Soundings

AMERICAN CETACEAN SOCIETY
Monterey Bay Chapter

NOVEMBER / DECEMBER 2015

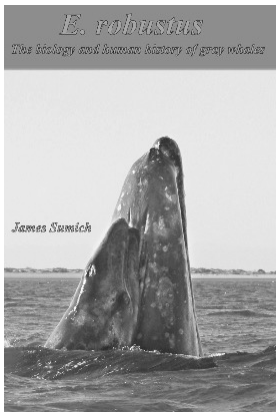
American Cetacean Society – Monterey Bay Chapter
PO Box H E, Pacific Grove, CA 93950

MONTHLY MEETING AT HOPKINS MARINE STATION,
LECTURE HALL BOAT WORKS BUILDING
(ACROSS FROM THE AMERICAN TIN CANNERY OUTLET STORES)
MEETING IS OPEN TO THE PUBLIC

MEETING DATE:
Thursday, December 10, 2015
Time: 7:30 PM
PLEASE JOIN US AT 7:00 FOR REFRESHMENTS

Speaker: **Dr. Jim Sumich**
Oregon State University Fisheries and Wildlife Courtesy Faculty

Topic: North Pacific Gray Whales: The Eastern / Western Paradox



Just as this year's gray whale migration is starting, we're going to hear from Dr. Jim Sumich, a noted gray whale researcher who has studied the giant animals from British Columbia to Baja California for the past 40 years. Jim will be speak at the December 10th meeting, talking about current research that is helping to clarify management issues of the two gray whale populations – some 20,000 in the eastern population, and fewer than 150 in the critically endangered western population.

Much of his research has been focused on the growth of young gray whales and the impacts they had on their lactating mothers.

A longtime college professor, Jim recently published a definitive gray whale book, *E. robustus: The biology and human history of gray whales*. It has been available at recent ACSMB meetings and the author said he will be happy to sign copies at this appearance. He previously wrote a best-selling textbook on marine biology and is co-author of a recent third edition of *Marine Mammals: Evolutionary Biology*.

He lives in Corvallis, Oregon, where he has taught marine mammal courses at OSU.

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

Next month: Next month: We will return to our regular monthly meeting schedule in January, meeting at Hopkins Marine Station on the last Thursday of the month, January 28.

INSIDE THIS ISSUE

CALENDAR

Nov. 19: Book Club at the Pacific Grove Museum of Natural History. The book to be discussed this month will be Leopold's Shack and Ricketts's Lab. Meetings take place on the third Thursday of the month. Books for the January 21, 2016, and March 17, 2016 meetings to be announced.

Dec. 13-18: 21st Biennial Conference on the Biology of Marine Mammals: Bridging the Past Toward the Future. Hilton San Francisco, Union Square.

San Francisco, and the greater central California coast region, is home to one of the greatest diversity of marine mammals in the world, with over 30 species having been observed. It also hosts one of the greatest assemblages of marine mammal scientists and marine science institutions in the world. Upwards of 3,000 scientists from more than 30 countries are expected to attend.

This conference will give participants an opportunity to hear some of the world's foremost authorities on marine mammals talk about topics ranging from biology, ecology, distribution, evolution, policy making, and international partnerships.

In addition to the conference there will be a number of whale watching opportunities available before and after the conference in Monterey, CA. Monterey Bay Whale Watch will be offering whale watch trips on December 11th, 12th,19th and 20th. Humpback Whales, Killer Whales, Fin Whales, Common Dolphin and numerous other species of marine mammals might be observed on these trips. The *Blackfin* will be taking trips departing at 10:00 am and returning at 4:00 pm. Cost of the trip is $65.00 for adults and $45.00 for children. For reservations call 831-375-4658.

Jan. 17 or 24, 2016: ACS Monterey Bay Gray Whale Fundraiser. Trip will take place on the *Princess Monterey* departing from Monterey Whale Watching. Trip time will be from 8:00 am-10:00 pm. Cost $40.00. More information will be forthcoming on the ACSMB website and in the January newsletter.

BOOK RECOMMENDATIONS

The Leatherback Turtle: Biology and Conservation, by James R. Spotila and Pilar Santidian Tomillo. 2015 Johns Hopkins University Press.

Ed Ricketts from Cannery Row to Sitka, Alaska, by Janice M. Straley, Ed. 2015 Shorefast Editions.

The Skull in the Rock: How A Scientist, A Boy, And Google Earth Opened A New Window On Human Origins, by Lee R. Berger and Marc Aronson. 2012 National Geographic Children's Books.

FIRST FIELD OBSERVATIONS OF RARE OMURA'S WHALES

Oct. 22, 2015 — An international team of biologists has made the first-ever field observations of one of the least known species of whales in the world – Omura's whales – off the coast of Madagascar.

In a paper published October 14, 2015, in the *Royal Society Open Science*journal, the researchers describe the whales' foraging and vocal behaviors, and habitat preferences in the shallow waters of coastal Madagascar.

For many years, these marine mammals were misidentified as Bryde's whales due to their similar appearance--both are small tropical baleen whales with comparable dorsal fins, though Omura's are slightly smaller in size and have unique markings with a lower jaw that is white on the right side and dark on the left.

In 2003, using genetic data from samples obtained from old whaling expeditions and a few strandings in the western tropical Pacific, scientists determined Omura's whales were actually a distinct species. But there had been no confirmed records of sightings in the wild and little else has been known about the elusive species until now.

"Over the years, there have been a small handful of possible sightings of Omura's whales, but nothing that was confirmed," says lead author Salvatore Cerchio, who led the research while at the Wildlife Conservation Society. He is now at the New England Aquarium (NEAQ) and a guest investigator at the Woods Hole Oceanographic Institution (WHOI). "They appear to occur in remote regions and are difficult to find at sea because they are small--they range in length from approximately 33 to 38 feet--and do not put up a prominent blow."

So little is known about Omura's whales that scientists are unsure how many exist or how rare the species is.

"What little we knew about these whales previously came primarily from eight specimens of Omura's whales taken in Japanese scientific whaling off the Solomon and Keeling Islands and a couple strandings of dead animals in Japan," Cerchio adds. "This is the first definitive evidence and detailed descriptions of Omura's whales in the wild and part of what makes this work particularly exciting."

When Cerchio and his colleagues, who have been conducting field research on marine mammals off the northwest coast of Madagascar since 2007, first spotted an Omura's whale in the area in 2011, they too believed it was a Bryde's whale.

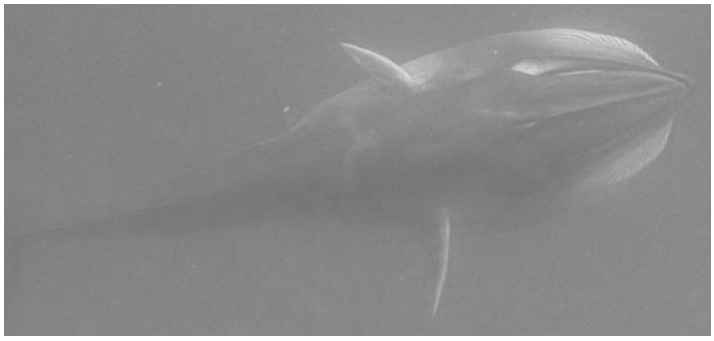
"From the little information on their habitat and range, Omura's whales were not supposed to be in that part of the Indian Ocean," Cerchio says.

After moving study areas in 2013, the sightings became more frequent and the team noticed the distinct markings-- unique asymmetrical pigmentation on the head-- that led them to believe the whales might be Omura's whales.

Over a two-year period, the researchers observed 44 groups and were able to collect skin biopsies from 18 adult whales. The samples were then sent to coauthor Alec Lindsay at Northern Michigan University who performed the DNA analysis that confirmed the whales' species.

The research team also observed four mothers with young calves. Using hydrophones, they recorded song-like vocalizations that may indicate reproductive behavior.

Cerchio will return to the field in November to do further study on the whales' vocalizations, behavior and population characteristics. He also hopes to expand the research area in future studies of Omura's whales, working with colleagues at WHOI to deploy Digital Acoustic Recording Tags (DTAGS) and to study the species in other parts of its range.



So little is known about Omura's whales that scientists are unsure how many exist or how rare the species is. To date, the team has catalogued approximately 25 individuals through photographic identifications. (Credit: Courtesy of Salvatore Cerchio).

Cerchio hopes to produce the first estimate of abundance for any population of Omura's whales with the work off Madagascar. So far, the team has catalogued approximately 25 individuals through photographic identifications.

Additional coauthors of the paper include Melinda Rekdahl of the Wildlife Conservation Society, and Boris Andrianantenaina, Norbert Andrianarivelo, and Tahina Rasoloarijao of the Institut Halieutique et des Sciences Marines, Universite de Toliara, Madagascar.

The work was supported by the International Whaling Commission Small Cetacean Conservation Fund, the U.S. Marine Mammal Commission, and the Prince Albert II Conservation Fund.

http://www.sciencedaily.com/releases/2015/10/151022141744.htm

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Declines in Whales, Fish, Seabirds and Large Animals Disrupt Earth's Nutrient Cycle

Oct. 26, 2015 — Giants once roamed the earth. Oceans teemed with ninety-foot-long whales. Huge land animals--like truck-sized sloths and ten-ton mammoths--ate vast quantities of food, and, yes, deposited vast quantities of poop.

A new study shows that these whales and outsized land mammals--as well as seabirds and migrating fish--played a vital role in keeping the planet fertile by transporting nutrients from ocean depths and spreading them across seas, up rivers, and deep inland, even to mountaintops.

However, massive declines and extinctions of many of these animals has deeply damaged this planetary nutrient recycling system, a team of scientists reported October 26 in the *Proceedings of the National Academy of Sciences*.

"This broken global cycle may weaken ecosystem health, fisheries, and agriculture," says Joe Roman, a biologist at the University of Vermont and co-author on the new study.

On land, the capacity of animals to carry nutrients away from concentrated "hotspots," the team writes, has plummeted to eight percent of what it was in the past--before the extinction of some 150 species of mammal "megafauna" at the end of the last ice age.

And, largely because of human hunting over the last few centuries, the capacity of whales, and other marine mammals, to move one vital nutrient--phosphorus--from deep ocean waters to the surface has been reduced by more than seventy-five percent, the new study shows.

Ignoring Animals

"Previously, animals were not thought to play an important role in nutrient movement," said lead author Christopher Doughty, an ecologist at the University of Oxford.

But the new study shows that animals are a crucial "distribution pump," the scientists write, transporting masses of fecal matter to fertilize many places that would otherwise be less productive, including ocean surface waters and the interior of continents.

These fertilized ecosystems, in turn, maintain natural functions vital to people. For example, the new study notes that restoring whale populations could help increase the ocean's capacity to absorb climate-warming carbon dioxide.

Traditionally, scientists studying nutrient cycling have focused on weathering of rocks and nitrogen collection by bacteria--largely ignoring animals. This view assumed that the role of animals was minor, and mostly that of a passive consumer of nutrients. "However, this notion may be a peculiar world view that comes from living in an age where the number and size of animals have been drastically reduced from their former bounty," the team of nine scientists write.

"This study challenges the bottom-up bias that some scientists have--that microbes are running the show, and phytoplankton and plants are all that matter," says Joe Roman, a whale expert in UVM's Rubenstein School of Environment and Natural Resources and the Gund Institute for Ecological Economics.

"This once was a world that had ten times more whales; twenty times more anadromous fish, like salmon; double the number of seabirds; and ten times more large herbivores--giant sloths and mastodons and mammoths," says Roman.

On land, before the rise of modern humans, there were elephant-like gomphotheres the size of a backhoe, deer with twelve-foot wide antlers, and bison herds to the horizon. These were just a few of the huge animals that could eat huge amounts of plant matter, accelerating the release of nutrients through digestion and carrying these nutrients away from feeding areas to higher ground through their deposit of feces, urine and, upon death, decomposing bodies.

Overall, the scientists calculate that this animal-powered, planetary pump may have dropped to just six percent of its former capacity to spread nutrients away from concentrated sources on both land and sea.

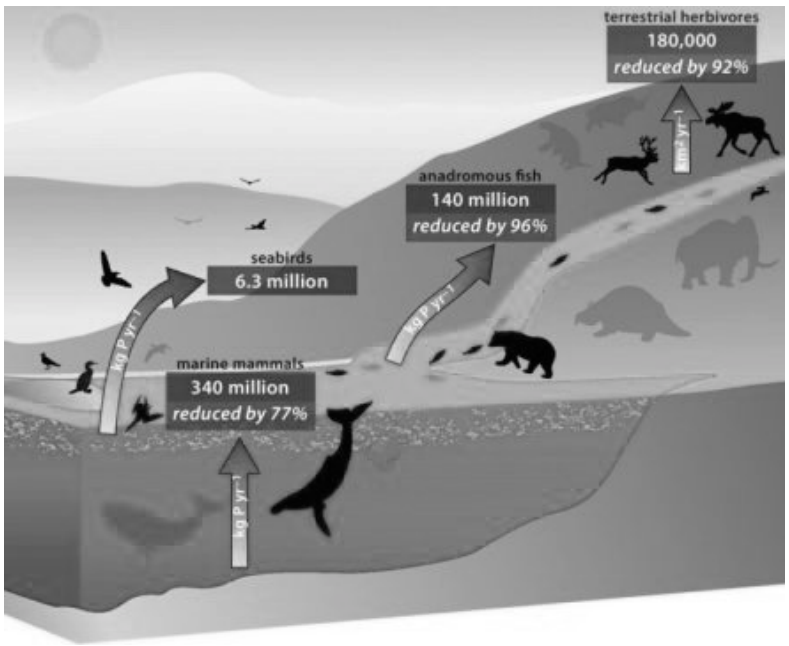
Whale Work

A series of recent studies show that large animals appear to disproportionately drive nutrient movements. To make their new study, the team--including scientists from University of Oxford, University of Vermont, Harvard University, Aarhus University in Denmark, Princeton University, Netherlands Institute of Ecology, and Purdue University--used these findings and other existing data about historic and current animal populations. Then they applied a set of mathematical models to estimate the movement of nutrients vertically in the oceans and across the land--and how this movement changed with extinctions and declining animal populations.

For example, whale densities are estimated to have declined by between 66% and 90% over the last three centuries due to commercial hunting, the study notes. Most grievously, 350,000 blue whales, many over one hundred tons, used to inhabit oceans around the globe. Only a few thousand now remain. These and other great whales feed in the depths--and then defecate at the sun-lit surface "in a flocculent, liquidy cloud," says Roman.

Limited Phosphorus

In particular, the new study examined phosphorus, a nutrient critical for plant growth. Prior to the era of commercial hunting, the scientists estimate that



This diagram shows an interlinked system of animals that carry nutrients from ocean depths to deep inland -- through their poop, urine, and, upon death, decomposing bodies. A new study in the Proceedings of the National Academy of Sciences reports that -- in the past--this chain of whales, seabirds, migratory fish and large land mammals transported far greater amounts of nutrients than they do today. Here, the red arrows show the estimated amounts of phosphorus and other nutrients that were moved or diffused historically -- and how much these flows have been reduced today. Grey animals represent extinct or reduced densities of animal populations. (Credit: Diagram from PNAS; designed by Renate Helmiss).

whales and other marine mammals annually moved around 750 million pounds of phosphorus from the depths to the surface. Now that figure is about 165 million pounds--some 23% of former capacity.

The team also gathered data on seabird and fish populations that feed in the sea and then come onto land--like ocean-going salmon that move up rivers to defecate, spawn, and die. Movements by these birds and fish once carried more than 300 million pounds of phosphorus onto land each year, but that number has declined to less than four percent of past values as a result of destroyed seabird colonies, habitat loss, and overfishing.

"Phosphorus is a key element in fertilizers and easily accessible phosphate supplies may run out in as little as fifty years," says Oxford's Chris Doughty. "Restoring populations of animals to their former bounty could help to recycle phosphorus from the sea to land, increasing global stocks of available phosphorus in the future."

Recovery

The world of giants came to an end on land after the megafauna extinctions that began some 12,000 years ago--driven by a complex array of forces including climate change and Neolithic hunters. And it ended in the oceans in the wake of whale and other mammal hunting in the industrial era of humans.

"But recovery is possible and important," says UVM's Roman. He points to bison as an example. "That's achievable. It might be a challenge policy-wise, but it's certainly within our power to bring back herds of bison to North America. That's one way we could restore an essential nutrient pathway."

And many whale and marine mammal populations are also recovering, Roman notes. "We can imagine a world with relatively abundant whale populations again," he says.

But have domestic animals, like cows, taken over the nutrient distribution role of now-extinct large land animals? No, the new study shows. Though there are many cows, fences constrain the movement of domestic animals and their nutrients. "Future pastures could be set up with fewer fences and with a wider range of species," the team writes.

"The typical flow of nutrients is down mountains to the oceans," says Joe Roman. "We are looking at ways that nutrients can go in the other direction--and that's largely through foraging animals. They're bringing nutrients from the deep sea that could eventually reach a mountain in British Columbia."

http://www.sciencedaily.com/releases/2015/10/151026172050.htm

Anchovy Numbers in Decline, Groups Say

By Samantha Clark

Oct. 29, 2015 — For at least the past three years, humpback whales have been putting on a show in the Monterey Bay. Feasting and frisking, the 40-foot-long, 40-ton leviathans create in dizzying displays.

Locals have never seen anything like it. But things have changed.

"Since late September, the whale numbers have decreased, their behavior has changed and their food, anchovies, are less abundant," said Nancy Black, marine biologist and owner of Monterey Bay Whale Watch. "We were seeing carpets just thick of anchovies for almost a mile. Now all we're seeing is spots."

Whale watching tour companies and conservationists claim the anchovy population has "collapsed" due to environmental reasons so fishing limits remain too high.

The fishing industry says that's not the case though ocean conditions have been unusual.

Some scientists, however, are finding a drastic decline in the forage fish.

The Pacific Fishery Management Council will consider the anchovy's status at its meeting next month.

"The council's expectation at the November meeting is to get a feel for what's happening out there," said council staff officer Mike Burner. "The council's definitely concerned with some of the things they've heard."

Anchovies are considered a "monitored" species. Regulators assess the silvery fish less frequency than "actively managed" species, such as sardines.

Even though the National Oceanic and Atmospheric Administration regularly conducts surveys that provide data on anchovy numbers, it last conducted a full-on anchovy stock assessment in 1995.

Geoff Shester, the California program manager for the conservation group Oceana, said, "The problem is we know anchovy goes way up and way down. What was a sustainable level of fishing back then, might be wiping out the population now."

His group and some whale watchers want the management council to reduce the fishing limit until a new assessment is conducted.

"In recognition that we don't annually assess these stocks, that's why we use a 75 percent reduction from the overfishing limit as the quota. It's sort of an uncertainty buffer," said Joshua Lindsay of NOAA.

Diane Pleschner-Steele, director of the California Wetfish Producers Association, would like to see better use of the available data as well, but she also calls the quota limit of 25,000 metric tons "excruciatingly precautionary."

Even still, according to California Fish and Wildlife, last year the fishery harvested 10,561 metric tons.

A dead sea lion at Moss Landing State Beach in April has been tagged so it does not get counted more than once. Sea lions and sea birds may be starving due to a lack of anchovies offshore. (Credit: Jodi Frediani / Jodi Frediani Photography).

"I've been fishing anchovies since 1959, and I don't see any problem with the anchovies for the whales," said fisherman Neil Guglielmo of Monterey. "Perhaps this is the time of year the whales move or El Nino, but the fact that we're scaring whales or catching their food source is ridiculous."

In a study published this week in Marine Ecology Progress Series, researchers from Scripps Institution of Oceanography note a 72 percent decline across a number of fish species that favor cool-water conditions, including anchovies, since the 1970s.

"We're seeing an entire community of fishes in decline," said lead author Tony Koslow, director of the California Cooperative Oceanic Fisheries Investigations in La Jolla. "It appears to be related to a warming climate and associated changes across the California Current."

He said the abundance of anchovy larvae in the 2000s is about a third of what it was in the mid-1990s and has declined about 92 percent since the late 1960s.

"That's huge," Koslow said. "Some are commercially fished but others aren't, so it shows the importance of long-term ocean observations that inform us of the state of the ecosystem off our shores."

Another new study, by the Farallon Institute suggests that the number of adult anchovies that can reproduce has declined more than 99 percent between 2005 and 2009.

"The population has truly collapsed," said author, William Sydeman, president and senior scientist at the Farallon Institute. "There's no way fishing could have that kind of impact, so it had to be environmental."

One factor could be a natural 50-year ocean cycle bringing unfavorable ocean conditions that affect spawning. It dictates the famously volatile anchovy and sardine stocks. Additionally, northern winds that normally sweep away ocean surface waters, pulling up cold, nutrient-rich water have slackened.

Because of that, plankton populations are low, affecting their predators up the marine food chain, including anchovies.

"When anchovy numbers are low, they crowd at the coast and appear to be abundant," Sydeman said.

Their densely packed numbers around the Monterey Bay have perhaps prompted the spectacular feeding frenzy close to shore, he said.

At the same time, the lack of anchovies offshore are maybe in part why scores of sea lions and sea birds, such as the common murres and brown pelicans, are starving up and down the coast.

"Right now we're seeing that the whales are more scattered and seem to be looking harder for food," said Dorris Welch, marine biologist and co-owner of Sanctuary Cruises in Santa Cruz. "I think the regulatory agencies should be taking a close look at the anchovy harvest and limits."

http://www.santacruzsentinel.com/20151029/anchovy-numbers-in-decline-groups-say

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Stanford Scientists Help Discover Pacific Bluefin Tunas' Favorite Feeding Spots

STANFORD SCIENTISTS DEVISE A NEW METHODOLOGY FOR MEASURING HOW AND WHEN

OCEAN PREDATORS CONSUME PREY, AND IDENTIFY THE PACIFIC BLUEFIN'S FAVORITE HOT SPOTS, INFORMATION THAT CAN INFORM CONSERVATION STRATEGIES.

By Bjorn Carey

Sep. 25, 2015 — After chowing down a big meal, you might feel your belly warm as your stomach muscles and digestive organs set to work breaking your food into smaller and smaller pieces rich in nutrients. A bluefin tuna's stomach experiences a similar spike in temperature when it gulps down a mouthful of juicy sardines.

Now, scientists at Stanford, Monterey Bay Aquarium and the National Oceanic and Atmospheric Administration (NOAA) have devised a way to measure that internal temperature increase in the fish. This is the first work to measure how much energy an aquatic animal consumes in the wild, and has allowed the researchers to identify the bluefin's favorite dining spots along the North American coastline.

The findings are published online in *Science Advances*, and could help design better conservation policies to help a species in steep decline.

Pacific bluefin tuna are superbly streamlined, bullet-shaped fish, with powerful swimming muscles capable of powering transoceanic travels. Unlike most other bony fish, they are warm bodied, elevating their internal tissue temperatures above that of the surrounding water.

"Bluefin tuna are the pinnacle of bony fish evolution, endothermic or warm-bodied in a manner that rivals the metabolic performances of birds and mammals," said senior author Barbara Block, a professor of marine sciences at Stanford's Hopkins Marine Station and a senior fellow at the Stanford Woods Institute for the Environment.

Following the fish

Bluefin tuna remain warm by capturing the metabolic heat produced as their swimming muscles contract with every tailbeat. This is made possible via specialized net-like blood vessels, called counter-current heat exchangers, in their muscles and digestive organs that prevent heat loss through their gills. Maintaining warmer-than-water body temperatures allows the fish to swim more efficiently and spend less energy digesting food, and enables them to thrive in a wide range of ecological niches.

The researchers homed in on this thermal characteristic in order to measure energy intake, and from that surmise the animals' daily foraging habits. The researchers implanted small data-logging tags in more than 500 tunas off the coast of Southern California and Mexico, and recorded the fishes' body temperature and ambient water temperature, as well as their locations and diving patterns as they searched for prey. With the help of fishers, the researchers recovered more than one-third of the tags, containing data records as long as three years as the fish made seasonal migrations from the waters off Mexico to Oregon.

Marine sciences Professor Barbara Block of Stanford and Charles Farwell of the Monterey Bay Aquarium tag a Pacific bluefin tuna. (Credit: Courtesy Barbara Block).

Previously, observations led by Rebecca Whitlock, a postdoctoral scholar at Stanford, made at the Tuna Research and Conservation Center, had created a model for translating the change in tuna heat signatures into their caloric intake. Inside the center, which is operated by Stanford and the Monterey Bay Aquarium, researchers could count single sardines or squid consumed by individual tunas and match the warming signal to the energetic value of the prey item digested.

The thermal data showed exactly when the tunas ate a meal, and the researchers estimated how much energy a free swimming bluefin receives per unit of time, as well as how temperature changes impact that energy intake.

"We've been able to follow what Pacific bluefin tuna do in the open sea and record their feeding and meal size, every day for up to three years," said Whitlock, the lead author of the new paper. "Combining laboratory observations with electronic tagging can provide amazingly rich data and insights into the life of a wild marine predator."

A roadmap in the ocean

The wild tunas consumed prey on 90 percent of the days observed during the study, and the empirical data analyses and energetic model output allowed the scientists to chart precisely how much the fish ate – typically sardines and squid – and the total energy they consumed as they journeyed through the ocean.

From this, the scientists mapped the position data from the tags to satellite observations of sea temperature, chlorophyll levels and ocean currents – all factors that can combine to create nutrient-rich feeding grounds. These coincided well with successful tuna feedings, though interestingly the fish didn't always camp out in the locations with the best conditions to take advantage of the buffet.

"Foraging success was correlated to environmental features," said co-author Elliott Hazen, a research ecologist with NOAA's Southwest Fisheries Science Center. "Tuna may use the oceanography as a roadmap to move from hotspot to hotspot, and temperature appears to be the most important environmental cue."

Interestingly, the study showed that there was a potential tradeoff between feeding in the richest areas and avoiding the physiological constraints associated with feeding in very cold (which slows the heart) or warm (energetically taxing) waters. This answered a long-standing question about the species' traditional limits in range, from north of Oregon to south of the Baja Peninsula, despite the fact that close relatives of bluefin (yellowfin and albacore tuna) thrive outside of those latitudes.

Whenever the bluefin digests a meal, the fish tends to stay in waters that allowed it to remain at an optimum temperature to promote rapid digestion of the meal. Too high or too low an environmental temperature, and the increased demands of digestion can strain the cardiovascular system.

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

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

Understanding the locations of these "watering holes" for these large migratory fish remains largely a mystery, but is a key part in planning better conservation efforts. Linking the regions both physiologically and to environmental correlates has been an objective of this team.

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

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

http://news.stanford.edu/news/2015/september/bluefin-hot-spots-092515.html

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Increase in Fur Seal Strandings on California Coast

By James Gorman

Sep. 29, 2015 — Eighty Guadalupe fur seals have been found stranded on the California coast this year, far above the average of 10 to 12, the National Oceanic and Atmospheric Administration announced on Tuesday. Forty-two of the seals from the threatened species were dead when found. Thirty-eight were alive, but only 11 lived to be rehabilitated and released. Most were emaciated when found.

NOAA declared the strandings an “unusual mortality event,” a designation meant to focus attention on the causes. The agency made a similar declaration for California sea lions in 2013, but officials said numbers of sea lions stranded this year are returning to normal. The two species have different habits and ranges, but both may be suffering from changes in the availability of food because of warmer Pacific waters.

Guadalupe fur seals, once brought to the brink of extinction by commercial hunting, now number around 15,000, officials said. They breed almost exclusively on the Mexican island of Guadalupe, but range as far north as Vancouver Island.

http://www.nytimes.com/2015/09/30/science/increase-in-fur-seal-strandings-on-california-coast.html?_r=0

No Whale Tale: Anchovy Feeding Frenzy Is a Mirage

Nov. 12, 2015 — Over the past few months, onlookers have flocked to California's Monterey Bay to watch humpback whales gorge on thick schools of anchovies. Dolphins, seabirds, and bigger fish also congregated in the bay to feed on the large concentration of anchovies clustering near shore.

It seems to be the very picture of a healthy ocean, right?

In fact, leading scientists from California's Farallon Institute tell us it's a mirage. Farallon Institute senior scientist Bill Sydeman, one of the authors of new research on the state of California's anchovy population, contends that what we're seeing close to shore in places such as Monterey Bay is the vestige of a population that has declined precipitously in recent years. Anchovies have been driven close to shore by unusually high ocean temperatures, Sydeman says, and the fish tend to bunch together when their overall numbers are low.

Meanwhile, fishery managers may be unwittingly allowing a remnant population of California anchovies—a forage fish that is a critical food source for ocean wildlife—to be fished to such a low point that it could take years or even decades to recover.

That's why The Pew Charitable Trusts joined four other conservation organizations Oct. 16 in asking federal fishery managers to update the stock assessment for the California anchovy population, which has not been officially assessed since 1995. (Most important species in U.S. waters are assessed every year.)

We also encouraged managers to consider interim measures to reduce fishing pressure on anchovies, which intensified in April when federal fishery managers ordered a shutdown of sardine fishing in the waters off California, Oregon, and Washington for the first time in 30 years. We will renew our request to assess and protect anchovies at the Pacific Fishery Management Council meeting, which takes place Nov. 13-19 in Garden Grove, California.

Fishery managers haven't paid much attention to anchovies in recent years because commercial fishing of forage fish has mainly focused on sardines—or at least it did until the West Coast sardine population collapsed. After the April closure, fishing

Anchovies are clustering in Monterey Bay and other near-shore areas, creating a feeding frenzy for humpback whales and other ocean wildlife. (Credit: Chris Hartzell).

pressure shifted toward anchovies. Unfortunately, it's now becoming clear that the anchovy population isn't any stronger than the sardine population.

The new research, co-authored by Sydeman and Alec MacCall, a respected retired federal scientist, indicates that the California anchovy population has declined from a total estimated biomass of 1 million tons a decade ago to as low as 20,000 tons today. That's less than the current annual catch limit of 25,000 metric tons for the waters off California. Think about that: If the new research bears out, the current catch limit exceeds the entire subpopulation of northern anchovies along the California coast.

We should point out that fishing is not the cause of the anchovy decline. Anchovy populations can fluctuate dramatically with changes in ocean temperatures, and their numbers typically surge during predominantly cold-water cycles. The unusually warm water in the Pacific Ocean resulting from El Nino—combined with a more persistent "blob" of warm water stretching from the Gulf of Alaska to northeast of Japan—strongly suggests that anchovy numbers will remain low for the foreseeable future.

"This is coming as a bit of a surprise to [fishery] managers, but it shouldn't," Sydeman told us. "Right now, managers focus on assessing the stocks of fish species that are actively targeted by fishing fleets. Since anchovy has not been a prime target of fisheries, they were deemed to be not very important. But to the ecosystem, they may be one of the most important forage species."

The stakes are high. Scientists say that anchovies are the single most important prey species for seabirds on the U.S. West Coast and rank first or second for many other major predators, including humpback whales, chinook salmon, dolphins, and sea lions. It's not hard to see how the decline of anchovy could reverberate through the ocean's food web. Scientists are suggesting that the decline in anchovies and sardines is the reason that sea lion pups are starving and brown pelicans are failing to breed.

It's time for the National Oceanic and Atmospheric Administration's Fisheries Service to update its official stock assessment of the California anchovy population so that fishery managers aren't operating in the dark when they set catch limits. We should do everything we can to protect this ecologically crucial species of forage fish.

http://www.pewtrusts.org/en/research-and-analysis/analysis/2015/11/12/no-whale-tale-anchovy-feeding-frenzy-is-a-mirage

SIGHTINGS

Sightings are compiled by Monterey Bay Whale Watch. For complete listing and updates see *http://www.montereybaywhalewatch.com/slstcurr.htm*

Date	#	Type of Animal(s)
11/10 am	9 100	Humpback Whales Long-beaked Common Dolphins
11/9 am	6 430 1000	Humpback Whales Long-beaked Common Dolphins Short-beaked Common Dolphins
11/8 pm	7 300	Humpback Whales Long-beaked Common Dolphins
11/8 am	16 500 6	Humpback Whales Long-beaked Common Dolphins Harbor Porpoise
11/7 pm	10 300	Humpback Whales Long-beaked Common Dolphins
11/7 am	7 20 800 300	Humpback Whales Killer Whales Long-beaked Common Dolphins Short-beaked Common Dolphins
11/6 pm	8 5	Humpback Whales Killer Whales
11/6 am	10 60 500	Humpback Whales Long-beaked Common Dolphins Short-beaked Common Dolphins
	200	Risso's Dolphins
11/5 pm	16 600	Humpback Whales Long-beaked Common Dolphins
11/5 am	24 1 400 150	Humpback Whales Fin Whale Long-beaked Common Dolphins Risso's Dolphins
11/1 pm	3 4	Humpback Whales Fin Whales
11/1 am	6 3 500	Humpback Whales Fin Whales Long-beaked Common Dolphins
10/31 all day	24 800	Humpback Whales Long-beaked Common Dolphins
10/31 am	12 200 7	Humpback Whales Long-beaked Common Dolphins Risso's Dolphins
10/30 all day	11 700	Humpback Whales Long-beaked Common Dolphins
10/30 am	6 300 1	Humpback Whales Long-beaked Common Dolphins Mola Mola (Ocean Sunfish)
10/28 pm	15 1000	Humpback Whales Long-beaked Common Dolphins
10/28 am	17 500	Humpback Whales Long-beaked Common Dolphins
10/26 pm	21 20	Humpback Whales (breaching, tail and pec slaps) Long-beaked Common Dolphins

10/26 am	27 200 1	Humpback Whales Long-beaked Common Dolphins Mola Mola (Ocean Sunfish)
10/25 all day	15 1 500	Humpback Whales Killer Whale (CA49B) Long-beaked Common Dolphins
10/25 am	15 1 2 350	Humpback Whales Killer Whale Fin Whales Long-beaked Common Dolphins
10/24 all day	12 2 200 600	Humpback Whales Fin Whales Long-beaked Common Dolphins Short-beaked Common Dolphins
10/24 pm	15 1 500	Humpback Whales Fin Whale Long-beaked Common Dolphins
10/24 am	20 1 2000	Humpback Whales Fin Whales Long-beaked Common Dolphins
10/23 pm	1 3	Humpback Whales Killer Whales
10/23 am	16 300 40	Humpback Whales Long-beaked Common Dolphins Risso's Dolphins
10/22 pm	30	Humpback Whales
10/22 am	34 330	Humpback Whales Long-beaked Common Dolphins
10/21 pm	8	Humpback Whales
10/21 am	9 1 1500 500	Humpback Whales Fin Whales Long-beaked Common Dolphins Risso's Dolphins
10/20 am	14 600 30	Humpback Whales Long-beaked Common Dolphins Short-beaked Common Dolphins
10/18 pm	10 1000	Humpback Whales Long-beaked Common Dolphins
10/18 am	14 500 100	Humpback Whales Long-beaked Common Dolphins Risso's Dolphins
10/17 pm	21 600	Humpback Whales Long-beaked Common Dolphins
10/17 am	25 300	Humpback Whales Long-beaked Common Dolphins
10/16 pm	15 1000 30 100	Humpback Whales Long-beaked Common Dolphins Short-beaked Common Dolphins Risso's Dolphins
10/16 am	25 500 100	Humpback Whales Long-beaked Common Dolphins Risso's Dolphins
10/15 pm	25 100	Humpback Whales Long-beaked Common Dolphins
10/15 am	12 300	Humpback Whales Long-beaked Common Dolphins
10/14 pm	17 1 20 20	Humpback Whales Killer Whale ("Stumpy") Long-beaked Common Dolphins Risso's Dolphins
10/14 am	15 6 500 40	Humpback Whales Killer Whales Long-beaked Common Dolphins Risso's Dolphins inc. "albino" calf
10/12 pm	19 2	Humpback Whales Harbor Porpoise
10/12 am	25 900 2	Humpback Whales Long-beaked Common Dolphins Mola Mola (Ocean Sunfish)
10/11 pm	15 6	Humpback Whales Killer Whales
10/11 am	20+ 6 900	Humpback Whales Killer Whales (predation event) Long-beaked Common Dolphins
10/10 9am	30 800 1 1	Humpback Whales Long-beaked Common Dolphins Bottlenose Dolphin Mola Mola (Ocean Sunfish)
10/10 8am	38 400	Humpback Whales Long-beaked Common Dolphins
10/9 2pm	25	Humpback Whales (breaching)
10/9 1pm	15 40	Humpback Whales (breaching and tail throwing) Short-beaked Common Dolphins
10/9 9am	35 450 75	Humpback Whales Long-beaked Common Dolphins Short-beaked Common Dolphins
10/9 8am	25 500 400	Humpback Whales Long-beaked Common Dolphins Short-beaked Common Dolphins
10/7 pm	14 3	Humpback Whales Bottlenose Dolphins
10/7 am	40 680	Humpback Whales Long-beaked Common Dolphins
10/6 all day	45 15 1 1 800	Humpback Whales Killer Whales Blue Whale Fin Whale Long-beaked Common Dolphins
10/6 pm	26 10	Humpback Whales Harbor Porpoise
10/6 am	35 900 10	Humpback Whales Long-beaked Common Dolphins Harbor Porpoise
10/5 pm	47 500	Humpback Whales Long-beaked Common Dolphins
10/5 pm	45 300	Humpback Whales Long-beaked Common Dolphins
10/5 am	52 200	Humpback Whales Long-beaked Common Dolphins
10/4 4:30pm	48 50	Humpback Whales (lunge feeding) Long-beaked Common Dolphins
10/4 2pm	30	Humpback Whales
10/4 1pm	40 800	Humpback Whales Long-beaked Common Dolphins
10/4 9am	40	Humpback Whales
10/4 8am	35 2000	Humpback Whales Long-beaked Common Dolphins

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