Alan and Sheila Baldrige, Maris Sidenstecker and board member Rene Rodriguez. ACS volunteer, Cheryl Butner is now working in Mexico to help save the Vaquita. Anyone is welcome to join the ACS MB VivaVaquitaTF....

In 2008 our speaker spent one month in Mexico photographing vaquitas (*Phocoena sinus*) and came away with the first high-quality images of this species ever taken and his crew showed that photo-identification of individuals is possible with this species. Dr. Jefferson plans to use photo-identification techniques to build-up a long-term catalog of individuals to investigate biological aspects that will aid in its future management and conservation.

After hearing Dr. Jefferson’s presentation last April, our Chapter decided to make a \$1000 grant in September 2009 to support his research on the Vaquita.

Please join us for this important update about the most endangered cetacean in the world. Find out the latest directly from this field investigator who works at the forefront of this conservation effort. Please come out and help make a difference

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## **CALENDAR**

Thru April 24: "World of Fishes" Exhibit at the Pacific Grove Museum of Natural History. Exhibit will showcase diversity and biology of fishes from around the world.

April 10<sup>th</sup> (Sat) 8am-3pm. Sanctuary Currents Symposium: "Voices of Hope: Science and Innovation for the Ocean". Symposium will be held at CSUMB. ACS will be participating and is seeking volunteers. Contact Diane Glim at 646-8743 to volunteer.

April 16-18: Sea Otter Classic bicycle event at Laguna Seca. Viva Vaquita will have a booth to inform participants and spectators about the most endangered cetacean.

April 18 (Sun) 10am-4pm: Earth Day Whale Festival. Leo Carrillo State Park 35000 W. PCH Malibu, CA.

April 27-29: International Sea Turtle Society: 30th Sea Turtle Symposium. Goa, India.

May 17-21: 61st Tuna Conference. Lake Arrowhead, CA. "It's Not About the Catch but the Bycatch".

May 22 (Sat) 8am-4pm. ACS National Humpback Whale Fundraiser Trip will take place on the Condor Express Santa Barbara. For more info and to make reservations call Bernardo Alps at (310) 597-0449

May 29-31 Memorial Day weekend : 2-3 Day Blue Whale Search Aboard the Searcher. Spend 3 days in search of the great blue whale aboard San Diego based natural history boat the Searcher. Trip includes forays to the 9-mile bank and the Coronado Islands. Cost is \$395.00 For more info go to [searcher@bajawhale.com](mailto:searcher@bajawhale.com)

July 24 (Sat): ACS National Blue Whale Trip will take place on the Condor Express based out of Sea Landing in Santa Barbara, CA. Depart at 8am and return at 4pm. For more info and reservations call Bernardo Alps at 310-548-0966

August 25-29: Blue Ocean Film Festival. Monterey, CA. A global Ocean Film and Conservation Event ([www.bluefilmfest.com](http://www.bluefilmfest.com)). More Info To Follow.

August 28, 9am-1pm: ACS Monterey Bay Chapter Summer Whale Watch Fundraiser. Cost-\$50.00 Boat-Sea Wolf 2. Location-Monterey Bay Whale Watch-Fisherman's Wharf, Monterey, CA. Whales of the summer include blue, humpback, fin, minke and killer whales. For more info and reservations call Tony Lorenz at 831-901-7259

Nov.12-14: The American Cetacean Society 12th International Conference will be held in Monterey at the Embassy Suites Hotel and Conference Center. Local Monterey Bay ACS chapter volunteers are needed, and sign-ups will be available at the monthly meetings.

## **SUMMER CLASSES**

### **Point Lobos Summer Adventure 2010**

Session 1 - June 14 thru June 26

Session 2- July 5 thru July 16

Kids 9-15 will learn about sea life, mammals, birds, invertebrates, go hiking, build sand castles and much more. For more info go to [www.pointlobos.org](http://www.pointlobos.org).

### **UCSC Summer Marine Science Courses:**

Biology of Marine Mammals Bio 129

Session Two: July 26-August 27, 2010

Marine Science Illustration SCIC 126

Session Two: July 26-August 27, 2010

### **MLML Summer Marine Mammal Courses**

Classes meet at Moss Landing Marine Lab and will be taught by Dr. Jennifer Hurley Zeligs. For more info contact Dr. Hurley at 831-771-4191.

Session 1: Working with Marine Mammals Bio 348. June 14-20 9:30-5:30 M-F

Session 2: Techniques and Theories of Animal Training Bio 347. June 28-July 4 9:30-5:30 M-F

## OSCAR WINNERS TRY TO KEEP WHALE OFF SUSHI PLATES

By Jennifer Steinhauer March 8, 2010

SANTA MONICA, Calif. — It is sport among black belt sushi eaters here to see just how daring one's palate can be. But even among the squid-chomping, roe-eating and uni-nibbling fans, whale is almost unheard of on the plate. It also happens to be illegal.

Yet with video cameras and tiny microphones, the team behind Sunday's Oscar-winning documentary film "The Cove" orchestrated a Hollywood-meets-Greenpeace-style covert operation to ferret out what the authorities say is illegal whale meat at one of this town's most highly regarded sushi destinations.

Their work, undertaken in large part here last week as the filmmakers gathered for the Academy Awards ceremony, was coordinated with law enforcement officials, who said Monday that they were likely to bring charges against the restaurant, the Hump, for violating federal laws against selling marine mammals.

"We're moving forward rapidly," said Thom Mrozek, a spokesman for the United States attorney for the Central District of California. Mr. Mrozek declined to say what charges could be brought against the restaurant, but said they could come as early as this week.

In the clash of two Southern California cultures — sushi aficionados and hard-core animal lovers — the animal lovers have thrown a hard punch.

"This isn't just about saving whales," said Louie Psihoyos, the director of "The Cove," a documentary that chronicles eco-activists' battles with Japanese officials over dolphin hunting. "But about saving the planet."

The sushi sting actually began in October, when the documentary's associate producer and "director of clandestine operations," Charles Hambleton, heard from friends in the music industry that the Hump, a highly rated sushi restaurant next to the runway at the Santa Monica airport, was serving whale.

Mr. Hambleton, who has worked as a water safety consultant on Hollywood movies like "Pirates of the Caribbean," created a tiny camera for two animal-activist associates to wear during a monster session of omakase — a sushi meal in which the chef picks all the dishes.

Video of their meal shows the two activists, both vegan, being served what the waitress can be

heard calling "whale" — thick pink slices — that they take squeamish bites of before tossing into a Ziploc bag in a purse.

The samples were sent to Scott Baker, associate director of the Marine Mammal Institute at Oregon State University. Professor Baker said DNA testing there revealed that the samples sent to him were from a Sei whale, which are found worldwide and are endangered but are sometimes hunted in the North Pacific under a controversial Japanese scientific program. "I've been doing this for years," Professor Baker said. "I was pretty shocked."

Serving unusual fish imported from Japan is the hallmark of many high-end sushi restaurants here, and whale meat is often found in Japanese markets, Professor Baker said. But he said he had never heard of it being served in an American restaurant.

Workers at the Hump, which according to its Web site is named after an aviation slang term for the Himalayas, directed questions to a lawyer.

"We're going to look into the allegations and try to determine what is true," said the lawyer, Gary Lincenberg, in a telephone interview. "Until we have done that, I don't have any other comment."

Professor Baker contacted the National Oceanic and Atmospheric Administration, a marine conservation unit of the Department of Commerce, which began its own investigation, eventually looping in the United States attorney in Los Angeles.

Mr. Psihoyos's team — a far-flung band of activists who use film making to highlight environmental causes — knew they would be together in Los Angeles for the Oscars, and so sting operations two and three were hatched. On Feb. 28, team members split up between the sushi bar and a restaurant table and ordered sushi and communicated via text message with Mr. Psihoyos, who waited in a car in the parking lot. Mr. Psihoyos served as an electronic envoy between the investigators at the sushi bar, who were witnessing the chopping of fish and whale, and those sitting at a table:

"They're eating blowfish!" read one of the text messages. "Toro and sea urchin, nothing exciting," another said. "Whale coming now!"

Next waiters identified a meaty course of whale, referring to it at times by its Japanese name, kujira, at a cost of \$60, according to a federal affidavit. (The total bill exceeded \$600 for two, with very little sake.)

Last week, several federal agents, including one from the Border Patrol and one who speaks Japanese, joined their team. Once again, the chef and

wait staff more than once identified the meat as whale, the affidavit said, and it may have been obtained from a Mercedes parked behind the restaurant.

Armed with a search warrant, federal officials on Friday went searching for evidence from the restaurant, including marine mammal parts as well as various records and documents. The possession or sale of marine mammals is a violation of the Marine Mammal Protection Act, and can lead to a year in prison and a fine of \$20,000.

Mr. Psihoyos, a former photojournalist who heads a nonprofit through which he makes his films, said that environmental action is more motivating to him than awards.

"Once you become sensitized to these animals you want to save them," he said over breakfast Monday, still bleary from his big Oscar night.

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## **MONTEREY BAY WHALE WATCH FEATURE: WILD KILLER WHALES IN MONTEREY BAY**

By Nancy Black, Marine Biologist and  
owner of Monterey Bay Whale Watch

As an expert marine biologist who has studied Killer Whales in the wild for 23 years, Nancy Black has been interviewed by over 100 different media outlets to respond to the issue of captive Killer Whales and the death of a Killer Whale trainer at Sea World on February 24, 2010. She has prepared this feature story to provide information about wild Killer Whales, with special emphasis on the Killer Whales of Monterey Bay.

I would like to briefly describe the lives of wild Killer Whales in Monterey Bay, off central California. Killer Whales occur year-round in Monterey Bay, although on an unpredictable basis. We can encounter them on our whale watching trips any time of the year, although the peak time for sightings is April and May, when they frequent Monterey Bay to hunt Gray Whale calves.

In addition to Killer Whale sightings, our Monterey Bay Whale Watch trips focus on watching Humpback Whales, Blue Whales, Gray Whales, several dolphin and porpoise species, seals, sea lions, and sea otters. It's not unusual for us to see groups of thousands of dolphins, as Monterey Bay is an extremely nutrient-rich and productive area for a tremendous diversity of marine life. Given this large diversity of marine mammals that feed or migrate through Monterey Bay, Killer Whales frequent this

area to hunt other marine mammals as their natural prey, making Monterey Bay an ideal place for me to conduct my year-round and life-long study of these truly amazing, highly intelligent social mammals.

### TYPES OF KILLER WHALES

Three different eco-types of Killer Whales occur in Monterey Bay: 1) Transient Killer Whales (mammal hunting), 2) Resident Killer Whales (fish eating), and 3) Offshore Killer Whales (feeding on fish, sharks, and squid). Each population type is genetically distinct from the others, and they do not interact among types. They have distinct vocalizations, look physically different to the trained person, exhibit different social groupings and hunting tactics, and specialize on different prey. They may eventually each be considered separate species, as they do not intermix.

### RESIDENT KILLER WHALES VISITING MONTEREY BAY

I was the first to discover that the "resident type" or fish hunting Killer Whales that are normally found in the Pacific Northwest (Southern Residents - J, K, and L pods) traveled all the way to Monterey Bay. Since this first sighting in 2000, we have observed them at least once during the winter on several years since then. These whales are now considered endangered as their preferred food source, Chinook Salmon, has drastically declined and the Killer Whales appear to have expanded their range in search of these fish. All our sightings of these whales are immediately reported to Ken Balcomb at the Center for Whale Research in Friday Harbor, Washington as Ken has been studying this group for over 30 years. See our earlier feature articles about Resident Killer Whales in Monterey Bay in 2000 and again in 2003.

### OFFSHORE KILLER WHALES

Less is known about the Offshore Killer Whales as they are unpredictable in occurrence and we generally observe them during the winter, in large groups of 50 -100 whales. We found that these whales have the longest range movements discovered so far for any Killer Whale population and we have recently co-authored a scientific paper on them. Individual whales identified in Monterey Bay have traveled to southern California and as far north as the Bering Sea in Alaska.



#### TRANSIENT KILLER WHALES

The "transients" or mammal hunting Killer Whales are the type most frequently sighted in Monterey Bay and we have over 130 individual whales in our catalog. The whales seen in Monterey Bay range from southern California to Washington, with a few sighted as far as British Columbia and Alaska. Certain groups are seen more often than others with a home range centered more around Monterey Bay. These whales are famous for hunting Gray Whale calves in Monterey Bay during the spring and our work with these whales has been featured on many nature programs on Television. For one example, see our feature about the National Geographic Explorer TV Program on Killer Whales of Monterey Bay.

We have observed these whales hunting other mammals as well, such as Harbor Seals, Elephant Seals, California Sea Lions, Dall's Porpoise, Harbor Porpoise, Minke Whale, Pacific White-sided Dolphins, Long-beaked Common Dolphins, Risso's Dolphins, and Bottlenose Dolphins.

Monterey Bay is the only place in the world where Killer Whales can be observed in an easily accessible area hunting and feeding on Gray Whales. This is a natural event and although Killer Whales are found throughout the world and are the most widely distributed whale, occurring from both poles to the tropics, and they do hunt large baleen whales in other areas, Monterey Bay is the only place to predictably observe this truly amazing event in nature, a battle among whale species, rivaling any other incredible predation events in nature, such as lions hunting buffalo or elephants, cheetahs chasing down antelopes at high speed, or wolves hunting bison and moose.

#### KILLER WHALE CULTURE

Killer Whales are true predators and are highly intelligent, social mammals living in a

American Cetacean Society- Monterey Bay

matriarchal society (with groups based on adult females and their offspring), exhibit complex communication patterns (similar to a language), and exhibit culture - with hunting strategies and knowledge of where to find prey, time of year to find specific prey and how to hunt different prey species successfully passed on among generations by females to their young. Even the males will generally stay with their mothers through life and mate with different family groups that are not closely related to them but still part of their population type. Females can live up to 80-90 years and males 50-60 years, with males reaching lengths of 30' and 6 tons and females up to 26' and 4 tons.

#### KILLER WHALES HUNTING DOLPHINS IN MONTEREY BAY

As a recent example of the natural life of these incredible animals, I am including photos of a recent event, as it is impossible to describe here all the amazing predation events we have observed over the years. On January 10th of this year (2010) on our whale-watching trip we encountered a group of over 800 long-beaked common dolphins as they were fleeing from a group of eight Killer Whales. The dolphins were flying out of the water at high speed away from the Killer Whales. We passed the dolphins and caught up with the Killer Whales just after they caught a dolphin. When hunting dolphins, Killer Whales often track a distance of a quarter mile or more behind the school without alerting the dolphins to their presence. The Killer Whales are usually spread out over several hundred yards and wait for an opportunity to catch a dolphin by surprise. The whales will try to isolate a dolphin and come from below and often will toss the dolphin in the air by their head or flukes, while the other Killer Whales will all gather and several whales will work together to eventually kill the dolphin.



On our January trip, we arrived just after the Killer Whales caught the dolphin and had begun to feed on it. They spent just over 30 minutes feeding and sharing the prey among the group members before they started to continue on. After they fed on the dolphin, they became very social as they often do after such feeding events. The Killer Whales began to breach and spy-hop, with lots of vocalizations (as they are very quiet vocally before a kill), exhibiting a very excited and high-energy state. It was incredible to observe their social behaviors as they continued this for nearly an hour, possibly a sort of "celebration" after the hunt. After this they continued traveling north and eventually slowed down and spread out again over half a mile. We followed them for several miles into the sunset before we headed back.

Killer Whales don't stay in one area for long, otherwise their prey would move away; instead they range hundreds of miles along the coast and frequent Monterey Bay periodically. Passengers on the trip were completely awestruck to have witnessed such an amazing event and felt it was once in a lifetime opportunity for many.



#### REWARDS OF VIEWING WHALES AND DOLPHINS IN THE WILD

I expressed to everyone that seeing Killer Whales in the wild is so much more rewarding and enriching than watching them in captive "shows" where they are kept in an unnatural and small environment for such highly intelligent social animals. Times have changed and I think many people would prefer to see animals in their natural environment rather than in a captive situation where they are made to perform for crowds of people.

If you have more questions about wild Killer Whales, please send an email or call and I will try to answer your questions. The upcoming months of April and May (best mid April through mid May) are the next best time to view these animals in the wild. Although we don't see the Killer Whales every day – generally several times a week or more – we see humpback whales daily and dolphins at this time as

well. Many people come out with us more than once at this time of year to increase their chances of viewing Killer Whales and have an opportunity to see them hunt Gray Whales.

The humpback whales are also a highlight as they arrive in Monterey Bay to feed on small fish and squid from April through December and Gray Whales migrate through the area from December through May. Several dolphin species occur year-round and are frequently seen on our trips as well.

#### CHEMICAL CONTAMINANTS AND KILLER WHALES

During my research in collaboration with the National Marine Mammal Laboratory (NOAA) I collected small biopsy samples of several different Killer Whales and found that the whales have extremely high levels of chemical contaminants such

as PCB's, DDT's, and flame retardants, all of which can be detrimental to these animals by affecting their reproductive rate and immune system. However, it's hard to prove a direct link from these chemicals to physical effects on

the whales.

The California transients I sampled in Monterey Bay have some of the highest known levels of these chemicals sampled so far for any Killer Whales. Unfortunately, California is a highly populated area and previous dumping and runoff of these chemicals into the oceans has taken place. Although some of these chemicals are banned, flame-retardants are still in use and all of these toxic chemicals do not degrade in the ocean and can linger in the marine environment over many years.

Since Killer Whales are top predators, they bio-accumulate these chemicals from the food chain as it's passed up to higher level prey. The males can never get rid of the chemicals they accumulate but the females pass these chemicals along to their offspring and their first-born whales have the highest levels.

This is something we hope to continue monitoring in the future as well as looking at the survival of calves. In general, calf mortality could be as high as 40% and this could be related to the

chemicals. Although the transients are not currently endangered, the chemical contaminants that are already in the ocean could pose a risk to their population and flame-retardants are still in use, though they are slated to be banned in the near future.



**ABOUT NANCY BLACK AND MONTEREY BAY WHALE WATCH**

Besides leading whale watching trips as captain and marine biologist/naturalist guide, Nancy Black has also been conducting research on these whales for over 20 years and often uses her small research inflatable for this purpose. She has co-authored several research papers on these whales, published and was lead author on the first photo-identification catalog of Killer Whales for California and Mexico (as each whale can be identified by distinct markings on the dorsal fin and saddle patch), provided updated research poster presentations during each Biennial Conference for the Society of Marine Mammalogy, often gives public presentations on Killer Whales (for such organizations as the Monterey Bay National Marine Sanctuary, Monterey Bay Aquarium, American Cetacean Society, Long Beach Aquarium, Long Marine Laboratory/UC Santa Cruz, Point Lobos State Reserve Docents, and others); and her research has been featured on many nature shows (Blue Planet - Discovery Channel; Secret Killer Whales of Monterey Bay - National Geographic; Whale Attack - Animal Planet; Killer Whales/Gray Whales TV Series with Jean Michael Cousteau of Ocean Futures on PBS, and others).

Nancy Black started Monterey Bay Whale Watch because she has a true passion for these animals and wanted to observe and learn more about them year-round in the wild. The Monterey Bay Whale Watch group stands alone as true experts on these animals, therefore providing the highest quality

whale watching trips in the area and U.S., carefully respecting these animals by following all whale watch guidelines.

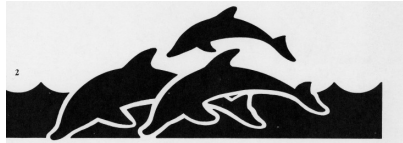
See more photos and links to videos at [www.montereybaywhalewatch.com/features/wildkillerwhales1002.htm](http://www.montereybaywhalewatch.com/features/wildkillerwhales1002.htm)

**SIGHTINGS** compiled by Monterey Bay Whale Watch. For complete listing and updates see [www.gowhales.com/sighting.htm](http://www.gowhales.com/sighting.htm)

Date	#	Type of Animal(s)
3/18 p.m.	9	Gray Whales
3/18 a.m.	3	Killer Whales (transient type)
3/17	5	Gray Whales
3/16 p.m.	20	Gray Whales
3/16 a.m.	5	Killer Whales (transient type)
	16	Gray Whales
	30	Risso's Dolphins
3/15 p.m.	18	Gray Whales
3/15 a.m.	3	Killer Whales (transient type)
	16	Gray Whales
3/14 p.m.	9	Killer Whales (transient type, predation on pinniped)
	7	Harbor Porpoise
3/14 a.m.	12	Gray Whales
	45	Risso's Dolphins
3/12 a.m.	11	Gray Whales
3/11 p.m.	25	Gray Whales
3/11 a.m.	11	Gray Whales
3/7 p.m.	4	Gray Whales
3/7 a.m.	16	Gray Whales
	700	Pacific White-sided Dolphins
	1400	Risso's Dolphins
	450	Northern Right Whale Dolphins
3/6 p.m.	14	Gray Whales
3/6 a.m.	9	Gray Whales
	180	Risso's Dolphins
3/5 p.m.	8	Killer Whales
	4	Gray Whales
3/5 a.m.	14	Gray Whales
3/4 p.m.	6	Gray Whales
3/4 a.m.	8	Gray Whales
3/1 p.m.	12	Gray Whales
	120	Risso's Dolphins
3/1 a.m.	14	Gray Whales
	180	Risso's Dolphins

Skipped dates indicate no trip

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# Soundings



American Cetacean Society- Monterey Bay Chapter  
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MAY 2010

**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, MAY 27<sup>TH</sup>, 2010**

**TIME: 7:30 PM. PLEASE JOIN US AT 7:00 FOR  
REFRESHMENTS**

**SPEAKER Steven K. Webster, Ph. D., Monterey Bay Aquarium**

**Title: Ricketts and Steinbeck in the Sea of Cortez**

The history of the Monterey Peninsula is rich and diverse and the chapters of that history from the 1930s and 1940s are no exception. During that time Ed Ricketts operated Pacific Biological Laboratories and he wrote the seminal work for marine ecology: Between Pacific Tides (1939).

His close friend, John Steinbeck, was also prolific during that time publishing many well known and award winning works. Steinbeck was often able to draw on his “local” experiences in his writing and Ed Ricketts was often a model for characters in these books. Perhaps the most well know characterization of Ed was as Doc Ricketts in Cannery Row (1945).

In 1940 these men went on a very real adventure and expedition, sailing from Monterey to the Sea of Cortez (Gulf of California) aboard the Western Flyer. This trip was recorded in print in 1941 in The Sea of Cortez co-authored by Ricketts and Steinbeck and then again in 1951 in The Log from the Sea of Cortez authored by Steinbeck alone.

Our speaker is well suited to provide inside information and insight about these men and this expedition. Dr. Webster has made Peninsula history himself as one of the founders of the Monterey Bay Aquarium, among many other things. As a scientist, his background as an invertebrate zoologist and ecologist allows him to bring a special perspective to this presentation. He has also logged many experiences in Baja California and the Sea of Cortez himself.

Please join us for what promises to be an informative and entertaining evening about these men, who are still a significant part of the Peninsula’s history, and their journey to the Sea of Cortez.

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## CALENDAR

### Hopkins Marine Station Spring 2010 Lecture

May 14 Barbara Block, Sushi and Satellites: The Science and Policy of Managing Giant Bluefin Tuna

May 21 Julia Baum, National Center for Ecological Analysis and Synthesis  
Shark Attack: Conservation, Ecosystem, and Societal Consequences for Depleting the Oceans Apex Predators

May 28 Wayne Trivelpiece, NOAA Using Adeline Penguins as Sentinels for Climate Change

May 17-21: 61st Tuna Conference. Lake Arrowhead, CA. "It's Not About the Catch but the Bycatch".

May 22 (Sat) 8am-4pm. ACS National Humpback Whale Fundraiser Trip will take place on the Condor Express Santa Barbara. For more info and to make reservations call Bernardo Alps at (310) 597-0449

May 29-31 Memorial Day weekend : 2-3 Day Blue Whale Search Aboard the Searcher. Spend 3 days in search of the great blue whale aboard San Diego based natural history boat the Searcher. Trip includes forays to the 9-mile bank and the Coronado Islands. Cost is \$395.00 For more info go to [searcher@bajawhale.com](mailto:searcher@bajawhale.com)

July 24 (Sat): ACS National Blue Whale Trip will take place on the Condor Express based out of Sea Landing in Santa Barbara, CA. Depart at 8am and return at 4pm. For more info and reservations call Bernardo Alps at 310-548-0966

August 25-29: Blue Ocean Film Festival. Monterey, CA. A global Ocean Film and Conservation Event ([www.bluefilmfest.com](http://www.bluefilmfest.com)). More Info To Follow.

**August 28, 9am-1pm: ACS Monterey Bay Chapter Summer Whale Watch Fundraiser. Cost-\$50 Boat-Sea Wolf 2. Location-Monterey Bay Whale Watch-Fisherman's Wharf, Monterey, CA. Whales of the summer include blue, humpback, fin, minke and killer whales. For more info and reservations call Tony Lorenz at 831-901-7259**

Nov.12-14: The American Cetacean Society 12th International Conference will be held in Monterey at the Embassy Suites Hotel and Conference Center. Local Monterey Bay ACS chapter volunteers are needed, and sign-ups will be available at the monthly meetings.

### SUMMER CLASSES

#### **Point Lobos Summer Adventure 2010**

Session 1 - June 14 thru June 26

Session 2- July 5 thru July 16

Kids 9-15 will learn about sea life, mammals, birds, invertebrates, go hiking, build sand castles and much more. For more info go to [www.pointlobos.org](http://www.pointlobos.org).

#### **UCSC Summer Marine Science Courses:**

Biology of Marine Mammals Bio 129

Session Two: July 26-August 27, 2010

Marine Science Illustration SCIC 126

Session Two: July 26-August 27, 2010

#### **MLML Summer Marine Mammal Courses**

Classes meet at Moss Landing Marine Lab and will be taught by Dr. Jennifer Hurley Zelig. For more info contact Dr. Hurley at 831-771-4191.

Session 1: Working with Marine Mammals  
Bio 348. June 14-20 9:30-5:30 M-F

Session 2: Techniques and Theories of Animal  
Training Bio 347. June 28-July 4 9:30-5:30 M-F

## BOOK RECOMMENDATION

National Geographic Oceans: Official Companion to the Disney Feature Film. Written by Francois Sarano and Stephane Duran.

Fishes of the Open Ocean: A Natural History and Illustrated Guide. Written by Julian Pepperell and Illustrated by Guy Harvey

Natures Ghosts-Confronting Extinction from the Age of Jefferson to the Age of Ecology. Written by Mark V. Barrow, Jr

Recent Mammals of Alaska: 115 species of Alaskan Mammals now for the first time fully documented and catalogued. Written by Stephen O. MacDonald and Joseph A. Cook

DVD-White Shark Café. A film by Sean Aronson  
University of Chicago Press

## **COMMERCE TRUMPS SCIENCE AT CITES, THREATENED SHARKS AND BLUEFIN TUNA STILL AT RISK**

Doha, Qatar - 26 March, 2010 -The 15th meeting of the Conference of the Parties to the Convention on International Trade in Endangered Species (CITES) concluded without providing any trade protections whatsoever for severely depleted Atlantic bluefin tuna and four vulnerable species of sharks – scalloped hammerhead, oceanic white tip, porbeagle and spiny dogfish.

“We cannot continue to empty our oceans without consequence,” said Susan Lieberman, director of international policy for the Pew Environment Group. “The CITES treaty has historically protected species. At this meeting, governments abandoned conservation and chose to protect trade instead. The imperative to safeguard the larger iconic species increases with every catch.”

CITES has listed marine species previously - including seahorses, queen conch, sturgeon and humphead wrasse - although it has traditionally focused more on land-based species including elephants and tigers. This year, however, there were more commercial marine species proposed for protection than at any meeting in the Convention’s 35 years.

The shark fin trade - responsible for the killing up to 73 million sharks annually - and global demand for shark meat continue to threaten scalloped hammerhead, oceanic white tip, porbeagle and spiny dogfish sharks. A CITES Appendix II listing would have required countries exporting shark products to ensure that international trade is legal and would not threaten the survival of those species. While the porbeagle proposal was approved in committee by a single-vote margin, CITES delegates rejected all four proposals by the end of the final plenary session. “Despite fast declining populations of the ocean’s apex predators, CITES government delegates turned a blind eye to science,” said Matt Rand, director of global shark conservation for the Pew Environment Group. “Four threatened species of sharks were refused protections even though the evidence of international trade’s harmful effects

was plentiful. Inaction can and will set these sharks on a course toward total population collapse.”

CITES delegates had the opportunity to prohibit all international trade in bluefin tuna, but they rejected the Appendix I proposal.

Overfishing, illegal fishing and the growing demand for high-end raw bluefin as sushi and sashimi has fueled increased catches, further depleting this shrinking population. CITES received reports that the science is undeniable that the Atlantic bluefin tuna qualifies for the highest level of protection, but the governments voted against the bluefin proposal. In the wake of last week’s failed attempt at CITES to prohibit international trade in bluefin tuna, the Pew Environment Group today will launch a new campaign to protect breeding populations of bluefin in the Gulf of Mexico - the fish’s only known spawning ground in the western Atlantic Ocean.

The Pew Environment Group is the conservation arm of The Pew Charitable Trusts, a non-governmental organization that applies a rigorous, analytical approach to improve public policy, inform the public and stimulate civic life.

---

## **CALIF. GRAY WHALE-WATCHERS FEAR**

### **DIP IN POPULATION BY NOAKI SCHWARTZ**

LOS ANGELES April 11– Gazing past the rolling whitecaps in the middle of San Diego’s whale-watching season, boat captain Bill Reese was dismayed by what he wasn’t seeing.

“Where are the whales?” said Reese. “Where are the whales?”

Long held as an environmental success story after being taken off the endangered list in 1994, California gray whales draw legions of fans into boats or atop cliffs to watch the leviathans lumber down the coast to spawning grounds in Baja.

But whale-watching skippers became alarmed after sightings dropped from 25 a day in good years to five a day this season. Such anecdotal evidence has left conservationists and state officials worried about the whale’s future, especially now.

The federal government's monitoring of the mammals has fallen off in recent years. And the International Whaling Commission in June will consider allowing 1,400 gray whales to be hunted over the next decade.

The decision will rely on a report that says the population is flourishing — a study critics say is spotty and outdated.

"If you count 2,500 animals, all you really know rock solid for sure is there are more than 2,500. Beyond that you're using models and assumptions," said Stanford University marine biology professor Steve Palumbi. "The problem comes when you say, 'We do know how many whales there are and we're going to start making unalterable management decisions on that basis.'"

The study draws on annual population estimates dating from 1967, but in the past decade only three census counts have been released, the most recent in 2006.

Since then, the estimated number of calves has plunged from more than 1,000 in 2006 to 312 in 2009. In addition, the species suffered a die-off of several thousand whales in 2000.

"You can't set specific quotas for 10 years based on 2006 data," said Sara Wan, a California Gray Whale Coalition member who is also a state coastal commissioner. "It's irresponsible."

In January, the California Coastal Commission pressed the National Oceanic and Atmospheric Administration for an updated gray whale study. The count is done but the analysis won't be finished until long after the whaling commission's decision.

NOAA scientists say their population estimates are reliable because the numbers have remained relatively consistent over time. They say the drop in calf numbers may reflect nature thinning out the herd.

The population is still more than double what it was in the 1960s and has been fairly stable of the past couple decades, said Paul Wade,

one of the study's co-authors and a member of the commission's scientific committee.

"If it truly does go into an important decline, it's not going to happen overnight. We're going to see it," he said.

The gray whale's success has created a complex dynamic for NOAA researchers, who recently have focused on more threatened, less charismatic whales such as the North Atlantic Right whales, whose population may be as low as 30.

Over the years, scientists have been able to do a great amount of research on gray whales because they are so accessible and popular with the public. Any indication of trouble galvanizes countless fans.

"Gray whales are our pets, they're in our

backyard," said David Rugh, a NOAA biologist who oversaw gray whale counts for years. "Of course we have a concern about them going through so many environments from Mexico to the Arctic but there are other species out



there that we're also concerned about."

Gray whales migrate thousands of miles each fall from Alaska to Baja, then back north between February and May. They spend summers in the Bering Sea and Arctic.

Biologists sit in a little stand on California's central coast, counting adult whales as they swim south. Calves are counted as the whales make the return trip north. The counts are used to extrapolate overall population and monitor reproduction.

When gray whales were listed as endangered in 1970, an estimated 12,000 remained. A moratorium on commercial hunting and close monitoring helped the population rebound to more than 20,000.

Deemed recovered, the whales only needed to be monitored every five years, instead of annually, and there was no longer dedicated

funding for the whale, which cost about \$170,000 a season to count.

The 2006 count yielded about 2,500 whales, leading researchers to calculate about 20,000 whales total. The most recent calf count of 2009, however, revealed the fewest since 2001.

"These are troubling numbers," said Randy Reeves, chair of the Cetacean specialist group of the International Union for the Conservation of Nature. "If they're being reinforced by comments from whale watching guys, then it gets that much more troubling."

Wayne Perryman, who oversees NOAA gray whale counts, said he believes there is a correlation between lower reproduction rates and colder winters when lingering ice blocks whales from getting to feeding grounds. He also does not see reason to panic.

"I think it's like in a room when someone yells 'fire!'" Perryman said.

The whaling commission allows the Russian Chukotka people and the Makah Indian tribe in Washington to hunt 140 gray whales per year. While they typically revisit the issue every five years, the panel is considering limits through 2020.

Douglas DeMaster, the U.S. delegation's deputy commissioner, the number is about half of 1 percent of the current estimated population.

"This is a very conservative number and provides subsistence needs to aboriginals," he said.

But Liz Alter, a marine biologist with the Natural Resources Defense Council, said, "Given that we have very little ability to predict what climate change, ocean acidification and other threats will mean to the whale population for the coming years, it seems reckless to me to set catch limits for that length of time."

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## U.S. LEADS NEW BID TO PHASE OUT WHALE HUNTING

BY JOHN M. BRODER

WASHINGTON — The United States is leading an effort by a handful of anti-whaling nations to broker an agreement that would limit and ultimately end whale hunting by Japan, Norway and Iceland, according to people involved with the negotiations.

The compromise deal, which has generated intense controversy within the 88-nation International Whaling Commission and among anti-whaling activists, would allow the three whaling countries to continue hunting whales for the next 10 years, although in reduced numbers.

In exchange, the whaling nations — which have long exploited loopholes in an international treaty that aims to preserve the marine mammals — would agree to stricter monitoring of their operations, including the placing of tracking devices and international monitors on all whaling ships and participation in a whale DNA registry to track global trade in whale products.

Officials involved in the negotiations expressed tentative hope that they could reach an agreement in coming weeks. But ratification by the overall group remains uncertain.

"This is one of the toughest negotiations I've been involved in in 38 years," said Cristián Maquieira, the veteran Chilean diplomat who is the chairman of the commission. "If this initiative fails now, it means going back to years of acrimony."

Some pro-whale activists say the deal would grant international approval for the continued slaughter of thousands of minke, sei and Bryde's whales. They also say that the agreement does not prevent Japan and the other nations from resuming unlimited whaling once the 10-year period is up.

"From our point of view, it's a whaler's wish list," said Patrick R. Ramage, global whale program director at the International Fund for Animal Welfare. "It would overturn the '86 moratorium, eviscerate the South Ocean Whale Sanctuary, subordinate science and I.W.C. precedent to reward countries that have refused to comply by allocating quotas to those three countries."

"Rather than negotiate a treaty that brings commercial whaling to an end," he concluded, "they have created a system under which it will continue."

But Monica Medina, the No. 2 official at the National Oceanic and Atmospheric

Administration and the American delegate to the whaling body, said that Mr. Ramage and other critics were demanding a complete halt to whaling, an impossible goal, at least today.

“We can’t stop it; we can only try to control it,” Ms. Medina said in an interview.

“If we can prevent thousands of whales from being hunted and killed, that’s a real conservation benefit. This proposal would not only help whales, we hope, but also introduce rigorous oversight, halt the illegal trade in whale meat and bring respect for international law back to the I.W.C.,” she added. “Are we there yet? We’re not, and we have hard negotiations to go yet.”

Despite a 1986 international moratorium on commercial whaling, the numbers of whales killed annually has been rising steadily, to nearly 1,700 last year from 300 in 1990, as the three whaling nations have either opted out of the treaty or claimed to be taking whales only for legitimate scientific study. Most of the meat from the slaughtered whales is consumed in those three countries, although there appears to be a growing international black market in whale products.

Some officials warn that if this effort at compromise fails, the commission’s efforts to police whale hunting, long crippled by irreconcilable political divisions, will collapse.

“The I.W.C. is a mess. It’s a dysfunctional international organization,” said Sir Geoffrey Palmer, a former prime minister of New Zealand and chairman of the I.W.C. group trying to negotiate a deal. “I think this is probably the last chance the I.W.C. has to cure itself.”

Representatives to the whaling commission from more than a dozen nations — including the three whaling countries and New Zealand, Australia, Chile and other nations backing the compromise proposal — are in Washington this week to negotiate terms of the agreement, which would protect as many as 5,000 whales from hunting over the next decade, officials said. They said they hoped that the reduced hunt would give whale stocks time to recover and give negotiators time to write a new treaty that would bring an effective international ban on all commercial whaling.

The group plans to release a new draft of the compromise proposal next week, but it still must win the approval of three-quarters of the members of the whaling commission at its annual meeting in Agadir, Morocco, in late June.

The Japanese, who killed 1,001 whales last year, are the linchpin of any deal. Although the Japanese taste for whale meat is steadily declining, the Japanese see their ability to continue to hunt whales, not only in their coastal waters but in the open ocean around Antarctica, as a question of sovereignty. Critics say that the practice survives only with heavy government subsidies. But a single whale can bring as much as \$100,000 in Japanese fish markets. Japan is driving a hard bargain to demonstrate strength at home and perhaps to use as leverage in other international negotiations, officials involved in the talks said.

Joji Morishita, a senior official of the Japan Fisheries Agency and Tokyo’s representative to the whaling talks, said in a brief telephone interview that he was not authorized to discuss his country’s negotiating position. But he confirmed that Japan was at least willing to talk about a new whaling program that may result in a substantial reduction in its whale harvest over the next decade.

“We are fully engaged in this process,” he said.

Populations of some whale species have been growing since the moratorium ended decades of uncontrolled hunting, but whales around the world remain under threat, not only from hunting but also from ship strikes, pollution, habitat loss, climate change and entanglement in fishing nets.

Under terms of the compromise deal, which is being negotiated behind closed doors and remains subject to major changes, the three whaling nations agree to cut roughly in half their annual whale harvest. That would result in the saving of more than 5,000 whales over the next 10 years, compared with continued whaling at current levels.

The deal also proposes that no new countries be permitted to take whales, whale-watching ships would be monitored by the

whaling commission and all international trade in whale products be banned.

In addition, whalers would have to report the time of death and means of killing of all whales and provide DNA samples to a central registry to help track the end use of the dead animals.

Limited subsistence whaling by indigenous peoples in the United States, Greenland, Russia and St. Vincent and the Grenadines would be allowed to continue.

“Our goal is a significant reduction in the number of whales killed, but some limited whaling will be authorized as a price for that,” said Mr. Maquieira, the whaling commission chairman. “This is highly controversial and very difficult. I would prefer something different, but there is nothing out there.”

**SIGHTINGS** compiled by Monterey Bay Whale Watch. For complete listing and updates see [www.gowhales.com/sighting.htm](http://www.gowhales.com/sighting.htm)

Date	#	Type of Animal(s)
4/23	23	Killer Whales (transient type)
	700	Long-beaked Common Dolphins
	200	Northern Right Whale Dolphins
4/22	2	"Friendly" Humpback Whales
	1	Minke Whale
	20	Pacific White-sided Dolphins
	80	Risso's Dolphins
4/19	5	Humpback Whales
	400	Risso's Dolphins
4/19	1	Gray Whale
	300	Risso's Dolphins
4/18	2	Humpback Whales
	75	Pacific White-sided Dolphins
	700	Risso's Dolphins
	8	Killer Whales (transient type) *
4/18	7	Killer Whales (transient type)
	1	Humpback Whale
	35	Pacific White-sided Dolphins
	80	Risso's Dolphins
4/17	2	Humpback Whales
	30	Risso's Dolphins
4/17	1	Humpback Whale
	600	Pacific White-sided Dolphins

	80	Risso's Dolphins
	50	Northern Right Whale Dolphins
	15	Harbor Porpoise
4/16	1	Humpback Whale
4/16	2	Gray Whales
	2	Humpback Whales
4/15	3	Gray Whales
	5	Dall's Porpoise
4/15	3	Gray Whales
	6	Killer Whales *
4/14	5	Gray Whales
	50	Pacific White-sided Dolphins
	150	Risso's Dolphins
4/14	12	Killer Whales* (transient type)
4/13	1	Gray Whale
4/13	70	Pacific White-sided Dolphins
	60	Risso's Dolphins
4/9	3	Gray Whales
4/7	1	Humpback Whale
4/7	4	Gray Whales
4/6	2	Humpback Whales
4/6	2	Humpback Whales
	15	Risso's Dolphins
4/5	3	Gray Whales
	20	Risso's Dolphins
4/5	5	Gray Whales
4/3	1	Humpback Whale
4/3	3	Gray Whales
	2	Bottlenose Dolphins
4/3	1300	Pacific White-sided Dolphins
	300	Northern Right Whale Dolphins
4/2	6	Gray Whales
4/2	2	Gray Whales
4/1	40	Pacific White-sided Dolphins
	400	Risso's Dolphins
	50	Northern Right Whale Dolphins
4/1	5	Gray Whales
	700	Pacific White-sided Dolphins
	200	Northern Right Whale Dolphins

\* transient type Killer Whale  
Skipped dates indicate no trip

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[tonylorenz@bigbluebay.com](mailto:tonylorenz@bigbluebay.com)



# Soundings



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

JUNE 2010

**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, MAY 27<sup>TH</sup>, 2010**

**TIME: 7:30 PM. PLEASE JOIN US AT 7:00 FOR REFRESHMENTS**

**SPEAKER Brandon Southall, Ph. D., Southall Environmental Associates  
(SEA) Inc. and UCSC, Principal Investigator: SOCAL-10**

**Title: Integrating Biological, Bioacoustic and Behavioral Response  
Studies of Marine Mammals in southern California**

Marine mammals around the world, including along the U.S. west coast, face many challenges due to interactions with people, from overfishing and entanglement to vessel strikes and disturbance from human sounds. Most of these issues remain poorly known and

carefully conducted science is needed to better manage and protect marine animals.

SOCAL-10 is a research project integrated with ongoing studies of basic diving, foraging, social behavior, and sound production of marine mammals in important biological areas near southern California. It extends previous studies and is being integrated with international research efforts investigating whether and how animals change their behavior when they hear different sounds.

SOCAL-10 is an interdisciplinary collaboration of experts in marine mammal biology and behavior with extensive field experience in safely and ethically measuring responses to controlled sound exposures. This project will take place during August and September 2010 in coastal areas from San Diego to Santa Barbara and the Channel Islands, as well as an offshore area on and around the U.S. Navy's training range near San Clemente Island.

This presentation presents a special opportunity for our Chapter and Monthly Meeting Attendees to comment on research that is intended to induce behavioral responses, but with protective shut-down measures, in marine mammals in order to better understand and protect them. Dr. Southall, Principal Investigator on SOCAL-10, has sought out the best ways to get feedback from the public segment interested in marine conservation before the research has begun and will listen closely to our questions and concerns.

Please join us for what promises to be a special opportunity to learn about the efforts being made to study the effect of anthropogenic noise in the marine environment. This will also be a great opportunity to discuss the goals, experimental design, and safety measures proposed for the project with the SOCAL-10 Principal Investigator, before field work begins. Additional information, including a public summary of the project and some frequently asked questions, may be found at: <http://www.sea-inc.net/SOCAL10>.

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## CALENDAR

July 14 (Sat): Monterey Bay Chapter Annual Indian Village, Summer BBQ Indian Village, Pebble Beach. For reservations and information please call Diane Glim at 831-646-8743 or Check ACS Monterey Bay Website For More Info. BBQ Is Set For 5:00pm

July 24 (Sat): ACS National Blue Whale Trip will take place on the Condor Express based out of Sea Landing in Santa Barbara, CA. Depart at 8am and return at 4pm. For more info and reservations call Bernardo Alps at 310-548-0966

August 14: ACS National Blue Whale Trip will take place on the Condor Express based out of Sea Landing in Santa Barbara, CA. Trip departs at 8:00am and returns at 4:00pm. For more info and reservations please call Bernardo Alps at 310-597-0449

August 25-29: Blue Ocean Film Festival. Monterey, CA. A global Ocean Film and Conservation Event ([www.bluefilmfest.com](http://www.bluefilmfest.com)). Festival Speakers and Film Makers Include Dr. Sylvia Earl, Howard and Michele Hall, David Doubilet, Jean Michel Cousteau.

**August 28, 9am-1pm: ACS Monterey Bay Chapter Summer Whale Watch Fundraiser. Cost-\$50.00 Boat-Sea Wolf 2. Location-Monterey Bay Whale Watch-Fisherman's Wharf, Monterey, CA. Whales of the summer include blue, humpback, fin, minke and killer whales. For more info and reservations call Tony Lorenz at 831-901-7259**

Nov.12-14: The American Cetacean Society 12th International Conference will be held in Monterey at the Embassy Suites Hotel and Conference Center. Speakers include Richard Ellis, John Calambokidis, Thomas Jefferson, Bernd Wursig, and Robin Baird. The conference will also include two whale watch trips, kayaking along Cannery Row, a Point Lobos interpretive

hike and a marine life photo contest. For a full schedule and prices please go to [acsonline.org](http://acsonline.org). Local Monterey Bay ACS chapter volunteers are needed, and sign-ups will be available at the monthly meetings.

### SUMMER CLASSES

#### **Point Lobos Summer Adventure 2010**

Session 1 - June 14 thru June 26

Session 2- July 5 thru July 16

Kids 9-15 will learn about sea life, mammals, birds, invertebrates, go hiking, build sand castles and much more. For more info go to [www.pointlobos.org](http://www.pointlobos.org).

#### **UCSC Summer Marine Science Courses:**

Biology of Marine Mammals Bio 129

Session Two: July 26-August 27, 2010

Marine Science Illustration SCIC 126

Session Two: July 26-August 27, 2010

#### **MLML Summer Marine Mammal Courses**

Classes meet at Moss Landing Marine Lab and will be taught by Dr. Jennifer Hurley Zeligs. For more info contact Dr. Hurley at 831-771-4191.

Session 1: Working with Marine Mammals

Bio 348. June 14-20 9:30-5:30 M-F

Session 2: Techniques and Theories of Animal

Training Bio 347. June 28-July 4 9:30-5:30 M-F

## BOOK RECOMMENDATION

For Young Readers:

Charles and Emma- The Darwins' Leap of Faith

by Deborah Heiligman.

National Book Award Finalist

Anthill by Edward O. Wilson

Winner of the Pulitzer Prize

Kenneth S. Norris, Naturalist, Cetologist and

Conservationist 1924-1998-2010 UC Press

Introduction to California's Beaches and Coast

by Gary Griggs 2010 UC Press

Leopold's Shack and Rickett's Lab

The Emergence of Environmentalism

**"HUMAN RIGHTS" URGED FOR WHALES AND DOLPHINS**

Oslo - Whales and dolphins should get "human rights" to life and liberty because of mounting evidence of their intelligence, a group of conservationists and experts in philosophy, law and ethics said on Sunday.

Japan, Norway and Iceland, the main whaling nations, oppose such arguments that would outlaw hunting or even keeping the mammals in marine parks. They have long said there is no real evidence that they are smarter, for instance, than cows or pigs.

Participants at a University of Helsinki conference said ever more studies show the giant marine mammals have human-like self-awareness, an ability to communicate and organise complex societies, making them similar to some great apes.

"We affirm that all cetaceans as persons have the right to life, liberty and wellbeing," they said in a declaration after a two-day meeting led by the Whale and Dolphin Conservation Society (WDCS).

Thomas White, director of the Center for Ethics and Business at Loyola Marymount University in California who was at the Helsinki talks, said dolphins can recognise themselves in a mirror, an ability rare in mammals that humans only acquire at about 18 months of age.

"Whaling is ethically unacceptable," he told Reuters. "They have a sense of self that we used to think that only human beings have."

Hal Whitehead, a biology professor at Dalhousie University in Canada and an expert on deep-water whales, said there was more evidence that whales have human-like culture.

He said that sperm whales have sonars to find fish that are so powerful that they could permanently deafen others nearby if used at full blast. Yet the whales do not use sonars as weapons, showing what Whitehead called a human-like "sense of morality".

"It's like a group of human hunters armed with guns," he told Reuters. "There's a clear sense of how the sonar can be used."

Nations in the International Whaling Commission will debate a proposal to approve limited hunts for 10 years by the main whaling nations at a meeting next month, relaxing a 1986 moratorium imposed after many species came close to extinction.

"We want a shift to putting the individual at the centre of conservation," said Nicholas Entrup, of the WDCS.

That would mean giving minke whales, relatively plentiful and most often hunted, the same protection as endangered northern right whales.

But one expert biologist, who was not at the conference, said many researchers had wrongly concluded that whales and dolphins were smart because they have big brains.

"There's nothing to separate them from other mammals - seals, lions or tigers," Paul Manger of Johannesburg's University of Witwatersrand, told Reuters. They had evolved big brains largely to keep warm in the chill waters.

Saying whales were not especially bright was not the same as advocating hunts, he said.

"We protect fish stocks even though no one argues that they are intelligent," he said. -

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**OIL SPILL COULD WIPE OUT GULF'S SPERM WHALES**

Washington, May 22 (ANI): Experts say that the death of even three sperm whales could entirely deplete their population in the Gulf.

If the Gulf of Mexico oil spill kills just three sperm whales, it could seriously endanger the long-term survival of the Gulf's native whale population, according to the scientists.

Sperm whales are considered endangered under the U.S. Endangered Species Act, but the Gulf of Mexico population is considered especially vulnerable due to its relatively small size.

A 2009 stock assessment report by the National Oceanic and Atmospheric Administration (NOAA) estimated that the potential biological removal, or PBR, level for the Gulf of Mexico sperm whale population is three.

That means if in addition to natural deaths, three sperm whales a year are killed or removed by human causes, it could wipe out their population permanently.

Even the loss of a handful of whales could be disastrous because sperm whales – especially females – take a long time to mature sexually, and don't give birth to more than two or three calves in their whole lifetime.

'As soon as we get to the level of three deaths caused by human interaction—and this would include the oil spill—that would jeopardize that particular sperm whale population.'

The sperm whale can be affected in 3 ways – by taking in toxins when they come up to surface to breathe, by inhaling poisonous fumes that can knock them unconscious and cause them to drown, and the last – the oil can taint the toothed whales' prey—fish and squid—affecting the whales' diets and hurting their chances of raising healthy calves.

Previous studies have shown that at least some of the Gulf of Mexico sperm whales are known to hang around where the Deepwater Horizon oil rig was located before it exploded on April 20, triggering the spill.

'Between 2000 and 2005, about 300 [sperm] whales were seen on a consistent basis right in that area,' National Geographic News quoted Texas Tech's Godard-Codding as saying.

'That would be the most likely way we would detect dead sperm whales.'

---

#### **RESEARCH: EVOLUTION OF WHALE SIZE LINK TO DIET: 'A HUGE SIZE VARIATION IN CETACEANS'**

DAVIS, CA May 20, 2010 -- The wide range of body sizes among whales arose early in their evolution and was associated with changes in diet, according to a new study by researchers at UC Davis and UCLA. The study appears in today's (May 20) issue of the journal *Proceedings of the Royal Society B*.

There's a huge size variation in cetaceans," said Samantha Price, a postdoctoral researcher at the UC Davis Department of Evolution and Ecology and co-first author on the

paper. They range from dolphins and porpoises to the largest animal that has ever lived, the blue whale.

Modern whales appeared in the oceans about 30 million years ago, after a more ancient group of whale species became extinct. But scientists do not know whether modern whales evolved fairly rapidly, becoming diverse in size as they adapted to new ecological niches, or if the differences between groups appeared more gradually over time.

Price, then a researcher at the National Evolutionary Synthesis Center at Duke University, and co-authors Graham Slater, Francesco Santini and Michael Alfaro at UCLA constructed a "family tree" for whales based on genetic data, and used it to understand how the traits of diet and size evolved.

Fish-eaters, mainly dolphins and porpoises, tend to be small. Whales that feed on squid are larger, probably because they need to make long, deep dives to catch their prey, Price said. Plankton-feeding whales, such as the blue whale, are the largest of all. These differences hold up within groups -- dolphin species that eat squid are bigger than those that eat fish. Orcas are something of an outlier, as they eat a lot of fish but are large; but they also eat mammals such as seals and sea lions, Price noted.

A model of whale evolution that makes size dependent on diet gave the best fit to the data, Price said.

The work was supported by the National Science Foundation.

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#### **SCIENTISTS STUNNED AS GREY WHALE SIGHTED OFF ISRAEL**

May 12, 2010 - The appearance of a grey whale off the coast of Israel has stunned scientists, in what was thought to be the first time the giant mammal has been seen outside the Pacific in several hundred years.

The whale, which was first sighted off Herzliya in central Israel on Saturday, is believed to have travelled thousands of miles from the north Pacific after losing its way in search of food.

"It's an unbelievable event which has been described as one of the most important whale sightings ever," said Dr Aviad Scheinin, chairman of the Israel Marine Mammal Research and Assistance Center which identified the creature.

A population of grey whales once inhabited the north Atlantic but became extinct in the 17th or 18th centuries and has not been seen there since.

The remaining colonies live in the western and eastern sectors of the north Pacific.

"What has amazed the entire marine mammal research community is there haven't been any grey whales in the Atlantic since the 18th century," he said. Scheinin said the creature, a mature whale measuring some 12 metres (39 feet) and weighing around 20 tonnes, probably reached the Atlantic through the Northwest Passage, an Arctic sea route that connects the Pacific and Atlantic oceans and is normally covered with ice.

"Here you have an animal that is supposed to live in the Pacific and because the ice in the Arctic is melting, it managed to get through this corridor near the Bering Strait," Scheinin told AFP.

The population which lives in the northeastern Pacific normally migrates southwards in around October, heading for warmer waters around the Gulf of California in a huge round trip of at least 5,000 miles (8,000 kilometres).

So when autumn came, this particular grey whale began travelling south, keeping the land mass on the left and heading for the Californian Gulf with the aim of "turning left" into the bay.

But instead, it reached Gibraltar and turned left into the Mediterranean and ended up off the shores of Israel, Scheinin said.

"The question now is: are we going to see the re-colonisation of the Atlantic?" he said. "This is very important ecologically because of the change of habitat. It emphasises the climate change that we are going through."

So far, the whale seems to be happy enough in the waters off the shores of Israel, he said.

"It is pretty thin, which indicates the trip was quite harsh, but we think it can survive here," he said. "Grey whales are very generalist in what they feed on."

Now experts are mulling the possibility of tracking the whale by satellite - a costly operation that would need outside funding and expertise, Scheinin said.

"It's quite a big operation to do this. If it stays around here for the next month, it's worth having someone come in and do this professionally," he said.

"It will be interesting to see where it goes and to follow it."

---

### **CANCER KILLS MANY SEA LIONS, AND ITS CAUSE REMAINS A MYSTERY**

By Ingfei Chen March 4, 2010 - For 14 years, since they first reported that a disturbing proportion of deaths among rescued California sea lions were caused by metastatic cancer, researchers have been trying to pinpoint the source of the illness.

In 1996, Dr. Frances Gulland, the director of veterinary science at the Marine Mammal Center in Sausalito, and colleagues at the University of California, Davis, found that a striking 18 percent of deaths in stranded adult sea lions were the result of tumors in the reproductive and urinary tracts.

"It's such an aggressive cancer, and it's so unusual to see such a high prevalence of cancer in a wild population," Dr. Gulland said. "That suggests that there's some carcinogen in the ocean that could be affecting these animals."

The center has not observed the same syndrome in other seals.

Years of study have led researchers to think the answer lies not with any one culprit, but with several. Their research has added to a body of evidence concerning industrial contaminants in the ocean and their effects on the health of its inhabitants.

Sea lions have had to cope with a variety of challenges lately. There was the animals' mass exit from Pier 39 in San Francisco late last year, which experts suspect was driven by a hunt for a better food supply. Also in 2009, the Sausalito

mammal center had an unusually busy year. It took in a record 1,370 sick and injured California sea lions, and doctors found major problems in many, including malnutrition, parasitic diseases and bacterial kidney infections. Some had brain seizures from a toxic algae poisoning.

But the cancers are what Dr. Gulland found most worrisome.

One day last month, a volunteer rescue crew netted an ailing sea lion stranded on Stinson Beach and drove back to the hospital, which was newly rebuilt and reopened last summer. The thin, lethargic 200-pound young adult male had paralysis in its genital area and in its swollen hind flippers, clear signs of cancer.

"It's pretty distressing to see," Dr. Gulland said.

The veterinary team had to euthanize the animal. A post-mortem examination revealed not only cancer in the penis, but also tumors riddling the lymph nodes, lower spine, kidneys, liver and lungs. The disease typically starts around the penis in males and the cervix in females, then spreads. In an average year, the Marine Mammal Center sees 15 to 20 California sea lions with cancer.

The center always performs a post-mortem dissection. That work is "really what tells us about health trends in the ocean," Dr. Gulland said.

The nonprofit center is one of the two biggest marine mammal rescue-and-rehabilitation facilities in the world — the other is in the Netherlands — dedicated to researching the health troubles of the animals it finds, said Dr. Sylvain De Guise, a veterinary scientist at the University of Connecticut.

Members of the medical staff in Sausalito, Dr. De Guise said, "have been pioneers at going beyond treating one individual at a time and releasing it, and have tried to understand the bigger picture, the causes and consequences."

Ordinarily, veterinary experts do not see much cancer in wild animals, but there has been little monitoring for the disease. Recently, however, cancer has emerged as a key concern for some endangered species, including green sea turtles, Attwater's prairie chickens and

Tasmanian devils, said Denise McAloose, a veterinary pathologist at the Wildlife Conservation Society in New York City.

In addition, about 18 percent of dead, stranded beluga whales in the St. Lawrence River estuary in Canada were found to have intestinal tumors or other cancers, which have been linked to industrial pollutants.

No one knows how much of the general California sea lion population has tumors, or if the current rate is higher than before. No diagnostic test for the disease exists, said Dr. Robert DeLong, a research biologist at the National Marine Mammal Laboratory in Seattle who has participated in the cancer studies.

In his field observations among a colony of 100,000 animals in the Channel Islands — the birthplace for most California sea lions that travel the state's coast — Dr. DeLong said he saw two to five sea lions a year with huge advanced tumors.

When Dr. Gulland and Dr. Linda Lowenstine, a veterinary pathologist at the University of California, Davis, began investigating the cancer mystery, the obvious suspect was environmental contaminants. The Channel Islands lie off the Southern California Bight, where, from the late 1940s until the early 1970s, manufacturing companies discharged millions of pounds of DDTs and PCBs into the sea. Cleanup continues, but the chemicals linger.

But if those chemicals are solely to blame, the researchers asked, why was cancer originating mainly in the uro-genital tract, and not in the kidney or liver, as one would expect?

"That didn't really fit," Dr. Lowenstine said.

But, in examining sea lion tumor cells with an electron microscope, Dr. Lowenstine noticed what looked like viral particles. And indeed, in a major discovery in 2000, a different team of researchers in Washington, D.C., identified a herpesvirus in the sea lions, a close relative of the human herpesvirus that fosters Kaposi's skin cancer lesions in AIDS patients. Recent studies by the California researchers have shown that the sea lion virus likes to live in the reproductive tract and, among adults, is twice as

common in males — infecting 45 percent of them — as in females.

But environmental contaminants are not off the hook. Because it takes several “hits” of environmental or genetic damage to turn a healthy cell into cancerous one, the researchers speculated that the virus and chemicals could be interacting to trigger tumors.

Sea lions accumulate high concentrations of PCBs and DDTs in their blubber from eating contaminated fish; mothers also pass the compounds to babies. An analysis by the California researchers and experts at the Northwest Fisheries Science Center in Seattle found that animals with higher blubber PCB concentrations were more likely to have died of cancer.

“PCBs are notorious for two different things,” Dr. Lowenstine said. They can suppress the immune system, which may increase a sea lion’s vulnerability to the herpesvirus infection, but they also have estrogen-like hormonal effects.

In research published last summer, Dr. Lowenstine and Dr. Gulland and their associates began exploring the possibility that the contaminants interact with hormone receptors in the reproductive tract of sea lions to help promote cancer.

Meanwhile, a third piece of the puzzle is genetics. Another study revealed that animals with cancer are more inbred than those without it, so bad genes are probably also at work.

But proving cause and effect in the cancer mystery is difficult, the investigators said, especially given that experiments cannot be done on sea lions, which are federally protected.

“We don’t have all the answers by any means,” Dr. Lowenstine said. But the scientists are now mapping out a large study of 300 sea lions to study which of the three prime suspects — virus, PCBs or genetics — is most strongly tied to cancer.

To the California investigators, sea lion cancer is further evidence that what people do on land directly influences what happens to marine mammals in the ocean. And what makes them sick might affect us, too.

“Sea lions do eat a lot of the same things we do,” Dr. Gulland said. “So we really should start paying attention to what we’re putting into the oceans.”

**SIGHTINGS** compiled by Monterey Bay Whale Watch. For complete listing and updates see [www.gowhales.com/sighting.htm](http://www.gowhales.com/sighting.htm)

<u>Date</u>	<u>#</u>	<u>Type of Animal(s)</u>
5/30 p.m.	4	Humpback Whales
5/30 a.m.	8	Killer Whales (transient type)
	3	Humpback Whales
	150	Pacific White-sided Dolphins
	20	Risso's Dolphins
5/29	15	Humpback Whales
	85	Pacific White-sided Dolphins
	40	Risso's Dolphins
5/28 p.m.	12	Humpback Whales
5/28 a.m.	35	Humpback Whales
5/27	6	Humpback Whales
	20	Pacific White-sided Dolphins
5/26 p.m.	2	Humpback Whales
	25	Risso's Dolphins
5/26 a.m.	4	Humpback Whales
	55	Risso's Dolphins
5/25	4	Humpback Whales
	75	Risso's Dolphins
	9	Dall's Porpoise
	3	Harbor Porpoise
5/24 p.m.	2	Humpback Whales
	200	Risso's Dolphins
5/24 a.m.	1	Humpback Whale
	2300	Pacific White-sided Dolphins
	200	Risso's Dolphins
	2500	Northern Right Whale Dolphins
5/22	1	Humpback Whale, poor weather
5/20	2	Humpback Whales
	350	Pacific White-sided Dolphins
	60	Risso's Dolphins
	100	Northern Right Whale Dolphins
5/19 p.m.	4	Humpback Whales
	350	Pacific White-sided Dolphins
	2500	Risso's Dolphins
	200	Northern Right Whale Dolphins
5/19 a.m.	5	Humpback Whales
	300	Pacific White-sided Dolphins
	2000	Risso's Dolphins
	200	Northern Right Whale Dolphins
5/18 p.m.	7	Humpback Whales
	50	Pacific White-sided Dolphins
	300	Risso's Dolphins

Skipped dates indicate no trip

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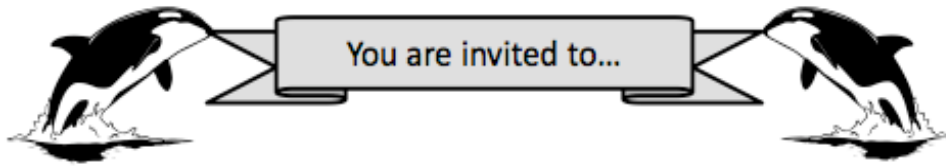


# Soundings



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

JULY 2010



The American Cetacean Society, Monterey Bay Chapter  
Annual BBQ!

When? Saturday, July 10, 2010 at 5:00 P.M.

Where? Indian Village, Pebble Beach

Honoring Steven K. Webster, Ph.D.



\$15 per person

Send payment to: ACS, P.O. Box HE, PG, 93950 by July 7  
Call Diane Glim at 646-8743 for reservations or information

Bring your own table service.  
B.Y.O.B.

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## CALENDAR

Pacific Grove Museum of Natural History  
 Depicting Nature: Albert T. Rome (1885-1959)  
 June 20-Sept 11. This exhibit features beautiful  
 paintings and photographs of our local landscapes  
 and seascapes.

**July 10 (Sat) 5pm: Monterey Bay Chapter  
 Annual Summer BBQ in honor of Dr. Steven  
 Webster. Indian Village, Pebble Beach off  
 Dunes Road between Bird Rock and Seal  
 Rock. For information please call Diane Glim  
 at 831-646-8743 Everyone Invited. Mail \$15  
 check per person to PO Box HE Pacific Grove,  
 93950 . Visit [www.starrsites/acsmb.com](http://www.starrsites/acsmb.com)**

July 24 (Sat): ACS National Blue Whale Trip will  
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 and reservations please call Bernardo Alps at  
 310-597-0449

Aug 14 (Sat) 12 noon-5pm: MBARI'S Open  
 House will feature science and technology  
 exhibits, deep sea video of Monterey Bay,  
 research presentations, and children's activities.  
 Lectures will be held in the Pacific Forum.

Aug 25-29: Blue Ocean Film Festival. Monterey,  
 CA. A global Ocean Film and Conservation  
 Event ([www.bluefilmfest.com](http://www.bluefilmfest.com)). Festival Speakers  
 and Film Makers Include Dr. Sylvia Earl,  
 Howard and Michele Hall, David Doubilet, Jean  
 Michel Cousteau.

**Aug 28, 9am-1pm: ACS Monterey Bay  
 Chapter Summer Blue Whale Fundraiser.  
 Cost-\$50.00 Boat-Sea Wolf 2. Location-  
 Monterey Bay Whale Watch-Fisherman's  
 Wharf, Monterey, CA. ACS naturalists and  
 whale experts will be on board. Other whales  
 of the summer include blue, humpback, fin,**

*American Cetacean Society-Monterey Bay*

**minke and killer whales. Abundant krill have  
 already attracted blue whales (see sightings  
 listings) For more info and reservations call  
 Tony Lorenz at 831-901-7259 or Diane Glim at  
 831-646-8743. Mail \$50 payment per person to  
 PO Box HE PG, CA 93950.**

September 11 (Sat): Channel Islands Adventure:  
 San Miguel Island (Cabrillo's Landing). Trip  
 departs from Island Packers in the Ventura  
 Harbor. Marine Mammal Observations Included  
 For more info call 310-548-7562

Aug. 29 (Sun) 11am-3pm Pacific Grove  
 Museum of Natural History Science Sunday:  
 Dinosaur Day- Includes speakers, hands on arts  
 and crafts all focused on fossils and dinosaurs

Sept. 23-26: Monterey Bay Birding Festival at  
 the Watsonville Civic Plaza. Festival will include  
 more than 65 lectures, workshops, and tours. A  
 pelagic seabirding trip will be included. For more  
 info go to [Monterey Bay Birding Festival .com](http://Monterey Bay Birding Festival .com)

Nov.12-14: The American Cetacean Society 12th  
 International Conference will be held in  
 Monterey at the Embassy Suites Hotel and  
 Conference Center. Speakers include Richard  
 Ellis, John Calambokidis, Thomas Jefferson,  
 Bernd Wursig, and Robin Baird. The conference  
 will also include two whale watch trips, kayaking  
 along Cannery Row, a Point Lobos interpretive  
 hike and a marine life photo contest. For a full  
 schedule and prices please go to [aconline.org](http://aconline.org).  
 Local volunteers are needed. Call Diane Glim  
 831-646-8743 or sign-up at the monthly  
 meetings.

### SUMMER CLASSES

#### **Point Lobos Summer Adventure 2010**

Session 2- July 5 thru July 16

Kids 9-15 will learn about sea life, mammals,  
 birds, invertebrates, go hiking, and build sand  
 castles. For more info go to [www.pointlobos.org](http://www.pointlobos.org).

#### **UCSC Summer Marine Science Courses:**

Session Two: July 26-August 27, 2010

Marine Science Illustration SCIC 126

Biology of Marine Mammals Bio 129

## HUMPBACK WHALES FORM FRIENDSHIPS

BY MATT WALKER

Humpback whales form lasting bonds, the first baleen whales known to do so.

Individual female humpbacks reunite each summer to feed and swim alongside one another in the Gulf of St Lawrence, off Canada, scientists have found.

Toothed whales, such as sperm whales, associate with one another, but larger baleen whales, which filter their food, have been thought less social.

The finding raises the possibility that commercial whaling may have broken apart social groups of whales.

### FRIENDS REUNITED

Details of the discovery are published in the journal *Behavioral Ecology and Sociobiology*.

Dr Christian Ramp and colleagues of the Mingan Island Cetacean Study group based in St Lambert, Canada have been studying whales in the Gulf of St Lawrence since 1997.

Together with researchers from Germany and Sweden, the scientists are recording the movements of baleen whales including blue, fin, minke and humpback whales, adding to a set of data that stretches back 30 years. Where do they meet, and how do they recognise each other?

Baleen whales, which are the largest of all whales, possess huge baleen plates in their mouths, which they use to filter out small prey such as krill and plankton from the water. Using photographic identification techniques, the researchers can spot which individual whales appear from one year to the next.

During this study, they have found that the same humpback whales reunite each year.

Having spent the rest of the year apart migrating and breeding, individual humpbacks somehow find each other again in the open ocean

each summer, spending the season feeding together.

The longest recorded friendships lasted six years, and always occurred between similar-aged females, and never between females and males.

"I was very surprised by the prolonged duration," Dr Ramp told the BBC.

"I was expecting stable associations within one season, not beyond. I was particularly surprised by the fact that only females form these bonds, especially females of similar age."

### UNDERWATER ENIGMA

The discovery has puzzled the researchers who made it.

"In toothed whales, you find strong bonds in killer whales, between entire families, and sperm whales between females and juveniles. They basically stay together all their life. There are also strong associations in bottlenose dolphins," Dr Ramp adds.

But "as far as we know, baleen whales are regarded as less social than toothed whales."

There is some evidence that humpbacks in Alaska form stable groups to feed on herring, and female right whales are thought to be more gregarious than males.

However, until now, baleen whales have not been known to reestablish bonds between individuals from one year to the next.

Forming such friendships clearly benefited the female humpbacks, as those that had the most stable and long-lasting associations gave birth to the most calves.

Dr Ramp and his colleagues suspect that the whales form bonds to improve their feeding efficiency each year.

"Staying together for a prolonged period of time requires a constant effort. That means that they feed together, but likely also rest together. So an individual is adapting its behaviour to another one."



How the whales find each other each summer is also an enigma.

"It's an excellent question and I would like to know the answer," says Dr Ramp.

"Where do they meet, and how do they recognise each other?"

He suspects the whales use sound to find and recognise other individuals.

#### WHALING WIPE OUT

So far, studies on blue and fin whales suggest that these species do not form such friendships.

But the discovery that humpbacks do might have further implications.

Dr Ramp speculates that humpback whales associating with one another may have made it easier for them to be caught in the past by commercial whalers.

As yet, there is no evidence to support this. But if that did occur, it would also mean that whaling may have removed social groups of humpbacks, and their preference to form friendships with other whales.

"Maybe the social traits are re-evolving due to rebounding populations, or they are completely different to the ones before, due to changes in the environment."

*Story from BBC NEWS:*

[http://news.bbc.co.uk/go/pr/fr//earth/hi/earth\\_news/newsid\\_8722000/8722626.stm](http://news.bbc.co.uk/go/pr/fr//earth/hi/earth_news/newsid_8722000/8722626.stm)

#### WHALES CLOSER TO US THAN THOUGHT, SAY SCIENTISTS

BY MARLOWE HOOD

PARIS (AFP) June 19 – As the future of whales once more comes under global debate, some scientists say the marine mammals are not only smarter than thought but also share several attributes once claimed as exclusively human.

Self-awareness, suffering and a social culture along with high mental abilities are a hallmark of cetaceans, an order grouping more than 80 whales, dolphins and porpoises, say marine biologists.

If so, the notion that whales are intelligent and sentient beings threatens to demolish, like an explosive harpoon, the assumption that they are simply an animal commodity to be harvested from the sea.

That belief lies at the heart of talks unfolding at the International Whaling Commission (IWC), meeting from Monday to Friday in Agadir, Morocco.

A fiercely-contested proposal would authorise whale hunts by Japan, Norway and Iceland for 10 more years, ending a 24-year spell in which these nations -- tarred as outlaws by a well-organised green campaign -- have snubbed or sidelined the IWC's moratorium on whaling.

"We now know from field studies that a lot of the large whales exhibit some of the most complex behaviour in the animal kingdom," said Lori Marino, a neurobiologist at Emory University in Atlanta, Georgia.

A decade ago, Marino conducted an experiment with bottlenose dolphins in which she placed a small mark on their body and had the mammals look at themselves in a mirror.

By the way the dolphins reacted to the image and then looked at the spot, it was clear that they had a sense of self-identity, Marino determined.

For Georges Chapouthier, a neurobiologist and director of the Emotion Centre at Pierre and Marie Curie University in Paris, self-awareness means that dolphin and whales, along with some higher primates, can experience not just pain but also suffering.

Unlike nociception -- a basic nerve response to harmful stimuli found in all animals -- or lower-order pain, "suffering supposes a certain level of cognitive functioning," he said in an interview.

"It is difficult to define what that level is, but there's a lot of data now to suggest some higher mammals have it, including great apes, dolphins and, most likely, whales."

As for intelligence, cetaceans are second only to humans in brain size, once body weight is taken into account.

More telling than volume, though, are cerebral areas which specialise in cognition and emotional processing -- and the likelihood that this evolution was partly driven by social interaction, according to several peer-reviewed studies.

Some scientists suggest this interaction can best be described as culture, a notion usually reserved for homo sapiens.

"Evidence is growing that for at least some cetacean species, culture is both sophisticated and important," said Hal Whitehead, a professor at Dalhousie University in Halifax, in the Canadian province of Nova Scotia.

If culture is learned behaviour passed on across generations that is different from one community to the next, then humpback whales, to cite one example, are rather cultured indeed.

"At any time during the winter breeding season, all the males in any ocean sing more or less the same elaborate song, but this communal song evolves over months and years," Whitehead and colleagues noted in a study in the journal *Biological Conservation*.

Scientists have also observed orcas, or killer whales, learning from other orcas from a geographically separate group how to steal fish from so-called longlines used by commercial fishing boats.

Two orca communities that rarely intermingle despite sharing the same waters off the coast of Vancouver Island, meanwhile, have learned to divide their natural bounty: and one group eats fish and the other mammals, especially seals, Whitehead reported.

Such findings are disturbing factors in the calculus of conservation.

"If we wipe out a sub-group, it is more than killing a certain number of individuals. It could actually wipe out an entire culture," Marino said.

At a meeting of the American Association for the Advancement of Science (AAAS) in February, scientists concluded that new data on cognition and culture among whales should be the guideline for international wildlife policy.

To date that hasn't happened in any international forum, including the IWC, said

Margi Prideaux, head of cetacean conservation at the Whale and Dolphin Conservation Society.

"Aside from a narrow focus on killing methods -- what type of harpoon grenade, for example, is most humane -- ethics or the status of whales as sentient beings do not figure in talks at the IWC," she said.

[news.yahoo.com/s/afp/20100620/sc\\_afp/environmentwhalingiwscience#bd](http://news.yahoo.com/s/afp/20100620/sc_afp/environmentwhalingiwscience#bd)

## SPERM WHALES MAY PUT A GENTLE (AND UNWITTING) BRAKE ON CLIMATE CHANGE

Sperm whale faeces may help oceans absorb carbon dioxide from the air, scientists say. Australian researchers calculate that Southern Ocean sperm whales release about 50 tonnes of iron every year. This stimulates the growth of tiny marine plants - phytoplankton - which absorb

CO2 during photosynthesis. The process results in the absorption of about 400,000 tonnes of carbon - more than twice as much as the whales release by breathing, the study says. The researchers note in the Royal Society journal *Proceedings B* that the process also provides

more food for the whales, estimated to number about 12,000.

Phytoplankton are the basis of the marine food web in this part of the world, and the growth of these tiny plants is limited by the amount of nutrients available, including iron.

### FAECAL ATTRACTION

Over the last decade or so, many groups of scientists have experimented with putting iron into the oceans deliberately as a "fix" for climate change. Not all of these experiments have proved successful, the biggest, the German Lohafex expedition, put six tonnes of iron into the Southern Ocean in 2008, but saw no sustained increase in carbon uptake. Although 400,000 tonnes of carbon is less than one-ten-thousandth of the annual emissions from burning fossil fuels, the researchers note that the global total could be more substantial. There are estimated to be several hundred thousand sperm whales in the



oceans, though they are notoriously difficult to count; and lack of iron limits phytoplankton growth in many regions besides the Southern Ocean.

So it could be that whale faeces are fertilising plants in several parts of the world. Crucial to the idea is that sperm whales are not eating and defecating in the same place - if they were, they could just be absorbing and releasing the same amounts of iron.

Instead, they eat their diet - mainly squid - in the deep ocean, and defecate in the upper waters where phytoplankton can grow, having access to sunlight.

Releasing the iron here is ultimately good for the whales as well, say the researchers - led by Trish Lavery from Flinders University in Adelaide. Phytoplankton are eaten by tiny marine animals - zooplankton - which in turn are consumed by larger creatures that the whales might then eat.

The scientists suggest a similar mechanism could underpin the "krill paradox" - the finding that the abundance of krill in Antarctic waters apparently diminished during the era when baleen whales that eat krill were being hunted to the tune of tens of thousands per year.

[news.bbc.co.uk/2/hi/science\\_and\\_environment/10323987.stm#](http://news.bbc.co.uk/2/hi/science_and_environment/10323987.stm#)

## **NEW STUDY SHOWS DECLINE IN ENDANGERED VAQUITA POPULATION**

New research released last week shows that the population of the world's most critically endangered marine mammal, the vaquita, fell by more than half since the last population study a little over a decade ago, from 567 individuals to 250.

On Thursday, Mexico's Ministry of Environment and Natural Resources announced that results of a recent abundance study showed that the estimated vaquita population dropped sharply between 1997 to 2008, when the latest study was completed.

The new estimate paints a clearer picture of the status of the planet's most endangered porpoise. Until recently, scientists had used a population figure based on estimated rates of

decline among the species, which put scientists' best guess at about 150 vaquita.

The vaquita is a tiny porpoise just a few feet long that only lives in a small area of the northern end of the Gulf of California, inside the Baja Peninsula. Shy and reclusive, it faces its biggest threat from local fishermen's gill nets, which sometimes trap and drown the rare animals.

With no accurate count on vaquita numbers in a decade, scientists decided to perform a new survey in late 2008 using acoustic and visual monitoring to estimate the population, said Tim Gerrodette, a marine biologist and research scientist involved with the study through NOAA's National Marine Fisheries Service.

"We gathered new data on which to base a new estimate of abundance," Gerrodette said.

Scientists were quick to point out that the 250 estimate does not indicate a rise in population over the 150 number that had been in use since 2007: the 150 figure was not based on observational data—just predictive models based on the 1997 data.

Both the 1997 and 2008 population estimates, however, come with a high degree of uncertainty, Gerrodette said—actual current numbers of vaquita could range from 100 to 400 individuals. The 250 figure is simply the researchers' best estimate. Factoring that figure with the 567 from the earlier study puts the vaquita depopulation at an annual decline rate of 7.4 percent, he said.

The one certainty seen from the new data is that vaquita numbers are definitely going down.

"Whether the population is 100 or 400 is not the critical issue. The key findings of the 2008 study are that the total population size is small, and that it has declined since 1997," Gerrodette said.

Regardless of the exact number, vaquita conservationists say they know what needs to be done to save the species, which is in distinct danger of going extinct—get the gill nets out of the water.

<http://www.takepart.com/news/2010/06/08/new-study-shows-decline-in-endangered-vaquita-population#>

**PELAGIC SHARK FOUNDATION TEAMS  
WITH HOPKINS MARINE STATION TO  
TRACK BASKING SHARKS IN MONTEREY  
BAY**

BY ALIA WILSON

SANTA CRUZ June 16 - Twenty years after he founded the Pelagic Shark Research Foundation after spotting an injured basking shark, Sean Van Sommeran is getting back to his roots by ramping up the nonprofit organization's basking shark tagging efforts.

The organization, in collaboration with the Stanford's Hopkins Marine Station - the country's oldest west coast marine lab - landed an internal National Oceanic and Atmospheric Administration grant for basking shark research this week.

"Dr. Steven G. Wilson of Stanford's Hopkins Marine Station applied for a grant with another scientist and myself as co-authors for a study of basking sharks in the Monterey Bay area," Van Sommeran said. "While basking sharks had never been tagged with transmitters in Pacific Ocean until recently, Monterey Bay is considered a former and potential basking shark hot-spot as there was a former commercial and sport harpoon fishery for baskers here until they went commercially extinct in the mid-1950s."

Despite nearly 50 years of not being fished, the population of basking sharks remain relatively low along the California Coast, Van Sommeran said.

Basking sharks were located and tagged in Southern California near the Coronado Islands earlier this month by researchers with NOAA fisheries.

The sharks are found around the world but are seen mostly near shore in warm waters, and came to the San Diego coast where there is an ample supply of plankton to eat, Wilson said. Before the June 6 tagging, a basking shark had never been tagged in the Pacific Ocean, Van Sommeran said.

Wilson, who declined to say how much the NOAA grant is for, said it will cover the costs of three electronic tags and several days of boat and spotter aircraft time.

"The tags will be deployed from one of Sean's boats and the grant would cover his fuel and personnel costs," Wilson said. "I'm looking forward to working with Sean and we hope to use the funds to learn more about the habits and habitats of a California native that may be at risk."

The Pelagic Shark Research Foundation based in Moss Landing has tracked and tagged sharks including great whites for 20 years.

"It's a really important opportunity to gather information," Van Sommeran said. "We hope to get tags out this first year."

[http://www.mercurynews.com/breakingnews/ci\\_15311141?nlick\\_check=1#](http://www.mercurynews.com/breakingnews/ci_15311141?nlick_check=1#)

**SIGHTINGS** compiled by Monterey Bay Whale Watch. For complete listing and updates see [www.gowhales.com/sighting.htm](http://www.gowhales.com/sighting.htm)

Date	#	Type of Animal(s)
6/25 a.m.	6	Killer Whales* predation on sea lion
	120	Pacific White-sided Dolphins
	500	Risso's Dolphins
	600	Northern Right Whale Dolphins
6/24	12	Blue Whales
	50	Pacific White-sided Dolphins
	30	Risso's Dolphins
6/23 p.m.	1	Humpback Whale
6/23 a.m.	600	Pacific White-sided Dolphins
	250	Risso's Dolphins
	300	Northern Right Whale Dolphins
6/22 p.m.	3	Humpback Whales
	200	Risso's Dolphins
6/22 a.m.	1	Humpback Whale
	1000	Pacific White-sided Dolphins
	50	Risso's Dolphins
6/21 p.m.	500	Northern Right Whale Dolphins
	2	Humpback Whales
	4500	Pacific White-sided Dolphins
6/21 a.m.	150	Northern Right Whale Dolphins
	3	Humpback Whales
6/20 p.m.	450	Pacific White-sided Dolphins
	4	Humpback Whales
6/20 a.m.	2	Blue Whales
	4	Humpback Whales
	8	Blue Whales
	150	Pacific White-sided Dolphins
	50	Risso's Dolphin

\*Transient types

Skipped dates indicate no trip

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

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# Soundings



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

AUGUST 2010

**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, AUGUST 26 , 2010**

**TIME: 7:30 PM. PLEASE JOIN US AT 7:00 FOR REFRESHMENTS**

**SPEAKER Chuck Davis, Marine Photographer and Cinematographer**

**Title: Stimulating Marine Conservation through Marine and  
Underwater Imagery**

This month's meeting occurs during the Blue Ocean Film Festival Week, being held in Monterey for the first time. While we are not an "official venue" for the festival our goal was to participate in the spirit of the event. In that regard we are very please and excited to have Chuck Davis as our speaker for the August Chapter meeting.

Chuck is a specialist in marine and underwater photography and cinematography. He has traveled the globe, with a camera at the ready, filming and taking still shots of many of nature's wonders from the freezing climate of Antarctica to the hot and humid Amazon and many places in between. As a "local", Chuck has captured many images from Monterey Bay and other local locations such as Point Lobos State Reserve.

Chuck's cinematography experience includes many world wide expeditions with the Cousteau filming teams working with the late Jacques-Yves Cousteau and his son Jean-Michel during production of the *Rediscovery of the World* TV series. He was Director of Photography for the television program and later released PBS Home Video: *Jean-Michel Cousteau: Ocean Adventures*: The Gray Whale Obstacle Course, among others. He has numerous IMAX and feature film credits as well.

Chuck's still images have appeared nationally and internationally in many magazines including *National Geographic* and *Audubon*. His fine art black and white and color work has been represented in special exhibitions by the Ansel Adams Gallery, the Christopher Bell Collection Gallery and the OCEANS Gallery to name a few.

Please join us for a very special program where art and science will come together in a unique, informative and entertaining way.

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## CALENDAR

August 14: ACS National Blue Whale Trip will take place on the Condor Express based out of Sea Landing in Santa Barbara, CA. Trip departs at 8:00am and returns at 4:00pm. For more info and reservations please call Bernardo Alps at 310-597-0449

August 25-29: Blue Ocean Film Festival. Monterey, CA. A global Ocean Film and Conservation Event ([www.bluefilmfest.com](http://www.bluefilmfest.com)). Festival Speakers and Film Makers Include Dr. Sylvia Earle, Howard and Michele Hall, David Doubilet, Jean Michel Cousteau.

**August 28, 9am-1pm: ACS Monterey Bay Chapter Summer Whale Watch Fundraiser. Cost- \$50.00 Boat-Sea Wolf 2. Location- Monterey Bay Whale Watch-Fisherman's Wharf, Monterey, CA. Whales of the summer include blue, humpback, fin, minke and killer whales. For more info and reservations call Tony Lorenz at 831-901-7259 or Diane Glim at 831-646-8743.**

Sept 7-11: 1st World Seabird Conference Victoria, Canada. For more info go to [www.pacificseabirdgroup.org](http://www.pacificseabirdgroup.org)

November 11-14: Western Society of Naturalist 91st Annual Meeting: San Diego, CA. For more info go to [www.westernsocietyofnaturalist.org](http://www.westernsocietyofnaturalist.org)

Nov.12-14: The American Cetacean Society 12th International Conference will be held in Monterey at the Embassy Suites Hotel and Conference Center. Speakers include Richard Ellis, John Calambokidis, Thomas Jefferson, Bernd Wursig, and Robin Baird. The conference will also include two whale watch trips, kayaking along Cannery Row, a Point Lobos interpretive hike and a marine life photo contest. For a full schedule and prices please go to [acsonline.org](http://acsonline.org). Local Monterey Bay ACS chapter volunteers are needed, and sign-ups will be available at the monthly meetings.

## BOOK RECOMMENDATION

Tuna's End- The fate of the bluefin, the oceans and us. By Paul Greenberg. New York Times Magazine June 27, 2010

Four Fish: The Future of the Last Wild Food  
By Paul Greenberg. 2010 Penguin Press

Kenneth S. Norris, Naturalist, Cetologist and Conservationist 1924-1998 An Oral History Biography. 2010 UC Press

Egypt's Ancient Whales: Valley of the Whales  
By Tom Mueller. August 2010 National Geographic Magazine

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### CALL ME LEVIATHAN MELVILLEI

By Janet Fang-- A Peruvian desert has turned out to be the final resting place of an ancient sperm whale with teeth much bigger than those of the largest of today's sperm whales.

The fossil, dated at 12–13 million years old, belongs to a new, but extinct, genus and species described in Nature. Named *Leviathan melvillei*, it probably hunted baleen whales.

A team of researchers recovered 75% of the animal's skull, complete with large fragments of both jaws and several teeth. On the basis of its skull length of 3 metres, they estimate that *Leviathan* was probably 13.5–17.5 metres long, within the range of extant adult male sperm whales (*Physeter macrocephalus*).

Its largest teeth, however, are more than 36 centimetres long — nearly 10 cm. longer than the largest recorded *Physeter* tooth.

Modern sperm whales lack functional teeth in their upper jaw and feed by suction, diving deep to hunt squid. Conversely, *Leviathan* had massive teeth in both its upper and lower jaws, and a skull that supported large jaw muscles. It may have hunted like raptorial killer whales, which use their teeth to tear off flesh.

Co-author Klaas Post of the Natural History Museum Rotterdam in the Netherlands stumbled across the fossil in November 2008 during the final day of a field trip to Cerro Colorado in the Pisco-Ica Desert on the southern coast of Peru — an area that is now above sea level owing to Andean tectonic

activities. The fossils were prepared in Lima, where they will remain.

#### MOBY MONIKER

The name given to the creature combines the Hebrew word 'Livyatan', which refers to large mythological sea monsters, with the name of American novelist Herman Melville, who penned *Moby-Dick* — "one of my favourite sea books", says lead author Olivier Lambert of the National Museum of Natural History in Paris.

The authors think that *Leviathan*, like the extinct giant shark, preyed on medium-sized baleen whales, which were between 7 and 10 metres long, smaller than today's humpback whales and widely diverse at the time. The authors speculate that *Leviathan* became extinct as a result of changing environmental conditions. "Top predators are very sensitive to the changes in their prey," Lambert says.

Changes in number, diversity or size of baleen whales, as well as the climate cooling that occurred at around *Leviathan's* time, would have had dire impacts. The creature's surviving cousins — *Physeter*, pygmy and dwarf sperm whales — are specialized deep-diving squid hunters that occupy a different ecological niche from *Leviathan*.

According to vertebrate palaeontologist Lawrence Barnes at the Natural History Museum of Los Angeles County, this discovery demonstrates that sperm whale-like cetaceans were much more diverse in the past and that the modern sperm whale and pygmy sperm whales are the "only surviving vestiges of a larger evolutionary radiation of related whales in the past".

#### BATTERING RAMS

All sperm whales have characteristically large foreheads to hold their 'spermaceti organ', a series of oil and wax reservoirs buttressed with massive partitions of connective tissue. Scientists have long thought that this organ helps sperm whales to dive deeply to feed.

The curved 'basin' atop *Leviathan's* snout suggests that it also had a large spermaceti organ, even though it probably did not dive to feed. The authors speculate that, if *Leviathan* hunted baleen whales near the surface, the large spermaceti organ existed long before modern sperm whales became specialized for foraging squid at depth. The organ could have served other functions, such as echolocation, acoustic displays or aggressive head-butting.

"Spermaceti organs could be used as battering rams to injure opponents during contests over

females," says evolutionary morphologist David Carrier of the University of Utah in Salt Lake City.

According to Carrier, at least two nineteenth-century whaling ships were sunk when large males punched holes in their sides with their foreheads, Carrier adds, and *Leviathan* may have used forehead ramming to dispatch its prey.

<http://www.nature.com/news/2010/100630/full/news.2010.322.html#content>

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### KILLER WHALES AND THE MYSTERY OF HUMAN MENOPAUSE

ScienceDaily (July 2) — The evolutionary mystery of menopause is a step closer to being solved thanks to research on killer whales.

A study by the Universities of Exeter and Cambridge has found a link between killer whales, pilot whales and humans -- the only three known species where females stop breeding relatively early in their lifespan.

Despite very different social structures between the three species, the research shows that in each case females become increasingly genetically related to those they live with as they get older. Because of this, there is a motivation for older females to do what is best for the survival of those around them.

This creates a 'grandmother' role, where the success rate of breeding in the group can be helped by older females sharing parenting knowledge and stopping breeding to allow younger females easier access to resources.

The research, published in the *Proceedings of the Royal Society B*, is the first to provide a plausible explanation why these species in particular are the only ones in which females finish reproduction while they still have decades left to live.

Dr Michael Cant, from the University of Exeter's School of Biosciences (Cornwall Campus) and a Royal Society University Research Fellow, said: "It's always been puzzling as to why only humans and toothed whales have evolved menopause, while females in all other long-lived species continue breeding until late in life.

"Although the social behaviors of the three menopausal species are very different, there is a common link: their social systems mean females become more related to those around them as they get older. This predisposes females of our species, and those of killer whales and pilot whales, to the evolution of menopause and late life helping."

Humans are thought to have evolved in groups in which young females left their group to find a mate. This would have meant they started their reproductive lives in families to whom they were genetically unrelated. Later in life, however, as their offspring start to breed, they become more genetically related to those around them and have the option to cease reproduction to help raise their 'grand-offspring'.

However, this argument doesn't seem to explain menopause in killer whales or pilot whales, in which both sexes remain in their natal family groups throughout their life, but occasionally come together with other groups to mate. The new research, however, shows this very different social system has the same overall effect on patterns of genetic similarity within groups: females become more closely related to infants in the group as they get older.

By contrast with humans and menopausal whales, in other long lived mammals it is typically males who leave the group to breed, and females who stay with their mother. According to the research, in this case older females will be selected to continue breeding rather than give up reproduction to help raise grandchildren.

Dr Rufus Johnstone, from the Department of Zoology at the University of Cambridge, and co-author of the study, said: "For the first time we can see a common link between menopausal species which provides a valid explanation as to why this trait might have evolved. This isn't likely to be the only factor relevant to the evolution of 'grandmothering' and menopause, but it does give us an idea why it is restricted to so few species in the animal kingdom."

[www.sciencedaily.com/releases/2010/07/100701103405.htm](http://www.sciencedaily.com/releases/2010/07/100701103405.htm)

## **KRILL HARVEST CERTIFICATION UPSETS CONSERVATIONISTS**

By David Jolly (June 22) A decision by a nonprofit organization to certify a company's Antarctic krill harvesting has drawn fierce criticism from conservationists and undercut the group's image as a diligent steward of ocean fishing stocks.

Krill, tiny pink shrimp-like organisms that dwell in vast schools, are an essential link in the Antarctic food chain, a food source for penguins, seals and many species of whales in the Southern Ocean. Fisheries have harvested it as food for farm-raised salmon and for its oil, rich in omega-3 acids, used in human dietary supplements.

Last month the 15-year-old Marine Stewardship Council certified the krill fishing of the Norwegian company Aker BioMarine as environmentally sustainable. In essence, it said that the operation was in keeping with its core principles — namely, that fisheries must maintain a healthy population, must not damage the ecosystem and must be effectively managed.

But Gerald Leape, director of the Pew Environment Group's nonprofit Antarctic Krill Conservation Project, said that the council "ignored irrefutable evidence" of threats to the Antarctic ecosystem in granting the certification, which gives Aker BioMarine the right to label its krill-oil pills with the council's blue logo.

No one is suggesting that krill stocks are in imminent danger of extinction. But opponents of certification say that scientific data on the fishery's impact is lacking, and that the council's decision is thus based on guesswork rather than on research into the long-term effects.

Even if the fishery is healthy now, they argue, the Marine Stewardship Council is encouraging fishers to exploit the Antarctic ecosystem, which already faces an uncertain future because of its retreating ice pack and acidification.

Casson Trenor, a Greenpeace campaigner, wrote that the council had given "an unofficial nod to the basic idea that vacuuming up the tiny life forms forming the foundations of the oceanic ecosystem is an acceptable practice."

The council counters that the harvest — at 150,000 tons in the 2007-8 fishing season — amounts to less than 1 percent of total estimated krill biomass for the area.

There seems to be at least a grudging acknowledgment that Aker BioMarine's fishery — which is a single, technologically sophisticated ship — is relatively well run. But opponents say that the council should have looked at the overall impact of krill fishing, and not just assessed one company.

Some of the friction comes down rather to a growing sense among the council's critics that no industrial fishery can really be sustainable. The United Nations Food and Agriculture Organization warned last year that 80 percent of the oceans' commercial fish stocks were either being fished at maximum limits or were overexploited.

"If you had asked me a few years ago, I'd have said the M.S.C. was better than nothing," said Jennifer Jacquet, a postdoctoral researcher at the University of British Columbia Fisheries Center who

has studied marine eco-labeling. “Today, I’m skeptical.”

The Marine Stewardship Council was founded in 1995 by the World Wildlife Fund and Unilever, then a big seafood retailer, to encourage stores, restaurants and consumers to choose fish harvested in responsible ways. Under the council’s system, third-party contractors assess the fisheries at a cost ranging from \$20,000 to more than \$100,000 and recommend whether they should be certified before the council acts. The fisheries also undergo annual audits and seek recertification every five years.

So far the council has certified 86 fisheries around the globe and more than 5,000 seafood products. No fishery has ever been denied certification by the council once it was recommended for it, although adjudicators have regularly required remedial action.

Yet some scientists argue that the council’s pledge that certified products come from — and can be traced back to — a sustainable fishery does not hold up well to scrutiny.

Last fall there was an outcry over the certification of the Pacific hake fishery off the coast of British Columbia and the United States. The move was strongly opposed by the Monterey Bay Aquarium in California and by Oceana, a conservation group. They cited studies showing that stocks of the fish, also known as Pacific whiting, had fallen by 89 percent since the mid-1980s.

The council replied that an independent team of scientists had found that the fishery met its standard and that the finding had been supported by an independent adjudicator.

Sidney Holt, an expert on fish population dynamics who helped the council write its basic principles in the 1990s, said he had become “extremely unhappy” with the organization.

The problem, he said, was that the outsourcing of fishery assessments to commercial contractors paid by the fisheries created a conflict of interest, because the contractors had an incentive to present the science in a way most flattering to the fishery. “It’s like having the prosecutor in court appoint the judge,” he said.

But Mike Sutton, a founder of the council who is now director of the Center for the Future of the Oceans at the Monterey Bay Aquarium, said that argument was “absolute nonsense.

“The truth is that somebody’s got to pay for certification,” just as companies pay auditors to certify their books, he said.

In another controversial Antarctic case, an independent adjudicator sent an assessment back to a company for reconsideration after it recommended certification for the Ross Sea toothfish, marketed in the United States as Chilean sea bass. Scientists had accused Moody Marine, the company that carried out the stock assessment, of ignoring unfavorable data.

Asked about possible conflicts of interest in certifying fisheries, an official from Moody Marine, Andrew Hough, said, “We base our reputation on independence and impartiality.”

James Barnes, the executive director of the Antarctic and Southern Ocean Coalition, an environmental group, said that in the toothfish case, about 25 international scientists with decades of Ross Sea experience had strongly opposed certification, but “were slapped aside as though they were schoolboys.”

Kerry Coughlin, the Marine Stewardship Council’s regional director for the Americas, said that certification had been recommended over the objections of some scientists, but not all.

Some of the criticisms are being registered in the marketplace. For example, Whole Foods Markets has said it will no longer sell krill-oil supplements, logo or no logo. Mr. Sutton, the council founder who now works at the Monterey Bay Aquarium, said it was essential for the fishing industry to work with conservationists if it wanted to effect change, because “market-based initiatives have more impact than government regulators ever will.”

“It seems to me that it’s doing exactly what it was intended to do,” he said of the council, “and that is, move the whole industry closer to sustainability.”

<http://www.nytimes.com/2010/06/23/science/earth/23krill.html>

## **DOLPHINS PREFER HIGH-ENERGY FISH**

By Matt Walker, Editor, Earth News -- Researchers studying dolphins in the Atlantic Ocean have found that, contrary to expectation, dolphins are not opportunistic feeders that take whatever prey is available.

Instead, they carefully select which fish to consume, preferring to eat energy-rich lantern fish while ignoring other lower quality fish species.

Cold-blooded ocean predators such as sharks make no such distinction.

Details of the discovery are published in the *Journal of Experimental Marine Biology and Ecology*.

## **DISTINCT PALATE**

Marine mammals have evolved a diverse range of feeding strategies.

Some orcas (killer whales) specialise in eating seals rich in fatty blubber, while the more sedentary dugong is herbivorous, surviving on a low-energy diet of seagrass.

But many smaller whale and seal or sea-lion species are often described as being opportunistic feeders, taking whatever food is available.

However, few have actually been studied in enough detail to know if they select which prey to eat.

So Dr Jerome Spitz and colleagues at the University of Rochelle in France studied the diet of short-beaked common dolphins (*Delphinus delphis*), the most abundant species of dolphin living in the warm off-shore waters of the Atlantic.

They compared the range of fish species found in the stomachs of dolphins accidentally caught in tuna drift nets off the Bay of Biscay, with the abundance of fish species in the sea, measured by trawling surveys.

The scientists found that the dolphins have a distinct palate.

Instead of eating more of the most common species, which would be expected if dolphins feed opportunistically, the dolphins carefully selected which fish to consume.

For example, the dolphins regularly ignored fish that contained less than 5kJ per gram of energy.

These included the most abundant fish, a alepocephalid scientifically named *Xenodermichtys copei*, which has 2.2kJ per gram of energy, and fish such as the Bean's sawtooth eel (*Serrivomer beanii*) which contains 2.1kJ per gram, and the Boa dragonfish (*Stomias boa ferox*) which has 2.8kJ per gram.

The dolphins mostly ate two species of less common lantern fish, the Kroyer's lanternfish (*Notoscopelus kroeyeri*) which contained 7.9kJ per gram and the Glacier lanternfish (*Benthoosema glaciale*) which has 5.9kJ per gram.

Other research backs this finding, suggesting that striped dolphins (*Stena coeruleoalba*) also appear to prey on high quality Kroyer's lanternfish more often than other species.

#### COLD-BLOODED MENU

Dolphins probably need to feed on high-energy fish to fuel their own energetic lifestyle, as warm-blooded social animals that range widely and can swim at high speeds.

Other large cold-blooded ocean predators, such as blue sharks (*Prionace glauca*) or swordfish

(*Xiphias gladius*) rarely appear to take high-quality fish, preferring to dine on larger, leaner prey.

[http://news.bbc.co.uk/go/pr/fr//earth/hi/earth\\_news/newsid\\_875500/8755581.stm](http://news.bbc.co.uk/go/pr/fr//earth/hi/earth_news/newsid_875500/8755581.stm)

## GROUP HAS IDEAS TO PREVENT HAWAII DOLPHIN BYCATCH

HONOLULU (AP Jul. 21) - Fishermen who use longlines to catch ahi, mahi-mahi and other fish off Hawaii should use a different kind of hook so they don't accidentally severely injure or kill a rare dolphin species, a federal advisory group said.

Longline fleet captains should undergo training on how to release any mistakenly caught false killer whales in a way that minimizes the chance they'll be seriously harmed, the group told the National Marine Fisheries Service, the federal agency responsible for regulating the fishery.

The agency had asked scientists, fishermen, conservationists and regulators to form the advisory group and make recommendations.

It acted in response to data showing the fleet is accidentally killing or seriously injuring an average of 7.4 false killer whales each year. This exceeds the 2.5 per year that the population can lose without hurting its ability to sustain itself.

Scientists estimate about 120 of the dolphins live in waters up to 60 miles off Hawaii's coasts. A few hundred more live close to Hawaii in waters farther out.

The animals tend to get caught by longlines because they eat the fish that fishermen have snagged for human consumption: yellow-fin tuna, mahi-mahi, and ono.

"People have known that false killer bycatch in the fleet has been an issue for about 10 years," said Robin Baird, a research biologist at Cascadia Research Collective and a member of the Take Reduction Team. "The fact that we came to consensus is great."

The National Marine Fisheries Service is expected to compile a list of proposed regulations after reviewing the recommendations. The agency will ask the public to comment on its proposals before completing any new rules.

The advisory group, in a report submitted Monday, recommended the longline fleet use circle hooks instead of straighter Japanese-style tuna hooks.

The team believes false killer whales are less likely to get caught on the circle hooks. They also believe those that do get caught on them are more likely to be able to wiggle free.

It's recommending that boat captains attend training sessions on the least harmful ways to cut hooked false killer whales free.

Another idea would close a fishing area north of the main Hawaiian islands year-round instead of just for eight months a year. Many false killer whales are found in this area known as the Northern Exclusion Zone, which is also a rich tuna fishing ground.

Sean Martin, president of the Hawaii Longline Association and an alternate team member, said the recommendations were reasonable given the limited information the group had on false killer whales. He's looking forward to seeing the results of a new federal study, planned for this fall, on the size of the false killer whale population off Hawaii.

He said the longline industry wouldn't wait for the fisheries service to complete new regulations before it started changing some of its practices. The longline association would begin training boat captains and urging fishermen to use circle hooks right away, he said. Martin estimated about half the fleet currently uses circle hooks.

"The sooner we can prove or disprove the effectiveness of the measures that the team has put forward, the better off we are as an industry," he said.

The species is particularly vulnerable because false killer whales don't reproduce quickly or frequently. They're known to start calving at around 15 or 16 years old, and spawn roughly every seven years.

The Take Reduction Team made its recommendations Monday after four meetings and multiple e-mail messages and conference calls over a six-month period.

**SIGHTINGS** compiled by Monterey Bay Whale Watch. For complete listing and updates see [www.gowhales.com/sighting.htm](http://www.gowhales.com/sighting.htm)

Date	#	Type of Animal(s)
7/25 late p.m.	12	Blue Whales
	60	Humpback Whales
7/25 p.m.	12	Blue Whales
	35	Humpback Whales
	450	Risso's Dolphins
	125	Northern Right Whale Dolphins
7/25 a.m.	20	Blue Whales
	55	Humpback Whales
	300	Pacific White-sided Dolphins
	2200	Risso's Dolphins
7/24 late p.m.	10	Blue Whales

	14	Humpback Whales
	30	Risso's Dolphins
	20	Harbor Porpoise
7/24 p.m.	10	Blue Whales
	17	Humpback Whales
	80	Risso's Dolphins
	70	Northern Right Whale Dolphins
	7	Harbor Porpoise
7/24 a.m.	12	Blue Whales
	35	Humpback Whales
	200	Pacific White-sided Dolphins
	2500	Risso's Dolphins
	200	Northern Right Whale Dolphins
	8	Harbor Porpoise
	1	Basking Shark
7/23 late p.m.	8	Blue Whales
	15	Humpback Whales
	300	Risso's Dolphins
	600	Northern Right Whale Dolphins
7/23 p.m.	18	Blue Whales
	60	Humpback Whales
	10	Harbor Porpoise
7/23 a.m.	21	Blue Whales
	70	Humpback Whales
	50	Risso's Dolphins
	7	Harbor Porpoise
7/22 late p.m.	6	Blue Whales
	17	Humpback Whales
	50	Risso's Dolphins
7/22 p.m.	13	Blue Whales
	60	Humpback Whales
	400	Risso's Dolphins
	150	Northern Right Whale Dolphins
7/22 a.m.	12	Blue Whales
	85	Humpback Whales
7/21 late p.m.	18	Blue Whales
	70+	Humpback Whales
7/21 p.m.	18	Blue Whales
	52	Humpback Whales
7/21 a.m.	17	Blue Whales
	40	Humpback Whales
7/20 p.m.	20	Blue Whales
	40	Humpback Whales
7/20 a.m.	23	Blue Whales
	45	Humpback Whales
7/19 late p.m.	20	Blue Whales
	10	Humpback Whales
7/19 p.m.	24	Blue Whales
	2	Humpback Whales
	7	Harbor Porpoise
7/19 a.m.	22	Blue Whales
	2	Humpback Whales
7/18 p.m.	25	Blue Whales
	4	Humpback Whales
	6	Harbor Porpoise
7/18 a.m.	26	Blue Whales
	6	Humpback Whales

American Cetacean Society  
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# Soundings



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

SEPTEMBER 2010

**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**

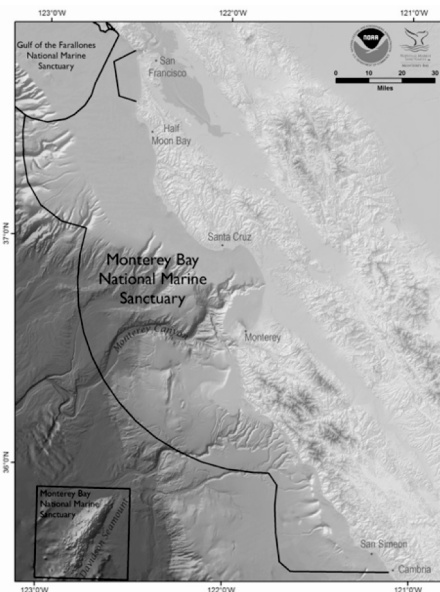
**DATE: THURSDAY, SEPTEMBER 30, 2010**

**TIME: 7:30 PM. PLEASE JOIN US AT 7:00 FOR REFRESHMENTS**

**SPEAKER: Lori Beraha, Naturalist**

**Title: Cetaceans of Monterey Bay: What I have seen and  
learned over the past 6 years working as a marine naturalist  
on Monterey Bay.**

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Monterey Bay is an amazing place for marine life. The richness and diversity of marine life is the result of many factors coming together right here off our coast. With upwelling currents, a variety of substrates and very deep water close to shore, this is truly an amazing place to be on the water to explore, observe and study marine life, and, in particular, whales, dolphins and porpoises.

Our speaker has spent 6 years as a marine naturalist on Monterey Bay and she has lots to report on. Lori will share her experiences with us about the smallest cetacean in the Bay, the harbor porpoise, the largest cetacean on the planet, the blue whales and lots of cetaceans in between. She will highlight the most interesting behaviors and comment on changes she has noted over the seasons.

This year has been an extraordinary year for cetaceans in Monterey Bay and Lori will share some of her observations and insights about this phenomenon as well.

Please join us for a special “Bay cruise” lead by Lori. This will be an informative and entertaining evening about the cetaceans living in our own Monterey Bay

## CALENDAR

**Sept 11: ACS National Fundraiser Reception with chef Wendy Brodie in Carmel. Contact [kreznick@acsonline.org](mailto:kreznick@acsonline.org) or 310-548-6279 to RSVP**

Sept 23-26: Monterey Bay Birding Festival. Watsonville Civic Center. Festival includes 3 pelagic birding field trips. For more info please call 831-600-8893

Oct 1-Oct 31: PGMNH Exhibit-Glow: Living Lights. The science of Bioluminescence. For more info go to [www.pgmuseum.org](http://www.pgmuseum.org)

Nov 4-7: Sitka Whale Fest. A celebration of Sitka's diverse and abundant marine mammal populations. Speakers include Roger Gentry, Jonathon Stern, Frances Gulland, Doug De Masster and Dr. Michael Castellini. Whale Watch field trips are included. For more info please call 907-747-7964 or go to [www.sitkawhalefest.org](http://www.sitkawhalefest.org)

November 11-14: Western Society of Naturalist 91st Annual Meeting: San Diego, CA. For more info go to [www.westernsocietyofnaturalist.org](http://www.westernsocietyofnaturalist.org)

**Nov.12-14: The American Cetacean Society 12th International Conference will be held in Monterey at the Embassy Suites Hotel and Conference Center. Speakers include Richard Ellis, John Calambokidis, Thomas Jefferson, Bernd Wursig, and Robin Baird. The conference will also include two whale watch trips, kayaking along Cannery Row, a Point Lobos interpretive hike and a marine life photo contest. For a full schedule and prices please go to [acsonline.org](http://acsonline.org). Local Monterey Bay ACS chapter volunteers are**

***needed, and sign-ups will be available at the monthly meetings.***

## BOOK RECOMMENDATION

earth by Bill Mckibben

A great book that embraces local, smaller scale ways of living. An important book for humans and cetaceans.

Deep Blue Home: An Intimate Ecology of Our Wild Ocean By Julia Whitley

HABITATS ALIVE! An ecological guide to California's diverse habitats. In depth information on 53 California Habitats from the rocky inter-tidal to the desert plant communities. Published by the California Institute of Biodiversity.

FOR YOUNG READERS: Dinosaur Discoveries from A-Z Alphabetical listing of dinosaurs discovered over the last twenty years. By William Stout ( Prehistoric Life Murals)

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*ACS Monterey Bay fundraising trip on 8/28 was a gargantuan success! Participants were treated to sightings of Fin whales, Blue whales, Humpback whales, Risso's dolphins and Dall's porpoise. Thank you to Captain Richard Ternullo and Monterey Bay Whale Watch for their generous donation to make the trip possible. Naturalists Jerry Loomis and Lori Beraha did outstanding narration during the excursion.*

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*Many thanks to Sally Eastham, Jerry Loomis and Cheryl Butner for their participation at the ACS Monterey Bay exhibition table at the recent Blue Ocean Film Festival.*

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## **BLUE WHALES ALIGN THE PITCH OF THEIR SONGS WITH EXTREME ACCURACY, STUDY FINDS**

ScienceDaily (Aug. 2, 2010) — Blue whales are able to synchronize the pitch of their calls with an extremely high level of accuracy, and a very slim margin of error from call to call, according to a new study of the blue whale population in the eastern North Pacific. Results were published in the *Journal of the Acoustical Society of America*.

The authors suggest that the uniform pitch used by blue whale populations could allow individual whales to locate potential mates by swimming toward them or away from them.

"Blue whales in a given population have been observed to align their pitch to a common value, but we have now been able to determine just how accurately they are able to do so," said Roger Bland, professor of physics at San Francisco State University.

Bland and colleagues analyzed recordings of 4,378 blue whale songs, off the California coast, and focused on the whales' B calls -- the long, sad moan that typically forms the second half of the blue whale song that is specific to the eastern North Pacific population. They found that the whales all produce the B call at the same pitch, at a frequency of 16.02 Hz, exactly four octaves below middle C.

"We found that blue whales are capable of very fine control over the pitch of their call -- both in reproducing their call at the same pitch every time and in synchronizing their pitch with others," Bland said.

The study found a remarkably small variation in pitch from call to call. In musical terms, the half-tone change of pitch between the notes C and C Sharp is a 6 percent increase in pitch, whereas the variation

observed between the blue whale's B calls was a 0.5 percent change in pitch.

The authors suggest that there may be an adaptive advantage to the whales tuning into a common pitch. "If whales are so super accurate in always calling at the exact same pitch, then it's possible that they could be able to detect tiny shifts in other whales' calls caused by the Doppler shift," Bland said. The Doppler shift is the apparent increase or decrease in pitch that is heard when the source of sound is moving toward or away from an individual, for example the change in pitch heard when a vehicle with a siren passes by.

Previous research has suggested that the blue whale song is produced only by males, and appears to be sung when the whales are traveling. "Given that blue whales can travel up to 5 meters per second, it's feasible that females could locate calling males by listening for the changes in the male's pitch," Bland said.

Underwater recordings were captured at the Pioneer Seamount Underwater Observatory, 50 miles off the California coast, over a three-month period in 2001.

The study's results are consistent with recent research suggesting that blue whales across the world have decreased their pitch over the last few decades. "We found the frequency of the B call to be 16 Hz in 2001, which fits well with the downward trending curve that has been observed in previous research."

Bland co-authored the paper with Michael D. Hoffman, a former student at SF State, and Newell Garfield, professor of geosciences and director of the Romberg Tiburon Center for Environmental Studies at SF State.

[sciencedaily.com/releases/2010/08/100802141907.htm](http://sciencedaily.com/releases/2010/08/100802141907.htm)

## **NEW U.S. SEAFOOD IMPORT RULES WOULD REDUCE HARM TO MARINE MAMMALS IN FOREIGN FISHERIES**

Sea Turtle Restoration Project is seeking support from ocean conservation groups, U.S. commercial and recreational fishers, restaurants and supermarkets and other organizations and coalitions who support the strongest protections for marine mammals in international wild-capture fisheries.

Please join us in establishing standards for imported seafood as required under the Marine Mammal Protection Act – a goal of zero by-catch of marine mammals. Support new regulations on imported seafood that will require all nations selling fish to the U. S. to prove that harm to marine mammals and other protect species was minimized or eliminated.

### **BACKGROUND**

The U.S. is a very close second to Japan as the biggest importer of seafood in the world, consuming more than 5 billion pounds of fish every year. Americans eat 16 pounds of seafood per capita, 80 percent of it imported. This hunger for fish takes a major toll on the oceans and marine mammals.

Every year hundreds of thousands of whales, dolphins, sea lions and other marine mammals are captured or killed by international fishing fleets, mostly in drift gillnets. Gillnets and long-lines also capture threatened and endangered sea turtles, seabirds and other marine wildlife. Millions of pounds of fish caught in these deadly fisheries are allowed to enter the U.S. in violation of the U.S. Marine Mammal Protection Act (MMPA), which requires a ban on imported fish caught in ways that harm marine mammals in excess of U. S. standards for domestic fisheries.

Specifically, Section 101(a)(2) of the MMPA [16 U.S.C. § 1371(a)(2)], requires that the U.S.:

*“ban the importation of commercial fish or fish products that have been caught with commercial fishing technology which results in the incidental kill or incidental serious injury of marine mammals in excess of United States standards.”*

By requiring foreign nations to prove that their fishing methods do not result in harm to marine mammals in excess of U.S. standards before allowing those nations to export fish and fish products to the U.S., MMPA section 101 ensures that the U.S.’s considerable economic power provides an incentive to conserve, rather than obliterate, marine mammal populations. It also serves to protect U.S. fishers from unfair competition by foreign fishers operating without appropriate restraints on fishing practices.

Until now the U.S. government has not enforced the MMPA for seafood imports nor defined what it means to comply with U.S. standards. National Marine Fisheries Service is now taking the first steps towards developing regulations to ensure that all seafood sold in the U.S. meets or exceeds domestic standards for protecting marine mammals from being harmed or killed as by-catch in commercial fisheries.

An advanced notice of proposed rulemaking to define U. S. standards and describe procedures for enforcing those standards for protecting marine mammals under the MMPA was published on April 30, 2010. The deadline for public comment was extended to Aug. 30, 2010. The rulemaking was in response to a May 2008 petition by Turtle Island Restoration Network (TIRN) and Center for Biological Diversity (CBD) requesting that the United States government start enforcing the longstanding requirements of the MMPA to protect marine mammals by banning swordfish imports from nations that had not submitted proof that their fisheries

did not injure and kill marine mammals in excess of U.S. standards. The rulemaking is broader and seeks to establish and define U.S. standards for all imported seafood.

[www.seaturtles.org](http://www.seaturtles.org)

## FINAL PUSH TO PASS AB 1998 TO SAVE SEA TURTLES

*(Editor's Note: At the time of this printing AB 1998 was defeated by the California Senate so there is no need to contact our Senators on this issue).*

The California Senate is set to vote on AB 1998 before the end of the month. Take action and send a letter to your California Senator to support AB 1998 to ban single-use plastic bags to ensure we win this battle to lead our nation in reducing plastic waste!

Scientific studies on plastic ingestion by sea turtles all over the world prove conclusively that sea turtles are at great risk from suffocation, drowning, and death from pelagic plastic debris, especially plastic bags. The Sea Turtle Restoration Project's marine biologist, Dr. Chris Pincetich, authored a report summarizing the ocean plastic epidemic and its impacts on sea turtles. Go to [salsa.democracyinaction.org/o/1723/p/dia/action/public/?action\\_KEY=3977](http://salsa.democracyinaction.org/o/1723/p/dia/action/public/?action_KEY=3977) to read our new report, *A Ban on Plastic Bags Will Save the Lives of California's Endangered Leatherback Sea Turtles*.

Californians use an estimated 19 billion single-use plastic bags every year. It is estimated that 90% of floating debris in the oceans is plastic. Plastic lasts for hundreds to thousands of years in our environment and may never biodegrade in the ocean.

## CALIFORNIA GREAT WHITE SHARK POPULATION ON THE RISE, SCIENTIST SAY

Pete Thomas, GrindTV.com (Aug. 9)

"Shark Week" is over but a leading scientist's revelation that great white sharks appear to be growing in number off California is sure to generate more heightened interest in the apex predators -- particularly among swimmers and surfers.

"I think there are more sharks," Christopher Lowe, a professor at Cal State Long Beach and director of the university's Shark Lab, said during an exclusive phone interview. "And that's not a bad thing; it's a good thing."



© Doug Perrine/Seapics.com

It's the first declaration by a prominent shark researcher that a recovery of the embattled great white shark -- the world's most notorious predator -- seems to be occurring.

A longstanding statewide ban on fishing for white sharks, an increased survival rate among young white sharks because of fishing gear restrictions, and an expanding sea lion population as a prey source are chief reasons for the comeback.

Lowe, who has performed extensive tagging of juvenile white sharks off Southern California, and has pored over data dating back generations, said personal observations and increased incidental catch rates of small white sharks by commercial fishermen help support his contention. Lowe said he has data to support the steady increase in catch rates since 1994, but could not provide figures

while forthcoming a scientific paper on this issue is in review.

Salvador Jorgensen, leader of the white shark research team at Stanford University's Hopkins Marine Station, did not disagree with Lowe's assessment but was more guarded when asked for a response.

"If what we are seeing is truly an increase in the white shark population that would be a relief," Jorgensen said. "Currently we are finding that the total number of adult white sharks along the west coast of North America is much smaller than many people expected."

While the prospect of great whites multiplying off the Golden State might trouble beachgoers, particularly in the middle of summer, Lowe said he does not believe a growing population would result in more attacks on humans.

"The fact that we see so few adult white sharks around populated areas tends to suggest that they don't want to be around places where people are," the scientist said. "People aren't being bumped. People aren't being hit. My guess is that sharks are actually avoiding areas of high human population."

Southern California is a nursery area for juvenile great whites, who feed on small fishes, rays and other sharks during the summer months. Some of these sharks, measuring to about seven feet, are seen each summer by beachgoers.

There have been only eight fatalities attributed to white sharks off California dating to 1926, according to the University of Florida's International Shark Attack File. The last fatality involved an attack by an adult white shark on a swimmer

off a northern San Diego County beach in April 2008.

White sharks are found in all major oceans and "red-listed" by the International Union for Conservation of Nature as a globally threatened species. The California Department of Fish and Game banned fishing for white sharks in 1994 because of concern for their survival.

Jorgensen said a joint population study of adult white sharks by Stanford University, U.C. Davis and Montana State University is still under peer review, so he could not volunteer a number. Lowe said his paper, produced with the help of colleagues, contains a compelling argument to support a likely recovery.

Adult great whites congregate each fall near elephant seal rookeries off Central California. A separate population gathers during the same period at remote Guadalupe Island west of Baja California.

Among the threats white sharks have faced globally are trophy hunting for jaws and teeth -- which became widespread after the release of the movie "Jaws" in the mid-1970s -- and commercial fishing for fins and flesh.

It almost seems implausible, in an era during which so many species of sharks are over-fished and believed to be in decline, that any species could mount a comeback.

But considering the changing landscape of California, a comeback and its

timing make sense. The ban on fishing for white sharks -- for sport or commercially -- was imposed in 1994. That same year, voters approved a measure outlawing the



Image courtesy of Christy Fisher / Sharkdiver.com

deployment of gillnets within three miles of the California coast.

In Southern California, this zone is where juvenile white sharks spend the summer preying on small fishes, rays and other sharks, before swimming into warmer Mexican waters during the winter.

White sharks are still being caught unintentionally beyond the three-mile mark -- The increase in these captures is what helps support evidence of a comeback -- but those sticking closer to shore are no longer imperiled by the indiscriminate nets, until they venture into Mexican waters.

Adult white sharks, meanwhile, now have a seemingly endless bounty of sea lions on which to prey, along with the elephant seals they prefer.

Sea lions, once routinely slaughtered by fishermen, were spared under the Marine Mammal Protection Act of 1972. Ten years later, their population was estimated at 145,000 in a range from the Sea of Cortez within Mexico to British Columbia, Canada, with only 50,000 in the Southern California Bight.

According to the most recent National Marine Fisheries Service estimate, there are at least 238,000 sea lions in U.S. waters, the majority of which reside off Southern California.

"So if you add those two things together, you've got a restored forage base for the adults and you've got better survivorship of the pups," Lowe said. "So what we think we're seeing from the fishery catch data and some of the other anecdotal pieces, is the actual recovery of the white shark population."

The biologist added that while Southern Californians should not expect a spike in shark attacks on humans, those who spend lots of time in or near the ocean might witness more sea lions with bite marks, and

more surface attacks by white sharks on the pinnipeds.

"I think the white shark population is going to do what it's supposed to do: help regulate marine mammal populations," Lowe said, explaining that apex predators play a vital role in maintaining a healthy marine ecosystem.

To be sure, fishermen whose livelihoods are threatened by pesky sea lions, which decimate catches and destroy gear, will cheer alongside marine conservation groups for more signs of a white shark comeback.

Swimmers and surfers? They're probably not so enthusiastic.

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**SIGHTINGS** compiled by Monterey Bay Whale Watch. For complete listing and updates see [www.gowhales.com/sighting.htm](http://www.gowhales.com/sighting.htm)

<u>Date</u>	<u>#</u>	<u>Type of Animal(s)</u>
8/26 p.m.	14	Humpback Whales
	1	Blue Whale
	1	Harbor Porpoise
8/26 a.m.	19	Humpback Whales
	3	Blue Whales
	15	Risso's Dolphins
8/25 p.m.	7	Humpback Whales
	20	Risso's Dolphins (with calves)
8/25 a.m.	40	Humpback Whales
	100	Risso's Dolphins
8/24 a.m.	24	Humpback Whales
	2	Blue Whales
8/23 a.m.	19	Humpback Whales
	2	Blue Whales
	320	Risso's Dolphins
8/22 p.m.	18	Humpback Whales
	4	Blue Whales
8/22 a.m.	18	Risso's Dolphins
	24	Humpback Whales
	3	Blue Whales
8/21 pm.	22	Humpback Whales
	2	Blue Whales
8/21 a.m.	37	Humpback Whales
	2	Blue Whales
	8	Killer Whales
8/20 p.m.	1	Mola Mola
	20	Humpback Whales
	200	Risso's Dolphins
	10	Northern Right Whale Dolphins

American Cetacean Society  
Monterey Bay Chapter  
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# Soundings



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

OCTOBER 2010

**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, OCTOBER 28, 2010**

**TIME: 7:30 PM. PLEASE JOIN US AT 7:00 FOR REFRESHMENTS**

**Speaker: Panel Discussion featuring Jack Ames of the  
California Department of Fish and Game, Andrew Johnson  
of the Monterey Bay Aquarium and other Aquarium Sea  
Otter Experts.**

**Subject: California Sea Otter Research: A Cooperative  
and Coordinated Effort by Public and Private Agencies  
and Organizations.**

The California sea otter is among the most studied of the marine mammals of the world. Otters are many things to the marine ecosystem: as apex predators, they are at the top of their food webs; as sentinels, with a similar biology to humans, they “watch” the near shore habitats for conditions which could be harmful to humans; as an indicator species they tell us about the overall health of the near shore ecosystems; and, as a keystone species, over a rocky substrate, they have an important impact on species not in their food web.

The study of sea otters is a time intensive and costly process which is supported by a coordinated effort by many entities, some are governmental and others are non-governmental non-profit corporations. It is also a process that is supported by a well coordinated volunteer effort.

Jack Ames, a seasoned veteran of the CDF&G will tell us about the process of capturing selected wild otters for research purposes and their return to the wild after the medical work-up has been completed. Andy Johnson, the manager of the Aquarium’s Sea Otter Research and Conservation (SORAC) program for more than a decade, and other Aquarium experts will review the medical procedures these otters undergo and the extensive, volunteer driven, post release data collection process that is essential to the overall research program.

Please join us for what promises to be an informative discussion about the California sea otter research program which, in a very large part, occurs right here in our own “back yard”

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**REGISTER NOW FOR THE 12TH  
INTERNATIONAL AMERICAN  
CETACEAN SOCIETY  
CONFERENCE TAKING PLACE IN  
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Whales 2010: Inspiring a New  
Decade of Conservation**



2:45pm - Porpoises & Places in Peril Effects of the BP Spill On Marine Mammals of the Gulf of Mexico - Teri Rowles  
Vaquita Status and Conservation - Lorenzo Rojas-Bracho  
Finless Porpoise Fitness and Conservation - John Wang

**Full day, single day and half day registrations available.**

**Register online at [www.acsonline.org](http://www.acsonline.org)  
Embassy Suites Hotel – Monterey Bay, 1441  
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November 12-14, 2010**

**CONFERENCE SCHEDULE**

**FRIDAY**

Daytime whale watching, kayaking, and hiking field trips (see ticket information)

6:30-9:30 pm Welcome Reception, Embassy Suites Ballroom

7:30 pm - In the Eye of the Whale, featuring an exhibit of his life-size, high-resolution photographs of whales - Bryant Austin, Photographer & Conservationist

8 pm - The Adventures of a Whale Painter: 50 Years in Pursuit of Cetological Correctness - Artist/author, Richard Ellis

**SATURDAY**

8:30 am - Welcoming Remarks - ACS president, Kathy Zagzebski

8:35 am – Whales in 2010 – Where We Are  
Whales of the World – John Calambokidis  
Small Cetaceans of the World - Thomas A. Jefferson  
The World's Most Endangered Cetaceans – Bernd Wursig

10:20 am - Large Whale “Hotspots” – 2010-2020  
Right Whales - Status in the N. Atlantic and N. Pacific – Brenda Rone

Humpbacks-Recovering or Recovered?–Mason Weinrich

Sperm Whales - Carrying the Culture of the Oceans – Hal Whitehead

1:00 pm - Dolphins in Distress  
False Killer Whales in Hawaii - The Newest Endangered Cetacean – Robin Baird  
Cook Inlet Belugas – Barbara Mahoney  
River Dolphins Around the World - Randy Reeves

4:45 - Poster session, art show, book signings

7:00 pm - BANQUET - Sponsored by Pacific Life Foundation - with guest speaker, Randy Wells - Small Cetaceans in a Rapidly Changing World. Presentation of first John Heyning Award for Lifetime Achievement in Marine Mammal Science.

**SUNDAY**

9:00am – Announce winners of poster session, photo contest

9:15am - Keynote Speaker - Monica Medina  
U.S. Commissioner to the International Whaling Commission (IWC) and Principal Deputy Undersecretary for Oceans and Atmosphere, National Oceanic and Atmospheric Administration (NOAA).

10:30am –The Next Decade of Cetacean Conservation  
Climate Change and Cetaceans- Ian Dutton  
IWC and Politics - Sue Fisher  
Beaked Whales, Strandings & Sonar - Robert Brownell  
Ship Strike Issues – Chris Clark

1:30 pm – The Next Decade of Cetacean Conservation, cont'd  
Marine Spatial Planning and Whale Conservation – Pat Halpin  
One Health – Conservation Medicine – Rosalind Rolland

2:45pm – "The Cove" – Short Screening and Q&A Session - Ric O'Barry

4:15pm – What Can ACS Do? What Can We Do? – ACS executive director, Cheryl McCormick and president, Kathy Zagzebski

5:00pm – Adjourn

\* Full conference registration tickets - Include Friday night reception, all plenary sessions, panels, poster sessions, book signings, art show, and lunch on both Saturday & Sunday. \*\*Banquet is NOT included in conference ticket price. It must be purchased separately.

**ANOTHER DEADLY CHALLENGE FOR THE SEA OTTER**

By Kenneth R. Weiss, Sept. 23

*A number of the playful marine mammals are being poisoned by an ancient microbe that appears to be on an upsurge in warmer, polluted waters around the world.*

Pity the poor sea otter.

It's been a struggle for the furry, button-nosed critter to make a comeback since being hunted nearly to extinction along California's coast.

They get chomped by great white sharks. They must scrounge in overexploited waters to find enough shellfish to eat. Their immune systems are weakened by polluted runoff and under attack by parasites that wash into coastal waters from the feces of domestic cats and opossums.

Now it turns out that some of these playful marine mammals are also being poisoned by an ancient microbe — a type of cyanobacteria — that appears to be on an upsurge in warmer, polluted waters around the world.

The discovery was made by Melissa Miller, a state wildlife veterinarian and scientific sleuth investigating the multitude of things killing otters faster than they can reproduce. The Southern Sea Otter population has dropped for two years in a row, the U.S. Geological Survey announced last month. An estimated 2,711 otters remain in Central and Southern California waters.

The first clues came when nearly a dozen otters mysteriously died in Monterey Bay in 2007. Their carcasses were taken to the California Department of Fish and Game laboratory in Santa Cruz, where Miller and others do postmortem analyses.

"I started getting otters that were clearly jaundiced, with bright yellow gums and yellow in the whites of their eyes," Miller said.

Performing necropsies, she found swollen livers that fell apart in her hands. She initially suspected a bacterial infection, leptospirosis, known for outbreaks in sea lions and found occasionally in sea otters as well. Yet all the tests turned up negative.

"I sat down and said, 'I'm seeing a new problem. I've got to back to the basics.'" She began to rule out potential causes. Poisonous mushrooms? No. Poisonous plants? No. Iron toxicity? No. Drug overdose? None of these made sense.

Then she dredged something out of her memory from veterinary school. The damaged livers were like those of a dog or a cow that died after drinking out of a scum-choked farm pond. The culprit

in those cases was a toxin, microcystin, produced by a type of cyanobacteria called *Microcystis*.

She found a lab to run tests and, sure enough, the liver sample tested positive for the *Microcystis* toxin. Yet it raised a question: How could a toxin produced in fresh water poison a sea otter?

Miller called the State Water Quality Control Board and learned that *Microcystis* blooms seemed to be occurring more often in lakes and estuaries. One was Pinto Lake, about five miles inland from Monterey Bay, where some of the yellow deceased otters had been found.

"I sent a lab tech to look at this lake," Miller said. "She called me on her cell and said, 'This is gnarly. I'm going to take pictures.'" She also took some samples.

"The best way to describe it? The lake turns the color of automobile antifreeze with chunks of broccoli floating in it," said Robert Ketley, water quality manager for the nearby city of Watsonville. "It's that grotesque. When the scum dries, it has a turquoise color to it."

The city owns much of the 100-acre lake and used to draw on it for water — but no longer. Ketley now posts signs warning people to avoid contact and to keep their pets away.

The city is investigating what's prompting the toxic bloom. A nearby pig farm is gone. Yet other farm fields drain into the lake, which also has shoreline homes that rely on septic tanks for sewage disposal.

Wayne Carmichael, professor emeritus of aquatic biology and toxicology at Wayne State University, calls *Microcystis* a premier organism. "We find it everywhere you have nutrient enrichment: nitrogen and phosphorous in warm, stagnant water. It's been documented in every country in the world."

It's a type of cyanobacteria, an ancestor of modern-day bacteria and algae, which dominated the planet more than 2.5 billion years ago. Scientists have found that different strains are reemerging with the buildup of pollution and nutrients from expanding agriculture and the modern industrial society.

The samples collected by Miller's lab tech found a super-bloom underway in Lake Pinto, with highly toxic readings. Miller teamed with Fish and Game chemists and UC Santa Cruz biologist Raphael Kudela to follow the toxic trail from Lake Pinto and other local lakes down rivers that reach Monterey Bay. Some of the toxins were also detected in ocean waters at Santa Cruz wharf.

But the results didn't explain how otters might ingest a lethal dose.

So Miller and her colleagues designed a lab experiment to test a hypothesis. With the lab reeling from state budget cuts, Miller shelled out money to buy six heaping shopping bags of live oysters, mussels and crabs to place in seawater tanks. Then they added some contaminated water from Lake Pinto.

Most shellfish filter the seawater to feed themselves, gathering microscopic food and anything else in the water. Tissue samples revealed the shellfish in the tanks had accumulated the toxin in their digestive tracts at concentrations that were 107 times higher than in the surrounding water.

The study, published by the Public Library of Science's peer-reviewed journal,

documented the first case of a freshwater toxin poisoning of a marine mammal. The toxin was responsible for the death of at least 21 sea otters, a species listed as threatened with extinction.

The study also suggests that humans may be at risk if they consume shellfish harvested from river mouths, especially after the first fall rains flush toxins built up in the lakes. Public health officials do not test shellfish for freshwater toxins, only for marine toxins such as the one that causes paralytic shellfish poisoning.

Carmichael, the expert on *Microcystis*, isn't too concerned about acute human poisonings because the dose would be too small. Sea otters consume about 25% of their body weight a day in shellfish, creating perfect conditions for toxic poisoning.

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### **CRITICALLY ENDANGERED WHALES MAY BE FLEEING RUSSIAN OIL AND GAS BOOM, OBSERVERS FEAR**

ScienceDaily (Sep. 7, 2010) — Russian oil and gas company Rosneft is conducting oil and gas exploration work that may have caused the critically endangered western gray whale to flee its main feeding ground.

Tests and offshore installment of equipment by Rosneft for a major seismic survey began in late August, despite repeated calls from 12 governments, NGOs, scientists and the public to postpone the survey because of potential risks to the whales.

Rosneft started preparations for the survey last month near Sakhalin Island even though a small number of western gray whales mothers and calves were feeding in the area. Only an estimated 130 western North Pacific grey whales are left in the world, with around 30 breeding females.

Seismic surveys are done by blasting the water with acoustic noise to detect oil and gas deposits under the ocean floor.

Observers from WWF and other NGOs began monitoring Rosneft's activities and the whales in mid-

July. It appears that as of Aug. 20, only weeks after Rosneft's activities started, whales feeding in the area had already been affected.

Before those activities began, observers registered 10 to 15 of the whales feeding in the area. Now whales have only been seen migrating across the area -- not feeding.

"This is a critical problem as

the whales have only a short time in which to consume enough food to last them through the year when they migrate to their breeding and calving grounds," said Wendy Elliott, WWF's whale expert.

The company also has twice conducted seismic surveys at night, which is in violation of international standards, and even Rosneft's own guidelines.

On August 23, WWF-Russia issued a letter of concern to Russian environmental authorities, requesting an immediate stop to Rosneft's testing.

As part of a WWF initiative, more than 10,000 people have sent Rosneft emails requesting that the surveys be postponed. However, Rosneft continues to shut out public opposition to its actions with some WWF members reporting that their emails to Rosneft's outgoing President Sergei Bogdanchikov had been blocked.

Scientists from the Western Gray Whale Advisory Panel (WGWAP), a group of eminent whale scientists, have also repeatedly asked the company to postpone the surveys until the whales have left the area. A letter sent from 12 governments to the Russian government asking them to make Rosneft postpone the survey also went unheeded.

"Rosneft is irresponsibly insisting on conducting this survey when they could easily postpone the survey until next year and hold it before the whales arrive," said Aleksey Knizhnikov, Oil &



Gas Environmental Policy officer, WWF Russia. "Rosneft may be ignoring public outcry but their negligent behavior will not be forgotten, and they will have to be held responsible for any harm that comes to the whales as a result of these surveys."

Postponing the surveys would also enable Rosneft to develop the precautionary monitoring and mitigation measures that are essential to minimize the impact of the seismic survey on the whales. Monitoring and mitigation measures have already been developed by the WGWAP, and are being used by another company in the same area.

WWF and other NGOs have dozens of observers and boats on Sakhalin Island this year and will be monitoring the test and how it affects the feeding whales.

In addition, WWF is planning to approach Rosneft's new president about postponing the seismic surveys.

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**WHOLE FOODS MARKET® EMPOWERS  
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*Partners with Monterey Bay Aquarium and Blue Ocean Institute to launch science-based wild-caught seafood rating program; plans to phase out red-rated species*

AUSTIN, Texas (Sept. 13, 2010) – Whole Foods Market (NASDAQ: WFMI) today launches the first in-store color-coded sustainability rating program for wild-caught seafood and commits to phasing out all red-rated species by Earth Day 2013.

Partnering with Blue Ocean Institute and Monterey Bay Aquarium, Whole Foods Market is the first national grocer to provide a comprehensive science-based sustainability rating system for wild-caught seafood. The system's green, yellow, and red ratings make it easy for shoppers to make informed choices at the seafood case. Green or "best choice" ratings indicate a species is relatively abundant and is caught in environmentally friendly ways; yellow or "good alternative" ratings mean that some concerns exist with the species' status or catch methods; and red or "avoid" ratings mean that for now the species is suffering from overfishing, or that current fishing methods harm other marine life or habitats. The new initiative expands upon the sustainable seafood program that Whole Foods Market has had with the Marine Stewardship Council (MSC) since

1999, and the new ratings apply only to non-MSC-certified fish.

"At the end of the day, it's a team effort. Our customers, buyers, fishermen and fishery managers can all make smart decisions that move us in the direction of greater seafood sustainability," said Carrie Brownstein, Whole Foods Market seafood quality standards coordinator. "The new color-coded rating system is a transparent way to provide sustainability status information. This new program, along with our promise to phase out red-rated species, deepens our commitment to having fully sustainable seafood departments."

With the Food and Agriculture Organization of the United Nations reporting that 80% of fisheries are fully exploited, over-fished, or depleted, Whole Foods Market's is combining the passion of its customers, the commitment of its skilled seafood buyers, and the dedication of its many seafood suppliers to help reverse this trend.

"We're delighted to help Whole Foods Market expand its commitment to offering seafood from sustainable sources," said Michael Sutton, vice president of the Monterey Bay Aquarium, who oversees its Seafood Watch program, [montereybayaquarium.org](http://montereybayaquarium.org). "Whole Foods Market is a leader in the field, and its decision will have a real impact on seafood suppliers and other retailers. Its in-store education and commitment to phase out red-rated seafood will help raise awareness and improve fishing practices around the world."

"Blue Ocean Institute applauds Whole Foods Market's continued commitment to consumer education. Our rankings represent authoritative science that examines the key factors affecting the health of ocean populations," said Dr. Carl Safina, MacArthur Fellow and founder of Blue Ocean Institute. "The rankings on the Whole Foods Market signs reflect the efforts of seafood science experts. Each also represents information consumers can understand and trust. This partnership will give seafood lovers the tools they need, where they need them—at the seafood counter—to make informed choices on behalf of ocean-friendly seafood."

Blue Ocean Institute and Monterey Bay Aquarium are both highly respected for the strength of their science-based seafood programs, which evaluate species and fisheries on life history, abundance, habitat impacts, management

practices and bycatch. Both organizations provide customers with information on the sustainability status of fisheries that are not certified by the MSC. Whole Foods Market continues its ongoing partnership with the MSC, the world's leading certification body for sustainable wild-caught seafood. It uses a multi-stakeholder, international market-based approach to provide incentives for fisheries to address key issues such as overfishing and bycatch. The blue MSC ecolabel identifies wild-caught seafood products that are MSC-certified.

Whole Foods Market previously stopped selling especially vulnerable red-rated species such as non-MSC-certified Chilean sea bass, orange roughy, bluefin tuna, sharks, and marlins (with the exception of Hawaii-caught blue marlin, sold only in Hawaii stores). All swordfish and tuna from red-rated fisheries will be eliminated from seafood counters by Earth Day 2011. By Earth Day 2012, all other seafood from red-rated fisheries will be discontinued with the exception of Atlantic cod and sole, which will be sold through Earth Day 2013.

The company's new wild-caught seafood rating program and partnerships will complement its existing farmed seafood standards, which remain the highest in the industry. Whole Foods Market requires third-party audits and traceability from hatchery to market, and they prohibit use of antibiotics, added growth hormones, added preservatives like sulfites and phosphates, genetically-modified seafood and land animal by-products in feed. Farmed seafood at Whole Foods Market carries the "Responsibly Farmed" logo to indicate that it meets these high standards.

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## **WHALE AND DOLPHIN CONSERVATION SOCIETY PROTEST DOLPHIN DRIVE HUNTS IN JAPAN**

The fishermen who hunt the dolphins have already made more than one attempt to catch dolphins and last Friday, 20 bottlenose dolphins were brought into the infamous killing cove, where some were taken alive for display in aquaria.

As we brace ourselves for more reports from the field, we are forced to reflect on the complexity of this issue, and our efforts to ultimately stop these brutal hunts. The dolphin drive hunts occur every year from September through April, and are a brutal

reminder that we have a very long way to go towards securing a safe and humane future for all cetaceans. This devastatingly cruel practice involves the corralling of dolphins at sea and driving them into the confines of the cove in Taiji. Here they are slaughtered for meat or kept alive for sale to marine parks and aquaria across the globe. Yearly quotas for these drive hunts reach into the thousands, where small cetaceans of several species including bottlenose dolphins, striped dolphins, spotted dolphins, false killer whales and short-finned pilot whales, are taken.

There is also news that the village of Futo will restart its drive hunts this season. The last drive hunt in Futo was conducted in 2004 where 14 bottlenose dolphins were sold to aquariums, 5 were killed for research purposes and distributed for local consumption and one dolphin was released after attaching transmitters. And at least 5 dolphins died of shock.

Since the release and worldwide distribution of the Academy award-winning documentary, *The Cove*, WDCS was hopeful that shining a light on these hunts would be the first step towards their end. Unfortunately, both the government and the fishermen remain steadfast in their commitment to kill these animals for their meat or as a means of pest control, or to sell them alive to marine parks. We are hopeful that through continuing awareness and commitment to education and outreach in Japan that the tide will turn and this archaic practice will be abandoned.

Until then, WDCS will continue to work for an end to these brutal drive hunts. We have been active in confronting the dolphin drive hunts in Japan on a number of levels, from raising awareness of the hunts, taking part in peaceful protests and visiting Japan to bear witness to them. We have worked with the marine mammal scientific community to garner a public statement against these hunts, and helped secure a congressional resolution condemning the practice. WDCS has also worked to procure the growing acknowledgement from the public display industry of its complicity in fueling the dolphin drive hunts through the demand generated by marine parks and aquaria that either directly, or indirectly, source live dolphins from these hunts. And within Japan, we have developed an educational campaign with our Japanese colleagues to educate the public about whales, dolphins and their suffering in drive and other hunts. In the next few years, WDCS will seek to expand its education program within Japan and

continue its outreach work on location in Taiji. See our report, *Driven by Demand*.

Things that you can do!

\* Watch for our web campaign and video updates from the ground in Taiji and elsewhere in Japan to air in October!

\* Join us for the annual International Day of Protest against the dolphin drive hunts! Details will be forthcoming as the time and locations are announced for Embassies and Consulates around the world.

\* Sign the Petition to encourage the village of Futo not to return to the drive hunts and end them for good <http://www.thepetitionsite.com/takeaction/886/322/136/>

\* Send a letter to your nearest Japanese Embassy or Consulate to the following contacts:

Mr. Naoto Kan

Prime Minister of Japan

Fax: +81-3-3581-3883

E-mail:

<http://www.kantei.go.jp/foreign/forms/comment.html>

Ambassador Ichiro Fujisaki

Embassy of Japan in Washington D.C.

2520 Massachusetts Ave., N.W.

Washington D.C. 20008-2869

Fax: 202-328-2187

E-mail: [jicc@embjapan.org](mailto:jicc@embjapan.org)

**SIGHTINGS** compiled by Monterey Bay Whale Watch. For complete listing and updates see [www.gowhales.com/sighting.htm](http://www.gowhales.com/sighting.htm)

Date	#	Type of Animal(s)
9/23 a.m.	4	Humpback Whales
	100	Risso's Dolphins
9/22 p.m.	1	Humpback Whales
	50	Risso's Dolphins
	1	Tufted Puffin
9/22 a.m.	15	Humpback Whales
9/21 a.m.	30	Humpback Whales
	150	Pacific White-sided Dolphins
	50	Northern Right Whale Dolphins
9/20 a.m.	22	Humpback Whales
	50	Risso's Dolphins
	80	Northern Right Whale Dolphins
	2	Harbor Porpoise
9/19 p.m.	30	Humpback Whales
	4	Blue Whales
9/19 a.m.	3	Humpback Whales
	20	Risso's Dolphins
9/18 p.m.	2	Humpback Whales
	1	Blue Whale

	4	Killer Whales
9/18 a.m.	2	Blue Whales
	7	Killer Whales
9/17 p.m.	3	Blue Whales
	1	Unidentified Shark
9/17 a.m.	1	Humpback Whale
	2	Blue Whales
	800	Pacific White-sided Dolphins
	500	Northern Right Whale Dolphins
	2	Dall's Porpoise
	1	Harbor Porpoise
9/16 a.m.	5	Humpback Whales
	7	Killer Whales
	1	Fin Whale
9/15 p.m.	1	Humpback Whale
	7	Killer Whales
9/15 a.m.	4	Humpback Whales
	2	Blue Whales
9/14 a.m.	15	Humpback Whales
	3	Blue Whales
	1	Fin Whale
	850	Pacific White-sided Dolphins
	800	Northern Right Whale Dolphins
9/13 p.m.	8	Humpback Whales
	1	Fin Whale
		Pacific White-sided Dolphins
		Risso's Dolphins
		Harbor Porpoise
9/13 a.m.	7	Humpback Whales
	5	Blue Whales
	250	Risso's Dolphins
	200	Northern Right Whale Dolphins
	20	Harbor Porpoise

## BOOK RECOMMENDATIONS

[The Death and Life of Monterey Bay: A Story of Revival.](#) By Stephen Palumbi (Hopkins Marine Station)

[Field Guide to Marine Mammals of the Pacific Coast: Baja, California, Oregon, Washington, and British Columbia.](#) Written by Sarah Allen, Joe Mortenson, and Sophie Webb. 2010 UC Press

[The Flooded Earth: Our Future in a World Without Ice Caps.](#) By Peter Ward

[Almost Chimpanzee: Searching For What Makes Us Human In Labs, Rain Forests, Sanctuaries and Zoos.](#) By Jon Cohen

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



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# Soundings



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

November-December 2010

**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, DECEMBER 2, 2010**

**TIME: 7:30 PM. PLEASE JOIN US AT 7:00 FOR REFRESHMENTS**

**Speaker: Scott A. Shaffer, Ph. D.,  
Assistant Professor of Biology  
Department of Biological Sciences,  
San Jose State University**

**Title: "Have Wings Will Travel: Around the Pacific Ocean  
with Migrating Sooty Shearwaters".**

In summer and fall, observers on whale watching trips or from shore frequently see dense flocks of dark, mid-sized seabirds over the Bay, often feeding in association with marine mammals. This species is the subject of our program this month.

Scientists have long known that Sooty Shearwaters breed in New Zealand and Chile and migrate to feeding grounds in the Northern Hemisphere. But the details of this remarkable trans-equatorial migration have only recently emerged from a study using electronic tracking tags to follow individual



birds. The flights of sooty shearwaters, total population about 20 million, documented in this study encompass the entire Pacific Basin and represent the longest animal migration routes ever recorded using electronic means – around 39,000 miles. These seabirds cross the equator twice a year in pursuit of an endless summer in which food resources tend to be always at their peak.

Our speaker was part of this study known as TOPP (Tagging of Pacific Pelagics) together with scientists from many other universities.

We hope you will join us to learn more about this fascinating study.

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**REGISTER NOW FOR THE 12TH  
INTERNATIONAL AMERICAN  
CETACEAN SOCIETY  
CONFERENCE TAKING PLACE  
IN MONTEREY,  
NOVEMBER 12-14,  
Whales 2010: Inspiring a New Decade of  
Conservation**

**A New Decade, New Challenges,  
New Opportunities  
to Make A Difference  
Embassy Suites Conference Center,  
Monterey**

Full conference, single day, and half day registrations available at door Full conference registration tickets include Friday night reception, all plenary sessions, panels, poster sessions, book signings, art show, and lunch on both Saturday & Sunday.

\*\*Banquet is NOT included in conference ticket price and must be purchased separately.

- \* Student full conference rate: \$195
- \* Member full conference rate: \$230
- \* Member Saturday or Sunday single day rate: \$120 – includes lunch
- \* Member ½ day Saturday or Sunday: \$55 – does not include lunch
- \* Saturday night banquet and John Heyning Award: \$45
- \* Friday 1/2 day whalewatching: \$65
- \* Friday full day whalewatching: \$100

**CONFERENCE SCHEDULE**

**FRIDAY**

5:30 - 6:30pm Registration desk is open for check-in and those who have not yet registered  
6:30 - 9:30pm Welcome Reception, Embassy Suites Ballroom  
7:30 - In the Eye of the Whale, featuring an exhibit of life-size, high-resolution photographs of whales - Bryant Austin, Artist  
8:00 pm The Adventures of a Whale Painter: 50 Years in Pursuit of Cetological Correctness - Richard Ellis, Artist/Writer

**SATURDAY**

7:00 - 8:15 am Registration desk is open for check-in and those who have not yet registered  
8:15 - 8:30 Welcoming Remarks - Kathy Zagzebski, ACS President

Whales in 2010 – Where We Are  
8:30 - 9:00 Whales of the World: New Developments in Whale Research in the North Pacific and Challenges Whales Face – John Calambokidis  
9:00 - 9:30 Small Cetaceans of the World – Tom Jefferson  
9:30 - 10:00 The Most Endangered Cetaceans – Bernd Würsig  
10:00 - 10:15 Break  
10:15 - 10:45 Large Whale “Hotspots” – 2010-2020  
10:15 - 10:45 Right Whales: Surviving the Times? – Brenda Rone  
10:45 - 11:15 Out of Sight But Not Out of Mind: Using Tag Technology to Understand Humpback Whale Foraging – Ari Friedlaender  
11:15 - 11:45 Cetacean Cultures and Cetacean Rights – Hal Whitehead  
11:45 Announcements  
12:00 - 1:00 pm Lunch

Dolphins in Distress  
1:00 - 1:30 Over-fished and Under-appreciated: Conservation and Management of Hawai’i’s False Killer Whales - Our Next Endangered Species? – Robin Baird  
1:30 - 2:00 The Status and Recent Trends of Cook Inlet Beluga Whales – Rod Hobbs  
2:00 - 2:30 Biology and Status of the World’s Freshwater Cetaceans – Randy Reeves  
2:30 - 2:45 Break

Porpoises and Places in Peril  
2:45 - 3:15 Effects of the BP Oil Spill on Marine Mammals of the Gulf of Mexico – Teri Rowles  
3:15 - 3:45 End of the Line: The Recovery and Conservation of the Vaquita – Lorenzo Rojas-Bracho  
3:45 - 4:15 Importance of Taxonomy for Conservation of Finless Porpoises – John Wang  
4:30 - 5:30 Poster session, art show, book signings (Jim Darling, Elin Kelsey, Kathleen Dudzinski/Toni Frohoff, Carrie Newell)  
6:00 - 7:00 Music/Socialize (Banquet participants only, banquet location)

7:00 - 9:00 Banquet and Awards Ceremony -  
Small Cetaceans in a Rapidly Changing World –  
Randy Wells. (John Heyning Award Presentation,  
Photo Contest and Poster Contest Awards Announced)

### SUNDAY

8:00 - 9:00 am Registration desk is available  
9:00 - 9:15 Opening Remarks  
9:15 - 10:15 Keynote Speaker – Conservation,  
Crisis, and Human Perception – Tim Ragen  
10:15 - 10:30 Break  
The Next Decade of Cetacean Conservation  
10:30 - 11:00 Worldwide Mass Strandings of  
Beaked Whales: Changing Patterns and Their  
Probable Causes – Bob Brownell  
11:00 - 11:30 Politics: The Past, Present, and  
Future of the IWC – Sue Fisher  
11:30 - 12:00 Cetaceans and Climate Change:  
What Can We Expect? – Ian Dutton  
12:00 - 1:00 Lunch  
1:00 - 1:30 Voices of the Great Whales,  
Drowning in a Sea of Noise – Chris Clark  
1:30 - 2:00 Marine Spatial Planning and  
Cetacean Conservation – Pat Halpin  
2:00 - 2:30 Whale Health and Conservation in  
an Urban Ocean – Rosalind Rolland  
2:30 - 2:45 Break  
2:45 - 4:00 “The Cove”– Screening clip and  
Q&A with Louie Psihoyos, Film Director  
4:00 - 4:30 What Can ACS Do? What Can We  
Do? – Kathy Zagzebski and Cheryl McCormick, ACS  
Executive Director  
4:30 Formal Sessions Adjourn.  
Unmoderated Open Discussion Opportunity

## A FOND FAREWELL FROM YOUR PRESIDENT

Dear Friends of Whales,

Thank you for allowing me to serve as president of the Monterey Bay Chapter of the American Cetacean Society for the last two years. It has been a gratifying experience to work with all of you and to feel the passion for cetaceans and marine life that you exude.

Please welcome Randy Puckett as the 2011-2012 chapter president, taking the helm once again in January. Randy was the first president of the Monterey Bay Chapter when it was chartered in 1985.

Every board member has contributed to the success of ACS Monterey Bay. Bob Mannix

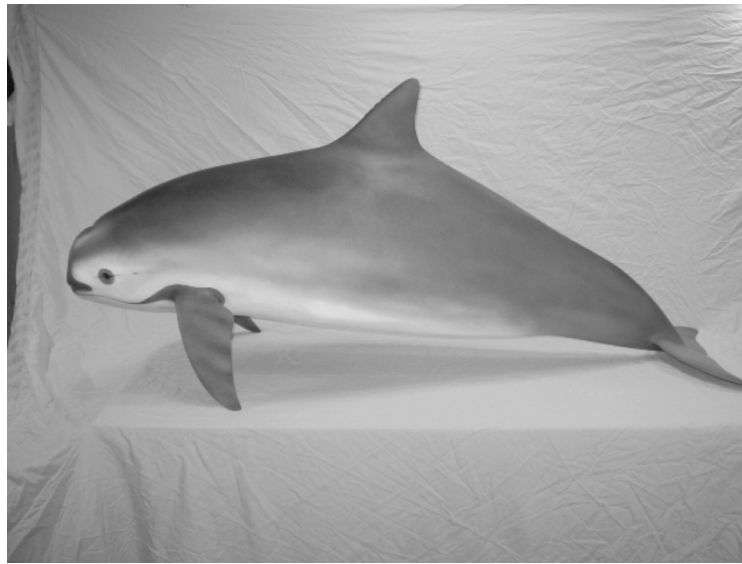
and Alan Baldrige have provided exemplary programs for our monthly meetings. Alan and Sheila Baldrige are instrumental to the process of requesting and awarding research grants, with at least three research grants funded by ACS/MB per year. Treasurer Katy Castagna is commendable for her work getting grants sent to students in Mexico, setting up and maintaining a separate Viva Vaquita bank account, in addition to her astute management of ACS/MB income, expenditures and taxes. Thanks to Tony Lorenz and Mary K. Paul for the quality and content of the monthly newsletter, *Soundings*. Appreciation goes to Evelyn Starr for providing us with our website, [www.starrsites.com/acsmb/](http://www.starrsites.com/acsmb/) Sally Eastham works tirelessly to keep membership up to date. Our chapter membership is around 160, with renewals and new memberships vital for growth. Sally and Barbara Oliver both spend time every month getting the newsletters from the printer to the post office and into members' hands. Thank you. Tony Lorenz does outstanding work organizing the two whalewatching fundraisers held each year, as well as the National Conference trips. Thank you to Jerry Loomis for his narrative on the whale watching trips and for serving as National member-at-large Thank you to education co-chair Rene Rodriguez (with wife Morgen Puckett) for inviting 5<sup>th</sup> graders from Martin Luther King Academy in Salinas each year to accompany us on the January Gray Whale trip. Many thanks to secretary Gina Thomas, who provides meticulous minutes from the quarterly board meetings, and conservation chair, Carol Maehr, who monitors whale conservation issues and delivered a powerful presentation to President Obama's Ocean Task Force on behalf of ACS/MB. I am also filled with gratitude for our two at-large board members, Dave Zaches and Art Haseltine. Both have been generous with knowledge and financial contributions and have brought a solid sense of purpose to the board.

Our chapter has benefitted from the support of Princess Monterey Whale Watching and Monterey Bay Whale Watch on Fisherman's Wharf throughout the years. We are grateful for their knowledge and generosity, and encourage

members to patronize those establishments when whale watching.

I'm filled with appreciation to the members who have worked our booth and represented ACS at events, particularly at the West Coast Whale Rally in May, 2010. Thank you to all who have contributed refreshments at our monthly meetings, too. If you are inspired to learn more about becoming a board member or officer with the Monterey Bay Chapter of the American Cetacean Society, please let me or another board member know.

The formation of the Viva Vaquita Task Force has been an important accomplishment for our chapter. We can only hope that our combined efforts with Mexico will help save the vaquita from extinction. Thank you to Randy Puckett for offering his scale model bronze vaquita sculpture as a fundraiser. His generous offer expires at the end of 2010, so please do consider a purchase to help the vaquita.



Here's wishing the wonderful members of the Monterey Bay Chapter of the American Cetacean Society a very happy holiday season. Thank you for your support! See you at the December 2<sup>nd</sup> meeting.

- Diane Glim

## VAQUITA VANISHING

By Stefanie Kaku

Several days ago I attended a meeting of the local chapter of the American Cetacean Society. The featured speaker was Chuck Davis, a well-known and respected marine photographer/cinematographer. Before the main event, Alan Baldrige, board member of the ACS Monterey Bay and marine conservationist, was asked to say a few words about sightings and happenings of interest to the group. The local ACS has taken a special interest in promoting

awareness and conservation of the vaquita (*Phocoena sinus*), a porpoise found only in a relatively small area in the far northern part of the Sea of Cortez. Although it is one of only 6 species of true porpoises, and has the distinction of being the smallest cetacean, I'm not even sure I'd ever been aware of its existence until I saw it mentioned on the ACSMB website perhaps 5 months ago. That evening Mr. Baldrige spoke again about the critical situation of this marine mammal. It could be extinct in 12 months.

12 months? I'd consciously heard of it an eyeblink ago, maybe half that time. 12 months.

Heartbreaking and stark, his words tolled in me like the oddly mournful and ominous sound of a buoy in heavy fog, sounding alarmingly closer than it is. I had a familiar hitch in my throat; my heart felt small and tight. Now, getting me to cry is not much of a challenge but this time I held on and swallowed hard. And yet this seems to be something actually worth grieving.

The Mexican government has taken an unprecedented interest in saving this species; there is a sanctuary now for the vaquita but the refuge is smaller than the actual range of the animal. The main threat to the vaquita is the use of gillnets by local fishers. Gillnets are notorious for the proportion of bycatch, a strangely neutral term for an appalling waste. The vaquitas become part of that haul as they become entangled in the nets and quickly drown. Counts of vaquitas currently are 100-250; estimates of vaquitas caught in nets range from 40- 85 annually. Females of breeding age produce only up to one offspring every other year and the population has declined more than 55% in ten years. There is no accurate count of vaquitas that are killed as many of them are thrown back into the sea once

drowned; some fishers don't want the refuge extended. There is no accurate count of live vaquitas either as they are not only rare but elusive. Just by the numbers, saving the vaquita is a colossal challenge.

Technically the vaquita sanctuary is a no-fishing zone; however, not only is it difficult to enforce but porpoises are wild animals and don't acknowledge the invisible safe boundary. The fishers are trying to bring in commercially viable catch, especially shrimp. Shrimp is the most lucrative commercial seafood worldwide, and much of it is bound for the U.S. market. It is the demand of the consumer to buy, serve and eat the tasty little crustaceans that drives the shrimp industry, which in this case is of the cottage variety of individual fishers who use the nets which drown the porpoises. And we must know by now that sheer environmental moral outrage does not always work to make an industry change course. If it did, why after several decades of awareness and protest are we still hearing the same unsupportable excuses from virtually the same countries who continue to hunt whales? The quickest and most effective pressure nowadays seems to be the power of consumerism. Now in the vaquita's situation these are local fishing people who are trying to survive and feed their families; they are not commercial fishing companies running large shrimping operations as observed in 1940 by Ed Ricketts and John Steinbeck,

"...There were twelve boats in the combined fleet including the mother ship, and they were doing a very systematic job, not only of taking every shrimp from the bottom, but every other living thing as well." As lamented in *The Log from the Sea of Cortez*, published 1951.

Today there are groups working with the governments of the concerned nations involved to offer alternatives; so far these alternatives are not providing a satisfactory solution for the fishers and so the use of gillnets continues. However, unlike the vaquita, humans can adapt.

In the meantime, it may seem ridiculous but I am going to stay away from eating shrimp. It may seem especially fruitless as I already consume very little since I know that most are not

brought to market in an ecologically sound manner. An argument can easily be made that it would be more beneficial to find out the origin of the shrimp on the menu and order it if it is from a "good" source, and so use my hard-earned dollars to encourage sustainable fishery practices. But how do I know that they are really the eco-friendly carefully harvested domestic variety, and not imported gillnet caught shrimp from Mexico? Do I ask to see a prawn passport? Should my dinner decision become Checkpoint Charlie? To me it seems that reducing overall consumption and demand is ultimately more sound. And so for the time being, no shrimp-stuffed tofu or seafood combo wraps for me. Maybe I'll just eat more peanuts. As far as I know, they're not a particularly destructive crop. As well as being a cheap and frequently domestically-grown source of protein, fat, carbohydrates and fiber, they are in fact legumes, which means they are happily industrious little nitrogen-fixers. For me, giving up shrimp is a small sacrifice. I am, after all, an omnivore.

Do I really think that my gesture will have an impact? Not really. Ultimately it is a not a solution but a solo effort to avoid possibly causing more harm. It may also partially be a distraction from other more snightmarish environmental woes competing for attention in my shrinking brain. The result I do intend is that every time I think of ordering shrimp, I think of the vaquita; maybe I'll donate the few dollars I saved not ordering it. Or maybe I'll talk to someone about the little desert porpoise on the brink. But I, like the fishers, can exercise free will and practice adaptation. The vaquita cannot. It can only be.

And even then, soon it will probably cease even that.

Does it really matter so much, losing one particular species of porpoise? In the bigger picture maybe it's a minor loss, an extinctive footnote. But if we can't save a type of animal that seems to be universally recognized as not only one of the most beautiful, but also one of the most intelligent, what does that say about our other more encompassing environmental prospects?

This summer I had the opportunity to go on a whale watching trip. Despite my history of motion sickness I decided to go mostly because at the time, and still as I write this, there was an unusually large number of humpback and blue whales locally. On this trip I saw my first living, breathing blue whale. As it calmly went about its way as our boat came closer, I was overwhelmed and could not even take out my camera, unwilling to miss even a second of staring through tears behind sunglasses. As a kid learning about whales decades ago, I did not think I'd ever see a blue whale. Their rarity seemed like extinction was inevitable in my lifetime. And yet here they are, feeding in the bounty off our beautiful coast. For the locals living on shore near the waters of the vaquita, some believe the animal is a myth as they've never seen one.

So we still have the blue whales and we still marvel. But how many other named and unnamed species have we lost? How many more are we willing to allow vanishing? It seems the popular stance to showcase the danger of destroying our planet as it affects us, those in charge of the destruction. But does it really come down to "what's in it for me?". Or does the planet and its mysteriously intricate, intimately connected web deserve to live in its own right? Do we sacrifice the vaquita because we don't care enough not to, or do we try to protect it not because maybe it has some as yet unknown benefit to our survival but instead just because it is? Porque la vaquita vive.

So I'm taking a stand. I'm putting money in the donation can and sending it online. And I'm becoming emotionally allergic to shrimp. Naïve? Yes. Pointless? Probably. Symbolic? Absolutely. And I'm doing it anyway.

¡Viva la vaquita, y viva la vida!

© Stefanie Kaku, August 2010---- haverstef@hotmail.com  
For more information: [www.vivavaquita.org](http://www.vivavaquita.org);  
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## SAYING NO TO SHARK-FIN SOUP, AND TRADITION

By Larry Pynn, (Vancouver Oct 25, 2010)  
*The dangerous allure of shark-fin soup and the grassroots movement to combat it*

Tai Cheng's father Derick, a prominent Chinatown businessman, was okay with not serving shark-fin soup at his son's wedding.

But Cheng's mother, Roxy, had her doubts.

Shark-fin soup is traditional at such banquets. Failure to serve it could send the wrong message to the 680 guests assembling at the Floata Seafood Restaurant on Keefer Street.

"She was worried about the backlash, the stigma, the talk in the community," Cheng explained.

As it turns out, nobody complained and everyone was forced to take a fresh look at the ecological impact of their culture — in this case, the global decline in shark populations.

"There is no purpose other than the fact it's a sign of wealth," said Cheng's bride, Julianna Paik, who's of Korean descent. "Ask yourselves why you're choosing to serve it.

Understand all aspects of that dinner and make a conscious choice, not just because of tradition or to show that your family is wealthy."

Not far away, restaurant manager Daniel Chow sat down with The Vancouver Sun as the mid-week luncheon crowd eased.

"In my opinion, it's about time to stop it," he said of the global slaughter of sharks. "Sharks are the top of the food chain. Once no shark, the ocean will lose the balance."

His boss is sympathetic, but not quite as committed. He doesn't want the restaurant's name published in the paper.

Chow understands the desire to meet the demands of customers.

Shark-fin soup is also a lucrative item that restaurants cannot easily dismiss.



“It’s the meaning of high class,” he explained. “The ancient Chinese people, they used to do it. They’d like to eat something that’s hard to get. Like shark fin — they have to get the shark to get out the fin. Once they’re used to it, ‘Oh, I’m rich, I can afford to eat something expensive.’”

The long-standing view at wedding banquets: “If you don’t serve shark fin, that means no respect.”

#### SHARKS IN DECLINE

Yet the impact is enormous. Shark populations are in free fall around the globe, with as many as 73 million thought to be traded annually for their fins, and Canada’s Asian communities are contributing to the conservation crisis.

Scientists warn that the removal of a top predator will have serious ecological consequences, and they appreciate grassroots efforts within the Chinese community to make a difference.

“We have to stop that,” asserted Dennis Thoney, director of animal operations for the Vancouver Aquarium. “We need to educate Asians about shark-fin soup. The fishery just cannot handle that.”

Chow’s restaurant charges \$25 for an individual bowl, although one can pay many times that, depending on the quality and the size of the fin. Herbal shops in Chinatown can charge more than \$600 a pound for better fins.

During cooking, shark fin becomes long and transparent, like vermicelli. “It doesn’t have any taste,” Chow said, noting the soup base is the “soul of the soup” with ingredients such as pork, chicken bones and ham (for the salt).

Larger and thicker fins fetch the highest price, especially the dorsal fin on the back of the shark.

“It’s getting more popular,” Chow said. “Chinese society is getting rich, so many occasions.”

The demand led the Green Party of Canada, in 2007, to call for a ban on the import of shark fins. Shark Truth, an organization founded

by Simon Fraser University business graduate Claudia Li, supports that ban in hopes of putting an end to shark-fin soup.

Nick Dulvy, co-chair of the shark specialist group for the International Union for Conservation, supports efforts within the Asian community to educate consumers about the impact of their actions.

“That’s the way forward,” he said. “There is a sense that people in the Chinese community want the opportunity to do something about the consumption of shark-fin soup.”

Chow said he asks, but does not push, customers to consider an alternative to shark-fin soup when planning a wedding banquet.

“It’s a first step,” he said. “If they’re open to the idea, I’ll suggest something else.”

Options include other expensive soups, perhaps one with rare mushrooms or another type of seafood, such as fish maw (swim bladder). “Find a substitute to shark fin ... otherwise it won’t be stopped.”

Some young Asian couples are taking a position on their own against shark-fin soup at their weddings.

“I feel proud when they do that,” Chow said. “But it’s still small. You’ll have to wait for a certain long time to change peoples’ minds.”

#### LACK OF ACTION

International government action to save sharks has proven largely futile.

Even the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) achieves limited success.

“The problem with CITES is that countries that have an enormous vested interest in the economics of fisheries hold sway,” Dulvy said.

“It comes down to who has the most influence and power and carry the most votes on the day. At the moment, while many countries are concerned about pelagic sharks, the reality is that the bulk of countries are not voting to list sharks under CITES.”

A study published online recently in *Progress in Oceanography* by Peter Jacques of the University of Central Florida, found that globally

active shark management is “nearly non-existent,” while pressures on sharks, through practices such as finning, have increased over the past 20 years.

Jacques noted that “there are blocs of countries working actively against shark listings in CITES, and intense financial interests for fins at stake in legal and illegal markets, where organized crime syndicates have infiltrated the industry, complicating the geopolitical possibility of effective conservation.”

Dulvy, who also is Canada research chair in marine biodiversity and conservation at SFU, said oceanic sharks are often caught as “collateral” damage of our desire to eat bluefin tuna and swordfish.

“Instead of keeping the shark, they cut off the fins and throw the live shark back overboard. The business that runs the fishing fleet is making money from tuna and swordfish, but the fishermen on the boats are supplementing their salary by keeping these fins. They’re making a bit of money on the side ... trying to make a living like you or me.”

More countries are banning the inhumane and wasteful practice of finning and requiring fishermen to at least bring the whole shark back to the dock; that way, officials have a better idea of the species and numbers being impacted.

Ernie Cooper has closely followed the international trade in wildlife for more than 20 years as Canada’s first wildlife inspector with Environment Canada, and now as a wildlife trafficking specialist with the World Wildlife Fund.

At the latest CITES meeting in March 2010 in Qatar, the U.S. sought to list hammerhead and oceanic white-tip sharks under Appendix II, which would require export permits and the assurance of government that the trade is not detrimental to the species.

But international politics combined with poor attendance due to the high costs of visiting the Gulf state conspired against the interests of conservation, Cooper said.

Japan did its homework and lined up enough opposition to defeat a more contentious proposal that would have banned the commercial

trade in Atlantic bluefin tuna, a species highly valued for sushi but in decline.

“That was the real battle,” Cooper said. “Japan, as the primary market, pulled out all the stops to ensure the bluefin tuna proposal didn’t pass.”

Libya called for a vote early in the discussion — which every country has the right to do — and limited discussion on the merits of the proposal. “It’s politics. Let’s just say Libya did what it was supposed to do.”

The vote: 72 out of 129 CITES members voted against the trade ban, 43 voted in favour, 14 abstained. A two-thirds majority is needed to pass under CITES rules. CITES has 175 member countries.

Once the bluefin tuna listing was defeated, the sharks fell as well. Proposals by the European Union to list the spiny dogfish and porbeagle shark also failed, with Canada opposing listing of the dogfish but supporting porbeagle.

To date only three shark species have been listed under CITES Appendix II: the basking shark and whale shark are killed mainly for their fins and meat, and the great white shark for its jaws and teeth.

Even so, the giant retail website, eBay, brazenly lists great white shark teeth for sale, mostly from China, but also the U.S.

“When it comes to the wildlife trade, it’s always about the money,” confirmed Cooper, describing Vancouver as a “major entry point” for Asian wildlife products entering Canada.

#### THE AWE OF WILD SHARKS

As for newlyweds Paik and Cheng, both Vancouver lawyers, their conservation journey only began at their wedding.

By committing not to serve shark-fin soup, they entered and won a Shark Truth contest that took them to Mexico’s Mayan Riviera near Cancun last August. There, they snorkelled with whale sharks — the largest fish in the ocean, at well over 10 metres — that had gathered to feed on plankton.

“It was overwhelming,” Paik said. “You see them coming up through the darkness with



their mouth open. They're scary looking because of the image we have of Jaws, but they're harmless, very gentle, and so beautiful."

Cheng was unfazed by the fact the sharks were big enough to swallow him.

"It was very calming to be in the water with them. They were just minding their own business."

[canada.com/business/Saying+shark+soup+tradition/3720005/story.html](http://canada.com/business/Saying+shark+soup+tradition/3720005/story.html)

## **KILLER WHALES ENDANGER OTTERS IN SOUTHWEST ALASKA, REPORT SAYS**

*RECOVERY: 5-year plan aims to ease human, natural threats.*

By Mary Pemberton (The AP Oct 15th, 2010) A report by government scientists identifies killer whales as the No. 1 reason there are so few sea otters in southwest Alaska.

The U.S. Fish and Wildlife Service's proposed five-year, \$15 million recovery plan for sea otters in the Aleutian Islands considered a slew of possible reasons for the perilously low numbers found in some areas.

The draft recovery plan released this week said there is only one threat considered to have high importance: predation by killer whales, with sharks perhaps being a factor.

Nearly all other factors, including climate change and impacts from humans, were considered to have low importance.

The report said there may be "few actions that can be taken" to mitigate predation by killer whales. "But the sea otter recovery program should search for solutions and be open to novel ideas," the report said.

The southwest Alaska sea otter population, which has declined by more than 90

percent in some areas, has been listed as threatened since 2005. In 1976, there were an estimated 94,050 to 128,650 sea otters. Now, there are an estimated 53,674 animals, and perhaps fewer.

The recovery plan does identify some other potential threats to sea otters, most importantly the role of disease and whether there is adequate oil-spill response in southwest Alaska.

While the report clearly points to killer whales, it also highlights other big concerns, said Brendan Cummings, senior counsel with the Center for Biological Diversity.

"If you had a tanker break up in the Aleutian chain, it could be absolutely catastrophic for sea otters," he said.

One-hundred years ago, fur harvesting nearly wiped out the world's population of northern sea otters. By the time international treaty protection was granted in 1911, there were fewer than 1,000 sea otters in 13 remnant colonies. They eventually repopulated much of their original habitat.

The southwest Alaska population began its steep decline

in the mid-1980s.

If fully implemented, the recovery plan would cost \$15 million over the next five years. There is a 120-day public comment period.

The plan calls for dozens of actions in five units stretching along more than 1,500 miles of shoreline, from the western Aleutian Islands to Kodiak and the Alaska Peninsula.

Actions include monitoring the population, protecting habitat, managing the impact of human uses and protecting sea otters from human as well as natural threats.



The plan also considers potential threats from biotoxins, contaminants, food limitations, commercial fishing, the subsistence harvest, loss of habitat and illegal take.

"Actions should be taken wherever possible to mitigate threats from any source, and thereby minimize mortality and maximize productivity," the report says.

### **FIRST GENETIC EVIDENCE FOR LOSS OF TEETH IN THE COMMON ANCESTOR OF BALEEN WHALES**

ScienceDaily (Oct. 1, 2010) — In contrast to a toothed whale, which retains teeth that aid in capturing prey, a living baleen whale (e.g., blue whale, fin whale, humpback, bowhead) has lost its teeth and must sift zooplankton and small fish from ocean waters with baleen or whalebone, a sieve-like structure in the upper jaw that filters food from large mouthfuls of seawater.

Based on previous anatomical and fossil data studies, scientists have widely believed that both the origin of baleen and the loss of teeth occurred in the common ancestor of baleen whales about 25 million years ago. Genetic evidence for these, however, was lacking.

Now biologists at the University of California, Riverside provide the first genetic evidence for the loss of mineralized teeth in the common ancestor of baleen whales. This genomic record, they argue, is fully compatible with the available fossil record showing that the origin of baleen and the loss of teeth both occurred in the common ancestor of modern baleen whales.

"We show that the genetic toolkit for enamel production was inactivated in the common ancestor of baleen whales," said Mark Springer, a professor of biology, who led the research. "The loss of teeth in baleen whales

marks an important transition in the evolutionary history of mammals, with the origin of baleen laying the foundation for the evolution of the largest animals on Earth."

Previous studies have shown that the dental genes enamel, ameloblastin, and amelogenin are riddled with mutations that disable normal formation of enamel, but these debilitating genetic lesions postdate the loss of teeth documented by early baleen whale fossils in the rock record.

Springer's team focused on the evolution of the enamelysin gene, which is critical for enamel production in cetaceans and other mammals. Cetacea includes toothed whales (e.g., sperm whales, porpoises, dolphins) and baleen whales.



They found that the enamelysin gene was inactivated in the common ancestor of living baleen whales by the insertion of a "transposable genetic element" -- a mobile piece of DNA.

"Our results demonstrate that a transposable genetic element was inserted into the protein-coding region of the enamelysin gene in the common ancestor of baleen whales," Springer said. "The insertion of this transposable element disrupted the genetic blueprint that provides instructions for making the enamelysin protein. This means we now have two different records, the fossil record and the genomic record, that provide congruent support for the loss of mineralized teeth in the common ancestor of baleen whales."

The study, which appeared online in the *Proceedings of the Royal Society B: Biological Sciences*, included eight baleen whale species and representatives of all major living lineages of

Cetacea. The researchers examined protein-coding regions of the enamelysin gene for molecular cavities that are shared by all baleen whales.

Next, the researchers plan to piece together the complete evolutionary history of a variety of different tooth genes in baleen whales to provide an integrated record of the macroevolutionary transition from ancestral baleen whales that captured individual prey items with their teeth to present-day behemoths that entrap entire schools of minute prey with their toothless jaws.

Springer was joined in the study by UC Riverside's Robert W. Meredith, a postdoctoral associate and the first author of the paper; John Gatesy, a professor of biology; and Joyce Cheng, an undergraduate researcher.

The National Science Foundation supported the study through grants to Springer and Gatesy.

**SIGHTINGS** compiled by Monterey Bay Whale Watch. For complete listing and updates see [www.gowhales.com/sighting.htm](http://www.gowhales.com/sighting.htm)

Date	#	Type of Animal(s)
10/27 p.m.	3	Humpback Whales
10/27 a.m.	3	Humpback Whales
	25	Pacific White-sided Dolphins
	14	Risso's Dolphins
	15	Northern Right Whale Dolphins
10/26 a.m.	1	Blue Whale
	200	Pacific White-sided Dolphins
	150	Risso's Dolphins
	20	Northern Right Whale Dolphins
10/25 a.m.	10	Risso's Dolphins
10/24		Poor weather
10/23 p.m.	3	Humpback Whales (breaching)
10/23 a.m.	5	Humpback Whales
	20	Risso's Dolphins
	1500	Northern Right Whale Dolphins
10/22 p.m.	2	Blue Whales
	150	Risso's Dolphins
	20	Northern Right Whale Dolphins
10/22 a.m.	1	Blue Whale
	2300	Risso's Dolphins
	200	Northern Right Whale Dolphins
	2	Blue Sharks
10/21 p.m.	5	Blue Whales
10/21 a.m.	3	Humpback Whales
	15	Risso's Dolphins
10/20 p.m.	3	Blue Whales
10/20 a.m.	2	Humpback Whales

	200	Risso's Dolphins
10/19 p.m.	1	Blue Whale
	34	Risso's Dolphins
	2	Blue Sharks
10/19 a.m.	150	Pacific White-sided Dolphins
	400	Risso's Dolphins
	400	Northern Right Whale Dolphins
10/18	5	Blue Whales
	150	Risso's Dolphins
10/17 p.m.	3	Humpback Whales
	8	Killer Whales
10/17 a.m.	1	Humpback Whale
	4	Blue Whales
	6	Killer Whales
10/16 p.m.	10	Humpback Whales
10/16 a.m.	23	Humpback Whales
	350	Risso's Dolphins
	1000	Northern Right Whale Dolphins
10/15 p.m.	5	Humpback Whales
10/15 a.m.	1	Humpback Whale
	1	Blue Whale
	20	Risso's Dolphins
10/14 p.m.	2	Humpback Whales (breaching)
10/14 a.m.	1	Humpback Whale
	3	Blue Whales
	400	Risso's Dolphins
	20	Northern Right Whale Dolphins
	2	Harbor Porpoise
10/12 a.m.	13	Humpback Whales
	2	Blue Whales
	40	Risso's Dolphins
10/11 p.m.		Rough sea - no trip
10/11 a.m.		Rough sea - no trip
10/10 p.m.		Rough sea - no trip
10/10 a.m.	9	Humpback Whales
10/9 p.m.	9	Humpback Whales
	1	Ocean Sunfish
10/9 a.m.	3	Humpback Whales
	70	Risso's Dolphins
10/8 a.m.	1	Blue Whale
	5	Killer Whales
	60	Risso's Dolphins
10/7 p.m.	6	Humpback Whales
	5	Killer Whales
	30	Risso's Dolphins
	1	Leatherback Sea Turtle

## BOOK RECOMMENDATIONS

Marine Mammal Ecology and Conservation. A Handbook of Techniques. Oxford University Press. Edited by Ian L. Boyd, W. Don Bowen and Sara J. Iverson

The Wave: In Pursuit of the Rogues, Freaks, and Giants of the Ocean By Susan Casey ( Author of The Devil's Teeth)

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