PROTECTED RESOURCES DIVISION, WEEKLY HIGHLIGHTS

Week of 11 February 2013

Field work:

Antarctic Killer Whale Ecological Research, Antarctic Peninsula – This past week, John Durban and Bob Pitman have been on board the R/V Point Sur (research vessel from Moss Landing Marine Lab), working with the US Antarctic Program. They are continuing their killer whales studies off the west side of the Antarctic Peninsula. Also on board are a team from Duke University (Ari Friedlaender, Andy Read, Doug Nowacek) studying the fine scale foraging behavior of humpback whales, and Nick Gales from the Australian Antarctic Division, who is deploying satellite tags to study the longer term migration behavior of minke and humpback whales. The killer whale work continues to be very productive: a large aggregation of Type B (small form) killer whales has been tracked over the past week: three satellite LIMPET tags have been deployed, facilitating follow-up studies to collect photo-identifications, photogrammetry images, biopsy samples and acoustic recordings over several encounters. Notably, a depth-recording LIMPET tag was deployed on an adult male Type B killer whale, so we currently have dive-depth data being transmitted from active tags on both adult males and females of each Antarctic killer whale types A, B and C. These data will fill key data gaps on foraging behavior, and further the comparison of habits and prey specialization between types. Another satellite LIMPET tag was deployed on an Antarctic minke whale (now 5 for the season). These tags are providing the first data on fine-scale movement and diving behavior for this species, and will allow an evaluation of the performance of small LIMPET tags alongside the implant satellite tags being deployed by Nick Gales during this project. Further information, including real time tag tracking can be found at http://swfsc.noaa.gov/PRD-KillerWhale-TrackMap/ Contact Robert Pitman or John Durban for more information.

Photo above: An adult male Antarctic Type B killer whale (small form), swims in front of the Research Vessel Point Sur. The killer whale has a thick coating of diatoms giving a yellow coloration to the skin. This diatom accumulation indicates a lack of turnover of the epidermis, and we hypothesize that these whales will soon need to travel to warmer waters (a "maintenance migration") to allow skin regeneration without the high cost of heat loss to frigid waters.

Southern Ocean Research Partnership (SORP) – Antarctic Blue Whale Cruise, Southern Ocean - Scientists from Australia, Chile, New Zealand, the United Kingdom and the United States (PRD scientists Jay Barlow and Paula Olson) are conducting research on blue whales in the Southern Ocean using visual observations, passive acoustics, and satellite tagging. The project is sponsored by the Australian Government and part of the IWC-SORP Program. Follow the cruise at Blue Whales @SORPnews

Pinniped Abundance Surveys - Mark Lowry will conduct an aerial photographic survey of northern elephant seals at all Channel Islands in southern California and along the central California coast from Point Conception to Point Reyes during 12-17 February 2013. This survey will census maximum number of pups produced during the 2013

pupping-breeding season, and adult females. Thus far this year two aerial photographic surveys of elephant seals have been conducted at San Nicolas Island, San Miguel Island, and Santa Rosa Island (the three largest rookeries in the U.S.) as part of four surveys to estimate total number of adult females present at these rookeries during the pupping-breeding season. The estimated total number of adult females from four surveys (the next is planned for 3-5 March) will yield an estimate of total number of births and an estimate of pre-census mortality prior to the 12-17 February survey. Contact Mark for more information.

Photo above: Northern elephant seals photographed at Santa Rosa Island from an altitude of 800 feet during an aerial photographic survey, 30 January, 2013

Photographic assessment of body shape changes in killer whales, with application to monitoring body condition of endangered southern residents - This is a collaborative project between PRD/SWFSC (John Durban and Holly Fearnbach) and Sea World San Diego (Hendrik Nollens and Alan Garver) to conduct photographic monitoring to assess body changes over time in individual killer whales housed at Sea World San Diego. The aim is to further develop photogrammetric tools that can be used to monitor the body condition and nutritional status of wild populations of killer whales. Vertical overhead photographs will be collected each month over an annual period to provide repeat longitudinal measures of individual whales to identify measurement sites along the body axis that display variable widths within individuals over time, and between individuals of varying status. The results from this study will be integrated with a database of longitudinal photographs of free-ranging killer whales from both the North Pacific and Antarctica in order to identify sensitive measurement sites for photogrammetric assessment of body shape changes for this species. Most notably, this project will develop the tools necessary to monitor the nutritional status of the endangered "southern resident" population of killer whales that are thought to be food-limited in some years. Photographic images were collected by Holly Fearnbach on February 5th and 7th and sampling will continue for the next twelve months. Contact John Durban or Holly Fearnbach for more information.

Press:

San Diego Bay Green Turtle Research **(Jeff Seminoff)**
http://www.utsandiego.com/news/2013/feb/03/green-sea-turtle-power-plant-endangered-species/

Week of 4 February 2013

Field work:

Antarctic Killer Whale Ecological Research, Antarctic Peninsula – Another very productive week off the west side of the Antarctic Peninsula: four groups of killer whales sighted, including Type A and the smaller form of Type B. Type A's are a large form with striking black and white pigmentation that we have observed feeding on minke whales and elephant seals. However, we have spent relatively little time with this type, and we took the opportunity this week to deploy three tags on Type A whales, including two depth-recording satellite transmitter tags and one location-only transmitter tag for longer term tracking. This is proving to be a remarkable season: to date we have deployed tags on each of the three killer whale types found in Antarctica (Type A, *n=3;* Type B, *n=2*; Type C, *n*=7), and data from these tags will provide a valuable comparison of the movement, diving behavior and habitat use of these types. We also deployed another location-only tag on an Antarctic minke whale this week, our fourth of the season, to investigate fine scale movements (e.g. anti-predation strategies, habitat use) and longer term migration behavior. This coming week we transfer to the *R/V Point Sur* for a month of focused killer whale studies. We are extremely grateful to Lindblad Expeditions, the National Geographic Society and the staff and crew of the National Geographic Explorer for hosting us over the past month: this has been our third season aboard the ship, and they keep getting better! Further information, including real time tag tracking can be found at http://swfsc.noaa.gov/PRD-KillerWhale-TrackMap/ Contact Robert Pitman or John Durban for more information.

Southern Ocean Research Partnership (SORP) – Antarctic Blue Whale Cruise, Southern Ocean - Scientists from Australia, Chile, New Zealand, the United Kingdom and the United States will depart from Nelson, New Zealand on 30 January to study blue whales in the Southern Ocean. Visual observations, passive acoustics, and satellite tagging will be used. PRD scientists Jay Barlow and Paula Olson are part of the team. The project is sponsored by the Australian Government and part of the IWC-SORP Program. Follow the cruise at Blue Whales @SORPnews

Press:

Cryptic beaked whales declining **(Jeffrey Moore and Jay Barlow)**
http://www.utsandiego.com/news/2013/jan/29/beaked-whale-marine-mammal-Navy-sonar/

Awards, grants and recognition:

PRD Receives NOAA Bronze Medals! – Congratulations to Kerri Danil, Peter Dutton, Scott Benson, and Jeremy Rusin! – And many congratulations to our colleague, Senior Scientist Bill Perrin, who was awarded a Distinguished Career Award!

Other of note:

First record of hawksbill turtle along the US west coast! - SeaWorld personnel responded to a hawksbill sea turtle stranding in San Diego Bay on 29 January. The turtle was transferred to SWFSC by Robin LeRoux on 31 January. Not only is this the first ever species other than green turtles to be found in the Bay, it is the FIRST-

EVER hawksbill turtle to be recorded along the U.S. West Coast. The hawksbill measured 95.5 cm CCL and weighed 64.4 kg. She was found just South of the Coronado Bridge by the 3rd hole of the golf course.

Week of 28 January 2013

Field work:

Gray Whale Condition Research, Southern California Bight - This effort is focused on estimating reproductive and nutritive condition of southbound gray whales based on measurements of length and width taken from vertical aerial photographs from a NOAA Twin Otter. Three hours of flight time remain and, weather pending, one more flight this week should bring the project to a successful close. Contact Wayne Perryman for more information.

Antarctic Killer Whale Ecological Research, Antarctic Peninsula – Killer whale surveys continued to be productive onboard the National Geographic Explorer over the past week: four groups of killer whales were sighted, with 30+ individual whales documented in identification photographs. Remarkably, all these whales could be matched to our existing collaborative database (40,000 photographs, 100+ contributors) including one group that we have photographed in January during each of the past five field seasons. These data on site fidelity and re-sighting rates will be invaluable for producing spatially-explicit abundance estimates. Holly Fearnbach leaves the ship and is replaced by Bob Pitman this week; Bob and John Durban will be hosted by Lindblad Expeditions for one further trip onboard the National Geographic Explorer before transferring to the R/V Point Sur for another NSF-sponsored project that includes focused killer whale research in February. Tag update: Nine of the ten satellite tags deployed by John and Bob at the fast ice edge in McMurdo Sound earlier this season (now including 6 type C killer whales and 3 Antarctic minke whales) continue to work very well. Further information, including real time tag tracking can be found at http://swfsc.noaa.gov/PRD-KillerWhale.
Contact Robert Pitman or John Durban for more information.

Southern Ocean Research Partnership (SORP) – Antarctic Blue Whale Cruise, Southern Ocean - Scientists from Australia, Chile, New Zealand, the United Kingdom and the United States will depart from Nelson, New Zealand on 30 January to study blue whales in the Southern Ocean. Visual observations, passive acoustics, and satellite tagging will be used. PRD scientists Jay Barlow and Paula Olson are part of the team. The project is sponsored by the Australian Government and part of the IWC-SORP Program. Follow the cruise at Blue Whales @SORPnews

San Diego Coastal Bottlenose Dolphin Research – As part of a joint SWFSC/SIO collaborative research program on coastal bottlenose dolphins, Dave Weller and Greg Campbell (SIO) conducted a small boat survey off San Diego on 23 January. One group of 22 dolphins was encountered and more than 200 digital photo-identification images collected. In addition, one group of 200-300 common dolphins and three groups of grays whales, including one northbound juvenile, were encountered. Contact Dave Weller for more information.

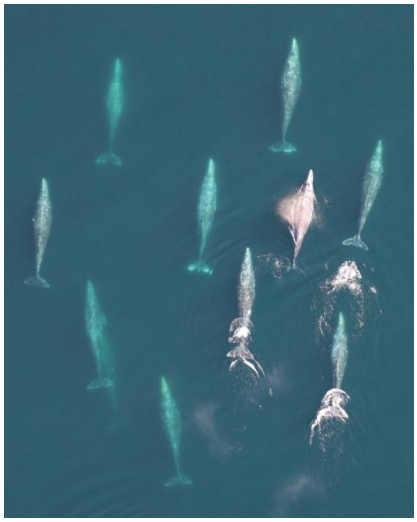
Other of Note:

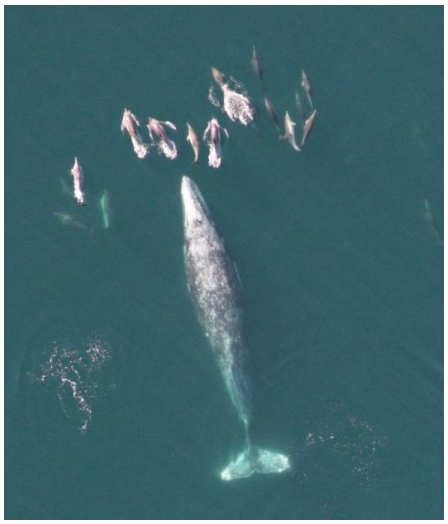
Advanced Technology Trials Successful - Dave Weller and Wayne Perryman travelled to Granite Canyon last week to participate in a side by side test of two thermal sensor systems. This test is part of a Phase II SBIR grant to Toyon Corporation for the design and installation of a thermal sensor based system for counting southbound gray whales from this unique site. The goal is to reduce costs of shore based surveys of these whales and to allow us to increase the frequency and extend the duration of these surveys.

Week of 22 January 2013

Field work:

Gray Whale Condition Research, Southern California Bight - This effort is focused on estimating reproductive and nutritive condition of southbound gray whales based on measurements of length and width taken from vertical aerial photographs from a NOAA Twin Otter. After losing 5 consecutive days to bad weather, a high pressure system moved in and the team flew 6 days last week (Tuesday-Saturday). Conditions for photography were near perfect. The migration peak has passed; only a few cow/calf pairs are still offshore of the Southern California Bight and pregnant females are rare. Thanks to efforts of our flight crew to cut costs by staying at North Island Naval Air Station and taking advantage of low fuel costs on the base, we have managed to save enough money to add 5 additional hours to our flight budget, bringing us to a total of 50 hrs, of which 12 remain. LTJG David Cowan and Ens Mike Hirsch deserve special thanks; both are excellent pilots and have contributed significantly to the success of this effort. Contact Wayne Perryman for more information. *Photos: a large group of migrating gray whales; dolphins bow ride a migrating gray whale; a female with a young calf migrates south.*





Pinniped Abundance and Ecological Research, Channel Islands, Southern California Bight - Mark Lowry and Stephanie Nehasil will collect California Sea Lion scat samples from San Nicolas Island, 22-24 January, to be used for diet studies. Contact Mark for more information.

Antarctic Killer Whale Ecological Research, McMurdo Station, Ross Sea, and Antarctic Peninsula – Antarctic Peninsula: Durban and Fearnbach's time onboard the National Geographic Explorer has continued to be successful into the second week. We deployed another satellite LIMPET tag on a Type B (small form) killer whale in the Gerlache Strait; this is a location-only transmitter tag, intended to enable longer term tracking into the winter months and high resolution tracking in the shorter term to facilitate relocation for follow up studies. We have observed these whales to feed on brushtail penguins at the surface (see photo), but the previously-deployed LIMPET tag continues to transmit astounding dive-depth data, dives regularly greater than 500m and even in excess of 700m on occasions. Our work in the coming weeks will focus on identifying the prey they are targeting at these depths. After returning to Ushuaia (Tiera del Fuego, Argentina) to change out the guests onboard, we are now southbound again in the South Shetland Islands. We expect more killer whales in the coming days. McMurdo Station, Ross Sea: Pitman returned to San Diego last Thursday from 1 month in the field. Nine of the ten satellite tags deployed at the fast ice edge by John Durban and him (now including 6 type C killer whales and 3 Antarctic minke whales) continue to work very well, with dive and location data coming in for both species. Of note, the killer whales are diving to over 700 m; minkes in the same area are regularly diving to only 80 m. Further information, including real time tag tracking can be found at http://swfsc.noaa.gov/PRD-KillerWhale.
Contact Robert Pitman or John Durban for more information.

Press:

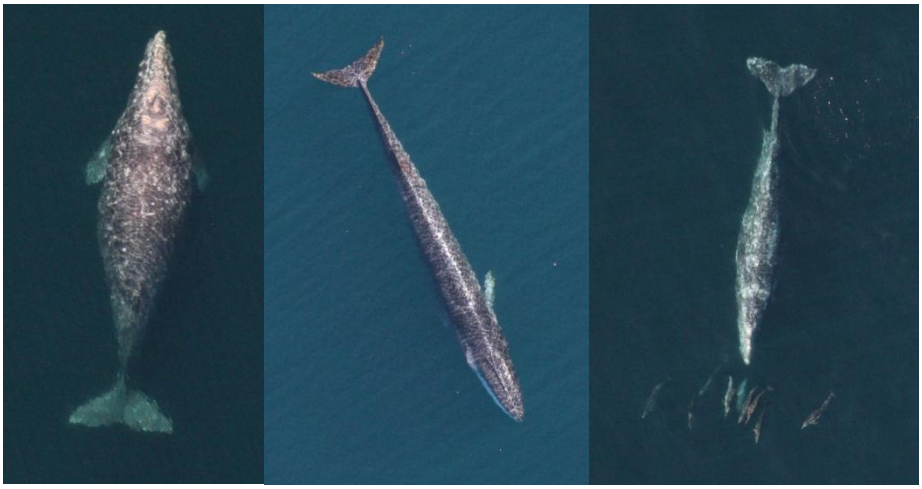
Beaked whale declines paper featured in SCIENCENOW online (Jeffrey E. Moore/Jay P. Barlow)
http://news.sciencemag.org/sciencenow/2013/01/scienceshot-the-mystery-of-the-b.html?ref=hp
Research paper: http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0052770

Week of 14 January 2013

Field work:

Gray Whale Condition Research, Southern California Bight - This effort is focused on estimating reproductive and nutritive condition of southbound gray whales based on measurements of length and width taken from vertical aerial photographs from a NOAA Twin Otter. Two flights were conducted this past week and about a

dozen gray whales including several very wide, likely pregnant, females and 3 cow/calf pairs, were photographed. Also encountered were large groups of common dolphins and Risso's dolphins. Weather limited operations somewhat and a very large swell prevented calibration of the radar altimeter. About 35 hrs of flight time remain. Contact Wayne Perryman for more information. *Photos Below: A very pregnant female gray whale; a sleek fin whale; common dolphins bow ride in front of a gray whale.*



Pinniped Abundance and Ecological Research, Channel Islands, Southern California Bight - Mark Lowry conducted a northern elephant seal aerial photographic survey at San Miguel Island and Santa Rosa Island on 9 January. San Nicolas Island could not be surveyed the following day due to high winds that would make it too dangerous to fly the survey; the survey will occur later this month. Mark and Corey Sheredy will census California sea lions and northern elephant seals, and collect sea lion scat samples for diet studies at San Clemente Island this week (15-17 January).

Antarctic Killer Whale Ecological Research, McMurdo Station, Ross Sea, and Antarctic Peninsula – Robert Pitman finished up a month at McMurdo Station over the weekend working with colleagues as part of a NSF-funded project on apex predators. Identification photographs and 10 satellite tags deployed (9 still transmitting) will allow estimation of killer whale population size, and quantification of foraging behavior (dive depths and movements) of both killer whales and Antarctic minke whales. In addition, approximately 3 hrs of acoustic recordings of the distinctive Ross Sea Killer Whale were obtained for comparative analyses, and 10 biopsy samples collected to study trophic interactions between minkes and killer whales. John Durban has transferred from McMurdo to the Antarctic Peninsula where he and Holly Fearnbach will continue studies evaluating the ecosystem interactions of killer whales as top predators. John, Holly and (later) Bob are being hosted by Lindblad Expeditions onboard the expedition ship *National Geographic Explore*r until early February, when operations will transfer to the National Science Foundation charter vessel R/V *Point Sur*. Already, during the first full day off the Antarctic Peninsula, the team deployed a depth-recording satellite tag on a Type B killer whale (small form). These tags will be used to remotely monitor movement and diving behaviors over the coming weeks, to infer possible prey species and predation strategies; later work aboard the *Pt. Sur* will focus on prey mapping/sampling in important foraging areas identified from the tag data. Further information, including online tag tracking can be found at http://swfsc.noaa.gov/PRD-KillerWhale Contact Robert Pitman or John Durban for more information.

Photos Below: Collecting acoustic data from Ross Sea Killer Whales; Pitman deploys a satellite tag on an Antarctic minke whale; a depth-recording satellite transmitter tag being deployed on the dorsal fin of a Type B killer whale off the western side of the Antarctic Peninsula. The tag was projected on the end of a crossbow bolt; the bolt fell away on contact with the whale (as shown), leaving the small tag attached.

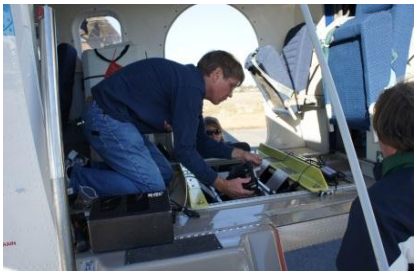
Press:

Aerial photos give perspective on gray whales (**Wayne Perryman**)
http://www.utsandiego.com/news/2013/jan/10/tp-aerial-photos-give-perspective-on-gray-whales/

Week of 7 January 2013

Field work:

Gray Whale Condition Research, Southern California Bight - The NOAA Twin Otter NOAA RF57 arrived in San Diego on Thursday (3 January) to begin photogrammetric sampling on southbound gray whales. This effort is focused on estimating reproductive and nutritive condition based on measurements of length and width taken from vertical aerial photographs. The research is funded by the IWC and is part of a long term study designed to investigate the impacts of weather and climate on eastern north Pacific gray whales. This year's effort is particularly important due to the anomalous ice conditions in the Arctic last spring, when ice extent was the most expansive in the 30 year time series, and last summer, when ice cover was at an all-time low. Photographic sampling will be conducted from San Diego over the next 30 days. Contact Wayne Perryman for more information. *Photos: The NOAA Otter with a new paint job, Morgan Lynn installs an image motion compensated camera system, and a vertical photograph of a pregnant gray whale.*


Green Turtle Ecological Research, San Diego Bay - On 9 January 2013, the SWFSC green turtle research team will continue green turtle capture efforts in San Diego Bay. Contact Robin LeRoux or Jeff Seminoff for more information.

Pinniped Abundance and Ecological Research, Channel Islands, Southern California Bight - Mark Lowry will conduct a northern elephant seal aerial photographic survey at San Nicolas Island, San Miguel Island, and Santa Rosa Island 9-11 January. This is the first of four planned surveys during the 2013 winter breeding season which will be used to estimate total number of adult females, from which number of births and total pup mortality will be estimated. The US Navy will provide a chartered aircraft for three of the surveys, with the fourth survey being funded from FY12 carryover funds that have been obligated through Department of Interior.

Antarctic Killer Whale Ecological Research, McMurdo Station, Ross Sea – Robert Pitman and John Durban are currently at McMurdo Station, Antarctica, as part of an NSF-funded project titled: "Benthic pelagic coupling in an intact ecosystem: The role of top predators in McMurdo Sound". Since their arrival (15 December 2012), they have deployed 4 dive depth/location and 3 location-only tags (see photographs) on Ross Sea Killer Whales (RSKW, also known as "Type C" killer whales), a fish-eating ecotype that occurs commonly in McMurdo Sound, and 1 depth/location tag and 2 location-only tags on Antarctic minke whales. All 10 tags are working well and indicate that the killer whales are foraging mainly along the fast ice edge, diving for 10-15 minutes at a time, to depths of 300-400 m, which takes them to the bottom in shallower waters. This vertical foraging with repeated bounce dives over hours at a time is more similar to beaked whales than to the horizontal ranging of most forms of killer whales. The physiological and morphological adaptations that underpin this highly divergent lifestyle further suggest that RSKW is in fact a separate species of killer whale. In addition, there have been questions about whether this fish-eater depends mainly on large, relatively rare toothfish or much more abundant but much smaller other species of icefish that occur in the Sound – observations this season suggest that killer whales are capable of feeding on very small fish, as the photograph here shows. Contact Robert Pitman for more information.


Press:

'Citizen scientists' explain mysterious die-offs, trace oil spills back to surprising culprits (Scott Benson, Karin Forney)
http://www.mercurynews.com/science/ci_22307439/citizen-scientists-explain-mysterious-die-offs-trace-oil

Week of 17 December 2012

Press:

*Utility pondering its next move following commission's denial (**Karin Forney**)*
In spite of being flatly rejected by the state Coastal Commission, PG&E officials have not ruled out applying for permits to conduct high-energy seismic surveys next year offshore of Diablo Canyon nuclear power plant. See http://www.sanluisobispo.com/2012/12/01/2313652/pge-may-still-pursue-permits-for.html#storylink=misearch#storylink=cpy

Week of 03 December 2012

Field work:

Green Turtle Ecological Research, San Diego Bay - On 27 November, the SWFSC green turtle research team kicked off the 2012/13 field season in San Diego Bay. The team captured an adult female green turtle measuring 105.0 cm curved carapace length and 120 kg in body weight. This turtle was heavily laden in epiphytic algae, perhaps a result of inactivity due to cold water temperatures (14.5 C on day of capture). This turtle was the year's first capture, and also a recapture originally caught on 30 April 2003. On that day, the turtle's curved carapace length was 76.1, and she weighed 56.0 kilos. The turtle was equipped with a time depth recorder (TDR) and ultrasonic transmitter prior to release. For more information on the project, contact PIs Robin LeRoux or Jeff Seminoff.

Press:

Scientists want new name for mammal-eating orcas - Efforts by John Durban and others to rename the type of killer whales that were originally called "transients" in the North Pacific to "Bigg's killer whale" were reported in

an article this week by the associated press. The genetic analyses of killer whales done by Phil Morin and colleagues were highlighted in the article, in support of the significant genetic distinctiveness of the Bigg's killer whales relative to the other North Pacific types, and the ongoing efforts to understand and describe global killer whale systematics. The article has been carried in quite a few newspapers in Alaska and along the US and Canadian west coast. The full article published in the Anchorage Daily News can be seen at: http://www.adn.com/2012/11/25/2703681/scientists-want-new-name-for-mammal.html#storylink=misearch

Week of 26 November 2012

Field work:

Aerial survey, passive acoustic monitoring, beach surveillance and stranding response activities in advance of PG&E Diablo Canyon Nuclear Power Plant seismic surveys, Morro Bay, CA and surrounding areas, Oct-Dec – Aerial surveys and active beach surveillance have been suspended due to PG&E's postponement of the seismic surveys. Passive acoustic monitoring continues. Contact Karin Forney, Susan Chivers or Lisa Ballance for more information.

Week of 19 November 2012

Field work:

Aerial survey, passive acoustic monitoring, beach surveillance and stranding response activities in advance of PG&E Diablo Canyon Nuclear Power Plant seismic surveys, Morro Bay, CA and surrounding areas, Oct-Dec –
Aerial surveys:
No over-water transect surveys were conducted due to unfavorable conditions (windy and/or rainy).

Passive acoustic monitoring:
Karin Forney, Brandon Southall and Daniel Palacios completed the setup, testing, and assembly of four additional passive acoustic moorings with C-PODS and/or DSG acoustic recorders. These moorings will be deployed in about 120 ft water depth between Port San Luis and Pt. Sal as soon as weather conditions and other logistic constraints permit. A tentative deployment date of Nov 19 has been scheduled.

Active beach surveillance
Monitoring of selected index beaches began 5 November. Susan Chivers, Kate Achilles, Corey Sheredy (NOAA employees/contractors) and Michelle Berman (Santa Barbara Museum of Natural History, San Luis Obispo and Santa Barbara County Stranding coordinator) surveyed Pt. Piedras Blancas, San Simeon, Morro Strand State Beach, Morro Bay Sand Spit, Cayucos State Beach, Pismo State Beach and Guadalupe Dunes to collect data prior to PG&E's planned mid- to late- November seismic survey. Numerous seabirds were encountered during the surveys with western grebes being the predominant species. In addition to the marine mammal strandings reported below, two groups of coastal bottlenose dolphins were observed in the near shore waters off Cayucos and Morro Strand State Beaches.

The first beach survey flight was completed on 13 November to provide additional coverage of the region where stranded animals may come ashore. Scott Benson, Jim Gilpatrick and Daniel Palacios (NOAA employees/contractors) were the observers in the Partenavia Observer (Aspen Helicopters, Inc.) flown by Barry Hansen. The flight covered the near shore waters between Pt. Conception and Pt. Lobos in excellent viewing conditions. No stranded marine mammals were observed. Live marine mammals observed included sea otters, harbor porpoise, and bottlenose and long-beaked common dolphins. Additionally 8 white sharks were sighted between Pismo Dunes and Pt. Sal.

Stranding response

The beach surveillance team responded to a fresh dead northern fur seal retrieved by Oceano Dunes State Park Rangers on 7 November. A CT scan of the animal was done at a local veterinary hospital, and the animal was transported to The Marine Mammal Center in Sausalito for necropsy. Preliminary necropsy results indicate the seal was emaciated. Additionally, five California sea lions, one harbor seal and one sea otter were recorded during the beach surveys. All were either in a state of advanced decomposition or mummified, and only the location of each animal was recorded.

Contact Karin Forney, Susan Chivers or Lisa Ballance for more information.

Week of 12 November 2012

Field work:

Aerial survey, passive acoustic monitoring, beach surveillance and stranding response activities in advance of PG&E Diablo Canyon Nuclear Power Plant seismic surveys, Morro Bay, CA and surrounding areas, Oct-Dec – Baseline aerial survey efforts continued this week, with flights conducted on Nov 5th and 6th. The observer team included Karin Forney and Daniel Palacios (NOAA employees/contractors), Kelly Newton (UC Santa Cruz), and Jennifer Klaib (Padre Associates), using the P-68 Observer Partenavia N6602L (Aspen Helicopters, Inc.). A complete set of inshore and offshore porpoise transects was flown on Monday, November 5 in mostly good to excellent conditions (Figure 1). A second replicate of the offshore lines was flown on Tuesday November 6 (Figure 2) in excellent viewing conditions. Diverse and abundant marine mammals were encountered during the surveys this week (figures 1 and 2). Noteworthy observations included an extremely large group of about 700 Risso's dolphins, several humpback whales, and fin, blue and gray whales. Many ocean sunfish, numerous blue sharks, two probable white sharks, and one opah were also documented. Efforts to conduct additional aerial surveys will continue when weather conditions permit.

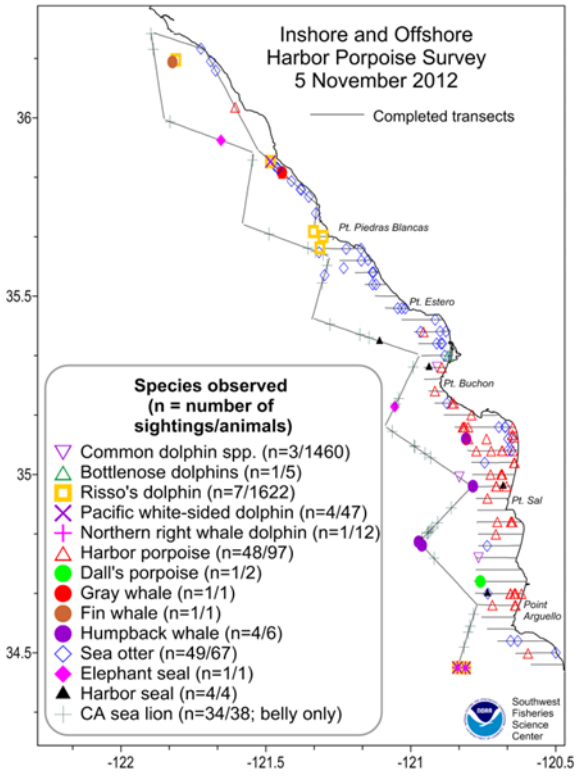


Figure 1. Transects and marine mammal sightings during inshore and offshore porpoise surveys conducted 5 November. California sea lion sightings are recorded only by the belly observer during the offshore surveys.

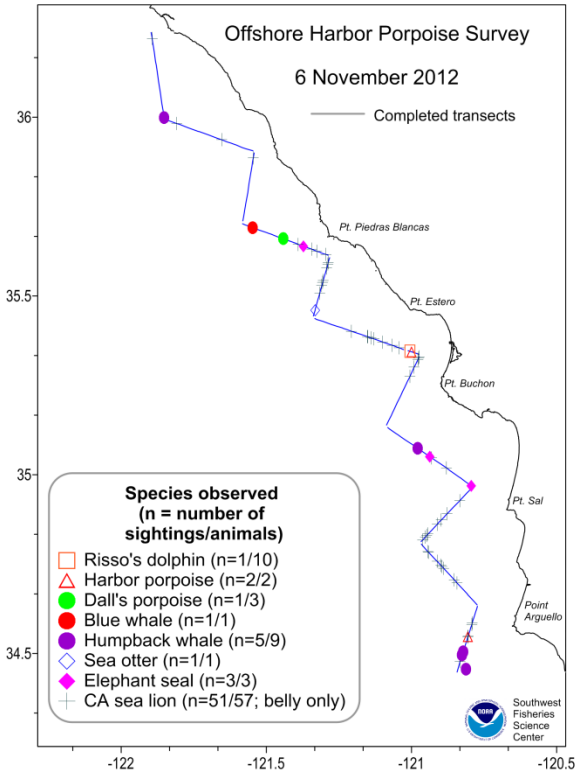


Figure 2. Transects and marine mammal sightings during inshore and offshore porpoise surveys conducted 6 November. California sea lion sightings were recorded only by the belly observer.

Passive acoustic monitoring

The aerial survey team was also able to verify the presence of the Oceano CPOD mooring, which was not detected during the two previous surveys and was considered possibly missing. Water clarity on Nov 5 was better and fewer birds were in the area, allowing the positive detection of the red and white mooring float and the submerged mooring line at the deployment location. All three CPOD moorings have now been confirmed to be present during aerial surveys within the last two weeks. Karin Forney, Brandon Southall and Daniel Palacios have continued working on the assembly of five additional passive acoustic moorings that will be deployed as soon as possible. Weather conditions are expected to be too rough for deployments during the remainder of this week, but logistics are being worked out to deploy these moorings next week, if weather conditions improve.

Active beach surveillance

Baseline monitoring of the beaches began this week. Susan Chivers (NOAA employee) and Michelle Berman (Santa Barbara Museum of Natural History, San Luis Obispo and Santa Barbara County Stranding coordinator) surveyed the index beaches: Pt. Piedras Blancas, San Simeon, Morro Strand State Beach, Morro Bay Sand Spit, Cayucos State Beach, Pismo State Beach and Guadalupe Dunes to collect baseline data prior to PG&E's planned mid- to late- November seismic survey. Numerous seabirds were encountered during the survey, with western grebes being the predominant species. In addition to the pinniped strandings reported below, two groups of coastal bottlenose dolphins were observed in the near shore waters off Cayucos and Morro Strand State Beaches.

Stranding response

The beach surveillance team responded to a fresh dead northern fur seal retrieved by Oceano Dunes State Park Rangers. A CT scan of the animal was done locally and the animal was transported to The Marine Mammal Center in Sausalito for necropsy. Results are pending. Additionally, four California sea lions and one harbor seal were found during the beach surveys. All were either in a state of advanced decomposition or mummified, and only the location of the animal was recorded.

Contact Karin Forney, Susan Chivers or Lisa Ballance for more information.

Other of Note:

13th International Conference of the American Cetacean Society, San Diego, CA, 9-11 November – Several SWFSC staff will participate in this year's biennial conference at the Hyatt Regency Mission Bay, including Jay Barlow, Susan Chivers, Aly Fleming, Annette Henry, Eiren Jacobson, Nicole Lee, Matt Leslie, Sarah Mesnick, Phil Morin, Bill Perrin, Shannon Rankin, Gabriela Serra-Valente, Kelly Schill, Claire Surrey-Marsden, Barbara Taylor and Amy Van Cise. SWFSC staff will also make the following presentations:

Chivers, S. J., Perryman, W. L., Lynn, M. S., Gerrodette, T., Archer, F. I., Danil, K., Berman, M., Dines, J. P. Aerial photographs reveal unique breeding characteristics for *Delphinus capensis* and *D. delphis* off southern California, USA and Baja California, Mexico. *Spoken presentation.*

Fleming, Alyson, Yack, Tina, Barlow, Jay. Modeling Dall's porpoise habitat preferences from acoustic presence/absence data. *Poster presentation.*

Jacobson, Eiren K., Karin A. Forney, and James T. Harvey. Developing a passive acoustic monitoring network for harbor porpoise in central California. *Poster presentation.*

Jaramillo-Legorreta, Armando M., **Barbara Taylor**, Gustavo Cárdenas-Hinojosa, Edwyna Nieto-García, Nick Tregenza, **Tim Gerrodette**, **Jay Barlow**, and Lorenzo Rojas-Bracho. Are vaquita still clicking?: an update on their status. *Poster presentation.*

Lee, Nicole M., Brittany Hancock-Hanser, John Durban, Diane Claridge, **Phillip A. Morin**.

Mitogenomic analysis of noise-sensitive beaked whales in the northern Bahamas: implications for conservation. *Poster presentation.*

Leslie, Matthew S. , Perrin, William F., Archer, Frederick I., Morin, Phillip A. Can whole mitochondrial genomes reveal changes in population abundance of eastern tropical Pacific Ocean dolphins during the late Pleistocene? *Poster presentation.*

Perrin, William F. Small cetaceans and the IWC. *Oral Presentation.*

Rankin, Shannon, Frederick Archer, and Jay Barlow. Vocal activity of tropical dolphins is inhibited by the presence of killer whales, *Orcinus orca. Poster presentation.*

Serra-Valente, Gabriela, Kelly M. Robertson, and Nicole E. Beaulieu. The SWFSC Marine Mammal Molecular Research Collection: a contemporary and historical tool. *Poster presentation.*

Taylor, Barbara. NOAA honors the 40th anniversary of the MMPA. *Keynote address.*

Van Cise, Amy, Robin Baird, Simone Baumann-Pickering, **Shannon Rankin,** and **Jay Barlow**. Characterization of short-finned pilot whale (*Globicepha macrorhynchus*) calls near the Hawaiian Islands. *Poster presentation.*

Week of 5 November 2012

Field work:

Aerial survey and passive acoustic monitoring activities in advance of PG&E Diablo Canyon Nuclear Power Plant seismic surveys, Morro Bay, CA and surrounding areas, Oct-Dec – Aerial surveys are planned for Monday, Nov 5 between Pt. Conception and Pt. Sur, as part of our ongoing efforts to collect baseline data on harbor porpoises and other marine mammals prior to planned seismic survey operations in mid/late November. The observer team for this survey includes SWFSC participants Karin Forney and Daniel Palacios, Kelly Newton from UCSC, and Jenn Klaib from Padre Associates. Contact Karin Forney or Lisa Ballance for more information.

San Diego Coastal Bottlenose Dolphin Research – As part of a joint SWFSC/SIO collaborative research program on coastal bottlenose dolphins, Dave Weller and Greg Campbell (SIO) conducted a small boat survey off San Diego on 29 October. Three groups totaling 31 coastal dolphins, including 3 neonates, were encountered and more than 500 digital photo-identification images taken. In addition, one group of 95 offshore bottlenose dolphins was encountered and 400 photographs and six biopsy samples collected. Finally, four blue whales were observed, including this individual with distinctive fluke tips that was first photographed by Cascadia Research Collective in 1987.

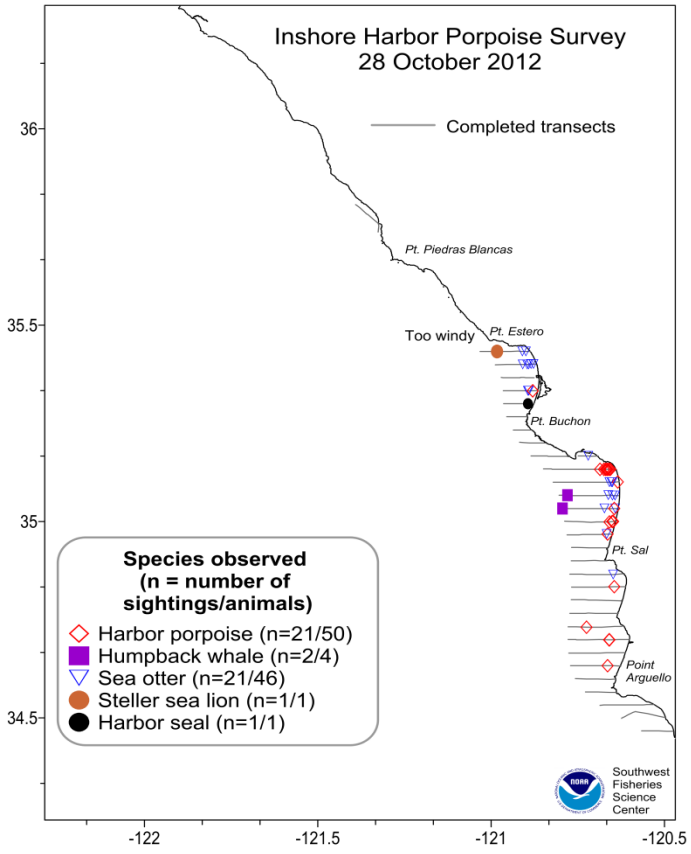
Green Turtle Ecological Research, San Gabriel River & Seal Beach NWR, Orange County – On Tuesday, November 6, Jeff Seminoff, Robin LeRoux and Brad MacDonald will travel to the San Gabriel River to conduct green sea turtle capture efforts. The team will be joined by biologists from Southwest Regional Office and a graduate student from California State University at Long Beach. Contact PIs Robin LeRoux and Tomo Eguchi for more information.

Week of 29 October 2012

Field Work:

Aerial survey and passive acoustic monitoring activities in advance of PG&E Diablo Canyon Nuclear Power Plant seismic surveys, Morro Bay, CA and surrounding areas, Oct-Dec –

Aerial surveys:
The aerial survey team completed a partially successful survey on 28 October (figure 1), covering the southern inshore porpoise area in good conditions, as part of our ongoing efforts to collect baseline data on harbor porpoises and other marine mammals prior to seismic survey operations in mid/late November. The observer team for this survey includes SWFSC participants Karin Forney, Scott Benson, and Daniel Palacios, and Jenn Klaib from Padre Associates. Winds increased as the team worked north so they were unable to finish all lines. Weather is expected to improve, possibly allowing additional survey effort on 29 October.



Passive acoustic monitoring:
Ongoing. Contact Karin Forney or Lisa Ballance for more information.

Southern California Behavioral Response Study, Southern California Bight, 11-25 October – Last week, Jay Barlow and Jennifer Keating returned from the second leg of the SOCAL-12 Behavioral Response Study cruise. This leg, the research team successfully tagged and played back simulated Navy sonar signals to blue, fin and humpback whales. Data from this and previous studies will be pooled and analyzed to determine the response of these species to Navy sonar sounds. This leg was plagued by rough weather and a lack of beaked whales, but did manage to add one new species to the analysis (humpback whales). Contact Jay Barlow for more information.

Week of 22 October 2012

Field Work:

Aerial survey and passive acoustic monitoring activities in advance of PG&E Diablo Canyon Nuclear Power Plant seismic surveys, Morro Bay, CA and surrounding areas, Oct-Dec –

Aerial surveys:

There was a brief weather opportunity for porpoise surveys on October 18. An observer team including Karin Forney, Daniel Palacios, Scott Benson (NOAA employees/contractors) and Jennifer Klaib (Padre Associates) conducted aerial surveys from Santa Maria, CA, using the P-68 Partenavia N300LF (Aspen Helicopters, Inc.) with pilot Barry Hansen. Although winds had picked up and were too high in the southern-most part of the study area, survey transects were successfully completed from about Pismo Beach to Pt. Sur (Figure 1). Weather conditions were fair to good (Beaufort sea states 1-4, sunny). Observed marine mammal species (Table 1) included harbor porpoise, bottlenose dolphin, Risso's dolphin, Dall's porpoise, humpback whale, southern sea otter, and harbor seal.

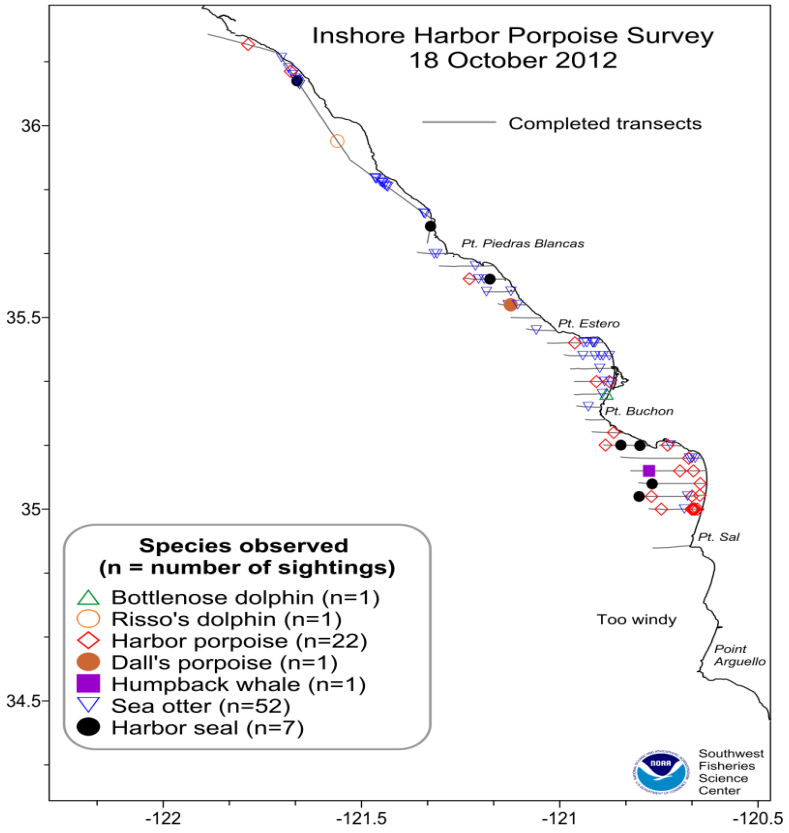


Figure 1. Transects and marine mammal sightings during inshore porpoise surveys conducted October 18, 2012.

Table 1. Marine mammal species observed during 18 Oct 2012 surveys (excluding California sea lions)

Species	No. of Sightings	No. of Animals
Harbor porpoise	22	56
Risso's dolphin	1	12
Dall's porpoise	1	4
Bottlenose dolphin	1	3
Humpback whale	1	1
Southern sea otter	52	67
Harbor Seal	7	7

Passive acoustic monitoring:
The aerial surveys offered an opportunity to check on the CPOD moorings (see figure in last weekly report). The surface floats for the Cayucos and Morro Bay moorings were readily located by the aerial team; however, the surface float for the Oceano mooring could not be located despite several circles at the deployment site and good viewing conditions. This could indicate that the float was submerged or not visible for some reason, or that there is a problem with the mooring (e.g. that it has been removed or damaged). Karin Forney has made inquiries with local contacts to request their assistance in determining whether the float and mooring are still there.

Contact Karin Forney or Lisa Ballance for more information.

Southern California Behavioral Response Study, Southern California Bight, 11-25 October – Ongoing. Contact Jay Barlow for more information.

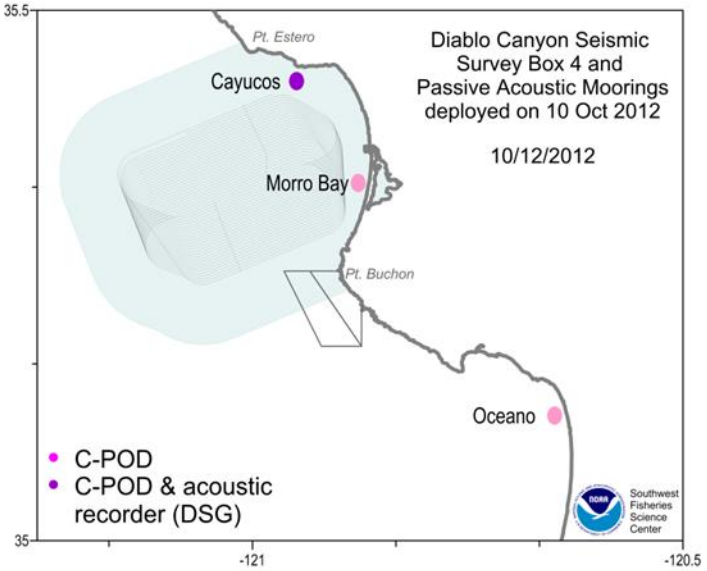
Pinniped Ecological Studies, Channel Islands, Southern California Bight, Quarterly - Mark Lowry and Alex Curtis counted pinnipeds and collected sea lion scat for diet studies at San Clemente Island, 16-18 Oct.

Week of 15 October 2012

Field Work:

Aerial survey and passive acoustic monitoring activities in advance of PG&E Diablo Canyon Nuclear Power Plant seismic surveys, Morro Bay, CA and surrounding areas, Oct-Dec - Four of the ten planned moorings with passive acoustic monitoring instruments were assembled this week, and three were successfully deployed on Wednesday, 10 Oct (see figure below). The deployment was conducted with the help of Dr. Jim Harvey and two divers and from Moss Landing Marine Laboratories, using a 'Hurricane' rigid hull inflatable boat. Two of the moorings (off Oceano and Morro Bay) are instrumented with a porpoise click detector (C-POD), and one mooring (off Cayucos) includes a C-POD as well as a Loggerhead Instruments 'DSG' acoustic recorder. The moorings are located in about 60ft water depth, and are marked with a small red and white 'crab-pot' surface float. The acoustic instruments will collect baseline data on porpoise occurrence and ambient sound, and are expected to remain in place until a few weeks after the completion of the seismic surveys. The design of the three moorings will allow C-PODs to be pulled up and swapped out for data retrieval during the seismic survey, if needed. This would be a priority if porpoise aerial surveys cannot be flown because of weather constraints. Deployments of the remaining passive acoustic moorings are planned during the coming weeks. Passive acoustic instruments associated with

kelp beds will be deployed in coordination with a sea otter monitoring team from USFWS. Contact Karin Forney or Lisa Ballance for more information.



Southern California Behavioral Response Study, Southern California Bight, 11-25 October – Ongoing. Contact Jay Barlow for more information.

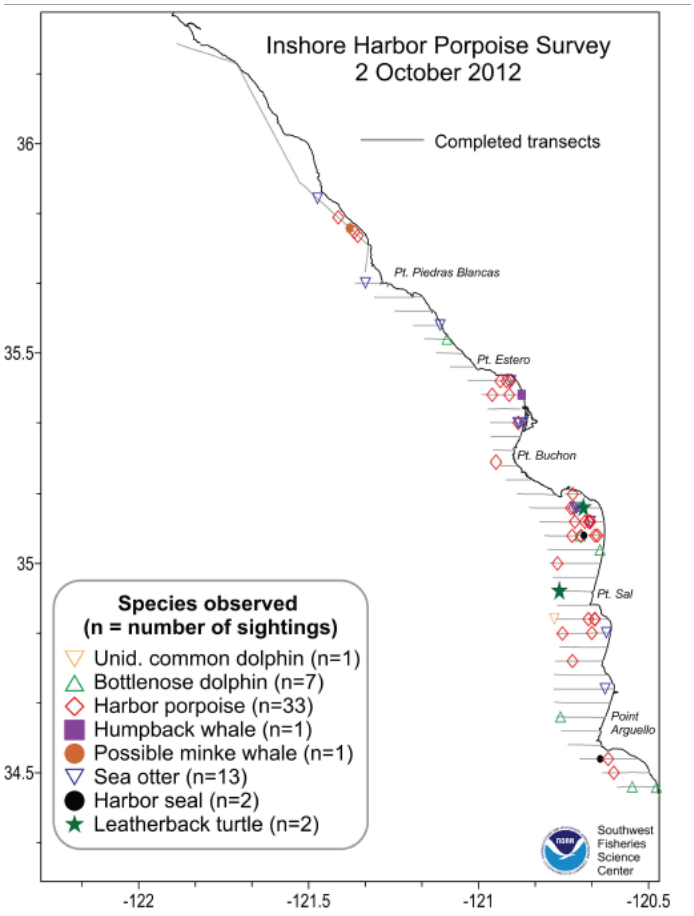
Awards, grants and recognition:

Funding Received - Jeff Moore and Lindsey Peavey will participate as part of a just-funded NCEAS working group. The 2-year project "Developing comprehensive management models for marine mammals" will use PBR as a foundational model to extend this reference point estimator to better address cumulative and non-lethal impacts, and to account for more realistic underlying population model assumptions. The first working group meeting at NCEAS is tentatively scheduled for December 2012. Leah Gerber (Arizona State U) is the lead PI. Congratulations Jeff and Lindsey!

Week of 7 October 2012

Field Work:

Aerial survey and passive acoustic monitoring activities in advance of PG&E Diablo Canyon Nuclear Power Plant seismic surveys - On Oct 2, SWFSC successfully completed aerial surveys off south-central California, as part of our efforts to collect fine-scale baseline data on harbor porpoises and other marine mammals prior to seismic survey operations in mid-November. The observer team included SWFSC participants Karin Forney, Daniel Palacios, Elizabeth Becker, and Jenn Klaib from Padre Associates. Weather conditions were excellent (mostly Beaufort sea states 1-2 and sunny). The survey covered inshore waters (<50fm depth) within the entire N-S stock range of the Morro Bay harbor porpoise stock (see Figure). In collaboration with Brandon Southall (SEA Inc), and Jim Harvey (MLML), Karin Forney plans to deploy the first few passive acoustic moorings on Oct 9-10. Target locations include 4 shallow water sites (<10fm) between Cayucos and Pismo Beach in central California. Daniel Palacios has been assisting with the mooring setup and assembly. Two of the moorings will have a harbor porpoise click detector (CPOD), and two will have a CPOD plus a Loggerhead systems acoustic recorder to measure ambient sound. The moored instruments will collect baseline data on porpoise occurrence and ambient sound during the coming weeks. Contact Karin Forney or Lisa Ballance for more information.



Southern California Behavioral Response Study, Southern California Bight, 11-25 October - Jay Barlow and Jennifer Keating will participate in this project, part of an international effort to quantify the behavioral response of marine mammals to anthropogenic sound ... especially Navy sonar. This collaboration includes team members from Cascadia Research, Duke University, U. St. Andrews, and the US Navy. The entire team will be aboard the dive vessel *Truth* out of Santa Barbara. On this, the second leg of the 2012 effort, the SWFSC team will tow hydrophone arrays to detect beaked whales and sperm whales. Once subject animals are detected, other members of the project will tag the animals to monitor their behavior and will playback sounds such as simulated Navy sonar. Several new pieces of acoustic equipment will also be tested, including a towed tetrahedral hydrophone array and a drifting buoy recorder. Contact Jay Barlow for more information.

Pinniped Diet Research, Channel Islands, Quarterly - Mark Lowry and Morgan Martin (SDU Masters student) collected California sea lion scat for diet research from San Nicolas Island, 2-4 October. Contact Mark for more information.

Press:

SeaWorld Killer Whale Injury **(Bob Pitman)**

http://abcnews.go.com/blogs/headlines/2012/10/seaworld-killer-whale-injury-spurs-peta-complaint/

http://www.sandiego6.com/news/local/Seaworld-Whale-Bite-172409621.html

Week of 1 October 2012

Field Work:

Leatherback Turtle Foraging Ecology Aerial Surveys and In-Water Capture, Monterey, California - Poor weather (fog, wind) grounded the aerial portion of the leatherback research team over the past week. At-sea capture efforts based out of Half Moon Bay were conducted aboard the R/V *Sheila B* (Moss Landing Marine Lab), with at least one leatherback sighted, but no captures. As the season moves into its 4th and final week, weather forecasts look promising for both aerial and at-sea efforts. The team is hoping to finish strong. Contact Scott Benson for more information.

Press:

Killer Whale Injured at SeaWorld San Diego

Robert Pitman comments on injuries in wild cetaceans. http://www.cbs8.com/story/19666384/killer-whale-hurt-at-san-diegos-seaworld-show

Week of 24 September 2012

Field Work:

Leatherback Turtle Foraging Ecology Aerial Surveys and In-Water Capture, Monterey, California - Poor weather (fog, wind) has largely grounded the leatherback research team over the past week. As the season moves into its 3rd week, aerial efforts will continue - weather permitting. The water-based capture team will move north, with efforts on the R/V *Sheila B.* based out of Half Moon Bay. Contact Scott Benson for more information.

Week of 17 September 2012

Field Work:

Leatherback Turtle Foraging Ecology Aerial Surveys and In-Water Capture, Monterey, California - Last week (week 1 of the 2012 season) the aerial survey team was largely grounded due to foggy weather. The sea-based team spent two days on the water to explore jellyfish abundance and distribution (the favored prey of leatherback turtles) in and around Monterey Bay. No leatherbacks were sighted or captured. Contact Scott Benson for additional information.

Testing/Flight Training of the SWFSC UAS Program Hexacopter, Camp Roberts California National Guard Base, CA, 12-14 September - Wayne Perryman (PRD), Jefferson Hinke and Douglas Krause (AERD), and Don LeRoi (Aerial Imaging Solutions) conducted testing and training exercises including image resolution testing and emergency procedures for loss of contact with aircraft and "come home" features. All tests were successful and preliminary examination of photograph resolution indicates improved image quality from previous tests (which were already excellent). The hexacopter will ultimately be used in the upcoming 2012/13 field camp season at Cape Shirreff, Antarctica, where photographs taken from the platform will be used to study penguins and pinnipeds. Contact Wayne Perryman for additional information.

Press:

"Studying the pandas of the sea" – Pitman and Durban Antarctic killer whale research featured in Penguin News, Falkland Islands, 2012, Volume 24(14):9.

Awards, grants and recognition:

PRD-SIO Doctorate Student Receives Award - Summer Martin has been selected from over 70 applicants to receive full funding to attend the 2012 ACES and Ecosystem Services Conference to be held in Ft. Lauderdale, FL 10-14 December of this year. Summer will present "Is fishing really worth more than biodiversity in the open ocean?" – an economic analysis of ecosystem services of the eastern tropical Pacific. Congratulations Summer!

Week of 10 September 2012

Field Work:

Leatherback turtle aerial surveys and in-water capture, Monterey, California, Week 1 - SWFSC biologists are convening in Monterey, California for the start of the 2012 leatherback capture and monitoring season. This week the team will conduct an aerial survey of waters in and near Monterey Bay and the Gulf of Farallones using a NOAA Twin Otter aircraft. At-sea operations will follow, with the team using the R/V Sheila B (Moss Landing Marine Laboratories). Dan Prosperi and Jun Okoyama will join PI Scott Benson and others for the first week of field efforts. Contact Scott Benson for additional information.

Other of note:

Public Lecture – Wayne Perryman and Dave Weller will present "Gray Whales in a Changing Environment" at the Birch Aqaurium on Monday, 10 September, from 6:30-8:00pm. See http://aquarium.ucsd.edu/Education/Public_Programs/Adult_Programs/Lectures/ for details.

Public Lecture - Peter Dutton presented "The Secret Lives of Sea Turtles: New Insights from Molecular Genetics and Satellite Telemetry" to the San Diego Audubon Society on 7 September.

Week of 4 September 2012

Press:

Humpback whales in Avila Beach (**Robert Pitman)**

http://www.sanluisobispo.com/2012/08/24/2198560/humpbacks-are-in-big-supply-off.html#storylink=omni_popular#storylink=cpy

Other of note:

Gray Whale Photo Gallery Goes Live: http://swfsc.noaa.gov/ImageGallery/ – Thanks to Jessica Lipsky, Sarah Shoffler, Siri Hakala (PIFSC), and NOAA's education and outreach program, this photo gallery was created in celebration of the 40th anniversary of the Marine Mammal Protection Act.

Week of 27 August 2012

Press:

New NOAA Ship Strengthens Ties between Scripps Oceanography and Southwest Fisheries Science Center (**Cisco Werner/Sarah Mesnick**)
http://sio.ucsd.edu/Announcements/New_NOAA_Ship/

SeaWorld San Diego Welcomes New Killer Whale **(Bob Pitman)**
http://www.10news.com/news/31369211/detail.html
http://www.fox5sandiego.com/news/kswb-killer-whale-shouka-moved-to-seaworld-20120820,0,6589368.story

Week of 20 August 2012

Other of Note:

Marine Conservation and Biodiversity course at Scripps Institution of Oceanography hosts a "Tuna-Dolphin Symposium", 17 August – This all-day symposium included presentations on the Eastern Tropical Pacific Ecosystem (**Ballance**), History of the Tuna-Dolphin Fishery and Direct Effects (**Perrin**), Indirect Effects of the Fishery (**Ballance**), Management by NMFS (Bill Fox, WWF), Management by the IATTC (Martin Hall, IATTC), World Trade Organization Ruling (**Rusin**), Towards a New Paradigm: Ecosystem-Based Management (**Martin**), Population Modeling (Maunder, IATTC), and a panel discussion (all of the above plus **Gerrodette**) focused on The Future of the ETP. Contact Lisa Ballance for more information.

Week of 13 August 2012

Field work:
Leatherback Turtle Genetic Tagging/Demography Research, St. Croix, US Virgin Islands, 26 June – 8 August – The goal of this project is to genetically tag leatherback turtle hatchlings in order to learn basic demographic parameters (which remain virtually unknown for marine turtles in general). Last week wrapped up the fourth year of the project. As of Saturday 11th August, 3,266 samples had been collected, bringing the grand total of sampled hatchlings to 20,353 over 4 years of this first phase of a long term Capture-Mark-Recapture study. Contact Peter Dutton or Kelly Stewart for more information.

Above: Hatchling leatherbacks emerge from nests at sundown. Much of their early life history once they enter the ocean is a mystery, but genetic studies have shown that they tend to return to their natal beaches to breed. Age of first reproduction is unknown, but thought to be between 7 – 30 years. We anticipate being able to identify the hatchlings that return to nest as adults on Sandy Point, St. Croix, by matching genotypes from the genetic samples.

Green Turtle Ecological Research, San Gabriel River and Seal Beach National Wildlife Refuge, Los Angeles County – Last week (8-9 August) SWFSC green turtle researchers Tomo Eguchi, Robin LeRoux and Dan Prosperi teamed with Dan Lawson of the Southwest Regional Office to conduct field capture efforts at these two Orange County CA foraging areas. One juvenile green turtle was captured at each site; both were equipped with a PIT tag, flipper tags, and an acoustic transmitter. Contact Tomo Eguchi or Robin LeRoux for more information.

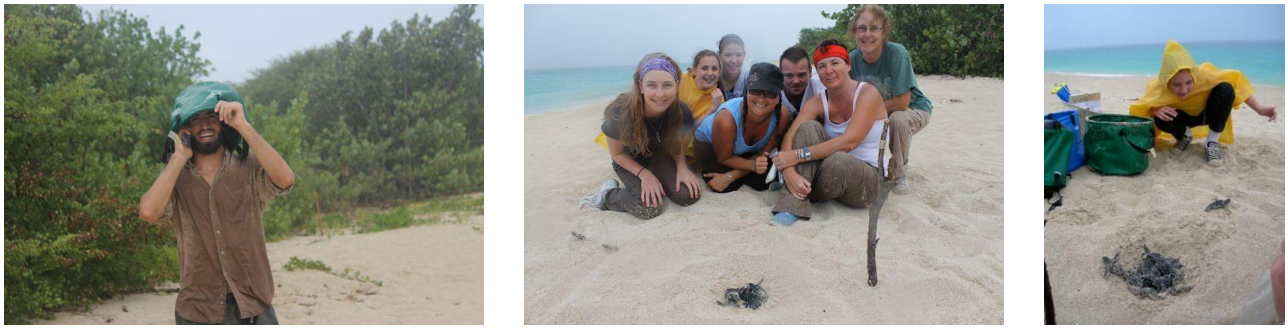
Press:

Bird flu found in seals: La Jolla seal colony not affected **(Kerri Danil)**
http://www.lajollalight.com/2012/08/08/bird-flu-found-%E2%80%A8in-seals-la-jolla-seal-colony-%E2%80%A8not-affected/

Week of 6 August 2012

Field work:

Leatherback Turtle Genetic Tagging/Demography Research, St. Croix, US Virgin Islands, 26 June – 8 August – The goal of this project is to genetically tag leatherback turtle hatchlings in order to learn basic demographic parameters (which remain virtually unknown for marine turtles in general). This is the fourth year of this project and last week the team passed a significant milestone. They collected samples from 23 nests and 493 hatchlings which collectively contributed to the 20,000th hatchling sampled over the four-year project. This season's effort will end this coming week on 11 August. Contact Peter Dutton or Kelly Stewart for more information.



Photos Above: Teacher-at-Sea intern Shane Morales takes a teleconference call in the rain at Sandy Point (left); Kelly Stewart, Amy Frey and a team of wet volunteers wait for nest with 20,000th hatchling to emerge, while

Tropical Storm Ernesto passes to the south (center); volunteer prepares to collect the hatchling for sampling (right).

Photo (left): Project Leads Peter Dutton and Kelly Stewart mark the occasion of sampling the 20,000th hatchling at Sandy Point with USWFS Refuge Manager, Mike Evans. The USWFS runs the Sandy Point leatherback monitoring project and is our partner in long-term tagging of the adult females as they return to nest in the future. This partnership will be important for the recapture phase when we anticipate being able to identify the hatchlings that return to nest as adults.

Southern California Behavioral Response Study (SoCal BRS), Southern California Bight, 26 July – 8 August – This is the third year of this six-year project designed to increase knowledge of marine mammal behavior as a function of sound exposure, including simulated military sonar. The passive acoustics research, led by PRD's acoustics program, is continuing to work mostly in the Catalina and San Clemente Basins and have acoustically detected Cuvier's beaked whales almost daily. The collaborative tagging team deployed a D-tag on a Baird's beaked whale and conducted an acoustic playback experiment – the primary goal of this project. Both (deployment of a time-depth recorder and subsequent playback experience) are firsts for this species. Contact Jay Barlow for more information.

Green Turtle Ecological Research, San Gabriel River, Los Angeles County - On 8-9 August, SWFSC green turtle researchers Tomo Eguchi and Robin LeRoux will team up with Dan Lawson of the Southwest Regional Office to conduct field capture efforts in this foraging area. Contact Tomo Eguchi or Robin LeRoux for more information.

Leatherback Turtle Foraging Ecology, Monterey Bay, CA, 6-9 August - Based on recent leatherback turtle sightings in Monterey Bay that have been reported by local whale watching tours, Scott Benson and colleagues from Moss Landing Marine Laboratories will attempt to locate and deploy suction cup tags on free-swimming leatherbacks to track local movements within the area.

Olive Ridley Turtle Rehabilitation/Release, San Diego, CA, 10-13 August - Tomo Eguchi and Robin LeRoux, in collaboration with researchers at SeaWorld, San Diego, CA, will flipper tag, collect samples for genetic analysis, and fit a satellite transmitter on a captive female olive ridley sea turtle. The turtle, originally stranded in Monterey, CA in October 2011 and transported to SeaWorld for rehabilitation, will be released off San Diego on Monday, 13 August.

Press:

Gray whale baby boom is noted in Alaska and California **(Wayne Perryman,** Cynthia Christman, Megan Ferguson, and Julie Speegle)
http://www.mcclatchydc.com/2012/08/03/159767/gray-whale-baby-boom-is-noted.html#storylink=cpy

Awards, grants, and recognition:

Funding Received - The U.S. Navy has approved funding to support Elizabeth Becker for one year to complete a variety of new cetacean-habitat modeling projects for waters off California and around Hawaii. Elizabeth will work collaboratively with SWFSC/PRD scientists Karin Forney, Jessica Redfern, Jay Barlow, Jim Carretta, and Susan Chivers, and Erin Oleson of PIFSC. Key projects are 1) a comparison of California Current-wide species-habitat models with those using finer-scale data collected within the Southern California Bight; 2) revisions of existing California Current species-habitat models using new methodology and satellite products; 3) development

of winter/spring habitat-based density models specific to the Southern California Bight; 4) validation and improvement of previously developed habitat-based density models within the Central North Pacific using 2010 HICEAS cruise data. Congratulations Elizabeth!

Week of 30 July 2012

Field work:

Leatherback Turtle Genetic Tagging/Demography Research, St. Croix, US Virgin Islands, 26 June – 8 August – The goal of this project is to genetically tag leatherback turtle hatchlings in order to learn basic demographic parameters (which remain virtually unknown for marine turtles in general). This is the fourth year of this project. It is now the peak of the hatching season and the field team is spending long hours collecting hatchlings emerging through the night (see photo). A total of 94 nests have been sampled this season, and the hatchling sample count has risen to 2,434. We are now only 479 samples away from reaching 20,000 samples for the project (over the past 4 years), a significant milestone for the first phase of this long term Capture-Mark-Recapture study. Contact Peter Dutton or Kelly Stewart for more information.

Loggerhead Turtle Behavioral Ecological Research, Baja California, Mexico, 23 July-3 August – Ongoing. Contact Jun Okuyama or Jeff Seminoff for more information.

Green Turtle Ecological Research, San Gabriel River, Orange County - On 25 July, SWFSC green turtle researchers Tomo Eguchi, Brad MacDonald and Jeff Seminoff teamed with Dan Lawson of the Southwest Regional Office to conduct field capture efforts in this Orange County, CA foraging area. One juvenile green turtle was captured and equipped with a PIT tag, flipper tags, and an acoustic transmitter. Contact Tomo Eguchi or Robin LeRoux for more information.

Assessing Whale Responses to Sonar Exposure, Atlantic Undersea Test and Evaluation Center (AUTEC), 1 June – 31 July – The summer field effort ended successfully this past week. A total of 15 tags were deployed on 5 species: Blainville's beaked whales (5), Cuvier's beaked whales (1), Short finned pilot whales (6), Melon-headed whales (2), Sperm whale (1), and many skin and blubber biopsy samples were collected for quantification of stress hormones. Contact John Durban for more information.
The project website is http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=18077

Southern California Behavioral Response Study (SoCal BRS), Southern California Bight, 26 July – 8 August – This project is part of an international effort to quantify the behavioral response of marine mammals to anthropogenic sound ... especially Navy sonar, and includes scientists from Cascadia Research, Duke University, U. St. Andrews, and the US Navy. The SWFSC team is led by Jay Barlow and includes Jennifer Keating of SWFSC and Yvonne Barkley (PIFSC) on the acoustics team, and Sofie Webb (Cascadia Research), Aly Flemming (SIO), Amy Van Cise (SIO) and Liz Vu (SIO) on the visual sighting team. They are working from the motor-sailer Derrick M. Baylis and towing hydrophone arrays (including a new tetrahedral hydrophone array designed by Jay and working well, and a drifting buoy recorder) to detect beaked whales and sperm whales. Once subject animals are detected, collaborators from another vessel will tag animals and play sounds, including simulated Navy sonar, to quantify behavioral responses. The first two days have been successful and a sperm whale was detected and tagged. Contact Jay Barlow for more information.

Pinniped Census and Ecological Research, Channel Islands - Mark Lowry and Jim Carretta counted pinnipeds and collected California Sea Lion scat for diet studies at San Clemente Island, 27-29 July. Contact Mark Lowry for more information.

Local events - meetings or events hosted on site:

Gray Whale Stock Identification Workshop, SWFSC – Torrey Pines Court, 1-3 August – In light of recent data on gray whales, a scientific Task Force (TF) has been established by NMFS to examine and discuss all lines of evidence related to gray whale stock structure. Particular attention will be devoted to determining whether the Pacific Coast Feeding Group constitutes a separate population stock. The TF will meet this week to receive oral presentations, review written documents, and draft a written workshop report regarding gray whale stock structure as defined under the Marine Mammal Protection Act and using the definition given in the NMFS Guidelines for Assessing Marine Mammal Stocks. The report of the workshop will be used to inform drafting of the 2013 gray whale Stock Assessment Report and serve as a contemporary review of available science for consideration by the statutorily mandated Scientific Review Group(s). The TF members are from SWFSC (Weller – Chair, Taylor, Moore, and Brownell), AFSC (Paul Wade, Jeff Laake), SEFSC (Patty Rosel), and Office of Protected Resources (Shannon Bettridge). SWFSC presenters include (in addition to the above TF members) Jim Carretta and Aimee Lang. Annette Henry will serve as NMFS Liaison. The workshop will also be attended by Donna Darm and Steve Stone of the Northwest Regional Office. Contact Lisa Ballance for additional information.

Week of 23 July 2012

Field work:

Leatherback Turtle Genetic Tagging/Demography Research, St. Croix, US Virgin Islands, 26 June – 8 August – The goal of this project is to genetically tag leatherback turtle hatchlings in order to learn basic demographic parameters (which remain virtually unknown for marine turtles in general). This is the fourth year of this project. The busiest week this season has just wrapped up. The team has sampled 69 nests for a hatchling sample total of 1,683 (743 samples this past week alone!). A tropical wave in the region has slowed hatching the past couple nights, but the wave should move on early in the week. Peter Dutton, Amy Frey and volunteer Jodi Plagge join the team this week. Contact Peter Dutton or Kelly Stewart for more information.

Photos: Volunteers Beth Whitman and Alyssa Scarfo guard an emerging nest (left); the team decides which nests to triangulate next (center); Erin LaCasella triangulates a nest location (right).

Loggerhead Turtle Behavioral Ecological Research, Baja California, Mexico, 23 July-3 August – Jun Okuyama began this project this week, the goal of which is to investigate fine-scale behavior of juvenile loggerhead turtles and to determine how they utilize the coastal habitat off Baja California Sur, Mexico using GPS tags, and depth, acceleration, and video data loggers. Contact Jun Okuyama or Jeff Seminoff for more information.

Assessing Whale Responses to Sonar Exposure, Atlantic Undersea Test and Evaluation Center (AUTEC), 1 June – 31 July – Ongoing. The project website is

http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=18077
Contact John Durban for more information.

Southern California Behavioral Response Study (SoCal BRS), Southern California Bight, 26 July – 8 August – This is the third year of this six-year project designed to increase knowledge of marine mammal behavior as a function of sound exposure, including simulated military sonar. The passive acoustic monitoring will be conducted by PRD's acoustics program. Contact Jay Barlow for more information.

Week of 16 July 2012

Field work:

Leatherback Turtle Genetic Tagging/Demography Research, St. Croix, US Virgin Islands, 26 June – 8 August – The goal of this project is to genetically tag leatherback turtle hatchlings in order to learn basic demographic parameters (which remain virtually unknown for marine turtles in general). This is the fourth year of this project. Last week over 20 nests hatched and a few hundred hatchlings were collected. The sample count now stands at 940. Team members joining this week include Erin LaCasella and Beth Whitman. More rain is expected as another tropical wave passes the islands over the weekend. Hatching should be reaching its peak in the next couple of weeks, although there are still a few nesting females (1 or 2 each night). Contact Peter Dutton (Peter.Dutton@noaa.gov) or Kelly Stewart (Kelly.Stewart@noaa.gov) for more information.



Photos: Hatchlings emerging from nest on Sandy Point, St. Croix (left). Michael Jensen and volunteer Alyssa Scarfo prepare to collect samples (center). Sunset starts off the night's work schedule on Sandy Point (right).

Assessing Whale Responses to Sonar Exposure, Atlantic Undersea Test and Evaluation Center (AUTEC), 1 June – 31 July – The project continues from the AUTEC site in the Bahamas. Currently tags are sending signals from two Blainvilles beaked whales in Tongue of the Ocean, Bahamas, and one short-finned pilot whale off the coast of NE Florida (the tag has now been transmitting for over a month). The project website is
http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=18077
Contact John Durban for more information.

California Sea Lion Census - Mark Lowry completed an aerial photographic survey to census California sea lions at the Channel Islands in southern California during 13-14 July. This survey, combined with California sea lions that were censused in central and northern California during the Pacific harbor seal aerial photographic surveys conducted earlier in the month, completes the census of the U.S. population for this species.

Green Turtle Behavioral Ecological Research, Yaeyama Islands, Japan, 27 June - 12 July, – Jun Okuyama is currently in Japan to continue field efforts studying dive behavior and movements of green sea turtles. The goal of this research is to investigate how green turtles utilize their coral reef and see grass meadow habitat, and how their home range overlaps the small set net fishery. In particular, Jun is studying fine-scale behavior using Fast-loc

GPS, depth, acceleration and video data loggers. Contact Jun Okuyama (Junichi.Okuyama@noaa.gov) for more information.

Hawksbill nesting beach ecology and satellite telemetry, Bahia Jiquilisco, El Salvador and Estero Padre Ramos, Nicaragua, 16-23 July - Jeff Seminoff will travel to El Salvador, then to Nicaragua to assist with hatchling sex ratio research at the two more important hawksbill nesting beaches in the eastern Pacific. Joined by colleagues from Flora and Fauna International and the Eastern Pacific Hawksbill Initiative, the team with also deploy satellite transmitters to determine the inter-nesting movements and post nesting migrations of up to six adult female hawksbills. The trip will culminate with the convening of the 3rd Conservation Planning Workshop for the Eastern Pacific Hawksbill. Contact Jeff Seminoff for more information.

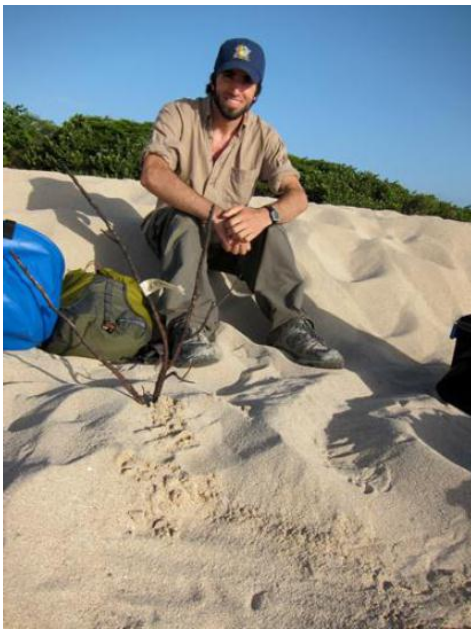
Awards, grants and recognition:

Advisory Committee Appointment - Jeff Seminoff has been appointed as a member of the Sea Turtle Advisory Committee by the Western Pacific Regional Fishery Management Council. Congratulations Jeff!

Week of 9 July 2012

Field work:

Leatherback Turtle Genetic Tagging/Demography Research, St. Croix, US Virgin Islands, 26 June – 8 August – The goal of this project is to genetically tag leatherback turtle hatchlings in order to learn basic demographic parameters (which remain virtually unknown for marine turtles in general). This is the fourth year of this project. Last week the crew experienced more good weather and nests are beginning to hatch more regularly at 60 days of incubation. So far this season, nearly 500 hatchling samples have been collected from 26 nests and all have been associated with a known nesting female, which is important for our studies on the male turtles. A tropical wave brought some much-needed rain early in the week, but it has now passed and dry weather is expected. Joining the field effort are Michael Jensen and Alyssa Scarfo (Coastal Carolina University field intern). Contact Peter Dutton (Peter.Dutton@noaa.gov) or Kelly Stewart (Kelly.Stewart@noaa.gov) for more information.

Photos: Hatchlings emerging from nest on Sandy Point, St. Croix (left); Volunteer intern Shane Morales guards emerging nest (right).

Assessing Whale Responses to Sonar Exposure, Atlantic Undersea Test and Evaluation Center (AUTEC), 1 June –31 July – The June shipboard survey of the Great Bahama Canyon for tag deployments has now finished after successfully deploying 13 satellite tags on five species of odontocetes (sperm whales, melon headed whales, short-finned pilot whales, Blainville's beaked whales and Cuvier's beaked whales). The team is now focusing their efforts in a smaller area of the canyon, on and around the test range. Based from the AUTEC site, a small boat platform is being used to survey the range, and to respond to real-time acoustic detections of whales by colleagues from the Naval Undersea Warfare Center and last week, two depth-recording satellite tags were deployed on Blainville's beaked whales. The project website is
http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=18077
Contact John Durban for more information.

Harbor seal aerial survey, Coastal California – Mark Lowry and Karin Forney completed the northern California section of the survey last week, bringing this year's survey to a successful close. The entire coastline was successfully surveyed without any gaps. As a bonus, a Steller sea lion photographic survey throughout California and Southern Oregon was also completed. Contact Mark Lowry for more information.

San Diego Coastal Bottlenose Dolphin Research – As part of a joint SWFSC/SIO collaborative research program on coastal bottlenose dolphins, Dave Weller and Greg Campbell (SIO) conducted a small boat survey off San Diego on 5 July. One group of 15 dolphins was encountered and more than 250 digital 2 photo-identification images were taken and two biopsy samples collected. In addition, observations were made of one group of 500 short-beaked common dolphins and one group of 45 long-beaked common dolphins. Contact Dave Weller for more information.

Leatherback sea turtle research and conservation, Papua, Indonesia, 20 June - 12 July – Ongoing (see 18 June report for details). Contact Jeff Seminoff for more information.
Steller Sea Lion survey, Aleutian Islands, June-July – Ongoing (collaboration with AFSC; see 18 June report for details). Contact Wayne Perryman for more information.

Week of 2 July 2012

Field work:

Leatherback Turtle Genetic Tagging/Demography Research, St. Croix, US Virgin Islands, 26 June – 8 August – The goal of this project is to genetically tag leatherback turtle hatchlings in order to learn basic demographic parameters (which remain virtually unknown for marine turtles in general). This is the fourth year of this project. Sampling began this week and as usual at the beginning of the season, nest emergences are a bit slow. In just a couple days of sampling though, we have found 5 nests emerging. This year has been hot and dry and this has affected the hatching success of eggs. In addition, nesting was slow this year, with only about 325 nests in total (compared to 650 last year). The initial team is comprised of Kelly Stewart, Suzanne Roden, Dana Tomlinson and Shane Morales. Dana participated last year as a member of the Teacher in the Field Program and Shane Morales is interning with us as a participant in the STAR Research Teacher Program sponsored by the California State University (in partnership with many other organizations). Over the weekend and into next week, hatching is expected to pick up. For more information contact Peter Dutton (Peter.Dutton@noaa.gov) or Kelly Stewart (Kelly.Stewart@noaa.gov).



Suzanne Roden, Shane Morales and Dana Tomlinson on Sandy Point (left); Leatherback crawl (right)

Assessing Whale Responses to Sonar Exposure, Atlantic Undersea Test and Evaluation Center (AUTEC), 1-30 June – Ongoing (see 4 June report for details). The project website is http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=18077
Contact John Durban for more information.

Cetacean Passive Acoustics, California Current, 26-28 June – Jay Barlow, Jeff Moore and Jennifer Keating conducted a 2-day gear test cruise on a sport fishing vessel. They also tested Jay's new tetrahedral hydrophone array design, as well a new prototype array design that is part of a collaborative effort with an engineer at Boston University. The new tetrahedral array will be used for real-time detection and localization of beaked whales during the Behavioral Response Survey (BRS) in July. The sea trial also provided an opportunity to test a new streamlined Acoustic Recording System (ARS) and afforded our new acoustic field technician (Jennifer) an opportunity to get hands on experience using our hardware/software systems.

Harbor seal survey, ongoing through 10 July – Mark Lowry and Karin Forney successfully completed the central California portion of the harbor seal aerial survey. Flights covered the region between Pt. Arguello and Bodega Bay, California. The next and final phase of the survey will be conducted in northern California during 4-10 July.

Leatherback sea turtle research and conservation, Papua, Indonesia, 20 June - 12 July – Ongoing (see 18 June report for details). Contact Jeff Seminoff for more information.

Steller Sea Lion survey, Aleutian Islands, June-July – Ongoing (collaboration with AFSC; see 18 June report for details). Contact Wayne Perryman for more information.

Week of 25 June 2012

Field work:

Leatherback Turtle Genetic Tagging/Demography Research, St. Croix, US Virgin Islands, 26 June – 8 August – The goal of this project is to genetically tag leatherback turtle hatchlings in order to learn basic demographic parameters (which remain virtually unknown for marine turtles in general). This is the fourth year of this project. Kelly Stewart will lead the 2012 hatchling sampling effort and will be joined by different teams of volunteers and staff through August 8th, starting with Sue Roden on June 26th . For more information contact Peter Dutton (Peter.Dutton@noaa.gov) or Kelly Stewart (Kelly.Stewart@noaa.gov).

Assessing Whale Responses to Sonar Exposure, Atlantic Undersea Test and Evaluation Center (AUTEC), 1-30 June – Ongoing (see 4 June report for details). Last week, 3 additional tags were deployed – all on Blainville's beaked whale (*Mesoplodon densirostris*). The project website is http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=18077
Contact John Durban for more information.

Green Turtle Ecological Research, San Gabriel River, Orange County - On 19-20 June SWFSC green turtle researchers Tomo Eguchi, Robin LeRoux, and Dan Prosperi teamed with Tina Fahy and Dan Lawson of the Southwest Regional Office and Chris Lowe and students from California State University, Long Beach (CSULB) to conduct field capture efforts in this Orange County CA foraging area. On 19 June, two juvenile green turtles (66.1 and 71.1 cm in lengths) and one adult female green turtle (96.8 cm) were captured in San Gabriel River; all were equipped with PIT tags, flipper tags, and acoustic transmitters. On 20 June, the team conducted the first ever capture efforts within the Seal Beach National Wildlife Refuge and were successful in netting one juvenile green turtle (64.2 cm; see photo). This turtle was first caught in San Gabriel River in August 2011, providing evidence that some green turtles move between the two sites. An acoustic transmitter also was attached on this turtle. Acoustic tracking will continue at both sites as part of a CSULB graduate student's MS project. Contact Tomo Eguchi or Robin LeRoux for more information.

Leatherback sea turtle research and conservation, Papua, Indonesia, 20 June - 12 July – Ongoing (see 18 June report for details). Contact Jeff Seminoff for more information.

Stellar Sea Lion survey, Aleutian Islands, June-July – Ongoing (collaboration with AFSC; see 18 June report for details). Contact Wayne Perryman for more information.

Week of 18 June 2012

Field work:

Assessing Whale Responses to Sonar Exposure, Atlantic Undersea Test and Evaluation Center (AUTEC), 1-30 June – This collaboration with the Bahamas Marine Mammal Research Organization, with funding from the Strategic Environmental Research and Development Program (SERDP), aims to collect baseline data on movement and diving behavior of odontocetes in the Great Bahama Canyon region to provide a context for interpreting behavioral responses to sonar exposure at the US Navy's Atlantic Test and Evaluation Center (AUTEC) in the northern Bahamas. Last week, 6 tags were deployed: 5 tags on short-finned pilot whales and one on a Cuvier's beaked whale. The project website is http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=18077
Contact John Durban for details.

Green Turtle Ecological Research, San Gabriel River, Orange County - On 19-20 June SWFSC green turtle researchers Robin LeRoux, Tomo Eguchi, and Dan Prosperi will team with Tina Fahy and Dan Lawson of the Southwest Regional Office to conduct field capture efforts in this Orange County CA foraging area. For more information on the project contact PIs Tomo Eguchi or Robin LeRoux.

Leatherback sea turtle research and conservation, Papua, Indonesia, 20 June - 12 July - Manjula Tiwari is traveling to Indonesia as part of an ongoing effort with colleagues at the State University of Papua to carry out research and implement science-based management measures for leatherbacks nesting in Papua. Research at the nesting beach is directed at estimating the number of nests laid annually, understanding the biology of these

western Pacific leatherbacks, quantifying the factors impacting hatchling production, and implementing a strategy that boosts hatchling output in this declining population. Efforts are also directed at building capacity and developing partnerships with the local people. Contact Jeff Seminoff for additional information.

Stellar Sea Lion survey, Aleutian Islands, June-July - Morgan Lynn joined AFSC scientists in Alaska last week for the annual Stellar Sea Lion aerial photogrammetric survey. This year the team will spend all four weeks allocated for the project in the Aleutian Island area because some parts of this area have been missed during many the previous surveys due to bad weather conditions and time constraints. Contact Wayne Perryman for more information.

Pacific Harbor Seal Aerial Survey, Southern California, 30 May – 10 June - Mark Lowry and Jim Carretta completed the Channel Islands and mainland coast of southern California portion of this survey last week. This is the first of three planned surveys to census harbor seals in California. Mark Lowry and Karin Forney will survey central California during 21-27 June and northern California during 3-11 July.

Awards, grants and recognition:

PRD Intern "Graduates" - Elizabeth Whitman, an intern in the Marine Turtle Ecology & Assessment Program, has been accepted into the Ph.D. program in the Department of Biology at Florida International University, Miami, FL. Beth will be working with Dr. Mike Heithaus, a world's leading researcher in sea turtle and shark foraging ecology in Western Australia. Congratulations Beth!

Week of 11 June 2012

Field work:

Assessing Whale Responses to Sonar Exposure, Atlantic Undersea Test and Evaluation Center (AUTEC), 1-30 June – PRD is currently participating in collaborative field work to deploy satellite tags on cetaceans in the Great Bahama Canyon. This collaboration with the Bahamas Marine Mammal Research Organization, with funding from the Strategic Environmental Research and Development Program (SERDP), aims to collect baseline data on movement and diving behavior of odontocetes in the region to provide a context for interpreting behavioral responses to sonar exposure at the US Navy's Atlantic Test and Evaluation Center (AUTEC) in the northern Bahamas. The first week of the survey is now complete with sightings of 5 of the 6 priority species recorded, including all three species of beaked whales that inhabit the canyon (Cuvier's beaked whales, Blainville's beaked whales and Gervais' beaked whales). Satellite tags have been deployed on sperm whales and melon-headed whales. The project website is
http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=18077
Contact John Durban for details.

Awards, grants and recognition:

PRD/SIO-MAS Student Final Presentations – Last week, 6 students working with PRD scientists presented results of their capstone projects to obtain their SIO MAS degrees. Congratulations to all.

- Jessica Greenstein - *Understanding Drivers of Change for Bycatch Mitigation in two RFMO's*; Jeff Moore (Chair)
- Nicole Lee - *Phylogenetic and Phylogeographic Analysis of Noise-Sensitive Beaked Whales (Ziphius cavirostris and Mesoplodon densirostris) in the Bahamas: Implications for Conservation;* Philip Morin (committee member)
- Luciano Hiriart-Bertrand - *Considerations for Creating a Marine Protected Area for Spheniscus Penguins in Southern Chile;* Lisa T. Ballance (Chair)
- Alyssa Swall - *Our Trashy Ocean: Abundance, distribution and type of marine debris in the eastern tropical Pacific Ocean;* Lisa T. Ballance (Chair)

- Kelly Keen - *Using passive acoustic monitoring of seismic airgun surveys to provide a regulatory framework for oil and gas development in the Arctic;* Jay Barlow (committee member)
- Tamara Mayer - *Aloha ʻĀina: Bringing together innovative ideas and relevant literature to develop a collective approach for sustainably managing natural resources in Hawaiʻi;* Sarah Mesnick (Chair)

Other of Note:

Scientific Working Papers Presented at the 64th Annual Meeting of the Scientific Committee of the International Whaling Commission [Available from http://www.iwcoffice.org/]. PRD scientists in bold.

Allen, B. M., J. G. Mead, **R. L. Brownell, Jr**., and T. K. Yamada. Review of current knowledge on *Mesoplodon densirostris* in the North Pacific and North Indian oceans, including identification of knowledge gaps and suggestions for future research.

Allen, B. M., **R. L. Brownell, Jr**., T. K. Yamada, and J. G. Mead. Review of current knowledge on *Ziphius cavirostris* in the North Pacific and North Indian oceans, including identification of knowledge gaps and suggestions for future research.

Baumann-Pickering, S., A.E. Simonis , **R.L. Brownell, Jr**., A. Solsona-Berga, M.A. Roch, E.M. Oleson, M.A. McDonald , S.M. Wiggins , J.A. Hildebrand. Spatio-temporal patterns of beaked whale echolocation signals in the North Pacific.

Brownell, R. L. and Pitman, R. L. Review of Perrin's beaked whale *Mesoplodon perrini* and suggestions for future research.

Chiuo-Ju Yao, Lien-Siang Chou, Wei-Cheng Yang, Yan-Jun Chen, Jun-Tsong Lin and **Robert L. Brownell, Jr**. Two Longman's beaked whales (*Indopacetus pacificus*) from Taiwan.

Lang, A.R. and Martien, K.K. Update on the use a simulation-based approach to evaluate plausible levels of recruitment into the Pacific Coast Feeding Group of gray whales.

Morin, P.A., Archer, F.I., Pease, V.L., Hancock-Hanser, B., Robertson, K.M., Huebinger, R.M., **Martien, K.K**., Bickham, J.W., George, J.C., Postma, L.D. and **Taylor, B.L**. An empirical comparison of SNPs and microsatellites for population structure, assignment, and demographic analyses of bowhead whale populations.

Moore J.E. and Barlow J.P. Beaked whale abundance trends in the California Current, 1991 – 2008.

Moore, J.E. and Weller, D.W. Probability of taking a western North Pacific gray whale during the proposed Makah hunt.

Morin, P.A., Duchene, S., Lee, N., **Durban, J**. and Claridge, D.E. Preliminary analysis of mitochondrial genome phylogeography of Blainville's, Cuvier's and Gervais' beaked whales.

Perryman, W.L. and Weller, D.W. Anomalous 2012 spring ice cover in the Bering Sea: predicted impacts on eastern North Pacific gray whales.

Pitman, R.L. and Brownell, R. L. Review of current knowledge on pygmy beaked whale *Mesoplodon peruvianus* including identification of knowledge gaps and suggestions for future research.

Robertson, K.M., Taylor, B.L. and Brownell, Jr. A status update on IWC samples held in the Southwest Fisheries Science Center's Marine Mammal and Turtle Molecular Research Sample Collection.

Tiedemann, R., Cipriano, F., **Morin, P.A**., Hoelzel, A.R., Palsbøll, P., Waples, R.S., Natoli, L., Bachmann, L., Postma, L., Double, M., Pampoulie, C., Skaug, H.J., Baker, C.S. and Jackson, J. Updated guidelines for DNA data quality control and error rate estimation, for genetic studies relevant to IWC management advice.

Urbán R., J., **Weller, D**., Tyurneva, O., Swartz, S., Bradford, A., Yakovlev, Y., Sychenko, O., Rosales N., H., Martínez A., S., Burdin, A. and Gómez-Gallardo U., A. Report on the photographic comparison of the western and Mexican gray whale catalogues.

Weller, D.W. and Brownell, R.L., Jr. A re-evaluation of gray whale records in the western North Pacific.

Yamada, T.K., Tajima, Y., Yatabe, A., Kitamura, S., Isobe, T. and **Brownell, R L**. Summary of current knowledge on *Mesoplodon stejnegeri* mainly from the seas around Japan and review of North American data.

Yamada, T.K., **Pitman, R. and Brownell, R. L**. Review of current knowledge on *Indopacetus pacificus* including identification of knowledge gaps and suggestions for future research.

Yamada, T.K., Tajima, Y., Yatabe, A., Allen, B. M. and **Brownell, R. L**. Review of current knowledge on *Mesoplodon carlhubbsi* from the seas around Japan and review of North American data.

Yamada, T.K., Tajima, Y., Yatabe, A. and **Brownell, R. L**. Summary of current knowledge on *Mesoplodon ginkgodens* from the seas around Japan and review of North American data.

Week of 4 June 2012

Field work:

Assessing Whale Responses to Sonar Exposure, Atlantic Undersea Test and Evaluation Center (AUTEC), 1-30 June – This week begins the next in a series of field projects (multi-year) to deploy satellite tags on whales on and around the operations range at the US Navy's Atlantic Undersea Test and Evaluation Center (AUTEC) in the northern Bahamas. This collaboration with the Bahamas Marine Mammal Research Organization (bahamaswhales.org) and the US Naval Undersea Warfare Center (http://www.navsea.navy.mil/nuwc) aims to monitor the movements and diving behavior of whales relative to Navy exercises involving the use of active sonar. In April of this year, with funding from the US Navy's Environmental Readiness Division, small satellite transmitter tags were deployed on sperm whales, melon-headed whales and Blainville's beaked whales – a species that has been shown to be particularly vulnerable to disturbance by sonar – in advance of a Navy exercise. This month, with funding from the Strategic Environmental Research and Development Program (SERDP), tagging efforts are focusing in adjacent areas away from AUTEC in order to provide baseline data on "normal" movement and diving of these species. The combined data from these efforts will be used to relate changes in movement and diving to received noise levels to characterize behavioral responses to sonar exposure, and support the development of mitigation strategies. Contact John Durban for details.
The project website is http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=18077

Green Turtle Ecological Research, San Diego Bay - The SWFSC green turtle research team captured two turtles last Wednesday, 30 May. The first, an adult female measuring 100 cm and weighing 133 kg, was first captured in 1990 and has been captured five times prior to this week's success, in 1990, 2000, 2002, and twice in 2009. In 2002, this turtle, known as Donna - after Dr. Peter Dutton's wife - was satellite tracked from San Diego Bay to and from her nesting site in the Revillagigedos Islands, Mexico, the first and only round-trip migration documented for any sea turtle in the eastern Pacific. The second was a juvenile measuring 82 cm and weighing 63 kg. It was first captured in 2008, then again in 2010. Both animals were equipped with Time-Depth-Recorders to measure dive behavior. This was the last day of the 2011-12 field season. For more information contact PIs Tomo Eguchi or Robin LeRoux.

Leatherback Hatchling Sex Ratio Research, St. Croix, U.S.V.I. - Tomo Eguchi continues collaborative research to determine sex ratios of leatherback turtle hatchlings at Sandy Point. To determine the sex ratio of hatchlings in nests, naturally died hatchlings and late-term embryos are collected for anatomical and histological examinations (no live hatchlings are sacrificed). Because the nest temperature during incubation determines the sex of hatchlings, temperature loggers are placed in some nests, as well as throughout the nesting beach. These temperature data and sex ratios will be used for estimating the relationship between ambient sand temperature, nest temperature, and sex ratios. The project is designed to collect data necessary for developing statistical models for predicting sex ratios of hatchlings at the nesting beach using sand temperature data. During the week of May 27th, 43 deceased hatchlings and embryos were collected and dissected. Three temperature loggers were retrieved from nests laid in March. Gonad samples will be sent to FAU for anatomical and histological examinations to determine sex of each hatchling.

Harbor Seal Aerial Survey of Abundance, coastal California, spring-summer - Mark Lowry and Jim Carretta are continuing an aerial photographic survey to census Pacific harbor seals at the Channel Islands and mainland coast of southern California through 5 June. The Range and Sustainability Office of Naval Base Ventura County, U.S. Navy is providing a chartered aircraft for the survey. Contact Mark Lowry for details.

Week of 28 May 2012

Field work:

Survey of Northbound Gray Whales to Estimate Calf Production, Piedras Blancas Light Station – Last week the2012 survey came to a successful end with sightings of two pairs. This year we sighted 330 northbound calves which will produce an estimate of over 1000 calves, the sixth time we have estimated this many calves during the 20 year time series. This year's survey was preceded by a season (2011) of relatively low ice cover in the Bering Sea which melted quickly in April and May. In contrast, this winter was very cold in the Bering Sea and ice continued to form well into March. The extent of ice in May 2012, when pregnant females are normally beginning to reach the feeding grounds, is the largest we have seen over the 20 year survey and this suggests that next year we will see many fewer gray whale calves. Stay tuned! For more information contact Wayne Perryman, and visit: http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=16464.

Green Turtle Ecological Research, San Diego Bay - The SWFSC green turtle research team will conduct capture efforts on Wednesday, 30 May 2012. For more information contact PIs Tomo Eguchi or Robin LeRoux.

Leatherback Hatchling Sex Ratio Research, St. Croix, U.S.V.I., 18 May - 2 June - Tomo Eguchi is at Sandy Point National Wildlife Refuge to oversee a research project determining sex ratios of the endangered leatherback turtle hatchlings at this nesting beach. This project is a collaborative effort with Dr. Jeanette Wyneken and MS student Emily Weston from Florida Atlantic University, and is funded through the FY12 Sea Turtle Stock Assessment Improvement Plan (SAIP). To determine the sex ratio of hatchlings in nests, naturally deceased individuals are collected for anatomical and histological examinations (no live hatchlings are sacrificed for the project). Because the nest temperature during incubation determines the sex of hatchlings, temperature loggers are placed in some nests, as well as throughout the nesting beach. These temperature data and sex ratios will ultimately allow for development of statistical models for predicting hatchling sex ratios. So far this season, the team has deployed 55 temperature loggers in a beach array and 30 loggers in leatherback nest, and collected and dissected eight deceased hatchlings from nests laid in March. Gonad samples will be sent to FAU for anatomical and histological examinations at the end of the project in mid July.

Harbor Seal Aerial Survey of Abundance, coastal California, spring-summer - Mark Lowry and Jim Carretta will conduct an aerial photographic survey to census Pacific harbor seals at the Channel Islands and mainland coast of southern California during 30 May-5 June. This is the first of three planned surveys to census harbor seals in California. Mark Lowry and Karin Forney will survey central California during 21-27 June and northern California during 3-11 July. The survey is staggered due to latitudinal differences in the molt cycle of these seals when the greatest numbers of harbor seals are found ashore. The Range and Sustainability Office of Naval Base

Ventura County, U.S. Navy is providing a chartered aircraft for the southern California survey. NMFS-SWFSC will fund the aircraft for surveys in central and northern California. Contact Mark Lowry for details.

Week of 21 May 2012

Field work:

Survey of Northbound Gray Whales to Estimate Calf Production, Piedras Blancas Light Station – Last week, the survey team counted only 26 cow/calf pairs and Friday, no calf sightings were made. This indicates that most of the cow-calf pairs have passed Piedras Blancas on their migration to northerly feeding grounds. The survey will continue to the end of this week and, barring an unexpected increase in gray whales, the 2012 survey will end this Friday. For more information contact Wayne Perryman, and visit: http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=16464 for updates throughout the survey.

Palmyra Atoll Cetacean Assessment Survey, central tropical Pacific - The Pacific Islands Fisheries Science Center Cetacean Research Program, in collaboration with, and with logistic support from the Southwest Fisheries Science Center, is conducting a visual and acoustic line-transect assessment survey of cetacean populations within the Exclusive Economic Zone surrounding Palmyra Atoll and Kingman Reef. The current effort, which began April 23 in Pago Pago, American Samoa, is the second leg of the assessment survey (the first leg in fall of 2011) and is intended to replicate the effort conducted by SWFSC within the Palmyra EEZ in the summer and fall of 2005. Together the 2005 and 2011-12 datasets should allow for estimation of density and abundance for several species of Palmyra cetaceans. Contact Erin Oleson (PIFSC) for details. Seabird research (see below) is supported by SWFSC and the Western Pacific Regional Fishery Management Council. Contact Lisa Ballance for details.

> *Seabirds* - Our third week involved several transect lines within the study area around Palmyra Atoll and the beginning of our transit north towards Hawaii. On survey lines northwest of Palmyra Atoll we logged some of the highest daily species diversity of our trip to date, recording 22 species on Wednesday, our highest single day total, and 20 species the following day. This diversity stands in sharp contrast to the abundant but relatively impoverished assemblage immediately surrounding Palmyra Atoll and Kingman Reef where local nesting species such as Red-footed Boobies and Brown Noddies potentially competitively exclude more wide ranging pelagic species. Phoenix Petrel was more abundant around Palmyra Atoll than it was last fall. Is this a positive sign for an extirpated breeder or inter-seasonal variation? We found 33 species this week, our highest weekly total for PICEAS 2012; however, the daily average dipped to 16 species due to the low diversity encountered as we progressed northwards later in the week. A recurring theme throughout this survey is the numerical dominance of Sooty Tern and Wedge-tailed Shearwaters: of the 1997 birds recorded in our 300m strip transect this week, 78% were these two species. What we found on our flock survey this week also reflects this co-dominance. We tallied 4774 birds of 17 species in 33 feeding flocks—Sooty Terns and Wedge-tailed Shearwaters contributed 71% of the total. An exception was a small flock of seabirds, primarily opportunist feeders/scavengers such as Bulwer's Petrel and Leach's Storm-Petrel, taking advantage of scraps and fish oil floating on the surface during an encounter with a feeding group of False Killer Whales. We now appear to be observing the leading edge of Stejneger's Petrel non-breeding dispersal from their colonies on Isla Alejandro Selkirk in the Juan Fernandez Islands to the subtropical North Pacific. This species made a sudden appearance mid-week and have become the most common "Cookilaria"-type Pterodroma petrel in our dataset. Other species of note include four Tropical Shearwaters (only two were seen on the PICEAS 2011 survey), our first Christmas and Buller's Shearwaters of the trip, and a single Blue-gray Noddy off Kingman Reef. *Contributed by Michael Force & Trevor Joyce*

Press:

Gray whales and threats in the Arctic, ABC News Nightline (**Kerri Fullam**)
http://abcnews.go.com/blogs/technology/2012/05/gray-whales-protected-off-mexico-may-face-new-threat-in-arctic/

Awards, grants and recognition:

"Conservation of Pacific Sea Turtles" nominated for award - Each year the Hawai'i Book Publishers Association sponsors the Ka Palapala Po'okela awards to recognize and honor the best books published in Hawai'i during the past year. The University of Hawaii Press was pleased to submit *Conservation of Pacific Sea Turtles* (Dutton, Squires, & Ahmed, editors) as an entry in the category of Excellence in Natural Science.

PRD-SIO Doctoral Student Receives Funding - Matt Leslie was awarded $2000.00 from the American Museum of Natural History's Lerner Gray Memorial Fund for the project: "Using highly paralleled sequencing and museum specimens to investigate the paradox of marine speciation in pelagic dolphins". This grant will provide laboratory supplies for research examining early stage evolutionary divergence in eastern tropical Pacific spinner and spotted dolphins. Another major aim of this study is to provide population-level genetic information to ensure recovery of endemic ETP dolphin subspecies. Congratulations Matt!

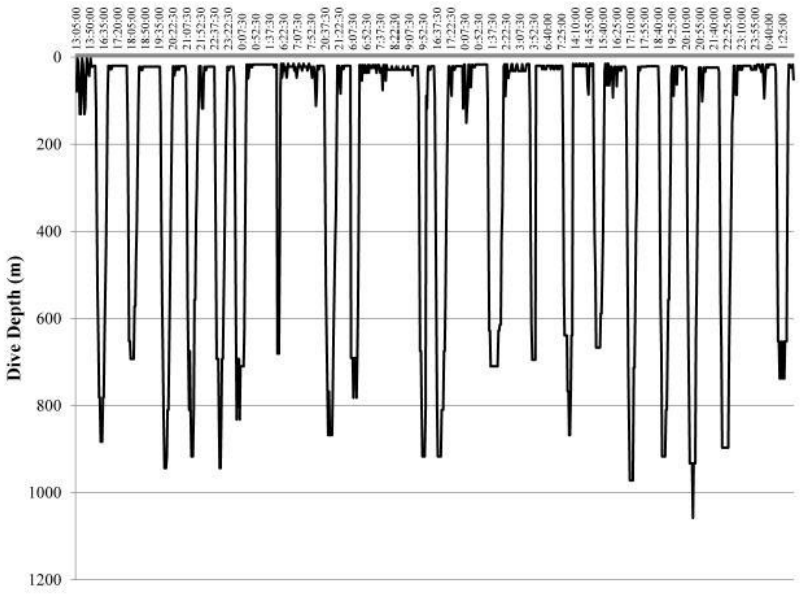
Week of 14 May 2012

Field work:

Survey of Northbound Gray Whales to Estimate Calf Production, Piedras Blancas Light Station – The team lost 2+ days of effort last week to bad weather, but counted 39 cow/calf pairs, bringing the total to 300 pairs for the season. Ice cover in the Bering Sea remains high, comfortably exceeding the 20-yr median cover numbers. Next year's calf production will provide an interesting test of our hypothesis regarding the relationship between Arctic ice and gray whale reproductive output. For more information contact Wayne Perryman, and visit: http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=16464 for updates throughout the survey.

Bahamas Odontocete Tagging, April-May - We have now completed our most recent collaborative effort to deploy satellite tags on cetaceans on and around the US Navy's Atlantic Undersea Test and Evaluation Center (AUTEC) in the northern Bahamas. This second week was very successful, with two tags deployed on Blainville's beaked whales (*Mesoplodon densirostris*) and one on a melon-headed whale (*Peponocephala electra*), adding to the four tags deployed on sperm whales (*Physeter macrocephalus)* in week 1. This was an excellent team effort from PRD/SWFSC (tagging), the Bahamas Marine Mammal Research Organization (field operations) and the US Naval Undersea Warfare Center (acoustic detections). These tag deployments were very timely, in advance of a two-week sonar exercise that begins this week. The tags will allow us to monitor the behavioral responses of the whales to sonar exposure, particularly for the beaked whales that appear to be resident on/around the AUTEC range. The small satellite tags are transmitting dive depth data (see figure) in addition to providing location calculations, allowing us to monitor both horizontal movement and vertical diving behaviors. Contact John Durban for additional information.

> *A 5-day time series of dive depths transmitted from a satellite LIMPET tag deployed on a Blainville's beaked whale on the AUTEC range.This time series illustrates the metronomical deep foraging dives exhibited by this species (in the absence of sonar exposure).*



Green Turtle Ecological Research, San Diego Bay - The SWFSC green turtle research team will conduct capture efforts on Thursday, 17 May 2012. For more information on the project contact PIs Tomo Eguchi or Robin LeRoux.

Palmyra Atoll Cetacean Assessment Survey, central tropical Pacific - The Pacific Islands Fisheries Science Center Cetacean Research Program, in collaboration with, and with logistic support from the Southwest Fisheries Science Center, is conducting a visual and acoustic line-transect assessment survey of cetacean populations within the Exclusive Economic Zone surrounding Palmyra Atoll and Kingman Reef. The current effort, which began April 23 in Pago Pago, American Samoa, is the second leg of the assessment survey (the first leg in fall of 2011) and is intended to replicate the effort conducted by SWFSC within the Palmyra EEZ in the summer and fall of 2005. Together the 2005 and 2011-12 datasets should allow for estimation of density and abundance for several species of Palmyra cetaceans. Contact Erin Oleson (PIFSC) for details. Seabird research (see below) is supported by SWFSC and the Western Pacific Regional Fishery Management Council. Contact Lisa Ballance for details.

> *Seabirds* - Our third week of seabird surveys aboard the PICEAS 2012 cruise involved several transect lines within the study area around Palmyra Atoll and the beginning of our transit north towards Hawaii. On survey lines north of Palmyra we logged some of the highest daily species diversity of our trip to date, with several days exceeding 20 species/day. This diversity stands in sharp contrast to the abundant but the relatively impoverished assemblage immediately surrounding Palmyra Atoll and Kingman Reef where local nesting species such as Red-footed Boobies (*Sula sula*) and Brown Noddies (*Anous stolidus*) potentially competitively exclude more wide ranging pelagic species. We now appear to be observing the leading edge of Stejneger's Petrel (*Pterodroma longirostris*) non-breeding season migration from the Juan Fernandez Island group to the subtropical north Pacific. This species made a sudden appearance mid-week and have become the most common "cookalaria"-type Pterodroma petrel in our dataset. *Contributed by Michael Force & Trevor Joyce*

Awards, grants and recognition:

Employee of the Year Awards Ceremony, Silver Spring, MD, 15 May – Jeremy Rusin and Siri Hakala will receive their well-deserved awards at a dedicated ceremony at NMFS Headquarters on Tuesday. Congratulations Jeremy and Siri!

Week of 7 May 2012

Field work:

Survey of Northbound Gray Whales to Estimate Calf Production, Piedras Blancas Light Station – Last week the team recorded 95 cow/calf pairs, an increase of 2 pairs from the previous week's total. The 2012 season total is now 261 calves, already higher than the complete season total for last year. The team will continue the survey for another three weeks (assuming the rate of cow/calf pairs declines significantly by then, to indicate the end of the migration). For more information contact Wayne Perryman, and visit: http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=16464 for updates throughout the survey.

Palmyra Atoll Cetacean Assessment Survey, central tropical Pacific - The Pacific Islands Fisheries Science Center Cetacean Research Program, in collaboration with, and with logistic support from the Southwest Fisheries Science Center, is conducting a visual and acoustic line-transect assessment survey of cetacean populations within the Exclusive Economic Zone surrounding Palmyra Atoll and Kingman Reef. The current effort, which began April 23 in Pago Pago, American Samoa, is the second leg of the assessment survey (the first leg in fall of 2011) and is intended to replicate the effort conducted by SWFSC within the Palmyra EEZ in the summer and fall of 2005. Together the 2005 and 2011-12 datasets should allow for estimation of density and abundance for several species of Palmyra cetaceans. Contact Erin Oleson (PIFSC) for details. Seabird research (see below) is supported by SWFSC and the Western Pacific Regional Fishery Management Council. Contact Lisa Ballance for details.

> *Seabirds* - Our first and second week of seabird surveys aboard the PICEAS 2012 cruise involved a quick transit across tropical waters from American Samoa and several transect lines within the study area around Palmyra Atoll. After crossing the equator our daily average species diversity increased from 14 species/day to 18 species/day reflecting a more diverse seabird assemblage in the equatorial current systems. Numerically dominant within the EEZ surrounding Palmyra Atoll and Kingman Reef are local nesting species that tend to feed in flocks over shoaling fish. During the first week we quantified 33 feeding flocks representing ten species and 4582 individuals—almost 70% of which were Sooty Terns. Similarly, of the 877 birds of 27 species recorded in the strip transect, 54% were Sooty Terns. Unlike farther east in the tropical Pacific Ocean, only two of these feeding aggregations were associated with marine mammals. Despite being dominated by Sooty Terns and dark morph Wedge-tailed Shearwaters, several highlights stand out: two rare Polynesian (aka White-throated) Storm-Petrels were seen all-too-briefly, four South Polar Skuas, two Black-naped Terns and two Blue-gray Noddies. In addition the seabird observers (with the help of Richard Rowlett) made two observations of a "Little"-type black and while shearwater, which we were able to photograph at a distance of approximately 350m. To our knowledge there are currently no records of a "Little"-type black and white shearwater in the equatorial Pacific, and we are consulting with plumage experts to narrow down possibilities within this somewhat unresolved taxonomic group. The seabird portion of this research effort has been generously funded by the Western and Central Pacific Fisheries Management Council. *Contributed by Michael Force & Trevor Joyce*

Press:

Gray Whales in the News

- Pacific gray whales experience significant baby boom (**Wayne Perryman**) http://www.petethomasoutdoors.com/2012/05/pacific-gray-whales-experience-significant-baby-boom.html
- Dead gray whale washes ashore near San Simeon (**Wayne Perryman**) http://www.sanluisobispo.com/2012/04/23/2040436/dead-gray-whale-washes-ashore.html#storylink=cpy

- NOAA Scientists and Gray Whales are Forging New Paths
  http://www.nmfs.noaa.gov/stories/2012/04/4_22_12our_earth_our_animals.html

Awards, grants and recognition:

PRD-SIO Doctorate Student Receives Research Funding - Matt Leslie has been awarded $5318.76 from the Edna Baily Sussman Foundation for the project: "Genotyping historical dolphin specimens to inform accurate population recovery plans in the eastern tropical Pacific". This grant will provide laboratory supplies for research examining population genetic structure in eastern tropical Pacific spinner and spotted dolphins. A major aim of this study is to provide population-level genetic information to ensure recovery of these endemic ETP dolphin subspecies. Congratulations Matt!

Week of 30 April 2012

Field work:

Survey of Northbound Gray Whales to Estimate Calf Production, Piedras Blancas Light Station – Last week the team recorded 93 cow-calf pairs with 28 sighted on Friday, equaling the highest single-day count total to date in 2012. For more information contact Wayne Perryman, and visit: http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=16464 for updates throughout the survey.

San Diego Coastal Bottlenose Dolphin Research – As part of a joint SWFSC/SIO collaborative research program on coastal bottlenose dolphins, Dave Weller and Greg Campbell (SIO) conducted a small boat survey off San Diego on 24 April. Two groups of dolphins totaling about 10 individuals were encountered and more than 150 digital photo-identification images collected. In addition, five northbound gray whale mother-calf pairs and one group of three fin whales were observed. Contact Dave Weller for more information.

Green Turtle Ecological Research, San Gabriel River, Orange County – On 19 April 2012 the SWFSC green turtle research team conducted field capture efforts in this Orange County, CA foraging area. No green turtles were captured. For more information on the project contact PIs Tomo Eguchi or Robin LeRoux.

Green Turtle Ecological Research, San Diego Bay – The SWFSC green turtle research team will conduct capture efforts on Thursday, 3 May 2012. For more information on the project contact PIs Tomo Eguchi or Robin LeRoux.

Bahamas Odontocete Tagging, Atlantic Undersea Test and Evaluation Center – We are currently undertaking another collaborative effort to deploy satellite tags on cetaceans on and around the US Navy's Atlantic Undersea Test and Evaluation Center (AUTEC) in the northern Bahamas. This ongoing project specifically aims to monitor the movements and diving behavior of cetaceans in relation to Navy exercises involving the use of active sonar. This project is a collaboration between the Protected Resources Division of the NOAA Southwest Fisheries Science Center (SWFSC), the Bahamas Marine Mammal Research Organization (BMMRO) and the US Naval Undersea Warfare Center (NUWC), with funding from the US Navy's Environmental Readiness Division (N45). Despite being constrained by high winds over the past week, we have been able to deploy four tags on sperm whales using the AUTEC range (Figure 1). These comprise two tags that are transmitting depth time series data in addition to signals for location estimation, and two location-only tags that are intended for longer deployments. This effort will continue for a further week, and we hope to have favorable weather for beaked whale tagging opportunities. For more information contact John Durban.

Figure 1: A satellite LIMPET tag being deployed on the dorsal hump of a sperm whale at AUTEC. These small low-profile tags are attached using a crossbow to project the tag on a projectile bolt; on contact with whale this bolt falls away (as shown), leaving only the transmitter tag attached to the animal (as indicated by the black arrow).

Awards, grants and recognition:

Siri Hakala and Jeremy Rusin received SWFSC Employee of the Year Awards in the Scientific/Technical and Supervisor categories, respectively. They will attend an award ceremony on 15 May in Silver Spring, MD. Congratulations Siri and Jeremy!

Week of 23 April 2012

Field work:

Survey of Northbound Gray Whales to Estimate Calf Production, Piedras Blancas Light Station – The cow-calf migration past the Piedras Blancas Light Station is in full swing. Last week the team recorded 78 cow-calf pairs with 28 sighted on Wednesday alone. For more information contact Wayne Perryman, and visit: http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=16464 for updates throughout the survey.

Pinniped Abundance and Ecological Research, Channel Islands, Southern California Bight - Mark Lowry has been conducting pinniped field research at San Clemente Island (17-19 April, with Brian Hatfield of USGS), and San Nicolas Island (23-25 April, with Jeff Moore). Pinniped counts were made at San Clemente and California Sea Lion scats were collected from both sites for ongoing diet studies.

Awards, grants and recognition:

Funding Received –

- The Marine Turtle Programs have received 2012 SAIP funding for three proposals: "Second meeting of the Pacific Leatherback Assessment Working Group" (PIs Kyle VanHouten of PIFSC and Jeff Seminoff) - $27,500; "Applying new genetic approaches to improve quality of population assessment of green and loggerhead turtles" (PIs Peter Dutton and Brian Shamblin – soon to be NRC Post-doctoral researcher with PRD) - $114,510; "Application of new genetic approaches to obtain population vital rate parameters in leatherbacks" (PIs Peter Dutton and Kelly Stewart) - $74,800. Congratulations Jeff, Peter, Brian, and Kelly!

- PRD's acoustic group has received funding from NOAA Fisheries Ocean Acoustics program for "Development and Testing of a Pelagic Buoy-based Recording System for Ocean Noise Measurement and

Passive Acoustic Monitoring" (PIs Jay Barlow and Shannon Rankin) - $60K. Congratulations Jay and Shannon!

- PRD-SIO doctorate student Trevor Joyce has been awarded $7398 from the Michael M.Mullin fund to support his research on "Distribution and Habitat Use Responses of the Newell's Shearwater (*Puffinus newelli*) to El Nino-Southern Oscillation Oceanographic Variability in the eastern tropical Pacific". Congratulations Trevor!

Week of 16 April 2012

Field work:

Survey of Northbound Gray Whales to Estimate Calf Production, Piedras Blancas Light Station – Last week (week three) brought our first sighting of calves and lots of rain. Observers clocked 40 hrs of effort and sighted 5 calves. For more information contact Wayne Perryman, and visit: http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=16464 for updates throughout the survey.

Awards, grants and recognition:

Funding Received – Two PRD proposals involving collaboration with scientists outside the US have been funded by NMFS HQ office of International Affairs. These are "International workshop to develop transboundary approaches for reducing risks to large whales in the eastern Pacific basin" (PIs **Jessica Redfern**, Hector Huerta, Fernando Felix), and "Facilitating NMFS Scientist Engagement in the U.S. / China Living Marine Resources Meeting" (PIs George Balazs, Christina Fahy, Irene Kelly, and **Jeff Seminoff**). Congratulations Jessica and Jeff!

Week of 9 April 2012

Field work:

Survey of Northbound Gray Whales to Estimate Calf Production – The second week of this survey was completed last week, with 48 hrs of effort and sightings of 84 adult/juvenile gray whales. No calves have been sighted as yet this season. For more information contact Wayne Perryman, and visit: http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=16464 for updates throughout the survey.

Sardine Assessment Survey – Annette Henry will assist FRD for on their sardine assessment survey aboard NOAA Ship Shimada from 11 April through 1 May. This survey collects data on the distributions and abundances of pelagic fish stocks, their prey and environment in the area of the California Current between San Diego and San Francisco. Annette will help with the nighttime trawls which collect data used to estimate the reproductive parameters, distributions and demographics of sardine, anchovy, and mackerel in addition to providing species composition and size structure for partitioning acoustic backscatter attributed to fish.

Awards, grants and recognition:

PRD-SIO Graduate Students Receive Fellowships – Amy VanCise has been awarded a three-year NSF Graduate Research Fellowship. Kerri Fullam has been awarded a 12-month IGERT Fellowship. Congratulations Amy and Kerri!

Other of note:

New PRD Post-Doctoral Scholar - Dr. Junichi Okuyama from the Graduate School of Informatics at Kyoto University of Japan has arrived at SWFSC to begin a 2-year Post-Doc Fellowship with the Marine Turtle Ecology & Assessment Program. Jun's Post-Doc funding comes from the Japan Society for the Promotion Science and he brings his skills in sea turtle biogging and biotelemetry, and will work closely with SWFSC staff on collaborative turtle research in the US and Mexico. Please join us in welcoming Jun to the SWFSC team!

Marine Mammal Biology Course at UCSD/SIO – Lisa Ballance (with John Hildebrand) is co-teaching an undergraduate course in marine mammal biology this spring quarter on the UCSD campus. See http://www.cetus.ucsd.edu/SIO133/ for course details.

Week of 2 April 2012

Field work:

Survey of Northbound Gray Whales to Estimate Calf Production – 26 March marked the beginning of the 19th consecutive year of this survey with team members Morgan Lynn, Jim Gilpatrick, Claire Surrey-Marsden, and Nicky Beaulieu serving as observers. Weather has been challenging during the first week, but not unexpected at this early stage of the survey. To date, there have been no cow/calf pairs seen, but the team has observed 236 adults and juveniles. For more information contact Wayne Perryman, and visit: http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=16464 for updates throughout the survey.

Green Turtle Ecological Research, San Diego Bay – On 28 March the SWFSC Green Turtle Research Team conducted a day of field captures in San Diego Bay and captured one adult female. The turtle measured 113.7 cm curved carapace length and weighed 190 kg. This turtle is one of only three turtles ever captured in San Diego Bay to weigh 190 kg or more. She was originally caught in 2005 then again in 2007, at which time she weighed 177 kg.

Week of 26 March 2012

Awards, grants and recognition:

Funding Received - Among the 23 NOAA Fisheries staffers selected nationally to receive funding through the NOAA Fisheries Internal Funding Opportunity for Education are three PRDers: Sarah Mesnick (Voices of the Bay Oral History Project; Green Seas/Blue Seas Digital Interactive), Jeff Seminoff (NOAA Ocean Connectors), and Siri Hakala (with Jessica Lipsky and Sarah Shoffler: The gray whale: a NOAA success story). This program's

goals are to elevate awareness of agency priorities: ending overfishing, habitat conservation, sustainable seafood, and marine mammal research and education highlighting the 40th anniversary of the *Marine Mammal Protection Act*. Congratulations Sarah, Jeff, and Siri!

Week of 19 March 2012

Press:

BBC's "Frozen Planet" features Southwest Fisheries Science Center researchers' ***John Durban*** *and* ***Bob Pitman's*** *work with Antarctic killer whales.*

- *Discovery's* television series "Frozen Planet" features research and field work recently performed by Southwest Fisheries Science Center scientists **Bob Pitman** and **John Durban**.
  Visit http://dsc.discovery.com/tv/frozen-planet/ to learn more and watch the video, including that of the cooperative hunting behavior of Antarctic killer whales "From the makers of Planet Earth and Life, Frozen Planet is the ultimate portrait of our earth's polar regions, where the scale and beauty of the scenery and sheer power of the natural elements are unlike anywhere else on the planet."
- Chill and thrill to Discovery's 'Frozen Planet'/By FRAZIER MOORE, AP Television Writer
  (03-14) 04:31 PDT New York (AP) --"The best stories on our planet are natural ones," says Alastair Fothergill. But you'd expect him to say that. For two decades with the BBC, Fothergill has produced wildlife documentary series including "Planet Earth,""Blue Planet" and, back in 1993, "Life in the Freezer," which explored Antarctica in all its frigid wonder.
  Read more: http://www.sfgate.com/cgi-bin/article.cgi?f=/n/a/2012/03/14/entertainment/e043148D22.DTL#ixzz1p6anhcoT
- *San Francisco Chronicle*
  'Frozen planet' review: Beauty, and sad irony/David Wiegand
  WILD APPLAUSE Frozen Planet: Seven-part documentary series. 8 p.m. Sun., continuing March 25, April 1, April 8 and April 15 on the Discovery Channel.
  http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2012/03/15/DDRV1NJL5V.DTL#ixzz1pI5zlQ8y

NY Times
Scientists Look Far to the North to Explain Young Whale in San Francisco Bay (**Wayne Perryman**)
Recent sightings of a gray whale and her infant calf swimming near Alcatraz and Sausalito in San Francisco Bay illuminated a likely repercussion of melting polar ice, scientists said.
http://www.nytimes.com/2012/03/18/us/scientists-look-for-reasons-for-changed-whale-behavior.html?src=recg

Awards, grants and recognition:

Funding Received

- R. Iliana Ruiz-Cooley together with Paul Koch and Matthew D. McCarthy (both from UC Santa Cruz) (collaborator: Lisa T. Ballance) received $517,000 by the National Science Foundation (Division of Ocean Science) for the project titled "A novel approach for evaluating temporal and spatial changes in trophic structure of the mesopelagic eastern Pacific". This project will support partial to full salary for the principles, a PhD and undergraduate student, and will be conducted at UCSC and PRD, SWFSC. Congratulations Iliana!

- Jim Harvey (Moss Landing Marine Laboratories) and Karin Forney received $138,000 from the California Institute for Energy and Environment for their project "Evaluation of a passive acoustic monitoring network for harbor porpoise in California". This project will develop and evaluate a CPOD monitoring network for harbor porpoise in California waters. Funding will allow the purchase of 8-10 additional CPODS, and provide one year of funding for SIO doctorate student Eiren Jacobsen. Congratulations Karin!

Week of 12 March 2012

Field work:

Gray Whale Satellite Tagging to Assess Ship Strike Risk, 4-9 March, San Ignacio Lagoon, Baja California, Mexico – Last week a field team deployed small satellite tags on gray whales in Laguna San Ignacio, Baja California Sur, Mexico. The aim of this project is to obtain high resolution movement tracks of gray whales as they migrate northwards through the coastal waters off Mexico and southern California, in order to identify space use and assess the risk of ship strikes. The PRD team of Durban, Pitman, Weller, Fearnbach and Ballance were joined in the field by Gustavo Cardenas-Hinojosa (Instituto Nacional de Ecologia, Mexico) and Dr Jorge Urban Ramirez (Universidad Autonoma de Baja California Sur, Mexico). We were extremely successful in deploying 19 tags in just three days in the field, which fortuitously aligned with a 3-day window of excellent weather. To date we have received transmissions from 15 of these tags. Movement tracks can be followed online: http://swfsc.noaa.gov/PRD-GrayWhale-tracking/. This was an extremely efficient field project, due in great part to the excellent work of the team - thanks to all of them. Special gratitude is deserved for Annette Henry's tireless work and organization; she played an invaluable role in supporting this project. Contact John Durban for details.

Awards, grants and recognition:

Funding Received -

- Wayne Perryman and Mike Goebel (AERD) submitted a proposal to the Advanced Sampling Technology Working Group to build on their field success with small UAS platforms for sampling penguin colonies and Antarctic fur seal rookeries in 2011. This proposal was funded ($98K) and the focus of this effort will be to develop a system that will replace a significant number of ground based field assessment operations at Cape Shirreff with counts and measurements on images captured from small unmanned aircraft. These funds will be used to procure hardware and train field scientists to maintain and pilot these small platforms. Congratulations Wayne! (and Mike!)

- Shannon Rankin and Jay Barlow received funding from the Advanced Sampling Technology Working Group for two projects: (1) Developing standardization methods for passive acoustic data collection during NMFS shipboard cetacean surveys ($138,471), and (2) Development of an automated system for identification of odontocetes in the California Current ($73,356). Congratulations Shannon and Jay!

Week of 5 March 2012

Field work:

Green Turtle Ecological Research, San Diego Bay - On March 1, 2012 the team captured 2 adult green turtles: 1 male and 1 female. Both are recaptures from previous seasons. The large male had been released back into San Diego Bay in October 2011 after 8 months of rehabilitation at SeaWorld due to injuries related to his tail, apparent monofilament ingestion, and severe emaciation. Unfortunately, this animal was again in need of medical

attention and was transported back to SeaWorld for rehabilitation. The large female (SCL 96.2 cm) was last captured in 2009. A sonic transmitter was deployed to track her movements in the bay.

Gray Whale Satellite Tagging to Assess Ship Strike Risk, San Ignacio Lagoon, Baja California, Mexico – The first of two week-long research trips will be conducted the week of 5 March. This project, in collaboration with Lorenzo Rojas of Instituto Nacional de Ecología and Jorge Urbán of Universidad Autónoma de Baja California Sur, and with funding from the SW Regional Office, will use small satellite dart tags to monitor the fine scale migration route of gray whales through the coastal waters off Baja California, Mexico, and southern California. The project will provide empirical data on the migration corridor and swim speeds to assess space use and model the risk of fisheries bycatch and vessel strike. Claire Surrey-Marsden and TJ Moore have a gray whale tracking website up and running (http://swfsc.noaa.gov/PRD-GrayWhale-tracking/) in anticipation of tag deployments. Contact John Durban for details.

Press:

Channel 10 News San Diego
Researchers Track Killer Whales In Antarctica **(John Durban/Robert Pitman)**
San Diego-Based Scientists Find Common Traits In Whales, Humans
http://www.10news.com/news/30574779/detail.html

Awards, grants and recognition:

Funding Received -

- $99K from N45 (Navy Environmental Readiness Division) to evaluate the behavioral response of odontocetes to sonar exposure at the US Navy's Atlantic Test and Evaluation Center (AUTEC) in the Bahamas (Durban - SWFSC; Claridge, Dunn - BMMRO; Moretti, Navy). Congratulations John!
- $70K from SERDP for the ongoing study of the Behavioral Ecology of deep-diving odontocetes more widely in the Great Bahama Canyon. (Durban - SWFSC; Claridge, Dunn - BMMRO; Parsons, AFSC; Ylitalo, Herman - NWFSC). Congratulations John!

Week of 27 February 2012

Field work:

Green Turtle Ecological Research, San Diego Bay - SWFSC marine turtle researchers will conduct their 7th capture effort for the 2011/2012 season on Thursday, 1 March. Contact Robin LeRoux or Tomo Eguchi for more information.

Press:

PRD Doctorate Student Research Featured in San Diego Union Tribune
Science Minded: Whale protections get personal
Whale researcher **Alyson Fleming** looks through giant binoculars.
http://www.utsandiego.com/news/2012/feb/13/science-minded-whale-protections-get-personal/

Week of 20 February 2012

Field work:

Green Turtle Ecological Research, San Diego Bay - The SWC marine turtle research team captured the sixth turtle of this season on 16 February: an adult female. She weighed 153 kg and had a straight carapace length of

103.4 cm, and has been captured twice in the bay previously, in 2004 and 2007. She was fitted with a sonic transmitter to track movements within the bay. Contact PIs Robin LeRoux and Tomo Eguchi for more information.

Week of 13 February 2012

Field work:

Antarctic Killer Whale Research, Antarctic Peninsula – Robert Pitman and John Durban are currently aboard the M/V *National Geographic Explorer* as she does four 10-day cruises to the Antarctic Peninsula. Lindblad Expeditions and the National Geographic Society are helping to sponsor this research focused on understanding ecology of Antarctic killer whales through satellite tagging (follow tagged whales at http://swfsc.noaa.gov/PRD-KillerWhale-TrackMap/), photo-identification, and biopsy sampling. This is the final week of the project. Contact Bob and John for details.

> *From the field blog* - …. …we left Rothera and motored north in Laubeuf Fjord again, but only for an hour or so; this was a last-ditch attempt to find some large type B killer whales. It was not meant to be - there is very little pack ice here now and we did not see any ice seals; nothing here for a killer whale that specializes on taking seals off ice floes. Compared to most terrestrial predators, the habitat of ice-inhabiting killer whales is surprisingly unpredictable – an area with dense pack ice and plenty of seals one year can be all open water the following year. Ice-dependent killer whales therefore have to go looking for suitable habitat every year, and due to significant climate warming in this part of Antarctica that generally means pushing further south. Killer whales may live to be over 100 years old, and during their lifetimes the populations here have seen a major decline in ice coverage in this part of Antarctica … *Read more at* http://swfsc.noaa.gov/prd-killerwhale/

Green Turtle Ecological Research, San Diego Bay - SWFSC marine turtle researchers will conduct their 6th capture effort for the 2011/2012 San Diego Bay green turtle capture season on 16 Feb. Contact PIs Robin LeRoux and Tomo Eguchi for more information.

Awards, grants and recognition:

PRD Scientist Appointed to Advisory Committee - Manjula Tiwari has been appointed to the Advisory Committee of the Indian Ocean-Southeast Asian Marine Turtle Memorandum of Understanding (IOSEA). This is one of the most important sea turtle MoUs in the world, and has over 20 signatory nations from throughout the Southeast Asian region. Congratulations Manjula!

Best Student Poster Award to PRD Doctoral Student – Trevor Joyce was awarded Best Student Poster at last week's 39th Annual Meeting of the Pacific Seabird Group for "Breeding season marine distribution and spatial habitat use of Newell's Shearwater from Kaua'i, Hawai'i" (Joyce, Holmes, and Ballance). Congratulations Trevor!

Week of 6 February 2012

Field work:

Antarctic Killer Whale Research, Antarctic Peninsula – Robert Pitman and John Durban are currently aboard the M/V *National Geographic Explorer* as she does four 10-day cruises to the Antarctic Peninsula. Lindblad Expeditions and the National Geographic Society are helping to sponsor this research focused on understanding ecology of Antarctic killer whales through satellite tagging (follow tagged whales at http://swfsc.noaa.gov/PRD-KillerWhale-TrackMap/), photo-identification, and biopsy sampling. Contact Bob and John for details.

From the Field Blog - …Today, location and dive-depth data were continually streaming in from satellite transmissions from our three active tags on killer whales (http://swfsc.noaa.gov/PRD-KillerWhale-TrackMap/). Much of our day today was spent exploring these new data, with a huge sense of excitement and satisfaction. In particular, this is the first time we have deployed a depth-recording satellite tag on a killer whale, to try to understand the feeding behavior of Gerlache killer whales. To date we have only seen this small form of Type B killer whale eating penguins on occasion, but they are abundant (several hundred) around the Antarctic Peninsula and clearly require more abundant prey resources. We have suspected that they feed at depth on fish, but have been unable to confirm this. After just two days, the depth tag has already recorded repeated deep-diving (>250m) during nighttime hours, and shallow resting dives during the day. This confirms that they are feeding at depth, almost certainly on fish (and/or possibly squid) that are themselves more accessible at night due to the vertical migration of krill on which they are feeding. Until now there were no recognized fish-eating killer whales on this side of Antarctica - we now have strong evidence to the contrary. This is an important contribution to understanding the marine food web of Antarctica...….. *Read more at* http://swfsc.noaa.gov/prd-killerwhale/

Marine Turtle Surveys, Angola, 31 Jan - 12 Feb - Angola is considered the southernmost nesting limit for sea turtles in the eastern Atlantic. Manjula Tiwari will conduct aerial and land-based surveys of the coast in order to update the nesting status of sea turtles and to determine their spatial nesting density/distribution. This project is a collaboration with colleagues at the Agostinho Neto University in Luanda.

Press:

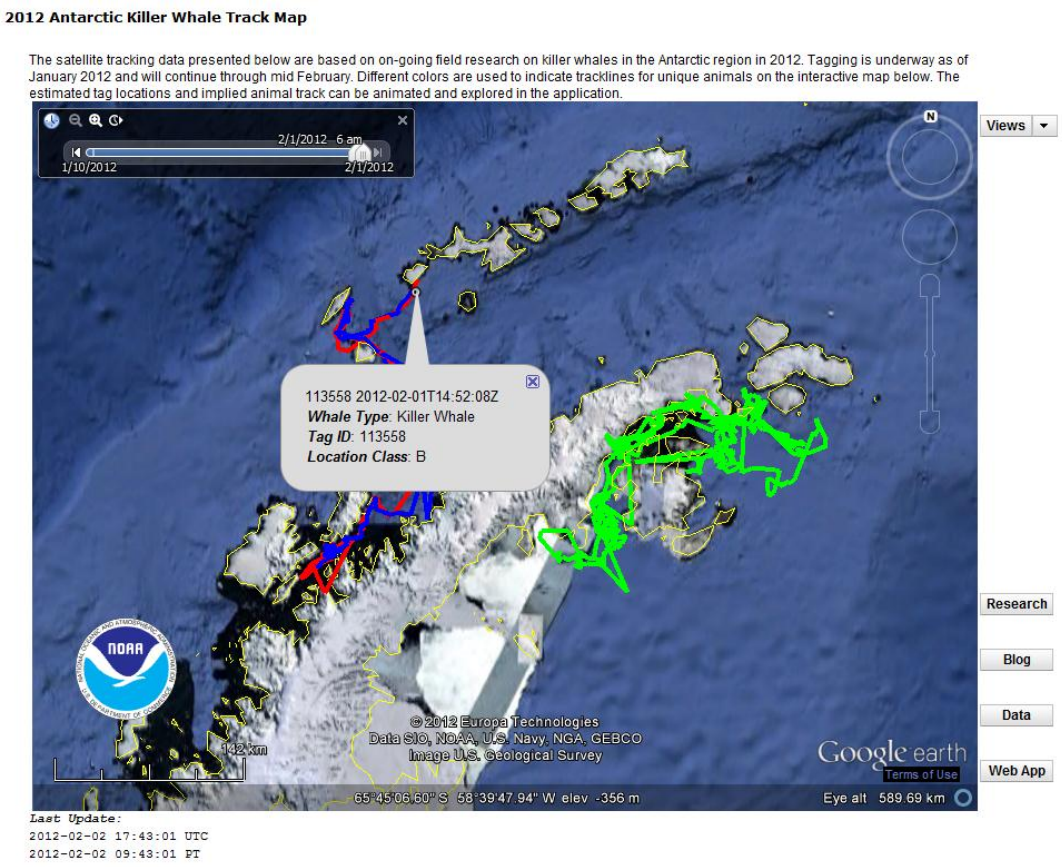
Yale Environment 360
Mysteries of Killer Whales Uncovered in the Antarctic/by fen montaigne
Two of the world's leading experts **[Robert Pitman and John Durban]** on the world's top marine predator are now in Antarctica, tagging and photographing a creature whose remarkably cooperative hunting behavior and transmission of knowledge across generations may be rivaled only by humans.
http://e360.yale.edu/feature/mysteries_of_killer_whales_uncovered_in_the_antarctic/2490/

Awards, grants and recognition:

Fellowship Awarded - Matt Leslie has received a one-year fellowship from Scripps Institution of Oceanography's IGERT Program. The fellowship will cover stipend, tuition, and fees for the 2012/13 academic year. Congratulations Matt!

Other of note:

Satellite-Tagged Animals Tracked on PRD's Website - T.J. Moore and Jessica Redfern have developed an application that supports interactive, web-based tracking of satellite tagged animals. The application is currently being used to track killer whales in Antarctica (http://swfsc.noaa.gov/PRD-KillerWhale-TrackMap/), but will include other tagged whales from this project and can be easily adapted for tracking of any tagged animal. The application can be used with any modern browser technology (Internet Explorer, Firefox, and Chrome) and a Google Earth browser plug-in. Users can animate the movement of animals through time using the time slider toolbar in the upper left-hand corner of the map, zoom to selected areas and time periods, view detailed information about each location, and explore the environment of these animals in 3D using the standard interface and geophysical data in Google Earth. The application was built with Perl and JavaScript technologies. Each day, location data from satellite tags are automatically transmitted to the lab and the Perl program updates the underlying data for the Google Earth application. JavaScript technology is used to build the custom web interface including the buttons which provide access to further information about the project. Contact TJ Moore for details.



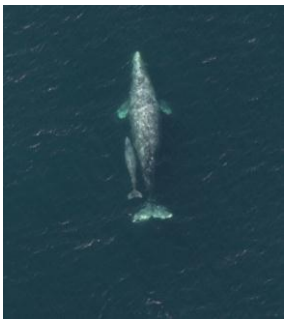
Week of 30 January 2012

Field work:

Antarctic Killer Whale Research, Antarctic Peninsula – Robert Pitman and John Durban are currently aboard the M/V *National Geographic Explorer* as she does four 10-day cruises to the Antarctic Peninsula. Lindblad Expeditions and the National Geographic Society are helping to sponsor this research focused on understanding ecology of Antarctic killer whales through satellite tagging (follow tagged whales at http://swfsc.noaa.gov/PRD-KillerWhale-TrackMap/), photo-identification, and biopsy sampling. Contact Bob and John for details.

> *From the Field Blog* - 24 Jan – … we headed up the Neumeyer Channel and back into the Gerlache Strait to see if our killer whales from yesterday might still be about. They were! The weather had abated considerably since yesterday's encounter, so we sent in the troops. There were a few smallish groups of whales scattered about and when we approached a pod of eight or so, two curious females immediately came over to inspect our Zodiac – John accessorized one with a dive depth tag; the other with a location-only tag ($4500 and $2500, respectively, will that be cash or charge?). These are the Gerlache killer whales - small type Bs. Big type Bs eat seals and take an occasional minke whale, but to date the only prey we have seen small Bs eating are penguins; we suspect, however, that they are primarily fish-eaters (or possibly squid). We have seen Antarctic fur seals, minke whales and, yesterday, a couple of humpbacks racing along with packs of small Bs, sometimes for an hour or more. Presumably these camp followers are finding some feeding opportunities by associating with Gerlache killer whales, but what specific prey they are after is unknown. From the data we obtain from the dive tags, we will learn how deep the killer whales are foraging and if their dive pattern varies throughout the day. We can also overlay that dive data onto a bathymetry (water depth) chart and determine if the whales are feeding near the surface, close to the bottom, or somewhere in between, and if they prefer certain water depths or

bottom topography. For example, many marine mammals prefer steeply sloping bottoms – creatures like features. All of this will provide clues about what small type B killer whales are eating..…….. *Read more at* http://swfsc.noaa.gov/prd-killerwhale/



Gray Whale Condition Assessment Research, Southern California Bight – This month-long project designed to assess the body condition of eastern north Pacific gray whales as they migrate south along the coast to their destination breeding lagoons in Mexico using photogrammetric methods from a NOAA Twin Otter continues. The team three days last week (Wed-Fri) and photographed about 35 gray whales, including 4 cow/calf pairs (see photo), bringing the overall total to 162 whales and 8 cows with calves. Also photographed: seven schools of common dolphins, two bottlenose dolphin schools, and one group of Risso's dolphins. This coming week will be the finale of the project (weather permitting). Contact Wayne Perryman for details.

Green Turtle Ecological Research, San Diego Bay - SWFSC marine turtle researchers will conduct their 5th capture effort for the 2011/2012 season on Thursday, 2 Feb. So far, the team has captured two adult male green turtles and one adult female. Contact PIs Robin LeRoux and Tomo Eguchi for more information.

Pinniped Ecological Research, Channel Islands - Mark Lowry and Jeff Laake will count pinnipeds and collect sea lion scat for diet studies at San Clemente Island, 24-26 Jan.

Marine Turtle Surveys, Angola, 31 Jan - 12 Feb - Angola is considered the southernmost nesting limit for sea turtles in the eastern Atlantic. Manjula Tiwari will conduct aerial and land-based surveys of the coast in order to update the nesting status of sea turtles and to determine their spatial nesting density/distribution. This project is collaboration with colleagues at the Agostinho Neto University in Luanda.

Press:

KUOW Radio (Seattle)
Protections Added For Endangered Sea Turtles' Northwest Habitat/Ashley Ahearn **(Peter Dutton)**
There's some good news for leatherback turtles. The National Oceanic and Atmospheric Administration has announced that about 42,000 square miles off the coast of Washington, Oregon and California will be designated as critical habitat for these endangered reptiles. KUOW's Ashley Ahearn reports.
http://kuow.org/program.php?id=25742

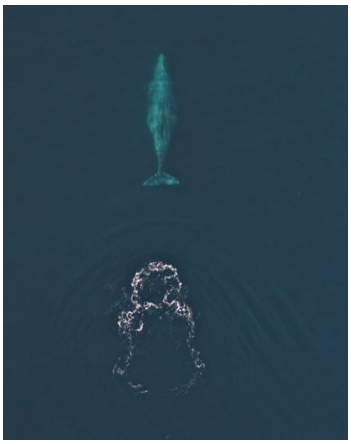
Week of 23 January 2012

Field work:

Antarctic Killer Whale Research, Antarctic Peninsula – Robert Pitman and John Durban are currently aboard the M/V *National Geographic Explorer* as she does four 10-day cruises to the Antarctic Peninsula. Lindblad Expeditions and the National Geographic Society are helping to sponsor this research focused on understanding ecology of Antarctic killer whales through satellite tagging, photo-identification, and biopsy sampling. Contact Bob and John for details.

> *From the Field Blog* - … Today the Drake slumbered as we had 15 kts of wind and a few whitecaps sprinkled over a gently rolling swell. John and I are looking for type D killer whale: the most different-looking killer whale that we know of, with a tiny white eye patch and a large bulbous head. It has been identified alive at sea less than 10 times and 2 of those were in the Drake Passage. It is so distinctive that it has to be a new species but we will need to bring back a snippet of skin to know for sure. But today we saw only a southern bottlenose whale, a fin whale, a pair of probable strap-toothed whales, and a couple gangs of hourglass dolphins; the latter are exquisitely black-and-white-patterned sprites of the Southern

Ocean and a good consolation until we find the type D ... *Read more at* http://swfsc.noaa.gov/prd-killerwhale/



Gray Whale Condition Assessment Research, Southern California Bight – This month-long project designed to assess the body condition of eastern north Pacific gray whales as they migrate south along the coast to their destination breeding lagoons in Mexico using photogrammetric methods from a NOAA Twin Otter continues. Data were collected during only two days of flights last week because of relatively high winds offshore and intense activity on the military ranges. Photographs of about 40 whales, including our 4th cow/calf pair, were taken. The peak of the southward migration is here. With about 50% of the population still to pass through the area, we have photographs of 127 gray whales, length and width measurements on about half of them (see the wide pregnant female in the photo), and 40% of our flight time left. The goal is length and width measurements of 100 animals in total for a good estimate of population condition. Contact Wayne Perryman for details.

Green Turtle Ecological Research, 18 January, San Diego Bay - The SWFSC green turtle research team captured an adult female with carapace length of 95.8 cm and weighing 134 kg. This turtle has quite a history in San Diego Bay. She was first captured on 13 May 1990, when she measured 54.4 cm and 24.0 kg, and was one of the first three green turtles captured at the beginning of this long time series, pioneered by Peter Dutton. Over the last 22 years, she has been captured on 15 occasions in San Diego Bay – a true resident! Contact Jeff Seminoff for details.

Pinniped Ecological Research, 17-19 January, Channel Islands - Mark Lowry and Morgan Martin (University of San Diego Master's student) collected California sea lion scats for diet analysis from haulout sites at San Nicolas Island. This is part of a long-term monitoring study of pinniped diet in this region.

Press:

San Diego Union Tribune
Whale migration seen from the air/By Mike Lee **(Wayne Perryman)**
Most San Diegans know about the annual gray whale migration off our shores, but few have seen it like Wayne Perryman is seeing it this month.
http://www.utsandiego.com/news/2012/jan/18/whale-migration-seen-air/

Channel 10 ABC News/ San Diego
Researchers Track Whale Migration From Sky/By Virginia Cha **(Wayne Perryman/Dave Weller)**
Southwest Fisheries Science Center Team Uses Aircraft To Monitor Gray Whales
SAN DIEGO -- As gray whales head past San Diego shores during the peak of their migration, a local team of whale scientists are learning more about the whale from a unique vantage point.
http://www.10news.com/news/30246190/detail.html

Week of 16 January 2012

Field work:

Antarctic Killer Whale Research, Antarctic Peninsula – Robert Pitman and John Durban are participating as invited scientists aboard the M/V *National Geographic Explorer* as she does four 10-day cruises to the Antarctic Peninsula. The *Explorer* has a compliment of about 150 paying passengers and Lindblad Expeditions and the National Geographic Society are helping to sponsor this research. Contact Bob and John for details.

From the Field Blog - 10 Jan – Bingo! We are in the Weddell Sea, just east of the tip of the Antarctic Peninsula. The passengers spent the AM wandering among the Adelie Penguins nesting on Devil's Island while we fidgeted on board in glass calm conditions; we don't see windless conditions like this down here very often and we are anxious to get moving again. Immediately after lunch we finally head out for a 3 hr cruise to our next site. A little breeze has cropped up and it is spitting rain of all things, but observation conditions are still good. Shortly after 3 PM we see it, the sign of the beast – several oversize dorsal fins rolling over in a tight group two miles ahead of the ship. Our vessel approaches and we ease in among what turns out to be at least three groups of 40 or so killer whales. After the passengers snap a few zillion photos, we get our turn and our trio of researchers (Bob Pitman, John Durban and Stephanie Martin) is lowered over the side in a Zodiac. Killer whales are sometimes initially curious when anything deliberately approaches them and we are not too surprised when two large females come right over to the boat. As they approach us, they roll over on their sides and take a long look at us with wide open eyes as they pass a few feet under the Zodiac. One circles back and comes right up right behind our outboard motor within a couple feet of the spinning propeller – we don't know if it is curious about the noise or it likes to feel the prop wash over her face. Then she surfaces right beside the launch; John fires a crossbow and plants a satellite tag in the middle of its dorsal fin. They must not have much feeling in their dorsal fins because she shows no response whatsoever. The rain continues to fall as we attempt to photograph the dorsal fin of every animal that rolls up anywhere near the boat. The initial curiosity of the killer whales has worn off and they return to their business. At this point we switch to taking a biopsy sample because we don't need to get as close. Another female rolls over and becomes our skin donor – a crossbow dart bounces off her back and floats at the surface with a tiny slip of skin that will tell us volumes about her and her kind.

Read more at http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=17705

Gray Whale Condition Assessment Research, Southern California Bight – This month-long project designed to assess the body condition of eastern north Pacific gray whales as they migrate south along the coast to their destination breeding lagoons in Mexico using photogrammetric methods from a NOAA Twin Otter continues. Five flights have been completed with some high quality images. Contact Wayne Perryman for details.

Press:

San Diego Union Tribune
Ship Strikes in Southern California – (**Wayne Perryman and Jessica Redfern**)
https://www.utsandiego.com/news/2012/jan/14/collision-course-whales-and-ships-socal/

Other of Note:

PRD Blog from the Field: Follow Scientists on an Expedition to Study Killer Whales in the Antarctic
http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=211&id=17705

Week of 9 January 2012

Field work:

Gray Whale Condition Assessment Research, Southern California Bight – This week begins a month-long project designed to assess the body condition of eastern north Pacific gray whales as they migrate south along the coast to their destination breeding lagoons in Mexico. Photogrammetric methods using images obtained from a NOAA Twin Otter will be used to link body condition indices to environmental conditions on the feeding grounds. In addition to gray whales, opportunistic sampling of other cetaceans, especially *Delphinus* spp., will be conducted to augment existing data on condition and life history. Contact Wayne Perryman for details.

Harbor Porpoise Distribution and Abundance Research, Monterey Bay, CA - On 30 December 2011, Karin Forney, Eiren Jacobson, and Jim Harvey (Moss Landing Marine Laboratories) successfully retrieved a porpoise click detector (CPOD) and associated mooring from northern Monterey Bay near Sunset State Beach. The mooring had been in place since early October and was removed because of expected large swells during winter storms in the coming months. Two separate CPOD deployments were conducted beginning on October 7. The first deployment yielded about 16 million porpoise click detections during 25 days, and the second deployment yielded over 41 million porpoise clicks during 56 days. Bottlenose dolphins were also recorded on multiple occasions, and their presence appeared to be strongly associated with lower porpoise click rates. This may be a reflection of avoidance behavior by porpoises, as bottlenose dolphins have been documented killing harbor porpoises in Monterey Bay in recent years. Coordinated aerial surveys (led by Erin LaCasella or Karin Forney) were conducted in the vicinity of the CPOD mooring on eight days between October 7 and December 17, and cliff-top observations of porpoises near the CPOD were conducted by Eiren Jacobson on seven days when weather conditions were sufficiently good. These coordinated data will be used to compare the acoustic detection rates to visual observations and to identify patterns of variability in harbor porpoise occurrence in this region.

Awards, grants and recognition:

LTJG Claire Surrey-Marsden is the recipient of the NOAA Corps Junior Officer of the Year Science Award for her work on the development of thermal sensor technologies for use in detection of migrating gray whales. Congratulations Claire!

Week of 2 January 2012

Field work:

San Diego Coastal Bottlenose Dolphin Research – As part of a joint SWFSC/SIO collaborative research program on coastal bottlenose dolphins, Dave Weller and Greg Campbell (SIO) conducted a small boat survey off San Diego on 21 December. Three groups of dolphins totaling about 50 individuals, including three neonates, were encountered and more than 1000 digital photo-identification images and one biopsy sample were collected. In

addition, observations were made on a group of ~500 common dolphins and one southbound migrating gray whale. Contact Dave Weller for more information.

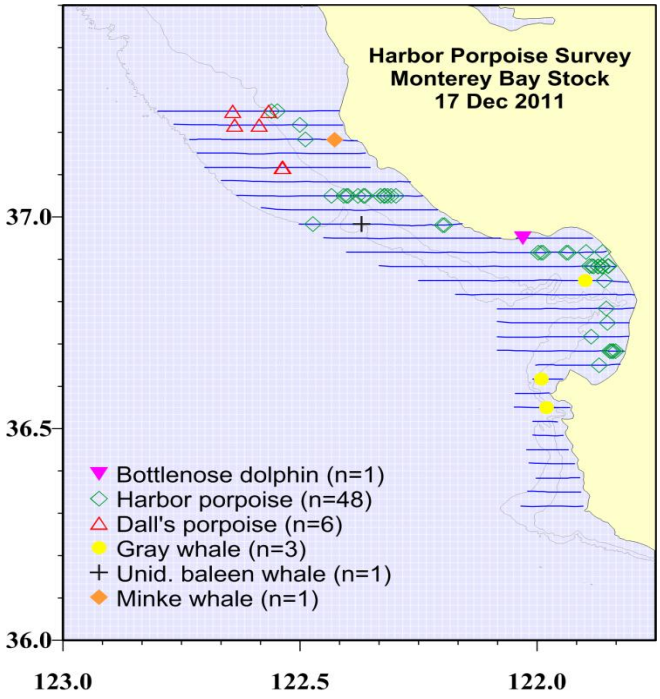
Press:

San Diego Union Tribune
Early whale migration creates a splash/Written by Mike Lee (**Wayne Perryman**)
The annual gray whale migration season is off to an early start, and the creatures are swimming close enough to the coastline in San Diego County that many are easily visible from coastal bluff tops.
http://www.signonsandiego.com/news/2011/dec/29/early-whale-migration-spurs-excitement/

Week of 19 December 2011

Field work:

Harbor Porpoise Aerial Surveys -- A new, fine-scale survey of harbor porpoise within the entire range of the Monterey Bay Stock was successfully completed on December 17, 2011. Participants included Karin Forney, Eiren Jacobsen, and two contract observers from the Monterey Bay area (Scott Hansen of Moss Landing Marine Laboratories and Erin Frolli, a student at California State University Monterey Bay). A total of 48 harbor porpoise sightings were made in mostly good to excellent viewing conditions. Additional cetacean species seen included Dall's porpoise, gray whales, bottlenose dolphins, and one minke whale. Numerous sea otters, harbor seals, and California sea lions were also encountered. The survey included transect lines near a SWFSC CPOD (porpoise click detector) moored in northern Monterey Bay, to allow future comparison of visual-based density estimates and acoustic detection rates of porpoise once the CPOD is retrieved at the end of December. Contact Karin Forney for details.



Awards, grants and recognition:

PRD Doctorate Student Proposal Funded - This week **Aly Fleming** received notice that her grant application ("Do All Humpback Whales Migrate") will be funded for $16,128 by the Pacific Life Foundation. Aly and co-PI Casey Clark (Moss Landing Marine Lab) proposed research to investigate the presence, composition and ecology of over-wintering individual humpback whales on a feeding ground to determine the occurrence and rationale for non-migratory behavior. A combination of genetics, stable isotopes and hormone studies will be used in addition to photo ID. The Ocean Foundation will adminster funds from the Pacific Life Foundation Marine Mammal Research Donor Advised Fund. Funding will support operational costs, including sample collection and processing. Congratulations Aly!

PRD PI Proposal Funded - Simone Baumann-Pickering (SIO, lead PI), **Jeff Moore**, and John Hildebrand (SIO), are being awarded a grant of $296,469 from the Office of Naval Research (ONR), titled: 'Modeling of Habitat and Foraging Behavior of Beaked Whales in the Southern California Bight'. The grant includes a sub-award of $34,737 to support **Tina Yack's** collaboration with the project. The project aims to describe beaked whale habitat in the Southern California Bight, based the combination of visual and acoustic detection data of beaked whales

collected by both SWFSC (visual and towed acoustic line transect data) and Scripps Institution of Oceanography (fixed acoustic array data from HARP sensors). Jeff is the lead statistical analyst on the project. Tina is the lead acoustician for the SWFSC acoustics data. Congratulations Jeff!

Week of 12 December 2011

Field work:

Green Turtle Ecological Research, San Diego Bay, 15 December 2011 - SWFSC marine turtle researchers will conduct the third night-time capture effort for the 2011/2012 San Diego Bay green turtle capture season. Telemetry information has demonstrated that green turtles are most frequently present in the 'capture zone' near the decommissioned South Bay Power Plant during evening and nighttime hours. So far this season, the team has captured two adult male green turtles, the most recent of which was first captured in 1992 and last captured in 1998. Contact PIs Robin LeRoux and Tomo Eguchi for more information.

Harbor Porpoise Aerial Surveys -- Additional aerial surveys are planned for Dec 10-11, 2011, staging out of Monterey and targeting transects between Pt. Conception and the Russian River as well as fine-scale transect lines within the range of the Monterey Bay stock, weather permitting. Karin Forney, Scott Benson, and Eiren Jacobsen (all PRD), Daniel Palacios (ERD), and two Monterey area contract observers (Scott Hansen and Colleen Young) will participate. The fine-scale transect lines will provide matched visual/acoustic porpoise detection data in northern Monterey Bay, where a porpoise detector (CPOD) has been moored since October and where Eiren Jacobsen has been conducting cliff-top visual monitoring of harbor porpoises, as weather conditions permit. Contact Karin Forney for details.

Press:

'Frozen Planet' to debut on Discovery on March 18 (One episode will feature **Robert Pitman and John Durban**)

(12-06) 10:29 PST New York (AP) -Discovery Channel's documentary series "Frozen Planet" will premiere March 18, and will encompass seven episodes including a program on climate change hosted by David Attenborough.
Read more: http://www.sfgate.com/cgi-bin/article.cgi?f=/n/a/2011/12/06/entertainment/e081840S75.DTL#ixzz1frg86rJo

Week of 5 December 2011

Field work:

Green Turtle Ecological Research, San Diego Bay, 30 November 2011 - The SWFSC green turtle research team conducted night time capture efforts for the second time this season. They were successful in capturing an adult male green turtle weighing 121 kg. This turtle was first captured in 1992 and the most recent capture was in 1998. The turtle was equipped with an ultrasonic transmitter and a time-released Time Depth Recorder drogue to track local movements and dive behavior. Reporter Mike Lee from the Union Tribune was present for a portion of the evening (see related PRESS item below). For more information, please contact Tomo Eguchi or Robin LeRoux.

Press:

San Diego Bay Green Turtle Research Featured in San Diego Union Tribune

Will SD bay turtles flourish without power plant?/By Mike Lee **(Camryn Allen,Jeffrey Seminoff)** - Shrouded by darkness, federal researcher Camryn Allen perched on the bow of a skiff in the shallows of San Diego Bay last week scouting for green sea turtles.
http://web.signonsandiego.com/news/2011/dec/04/how-will-sd-bay-turtles-fare-without-power-plant/?page=2#article

NOAA Research Cruise Featured in SCIENCE - Books et al.

BROWSINGS

Far from Shore: Chronicles of an Open Ocean Voyage. Sophie Webb. Houghton Mifflin Harcourt, Boston, 2011. 80 pp. $17.99. ISBN 9780618597291.
In this "illustrated journal," written for middle-grade readers, field biologist and artist Webb records a four-month NOAA research cruise in the eastern tropical Pacific. Using straightforward text and evocative watercolors, she describes how (and why) she and her shipmates study marine mammals and seabirds, depicts moments from their life at sea, and documents pelagic organisms they encountered. The scientists enjoyed many halcyon days under tropical skies, but sometimes—as in the intertropical convergence zone where these Juan Fernandez petrels (*Pterodroma externa*) were soaring in front of an approaching rainsquall—conditions for work were not so favorable.

CREDIT: SOPHIE WEBB/COURTESY HOUGHTON MIFFLIN HARCOURT

Week of 28 November 2011

Field work:

Green Turtle Ecological Research, San Diego Bay, 30 November 2011 - The SWFSC green turtle research team will conduct inwater capture efforts for green in the evening and nighttime hour. For more information contact Tomo Eguchi and/or Robin LeRoux.

Press:

Dead Fin Whale Strands in San Diego – On Saturday, November 19, 2011, the USCG contacted NMFS staff in the SW Region to report a dead stranded whale at the foot of cliffs in Point Loma, San Diego. The stranding network team from the SWFSC responded and identified the animal as a fresh dead fin whale; however, tides prevented access to the carcass. The whale was successfully towed by the San Diego lifeguards on Wednesday, 23 November, to Fiesta Island, Mission Bay, San Diego. It was met by a necropsy team from the NMFS-SWFSC, SeaWorld San Diego and the San Diego State University/SD Museum of Natural History. The whale was necropsied and samples collected to the extent possible. The team found a 4m section of vertebral fracturing, indicating strong likelihood of a ship strike as cause of death. The whale was towed out to sea starting early Friday morning, 25 November, and sunk in 800m water depth a few miles west of La Jolla. The sinking effort is a partnership between Scripps Institution of Oceanography, NOAA Southwest Fisheries Science Center, and Virgin Oceanic. The effort will be to create a whale fall that will be accessible next year by SIO researchers using a Remotely Operated Vehicle and later visited by the Virgin Oceanic submarine. Decomposing whales have recently been a significant source of new marine biological discoveries in the Monterey Bay Canyon and Scripps researchers plan to continue this effort off La Jolla CA in conjunction with Virgin Oceanic. Special thanks to **Kerri Danil, Nicky Beaulieu, Susan Chivers, Brittany Hancock-Hanser, Jim Carretta, Matt Leslie, Claire Surrey-Marsden, Siri Hakala, Vicki Pease, Amanda Bowman**.
Related Press:

Channel 8 San Diego
50-foot endangered whale washes up on Point Loma beach (**Jay Barlow**)
POINT LOMA (CNS) - San Diego Lifeguards Sunday were determining what to do with a dead 50-foot

fin whale that washed up ashore on an isolated Point Loma beach Saturday.
http://www.cbs8.com/story/16086062/50-foot-endangered-whale-washes-up-on-point-loma-beach

Fin whale fetus found; mother was 67 feet/Written by Mike Lee **(Kerri Danil)**
Whale researchers have discovered a fin whale fetus next to the adult fin whale that washed ashore in Point Loma over the weekend. Marine mammal experts visited the site Tuesday and collected biological samples from the baby, which was estimated at five feet long and in "poor condition."
http://www.signonsandiego.com/news/2011/nov/22/fin-whale-fetus-found-next-to-carcass/

Experts prepare to explore huge whale carcass/By Mike Lee **(Kerri Danil)**
The story seems to get better with time: In November 1970, authorities in Oregon decided the best way to dispose of a dead whale on their coast was with dynamite. Bits of blubber went flying everywhere and one piece was big enough to crush a car.
http://www.signonsandiego.com/news/2011/nov/21/whale-experts-prepare-explore-huge-carcass/

Jellyfish may be helping leatherback sea turtles make a comeback/By Ludmilla Lelis (**Kelly Stewart**)
It's the annual bane of beachgoers: massive "blooms" of jellyfish. This past summer, when the blooms hit Volusia and Brevard counties, thousands of ocean swimmers felt their sting.
http://www.orlandosentinel.com/news/local/volusia/os-jellyfish-leatherback-sea-turtles-20111121,0,2759380.story

Awards, grants and recognition:

The *Kenneth S. Norris Lifetime Achievement Award for excellence and significant achievement in the field of marine mammalogy* will be awarded to **William Perrin** this week at the 19th Biennial Conference on the Biology of Marine Mammals in Tampa, FL.

Week of 21 November 2011

Field work:

Palmyra Cetacean and Ecosystem Assessment Cruise (in collaboration with PIFSC) – This 30-day effort to conduct a cetacean and ecosystem assessment of the US EEZ waters of Palmyra Atoll aboard the NOAA Research Vessel SETTE is led by the Pacific Islands Fisheries Science Center. SWFSC is providing seabird survey and oceanographic sampling expertise. *Seabird report* - Time has run out on the clock and the referees have blown the final whistle—the cruise is over. Cetacean density and diversity is low here in the North Equatorial Countercurrent, but it may possibly be the most avian-rich water mass anywhere in the Pacific Ocean, or maybe any ocean for that matter. In total, we found 35,586 individuals of 44 species during our 300 metre strip transect, and 13,956 individuals of 22 species in 97 feeding flocks. Unlike farther east in the equatorial tropical Pacific Ocean, not one of these feeding flocks was associated with marine mammals. This final week included the transit north, marked by long hours of seemingly empty ocean, our daily average was only 11 species, our lowest daily average since leaving Honolulu, but diversity was high: 32 species of seabirds, our second highest weekly total. Similarly we found 2308 individuals this week, exceeding any of the previous weeks; 84% of these were Sooty Terns and Wedge-tailed Shearwaters, the two co-dominant species in the feeding flocks. A couple of noteworthy seabirds made cameo appearances this week: Herald Petrel, only our second sighting of the cruise, and our first Murphy's Petrel. The seabird team would like to thank all the marine mammal observers for their help with the flock survey and for pointing out numerous birds of interest far beyond the borders of our 300 metre survey strip. Words of appreciation to our Cruise Leader, Amanda Bradford, our SWFSC Cruise Co-ordinator, Annette Henry, and to the officers and crew of the *Oscar Elton Sette* for making this an enjoyable and fascinating cruise of a very interesting area of the central tropical Pacific Ocean. Contact Lisa Ballance for more information.

A Sette scientist rainbow (left to right): Nancy Young, Cornelia Oedekoven, Shannon Coates, ***Richard Rowlett****, Yvonne Barkley,* ***Desray Reeb****, Andrea Bendlin,* ***Annette Henry****, Allan Ligon, Amanda Bradford,* ***Trevor Joyce****,* ***Michael Force****,* ***Suzanne Yin****, Erik Norris, and Mark Deakos. Photo credit: Doc Tran/Oscar Elton Sette.*

Marine Turtle Work in Cape Verde Islands and Gabon, 18 Oct – 23 Nov: Ongoing – see report for week of 24 October for details. Contact Jeff Seminoff for details.

Week of 14 November 2011

Field work:

Palmyra Cetacean and Ecosystem Assessment Cruise (in collaboration with PIFSC) – This 30-day effort to conduct a cetacean and ecosystem assessment of the US EEZ waters of Palmyra Atoll aboard the NOAA Research Vessel SETTE is led by the Pacific Islands Fisheries Science Center. SWFSC is providing seabird survey and oceanographic sampling expertise. *Seabird report* - At the start of this week the seabird team continued near-shore surveys in conjunction with PIFSC marine mammal observers around Palmyra Atoll and Kingman Reef. Inclement weather for visual surveys allowed for a short landing of scientific party and crew ashore at Palmyra for a memorable Sunday. In the waters surrounding Palmyra, the birders encountered thousands of Red-footed Boobies (*Sula sula*), which this national wildlife refuge supports in the largest breeding concentration outside the Galapagos Islands at approximately 6250 breeding pairs. Over the week 3853 birds of 11 species were recorded in 24 feeding flocks, including three species of boobies, as well as Brown Noddies (*Anous stolidus*), Black Noddies (*Anous minutus*), White Terns (*Gygis alba*) and Sooty Terns (*Sterna fuscata*). As the SETTE moved on to transect lines east of Palmyra, the seabird team also noted an interesting shift in the color variants of Wedge-tailed shearwater (*Puffinus pacificus*), with the proportion of light morph birds increasing from <5% west of Palmyra to >50% to the east. After two more days of transects in the northeast quadrant of the Palmyra EEZ the ship will transit north toward Hawaii with a projected arrival at Ford Island, Oahu on Friday, November 18th. Contact Lisa Ballance for more information.

Green Turtle Ecological Research, San Diego Bay - The green turtle research team captured a 116 kg green turtle during its inaugural capture effort of the 2011/12 winter research season last week. The turtle was equipped with a sonic transmitter and a time-released time-depth recording drogue. Contact Robin LeRoux and Tomo Eguchi for more information.

Marine Turtle Work in Cape Verde Islands and Gabon, 18 Oct – 23 Nov: Ongoing – see report for week of 24 October for details. Contact Jeff Seminoff for details.

Week of 7 November 2011

Field work:

Palmyra Cetacean and Ecosystem Assessment Cruise (in collaboration with PIFSC) – This 30-day effort to conduct a cetacean and ecosystem assessment of the US EEZ waters of Palmyra Atoll aboard the NOAA Research Vessel SETTE is led by the Pacific Islands Fisheries Science Center. SWFSC is providing seabird survey and oceanographic sampling expertise. *Seabird report* - With most of the transect lines to the west of Palmyra complete, the latter half of last week focused on near shore surveys around Palmyra Atoll and Kingman Reef. Near the islands, the birders Michael Force, Trevor Joyce, and Annette Henry encountered a lower diversity of *Pterodroma* petrels and shearwaters, but more frequent feeding flocks of Brown Noddies (*Anous minutus*), Black Noddies (*Anous minutus*), White Terns (*Gygis alba*) and Red-footed Boobies (*Sula sula*). Earlier in the week to the west of Palmyra, Trevor encountered a Tropical Shearwater (*Puffinus bailloni*), formerly a subspecies of the Audubon's Shearwater complex (*Puffinus lherminieri*). This species along with the Phoenix Petrel (*Pterodroma alba; see photo*) and Christmas Shearwater (*Puffinus nativitatus*) are thought to have bred on the ground and/or in shallow burrows on Palmyra before their extirpation by introduced Black Rats (*Rattus rattus*). It is exciting to see that these species, which breed in the nearby Phoenix Island group, still inhabit the ocean around Palmyra and could potentially recolonize following this year's attempted rat eradication. Contact Lisa Ballance for more information.

Behavioral Response of Cetaceans to Navy Sonar, Bahamas – Last week was the final one for this year, in a multiyear project designed to monitor the movements and diving behavior of cetaceans in relation to active sonar exercises. No tags were deployed due to high winds and heavy seas. A distant group of Blainville's beaked whales finished out the season. Contact John Durban for more information.

Green Turtle Ecological Research, San Diego Bay - SWFSC marine turtle researchers will kick off the 2011/2012 San Diego Bay green turtle capture season with an evening-night time capture effort on 9 November. Recent telemetry information has demonstrated that green turtles are most frequently present in the 'capture zone' near the decommissioned South Bay Power Plant during evening and nighttime hours. Contact Robin LeRoux and Tomo Eguchi for more information.

Marine Turtle Work in Cape Verde Islands and Gabon, 18 Oct – 23 Nov: Ongoing – see report for week of 24 October for details. Contact Jeff Seminoff for details.

Press:

San Diego Union Tribune (**Tim Gerrodette**)

Industry, enviros try to reduce wasted fish/By Mike Lee
It's among the biggest issues in commercial fishing around the globe — the amount of unwanted turtles, sharks, seabirds and other species caught by boats landing high-value seafood such as shrimp and tuna.
http://www.signonsandiego.com/news/2011/oct/30/industry-enviros-try-trim-fish-waste/

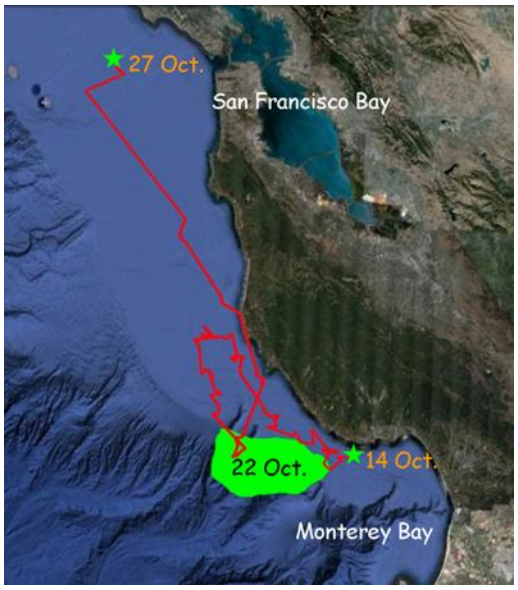
Luke Rendell, **Sarah L. Mesnick**, Merel L. Dalebout, Jessica Burtenshaw and Hal Whitehead. 2011. Can Genetic Differences Explain Vocal Dialect Variation in Sperm Whales, Physeter macrocephalus? Behavior Genetics.DOI: 10.1007/s10519-011-9513-y

http://www.wired.com/wiredscience/2011/11/sperm-whales/

Week of 31 October 2011

Field work:

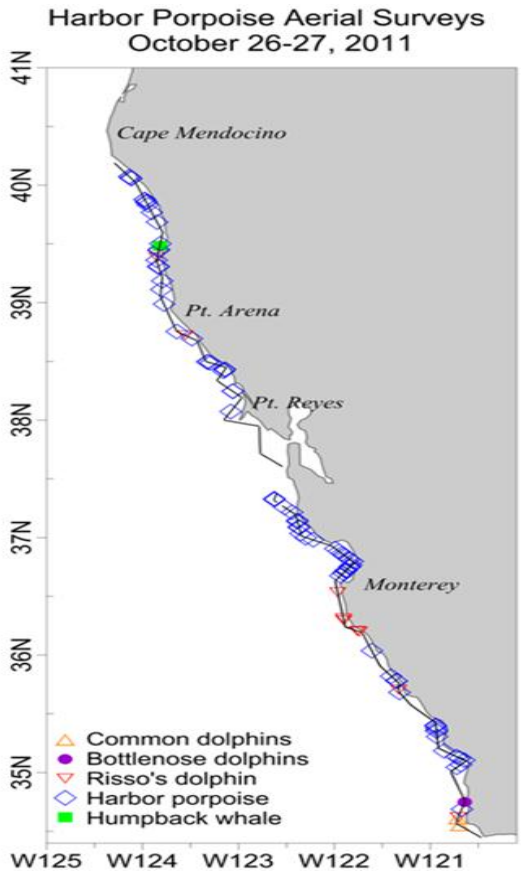
Leatherback Feeding Ecology, Monterey Bay, CA - Leatherback turtle sampling resumed last week after a hiatus caused by poor weather. The team followed the turtle that was previously satellite-tagged on 14 October offshore to the shelf break outside of Monterey Bay on 22 October and found a small aggregation of leatherbacks, including the focal animal. The tag attachment site looked good and the tagged turtle exhibited typical foraging behavior. In total, six unique individuals (four females and two males) were identified from the vantage of the R/V Sheila B., and the aerial team led by Erin LaCasella estimated as many as nine turtles. Although a short-period swell made conditions difficult for capture, suction cup mounted video cameras and time-depth recorders were deployed. This is the first time an aggregation of leatherbacks has been found this far offshore along the shelf break, rather than on the shelf. After several additional days of poor weather, the tagged turtle had moved north to an area offshore of San Francisco Bay. A final effort to locate and tag leatherbacks in that area took place on October 27, with Scott Benson, Jeffrey Seminoff, and colleagues from Moss Landing Marine Laboratories on a small boat, and Tomo Eguchi, Dan Prosperi, Mark Lowry conducting aerial surveys. Although sea nettles were abundant, no additional turtles were found. The tagged animal will continue to be monitored as it is expected to begin its southward migration to warmer waters for the winter. Contact Scott Benson for more information.



Palmyra Cetacean and Ecosystem Assessment Cruise (in collaboration with PIFSC) – This 30-day effort to conduct a cetacean and ecosystem assessment of the US EEZ waters around Palmyra Atoll is led by the Pacific Islands Fisheries Science Center. SWFSC is providing seabird survey and oceanographic sampling expertise. Seabird report - Crossing from the blustery subtropical waters into the wet but serene Inter-tropical Convergence Zone, the seabird team encountered increased seabird diversity, with an amazing 21 species of seabirds in each of two separate days, including Collared, White-winged, Phoenix, and Tahiti Petrels. Among the highlights from the week's species list were several sightings of the recently delineated "Magnificent Petrel", a dark nominate sub-species of the Collared Petrel thought to breed in the Banks Islands, in northern Vanuatu. In addition, Richard Rowlett made a rare sighting of a vagrant Great-winged Petrel, a southern hemisphere native that breeds in New Zealand, Australia, and sub-Antarctic Islands of the Indian and Atlantic Oceans. The seabird team has also recorded over 25 mixed-species feeding flocks composed principally of Sooty Terns, White Terns, Wedge-tailed and Christmas Shearwaters, and Juan Fernandez Petrels foraging in association with schools of predatory fish. This coming week the seabird observer team is looking forward to survey work in the near-shore waters surrounding Palmyra Atoll and Kingman Reef. Contact Lisa Ballance for more information.

Behavioral Response of Cetaceans to Navy Sonar, Bahamas - This ongoing project aims to monitor the movements and diving behavior of cetaceans in relation to active sonar exercises. Last week the acoustic monitoring colleagues at AUTEC regularly detected beaked whales on the test range, but the weather was not calm enough to locate them from the boat. Despite the challenging weather, the field team has sighted sperm whales on two days, and deployed a depth-recording satellite LIMPET tag on one whale. The placement of the tag was excellent, but unfortunately it is not currently transmitting. The project will continue through the end of this week. Contact John.Durban@noaa.gov for more information.

Harbor Porpoise Aerial Surveys, California Coast - Jay Barlow, Jim, Carretta, Eiren Jacobson, and Karin Forney continued harbor porpoise surveys October 26-27, completing transect lines between Pt. Conception and Cape Mendocino in good weather conditions. Porpoises were abundant in the areas of Morro Bay, Monterey Bay, and along the northern California coast. Additional cetacean species seen included Risso's dolphin, bottlenose dolphin, common dolphins, and humpback whale. These surveys will continue as weather permits until several replicates of the study area have been completed. Contact Karin Forney for more information.



San Diego Coastal Bottlenose Dolphin Research – As part of a joint SWFSC/SIO collaborative research program on coastal bottlenose dolphins, Dave Weller and Greg Campbell (SIO) conducted a small boat survey off San Diego on 24 October. Five groups of dolphins, totaling about 37 individuals including two neonates, were encountered and 700 digital photo-identification images and 20 minutes of acoustic recordings were collected. In addition, observations were made on a group of ~15 common dolphins. Contact Dave Weller for more information.

Pinniped Abundance and Ecology Studies, Channel Islands, Southern California Bight, Quaterly - Mark Lowry and Jake Mininich will conduct field work at San Clemente Island 31 Oct-2 Nov 2011. While at the island they will census California sea lions and northern elephant seals, and collect sea lion scat for diet studies. Contact Mark Lowry for more information.

Marine Turtle Work in Cape Verde Islands and Gabon, 18 Oct – 23 Nov: Ongoing – see report for week of 24 October for details.

Press:
Peter Dutton is interviewed by Channel 10 news regarding Bruce the green sea turtle, who was recently released back into San Diego bay.

http://www.10news.com/video/29586776/index.html

http://www.10news.com/news/29575536/detail.html

Durban, J.W. and **R.L. Pitman**. 2011. Antarctic killer whales make rapid, round-trip movements to sub-tropical waters: evidence for physiological maintenance migrations? Biology Letters doi: 10.1098/rsbl.2011.0875

http://news.sciencemag.org/sciencenow/2011/10/scienceshot-killer-whale-spa.html?ref=hp

http://media.signonsandiego.com/img/photos/2011/10/25/orca1_r620x349.JPG?75d51d0aea2efce5189afce216053cbc530c46a8

http://www.signonsandiego.com/news/2011/oct/25/killer-whales-seek-spa-relief-subtropics/

http://www.msnbc.msn.com/id/45039833/ns/technology_and_science-science/

http://www.abc.net.au/science/articles/2011/10/26/3348406.htm

http://www.theaustralian.com.au/news/world/killer-whales-high-speed-beauty-swim/story-e6frg6so-1226177184334

Awards, grants and recognition:

Funding Received – Dave Weller has been awarded $15K from The Pacific Life Foundation to develop the California Coastal Bottlenose Dolphin Online Catalog (CCBDOC). The objective of the CCBDOC is to provide an online, open-access, digital database resource and research tool freely available for use by scientists that study the California coastal bottlenose dolphin population throughout its range. While the CCBDOC is primarily intended to be a scientific resource, it will also serve an important role in facilitating citizen-scientist engagement, education and public awareness. Congratulations Dave!

Week of 24 October 2011

Field work:

Leatherback Feeding Ecology, Monterey Bay, CA - No activities last week due to poor weather. The team will try one last capture effort on 26-27 October, before calling it a season. Please contact Scott Benson for more information.

Pacific Islands Cetacean and Ecosystem Assessment Cruise (in collaboration with PIFSC) – This 30-day effort to conduct a cetacean and ecosystem assessment of the US EEZ waters around Palmyra and Johnston Atolls is led by the Pacific Islands Fisheries Science Center. SWFSC is providing seabird expertise to continue to time series of distribution, abundance, and behavior for this indicator group. Michael Force and Trevor Joyce are the seabird observers and Annette Henry is also sailing as a visiting scientist and to provide support and consistency with past cruises. The field team sailed aboard the SETT from Pearl Harbor at 0900 on Thursday Oct. 20th. They are currently sailing through squally sub-tropical seas at 15 degrees North making southward progress towards Palmyra through low-productivity waters with deep thermocline. Seabirds include diverse *Pterodroma spp.* including Kermadec, Black-winged, Cook's, and Juan Fernandez petrels as well as a Flesh-Footed Shearwater, White Terns and most of the usual suspects: Sooty terns, Wedge-tailed shearwaters, Greater Frigatebirds, and White- and Red-tailed Tropicbirds. Feeding flocks are also present, the largest of primarily Wedge-tailed Shearwaters and Sooty Terns. Contact Lisa Ballance for details.

Behavioral Response of Cetaceans to Navy Sonar, Bahamas - This week we are beginning a new field effort in a collaborative project to deploy satellite tags on cetaceans on and around the US Navy's Atlantic Undersea Test and Evaluation Center (AUTEC) off Andros Island in the northern Bahamas. This ongoing project specifically aims to monitor the movements and diving behavior of cetaceans in relation to active sonar exercises. This is a collaboration between PRD (John Durban, Bob Pitman), the Bahamas Marine Mammal Research Organisation (Diane Claridge, Charlotte Dunn) and the US Naval Undersea Warfare Center (Dave Moretti), with funding for this effort from the US Navy's Environmental Readiness Division. Field work begins on Monday October 24th and ends on November 4th, in advance of an upcoming Navy exercise in early November. Contact John Durban for further details.

Marine Turtle Work in Cape Verde Islands and Gabon, 18 Oct – 23 Nov: Manjula Tiwari is visiting the loggerhead projects in the Cape Verde Islands to evaluate their research and conservation activities funded by the US Fish and Wildlife Service. She will also go to Gabon to teach a course on sea turtle biology, conservation and field techniques for an Observer Training Workshop for the government of Gabon that has been organized by the Office of International Affairs, the University of Exeter, and the Wildlife Conservation Society. In Gabon, she will also undertake some nesting beach research looking at leatherback hatchling production.

Press:

More humpback whales in North Pacific than thought **(Jay Barlow)**

Largest-ever survey puts count at over 21,000 and possibly even higher. More humpback whales are swimming in the waters of the North Pacific Ocean than previously thought, an analysis of the largest ever humpback whale survey finds.
http://www.msnbc.msn.com/id/44967427/ns/technology_and_science-science/

http://www.sciencedaily.com/releases/2011/10/111018131341.htm

http://www.bio-medicine.org/biology-news-1/New--higher-estimates-of-endangered-humpback-whales-in-the-North-Pacific-21901-1/

http://www.upi.com/Science_News/2011/10/18/Survey-data-ups-count-of-humpback-whales/UPI-80851318969920/