

GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY



1st Quarter FY2013
October through December, 2012

SUPERINTENDENT'S REPORT

NOAA Initiates Process to Consider Farallones, Cordell Bank Sanctuary Expansions

In December, Congresswoman Lynn Woolsey and NOAA held a joint press conference to announce that NOAA will proceed with an administrative process to consider boundary expansion for Gulf of the Farallones and Cordell Bank National Marine Sanctuaries. The Notice of Intent was published in the Federal Register to consider sanctuary expansion and to publish a draft environmental impact statement. The notice initiated an 18 to 24 month public process to consider sanctuary expansion. The proposed sanctuary expansions include the Point Arena “upwelling” center, which provides the nutrient rich source water that supports a thriving ecosystem in the two adjacent sanctuaries. To learn more about the northern expansion, visit http://farallones.noaa.gov/manage/northern_area.html .



Photo: Richard Kuehn



MANAGEMENT

Sanctuary at the Golden Gate

The 100 square miles of unprotected waters just outside the Golden Gate of San Francisco are a biologically important ecosystem rich in marine wildlife. The ONMS has initiated a process to protect these waters and restore natural habitats and endangered species, and to ensure a more sustainable future for tourism businesses.

During public scoping in 2012 there was a groundswell of public support. Researchers reported increased sightings of marine mammals, seabirds and sharks in these waters. Harbor porpoises have re-established themselves in these waters after being absent for over 70 years. Over the last decade, the City of San Francisco has become a model for environmental sustainability. The sanctuary is working with the University of California Santa Barbara Bren School of the Environment on drafting the Environmental Impact Statement. The draft Environmental Impact Statement is expected to be released for public comment in 2013.

RESEARCH

Monitoring To Understand Long-Term Trends

SEAS – Deep Sea Corals Cruise

Deep-sea Coral and Sponge Research Cruise Reveals a New Discovery

Sanctuary staff and partners completed a 12-day research cruise to explore and map the rocky features in some of the deeper areas of the Gulf of the Farallones. Remotely Operated Vehicle (ROV) dive depths were between 76 and 457 meters. One of the highlights of the cruise was the discovery of a black coral, estimated to be at least 100 years old and previously unknown to have occurred in the sanctuary. Images and video of some of the preliminary findings can be seen on the sanctuary web site: http://farallones.noaa.gov/science/dsc_cruise.html and/or on the NOS web site: <http://oceanservice.noaa.gov/news/weeklynews/nov12/deepsea-coral.html>

Partners included the National Centers for Coastal Ocean Science, US Geological Survey, California Academy of Sciences, and Marine Applied Research and Exploration, funded by NOAA's Deep-sea Coral Research and Technology Program. Potential threats to sensitive sanctuary benthic habitats include oil spills, fishing activities, climate change impacts and ocean acidification. Characterization and monitoring of sanctuary habitats is critical to ensure their protection.

Beach Watch Coastal Monitoring

Newly Minted Crop of Citizen Scientists Training to Monitor Sanctuary Beaches

The Beach Watch project and Farallones Marine Sanctuary Association hosted a new recruit training. Citizen scientists contributed over 6,000 volunteer hours through the Beach Watch project in 2011. Beach Watch maintains high retention of its 100-plus volunteers. The last training was in 2008, and only now, four years later, has natural attrition required us to host a new training. Ninety-five prospective volunteers attended four orientation sessions, of whom 47 of these people submitted applications. A total of 26 applicants were ultimately selected for our new class. Training ran from September 22nd to November 3rd with a total of 80 hours of training. Upon completion of the class these 26 new surveyors were assigned to nine of our 42 beaches. Beach Watch staff have been thrilled and impressed at the engagement and experience level of the new class.

CONSERVATION

Minimizing Risk from Oil Spills and Vessel Impacts

Farallones Sanctuary Releases Draft Tomales Bay Vessel Management Plan

The Draft Tomales Bay Vessel Management Plan was released, a public hearing held, and the comment period closed. The plan is the result of a long-term multi-agency effort to streamline and coordinate vessel management activities for the benefit of the public. The plan aims to improve water quality, protect wildlife and habitat, protect public health and ensure recreational opportunities in Tomales Bay. The plan does not establish any new legal authorities, and the intended outcome is to have a coordinated, collaborative approach to vessel management that provides guidance to the agencies and the public. A total of 60 comments were received both verbal and in writing, and over 30 people attended the hearing. It also implements the mandates and regulations of both the sanctuary and California State Lands Commission. It represents extensive input from the boating community and other local stakeholders, and addresses numerous issues including vessel sewage discharge, impacts from moorings, derelict or deserted vessels, introduction of invasive species, disturbance of wildlife, and discharges of oil, fuel, and vessel maintenance products. A final plan is expected to be released in 2013.

Vessel Grounding on Stinson Beach

On November 14th a 28-ft., unnamed recreational vessel sustained a hole in its hull near Duxbury Reef and was intentionally grounded by the operator on Stinson Beach in Marin County in the Gulf of the Farallones National Marine Sanctuary (GFNMS). The U.S. Coast reported that no fuel sheen was seen and all fuel was still intact within the vessel. The responsible party was able to work with a salvor to tow the boat well above the Mean High Water mark. Working with the Stinson Beach Fire Department and the salvor, the owner successfully removed the vessel the next day. GFNMS visited the scene immediately after the removal and found no significant marine debris or damage to the sanctuary's natural resources. This vessel is comprised of plastic and contained fishing gear and other materials onboard. Its removal prevented it from breaking up and producing marine debris and damage to sanctuary resources. Removal of these hazards is critical to protecting federal resources under the trusteeship of NOAA.

Fragments of Wrecked AC-37 Oracle Racing Boat Found on Farallones Sanctuary Shores

In October beach surveyors found pieces of ultra-lightweight boat wreckage at Limantop Beach north of the Golden Gate, as well as on beaches south of the San Francisco Bay entrance. The unique honeycomb materials are identical to those used in the 72-foot catamaran that “pitchpoled” – flipped stern over bow – during an America's Cup-37 practice run inside San Francisco Bay. The vessel was racing in 25-30 knot winds, and a 5.5 knot maximum ebb current swept the capsized boat several miles out to sea and into the sanctuary with the outgoing tide. None of the racing crew sustained serious injury. Sea conditions in the Farallones marine sanctuary are notoriously rough and unpredictable due to strong currents, coastal features, bottom topography, gyres and eddies that make wreckage or oil spill trajectories difficult to predict. Beach monitoring contributes to our knowledge of how harmful items and substances can potentially enter and injure sanctuary resources, even if originating outside sanctuary boundaries.

Fishing Vessel *Fjord Queen* Grounded at Ross Cove, Half Moon Bay

On October 13th the vessel *Fjord Queen*, a 45-foot, wooden hulled fishing vessel ran aground in the Monterey Bay National Marine Sanctuary (MBNMS) at Ross' Cove, near Half Moon Bay, an area managed by GFNMS. Farallones staff have been working with the other NOAA offices, US Coast Guard, Pillar Point Harbor, San Mateo County Parks Department, and the Responsible Party (Owner, or RP) to address the incident. The US Coast removed approximately 240 gallons of fuel, and the salvor removed most of the vessel. Theoretically, a RP's insurance company covers the cost of salvage but in this case the vessel was not insured. Several other groundings this year depleted these funds. There is currently no law in California requiring these vessels to be insured and the grounding of uninsured vessels costs the Sanctuary and other federal, state, and local responding agencies hundreds of thousands of dollar (if not millions) each year.

IMPACTS OF CLIMATE CHANGE

Ocean Climate Indicators Workshop Summary Released

Gulf of the Farallones (GFNMS) staff released a Workshop Summary to present results from the Ocean Climate Indicators Workshop, which was held at the Presidio of San Francisco on August 27, 2012. Thirty-seven regional scientists and managers attended this invitation-only workshop, which was a vital step in a two-year project to develop physical and biological climate change indicators for the North-central California coastal region. Workshop attendees formed four breakout groups to discuss a set of promising candidate climate change indicators. Indicators that were recommended by at least three breakout groups are noted in the Workshop Summary and will be further investigated in the coming months, using both data analysis and downscaled climate model output. The final set of climate change indicators is anticipated by the end of January 2013. To download the report, visit at: <http://farallones.noaa.gov/manage/climate/indicators.html>. This first-of-its-kind project within the National Marine Sanctuary System will provide the North-central California coastal region with a set of physical and biological climate change indicators.

Climate Change Working Group Convene to Discuss Indicators, Monitoring

Farallones sanctuary staff attended the first meeting of the Bay Area Ecosystems Climate Change Consortium (BAECCC; <http://baeccc.org/>) Monitoring Working Group to develop a coordinated monitoring network for the San Francisco Bay Area. Staff participated in discussions about climate change and ecosystem health indicators; which indicators may be of most use to natural resource management agencies (restoration planning); funding for current projects likely to provide information about climate change indicators; and data management systems that are already in place and can be used for the proposed monitoring network. Parallel climate change indicators work is underway at the sanctuary (<http://farallones.noaa.gov/manage/climate/indicators.html>) and will help to inform development of the monitoring network. BAECCC is a consortium of over 30 federal, state, and local agencies, nonprofits, universities, and research institutions that facilitates collaboration and partnerships in the San Francisco Bay Area. A coordinated monitoring network would leverage these partnerships to provide information about ecosystem health to sanctuary and other regional managers and researchers.

Sanctuary Presents Climate Change Indicators at American Geophysical Union Conference

GFNMS staff presented talks about the sanctuary's Ocean Climate Indicators Project at the American Geophysical Union (AGU) 2012 Fall Meeting in San Francisco, CA, and at the Central and Northern California Ocean Observing System (CeNCOOS) regional meeting at Bodega Marine Laboratory. The indicators project is focused on developing a set of ocean climate indicators for the North-central California coastal region and incorporating those indicators into a monitoring plan. Feedback at both meetings was very positive, and potential additional indicator data sources were identified. The AGU Fall Meeting is the largest geophysical science conference in the world, with over 22,000 attendees in 2011, while CeNCOOS is a vital source of regionally-scaled oceanographic observations. Presenting talks at each meeting increased exposure of the project and allowed sanctuary staff to get important feedback from the scientific and management communities.

REDUCING WILDLIFE DISTURBANCE

Farallones Sanctuary Issues Permits for the Mavericks Invitational Surf Competition

In November Gulf of the Farallones National Marine Sanctuary (GFNMS) issued a permit authorizing use of 15 Motorized Personal Watercraft (MPWC) and the temporary installation of a buoy to mark the competitor pickup location for the MPWC shuttle during the Mavericks Invitational, an annual big-wave surf contest at Mavericks in Half Moon Bay. MPWC use is normally limited to certain designated zones because of their high potential impacts on seabirds, seals and other marine life. In the past the contest has attracted over 40,000 spectators to the beach and coastal bluffs at Pillar Point; however, as of the 2011-2012 season, spectators will no longer be allowed on the beach or bluffs but can view the contest remotely at a nearby viewing festival location in the Oceana Hotel parking lot. The contest is specific to the Mavericks surf break, within the Monterey Bay sanctuary, but is administered by Farallones. GFNMS has worked with the event organizers to protect sanctuary resources by the number of MPWC the event can use and the areas where they can operate.

Protecting Breeding Seabird Colonies

Seabird Protection Network

The Seabird Protection Network (SPN) is a program of the Gulf of the Farallones National Marine Sanctuary that reaches out to various groups who operate and recreate in areas near sensitive seabird habitats. It works to reduce human disturbance to seabird breeding colonies along the central California coast, and fosters an increase in local knowledge of sanctuary life and increased compliance with sanctuary over-flight and vessel approach restrictions that protect wildlife.

Seabird Protection Network Presents at 8th California Islands Symposium

Staff of the Seabird Protection Network was invited to participate in a joint presentation with Montrose Settlements Restoration Program at the 8th California Islands Symposium in Ventura, CA, October 23-25, 2012. The Montrose Settlements Restoration Program is developing the third Chapter of the Seabird Protection Network. Network staff provided a brief program summary and set the stage before staff of the Montrose Program provided an update on the developing Seabird Protection Network, Channel Islands Chapter. The symposium targets multi-disciplinary work on islands off the coast of California, including the Channel Islands and Farallon Islands, as well as islands off Baja California. Participation in meetings like the California Islands Symposium is valuable for staff to foster connections with local and regional partners at universities and resource management agencies, as well as with international representatives.

Seabird Protection Network Presents to Diverse Vessel and Pilots Groups

Seabird Protection Network (SPN) continued to reach out to diverse ocean user groups. This quarter staff presented to the Division 6 US Coast Auxiliary Flotilla 10. The Auxiliary conducts a variety of boating courses including safety and seamanship, navigation and search and rescue. In addition, the flotilla supports US Coast Guard patrol, escort and disaster response activities. The Seabird Protection Network informed the group on the impact of disturbance to seabird colonies along the coast. Auxiliary members and guests received posters and Seabird Aware Brochures. These presentations raise awareness of the impact boaters can have on sensitive seabird breeding colonies. With increased awareness, these boating instructors will teach and exercise greater stewardship in the region, thus amplifying the SPN message. In addition, 28 pilots at the Napa Pilots Association November 20th, and 30 pilots of the U.S. Coast Guard Air Auxiliary in Dublin, California on November 28th received information and materials on flying “seabird-safe.”

Protecting Whales, Other Marine Mammals

Shifting Vessel Traffic Lanes to Save Endangered Whales

This quarter the International Maritime Organization (IMO), which governs shipping worldwide, adopted three proposals deemed necessary to improve navigational safety and to reduce ship strikes on the approach to San Francisco Bay, the Santa Barbara Channel and the Ports of Los Angeles and Long Beach. Vessels in these areas also travel through NOAA's Cordell Bank, Gulf of the Farallones and Channel Islands marine sanctuaries where blue, humpback and fin whales feed and congregate. Whales are highly vulnerable to ship strikes, since many of their feeding and migration areas overlap with shipping lanes. In 2010 and 2012, at least five whales (two blue, one humpback, and two fin whales) were killed by confirmed or likely ship strikes in the San Francisco area and elsewhere off north-central California. Extending the lanes in the approach to San Francisco Bay is expected to reduce interactions between ships and whales.

EDUCATION & OUTREACH

Increasing Awareness of the Sanctuary

Public Programs

Leatherback Sea Turtle Soirée - Celebrating California's New State Marine Reptile!

As part of the Sanctuary Exploration Series, 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 captivating and inspiring Leatherback Sea Turtle. Over 200 people heard turtle expert Scott Benson, a NOAA marine ecologist with the Office of Protected Resources, talk about the latest research and conservation efforts for the leatherback sea turtle. Leatherbacks in this region face potential local extinction due to habitat degradation, poaching and fisheries interactions. The evening invited hands-on participation in multiple art forms such as printing turtle images, video and audio experiences, and a sea turtle exhibit. The power of bringing a diverse group of people together directly activates our "mirror neurons" which on this evening used the enormous appeal of the Leatherback Sea Turtle to inspire people to get involved or amplify their involvement in preserving the diversity and complexity of our natural world, especially the critically endangered leatherbacks.

Sanctuary Explorations Series

Stalking the Noc' and Looking for Leviathan – were two of the field explorations offered this quarter, in which 42 people participated. Stalk the Noc' was a plankton investigation aboard the schooner *Seaward*, with Call of the Sea, a nonprofit marine education group. Since local waters were recently aglow due to a bloom of bioluminescent *noctiluca*, a microscopic organism, the group plankton-towed for that species, and investigated the invertebrates within San Francisco Bay. Our whale watching trip brought volunteers into the sanctuary to experience the Gulf of the Farallones and we were treated by visit from marine mammals and native sea birds. The Sanctuary Explorations Program continues to inform and educate the public about the beauty of the Gulf of the Farallones while also connecting values and resources for future stewardship. The Sanctuary Exploration Series provides monthly opportunities for the public to connect with, and experience, their national marine sanctuaries. Building a strong public sanctuary constituency as well as inspiring ocean literacy and conservation through experiential learning is the goal for the series.

School Programs at the Farallones Marine Sanctuary Visitor Center

Twenty-two second graders from Lafayette Elementary School of San Francisco participated in the "Growing Up Underwater" program learning about marine life cycles through hands-on games and activities and presentations within the Visitor Center. Fifty fourth and fifth grade students from Grattan Elementary School of San Francisco sampled and identified plankton and learned about marine food chains in the "Pass the Plankton" program. The sanctuary Visitor Center promotes ocean literacy and provides standards-based interactive programs inside the center and in the field for kindergarten through eighth grades.

Farallones Sanctuary Programs Presented to Environmental Educators

Gulf of the Farallones education staff delivered two workshops at the Annual North American Association for Environmental Education (NAAEE) conference in Oakland California. One was on the White Shark Stewardship Project which not only teaches about this fascinating apex predator but joins citizens, boat operators, naturalists and sanctuary staff to protect the species. The other workshop provided many hands-on activities and video to teach about the complex issues of climate change and ocean acidification. Thirty educators participated in the workshops. Participation in national professional conferences provides sanctuary education staff with opportunities to share ideas and take away new thinking, with talented leaders from around the globe. Professional development is critical to support, guide and inspire passion for change.

Outreach to Divers about Farallones Marine Sanctuary

This fall communications staff contributed an article and photos on diving in Gulf of the Farallones National Marine Sanctuary to Alert Diver Magazine, with special cautions about diving amid the Farallones sanctuary's white shark population. Diving is an increasingly popular way of exploring our coastal waters, but special precautions must be taken to prevent close encounters of the "toothy" kind. The piece also advised divers to inform themselves about the State of California's restrictions on certain marine life 'hot spot' special closure zones per the California Marine Life Protection Act.

SharktoberFest Celebrates White Sharks of Gulf of the Farallones Sanctuary

On Saturday, October 13, the Farallones marine sanctuary sponsored its annual SharktoberFest to celebrate the seasonal return of our favorite apex predators --- white sharks --- to sanctuary waters. In addition to regular Visitor Center programs, the Sanctuary, and nonprofits SharkStewards and Marine Science Institute offered free programs including a mini "Cine Shark Film Fest, "Shark-i-Tecture 101" in which participants helped construct a life sized white shark model; plus games, crafts, temporary tats, and other family-friendly fun. Approximately 125 people attended. Courtesy of Marine Science Institute, a live young leopard shark put in a special appearance. White sharks have a vital role in maintaining marine ecosystem balance in the Farallones marine sanctuary. Raising public awareness of that fact, and of the challenges they face, is one of the goals of the sanctuary's education and resource protection efforts. Public programs that help individuals understand this can be effective conservation tools. See <http://farallones.noaa.gov/eco/sharks/sharks.html>.

Sanctuary Staff Help Equip Indonesian MPA Staff for Sustainable Tourism

Education staff represented the NOAA Office of National Marine Sanctuaries at the "Planning for Sustainable Tourism for Marine Protected Areas" training on the island of Sulawesi in Bitung, Indonesia for the MPA staff of the Bird's Head Seascape. The Bird's Head Seascape is the heart of the coral triangle off of Papua, Indonesia and 40 members of the MPA staff from the seascape, primarily from the Raja Ampat area participated in a six-day training as part of the International MPA Capacity Building Program.

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. This past quarter the visitor center served nearly 3,229 individuals for all its programs, both scheduled and drop-in visitors.

Crissy Field Visitor Center Special Programs include – Plankton and Pastries: Visitor Center staff offer this hands-on public program to 80 people to promote ocean literacy where participants net their own plankton for study in the tide station pier house. 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.

Three hundred sixty-five 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.

The popular weekend program Creature Feature is presented to people of all ages. Fisherman in the Classroom reaches middle-school students and teachers at the visitor center during the school term. This program highlights the maritime heritage of the San Francisco and Pillar Point fishing communities. Local fishing folk participated in the development of curriculum, and deliver the programs.

Method Acting or Emily Post? Students Learn Sea Survival Skills, Ocean Etiquette

Twenty-two second graders from Lafayette Elementary School of San Francisco participated in the "Growing Up Underwater" program learning about marine life cycles through hands-on games and activities and presentations within the Visitor Center. Fifty fourth- and fifth-grade students from Grattan Elementary School of San Francisco sampled and identified plankton and learned about marine food chains in the "Pass the Plankton, Please" program.

Fishermen & Sanctuary Educators Teach 250 High School Students

In November Gulf of the Farallones National Marine Sanctuary education staff teamed up with local fishermen to deliver programs to 250 students. The teaching team brought fishing gear, video, stories, recipes and activities to highlight the rich maritime fishing culture of the Central California Coast. Three schools participated in the highly engaging program, El Camino High School, South San Francisco, Lowell High School, San Francisco and Washington High School, San Francisco. 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.

Living by the Bounty of the Sea: A Fisherman's Life and Livelihood

On Thursday November 15th November the Farallones sanctuary presented "Fisherman in The Classroom" to 25 11th- and 12th- graders at Lick Wilmerding High School, San Francisco. Students were given a dynamic presentation by local fisherman Mike Hudson, using an industrial crab trap, salmon fishing gear, video and film illustrating life as a fisherman in the Central California Marine Sanctuaries.

Teacher Professional Development Workshops

Climate Change Workshop Series a Huge Success – Teachers Want More Training

Farallones Marine Sanctuary Association, in partnership with NOAA's Cordell Bank National Marine Sanctuary, San Francisco Bay National Estuarine Research Reserve and Romberg Tiburon Center, held a three-part teacher workshop series focusing on the impacts of climate change on our coast, ocean, and estuaries. Leading local scientists discussed their research and workshop organizers provided teachers with a range of classroom activities and action-based projects to engage their students. The series served 87 teachers who reported that the most valued outcomes of the series were "new knowledge", "access to current, ocean-based climate research", and they wanted more professional development opportunities. The National Marine Sanctuary Foundation's Hollings Ocean Awareness Trust Fund Grant funded the series. Professional development workshops teach educators about climate change and ocean acidification impacts on the ocean, and prepare them to integrate this new knowledge into their classroom curricula.

At-Your-School (AYS) Programs

AYS Sharkmobile, Seabird Shuttle and Crab Cab Hit the Road

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 which in 23 programs involved 721 students and 15 teachers; Crab Cab serving 912 students and 43 teachers in 33 programs; there were 13 Seabird Shuttle programs for 349 students and 13 teachers.

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. We also introduce new teachers from a diversity of communities to the national marine sanctuary program.

Limpets Student-Scientists Participate In International Science Conference

Posters are a common way for scientists to communicate their research at conferences and meetings. In December, LiMPETS students from the San Francisco Bay Area, including students and interns from the Branson School and the California Academy of Sciences, joined 22,000 scientists from around the world at the annual AGU (American Geophysical Union) meeting in San Francisco. Students received their badges and entered the enormous Moscone Center halls to present their own posters. Students were excited and proud to talk to professional scientists about their research questions, analyses and conclusions drawn from hard work and years of data collection. This final step in the scientific inquiry process is vital to the retention of knowledge for students. Communicating science and justifying proposed explanations can be highly motivational, inspiring students to achieve deeper levels of learning.

New Rocky Intertidal Field Guide: A Great New Tool For LiMPETS Network

The Farallones Marine Sanctuary Association, in partnership with the LiMPETS (Long-term Monitoring Program and Experiential Training for Students) Science Advisory Panel and all network partners developed a new LiMPETS Rocky Intertidal Field Guide. The guide will help to enhance and advance the education tools used by these citizen scientists throughout California. Annually, approximately 2500 students and community members will be using these field guide to help identify intertidal invertebrates and algae while conducting surveys. The guide's high quality and variety of will help reduce species misidentifications and errors and will make our students more confident in the quality of their scientific contributions. The guide is available on our LiMPETS website: http://limpetsmonitoring.org/ds_avenue.php >> click on "New Rocky Intertidal Field Guide 2012". The Friends of Fitzgerald Marine Reserve funded this project. Increasing the scientific quality and credibility of the LiMPETS dataset is one key goal in the program's strategic plan. The creation of a meaningful, long-term dataset will inspire our citizen scientists and help to identify trends along the shores of the California's national marine sanctuaries.

Media Outreach Highlights & News Clips

Quarterly Media/News Report will be posted to the website at a later date.

Operations

Farallones Marine Sanctuary Campus Gets Face Lift

In the area of Operations, the historic Farallones marine sanctuary headquarters campus – the former US Coast Guard Lifesaving Station – was recently repainted. The shining white walls, red roofs, and green trim make a very timely holiday present for staff and for all those in visual range of the buildings, including the many travelers on Highway 101/Doyle Drive. This is the first paint job in over twelve years, and will help to protect and preserve these unique architectural elements of the Presidio's cultural landscape.

***FARALLONES SANCTUARY FUTURE EVENTS 2013
CALENDAR***

January

- 1/24 Morning GF Sanctuary Advisory Council meeting/afternoon Cordell Bank joint meeting, Pt. Reyes
- 1/24 Scoping meeting on boundary expansion, evening, Bodega Bay Grange Hall
- 1/26 Our Changing Coast Lecture by GFNMS Carol Preston at SF Zoo

February

- 2/2 AmeriCorps Native Planting at Redwood Creek, Muir Beach
- 2/9 LiMPETS 101 Rocky Intertidal Workshop, Moss Beach
- 2/9 WAVES Teacher salmon teacher workshop, GFNMS
- 2/12 Scoping meeting on boundary expansion, Pt. Arena High School
- 2/13 Scoping meeting on boundary expansion, Gualala Community Center
- 2/15 Planktonica!, GFNMS
- 2/19-2/23 Pacific Seabird Group Conference, Portland, Oregon
- 2/20 Ocean Climate Summit, San Francisco Presidio
- 2/23 Sanctuary Explorations - Elephant Seal Tour, Point Reyes National Seashore

March

- 3/7-3/10 SF Ocean Film Festival, Theater of the Bay/Aquarium of the Bay
- 3/16 Sanctuary Explorations – Wooden Boat Tour, Sausalito
- 3/23 Sanctuary Soiree – ABBA!one!

April

- 4/19 Bolinas Lagoon Advisory Council Meeting, Bolinas / Stinson Beach
- 4/27 Monterey Bay NMS Sanctuary Currents Symposium, Seaside CA

May

- 5/22 GF Sanctuary Advisory Council meeting, San Francisco

August

- 8/21 GF Sanctuary Advisory Council, Half Moon Bay

October

- TBD SharktoberFest at GFNMS Headquarters and California Academy of Sciences NightLife
- TBD Sanctuary Explorations TBD



GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY STAFF

- Maria Brown, Superintendent: maria.brown@noaa.gov
- Brian Johnson, Deputy Superintendent: brian.johnson@noaa.gov
- Adam Contreras, IT Coordinator: adam.contreras@noaa.gov
- Benet Duncan, Ocean Climate Fellow: benet.duncan@noaa.gov

Carol Preston, Education & Outreach Coordinator: carol.a.preston@noaa.gov
Erica Warren, Visitor Center Instructor: ewarren@gmail.com
Jan Roletto, Research Coordinator: jan.roletto@noaa.gov
Justin Holl, Visitor Center Manager: justin.holl@noaa.gov
Karen Carlson, Boater Outreach Specialist: karen.carlson@noaa.gov
Karen Reyna, Resource Protection Coordinator: karen.reyna@noaa.gov
Kate Bimrose, Bolinas Lagoon Project Specialist: kate.bimrose@noaa.gov
Kelley Higgason, Climate Initiative Coordinator: kelley.higgason@noaa.gov
Leslie Abrahamson, Advisory Council Coordinator: leslie.abramson@noaa.gov
Mai Maheigan, Seabird Protection Network Outreach Specialist: mai.maheigan@noaa.gov
Mary Jane Schramm, Media & Public Outreach Specialist: maryjane.schramm@noaa.gov
Max Delaney, Resource Protection Specialist, max.delaney@noaa.gov
Peter Winch, Visitor Center Naturalist: pwinch@farallones.org
Rietta Hohman, Visitor Center Instructor: rietta.hohman@gmail.com
Sage Tezak, Seabird Protection Network Program Specialist: sage.tezak@noaa.gov
Taylor Nairn, Administrative Assistant: taylor.nairn@noaa.gov
Tim Reed, GIS Specialist: tim.reed@noaa.gov

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 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/SanctuaryAdvisoryCouncil.html>

CONTACT INFORMATION

Gulf of the Farallones National Marine Sanctuary
The Presidio, 991 Marine Drive
San Francisco, CA 94129
Phone: (415) 561-6622 (Staff Directory ext. 411)
Fax: (415) 561-6616
www.farallones.noaa.gov

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