

Soundings



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

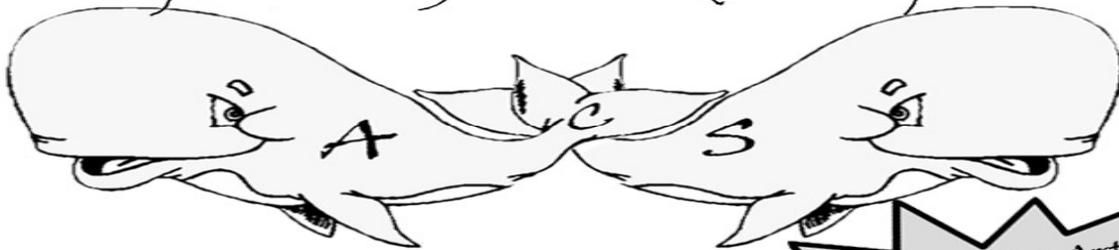
JULY 2011

*Get ready for the
American Cetacean Society
Monterey Bay Chapter
Annual Barbeque!*

when: Saturday August 6, 2011, at 3 pm .

where: Indian Village, Pebble Beach

Honoring Diane Glim and Sally Eastham



\$20 per person

*send payment to: ACS, P.O. Box HE, PG, 93950 by
August 1*

call Katy Castagna at 647-1836 for information

Bring your own table service

B.Y.O.B.

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CALENDAR

July 19-Aug 18: CSUMB Marine Science Illustration. Tues, Wed, Thur. 9am-12pm. Instructor: Amadeo Bachar. For More Info Please Call 831-582-4500

MLML Summer Marine Mammal Courses:

1-Techniques and Theories of Animal Training
Bio 348. (July 11-17) Tuition \$585.00

2-Working with Marine Mammals

Bio 347. (July 25-31). Tuition \$585.00

For more info about course details please contact Jenifer Zeligs, Ph.D Director of SLEWTHS at 831-771-4191 or go to slewths.mlml.calstate.edu

ACS Monterey Bay Chapter Great Blue Whale Search: Summer Whale Watch.

Saturday, July 30, 9 am-2pm

Boat- Sea Wolf 2. Location- Monterey Bay Whale Watch. Cost-\$50. Join ACS Monterey Bay as we explore Monterey Bay for the biggest animal the earth has ever known-the Great Blue Whale. Blue Whales congregate in Monterey Bay in the summer to forage on the prolific aggregations of krill that aggregate in Monterey's Submarine Canyon. Monterey Bay is one of the best places in the world to observe blue whales with some summer time whale watches producing in excess of 50 individuals. Our trip will be joined by local cetacean experts and Monterey Bay's most knowledgeable captain Richard Ternullo. Other species we may encounter include Humpback Whales, Fin Whales, Minke Whales, Killer Whales, Dolphins, Black Footed Albatross and Leatherback Sea Turtles. For more info and reservations please contact Tony Lorenz at 831-901-7259

July 30th 8am-4pm: ACS LA Chapter Summertime Blues Fundraiser. Search For The Great Blue Whale In The Santa Barbara Channel. Boat-Condor Express, Santa Barbara, CA. For Reservations Please call Kaye Reznick at ACS National 310-548-6279

August 12: 6-9pm Marine Life Studies 'Whale of a Time' evening of celebration, at the Monterey

Bay Educational Center & Benefit Gallery in Pacific Grove. Live music, food, and wine. Silent and live auctions. Go to marinelifestudies.org or call 831.901.3833 for details. Free to public.

Aug. 30th, 8am-4pm: ACS National Fundraiser: Blue Whales: Behemoths Of The Deep. Boat-Condor Express. Santa Barbara, CA. For Info and Reservations Please Call Kaye Reznck at ACS National 310-548-6279

Sept, 17th: 26th Annual CA Coastal Cleanup Day

Nov 27-Dec 2: 19th Biennial Conference on the Biology of Marine Mammals. Tampa, Florida. More info will be forthcoming.

Register now for Whales and Dolphins of Monterey Bay: Marine Life Studies Adventure! A Marine Life Studies Junior Research Scientist Program for children ages 8-13. Program offered through the Monterey Peninsula Regional Park District "Let's Go Outdoors!" Classes start in September. Go to www.marinelifestudies.org or www.mprpd.org for details. Call 831.372.3196 to register by phone.

BOOK RECOMMENDATION

DEMON FISH-Travels Through The Hidden World Of Sharks Written by Juliet Eilperin. Juliet Eilperin is the national environmental reporter for the Washington Post. She spent two years researching and writing this important book.

THE RISE OF FISHES-500 Million Years of Evolution Written by John A. Long. John A. Long is the vice president of Research and Collections at the Natural History Museum of Los Angeles

Whalewatcher: Journal Of The American Cetacean Society. Special Killer Whale Edition. Special Guest Editor Robert L. Pitman.. Killer Whales of California section written by Richard Ternullo, Nancy Black, and Alisa Schulman-Janiger

HOW HUMPBACK WHALES CATCH PREY WITH BUBBLE NETS

ScienceDaily (June 27, 2011) — Marine biologist David Wiley of the *National Oceanic and Atmospheric Administration (NOAA)* and others report in the latest issue of *Behaviour* how humpback whales in the Gulf of Maine catch prey with advanced water technology.

Humpback whales (*Megaptera novaeangliae*) are large baleen whales (up to 14 m long) that feed on a small prey in dense concentrations, such as krill or herrings. Humpbacks whales have large flukes relative to their size providing greater thrust for quick maneuvers. While other baleen whales feed by swimming rapidly forward, humpbacks are adapted for fine-scale movement to create bubble nets.

Behaviorally, humpback whales capture prey by engaging in complex feeding maneuvers that are often accompanied by the apparently directed use of air bubble clouds (the production of single or multiple bursts of seltzer-sized bubbles) to corral or herd fish. These whales create bubble nets to corral and contain planktonic prey into a small area so that they can more efficiently scoop them up in their large filter-feeding

mouths. Based on surface observations, these bubble-feeding behaviors appear to vary in nature among both individuals and regions.

To learn more about how these whales use bubble nets in feeding, David Wiley and colleagues attached digital suction cup tags to whales that recorded depth and orientation in 3-D, allowing the scientists to recreate three dimensional images of whale swimming behavior and bubble release. The data revealed the release of bubbles while swimming in upward spirals and during a novel behavior called "double-loops" not previously known. Double-loops consist of one upward spiral to corral the prey, a smack of the fluke on the ocean surface (known as a "lobtail") then a second upward lunge to capture the corralled prey. This sequence of tools and targeting of prey seems as complex as the tool use of apes in the forest.

The study also reports that humpback whales work in teams of at least two individuals and are not beyond robbing the prey from the bubble nets set up by others.

KILLER WHALE TRACKED MAKING INCREDIBLE JOURNEY FROM ARCTIC TO AZORES

By Margaret Munro, Postmedia News JUNE 6

Biologist Cory Matthews knew the chances of spotting killer whales in the Arctic were slim. The odds of getting a satellite tracker onto the sleek predators were even worse.

But Matthews and his colleagues hit the jackpot. Not only did they manage to fit two Arctic killer whales with trackers, but one of them headed off on a remarkable 5,400-kilometre journey.

In just a month, the whale swam from northern Baffin Island, down past Greenland, Labrador and Newfoundland, and headed for the Azores in the mid-Atlantic.

"It was fast and pretty much a straight line," said Matthews, a University of Manitoba PhD student working with scientists from Fisheries and Oceans Canada. He is lead author of their report on the whale's travels published in the current issue of *Polar Biology*.

It's long been known that killer whales, or orcas, get around, but the study is the first to document such a rapid, long-distance swim. And it provides new clues about the little-known whales, which appear to be showing up in Canada's Arctic in increasing numbers.



Humpback whales catch prey with bubble-net.
(Credit: Image courtesy of Brill)

So many of the black-and-white predators have been spotted in recent years that some have suggested they may be invading the Arctic. Orcas have been spotted feasting on belugas and narwhals and also have been known to take down huge bowhead whales.

Even so, Matthews headed north in August 2009 knowing that finding orcas in Arctic waters would not be easy. “We know they are up there,” he said. “But it’s like a needle in haystack.”

But not long after he and his field crew stepped off a Twin Otter at the north end of Baffin Island, the Inuit told them they were in luck. There was a large group of 20 killer whales just off shore.

Within days, Matthews and researcher Stephen Petersen, from Fisheries and Oceans, were out in a boat pointing crossbows at the whales. The crossbows were loaded with high-tech ammunition — darts to extract samples of whale blubber and embed in the whales satellite tracking devices worth \$2,500 each.

They got satellite trackers onto two of the orcas before they disappeared under the icy, inky water. The devices, about the size of cellphones, were attached by darts near the whales’ distinctive dorsal fins.

One of the trackers stopped working within days, but the other one lasted three months, emitting up to 300 electronic signals a day when the whale surfaced. The signals were picked up by the Argos tracking system, which uses satellites 850 kilometres above the Earth to follow everything from sea turtles to fishing vessels.

After Matthews and the DFO researchers returned to Winnipeg, they could check on the orca’s whereabouts simply by logging into the satellite tracking system by computer.

They watched as the whale foraged in the waters northwest of Baffin Island until the

temperatures began to plunge in early October. Then, as ice began to form and choke up the waters of Lancaster Sound, the orca took a decisive turn south. It cruised down Baffin Bay past Greenland and along the coast of Labrador and Newfoundland, hitting a top speed of 252 kilometres a day.



Undated handout photo of a pod of killer whales. One of the whales in this pod, shown here cruising in Admiralty Inlet at the north end of Baffin Island, which spent almost two months foraging in the Arctic before making a beeline for warmer climes. In a remarkable month-long journey the whale swam 5,400 kilometres from northern Baffin Island, down past Greenland, Labrador and Newfoundland.

Photograph by: Gretchen Freund, Postmedia News

“You can’t help but look at the track and think that it is amazing that the whale was going so fast and was so directed,” Matthews said of the 5,400-kilometre journey. “It seems like it knew where it was going.”

When the orca was about 500 kilometres from the Azores, the

signal stopped, bringing an abrupt end to an astounding scientific event.

It is not known if the entire group of 20 Arctic orcas made the same trip, but whales are known to travel in groups. It is also anyone’s guess where the orca went after the tracker stopped working.

The Arctic-to-Azores trip is believed to be the first documented case of an orca travelling so far in such a short period of time.

Matthews and his group said the “remarkable” swim suggests killer whales have a large range in the Atlantic. Orcas on the Pacific coast are also known to make long journeys, with reports of them swimming from Alaska to California.

It could be that orcas that spend summer in Canada’s north and along the east coast congregate in the mid-Atlantic between the Azores and Bermuda in the winter, said Matthews, noting that whalers reported seeing concentrations of orcas in the southern waters in the 1800s.

Hunters, scientists and other northern travellers are spotting more orcas in the Arctic waters, especially in Hudson Bay. Narwhals, belugas and bowhead whales, which are known to take refuge under the ice, seem to be favoured prey. Matthews said the orcas may also be eating fish, but added more

work is needed to understand the changing wildlife dynamic in Canada's north.

Researchers say the increase in orca sightings appear to be related to the way the Arctic ice has been retreating in recent years. Orcas tend to steer clear of thick ice.

While climate change is a prime suspect, some have suggested that the increasing number of orcas in the Arctic may be related to the way bowheads have rebounded since the end of commercial whaling.

To get a better read on the situation, federal scientists have anchored undersea microphones near Churchill, Man., and Repulse Bay, Nunavut, to record whale calls. Hunters and northern travellers have been asked to report orca sightings. Matthews and his colleagues are heading back to Baffin Island this summer.

They aim to collect more biopsy samples, which will allow them to determine what the orcas are eating. And they have six more satellite tracking devices ready to load into their crossbows.

SEABIRDS SUCH AS ALBATROSSES KILLED BY LONGLINE FISHING

Up to 300,000 seabirds are killed every year by longline fisheries, according to a study. This new global estimate of seabird bycatch was carried out by scientists from the RSPB and Birdlife International.

Commercial longlines can be hundreds of kilometres long, with more than 1,000 bait hooks along the line. Seabirds, including endangered albatrosses, often dive for the bait and become ensnared by the hooks. Dr Orea Anderson from the RSPB, who led the study, told BBC Nature that the study took four years to complete.

She and her colleagues compiled all the available data on seabird bycatch from fisheries throughout the world. This pinpointed some fishing fleets that were particularly problematic. One Spanish longline fleet on the Gran Sol grounds off the coast of Ireland, for example, could be responsible for killing about 50,000 birds annually, according to the review. The Japanese tuna fleet was also highlighted; it is estimated to have claimed 20,000 birds each year and to have had the largest impact on albatrosses.

SIMPLE SOLUTION

The numbers of seabird deaths are unsustainable at the moment," said Dr Anderson.

"All we need to do to reduce that mortality is use bird scarers where the lines enter the water," she said.

"Or weight lines so the bait hooks are beyond the reach of a seabird's dive."

The RSPB has called on regulators to make the use of these methods mandatory for longline fisheries. Dr Cleo Small, senior policy officer for the Global Seabird Programme and co-author of the review, commented: "With the UK's Overseas Territories in the South Atlantic holding a third of the world's breeding albatrosses, the UK has a major responsibility to ensure seabird-friendly fisheries.

"The findings of this review (also) place a heavy onus on the forthcoming EU Plan of Action for Seabirds to deliver a robust set of remedial measures capable of reducing the impact of longline and other fisheries on seabird populations in EU waters and beyond."

Dr Andy Clements, director of the British Trust for Ornithology commented: "The importance of the UK Overseas Territories, holding such a significant proportion of the world's breeding albatrosses, means we have a special responsibility to take notice of these scientific findings, and to seek funds for further research work to support global seabird conservation."

DECADE-LONG STUDY OF PACIFIC PREDATORS SHOWS IMPORTANCE OF BIOLOGICAL 'HOTSPOTS'

ScienceDaily (June 22, 2011) — An unprecedented decade-long study of apex predators in the Pacific Ocean found a wider range of distribution among some species than previously thought, unknown relationships between other species, and the importance of biological "hotspots" to the survival of most of these sea creatures.

The field program, dubbed Tagging of Pacific Predators -- or TOPP -- looked at 23 species from 2000-09 and included researchers from multiple institutions.

Results of the study are being published this week in the journal *Nature*.

"One thing that quickly became apparent is that there are many similarities among top predators in the California Current System," said Bruce Mate, director of the Marine Mammal Institute at Oregon State University and co-author on the study. "There is a strong overlap in territory, for example, between blue whales and tuna. Blue whales eat krill; the tuna eat fish that eat the krill."

"But the krill, and the ocean conditions that promote its abundance, are key to both species," added Mate, who directed the cetacean portion of the TOPP study. "When there are hotspots of krill or other food, the apex predators need to find them."

Most of these hotspots result from upwelling, or the fertilization of surface waters with nutrient-rich deeper water as a result of wind-driven mixing. One such biological hotspot occurs just west of Santa Barbara, Calif., where the wind comes around Point Conception and triggers strong upwelling.

"When the winds there died, we watched whales eat literally all of the available food in three days, and then they just took off," Mate said. "Most of them moved to the Farallon Islands near San Francisco, which is another productive feeding area.

Blue whales likely know these hotspots from experience. Instead of waiting for upwelling to renew the krill population, they'll travel 400 miles in three days to find a new food source."

The study also found, however, that some species have more difficulty with poor ocean productivity, as often happens during El Niño events. Coastal birds also depend on krill, and during an El Niño in 2006-07, most of their hatchlings failed, the researchers noted.

Pinnipeds -- including seals and seal lions -- normally experience a successful birth rate of 80 percent, but in El Niño years, that drops to 20 percent. "Most of the offspring die," Mate said, "because the mothers cannot produce enough milk." The TOPP study was the first ocean basin-scale study of marine predator distribution and movement ever conducted, and the massive amount of data collected will help resource managers

develop effective ocean protection strategies, the researchers say.

The study underscores the importance of apex predators in different ecosystems, noting how the loss of bluefin tuna and porbeagle sharks in the Atlantic Ocean contributed to the near-extinction of cod and similar species.

Mate, a pioneer in the use of satellites to track endangered whales and other species, has been studying blue whales for decades and has been



Tagging blue whales. Researchers on the Pacific Storm, a research vessel operated by Oregon State University, tagged blue whales near the Channel Islands of California in 2006. The work was part of a 10-year study of apex predators in the Pacific Ocean. (Credit: Photo by Craig Hayslip, courtesy of OSU Marine Mammal Institute)

featured in the National Geographic Magazine and the National Geographic Channel film, "Kingdom of the Blue Whale." Most of that documentary was shot aboard OSU's research vessel Pacific

Storm, which tracked blue whales tagged off California in the fall to their first-ever discovered winter breeding and calving area 500 miles off Costa Rica in an upwelling area.

Blue whales may be unique among large whales in using areas for reproduction where they can continue to feed. Interestingly, the whales do not have just one route for this migration but instead use a variety of offshore routes and variable timing.

Adult blue whales can grow to the length of a basketball court and weigh as much as 25 large elephants combined. A blue whale's mouth could hold 100 people, Mate said, though its diet is primarily one-and-a-half-inch long krill. The heart of a blue whale is the size of a small automobile. Scientists say the blue whale is the largest creature to ever inhabit Earth -- and it is one of the loudest animals in the sea, capable of making sounds

equivalent to those of a jet engine, though at frequencies below human hearing.

Mate and his colleagues also tracked a fin whale for more than a year as part of the TOPP research.

"It did nothing that we expected," he said with a laugh. "Usually, we think large whale species go south for the winter and north in the summer, but this whale spent its winter in the Gulf of Alaska and didn't go south until spring when it went as far south as the tip of Baja, but returned back to the Gulf of Alaska without stopping anywhere. In total, the whale made four trips through a 30-kilometer wide area off Vancouver Island, suggesting a preference for a very precise corridor.

"It's hard to generalize about whale behavior with a small sample size," Mate said. "But that's the value of tracking animals over the years through efforts like the TOPP program. We learn about patterns and variability -- and inevitably, we learn something we never knew before and often times it is really fundamentally different that what we thought we would find."

Among the Pacific Ocean predators tracked by researchers in addition to whales and tuna were several species of sharks, leatherback sea turtles, two species of albatross, sooty shearwaters, Northern elephant seals and California sea lions. Barbara Block of Stanford University was lead author for the *Nature* paper. Other institutions participating in the study with OSU and Stanford included Dalhousie University, San Jose State University, NOAA Southwest Fisheries Science Center, University of California-Santa Cruz, and the Inter-American Tropical Tuna Commission.

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

| Date | # | Type of Animal(s) |
|-----------|----|---------------------------------------|
| 6/27 p.m. | 11 | Humpback Whales |
| | 7 | Pacific White-sided Dolphins |
| 6/27 a.m. | 23 | Humpback Whales |
| | 10 | Risso's Dolphins |
| | 7 | Bottlenose Dolphins |
| 6/26 p.m. | 14 | Humpback Whales (feeding) |
| 6/26 a.m. | 36 | Humpback Whales (feeding & breaching) |
| | 7 | Bottlenose Dolphins |
| 6/25 p.m. | 5 | Humpback Whales |
| | 3 | Blue Whales |
| 6/25 a.m. | 16 | Humpback Whales |
| | 4 | Blue Whales |
| | 25 | Pacific White-sided Dolphins |

| | | |
|-----------|-----|---|
| 6/24 p.m. | 6 | Humpback Whales |
| | 5 | Risso's Dolphins |
| 6/24 a.m. | 4 | Killer Whales |
| 6/23 a.m. | 2 | Humpback Whales |
| | 1 | Blue Whale |
| | 4 | Killer Whales (feeding on an elephant seal) |
| 6/22 p.m. | 2 | Humpback Whales |
| | 2 | Blue Whales |
| | 3 | Harbor Porpoise |
| 6/22 a.m. | 2 | Humpback Whales |
| | 1 | Blue Whale |
| | 1 | Fin Whale |
| | 30 | Risso's Dolphins |
| | 5 | Dall's Porpoise |
| 6/21 a.m. | 2 | Humpback Whales |
| | 1 | Blue Whale |
| 6/20 a.m. | 2 | Humpback Whales |
| | 2 | Blue Whales |
| | 75 | Risso's Dolphins |
| 6/19 p.m. | 2 | Humpback Whales |
| | 1 | Blue Whale |
| 6/19 a.m. | 15 | Humpback Whales |
| 6/18 p.m. | 2 | Humpback Whales |
| | 1 | Blue Whale |
| | 20 | Dall's Porpoise |
| 6/18 a.m. | 17 | Humpback Whales |
| | 1 | Fin Whale |
| | 2 | Harbor Porpoise |
| 6/17 p.m. | 2 | Humpback Whales |
| | 1 | Fin Whale |
| | 2 | Risso's Dolphins |
| 6/17 a.m. | 1 | Humpback Whale |
| | 2 | Killer Whales |
| | 2 | Risso's Dolphins |
| | 1 | Bottlenose Dolphin |
| 6/16 a.m. | 10 | Humpback Whales |
| | 35 | Pacific White-sided Dolphins |
| | 12 | Risso's Dolphins |
| 6/15 a.m. | 10 | Humpback Whales |
| | 300 | Pacific White-sided Dolphins |
| | 5 | Northern Right Whale Dolphins |
| 6/14 p.m. | 26 | Humpback Whales |
| | 1 | Blue Whale |
| 6/14 a.m. | 14 | Humpback Whales |
| | 100 | Pacific White-sided Dolphins |
| | 15 | Risso's Dolphins |
| 6/13 p.m. | 15 | Humpback Whales (with breaching) |
| 6/13 a.m. | 9 | Humpback Whales |
| | 2 | Blue Whales |
| | 80 | Risso's Dolphins |
| 6/12 p.m. | 10 | Humpback Whales |
| | 4 | Risso's Dolphins |
| 6/12 a.m. | 19 | Humpback Whales |
| | 4 | Risso's Dolphins |

Skipped dated indicate no trip

American Cetacean Society
Monterey Bay Chapter
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Evelyn Starr, *Webmaster*
Tony Lorenz, Mary K. Paul, *Editors*
Email: kmarypaul@gmail.com
tonylorenz@bigbluebay.com