

GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY SUPERINTENDENT'S REPORT

JULY THROUGH SEPTEMBER ~ 2009



Monitoring Plan Goes Regional For More Comprehensive Management

Farallones science staff are working with Cordell Bank and PRBO Conservation Science staff to develop a regional monitoring plan for the northern portion of Monterey Bay, Gulf of the Farallones, and Cordell Bank marine sanctuaries. This program will be implemented from the joint sanctuary vessel, *R/V Fulmar* in 2010. This regional monitoring plan integrates work completed, in progress, and future effort. Monitoring includes sampling of physical and biological oceanography parameters, and observations of sea bird and marine mammal observation, documenting surface forage species, drift algae, vessel traffic and marine debris.

This integrated and expanded program will provide information from physics to prey/predators and provide a comprehensive understanding of the pelagic ecosystem in the North-Central California sanctuaries. Bird and mammal surveys, plankton tows, and water sampling are designed to yield information on ocean acidification, upwelling, Harmful Algal Blooms (HABs), effects of nutrients from San Francisco Bay on the productivity of the region, as well as vessel activities, information on marine debris, and resources at risk in an oil spill.



Sooty Shearwaters

Photo: Annie Douglas



SPECIAL GUESTS AND COOPERATING AGENCIES

NOAA Administrator Lubchenco Visits Farallones Sanctuary Headquarters

In July sanctuary staff took part in events surrounding the visit of NOAA Administrator Jane Lubchenco to formalize an agreement for scientific outreach with the Exploratorium, and the in-port of the NOAA Ship *Okeanos Explorer*. At Farallones sanctuary headquarters Dr. Lubchenco presided over an informal regional NOAA staff meeting, outlining objectives for the first 90 days of the administration and cited the sanctuaries as ideal places to carry out marine spatial planning for sustainable systems and communities. She described a new Interagency Working Group on Ocean Policy that can look to the national marine sanctuaries as models. She emphasised the reality of climate change and announced the formation of a National Climate Service.

Farallones Staff Supports President's Ocean Policy Task Force Press and Public Events

In September Farallones sanctuary staff lent logistical support for two events related to the President's Council on Environmental Quality Ocean Policy Task Force. The first was a public meeting, or 'listening session' at the Hyatt Regency Hotel in San Francisco on September 17 which approximately 400 people attended, to hear presentations by Nancy Sutley, Chair, White House Council on Environmental Quality, other task force members including Dr. Jane Lubchenco, other agencies, and representatives from other groups. See <http://www.whitehouse.gov/ADMINISTRATION/EOP/CEQ/INITIATIVES/OCEANS/INTERIMREPORT>

HEALTH OF THE SANCTUARY

Beach Watch Documents Major Sea Lion Die-Off Along Sanctuary Shores

Since June Beach Watch monitors have documented increased numbers of dead California sea lions. Normally, dead California sea lion numbers peak from August into September. The Marine Mammal Center is also responding to increased numbers of live, stranded sea lions, the majority of which are emaciated yearlings. The July 2009 Beach Watch encounter rate of dead sea lions per kilometer of beach surveyed is 1.6 times higher than any previous monthly encounter rate in the past 16 years of Beach Watch data. The previous highest encounter rate was in July 1998 during an El Nino event. Lack of food is the likeliest cause of the strandings, coupled with an extremely high birth rate among California sea lions (59,000 pups were born the previous summer) and resultant competition for finite food resources. Other species are affected too; a Beach Watch survey documented at least one dead Guadalupe fur seal, a species listed as Threatened on the Endangered Species List.

RESEARCH

Monitoring To Understand Long-Term Trends

Scientists Taking Ocean Climate Change Public

In September staff teleconferenced with scientists from PRBO Conservation Science and Cordell Bank National Marine Sanctuary to discuss the causes of and media messaging regarding the spring/summer seabird and sea lion die-off along the North-Central California coast this year to produce a press release issued by PRBO. This coordinated media messaging will insure the most factual, clear and concise communication to the public possible, given the complexity of changing ocean climate. Elements discussed included climate change and weather patterns, timing of upwelling and uneven levels of productivity of plankton; e.g., krill were abundant, but fish such as northern anchovies were nearly absent off this section of coast. Nesting failure and starvation affected species which are fish-eating vs. krill-eating, and could not readily switch prey bases. E.g., anchovy-

reliant species were badly affected. Western Gulls had their worst-ever nesting season this year on S.E. Farallon Island. Additional data from NOAA Fisheries and the stranding network are being obtained provide a broader picture of productivity in the region. For the resulting San Francisco Chronicle story see <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2009/09/22/MNTP19P9H4.DTL&type=printable>

Sanctuary Data on Listed Species Contributes to NOAA Fisheries Report

In July science staff provided species inventory to NOAA Fisheries as part of an Endangered Species Act (ESA) Section 7 consultation with NOAA Fisheries. This consultation was requested to determine the ESA and Marine Mammal Protection Act (MMPA) listed species that occur in the sanctuary, seasonality, and what type of activity (e.g. migrating, feeding, calving) is happening within the sanctuary. The species inventory includes information for species found in the Gulf of the Farallones National Marine Sanctuary and the northern portion of Monterey Bay National Marine Sanctuary, from Año Nuevo to the northern boundary. The list describes in tabular format species, time of year present, population, federal status (no state status is included), if the species occurs in the sanctuary during it's breeding season, and population for a specified region and trend.

Sanctuary Contributes to Study on Wildlife Entanglements

A paper on wildlife entanglement in marine debris was recently published in Marine Pollution Bulletin, Volume 58(7): 045-1051, titled: "Entanglements of marine mammals and seabirds in central California and the north-west coast of the United States 2001–2005." This study reviewed entanglement records for seabirds and marine mammals from several sanctuary programs, including Beach Watch (GFNMS), COASST (OCNMS), and BeachCOMBERS (MBNMS). The study found that the most frequently entangled species were Common Murres, Western Gulls and California sea lions. The entanglement materials identified were primarily fishing-related. The study also included recommendations for improved reporting, which have been implemented in the Beach Watch program at GFNMS. See article at http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6V6N-4W034FF-1&_user=4415013&_rdoc=1&_fmt=&_orig=search&_sort=d&_docanchor=&view=c&_searchStrId=1127626075&_rerunOrigin=google&_acct=C000063111&_version=1&_urlVersion=0&_userid=4415013&md5=70c4c95d9fd9dc893d45f2b3f2d29d1a

Sanctuary Ecosystem Assessment Surveys (SEA Surveys)

Sanctuary Data Aids Early Detection of Toxic Algal Blooms

GFNMS Sanctuary Ecosystem Assessment Surveys-Pelagic Habitat surveys for the nearshore and offshore areas represented a significant contribution to the Marine Biotoxin Annual Report for the state of California is now available on line. The report is prepared by the California Department of Public Health (CDPH). The intent of this program was to develop a network of volunteer samplers and field observers that would allow the early detection of potentially toxigenic blooms (harmful algal blooms, or HABs). Early detection is key to mobilizing and focusing additional sampling and analytical resources for plankton, shellfish, and other species in the affected region. As a result of this volunteer and intra-agency effort CDPH has been able to detect and track numerous harmful algal blooms, improving the capabilities for protecting public health. To access it on line, visit <http://www.cdph.ca.gov/healthinfo/environhealth/water/Pages/Shellfish.aspx>

Okeanos Explorer Captures Refined Imagery For Farallones and Adjacent Sanctuaries

GFNMS science staff worked with CBNMS and West Coast Region staff to produce preliminary mapping, bathymetry and 3-D visualization of key habitats within the sanctuaries. The recent exploration cruise on board the NOAA ship *Okeanos Explorer* provided refined bathymetry and 3-D visualization of areas within the sanctuary and proposed expansion areas that are likely to have deep sea corals. This mapping provides critical planning information for future deep-sea corals exploration and mapping cruises planned for 2010, on board the

NOAA ship *McArthur II*. Current efforts are under way to secure allocated sea days on board the *McArthur II* for deep-sea corals surveys within all five West Coast sanctuaries. Priority target areas for deep-sea corals exploration within the GFNMS and northern portion of MBNMS include, Deep Reef, Fanny Shoal, Rittenberg Bank, Pioneer Seamount, Farallon Escarpment, The Football, and other areas inside the proposed sanctuary expansion area off of Sonoma and Mendocino Counties.

Farallones Sanctuary in Multi-Agency Collaboration for MPA Health Assessment Studies

Science staff met with 15 local marine research institutions, academic and management agencies to develop collaborative proposals to assess the baseline health for 18 of the 30 new marine protected areas (MPAs) and special closures, nestled within the GFNMS and northern portion of the MBNMS. In 2010, the state's new North-Central Marine Protected Areas will become law. The state has recently issued a request for proposals to determine the baseline health of these new areas over the next three years. Possible proposals for baseline assessments may include foraging of seabirds and marine mammals, ecosystem processes such as upwelling index and productivity for seabirds, marine mammals, juvenile rockfish and krill, human use patterns along sandy beach and rocky shores, shorebird and coastal birds abundance and distribution relative to the various regulatory actions, pristine areas such as rocky shores at the Farallon Islands, eelgrass beds, overall health of the Esteros Americano and de San Antonio, and other ecological components.

SEAS Team Helps Expert Track Long-known Transient Killer Whale

Marine biologist Alisa Schulman-Janiger, co-compiler of the catalogue of killer whales for California and Mexico, confirmed identification of the killer whale documented by Farallones marine sanctuary scientists aboard the *R/V Fulmar* off Half Moon Bay earlier this year. The "dual citizenship" bull has been tracked in US (named CA28) and Canadian waters (named T160) since 1992. It, along with six other killer whales, was filmed during an unsuccessful attack on a harbor seal last March. The "transient" type bull has known to be involved in several gray whale calf kills. He has been most frequently seen in the Monterey area, but at least one previous sighting exists off Half Moon Bay.

Reducing Wildlife Disturbance

Protecting Breeding Seabird Colonies

Regional Seabird Protection Network Spreads its Wings, Now Flies State-Wide

This summer the Seabird Protection Network (the Network) reached a new milestone. The Network originally began as a regional program off the Monterey Bay and Gulf of the Farallones National Marine Sanctuaries. On Wednesday, June 24, 2009 the Network formed a state-wide partnership with dozens of agencies and non-governmental organizations. Funded by oil spill restoration funds, the Trustee Councils for the *T/V Command* and *Irene/Torch* Platform met to discuss ways the Network could be expanded. The Seabird Protection Network, currently administered by Gulf of the Farallones National Marine Sanctuary, will expand, creating additional Network chapters in other areas throughout California.

Protecting Migrating and Feeding Whales, Other Marine Mammals

Sanctuary Aids EPA Investigation into Local Gray Whale Diet

On August 6 and September 21, sanctuary staff assisted scientists from the Environmental Protection Agency in a study to determine what benthic (sea floor) organisms are being consumed by the recently established summer-resident population of gray whales feeding near the Farallon Islands and off Pacifica. Another objective was to analyze chemical contaminant levels in these areas, in the water column and bottom sediments.

Using vanVeen seabed grabs to sample organisms the group found extensive mats of polychaete worms off Pacifica. Near the Farallones, bottom grabs brought up almost exclusively shell 'hash' with low organism content. While using an underwater camera to locate suitable sampling areas near the islands, a white shark, approximately 14-feet in length and carrying tags, did several passes by the camera.

Farallones Sanctuary Issues Caution About Stranded Sea Lions

In response to record numbers of sick and starving sea lions stranding alive on local beaches, in the interest of public safety and to protect stranded wildlife, staff developed and distributed emergency flyers and posters warning the public against attempting to rescue the sea lions, citing danger from bites and disease transmission. The materials provided specific instructions and contact information for agencies authorized to deal with stranded marine mammals.

Protecting White Sharks

White Shark Stewardship Project Trains Vessel Operators and Naturalists, Reaches to Public

Gulf of the Farallones National Marine Sanctuary held a naturalist training on Thursday, July 23, 2009. The training was attended by over 25 recreational charter operators, including whale watch and white shark cage diving operators; naturalists working aboard the recreational charter vessels; conservationists; and videographers interested in white sharks in the sanctuary, specifically near the Farallon Islands. The training is one of two trainings that aim to inform tour operators and naturalist about the new white shark regulation, permitting process and criteria, monitoring efforts to assess the effectiveness of the permit conditions, and current local white shark research. The naturalist training also provided attendees with a general Sanctuary overview.

Also, communications staff launched a seasonal, targeted outreach effort to advise boaters, divers, wildlife viewers, and other water recreationists of the new sanctuary regulations in effect. Special message flyers and a press release were developed and distributed to emphasize that it is now prohibited to attract a white shark in Gulf of the Farallones or Monterey Bay national marine sanctuaries, or approach one within 50 meters (164 ft.) of any white shark when within two nautical miles of the Farallon Islands.

In September staff recorded a second white shark podcast on white sharks for the Thank You Ocean campaign, a collaboration between the Office of National Marine Sanctuaries and the State of California to raise ocean awareness. It focused on the regulations enacted by the Farallones Marine Sanctuary which became effective this year to protect white sharks from disturbance as they hunt and feed in Farallones sanctuary waters on seals and sea lions, primarily in the fall. This medium supports other outreach efforts to inform the public of the importance of this shark in maintaining ecosystem balance. Public awareness, appreciation and compliance are needed for their protection.

Developing Solutions to Respond to Climate Change

Acidification Focus of West Coast Sanctuaries Ocean Monitoring Plan

Science staff are working with West Coast sites, national staff, and NOAA Fisheries on developing a major plan for ocean acidification (OA) monitoring. The draft plan describes current and proposed research needed over the next 5 years. This plan is part of the NOAA-wide research report on climate change and OA monitoring and covers the marine waters off the coasts of California, Oregon and Washington and, to a lesser extent, adjacent areas of Baja and British Columbia. The plan includes six major themes ranging from physical and biogeochemical models, experiments to forecast future changes in ocean chemistry, predicting the effects of

ocean acidification on marine and estuarine organisms and communities, and needed education and outreach efforts to communicate our findings about acidification research and results to the public.

EDUCATION & OUTREACH

Increasing Awareness of the Sanctuary

Multinational Teens Explore Sanctuary in Ocean For Life Field Studies

From July 30-August 9, the Gulf of the Farallones, Cordell Bank and Monterey Bay national marine sanctuaries hosted 29 students from Bahrain, Egypt, Jordan, Saudi Arabia, Canada and the United States as part of the Ocean For Life California Field Study. Students were chosen for their interest in the ocean, other cultures and youth leadership qualities. Sanctuary education staff and partners from National Geographic Photo Camp, the American University's Center for Environmental Filmmaking, Scubanauts International, Camp SEA Lab and the National Marine Sanctuary Foundation collaborated to provide the students with experiences to explore and learn about marine ecosystems along the north-central California Coast. The students documented and reflected on their experience through photo and video projects created during the Field Study. The objective was to foster a better understanding of cultural connections that ultimately led to better understanding and the strengthening of global relationships. The main themes were: a sense of place, interconnectedness, and ocean conservation and stewardship. The project received media coverage in English and Arabic language media.

Farallones Sanctuary Developing Exhibit Partnerships with Exploratorium, Fitzgerald Reserve

Education staff took part in a two-day "Outdoors Exploratorium" meeting with several science education groups throughout the Bay Area to collaborate on developing outdoor exhibits with the Exploratorium. The exhibits will potentially be situated at marine sanctuary visitor center locations. In addition, Education staff joined interpretive staff from the Fitzgerald Marine Reserve near Half Moon Bay to conduct a walkthrough of locations at which 18 interpretive signs will be located throughout different parts of Fitzgerald Marine Reserve.

SF Ocean Film Festival Names Farallones Staffer Volunteer of the Year

The San Francisco Ocean Film Festival has named a Farallones sanctuary staff member Volunteer of the Year for 2009 for participation as a core reviewer on the festival's Content Committee, creative and other services. The Farallones sanctuary is a founding partner of the festival, now going into its seventh year. It is the country's premier ocean film festival attended by nearly four thousand annually.

Outreach Fairs and Conferences

Sanctuary education and outreach staff took part in several general audience and targeted outreach events this quarter and enjoyed direct contacts with educators, constituents and the general public as follows: at the Council of Science/Math Educators of San Mateo County (SESMC) - 39 educators; the Gene Connection Biotech Partnership - 27 teachers; National Marine Educators Association (NMEA) - 50 educators; Sanctuary Shark naturalist training reached 50 naturalists and vessel operators; and 67 educators, funders and congressional aides took part in outreach cruise aboard the *R/V Fulmar* this quarter.

Media Outreach

Media outreach and press coverage are contained in the Superintendent's Report Addendum to this document.

Sanctuary Explorers Camp

Farallones Sanctuary Explorers Camp Brings Wild Ocean into Urban Lives

This summer, the Farallones Marine Sanctuary Association (FMSA) offered six weeks of camp and served a total of 122 campers, ages 8-13. Designed to serve culturally diverse inner city children about the sanctuary, it is carried out through a long-standing partnership with the San Francisco Recreation and Parks Department. Many of the campers had never been to the ocean despite San Francisco's proximity to beaches, wetlands, and tidepool habitats. The urban population of campers that arrived at camp were unsure about what to expect from a week by the ocean and oftentimes camp was their very first exposure to ocean environments. At the end of each week, campers made a promise and a pledge to the ocean that gave them a feeling of ownership and instilled in them a sense of stewardship. Examples of ocean promises included... "Picking up all the garbage I see!" - Visitacion Valley, girl age 8 and "Sharing my knowledge of the ocean with others." - Eureka Valley, girl age 15.

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

LiMPETS Model for Regional and International Student Programs

The LiMPETS program trains middle school, high school, and other young groups to monitor the rocky intertidal, sandy shore and offshore areas of the five west coast National Marine Sanctuaries. Farallones Marine Sanctuary Association staff trained Bay Area educators and teachers in workshops this quarter to participate in LiMPETS Programs. All workshops aim to increase teachers' awareness of the sanctuaries and sanctuary programs - and aim to increase the amount of time teachers spend teaching the ocean sciences in the classroom. See www.limpetsmonitoring.org

At-Your-School (AYS) Programs

At Your School Programs Reach Out to Students and Educators

This quarter was a busy time for At Your School (AYS) programs at the Gulf of the Farallones National Marine Sanctuary. Education staff visited nine classes in several San Francisco Bay Area Counties. Two hundred thirty-five students and their teachers were served by the Crab Cab, Webs Under Waves, Sharkmobile and Science at Sea programs that AYS staff presented during this period. 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.

Crab Cab

The Crab Cab (Kindergarten through 3rd grade) program was presented to 174 students and teachers in seven programs throughout the Bay Area. These budding marine science students were excited to work with live crabs (later returned to their habitats), and enjoyed the opportunity to learn the tools of scientific observation, even at their young age. They determined if crabs were males or females, what kinds they were, and learned about adaptations to their rocky intertidal habitats and environmental conditions.

Sharkmobile

The Sharkmobile is a classroom program on the biology, natural history and conservation of sharks. The Sharkmobile reached out to 61 students and teachers in two programs and taught students about sharks, and their cousins the skates and rays. Topics include evolution, adaptations to the marine environment, specialized functions of various organs, and addressed common shark myths that have led to their becoming "the fish you

love to hate.” Students are surprised to learn that very few sharks pose any real threat to humans, and to discover that although an average of 10 people a year die from interactions with sharks, roughly 10 million sharks are killed each year by humans. Sharks are also important elements in the health of the marine ecosystem.

Webs under Waves

What does it take to be a successful seabird? How do they survive in such a harsh environment? In this one-hour classroom program third- through fifth-grade students and teachers in three classes learned about local seabirds, their adaptations and how seabirds fit into the coastal marine food web. Students also discuss ways that they can have a positive effect on the ocean and its ecosystems. This program runs through the school year and will resume in the fall.

Visitor Centers

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 stewardship. School programs include netting plankton for view under the microscope, searching for shore crabs and activities in the Visitor Center to learn about animal adaptations. Children take part in indoor as well as outdoor activities on Crissy Field Beach.

Farallones Sanctuary Crissy Field Visitor Center: Drop-in visitors from the Bay Area and all over the world came to the sanctuary's visitor center in the Presidio totaled 8,207.

At Crissy Field this quarter 615 students took part in structured education programs adapted to their learning levels and age groups. For example, kindergartners participate in hands-on activities to learn about “Animal Life Cycles” and “How Marine Animals Sense the Ocean.” The first graders learn about the food chains and what things eat, who eats food, and watch the aquarium creatures being fed. Second graders compare life cycles from various kinds of marine organisms. Forth and Fifth graders participate in inquiry-based activities such as searching for sand crabs along the sandy shore, discovering shore crabs in the rocky intertidal, and hands-on activities to learn about “Animal Adaptations” and “Crab Habitats in the Sanctuary.”

New Crissy Field Special Programs include:

Plankton and Pastries: Gulf of the Farallones NMS Visitor Center staff lead this hands-on public program to promote ocean literacy where participants net their own plankton for study in the tide station pier house. The program begins with coffee, juice and pastries and a tour of the sanctuary visitor center emphasizing upwelling, plankton life cycles, and the national marine sanctuary program. Following the introduction, participants collect their own samples and create their own slides of phytoplankton and zooplankton for a hands-on microscopic exploration of the weird and wonderful world of plankton. This program presented to 218 adults and young people in 18 programs this quarter.

San Francisco Bay Estuary Education Program: The sanctuary partnered with the San Francisco Bay Estuary Education Program (SF-BEEP) and introduces urban youth and teachers to the San Francisco Bay Estuary and the challenges facing this vast watershed. This program of The Bay Institute conducts in-classroom seminars, a high school internship program that extends learning to the workplace setting, and a summer institute for teacher training. This summer, Gulf of the Farallones NMS Visitor Center staff taught a two-week intensive plankton series to engage urban high school students in marine science and increase ocean literacy to 12 public high school students, with 30 hours of total programming per student.

Mavericks/Science of Big Waves: Gulf of the Farallones NMS Visitor Center staff presented a program on Mavericks and the Science of Big Waves for students participating in the Johns Hopkins University's Center for Talented Youth course entitled "Dynamic Earth." The students, who come from all over the world to study earth systems, investigate plate action, crustal formation, glaciers, currents, ocean waves, weathering and atmospheric interactions. Sanctuary staff helped students explore how a world-class big wave is formed in Half Moon Bay and what surfboard technologies are used to ride these giant waves. This program served 30 middle-school students this quarter.

Pacifica Visitor Center: This center, operated by the Pacifica Chamber of Commerce and featuring a major Farallones sanctuary exhibit, reported healthy summer visitation with approximately 6,900 visitors this quarter.

Fishermen in the Classroom: Middle-school students and teachers took part in the Fishermen in the Classroom visitor center program, which highlights the maritime heritage in the San Francisco and Pillar Point fishing communities. Local fishing folk participated in the development of curriculum, and deliver the programs.



GULF OF THE FARALLONES SANCTUARY CALENDAR OF EVENTS

2009-2010	Event	Location
TBA	GFNMS Condition Report release	San Francisco
November		
TBA	Mavericks Surf Contest	Mavericks, HMB
11/9-11/18	Planning for climate Change	Vietnam, Can Tho
11/12-11/17	SEAS rocky intertidal survey	Farallones
11/14	LiMPETS Intro workshop	
December		
12/07 -12/09	Cal COFI Conference	
12/10	SAC Meeting	
January		
TBA	International Sportsman Expo	San Mateo
01/15-01/17	Oiled Wildlife Care Network Training	
February		
TBA	HAZWOPR 24 Training	Presidio
02/03 -02/07	SF Ocean Film Festival	Aquarium of the Bay
02/-17-02/20	Pacific Seabird Group	Long Beach
02/21-02/28	SEAS Rocky Intertidal Survey	Farallones
March		
April		
04/25-	HMB Dream Machines	HMB
TBA	SAC Meeting	Pt. Reyes
TBA	Pt Reyes Wildlife And Birds	
May		
05/21-05/28	SEAS PH Regional '10	Fulmar
June		
06/13-07/07	Deep Sea Corals Exploration	GFNMS/Escarpment
06/23-06/30	SEAS PH Regional '10	Fulmar
July		
07/20-07/28	SEAS PH Regional '10	Fulmar

August		
September		
09/14-09/22	SEAS PH Regional '10	Fulmar
TBA	World Seabird Conference	Victoria, BC
October		
November		
11/02-11/06	SEAS PH Regional '10	Fulmar
11/02-11/06	SEAS Rocky Intertidal Survey	Farallones
December		

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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>.
 To learn more about the Sanctuary Advisory Council visit: <http://farallones.noaa.gov/manage/sac.html>

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