

Superintendent's Quarterly Report

October through December, 2019

Farallones sanctuary releases coastal resilience sediment plan

The California Resources Agency has determined that nearly 80 percent of our coastline is actively eroding, threatening wildlife, reducing recreation opportunities, and damaging infrastructure. Causes include coastal development and armoring, as well as upstream water diversions and damming, which have reduced or altered the natural flow of sedimentation processes, impacting beaches and wetlands. Climate change and sea level rise further exacerbate the problem.

In November, 2019, NOAA's Greater Farallones National Marine Sanctuary released its Coastal Resilience Sediment Plan, a unique document that seeks to align and enhance planning efforts, coastal managers, and guidance documents across the region to achieve collaborative, holistic, and nature-based solutions to increase shoreline resilience. It provides a 50-year "road map" of strategies and recommendations for protecting and adapting shorelines of the north-central coast, including Greater Farallones National Marine Sanctuary's management areas.

The plan covers hazards such as severe storm surge, sea level rise, erosion, flooding, and human impacts. It identifies 29 focal locations for study and action. It incorporates nature-based techniques, such as living shorelines to restore and protect coastal habitats while increasing coastal resilience. Our approach is based on forming and strengthening partnerships, while prioritizing research, monitoring, and education. To help carry out the plan, the sanctuary founded the North-central California Coastal Sediment Coordination Committee, a group of 14 federal, state, and local agencies committed to collaborating on coastal resilience initiatives across the region. This new plan will enable coastal managers to anticipate areas of concern, focus resources and restoration projects, and ultimately build stronger and more resilient coastal communities.



Photo credit: Nat'l Park Service

MANAGEMENT

Sanctuary Advisory Council

The Sanctuary Advisory Council is an advising body to the sanctuary superintendent and provides recommendations for management strategies.

On November 13, 2019, Greater Farallones National Marine Sanctuary Advisory Council met at the San Francisco Zoo for their fourth quarterly meeting. The council heard a presentation from the sanctuary's San Francisco State University graduate student intern on outcomes and recommendations from the San Francisco Bay-Sanctuary Connections Symposium held during their 2019 retreat. They also heard from the zoo on its plans for strategic coastal connections including a new Ocean Conservation Zone; the council voted to support incorporating national marine sanctuary educational outreach through this proposed addition to the zoo park.

The council also received updates on the sanctuary's Ocean Climate Program and Coastal Resilience Sediment Plan, the Monterey Bay National Marine Sanctuary Management Plan, and the recent R/V *Nautilus* deep-sea cruise. They also heard from Olympic Coast National Marine Sanctuary superintendent Carol Bernthal (acting Cordell Bank National Marine Sanctuary superintendent) on tribal engagement at Olympic Coast, and reviewed their 2020 advisory council work. See <https://farallones.noaa.gov/manage/sac.html>

CONSERVATION SCIENCE

Monitoring To Understand Long-Term Trends

Beach Watch

Beach Watch is a collaborative effort of GFNMS and the Greater Farallones Association, which provides ongoing data collection to understand status and trends of sanctuary coastal resources, ecosystem health, and response to climate. Beach Watch provides valuable information to sanctuaries and partner agencies on a variety of management issues, including user compliance with state and federal laws, climate change, wildlife disturbance, and status and trends of coastal wildlife.

Beach Watch data contributes to major seabird mortality scientific paper

Beach Watch science staff co-authored a peer-reviewed paper, which was recently published in [PlosOne](#) (search for PONE-D-19-19863R1). The paper titled "Extreme mortality and reproductive failure of common murrelets resulting from the extreme northeast Pacific marine heatwave of 2014-2016." This paper reviews a 3-year mortality event of Common Murrelets throughout the eastern north Pacific, due to the marine heat waves 2014-2016. Baseline and event data were compiled by numerous research, management and academic institutions. This collaborative review determined that an estimated 0.54 to 1.2 million murrelets, from Alaska through southern CA, died from starvation. Most were of breeding age, thus indicating a severe event. The magnitude, duration, and spatial extent of this die-off, associated with multi-colony and multi-year reproductive failures, is unprecedented.

Long-term seabird monitoring and collaboration between seabird and fishery biologists revealed this was the largest climate-induced perturbation of North

Pacific pelagic food webs since the 1976 regime shift.

Farallones Beach Watch increases monitoring sites, graduates new corps of surveyors

Conservation Science staff graduated another class of new Beach Watch volunteers. Later this winter, 25 new volunteers will begin surveying 14 beaches, two of which are newly added to the survey program. Formal training ended last week, but the new volunteers will continue to receive about 30 more hours of field training through one-on-one mentorships by the Beach Watch staff. With this new class of volunteers, Beach Watch now surveys 59 beaches every two weeks, from Point Arena in Mendocino County to Point Año Nuevo in southern San Mateo County and the northern portion of Monterey Bay sanctuary. Surveys include documentation of coastal birds, mammals, human activities, oil pollution, entanglement, beach wrack deposition, beach erosion and deposition, and status of streams and lagoons contiguous with the ocean.

For more information on the sanctuary's Beach Watch program, visit

Or see the Greater Farallones Association website.



Jan Roletto, Research Coordinator, GFNMS shows new Beach Watch recruits how to identify dead marine mammals from bones and skulls provided by the California Academy of Sciences.



Demonstrating how to document a dead gull on a practice beach survey. Photo: Jan Roletto, GFNMS/GFA/Beach Watch



Association Research Associate Dru Devlin points out identifying characteristics of marine mammal parts. Credits: Taylor Nairn, GFNMS/GFA/Beach Watch

Sanctuary Ecosystem Assessment Surveys (SEAS, ACCESS Surveys)

ACCESS - Applied California Current Ecosystem Studies

ACCESS is a collaborative effort of Greater Farallones and Cordell Bank national marine sanctuaries (CBNMS), and Point Blue Conservation Science for ongoing data collection to understand status and trends of sanctuary resources, ecosystem health, and response to climate change. This long term monitoring addresses management information needs such as ocean acidification status and monitoring, harmful algal blooms, and fishing gear entanglements, ocean conditions and prey and predator distribution and abundance as indicators of ocean health.

E/V Nautilus benthic surveys in Cordell Bank, Greater Farallones Marine Sanctuaries

Scientists from Cordell Bank (CBNMS) and Great Farallones (GFNMS) National Marine Sanctuaries, California Academy of Science (CAS), Greater Farallones Association, US Geological Survey explored the sanctuary's seafloor with remotely operated vehicles during a joint mission on the E/V *Nautilus* October 3 to 11, 2019. The team completed four dives, two at Point Arena South (GFNMS), and Bodega and Box Canyons (CBNMS). We collected 54 samples including specimens of corals, sponges, other invertebrates, water and sediment samples. During poor weather the ship mapped 488 km² of seafloor along the Farallon Escarpment. There were 39 live interactive sessions with our partners at the Exploratorium, CAS, San Francisco Zoo, and numerous schools and other organizations from the Bay Area and across the nation, reaching over 1200 people. Video feeds were broadcast live online at nautiluslive.org and are archived on a [You Tube channel](#).

R/V *Nautilus* missions provide science data and products used for exhibits, web content, social media

content, management and policy, engages the public, and helps raise awareness of the sanctuaries.



Sanctuary science team: Guy Cochrane (USGS), Gary Davis (CAS), Jennifer Stock (CBNMS), Kaitlin Graiff (CBNMS and GFNMS), Sage Tezak (GFNMS-GFA), Jan Roletto (GFNMS) and Danielle Lipski (CBNMS).

RESOURCE PROTECTION

Adapting to a Changing Climate

Farallones presents at international climate change, MPA forum in Chile

Greater Farallones was invited to present on the relationships between marine protected areas (MPAs) and climate issues at the Global Climate Action in Marine Protected Areas panel hosted by Chile at COP25 (United Nation's 25 Conference of the Parties on Climate Change) in Madrid, Spain. The sanctuary discussed the role that marine protected areas play in addressing the conservation and restoration of blue carbon. Examples of current blue carbon restoration projects in wetlands, seagrass, beaches, and kelp were shown. The panel achieved information exchange between marine protected area managers in the United Kingdom, France, Chile, Costa Rica, and the United States and helped fulfill the commitments in the Memorandum of Agreement between the United States and Chile on marine protected area coordination.

Protecting Seabird Colonies

Seabird Protection Network partners with Aviators to Promote Responsible Tourism

On October 26, on an invitation from the Chief Pilot of the San Carlos Airport Flight Center, staff debuted a new presentation at Bay Flight 2019, a day-long aviation conference organized by the most active aviation school in the area. One hundred people attended, of whom thirty-five local pilots learned how to conduct a "seabird safe" bay tour to view the geology, wildlife, and oceanography of the Greater Farallones and Monterey Bay national marine sanctuaries in a manner that abides by federal laws and regulations that protect wildlife. All attendees received an informational flier detailing sensitive seabird colonies, and staff hosted a table to further interact with attendees including staff from the Federal Aviation Administration (FAA) and the National Transportation Safety Board (NTSB).

Promoting responsible tourism through relationships with leaders in the recreational aviation community is crucial to raising awareness of sensitive marine wildlife, NOAA Regulated Overflight Zones, and sanctuaries while allowing for compatible uses. The conference also strengthened relationships with agency partners from the FAA and NTSB.



A pilot from the Half Moon Bay Pilots Association points to a sensitive seabird area at Devil's Slide Rock in Pacifica, California. Credit: Paul Hobi

Protecting Marine Mammals

Marine Mammal Commission, sanctuaries meet on whale ship strike prevention

Marine Mammal Commission (MMC) staff met with Cordell Bank National Marine Sanctuary and Greater Farallones National Marine Sanctuary to discuss the sanctuaries' efforts to reduce ship strikes of whales and interest from the commission to share this work with the U.S. Committee on the Marine Transportation System ([CMTS](#)). In 2019, the MMC awarded the Greater Farallones Association a grant, to reduce ship strikes of whales through industry engagement.

The program demonstrates the sanctuaries' ability to work with the maritime industry in a positive way to increase the protection of whales in national marine sanctuaries.

Voluntary vessel speed reduction discussed at shipping meetings

On October 10, 2019, Greater Farallones, Cordell Bank and Channel Island national marine sanctuary staff attended the San Francisco Harbor Safety Committee (HSC) meeting in Richmond, California. They presented on California ship strike and voluntary Vessel Speed Reduction (VSR) efforts. Following that meeting, several participated in a round table discussion with the HSC Navigation Work Group members and invited shipping industry and other guests to provide feedback and recommendations on ways to increase awareness and cooperation with slow speed requests in California to reduce the risk of ship strikes on endangered whales.

The HSC of the San Francisco Bay Region and its work groups meet regularly to plan for and discuss the safe navigation and operation of tankers, barges, and other vessels within the region; comprised of representatives of the maritime industry, government agencies and other groups, the public meetings are a good venue for disseminating information and

updates about the sanctuaries' efforts to reduce lethal ship strikes of endangered whales via the voluntary speed reduction.



Farallones staff and members of the shipping industry, air district agency partners, and conservation research partners gather to discuss California voluntary VSR efforts.

Protecting Natural Habitats

Farallones sanctuary hosts inaugural sediment coordination committee meetings

A key element in the recently completed Coastal Resilience Sediment Plan (“plan”), developed by Greater Farallones National Marine Sanctuary (GFNMS) and Greater Farallones Association (GFA), is establishing a process for effective coordination between the relevant agencies that will be reviewing, and/or implementing these strategies. In tandem with the development of this plan, GFNMS has successfully worked with federal, state, and local agency partners, along the coast of Sonoma, Marin, San Francisco, and San Mateo counties, to launch a new interagency body called the North-central California Coastal Sediment Coordination Committee. The committee held its first two meetings, on November 18 and December 18 respectively, at the GFNMS campus in San Francisco. The committee intends to meet several times a year to provide collaborative recommendations on sediment management strategies, conduct outreach and education to local communities, pursue funding partnerships and

opportunities, and address other issues related to sediment management.

GFNMS is playing a key role in supporting the committee in its efforts to improve coastal resiliency through consensus-driven recommendations for regional sediment management.

EDUCATION

Inspiring an Ocean Conservation Ethic

Public Programs

Greater Farallones takes the plunge with deep-sea exploration “Ship to Shore” programs

Greater Farallones National Marine Sanctuary education and research staff participated in four Ship to Shore Programs for the general public during the October E/V *Nautilus* Cruise. Two programs were held at the California Academy of Sciences and two with the San Francisco Zoo. The 133 participants received a shore-side program that included a presentation about the importance of deep sea research, plus they participated in several mock dives. Then the audience was connected to the ship where they were able to have a live conversation with the research coordinator.

Providing large public forums to participate in real-time conservation science research shares the excitement and importance of discovering new habitats and marine life in our national marine sanctuaries with multiple communities.

Seaweed Soiree draws over 200 to Greater Farallones lecture series event

On November 16, 2019, 208 adults participated in the sanctuary science and arts seaweed lecture. Dr. Karina Nielsen, Director of Estuary Ocean Science Center and Professor of Biology at San Francisco State University presented the latest research on

seaweeds and kelp forests. Author and artist, Josie Iselin's fine art photography was on display, plus she imparted excerpts from her new book, *The Curious World of Seaweed*. Farallones Kelp Recovery Coordinator, Rietta Hohman closed the evening with a Q&A to discuss the efforts to address the decline of bull kelp forests along our coast. Reception activities included printmaking, seaweed science, tribal kelp basketry, new sustainable pasta and chip seaweed companies, a virtual dive to explore kelp forests, and in-depth discussions of seaweed and kelp forest biology and conservation.

Sanctuary Soirées are art- and science-filled evenings where a diverse group of adults gain a deeper appreciation for the marine life that inhabit our changing ocean, and learn how they can be part of efforts to protect our oceans.



Seaweed artwork by Josie Iselin: "Brown, Red and Green"

Get into Your Sanctuary: Recreation and Tourism

NOAA's Office of National Marine Sanctuaries (ONMS) Travel & Tourism Strategy directs sites to "enhance visibility of responsible recreation opportunities in national marine sanctuaries" as a driver for coastal economies.

Sanctuary Exploration Series

The Farallones Sanctuary Exploration Series provides monthly opportunities for the public to connect with, and experience, our national marine sanctuaries. Building a strong public sanctuary constituency as well as inspiring ocean literacy, conservation ethics and wildlife etiquette through experiential learning are the goals for the series. 100 people took part this quarter.

Off to sea on a sea life quest

Greater Farallones education staff partnered with the Oceanic Society to provide an opportunity for 40 Sanctuary Explorations participants to see the Farallon Islands and look for wildlife on October 20, 2019. The group encountered a gray whale, humpback whales, several mola molas (ocean sunfish), and many seabirds including common murre, cormorants, brown pelicans, black oystercatchers, and surf scoters. Participants learned about the natural history of whales, pinnipeds and seabirds along with the conservation efforts to protect these amazing species. In addition, they learned about good whale watching practices and etiquette.



Shark or sunfish? Mola molas, or ocean sunfish, swim with shark-like dorsal fin upright; these fish often lie on their sides at the surface, uprighting themselves when traveling or startled. Credit: Sara Heintzelman-NOAA/GFNMS.

Volunteers battle alien invaders, help restore dynamic Kent Island ecosystem

Greater Farallones staff partnered with Marin County Parks to provide an opportunity to help restore Bolinas Lagoon's Kent Island on October 5th. Fifteen Sanctuary Explorations participants enjoyed a morning bird walk with renowned ornithologist and marine biologist Peter Pyle. Sightings included a bald eagle, a northern harrier, a red-tailed hawk, and many shorebirds and seabirds. After a lunch break, the group got to work removing invasive ice plant that interferes with normal tidal flow.



"Mission Ice Plant Doom" team strikes fear among alien invader succulents on Kent Island, Bolinas Lagoon. Credit: Kate Bimrose/GFNMS

Paddlers experience glowing microscopic life in sanctuary adventure after dark

Greater Farallones National Marine Sanctuary education staff partnered with Point Reyes Outdoors to lead an evening bioluminescence kayak excursion on Saturday, October 26. Twenty-one Sanctuary Explorers experienced the eerie phenomenon of bioluminescence in the sheltered waters of Tomales Bay. Sanctuary Explorers launched their kayaks and enjoyed the sunset at the start of their paddle.

As the deepening dark set in after sunset, they watched as tiny plankton, called dinoflagellates, created their bioluminescent magic. The Sanctuary Explorers learned about the history, local animals, and the science behind bioluminescence while also learning basic paddling skills, water safety skills and very important wildlife viewing etiquette.



Setting out to track the stealthy bioluminescent dinoflagellate in Tomales Bay, GFNMS. Credit: Sara Heintzelman/GFNMS

Farallones Field Camps

Greater Farallones field-based camps provide children with direct experiences to connect with their national marine sanctuaries and increase their ocean literacy through exploration and discovery. The Farallones Fall Field Camp, an experiential outdoor program for youth, took place on November 25 and 26, 2019. A total of sixteen campers, ages 7 to 11, participated. The camp entailed 16 hours of marine science lessons on marine food webs and deep sea science! Students led aquaria feeding experiments, learned about animal foraging habits, explored plankton samples, investigated adaptations of deep sea animals and built frames for functional Remotely Operated Vehicles (ROVs).

The Farallones Winter Field Camp took place on January 2 and 3, 2020. Twenty-one campers, ages 8 to 12, participated. The camp entailed 16 hours of marine science lessons with a focus on sandy beach science and included a field trip to the Marin Headlands. Student investigated real scientific methods used to study sand crabs, learned about seaweed adaptations, conducted a beach-themed scavenger hunt, caught sight of dolphins and sea lions in the wild, and learned about the impacts of garbage on sea life during a mini beach clean-up.

Visitor Center

The Farallones sanctuary Visitor Center serves ocean enthusiasts of all ages, from the San Francisco Bay Area and all over the world. It is located in San Francisco's Presidio National Park in the Golden Gate National Recreation Area and welcomes drop-in visitors, offers structured programs for various ages and interests, and hosts special events. Visitor centers promote ocean literacy as well as other sanctuary education programs, through naturalists and exhibits.

School programs include plankton netting for view under a 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 adjacent Crissy Field.



GFNMS Visitor Center provides valuable science education to Bay Area students. Credit: Justin Holl/NOAAs

The visitor center educates diverse audiences through exhibits and hands-on activities. Here you can find a silky sea otter pelt, serrated shark's teeth, blue whale baleen, live local intertidal creatures, and informed staff and volunteers that help foster connections between the public and our neighboring sea. The center is free to the public and attracts families, tourists, and locals Wednesday through Sunday, 10 am to 4 pm. Special programs and workshops are also offered on a regular basis, to join or to sponsor as private events. This quarter 4,856 people stopped by to "explore" our sanctuary virtually. See <http://farallones.org/sanctuary-programs/>

Visitor Center Field Trips

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. Visitor Center field trips served 704 students this quarter.

Weekend Family Workshops

Weekend Family Workshops are held every month at Greater Farallones National Marine Sanctuary facilities. These programs foster connections within the sanctuary community and provide ocean education to children between ages four and ten. Family workshop programs are particularly engaging for young and curious ocean enthusiasts - and their parents - interested in learning about marine creatures. By providing thematic programs for family workshops at GFNMS facilities, we foster connections within the sanctuary community and provide ocean education to children between ages 4 to 10. This quarter 284 children and adults participated.

Families learn about their sanctuary in interactive marine-themed programs

The sanctuary education staff hosted three family programs in late September/early October on the Greater Farallones National Marine Sanctuary pier. A total of 86 kids and adults attended.

Deep-sea engineering technology was the theme of two private workshop-events September 22 and October 5, for 59 participants who learned about the importance of engineering in exploring the deep sea through Remotely Operated Vehicles (ROVs) Participants built their own ROVs with cameras attached and drove them off of the GFNMS pier, looking at the fish, crabs, and kelp living underneath.

On October 6, 37 attendees learned about squid physiology and compared it to human systems through a naturalist led dissection of squid. Participants were also led on a beach exploration learning about the important organisms that inhabit Crissy Field Beach.

Sand Crab, Squid and Crab Fishing Family Workshops engaged 70 participants on November 16; the families learned about the diversity of crabs and their anatomy by catching and releasing crabs off of the campus pier. The 36 participants also looked at shark diversity, focusing on the white shark by putting together a life-size wooden replica. Two family workshops November 11 and November 23 centered on two important organisms in our local marine food web. The first, with 14 attendees, learned about squid through a dissection of their anatomy. The second, with 20 attendees, monitored sand crabs on Crissy Beach and learned the importance of citizen science.

On December 7, families learned about crab anatomy and diversity by catching and releasing crabs off of the GFNMS pier. The participants then related the crabs to some of their major predators by interacting with specimens. The program ended with

a video analyzing white shark feeding behavior at the Farallon Islands. A second workshop on December 8 focused on salmon, an important local resource in the sanctuary. Participants learned about salmon life cycles, how humans impact salmon, and culminated in a naturalist-led dissection of a Coho salmon.

The education staff also hosted two private family programs on the pier in early December. A total of 35 kids and adults attended.

Fisherman in the Classroom

Fisherman in The Classroom Program works with urban high school students

On November 18, 2019, 60 students from Mission High School in San Francisco, met a local commercial fisherman who brought an industrial crab trap and salmon fishing gear to their classroom. The students learned about the lifestyles and challenges of being a fisherman in Central California. A Greater Farallones education specialist led the presentation with an introduction to the sanctuary system, and explained the importance of fishing communities to our west coast sanctuaries. Fishermen in The Classroom promotes the principles of ocean literacy, sustainable fishing practices, and the value of commercial fishing in sanctuary waters.

At Your School Programs

The At Your School (AYS) programs serve schools throughout the San Francisco Bay area and beyond, primarily during the school term. The AYS program has reached tens of thousands of students with programs such as the Crab Cab, Seabird Shuttle, Sharkmobile and Ocean Acidification. AYS is an outreach program of Greater Farallones 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 grade. A total of 430 students took part in AYS programs this quarter.

Oceans After School

Using the endless appeal of our local marine wildlife and habitats, the Sanctuary Education Team offers 18 hours of fun, hands-on, lively marine science learning in after-school programs that cover topics such as sharks, salmon, seabirds, whales, squid, and plankton. These enrichment programs are dynamic, interactive, and integrated into state standards. Sanctuary marine science educators deliver the programs during a nine-week window and primarily serve low-income, under-served students. One hundred forty two students completed the program this quarter.

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 become involved in real scientific investigations and become ocean stewards. It is a citizen science program that monitors the coastal ecosystems of California and helps youth develop a scientific understanding of the ocean. LiMPETS monitors the biology in rocky intertidal and sandy beach ecosystems and aims to provide publicly accessible, scientifically sound, long term data to inform marine resource management and the scientific community. The statewide LiMPETS network reaches over 6,000 students annually.

This quarter, 509 students and teachers from various schools and partners in the Bay Area carried out LiMPETS shore surveys. This included in-class trainings and individual monitoring events at different monitoring sites. For details on LiMPETS, see www.limpets.org

Communications/Media

Broader public understanding of ocean conservation's link to our collective welfare will garner support and appreciation of NOAA agencies' work through its various divisions: fisheries, marine sanctuaries, and others, often in partnerships with other agencies, non-governmental organizations, and private partners. Keeping the sanctuary's work in the public eye increases public appreciation and introduces opportunities for personal participation. These will help achieve our goals, enrich individuals' lives, and enhance the health of our planet.

National TV networks cover Farallones, Cordell, OET deep-sea explorations

Following a special media availability and tour of the research vessel E/V *Nautilus* October 3 at the Exploratorium dock in San Francisco, two major networks - ABC TV-7 and NBC TV-5 - helped the Northern California sanctuaries make a bigger splash with the launch of a deep sea expedition by Greater Farallones and Cordell Bank national marine sanctuaries, in partnership with Ocean Explorations Trust (OET). In addition to science and management applications, the coverage invited viewers to "go deep" through the expedition's 24/7 telepresence, and share in the excitement of discovery. The research and education team will help interpret throughout this exploration of some newly visited and some revisited benthic habitats off the Redwood Coast north of San Francisco.

Traditional media reaches broadly across populations, encompassing all cultures, all age levels, and a wide range of electronic media capabilities and skill levels, from Luddite to social and electronic media sophisticate.



Greater Farallones Science Coordinator Jan Roletto interviews with San Francisco network affiliate reporters (ABC-TV7, NBC-TV5). Credit: Justin Holl/GFNMS



2020 Calendar Updates

February

- 8 Sanctuary Explorations, Elephant Seals at Ano Nuevo; contact sheintzelman@farallones.org
- 19 Sanctuary Advisory Council meeting, Bodega Bay, CA

March

- 12-15 17th Annual Int'l Ocean Film Festival, co-sponsored; GFNMS will table on Sat., March 14. www.intloceanfilmfest.org
- 28 Sanctuary Explorations: Gray Whales, Half Moon Bay. Contact sheintzelman@farallones.org

April

- 4 Sanctuary Soiree; speaker TBD. Check GFNMS website for updates!
- 26 Wildflowers & Whales Walk: TBD, contact sheintzelman@farallones.org

May

- 21 Sanctuary Advisory Council meeting, Pt. Reyes

June

- TBD: Farallones Sanctuary Explorations, contact sheintzelman@farallones.org

July

- 30+ Get Into Your Sanctuary (GIYS) events, TBD.

August

- 1 Farallones Nature Cruise; contact sheintzelman@farallones.org
- 24 Sanctuary Advisory Council meeting, Half Moon Bay, CA

September

- 26 Sharktoberfest! At GFNMS campus. Watch for details on GFNMS website

November

- 19 Advisory Council meeting, San Francisco
- NOTE: Future advisory council meeting information is updated on the GFNMS website, <https://farallones.noaa.gov/manage/sac.html>*



Calendar - Ongoing Public Programs

Exploring Greater Farallones sanctuary!

Year-round, the Sanctuary Explorations Series provides monthly opportunities to connect with and experience the sanctuary and surrounding waters. Excursions include bioluminescence paddling, whale and wildlife cruises, coastal hikes and tide pooling. Join one of our seasonal programs!

Visit <http://farallones.noaa.gov/visit/exploration-program.html>

Greater Farallones Visitor Center

The Visitor Center in the San Francisco Presidio offers special Weekend Family Workshops about sharks, squid, salmon, octopuses, plankton, ROVs and sea otters! These programs can also be booked for your exclusive birthday parties or special event. To book programs for individuals, or special events, contact Justin.Holl@noaa.gov. Wednesdays through Sundays, 10 a.m. to 4 p.m., our VC naturalists can introduce you to our aquarium critters. Drop in!

Bolinas Lagoon/Kent Island Restoration Project

From April through October, volunteer teams remove invasive plants on Kent Island to restore native plants and wildlife in Bolinas Lagoon and free captured sediment that affects the flow of water. Friday and Saturday programs – free! Information: Kate Bimrose at kbimrose@farallones.org, or see <https://farallones.noaa.gov/eco/bolinas/kentisland.html>

Sanctuary Soirées

Sanctuary soirées are held twice yearly, and are sophisticated evenings celebrating science, art and culture. They feature top-of-the-line scientist presentations blended with arts, music and crafts for an adult (16+ yrs.) audience. These events are held each spring and late fall. Keep posted through our website at <http://farallones.noaa.gov/> and our nonprofit association at <http://farallones.org>

GET INVOLVED, AND STAY INFORMED!

Visit the Greater Farallones Association website for updates, details and registration for sanctuary expeditions: www.farallones.org, as well as the Association Facebook page. The Farallones sanctuary Facebook is also now up and running at [Facebook.com/the Farallones sanctuary](https://www.facebook.com/theFarallonesSanctuary).

To learn how you can become 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>.

Learn more about the Sanctuary Advisory Council: [http://Farallones.noaa.gov/manage/SanctuaryAdvisory Council.htm](http://Farallones.noaa.gov/manage/SanctuaryAdvisoryCouncil.htm)

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## Greater Farallones NMS Superintendent's Quarterly Report

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