

**GULF OF THE FARALLONES  
NATIONAL MARINE SANCTUARY**

**SUPERINTENDENT'S REPORT**

**3<sup>RD</sup> Quarter FY2014  
April through June, 2014**



**Farallones, Cordell Hold Public Hearings on Proposed Changes**

In May and June, following release for public comment on draft supporting documents, NOAA Gulf of the Farallones and Cordell Bank national marine sanctuaries held four public hearings in Sausalito, Point Arena, Gualala, and Bodega Bay, on a proposal to expand boundaries and modify regulations.

Comments were nearly unanimous in support of geographic expansion, but many called for a delay in adopting proposed regulatory changes which would affect the existing sanctuaries as well as the proposed expansion areas. Many requested that the boundaries include adjacent estuaries and river mouths as valuable nursery areas to protect fisheries and wildlife interests. Among those whose testimony was given was that of Congresswoman Lynn Woolsey (ret.), Congressman Jared Huffman, State Senator Noreen Evans, the Sonoma County Board of Supervisors, and numerous local conservation groups and individuals.



Credit: Joe Parks/WikiMedia



## MANAGEMENT

### **GFNMS Volunteer of the Year Dominique Richard!**

Management of the sanctuary is greatly enhanced by the efforts of talented volunteers working in many different capacities. This year Gulf of the Farallones National Marine Sanctuary and the nonprofit Farallones Marine Sanctuary Association designated Dominique Richard as Volunteer of the Year, making him a candidate for the National Marine Sanctuary Foundations top Volunteer of the Year Award, announced by the Foundation in Washington DC each June during Capitol Hill Oceans Week.

Dominique became involved in formal sanctuary programs in 2004, doing regular coast surveys in our Beach Watch shoreline monitoring program. As the Public At Large member for Marin County on the advisory committee he helped cultivate relations with the West Marin community, and he brings the community perspective to meetings. He also serves as the Chair of the Farallones sanctuary advisory council. Dominique was selected to be one of the first coast surveyors for the NOAA Marine Debris Monitoring and Assessment Project (MD-MAP) Pilot Program, in association with NOAA's Office of Response and Restoration, to monitor deposition, debris types, abundances, and distribution on sanctuary beaches.

## CONSERVATION SCIENCE/RESEARCH

### *Monitoring To Understand Long-Term Trends*

#### **Bio-Blitz Provides Snapshot of Species in Sanctuary, National Park Areas**

Late this spring Conservation Science, Education and Outreach staff participated in the 2014 BioBlitz for Golden Gate National Recreation Area. The BioBlitz is a park wide species inventory during a 24-hour period. Sanctuary program staff from Beach Watch, LiMPETS and other education staff participated in counting birds, mammals, algae, and invertebrates, including introduced and invasive species and plankton. The BioBlitz is nationally sponsored program by the National Park Service, Smithsonian, National Geographic Society, and the Parks Conservancy. Ten beaches were surveyed by staff, volunteers, along with several participants from the general public.

### *Coastal Monitoring – Beach Watch*

#### **Farallones Beach Watch Human Use Data Contributing to State MPA Study**

Conservation Science staff met with participants in the state's Marine Protection Areas Watch (MPA Watch) program. MPA Watch is a citizen-science program designed to capture human-use activity data along the north-central California coast, within and outside the state's MPAs. The State Department of Fish and Wildlife is planning on using the human-use data to determine compliance within the new MPAs and to better target warden patrols and outreach efforts in areas of highest non-compliance. We are

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planning on assisting the MPA Watch program, by providing human-use activities data collected through Beach Watch. Some of the Beach Watch human-use categories will be expanded to accommodate the state's data needs. Implementation of the new Beach Watch protocols will occur fall 2014.

### *Coastal Monitoring – Marine Debris*

#### **Planning Next Steps for Tracking Marine Debris in Farallones and Monterey Sanctuaries**

Science staff met with staff from the NOAA Marine Debris Program to identify next steps in the continuation and expansion of marine debris sampling in the Gulf of the Farallones and Monterey Bay sanctuaries. Funding was identified to continue the current standing stock monitoring at four beaches through June 2016 and in 2014 add two new beaches to sample for accumulation of debris. Accumulation surveys assess debris from both ocean and land-based sources and coordinates trash removal.

### *Sanctuary Ecosystem Assessment Surveys (SEAS, ACCESS Surveys)*

#### **Applied California Current Ecosystem Studies (ACCESS) partnership begins 11th season**

Researchers from Point Blue Conservation Science and Cordell Bank and Gulf of the Farallones National Marine Sanctuaries conducted marine mammal and seabird counts and oceanographic sampling onboard the R/V Fulmar to begin the 11th year of the Applied California Current Ecosystem Studies (ACCESS) partnership. High winds and swell (not uncommon for the spring upwelling season) inhibited the team from sampling all of the core lines and stations within the Sanctuaries. However, sampling was conducted in GFNMS including marine mammal observations within the San Francisco vessel traffic lanes to document the abundance of whales in the region for the larger effort of reducing ship strikes to whales. ACCESS will conduct cruises in July and September.

#### **Funding Secured for Proposed Expansion Area Benthic Surveys**

A proposal to survey benthic habitat in the proposed expansion area of Cordell Bank and Gulf of the Farallones National Marine Sanctuary has been funded through, and in partnership with, the National Centers for Coastal Ocean Science. The proposed expansion area has not been fully characterized and the researchers will survey the habitat and species in targeted areas. The funding will provide vessel and ROV personnel support for the mission in August and September 2014. Sanctuary and NCCOS staff will work together to plan and execute the mission and will share in the data analysis and synthesis.

## **RESOURCE PROTECTION**

### *Reducing Wildlife Disturbance*

#### **Whales and Other Marine Mammals**

### **Averting Shipstrike Mortalities: Transforming Compliance to Cooperation**

This week staff from Cordell Bank and Gulf of the Farallones National Marine Sanctuary met with the San Francisco Bar Pilots, USCG Vessel Traffic Service (VTS), and the Pacific Merchant Shipping Association regarding vessel speed reduction requests and how they can work together to increase commitment to comply with the requests. In 2014, NOAA is requesting ships to slow down in one or more of the three shipping lanes at the entrance to San Francisco Bay. As a result of this meeting, Sanctuaries and the USCG found efficiencies that will allow Local Notice to Mariner requests be broadcast more quickly through VTS. In addition, new outreach priorities were identified including reaching out to Port Agents who can pass NOAA information and requests directly to vessel crews at the beginning or end of a cruise. The group is committed to working together to increase commitment to protect endangered whales when they are in the San Francisco traffic lanes and is examining issues of speed, notifications, and predictability that can lead to greater compliance.

### **Whale Surveys Completed in Transit to Farallon Island**

Farallones and Cordell Bank research staff participated in a trip to Southeast Farallon Island on May 3, 2014. The trip was generously funded by the non-profit International Fund for Animal Welfare, a key partner in efforts to reduce ship strikes of whales on both the east and west coast of the US. Those on board the fishing vessel *Outer Limits* tested a new app in development. The app is called Whale Alert and it will eventually be available to the public to record whale observations. Also on board were Point Blue Conservation Science personnel headed to the island for their regular staff transition and re-provisioning.

By special permission, sanctuary personnel were able to land on the island and take a guided hike to the lighthouse where Point Blue biologists record and submit whale observations via another app called Spotter Pro which is designed for use by scientists and naturalists. Ten whales were observed in transit and from the island, and nesting seabirds were abundant on the island.

### **Farallones Sanctuary Warns Public, "Don't Pup-nap Baby Harbor Seals; Watch Out for Whales"**

Farallones communications staff issued a press release to advise San Francisco Bay Area beachgoers against accidentally "pup-napping" newborn harbor seals left on shore whose mothers might simply be on a foraging trip. The alert, which received strong media interest provided contact information for authorized rescue groups to respond to suspected orphaned or injured marine mammals. Each spring incidents occur where visitors or their pets venture too close to these shy creatures. In the past, human disturbance has been the cause of major declines on Farallones harbor seal rookeries. A similar notice went out to recreational boaters to avoid approaching whales too close. Some wildlife disturbances have been reduced by sanctuary outreach campaigns such as the SEALS (Seals Education and Longterm Stewardship) program in Tomales Bay and Bolinas Lagoon. On a regular basis the sanctuary broadcasts messages to create an aware and informed public, better equipped to minimize their impact while enjoying the outdoors.

### **Whale Entanglement Team Successfully Frees Endangered Humpback**

After more than two weeks of tracking and partial removal of life-threatening crab pot gear, the NOAA-authorized Whale Entanglement Team (WET) was able to free an endangered humpback whale from all gear. Logistical support was provided by the Monterey Bay and Channel Islands sanctuaries, and

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communications coordination was provided by a Farallones sanctuary WET team member to run interference in external communications and obviate media interference with rescue attempts. Rough seas and the whales' movements into offshore waters beyond rescue range delayed further action until it re-approached land off Santa Barbara and the Channel Islands National Marine Sanctuary. There the entangling gear was removed. It had traveled over 600 nautical miles from where it was first sighted.

### *Protecting White Sharks*

#### **Farallones Seeks Public Comment on White Shark Programmatic Environmental Assessment**

This spring GFNMS released a Draft Programmatic Environmental Assessment (PEA) on White Shark Research and Education within the Gulf of the Farallones and Monterey Bay National Marine Sanctuaries, which evaluates potential effects of ONMS-regulated White Shark activities that are either occurring or are anticipated to occur within the Sanctuary over the next five years. The assessment expands on a previous analysis from 2010 that evaluated the effects of a research project involving satellite tags on White Sharks. The PEA also evaluates proposed educational tour activities.

White Sharks depend on the rich waters of the sanctuary and play a key role in maintaining a balanced ecosystem. This assessment will help GFNMS better protect White Sharks while allowing for education and research activities involving White Sharks to continue within the Sanctuary. Public input will help GFNMS staff better understand and address the concerns of the community of Sanctuary users and shark conservationists. Public comments were accepted through April 20<sup>th</sup>.

### **Protecting Breeding Seabird Colonies**

#### **Pilots, Seabirds "Share the Friendly Skies" at International Air Show Event**

On April 27<sup>th</sup>, the Seabird Protection Network, working with the local pilot community and regional airport managers conducted successful outreach at the Pacific Coast Dream Machine Airshow. The "fly-in" event draws pilots from around the country, and the 150 aircraft participating included vintage warbirds, 1940s and '50s classics and home-built experimental aircraft. Media outreach and direct pilot mailings provided advance notice of potential disturbance, and penalties for disturbance. Biologists stationed at Devil's Slide Rock, a nearby seabird breeding site, observed only one disturbance as the majority of inbound and outbound air traffic flew near or above 1,000 feet. This event attracts up to 30% of the aircraft observed for the entire monitoring season (April-August).

#### **Seabird Advocates Advise Area Pilots, "Don't Just Wing It - Fly and Boat Seabird Safe!"**

Seabird Protection Network staff spoke to 14 pilots of the Santa Clara 99s women's pilot group in Palo Alto, CA on June 19<sup>th</sup>. Additionally, staff presented to 37 members of the Mount Diablo Pilots Association in Concord, CA on June 20<sup>th</sup>. In April they presented to six pilots of the Bay City Ninety-Nines – a woman pilots' group. Seventeen pilots of the West Valley Flying Club heard the same message and tips on no-impact flying. Network staff spoke to more than 50 boaters and kayakers at the Half Moon Bay Yacht Club on March 7.

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They spoke about west coast sanctuaries, historical and current threats to breeding seabirds and how to minimize wildlife disturbance when flying along the coast. 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. 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.

**Farallones Staff Provides Special Briefing to Coast Guard on Seabird Regulations**

Gulf of the Farallones National Marine Sanctuary presented an overview of sanctuaries, discussed the importance of protecting seabirds from low overflights, and reviewed regulations for Cordell Bank, Gulf of the Farallones and Monterey Bay to the US Coast Guard Air Station San Francisco. The US Coast Guard is one of the main partner agencies for enforcement of sanctuary regulations and is currently the only local federal enforcement entity that conducts living marine resources aerial patrols within Cordell Bank, Gulf of the Farallones and the Northern Monterey Bay National Marine Sanctuaries. Training US Coast Guard aerial patrol crews to avoid sensitive wildlife areas and spot potential violations of sanctuary regulations helps protect sanctuary natural and cultural resources.

**Minimizing Risk from Oil Spills and Vessels**

**Panga Groundings on San Mateo Coast**

A 25-foot panga boat of the type sometimes used for illegal smuggling from Mexico, grounded in a rocky intertidal area at Año Nuevo State Park on April 14. GFNMS worked with Homeland Security Investigations, California State Parks, the San Mateo County Sheriff, and other agencies to respond to the incident. There was no sign of a spill or sheen from any fuel tanks and none found on-board. Since no drugs or substantial evidence was found of illegal activities, Homeland Security could not seize the vessel; NOAA was able to fund the salvage and the boat was removed by crane May 3. A 35-foot Bayliner recreational vessel grounded on Pebble Beach near Bean Hollow State Beach on May 23. The USCG responded and rescued five people from the vessel, which ended up on a rocky area of the beach. The USCG and NRC (contractor) were able to remove 125 gallons of fuel despite rough surf conditions. The vessel owner fortunately had marine insurance and his claim was able to fund the removal, which NOAA and States Parks coordinated. The vessel was towed up the beach and then removed by crane.

In both cases, the vessels were comprised of chemical-laden wood and plastic and the removal of the boat prevented it from further breaking up and causing marine debris and damage to sanctuary resources.

**Developing Solutions to Respond to Climate Change**

**Climate-Smart Adaptation Workshop Report Now Available**

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A summary report of the February 11, 2014, Focal Resources Workshop for the North-central California Coast and Ocean Climate-Smart Adaptation Project is now available. This was the first of a 2-workshop series to develop climate change vulnerability assessments for the region. The second workshop, scheduled for June 10-11, 2014 in San Francisco, will assess the vulnerability of focal resources to climate change impacts through the use of an extensive literature review, expert elicitation, and regional modeling. An informational webinar was held by Gulf of the Farallones National Marine Sanctuary and EcoAdapt on May 8th to prepare workshop participants for the vulnerability assessment process. For more information, access the Focal Resources Workshop Report. Sixty scientists, natural resource managers and policy experts were invited to attend and contribute information to the assessments, to provide a framework for the development of adaptive management recommendations through a working group of local scientific experts and natural resource managers, targeted to convene in 2015.

**GFNMS Hosts Climate-Smart Adaptation Vulnerability Assessment Webinar**

On May 8 Gulf of the Farallones and EcoAdapt staff held an informational webinar on the upcoming Vulnerability Assessment Workshop for the North-central California Coast and Ocean Climate-Smart Adaptation Project. Thirty workshop participants tuned in to the webinar to hear background information on the Climate-Smart Adaptation Project, and to learn more about the vulnerability assessment process using the Sierra Nevada Vulnerability Assessment as a case study.

**Farallones Spearheads Climate Vulnerability Assessment Workshop**

Climate vulnerability assessments are intended to develop and implement adaptation actions for anticipated climate change impacts on habitats, species and ecosystem services. Gulf of the Farallones National Marine Sanctuary (GFNMS) Climate-Smart Conservation Program team members held a workshop in San Francisco to evaluate the vulnerability of species, habitats, and ecosystem services for the North-central coast. Workshop participants worked in groups focused on areas of expertise. The workshop delved into and assessed various habitats, including pelagic and deep water bank habitats and species. The information will be used to create a climate adaptation strategy by GFNMS staff.

**Farallones Sanctuary Co-hosts Climate Workshop**

Gulf of the Farallones National Marine Sanctuary, along with NOAA Coastal Services Center, San Francisco Bay National Estuarine Research Reserve, The Nature Conservancy, and Coravai, organized a workshop, "Lifting the Fog: Bringing Clarity to Shoreline Change Models and Sea Level Rise Tools," to provide a forum for development teams with sea level rise models or tools in California to: better understand each other's methods, needs, and objectives; increase their capacity to describe the range of tools and models available in the state; develop a shared communication framework that will help end-users navigate the different planning tools and data available to them; and explore opportunities to collaborate and share information.

**EDUCATION**

**Increasing Awareness of the Sanctuary**

**New California Coast Exhibit Opens in San Francisco**

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NOAA's Gulf of the Farallones National Marine Sanctuary education staff worked with multiple teams at the California Academy of Sciences to produce a new exhibit that provides insights into the spectacular underwater ecosystems in California's national marine sanctuaries. Some of the highlights include a 2,000-gallon tank filled with brittle stars, painted greenlings and rosy rockfish, plus interactive displays that track the extraordinary migration pathways of sea turtles, sharks and other long-distance travelers. New information and programs will shed light on the remarkable biodiversity that thrives in the 100,000-gallon "Gulf of the Farallones" tank, and a citizen science station will enable guests to contribute to an ongoing Academy research project to help protect California's vibrant and vital coastal ecosystems. The Academy of Sciences is one of the most trusted and respected sources of information in the nation and has over 2 million visitors a year. This partnership provides one of the most effective means to impart sanctuary conservation messages.

**E-Book Series to Focus on Young Scientists Engaged in Climate Change Studies**

Gulf of the Farallones communication staff worked with the local public radio station KQED to produce a series of video E-books on the marine environment and climate change in the San Francisco Bay Area. KQED will feature a young scientist actively engaged in research on climate change or ocean acidification. Other topics include ecosystem impacts of greenhouse gases, ocean acidification, the water cycle, and mitigations and adaptations necessitated by these changes. These videos are designed to give students an idea of what different careers in science look like: as scientists, technicians, engineers, or researchers: people that students can easily relate to and who are often not represented in the media. Involving today's teens in recognizing how climate change and its impacts on the marine environment is changing their lives and futures, and their potential role in studying and resolving them, provides fertile grounds for directing their academic and professional pursuits.

**Farallones World Ocean Day Event Brings the Sea to the Shore for Zoogoers**

On June 8, the Farallones sanctuary was one of only three partners invited to participate in the San Francisco Zoo's celebration of World Ocean Day. The topic, Marine Debris, was communicated via examples of how human activities and products can find their way to the sea. This event was outstanding for the mixed demographics: mostly bilingual, and multi-generational. The sanctuary provided a glimpse of the amazing marine life that lives just beyond the shore. Families participated in hands-on activities such as identifying threats to marine life (oil spills, 6-pack yokes, gill nets, trash). Also, the sanctuary member of the Whale Entanglement Network demonstrated the tools of the trade: grappling hooks, specialized pole knives, and devices for attracting tracking transmitters. Visitors of all ages took part in lino-block printing of marine life images. This event brought zoo-goers of all degrees of interest in our oceans into the fold through a shared love of animals proved effective outreach. They learned to regard the ocean in a new light, and that what they do hundreds of miles inland affects the ocean, for good or for ill.

**Farallones Staff Guide, Encourage Young Scientists at SF Bay Area Science Fair**

Science staff judged middle and high school student's science projects at the 61th Intel San Francisco Bay Area Science Fair. The science fair allows 7<sup>th</sup> through 12<sup>th</sup> grade students from eight Bay Area counties to present their science projects. This regional fair is the third and final step towards the Intel International Science Fair. The Grand Prize winners in biology, physics and engineering represent the San Francisco Bay Area at the Intel International Science Fair, held in Los Angeles, California, in May.



## Events - Public Programs

### **Where the Blue Ocean Meets the Silver Screen**

NOAA Gulf of the Farallones National Marine Sanctuary, a festival founding partner, co-sponsored the 11th Annual San Francisco International Ocean Film Festival this spring at the Aquarium of the Bay. Thousands attended, to learn via a variety of genres - from animated shorts, to in-depth documentaries - about the ocean, its power and beauty, and issues and solutions to those issues. Highlights included a Student Film Competition sponsored by the Cordell Bank sanctuary, and panel discussions on sharks and tourism, and extreme diving. Film has the power to reach audiences in ways they might not otherwise experience, and film festivals bring together a dynamic mixture of ocean enthusiasts to view its various aspects, and to invite discussions of ocean matters, which can lead to productive dialogue, collaborations and involvement in ocean stewardship.

### **Farallones Sanctuary Presents "Whale Trail" Killer Whale Talk**

Marine conservationist and author of more than 20 books, Erich Hoyt, shared compelling orca stories from his early research in Johnstone Strait to current research in Far East Russia to an audience of 140. West Coast sanctuaries teamed up with Aquarium of the Bay, The Bay Institute, and The Whale Trail to have the Tour program stop in San Francisco. The Orca Tour promotes awareness of killer whales and the need for ocean stewardship. The Orca Tour has brought The Whale Trail to California, this summer three new sites in San Francisco, Santa Cruz and Monterey will be established. The Whale Trail is a series of over 50 sites along the west coast to view whales: gray, blue, humpback, minke and killer whales can be viewed in the Gulf of the Farallones National Marine Sanctuary. By providing prime whale watching sites public awareness of whales, the role of National Marine Sanctuaries and the need for ocean conservation will be increased.

## Sanctuary Soirée Series

### **Mola Mola Soirée - A Sophisticated Success**

The Gulf of the Farallones National Marine Sanctuary and Randall Museum education teams joined forces to deliver an innovative, integrated evening of science and art to celebrate the Mola mola, or ocean sunfish. Over 150 people enjoyed a presentation by Tierney Thys, Ph.D. Thys is a marine biologist, National Geographic Explorer and TED trained speaker whose Mola mola research and conservation efforts have taken place in many parts of the world. The evening invited hands-on participation in multiple art forms such as printing, sculpting, viewing film and being immersed in a Mola mola exhibit. Using the enormous appeal of the Mola mola inspired a large diverse group of people to get involved, or amplify their efforts, in protecting marine life, especially the Mola mola.

## 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.

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**Alcatraz' Avian Inmates Delight Farallones Sanctuary Explorations Members**

On May 31st Sanctuary staff coordinated a three hour trip with twenty members of the public to ferry out to Alcatraz Island in search of the nine species of seabirds that nest on the island. Alcatraz Biologist Tori Seher generously led the group through old barracks and quietly along cliff faces to observe concealed Brandt's Cormorants, downy Western Gull chicks, Snowy Egrets tucked within the rhododendrons, and Great Blue Herons aloft in the eucalyptus. Attendees ranged from college students to avid birders from out of town in search of "lifers," from Sanctuary Explorations regulars to complete novices.

**GFNMS Visitor Center**

**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. Visitor Center field trips served 656 students this quarter.

Farallones sanctuary Visitor Center field trip programs promote ocean literacy and provide standards-based interactive programs inside the center and in the field for kindergarten through high school. Total Visitor Center attendance for this quarter numbered 5,189.

**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-week window and primarily serve low-income under-served students. One hundred sixty-one students completed the program.

**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 1,377 students, and 61 teachers in 61 programs.

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**Fisherman in the Classroom:** Give a Man a Fish ... Teach a Man to Fish ... Maimonides' quote about learning to fish for life-long sustenance doesn't fully describe the satisfactions, frustrations, benefits, drawbacks, vagaries, and opportunities experienced by those who fish for a living. This program served 75 students and four teachers in four programs in the third quarter FY2015.

**Office of National Marine Sanctuaries (ONMS) Hosts Taiwan Exchange Students**

NOS's Gulf of the Farallones National Marine Sanctuary hosted 34 fifth-grade students from Taiwan as part of a multi-year partnership with the San Francisco Chinese American International School (CAIS). CAIS selected the sanctuary as a program partner based on its hands-on marine science program and the staff's enthusiasm to work with English-language-learners from other cultures. The marine science program introduced the students to sanctuary habitats, wildlife and the sanctuary's conservation role. NOAA's Gulf of the Farallones National Marine Sanctuary builds strong partnerships that deliver high-quality marine science programs to diverse audiences. This program promoted ocean literacy and appreciation for the sanctuary to an international audience.

*Educator Training/Professional Development*

**Rocky Reef Interpretation Workshop**

Sanctuary staff taught a four hour interpretive workshop for twenty new Friends of Fitzgerald Marine Reserve docents. Fitzgerald Marine Reserve is a rocky reef within a national marine sanctuary and a state marine protected area that draws over 100,000 tidepoolers every year. The class included interpretive themes, techniques, activities, tour management tips and tidepool etiquette. Through strategic sanctuary partnerships ocean literacy and etiquette are amplified exponentially.

*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. In all this quarter, eight hundred students, plus 28 teachers in 28 schools, took part in 37 LiMPETS programs.

**Teen Students Give Stellar Presentations at Currents Research Symposium**

High school students from James Logan High School, Santa Catalina High School, San Lorenzo Valley High School and the California Academy of Sciences presented research posters on their LiMPETS (Long-term Monitoring Program and Experiential Training for Students) work at the Monterey Bay National Marine Sanctuary Currents Symposium on Saturday, April 26th, 2014. The Currents Symposium is an annual event for researchers, educators, students, and the public to learn about current research being conducted in the Sanctuary. Student interns from the Academy of Science, Tiffany Cheng and Siyu Huang, won Second Place for their LiMPETS poster on Acanthocephalan parasite loads in Pacific mole crabs. Congratulations to all of our LiMPETS students for their stellar posters and professionalism during the conference.

### **Holey Moley, Part 2: Mole Crab Recruitment at Linda Mar Beach Reigns Supreme**

Students collecting data for the LiMPETS program this spring have discovered thousands upon thousands of tiny mole crabs, just settling onto Sanctuary beaches throughout the region after spending approximately the first 5 months of their lives drifting in the ocean as plankton. Large recruitment events such as this do not occur regularly in the region, and in comparison to other years, recruitment began earlier (in February) and is much larger. Locally Linda Mar beach remains the king locale for these recruiting crabs. Students from St. Francis High School collected 7,000 crabs at the beach this week in 175 core samples. This is a record both for this beach and throughout the region since the LiMPETS program began in 2001. This 13-year long-term data set is the first and only of its kind, tracking the abundance and distribution of mole crabs, an important denizen of sandy beaches, throughout the Sanctuary and beyond.

## **MEDIA & COMMUNICATIONS**

### **San Francisco Bay Shipwreck Discovery Gains Unprecedented Global Media Exposure**

On April 23, staff with NOAA's Office of National Marine Sanctuaries (Farallones) conducted a media outreach event to highlight the rediscovery of the 19th-century shipwreck *City of Chester* near the Golden Gate Bridge. The story generated more than 1.2 billion "hits" or impressions on 9,500 news stories worldwide. At a press conference at NOAA's Gulf of Farallones National Marine Sanctuary headquarters at Crissy Field in San Francisco, attendees saw compelling visual documentation by NOAA's Office of the Coast Survey in the form of sophisticated side-scan sonar images and an animation flythrough of the shipwreck. The story of the *City of Chester*, which brings to light historical prejudices and inaccuracies surrounding the actions of the Chinese crew during the disaster, provided a powerful and positive message about NOAA's ongoing work and stewardship. This story, reflecting positively on the collaboration of two parts of the NOAA family, became one of the highest-impact NOAA news stories in recent memory thanks to its powerful human messages that made the nation and the world pay attention to what the oceans hold and how NOAA helps us all connect to those waters.

## **MARITIME HERITAGE**

### **Shipwreck Rediscovery Generates Human, Historic, and Hi-Tech Interest**

Based on research done by the ONMS Maritime Heritage Program, OCS's Navigation Response Team-6 pinpointed and documented the largely intact wreck of the *City of Chester* — first located by the U.S. Coast and Geodetic Survey 125 years prior — just inside the Golden Gate Bridge. The rediscovery was announced at NOAA's Gulf of the Farallones National Marine Sanctuary Visitor Center, formerly the site of a life-saving station built in the wake of the *City of Chester* tragedy. The announcement coincided with the advent of Asian-Pacific American Heritage Month and brought widespread attention to the racist, anti-Chinese attitudes of the time and the backlash against the Chinese crew of the SS *Oceanic*, the immigrant steamer that had rammed and sunk the *City of Chester*. The accompanying outreach transcended cultural differences, and highlighted new imaging technology.

## **Operations**

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Operations such as building maintenance and infrastructure continued as usual this quarter.

## Farallones Sanctuary Future Events ~ 2014 Calendar

### SEPTEMBER

Sept. 28 Stand Up Paddle Class, Sausalito. 9:00-11:30am. Reserve: [sara.heintzelman@noaa.gov](mailto:sara.heintzelman@noaa.gov);  
(415) 561-6622 x237

### OCTOBER

Oct. 18 SharktoberFest Environmental Fair; at GFNMS HQ; 11:00 a.m. to 4 p.m. Contact  
carol.a.preston about tabling opportunities; free to all! No RSVP required.  
NOTE: Volunteers are needed for this event! Contact [sara.heintzelman@noaa.gov](mailto:sara.heintzelman@noaa.gov);  
(415) 561-6622 x237

### NOVEMBER

Nov. 13 Bolinas Lagoon Restoration Project Public Meeting, Stinson Beach Community Center.  
Doors open at 6:30 meeting at 7:00 - 8:30 p.m. No RSVP required.

Visit the Farallones Marine Sanctuary website for details and registration: [www.farallones.org](http://www.farallones.org), as well as  
FMSA's Facebook page. The GFNMS Facebook is up and running soon!

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

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**Gulf of the Farallones NMS Superintendent's Report  
3<sup>rd</sup> Quarter FY2014, April through June, 2014**

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**GET INVOLVED – AND STAY INFORMED!**

Sign up for the Farallones sanctuary list serve 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>.

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To learn more about the Sanctuary Advisory Council visit:

[http://Farallones.noaa.gov/manage/SanctuaryAdvisory Council.html](http://Farallones.noaa.gov/manage/SanctuaryAdvisoryCouncil.html)