

GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY QUARTERLY SUPERINTENDENT'S REPORT

4TH QUARTER FY 2013
JULY THROUGH SEPTEMBER, 2013



Abundant Whales = High Sanctuary Productivity!

The Applied California Current Ecosystem Studies (ACCESS) Partnership completed their July survey on board the R/V Fulmar. Excellent sea conditions allowed the team to collect observations of a high abundance of whales in the region, seabirds, and a leatherback sea turtle. These sanctuary waters are able to support apex predators such as feeding populations of whales which require large quantities of food throughout the summer and fall. Humpbacks, the most often seen whale at this time of year, often lunge-feed to capture abundant krill and small fish. The research team also conducted water sampling to measure ocean acidification. For cruise highlights and photos Facebook “ACCESS Partnership” and a short video of friendly humpback whales are posted on YouTube: <http://youtu.be/RJOS5n4powk>

These rich ocean waters are also the site of major shipping lanes, with increasing traffic over recent years resulting in multiple whale strikes. Our collaborative at-sea studies, in partnership with Point Blue Conservation Science and Cordell Bank National Marine Sanctuary, are contributing to recommendations for conservation, including modifying shipping traffic near the Golden Gate to better protect whales.



<http://swfsc.nmfs.noaa.gov/PRD/>

Cornelia Oedekoven



RESEARCH

Monitoring To Understand Long-Term Trends

Sanctuary Ecosystem Assessment Surveys (SEAS, ACCESS Surveys)

Farallones Data Informs Albatross Bycatch Reduction in Fisheries

Long-term data from the sanctuary at-sea monitoring programs over the past 16 years were used in a paper describing interactions between albatross and groundfish and shrimp fisheries in the northeast Pacific, “Overlap of North Pacific albatrosses with the U.S. west coast groundfish and shrimp fisheries,” published in *Fisheries Research* 147 (2013) 222– 234, and authored by Troy Guy from University of Washington and many other contributors, including Farallones Research Coordinator Jan Roletto. Findings include an index to estimate habitat of and risk to endangered albatross is greatest in sablefish (*Anoplopoma fimbria*) longline and Pacific hake (*Merluccius productus*) catcher-processor fisheries. There is low risk of albatross mortality by near-shore rockfish (*Sebastes* spp.) longline, pink shrimp (*Pandalus jordani*) trawl, California halibut (*Paralichthys californicus*) trawl, and non-hake groundfish trawl fisheries.

Seabird/human Interactions Study in Peer-reviewed Journal

Data from the Applied California Current Ecosystem Surveys project, supported by GFNMS, CBNMS and Point Blue (formerly PRBO Conservation Science) was published in the online, peer-reviewed journal PLoS ONE. The paper stems from a Master’s Thesis by Jennifer McGowan, a graduate from San Francisco State University. The thesis and paper focuses on the three central California sanctuaries, and potential seabirds at risk from anthropogenic factors and possible management planning tools, such spatial planning and zoning. Citation is McGowan J., E. Hines, M. Elliott, J. Howar, A. Dransfield, N. Nur, and J. Jahncke. 2013. Using Seabird Habitat Modeling to Inform Marine Spatial Planning in Central California’s National Marine Sanctuaries. PLoS ONE 8(8): e71406. doi:10.1371/journal.pone.0071406

RESOURCE PROTECTION

Sanctuaries Submit Proposals to Improve Essential Fish Habitat Protection

NOAA’s Office of National Marine Sanctuaries responded July 31 to a request for proposals to modify essential fish habitat (EFH) for Pacific coast groundfish. The Pacific Fishery Management Council issued the request as part of its five-year review of EFH. Conservation measures implemented by the council in 2006 to protect EFH from fishing impacts include large conservation areas off-limits to bottom fishing gear along the West Coast, several of which are located within national marine sanctuaries. Olympic Coast, Gulf of the Farallones and Monterey Bay national marine sanctuaries have been collecting scientific data of the condition of benthic habitats, including rare and sensitive deep-sea coral communities, within their boundaries for several years. Using these data, sanctuary staff collaborated with local stakeholders, conservation NGOs, fishery managers from state agencies and NOAA Fisheries Service, Treaty Tribes, and fishermen to develop community proposals that aim to better protect sensitive habitats within sanctuaries from fishing gear while allowing fishermen continued or renewed access to historically productive fishing grounds in less-sensitive habitats. The council is scheduled to decide at a November 2013 meeting whether to accept the proposals and implement changes accordingly.

Reducing Wildlife Disturbance

Whales and Other Marine Mammals

Sanctuaries Warn Vessels of Whale Hotspot, Request Speed Reduction

Farallones communications staff issued a Superintendent's Statement to Bay Area media regarding significant numbers of endangered whales feeding in and near major shipping lanes off San Francisco's Golden Gate, at risk from shipstrike. NOAA, with the U.S. Coast Guard, advised mariners "to keep a sharp lookout for large whales and reduce speed around the Gulf of the Farallones and Cordell Bank National Marine Sanctuaries ... NOAA strongly recommends that vessels 300 gross registered tons or larger transiting the Traffic Separation Scheme at the entrance to San Francisco Bay do so at speeds not in excess of 10 knots." Point Blue Conservation Science biologists on the Farallon Islands and whale watch naturalists reported large numbers of blue and humpback whales in the area. Sanctuary and Coast Guard staff conducted an overflight to verify whale density. Boaters are requested to report collisions with whales or injured or dead whales to NOAA at 877-SOS-WHALE ([877-767-9425](tel:877-767-9425)) or to the U.S. Coast Guard.

Sanctuary Staff Tracking Fatal Gray Whale Entanglement

In mid-July a young gray whale washed ashore dead, wrapped in crab pot gear, along the Point Reyes National Seashore, adjacent to Gulf of the Farallones marine sanctuary, and north of San Francisco. As they make their way from southern latitude breeding grounds to northern latitude feeding grounds, gray whales typically travel through nearshore waters that are also the site of Dungeness crab and other fisheries, and must navigate through an obstacle course of fishing gear, both active and legal, as well as derelict traps, nets and anchor lines. The sanctuary works with other agencies and scientific institutions to monitor entanglements and other threats to wildlife survival, and at times to intervene and assist in disentanglement operations.

Protecting Breeding Seabird Colonies

Seabird Network/Farallones Sanctuary Hosts Waterbird Symposium

On July 27 Seabird Protection Network and Farallones staff hosted a Waterbird Disturbance Symposium. The Symposium offered a unique opportunity for an open dialogue among all stakeholders - boater, pilots, kayakers, resource managers, biologist and educators throughout the region. The symposium was a platform to initiate collaborations and develop strong partnerships as we move forward in fostering leaders of waterbird stewardship. Keynote speaker, Susan K. Jacobson, professor of wildlife ecology and conservation at the University of Florida, shared the latest research in changing human behavior and gave examples of successful collaborations aimed at protecting wildlife. The goal is to share ideas and techniques to reduce disturbance to seabirds, shorebirds and waterfowl, and improve the health of all waterbird populations in California through practical solutions.

Civic Leaders, Kayak Club Become Seabird Aware

Seabird Protection Network staff spoke to 25 members of the Millbrae Rotary Service Club. Club members represent prominent local businesses and politicians including the Mayor. Staff shared a presentation about the local sanctuaries, seabirds and history of seabird breeding populations; Members learned about the negative impact on seabird population success caused of both human and predator disturbances. The Seabird Protection Network is a program of Gulf of the Farallones National Marine Sanctuary that works to reduce human disturbance to sensitive seabird breeding colonies along the central California coast through outreach and education. They also spoke to 22 kayakers of the Western

Sea Kayakers club on August 7th in Sunnyvale, CA. Staff have given invited presentations to this club four times since 2010.

Developing Solutions to Respond to Climate Change

Funding Sought for Climate Adaptation Project

Gulf of the Farallones National Marine Sanctuary and the Farallones Marine Sanctuary Association, in collaboration with Point Blue Conservation Science, EcoAdapt, National Parks Service and California Landscape Conservation Cooperative applied for the State Coastal Conservancy's Climate Ready grant to support the North-central California Coast and Ocean Climate Smart Adaptation Project. The project will produce a list of focal resources (including habitats, species, and ecosystem services) and vulnerability assessments for those resources, climate change scenarios, a prioritized list of adaptation actions, an Adaptation Implementation Plan, and project design for 2-4 pilot Green Resilient Shorelines projects. The project will seek community input and expert consultation through a working group of the Sanctuary Advisory Council. Two expert workshops, one specific to focal resources and one to the vulnerability assessments, are targeted for winter 2013 and spring 2014 respectively. This project is a first of its kind collaborative effort along the California coast to better understand the impacts of climate change to habitats, species, and ecosystem services, address those impacts along with other threats, and promote nature-based solutions.

Farallones Ocean Climate Change Staff Present Decision Support Tools to Urban Planners

On July 9th, Gulf of the Farallones National Marine Sanctuary staff presented the Our Coast—Our Future (OCOF) sea level rise and storms decision support tools to over 100 attendees as part of the San Francisco Planning and Urban Research Association (SPUR) Forum, "Preparing for Floods and Sea Level Rise in the Bay Area." Additional panelists included representatives from FEMA Region 9 California Coastal Analysis and Mapping Project, NOAA's Sea Level Rise Viewer, and the California King Tides Initiative. A networking reception was followed by a moderated discussion to explore how these projects are helping cities plan for the future impacts of sea level rise and flooding, and concluded with an opportunity for attendees to test the planning and communication tools.

EDUCATION

Increasing Awareness of the Sanctuary

Under-served youth complete Year-long program- WAVES!

To promote watershed advocacy via an environmental sciences program, this summer education staff from Farallones Marine Sanctuary and 7 Teepees joined forces to produce a year-long marine science program for underserved youth in the San Francisco School District. Plankton labs, fish dissections, a boat trip to the Farallones are part of the curriculum that takes place in-school, after-school and during a 3-week marine science camp for a subset of the students. In addition, professional development workshops for teachers ensure further ocean education. The WAVES program provides opportunities for students and teachers to learn and share their new knowledge and experience through a comprehensive ocean education program. Inspiring ocean literacy and conservation ethics through hands-on learning to new audiences are the goals of the program.

Students Explore Farallones Marine Sanctuary Shores

Farallones Marine Sanctuary and Randall Museum education staff joined forces to provide three weeks of immersing (pun intended) 54 students in engaging, hands-on marine explorations this summer. Squid dissections, plankton tows, coastal watershed restorations, beach habitat studies, kayaking, plus field

trips to Bodega Marine Lab and Marine Mammal Center were all part of the 40-hour curriculum that was carefully designed to inspire an ocean conservation ethic. The field-based summer camp provides children with direct experiences to connect with their national marine sanctuaries and increase their ocean literacy by having fun and exploring. Collaboration with multiple scientific institutions increased the diversity and richness of each child's experience.

Gulf of the Farallones NMS Hosts Annual White Shark Naturalist Training

On Saturday, August 3, the GFNMS staff hosted its annual White Shark Naturalist Training for permitted white shark tour operators and their onboard naturalists who conduct educational trips within the sanctuary. Participants were provided with information about the sanctuary's White Shark Stewardship Project, the importance of white shark protection, other wildlife resources within the sanctuary, and how to be good interpreters and effectively engage the public. They were also treated to presentations by leading shark experts discussing human threats to shark populations and ongoing conservation efforts and the latest research findings on white sharks from projects occurring at the Farallon Islands and at Guadalupe Island, Mexico.

White sharks have a vital role in maintaining marine ecosystem balance in the Farallones marine sanctuary. Raising awareness of their importance and the threats they face is one of the goals of the sanctuary's education and resource protection efforts. Holding this event helps tour operators both to be more knowledgeable and effective stewards of sharks and the sanctuary and to better educate and inspire the public. See <http://farallones.noaa.gov/eco/sharks/sharks.html>.

Events

Public Programs

Sanctuary Explorations Series: This program provides the public with a deep experiential visit to the natural and maritime treasures within the Gulf of the Farallones National Marine Sanctuary. These expert-led programs increase sanctuary awareness and increase ocean literacy while cultivating a broader constituency for the sanctuary program. Excursions included two America's Cup viewing events for 33 participants.

GFNMS Visitor Center

The Eye of the Whale Book Signing & Whale Entanglement Discussion

Sanctuary educators collaborated with children's book author Jennifer O'Connell on a presentation of her book *The Eye of the Whale*, a story about the real life rescue, outside the Golden Gate, of a humpback whale entangled in fishing gear. The program was sold out, with twenty members of the public gathered to view the author's presentation, participate in hands-on model whale entanglement and whale artifact activities, discuss the rescue with one of the divers involved in the event, and learn about current cetacean disentanglement special authorizations and procedures from Sue Pemberton of the NOAA Whale Entanglement Team (W.E.T.). Participants also had an opportunity to view a commercial crab trap and line—the type of fishing gear that caused the entanglement.

Visitor Center: The Farallones sanctuary Visitor Center educates diverse audiences of the general public along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building a stewardship ethic. Drop-in visitors come from the Bay Area and all over the world. School programs include plankton netting for view under the microscope, searching for shore crabs and activities in the Visitor Center to learn about animal adaptations. Students take part in indoor as well as outdoor activities on Crissy Field Beach in the

Golden Gate National Recreation Area. Each quarter the sanctuary serves thousands of individuals, on both drop-in and pre-arranged programs.

This quarter nearly a thousand students participated in the sanctuary Visitor Center field trip programs. The program promotes ocean literacy and provides standards-based interactive programs inside the center and in the field for kindergarten through high school. Some examples for the past quarter:

Oceans After School:

Using the endless appeal of our local marine wildlife and habitats, the Sanctuary Education Team offers 16 hours of fun, hands-on, lively marine science programs for after-school programs on topics such as sharks, salmon, seabirds, whales, squid, and plankton. These enrichment programs are dynamic, interactive, and integrated into state standards. Our marine science educators deliver the programs during an 8-12 week window and primarily serve low-income under-served students.

At-Your-School (AYS) Programs

At Your School: The At Your School (AYS) programs served schools throughout the San Francisco Bay area, primarily during the school term. The AYS program has reached tens of thousands of Bay Area students with programs such as the Crab Cab, Seabird Shuttle and Sharkmobile. AYS is an outreach program of the Gulf of the Farallones National Marine Sanctuary designed to promote environmental literacy and increase students' awareness and knowledge of coastal and marine life. It includes standards-based interactive classroom programs for kindergarten through twelfth grades. During the quarter, students and their teachers from several Bay Area schools participated in At Your School Programs. AYS staff travel throughout the area to bring ocean education to schools in Alameda, Contra Costa, San Mateo, Marin, Santa Clara and San Francisco counties. Programs include the Sharkmobile, Crab Cab, Seabird Shuttle, and Ocean Acidification. In total, the programs served around 1,500 students and teachers.

Fishermen in the Classroom: Gulf of the Farallones National Marine Sanctuary education staff teams up with local fishermen to deliver programs to area students. The teaching team brought fishing gear, video, stories, recipes and activities to highlight the rich maritime fishing culture of the Central California Coast. Connecting our youth with their local commercial fishing community and sanctuary staff provided a unique firsthand experience for the students to hear multiple perspectives on marine protected areas, sustainable fisheries and the importance of buying and eating fresh locally caught seafood.

LiMPETS – Long-term Monitoring Program & Experiential Training for Students

The Long-term Monitoring Program and Experiential Training for Students – LiMPETS – is a statewide national marine sanctuary program that trains teachers and students to get involved in real scientific investigations and become ocean stewards. Teacher workshops expand teacher knowledge and ultimately increase the number of student citizen scientists doing science along our shores. It also introduces new teachers from a diversity of communities to the national marine sanctuary program.

Farallones Sanctuary Future Events 2013-14 Calendar

November

11/20 GF Sanctuary Advisory Council meeting, Point Reyes
11/30 Tidepooling at Half Moon Bay **

December

12/14 Plankton Holiday Program, GF Visitor Center *****
12/14 Kayaking and Festival of Lights at Pillar Point Harbor ***

* Visit the Farallones Marine Sanctuary website for details and registration: www.farallones.org.

** Contact Erica Warren, ewarren@farallones.org or 415/ 561-6622 x232

*** Contact Pete Winch, pwinch@farallones.org 415/ 561-6622 x208

~~~~~

## NOAA/ GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY STAFF

Maria Brown, Superintendent: [maria.brown@noaa.gov](mailto:maria.brown@noaa.gov)  
Brian Johnson, Deputy Superintendent: [brian.johnson@noaa.gov](mailto:brian.johnson@noaa.gov)  
Adam Contreras, IT Coordinator: [adam.contreras@noaa.gov](mailto:adam.contreras@noaa.gov)  
Carol Preston, Education & Outreach Coordinator: [carol.a.preston@noaa.gov](mailto:carol.a.preston@noaa.gov)  
Carolyn Gibson, Administrative Assistant: [carolyn.gibson@noaa.gov](mailto:carolyn.gibson@noaa.gov)  
Erica Warren, Visitor Center Instructor: [ewarren@farallones.org](mailto:ewarren@farallones.org)  
Jan Roletto, Research Coordinator: [jan.roletto@noaa.gov](mailto:jan.roletto@noaa.gov)  
Justin Holl, Visitor Center Manager: [justin.holl@noaa.gov](mailto:justin.holl@noaa.gov)  
Karen Reyna, Resource Protection Coordinator: [karen.reyna@noaa.gov](mailto:karen.reyna@noaa.gov)  
Kate Bimrose, Bolinas Lagoon Project and Marine Debris Specialist: [kate.bimrose@noaa.gov](mailto:kate.bimrose@noaa.gov)  
Kelley Higgason, Climate Initiative Coordinator: [kelley.higgason@noaa.gov](mailto:kelley.higgason@noaa.gov)  
Leslie Abrahamson, Advisory Council Coordinator: [leslie.abramson@noaa.gov](mailto:leslie.abramson@noaa.gov)  
Mai Maheigan, Seabird Protection Network Outreach Specialist: [mai.maheigan@noaa.gov](mailto:mai.maheigan@noaa.gov)  
Mary Jane Schramm, Media & Public Outreach Specialist: [maryjane.schramm@noaa.gov](mailto:maryjane.schramm@noaa.gov)  
Max Delaney, Resource Protection Specialist: [max.delaney@noaa.gov](mailto:max.delaney@noaa.gov)  
Peter Winch, Visitor Center Naturalist: [pwinch@farallones.org](mailto:pwinch@farallones.org)  
Rietta Hohman, Visitor Center Instructor: [rietta.hohman@gmail.com](mailto:rietta.hohman@gmail.com)  
Sage Tezak, Seabird Protection Network Program Specialist: [sage.tezak@noaa.gov](mailto:sage.tezak@noaa.gov)  
Sara Hutto, Ocean Climate Initiative Specialist: [sara.hutto@noaa.gov](mailto:sara.hutto@noaa.gov)  
Tim Reed, GIS Specialist: [tim.reed@noaa.gov](mailto:tim.reed@noaa.gov)

## FARALLONES MARINE SANCTUARY ASSOCIATION STAFF

Chris Kelley, Executive Director: [ckelley@farallones.org](mailto:ckelley@farallones.org)  
Adrian Skaj: [askaj@farallones.org](mailto:askaj@farallones.org)  
Amanda Aault: [aault@farallones.org](mailto:aault@farallones.org)  
Amy Dean: [adean@farallones.org](mailto:adean@farallones.org)  
Abby Nickels: [anickels@farallones.org](mailto:anickels@farallones.org)  
Kirsten Lindquist: [klindquist@farallones.org](mailto:klindquist@farallones.org)  
Dru Devlin: [ddevlin@farallones.org](mailto:ddevlin@farallones.org)  
Taylor Nairn, Beach Watch Data Manager: [tnairn@farallones.org](mailto:tnairn@farallones.org)

## **CONTACT INFORMATION**

NOAA Gulf of the Farallones National Marine Sanctuary  
991 Marine Drive, Presidio of San Francisco  
San Francisco CA 94129 - <http://farallones.noaa.gov>  
Phone 415/ 561-6622, fax 415/ 561-6616

Farallones Marine Sanctuary Association (non-profit)  
PO Box 29386  
San Francisco CA 94129 - [www.farallones.org](http://www.farallones.org)  
Phone 415/ 561-6625, fax 415/ 561-6616

## **GET INVOLVED – AND STAY INFORMED!**

Sign up for the GFNMS listserv to receive email notices about upcoming sanctuary events and public meetings. To learn how to get involved in the sanctuary visit: <http://farallones.noaa.gov>; or to subscribe to Upwelling, the Farallones Marine Sanctuary Association newsletter: visit <http://www.farallones.org>.

To learn more about the Sanctuary Advisory Council visit:  
[http://farallones.noaa.gov/manage/SanctuaryAdvisory\\_Council.html](http://farallones.noaa.gov/manage/SanctuaryAdvisory_Council.html)