

OLYMPIC COAST NATIONAL MARINE SANCTUARY

A Report for Sanctuary Advisory Council Members Reporting Period: MAR 8– APRIL 26, 2019

ABOUT THE SANCTUARY

Olympic Coast National Marine Sanctuary spans 3,188 square miles of marine waters off the rugged Olympic Peninsula coastline. The sanctuary extends 25 to 50 miles seaward, covering much of the continental shelf and several major submarine canyons.

The sanctuary protects a productive upwelling zone home to numerous marine mammal and seabird species, diverse populations of kelp and intertidal algae, and thriving invertebrate communities. The sanctuary is also rich in cultural resources, with over 150 documented historical shipwrecks and the vibrant contemporary cultures of the Makah, Quileute, and Hoh Indian Tribes and the Quinault Nation.

OFFICE REPORT

OLYMPIC COAST NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES

Organized by Olympic Coast National Marine Sanctuary (OCNMS) management priorities

Contents

| | |
|---|----|
| Treaty Trust Responsibilities | 1 |
| Collaborative And Coordinated Management | 1 |
| Conduct Collaborative Research, Assessments, And Monitoring To Inform Ecosystem-Based Management | 2 |
| Improve Ocean Literacy | 2 |
| Conserve Natural Resources In The Sanctuary | 6 |
| Understanding The Sanctuary's Cultural, Historical, And Socioeconomic Significance..... | 6 |
| Sanctuary Permitting..... | 7 |
| Learn About Your Sanctuary / Natural History | 8 |
| Regional / National Marine Sanctuary System News..... | 8 |
| Regional / National Marine Sanctuary Foundation News | 12 |
| Contact Information..... | 14 |

TREATY TRUST RESPONSIBILITIES

Native, indigenous, and tribal collaboration survey for National Marine Sanctuary System

Collaboration with tribal or indigenous cultures is an integral part of the management of our sanctuaries and monuments. To accomplish this, the Office of National Marine Sanctuaries Maritime Heritage Program is seeking to comprehensively identify our level of engagement with tribal and indigenous partners where we share the responsibility for preserving cultural heritage in our sites. The goal of this internal ONMS survey is to expand and enhance our recognition of the full spectrum of tangible and intangible underwater cultural heritage within our stewardship responsibility and implement effective management strategies to preserve them. Olympic Coast National Marine Sanctuary's experiences working with the Hoh, Makah, and Quileute tribes, and the Quinault Nation will be an important contribution to this effort.

COLLABORATIVE AND COORDINATED MANAGEMENT

Marine Discovery Center Partnership highlighted at Olympic Peninsula Nonprofit Alliance Leadership Conference

The Olympic Peninsula Nonprofit Alliance, a consortium of over 100 nonprofit organizations, held their Leadership Conference March 7 in Port Angeles, Washington, with a theme of Collaborating for Community Change. Foundations, governments, and individual donors at the local, regional and national level are focused more than ever on community impact and outcomes. Carol Bernthal, sanctuary superintendent, Melissa Williams, executive director, Feiro Marine Life Center, and Deborah Moriarty, Olympic Coast National Marine Sanctuary Foundation board member, provided a panel presentation on their efforts to collaboratively create a new marine discovery center in Port Angeles, building on the

theme of how organizations can work together to achieve more together than they can individually.

U.S. Coast Guard's Operation Jalopy targets risk of ocean dumping

On March 15, Captain Patrick McElligatt, USCG, reported to the Olympic Coast National Marine Sanctuary Advisory Council the results of a 13th Coast Guard District effort, code name Operation

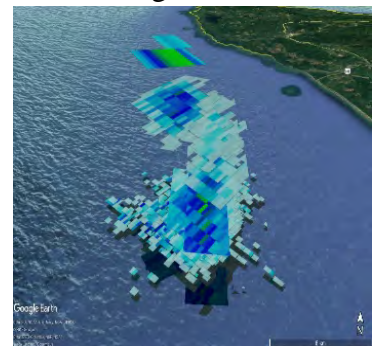


Jalopy that targeted the shipping of scrap metal in the Pacific Northwest. Between 2011 and 2017, Makah fishermen have pulled up multiple crushed cars in their trawl nets, within their treaty protected fishing area and in Olympic Coast National Marine Sanctuary. Based on information from recovered vehicles, the USCG in partnership with the Canadian government notified the suspected offenders of their liability related to dumping in both the United States and Canada. The USCG plans to continue monitoring the situation and will re-engage with industry if needed.

CONDUCT COLLABORATIVE RESEARCH, ASSESSMENTS, AND MONITORING TO INFORM ECOSYSTEM-BASED MANAGEMENT

Meteorite hunt to continue in Olympic Coast National Marine Sanctuary

In March 2018, a massive meteorite broke up and fell into the waters of Washington state's Olympic Coast National Marine Sanctuary (OCNMS). Dr. Marc Fries, NASA's Cosmic Dust Curator, has been using NOAA's NEXRAD weather radar system data since its inception to locate and model meteorite falls in the U.S. and calculate the resulting debris field using his sophisticated "dark flight model". Last summer's meteorite hunt with Ocean Exploration Trust on the E/V *Nautilus* recovered a 2mm sample of meteorite fusion crust. Dr. Fries is again working with colleagues to hunt meteorites in OCNMS, this time on the Schmidt Ocean Institute's R/V *Falkor*. During the 5-day cruise, planned for early June 2019, collaborators will investigate another portion of the debris field where numerous smaller fragments are likely concentrated and attempt to recover additional meteor fragments from the soft, silty seafloor using novel tools created expressly for this purpose by the R/V *Falkor*'s engineers. OCNMS' research coordinator will join colleagues on the cruise to promote OCNMS and contribute to the mission.



Washington Sea Grant fellow presents on ocean acidification sentinel site at International Global Ocean Acidification Observing Network Science Workshop

In a session on "Shaping the Global Ocean Acidification Observing Network (GOA-ON) to better meet the information needs of global-to-local decision makers," marine policy fellow Julie Ann Koehlinger gave a talk about the ongoing efforts to establish an ocean acidification (OA) sentinel site in Olympic Coast National Marine Sanctuary. The OA sentinel site working group is hard at work defining the vision, goals, and objectives for the sentinel site in anticipation of forming a steering committee to coordinate activities and distribute results.

IMPROVE OCEAN LITERACY

Olympic Coast National Marine Sanctuary attends 32nd annual Beachcombers Fun Fair

Olympic Coast National Marine Sanctuary (OCNMS) education team's AmeriCorps attended the

annual Beachcombers Fun Fair in Ocean Shores where they provided an educational booth. OCNMS featured the life size, inflatable, walk inside humpback whale “Big Mama” as well as general information about whales and humpbacks, the National Marine Sanctuary System, and the role marine protected areas play in ocean conservation. OCNMS also provided a presentation on whale acoustics with hands-on activities to twenty attendees at the festival.

Olympic Coast National Marine Sanctuary participates in Clallam County career fair



Olympic Coast National Marine Sanctuary education and outreach team hosted a booth at the Clallam County Job Fair in Port Angeles to recruit for the Environmental Education and Stewardship Specialist AmeriCorps Service position opening up for fall 2019 service as well as advertise other opportunities to get involved with the sanctuary and spread awareness about Olympic Coast National Marine Sanctuary. There were over 100 attendees at the event.

Student teams meet for competition prep and mission overview with underwater robots

On Saturday March 16, 2019, Olympic Coast National Marine Sanctuary hosted student teams and their mentors at a remotely operated vehicles (ROV) competition preparation and mission overview workshop. Thirty-eight students and 10 mentors shared ideas and creative solutions on manipulators, reviewed underwater challenges and props, and focused on posters with marketing presentations along with public speaking activities. Later, participants worked on motor builds and ROV testing and flying. Student teams are currently preparing for the 3rd Annual MATE (Marine Advanced Technology Education) Olympic Coast ROV Competition scheduled for Saturday May 18, 2019.



Students share data and action projects at the 27th Annual Nisqually Student GREEN Congress

Several hundred 5th - 8th grade students living in the Nisqually River Watershed met on Thursday March 21, 2019 for the 27th annual Student GREEN Congress held at the Evergreen State College in Olympia, Washington. Olympic Coast National Marine Sanctuary staff conducted a site visit at this Pacific Northwest Bay Watershed Education and Training (B-WET) funded event. Students shared water quality data collected from varying locations within the watershed, compared results to optimal data values for standard parameters, and students shared their assessment of collected data, along with the specific action projects that could be conducted to enhance the health of the whole watershed targeting specific locations.



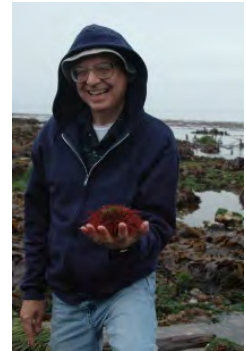
Olympic Coast National Marine Sanctuary education team leads evening program about Marine Debris



Olympic Coast National Marine Sanctuary education team’s AmeriCorps service members taught an evening program at NatureBridge for a group of teens from Burton High School in San Francisco, California. Thirteen students were immersed in a lesson about albatross and the direct impact that marine debris has on the species. Students listened to a short presentation, then got hands on experience dissecting albatross boluses collected from the Northwestern Hawaiian Islands. Students were encouraged to brainstorm stewardship ideas and get involved in their own community.

Olympic Coast National Marine Sanctuary joins regional tourism commission in honoring Olympic Peninsula volunteers

Each year the Olympic Peninsula Tourism Commission (OPTC) celebrates the invaluable contributions of our local volunteers. This year, Olympic Coast National Marine Sanctuary took the opportunity to recognize the much appreciated contributions of 15-year veteran docent and marine debris citizen scientist, Jim Jewell, at the annual OPTC Volunteer Appreciation luncheon. Jim is one of the original volunteers who attended the training program held prior to the Olympic Coast Discovery Center's opening in 2004. Over the years he has evolved into the lead naturalist during our guided docent's tide pool exploration and serves as a mentor to many of our new volunteers. He also contributed five years of marine debris data collection efforts for Olympic Coast.



Olympic Coast educators attend Seattle area high school Climate Day

Nathan Hale High School hosted a Climate Action Day and invited Olympic Coast National Marine Sanctuary education team to participate and host an ocean acidification workshop. Sanctuary educators ran three workshops throughout the day, interacting with about 75 high school students to provide an overview of the sanctuary, an introduction to ocean acidification with hands on experiments to learn about pH, and a discussion of changes we can make to our lives to lessen the impact of our carbon footprint.

Plankton, trees, and stars, oh my!

Olympic Coast National Marine Sanctuary education staff participated in Franklin Family Science Night, by exploring the underwater world of plankton using microscopes to allow students to see this microscopic world. Students drew their own plankton and engineered the slowest sinking plankton. Over 100 students and their families attended the event where over 20 local science organizations provided engaging activities, including local bird identification with the Audubon Center, tree-ring counting, and tree planting with the U.S. Forest Service and a StarLab experience looking at the local night sky with Port Angeles School District staff.



Understanding climate science and Next Generation Science Standards

Olympic Coast National Marine Sanctuary education staff attended a one-day workshop hosted by Washington State's Office of Superintendent of Public Instruction (OSPI) focused on Next Generation Science Standards (NGSS) and climate science. Geared towards informal educators, the workshop explored connections to climate science found in the NGSS while finding a deeper understanding of how informal education work connects to the crosscutting concepts found in the NGSS. Discussions around developmental appropriateness of environmental and sustainability education as well as social emotional learning around climate science increased the participants confidence in the informal educators role within NGSS implementation in partnership with formal education. The workshop also provided regional and statewide updates around climate science education funding and legislation.

Ocean careers showcased at Taholah youth career fair

On Wednesday April 10, Olympic Coast National Marine Sanctuary education staff interacted with approximately 100 high school and middle school students during the Taholah School career fair. Quinault Indian Nation (QIN), in partnership with Taholah School, organized the event to bring careers and work opportunities to students. Participating organizations included QIN departments, partner organizations, and local colleges. The career fair provided information on jobs and careers available to them after their education and offered the opportunity for students to engage with professionals to identify the desirable skills needed while understanding the importance of that job to their community and place.



NatureBridge hosts sanctuary educators to “dive” into Olympic Coast with visiting youth

Olympic Coast National Marine Sanctuary (OCNMS) education team’s AmeriCorps ran an evening program at Nature Bridge Olympic to introduce the organisms and food web interactions within the sanctuary. The 25 Montessori students from California and Texas immersed themselves in the habitats of the Olympic Coast viewing the Florian Graner film *Discover the Olympic Coast* while taking notes on specific organisms assigned to them. Following the film, students helped create a food web showcasing the animals of OCNMS. Students explored the importance of organisms at the base of the food web as well as brainstormed some ideas to help keep our oceans clean and food webs healthy.

Big Mama completes her 2018/19 tour of Olympic Peninsula school districts

Olympic Coast National Marine Sanctuary (OCNMS) education team’s AmeriCorps brought the “Sanctuary Splash” fifth grade curriculum to schools in many Olympic Peninsula school districts.

Focusing on humpback whales in Washington waters, Sanctuary Splash includes lessons introducing cetaceans, how whales vocalize, and the science of sound. This three-day program also allows students to explore cetacean anatomy via an inflatable life-sized, walk-inside replica of a local humpback whale: Big Mama. Students became “Whale Scientists” testing their skills with activities such as fluke identification and anatomy worksheets. Every fifth grade class, roughly 470 students, in the Port Angeles, Sequim, Cape Flattery, and Quileute Valley school districts participated. Some schools included multiple grades, allowing older and younger students to see just how big a humpback whale really is in comparison to people.



NatureBridge Olympic hosts sanctuary educators, introduce ocean careers to visiting high school

Olympic Coast National Marine Sanctuary (OCNMS) education team’s AmeriCorps ran an evening program at NatureBridge Olympic sharing information on the many careers involved in a marine conservation organization. Eleven high school students from central Washington learned about the careers and team-members at OCNMS through an overview of each career and team member, then played the OCNMS Ocean Careers Game. Teams picked an OCNMS research cruise to embark on while practicing the art of collaboration and compromise so each team member’s personal objectives were met, while experiencing the reality of the things you can’t control, like weather.

Quileute Tribal School hosts third annual Celebration of Science

Olympic Coast National Marine Sanctuary (OCNMS) education staff participated in the third annual Celebration of Science community festival at the Akalat community center in La Push on April 18, 2019. The carnival was coordinated by the Quileute Tribal School (QTS) science teachers and run by students of all ages. QTS students hosted dozens of different interactive science booths, including

remotely operated vehicles and a booth to explore viscosity and states of matter by playing with Oobleck. OCNMS provided the opportunity to engage in an albatross bolus dissection while discussing plastics in the ocean and its impacts to marine life. Approximately 100 students and their families attended the event.

CONSERVE NATURAL RESOURCES IN THE SANCTUARY

Washington state works with crab industry to reduce whale entanglements

Olympic Coast National Marine Sanctuary staff observed a workshop with Washington Department of Fish and Wildlife (WDFW) and the Coastal Dungeness Crab Fishery. The first of two workshops discussed the status of whale entanglements in the coastal Dungeness crab fishery, and reviewed potential new measures to avoid whale entanglements in crab gear.

Washington Coast Cleanup Earth Day event successfully removes debris from Olympic Coast

Sunny skies welcomed over 1000 volunteers to the beach in an effort to remove marine debris from Washington's coast. Volunteers removed tons of marine debris (with final numbers still being tallied) off 65 beaches from the Strait of Juan de Fuca and along Washington's coast from Cape Flattery to the Columbia River. All volunteers returned safely from the physical work of hauling hundreds of bags of garbage, boat parts, floats, rope, and plastic off our shorelines. Olympic Coast National Marine Sanctuary staff organized volunteers at the registration station on the Makah Tribe's Hobuck Beach, in Neah Bay. The sanctuary is a founding member of Washington CoastSavers, and contributes significantly to the organization's long range planning, funding, and event coordination.

UNDERSTANDING THE SANCTUARY'S CULTURAL, HISTORICAL, AND SOCIOECONOMIC SIGNIFICANCE

First Maritime National Heritage Area designated in Washington state

U.S. Congress members recently passed the Natural Resources Management Act, which includes formal designation of the Washington Maritime National Heritage Area (WMNHA), stretching along Washington's saltwater coastline from Grays Harbor County to the Canadian Border, including the coast line of Olympic Coast National Marine Sanctuary (sanctuary). The legislation is the result of years of work by advocates within the maritime community. The Washington Trust for Historic Preservation (WTHP) has been named as the local coordinating entity for the program. The sanctuary has reached out to WTHP providing information on our Maritime Heritage management efforts and offering to participate in the development of the management plan for the WMNHA.

Olympic Coast National Marine Sanctuary and Olympic Coast National Marine Sanctuary Foundation featured at Puget Sound Maritime Historical Society Gathering

Mark Ozias, Olympic Coast National Marine Sanctuary Foundation president, and Carol Bernthal, sanctuary superintendent, spoke to members of the Puget Sound Maritime Historical Society on the natural and cultural wonders of Olympic Coast National Marine Sanctuary plus the creation and focus of the Olympic Coast National Marine Sanctuary Foundation. Many people present had never heard of the sanctuary and were encouraged to hear about our efforts to protect both cultural and natural features.



Olympic Coast National Marine Sanctuary offers partner support to Feiro Marine Life Center

Olympic Coast National Marine Sanctuary (OCNMS) staff and Olympic Coast National Marine Sanctuary Foundation (OCNMSF) members joined community members at the annual Feiro Marine Life Center "Making Waves" fundraising event. The keynote

speaker focused the event on building enthusiasm and providing a project update for the Port Angeles Waterfront Center Art, Science & Culture campus. OCNMS, OCNMSF, and Feiro Marine Life Center have formed a partnership to develop a plan to build a premiere marine science and education venue for visitors and residents of the Olympic Peninsula and to increase recognition of Olympic Coast National Marine Sanctuary.

SANCTUARY PERMITTING

Issued Permits and Authorizations

OCNMS-2019-003 – Dr. Joseph Smith, Northwest Fisheries Science Center

Project Title: Salmon Ocean Behavior and Distribution (SOBaD)

Permitted Activity: The proposed deployment of a network of 101 stationary acoustic receivers for tagging up to 310 fish. Deployment of an autonomous underwater vehicle (Slocum Glider) that is integrated with two acoustic receivers.

Project Location: Approximately equally spaced 5 km grid pattern starting 1.5 km from shore along the coast of Washington within the Olympic Coast National Marine Sanctuary.

Permit Duration: April 19, 2019 through March 1, 2021

Comment: This ambitious project plans to identify the ocean distribution of salmonids using pop-up satellite tags (PSTs) and acoustic tag technologies. Our current understanding of the distribution of salmonids in the ocean is based on where and when we choose to sample. For this project, the applicant plans to use telemetry, making it possible to obtain fishery independent insights into individual behavior. A subset of tags will archive environmental data including the temperature, depth, and light intensity that the fish experiences allowing for the use of state space models to reconstruct the path and travel rate of fish. Improved understanding of listed species distributions, such as salmonids, will benefit efforts to conserve both salmonids and Southern Resident killer whales (SRKW) that prey on salmonids. The spatial and temporal overlap of SRKW and salmon affects the distribution and effort expended by foraging SRKW, thus affecting salmon survival.

Pending Permit Requests

OCNMS-2019-004 – Eric King, Schmidt Ocean Institute

Project Title: Seeking Space Rocks in Olympic Coast National Marine Sanctuary

Permitted Activity: Seafloor disturbance from use a remotely operated vehicle (ROV) by the R/V *Falkor* to search for meteorite material and explore the seafloor. The science team will be testing and utilizing novel sampling tools designed to sieve rocks from surface sediments and organisms on the ocean floor.

Project Location: Eleven priority search locations have been identified in the vicinity of 47.4 N and 126.7 W based on splash signatures in radar.

Project Duration: Proposed from June 2, 2019 through June 8, 2019

Comment: This is a follow up to last year's *Nautilus* cruise, which found a 2 mm meteorite fragment. If a meteorite is conclusively identified during this cruise, NASA will submit a record of the fall to the Meteorite Society's official database, along with a name selected by tribal members of Quinault Indian Nation.

OCNMS-2019-005 – Dr. Zoltan Szuts

Project Title: A Multi-Platform, High-Resolution Coastal Ocean Observing Sensor Array for Researching Washington Coastal Waters and Ecosystem Response to Climate Change

Permitted Activity: Seafloor disturbance and from the deployment, operation, and retrieval of

oceanographic moorings. Discharge of a small quantity of chemicals that serve as an antifoulant to one of the sensors deployed. This allows continued operation and maintenance of two oceanographic moorings. One mooring is a subsurface profiling mooring, and the other is a surface mooring with multiple subsurface sensors and an array of meteorological sensors.

Project Location: The moorings are located roughly 13 nm west-northwest of La Push in 100 m of water, nominally at 48° 58' N, 124° 57' W

Project Duration: May 1, 2019 through May 1, 2024

Comment: This permit authorizes the continued operation of the Cha'ba buoy which was originally deployed in 2009.

LEARN ABOUT YOUR SANCTUARY / NATURAL HISTORY

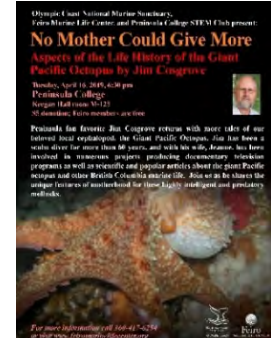
Olympic Coast National Marine Sanctuary co-hosts seabird monitoring presentation



In the March 2018-2019 Speaker Series, co-hosts Olympic Coast National Marine Sanctuary and Feiro Marine Life Center were pleased to introduce Vivian Pattison of Laskeek Bay Conservation Society and graduate student at the University of Victoria, British Columbia as the guest speaker. Vivian provided an in-depth presentation on the need for, and methods of, monitoring the life cycles, foraging behavior, and abundance of ancient murrelets. Approximately 30 Olympic Peninsula residents attended the informative event.

Olympic Coast National Marine Sanctuary co-hosts giant pacific octopus presentation

In April, Olympic Coast National Marine Sanctuary, Peninsula College's STEM Club, and Feiro Marine Life Center were pleased to welcome Dr. Jim Cosgrove, former the manager of the Natural History Section at the Royal British Columbia Museum and accomplished underwater photographer and videographer. Mr. Cosgrove has long been interested in the plants and animals of the ocean, particularly giant Pacific octopuses. He provided an overview of the species along with insights into the challenges and efforts required of female octopuses. Approximately 80 Olympic Peninsula residents attended the informative event held at Peninsula College.



REGIONAL / NATIONAL MARINE SANCTUARY SYSTEM NEWS

Participation in the First World Congress on Maritime Heritage 2019

<https://wcmh2019.com/> NOAA's Maritime Heritage Program staff participated in the First World Congress on Maritime Heritage, held in Singapore, March 13-15. The Congress brought diverse, global maritime constituent groups, institutions, and stakeholders for a unique opportunity to form new partnerships towards achieving a common objective: securing a sustainable future through better understanding of our common maritime heritage.

Legislative hearing from House Natural Resources - Subcommittee on Water, Oceans, and Wildlife

<https://naturalresources.house.gov/hearings/wow-legislative-hearing> Multiple bills - including

- ≡ H.R. 1326 preservation of America's outdoor heritage and enhanced recreation opportunities on Federal land. "ACCESS Act."
- ≡ H.R. 1809 amends the Pittman-Robertson Wildlife Restoration Act and the Dingell-Johnson

Federal Aid in Sport Fish Restoration Act.

- ≡ H.R. 737 prohibits sale of shark fins. “Shark Fin Sales Elimination Act of 2019.”
- ≡ H.R. 1305 Agreement on the Conservation of Albatrosses and Petrels. “Albatross and Petrel Conservation Act.”
- ≡ H.R. 1568 conservation of the North Atlantic right whale by supporting and providing financial resources conservation programs and projects. “SAVE Right Whales Act.”
- ≡ H.R. 877 amends the Pittman-Robertson Wildlife Restoration Act to modernize the funding of wildlife conservation. “Modernizing the Pittman-Robertson Fund for Tomorrow's Needs Act.”

NOAA initiates new sanctuary designation process in Lake Ontario

<https://www.noaa.gov/media-release/noaa-seeks-public-comment-on-proposed-lake-ontario-national-marine-sanctuary> On Wednesday, April 17, NOAA published a Notice of Intent (NOI) to conduct scoping process on the possibility of designating a national marine sanctuary in Lake Ontario. The proposed 1,700-square-mile sanctuary would protect 21 known shipwrecks and one military aircraft representing events spanning more than 200 years of our nation's history. With the publication of the NOI, NOAA opens a public comment period through July 31; during this time we will hold four public meetings.

Marine Protected Areas Agency Partnership (MPAAP) discusses international marine conservation and coordination

<https://marineprotectedareas.noaa.gov/nationalsystem/international/>

The Marine Protected Areas Agency Partnership (MPAAP), an international group of senior agency staff responsible for marine protected area programs, recently convened to discuss ongoing collaboration opportunities. Coordination of marine protected area science, conservation, and management by MPAAP provides scope for collaborative problem solving, sharing best practices from experience in MPA science and management, and facilitates collective contribution to marine conservation at a global scale.

New ONMS climate change webpages

<https://sanctuaries.noaa.gov/management/climate/> ONMS climate change webpages have been completely revamped: new content, images, and videos facilitate the communication of climate science, climate impacts to national marine sanctuaries, and how the public can get involved.

International MPA Capacity Building Team (IMPACT) supports Indonesia marine protected area study tour to West Coast sanctuaries

From Feb 23 to March 2, seven staff from Indonesia’s Ministry of Marine Affairs under USAID’s Sustainable Ecosystem Advanced (SEA) Project visited California to learn about its MPA network including partnerships, management, and governance processes. The group engaged with a variety of organizations involved in marine and coastal protection, management, monitoring, and community outreach/visitor services. They traveled to four national marine sanctuaries and several state managed sites. The sanctuaries shared experiences of partnerships in enforcement and monitoring between state and federal agencies, community engagement and outreach, sanctuary advisory councils, and fisheries management.

ONMS report to the Pacific Fishery Management Council

https://www.pcouncil.org/wp-content/uploads/2019/03/D1a_NMS_Rpt1_APR2019BB.pdf

The West Coast Regional Office (WCRO) of the Office of National Marine Sanctuaries (ONMS) has been enhancing coordination and collaboration with the Pacific Fishery Management Council (PFMC) and West Coast fishery managers by annually sharing an ONMS Coordination Report. The 23-page

report contributed by all six west coast national marine sanctuary units covered 2018 updates on: nominations, management plan reviews, ancillary management activities, climate change, habitat, research, and monitoring. The report led to a productive and promising discussion with PFMC members on proactively managing and protecting seamounts on the West Coast.

Desalination Report released by White House and incorporates MBNMS best practices

<https://www.whitehouse.gov/wp-content/uploads/2019/03/Coordinated-Strategic-Plan-to-Advance-Desalination-for-Enhanced-Water-Security-2019.pdf> The White House released the report “Coordinated Strategic Plan to Advance Desalination for Enhanced Water Security” written by the Desalination Science and Technology (DST) Task Force. Best practices (based on Monterey Bay National Marine Sanctuary desalination guidelines) are included in the final report. The report suggests priorities to advance technologies to reduce ecological impacts from desalination plants

Deployment starts sixth consecutive year of hypoxia monitoring at Cordell Bank

<https://sanctuaries.noaa.gov/news/aug17/monitoring-hypoxia-in-cordell-bank-national-marine-sanctuary.html>

Cordell Bank National Marine Sanctuary (CBNMS) in partnership with UC Davis Bodega Marine Laboratory (BML) successfully deployed a mooring outfitted with oceanographic instruments to monitor dissolved oxygen levels at Cordell Bank for the sixth consecutive year. Data from Cordell Bank are collected year round and provide information on seasonal conditions including hypoxic events.

Unusual incursions of gray whales into San Francisco Bay raising concerns

<https://www.kqed.org/news/11735068/there-are-a-lot-of-gray-whales-in-the-bay-area-and-that-has-experts-worried>

Greater Farallones National Marine Sanctuary staff are working with local scientists to track the unusually high number of gray whales sighted in San Francisco Bay, adjacent to the sanctuary, since mid-February. Two have died during their visits; one necropsy revealed extreme emaciation. Biologists have raised concerns that it could signal another Unusual Mortality Event similar to the one in 1999-2000, where an estimated quarter to a third of the whales died after shrinking Arctic ice greatly reduced this species' food supply.

National Geographic updates Farallones killer whale vs. white shark documentary

https://www.nature.com/articles/s41598-019-39356-2?fbclid=IwAR2CTbWITbuHumSnMvnZauN6y75A8ufOo2607fiGU_wQ3gzxpOWCK2Nf69I

On Tuesday, April 16, a new scientific paper was released on killer whale and white shark avoidance dynamics in Greater Farallones National Marine Sanctuary (GFNMS). National Geographic interviewed sanctuary communications staff about her 1997 witnessing of the attack by killer whales on a white shark in GFNMS to update the earlier documentary “The Whale that Ate Jaws,” which will air during Shark Week.

Rare tagging of two basking sharks in Santa Barbara Channel

On April 9th, 2019, two 15 foot long basking sharks (*Cetorhinus maximus*) were tagged by staff from Channel Islands National Marine Sanctuary (CINMS) working aboard the sanctuary's research vessel *Shearwater*. Staff also collected DNA from the sharks to add to an existing library of genetic sequences available. Previously only three basking sharks were known to have been tagged in the Northeast Pacific since NOAA Fisheries started a tagging effort in 2010. New information will help improve the limited understanding of movement and habitat use by this rare and vulnerable recovering population.

“Sanctuary Lecture Series” to feature doctor that exposed microbeads in personal care products

<http://www.wbkb11.com/sanctuary-lecture-series-to-feature-doctor-that-exposed-microbeads-in-the-great-lakes>

March 7, Thunder Bay National Marine Sanctuary welcomed Dr. Sherri Mason, a revolutionary in exposing plastic pollution in the Great Lakes. Dr. Mason lectured on her work in helping establish the Microbeads-Free Water Act that was signed into law in 2015, banning the manufacture and use of microbeads within personal care products. The law went into effect in July of 2018.

Mitigating scallop dredging impacts on historic shipwrecks

Deputy superintendent Ben Haskell and colleagues at the NMFS Greater Atlantic Region Fisheries Office developed a notice to scallop fishermen requesting voluntary avoidance of four historic shipwrecks and two modern wrecks at risk of damage during the Northern Gulf of Maine scalloping season. This is the second year of disclosing the location of historic sites to the scallop fleet in order to achieve increased protection. As scallop dredge marks are clearly visible in the side scan sonar imagery, a side scan survey of the six wrecks will be conducted both pre-fishery and post-fishery to determine if the fishermen complied with remaining 360 feet away from the wrecks.

Stetson long term monitoring reports published

https://sanctuaries.noaa.gov/science/conservation/conservation_reports.html. The 2016 and 2017 annual monitoring reports for Stetson Bank in Flower Gardens Bank National Marine Sanctuary are now published and available online in the NOAA Conservation Series. These reports document monitoring activities and techniques, in addition to preliminary results for each year on fish and benthic community data for all habitats at Stetson Bank.

Sanctuary developing Coral Restoration Strategy

On March 4, 2019, Florida Keys National Marine Sanctuary (FKNMS) opened discussions with experts from NOAA, the state of Florida, The Nature Conservancy, and restoration practitioners to develop an FKNMS Coral Restoration Strategy. Demonstration sites will be identified for focusing restoration efforts along with restoration targets, a strategy for species and habitats, monitoring and evaluation, and stewardship and maintenance.

Gray's Reef National Marine Sanctuary's communications and public outreach coordinator attended the first-ever Coastal Georgia Tourism Conference

The first Coastal Georgia Tourism Conference was convened by MAREX/Georgia Sea Grant with substantial support from the Georgia Department of Economic Development's tourism office "Explore Georgia." Eighty attendees heard presentations and participated in break-out sessions to explore complex facets of balancing tourism in Georgia with conservation of coastal resources. Discussions included funding opportunities and advancing responsible recreational fishing and diving at Gray's Reef National Marine Sanctuary. Tourism is up in Savannah again this year. Savannah's tourism industry brings in more than \$3 billion/year to the Georgia economy.

Strategy for Polystyrene Ban

National Marine Sanctuary of American Samoa (NMSAS) continued to lend support to the territory's ongoing polystyrene ban initiative at the most recent working group meeting of local and federal partners. In an effort to localize this issue and make it relatable, outreach materials, meant to build support among village communities, featured NMSAS's data on the amount of polystyrene found at two sanctuary management areas. NMSAS's representative maintained an emphasis on the harmful marine impacts of polystyrene and suggested information on American Samoa's marine food sources will build a stronger case for impacts on the ocean.

PMNM is captured by the Smithsonian Institution’s National Museum of Natural History

On February 25, interviews of Papahānaumokuākea National Marine Monument (PMNM) deputy superintendent and native Hawaiian program specialist were videotaped by the Smithsonian Institution to be included in an exhibit about PMNM. The exhibit weaves the natural and cultural genealogies together with the message that we are all connected to nature and our existence depends on it. The video display will go live in the National Museum of Natural History on the National Mall in June 2019.

PMNM scientists and interns publish paper on 3D modeling of coral reef habitats

<https://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XLII-2-W10/61/2019/> On April 18, the International Society for Photogrammetry and Remote Sensing published the peer-reviewed article, “3D Habitat Complexity of Coral Reefs in the Northwestern Hawaiian Islands is Driven by Coral Assemblage Structure.” Until recently, the field of coral reef ecology lacked practical technology capable of quantifying the complex three-dimensional structure of aquatic habitats. Structure-from-Motion (SfM) 3D photogrammetry is now being incorporated into Papahānaumokuākea National Marine Monument’s coral reef monitoring and mesophotic coral ecosystem characterizations.

HIHWNMS collaborative research efforts to be featured on PBS show, “Changing Seas”

From March 4 to 10, a film crew from the PBS production “Changing Seas” joined Hawaiian Islands Humpback Whale National Marine Sanctuary (HIHWNMS) research coordinator and University of Hawai’i, Hilo collaborator onboard the sanctuary vessel *Koholā* to document active research projects being conducted on humpback whales in Hawai’i. Researchers are increasing suction cup tagging efforts to understand fine-scale behavior of humpback whales, understanding the function of humpback whale songs, and acoustic characteristics of an individual’s song, body size, and their testosterone levels to determine if song can be an honest indicator of a male’s fitness.

2019 Get into Your Sanctuary Day(s) and photo contest system wide dates

This year, NOAA's Office of National Marine Sanctuaries is hosting its fifth national "Get into Your Sanctuary" celebration to raise awareness about the value of our national marine sanctuaries as iconic destinations for responsible recreation through a series of special activities.

- ≡ 2019 GIYS: August 2-4, 2019 <https://sanctuaries.noaa.gov/visit/giys.html>
- ≡ 2019 Photo contest: Memorial Day (May 27) - Labor Day (Sept 2)
<https://sanctuaries.noaa.gov/photo-contest.html>

REGIONAL / NATIONAL MARINE SANCTUARY FOUNDATION NEWS

Recreational fishing funding opportunity information now online

<https://www.greateratlantic.fisheries.noaa.gov/mediacenter/2019/04/01RecFishProjectFunding.html>

The National Marine Sanctuary Foundation's new funding opportunity for education, outreach, and conservation programs related to recreational fishing in the sanctuary is now online and being distributed via the web, email, and social media outlets. NMFS-GARFO (Greater Atlantic Regional Office) is helping to widely promote the program.

Admiral Gallaudet scuba dives with high school students (Mallows-Potomac River)

The Admiral and NOAA Dive buddy Joe Hoyt suited up in full scuba gear to join 20 students from Lackey High School and the incredible team from National Association of Black Scuba Divers/Diving with a Purpose. This partnership activity, now in its second year, combines Office of National Marine Sanctuary’s Diversity and Inclusion and Ocean Guardian programs to introduce students to marine-related education and career opportunities, as well as local history and community heritage. To date,

approximately 800 students have participated in classroom sessions and have gained scuba experience in the pool.

Recapping the National Marine Sanctuary Foundation’s 2019 Capitol Hill Fly-In

<https://marinesanctuary.org/blog/recapping-the-national-marine-sanctuary-foundations-2019-capitol-hill-fly-in/>. On March 5, 6, and 7, 2019, the National Marine Sanctuary Foundation (Foundation) and community members from across the National Marine Sanctuary System participated in the Foundation’s 3rd annual Capitol Hill Fly-in. The Foundation and participants met with Members of Congress and their staff to request increased investment in marine sanctuaries and marine national monuments to support a healthy ocean. The Foundation’s Capitol Hill Fly-In brings sanctuary constituents from across the country to Washington, D.C. to advocate for America’s national marine sanctuaries to their elected representatives and staff.

National Marine Sanctuary Foundation Announces 17th Annual Ocean Awards Gala Honorees

<https://marinesanctuary.org/news/national-marine-sanctuary-foundation-announces-17th-annual-ocean-awards-gala-honorees/>. The National Marine Sanctuary Foundation announces its 2019 Ocean Awards Gala honorees: Dr. Nancy Knowlton, the Walton Family Foundation, and Ms. Francesca Koe. The National Marine Sanctuary Foundation will honor our nation’s ocean champions at the Ocean Awards Gala on June 4, 2019 at the Ronald Reagan Building and International Trade Center in Washington, D.C.

National Marine Sanctuary Foundation and Au Naturale Cosmetics announce Earth Month partnership

<https://marinesanctuary.org/news/au-naturale-cosmetics-announcement/>. Today, the National Marine Sanctuary Foundation and Au Naturale Cosmetics announce a new partnership. Ten percent of proceeds from Au Naturale Cosmetics’ Living Coral Collection will help the Foundation support conservation, education, and community engagement in America’s National Marine Sanctuary System, a network of 14 protected sites spanning from American Samoa to the Florida Keys, and from the Gulf of Mexico to the Great Lakes.

OCNMS Online

Visit our website at: <http://olympiccoast.noaa.gov/>.

Follow us on Facebook and Twitter!

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Please take a few moments to peruse the site. Your feedback is greatly appreciated.

Comments and suggestions can be sent to:
jacqueline.laverdure@noaa.gov.

Ocean-Related Websites

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| National Oceanic and Atmospheric Administration http://www.noaa.gov/ | National Data Buoy Center http://www.ndbc.noaa.gov/rmd.shtml | Washington’s Ocean Resources http://www.ecy.wa.gov/programs/sea/ocean/index.html |
| National Ocean Service http://oceanservice.noaa.gov/ | NOAA Pacific Marine Environmental Laboratory http://www.pmel.noaa.gov/ | Northwest Association of Networked Ocean Observing Systems http://www.nanoos.org/ |
| Office of National Marine Sanctuaries http://sanctuaries.noaa.gov/ | CoastWatch – West Coast Regional Node http://coastwatch.pfel.noaa.gov/ | NOAA Online Media Library http://sanctuaries.noaa.gov/photos |
| NOAA Ocean Explorer http://oceanexplorer.noaa.gov/ | NOAA Marine Debris Program http://marinedebris.noaa.gov/ | Encyclopedia of National Marine Sanctuaries http://www8.nos.noaa.gov/onms/park/ |

OLYMPIC COAST NATIONAL MARINE SANCTUARY

OCNMS STAFF

LEARN MORE ABOUT YOUR SANCTUARY

The Sanctuary Office Report is produced bi-monthly by Olympic Coast National Marine Sanctuary in conjunction with sanctuary advisory council meetings. To learn more about the sanctuary, please visit our website at:

<http://olympiccoast.noaa.gov/>.

To learn more about the sanctuary advisory council, please visit:

http://olympiccoast.noaa.gov/involved/sac/sac_welcome.html.

OFFICE OF NATIONAL MARINE SANCTUARIES (ONMS)

Olympic Coast National Marine Sanctuary is one of the marine protected areas in the National Marine Sanctuary System encompassing more than 600,000 square miles of marine and Great Lakes waters from Washington State to the Florida Keys and from Lake Huron to American Samoa. The system includes 13 national marine sanctuaries and Papahānaumokuākea and Rose Atoll marine national monuments. Visit the ONMS website at:

<http://sanctuaries.noaa.gov/>.

Get Involved!

To learn how to get involved in the sanctuary visit:

<http://olympiccoast.noaa.gov/involved/welcome.html>.

Carol Bernthal – Superintendent

George Galasso – Deputy Superintendent for Policy & Programs

Kevin Grant – Deputy Superintendent for Operations & Administration

Alisha Friel – NOAA Corps Officer, Vessel Operations Coordinator

Jenny Waddell – Research Coordinator

Kathy Hough – Survey Technician

Chris Butler-Minor – Community Engagement Specialist

Jacqueline Laverdure – Education & Outreach Coordinator

Nicole Harris – Education Specialist

Robert Rountree – Visitor Services Specialist

Carey Floyd – Graphic & Web Designer

Eric Evans – IT Consultant

CONTACT INFORMATION

Olympic Coast National Marine Sanctuary

115 East Railroad Ave., Suite 301

Port Angeles, WA 98362

Phone (360) 406-2074

Fax (360) 457-8496



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