



OLYMPIC COAST NATIONAL MARINE SANCTUARY

A Report for Sanctuary Advisory Council Members Reporting Period: NOV 8, 2018- MAR 7, 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

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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

NOAA, recreation industry to strengthen sustainable fishing and boating in federal waters

NOAA's Office of National Marine Sanctuaries, NOAA Fisheries, the National Marine Manufacturers Association, the American Sportfishing Association, the Association of Fish and Wildlife Agencies, and the Recreational Boating and Fishing Foundation have entered into a formal agreement (Memorandum of Agreement or MOA). The purpose of this MOA is to develop and expand a framework of cooperation among the participating parties for planning and implementing mutually beneficial projects and activities to promote sustainable recreational fishing and boating conducted within federal marine

waters, including national marine sanctuaries. It is intended to help communities realize greater social and economic benefits from sustainable recreational fishing and boating and inspire momentum for a healthy ocean.

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

Sanctuary deploys “SoundTraps” to characterize soundscapes

Staff from Olympic Coast and Channel Islands national marine sanctuaries took advantage of a rare winter weather window to deploy three of four acoustic monitoring devices called “SoundTraps” that will be moored in the sanctuary to record underwater sound over a three year period. The project, which is part of a larger partnership between the Office of National Marine Sanctuaries and the U.S. Navy, will help characterize both human and natural sound sources that may be present throughout the year, including engine noise from shipping and coastal recreation activities, as well as storms, winds, waves, and organisms. A fourth SoundTrap will be deployed at Cape Elizabeth later this spring. SoundTraps deployed at OCNMS will be recovered and redeployed every ~6 months for the duration of the project in order to better understand how sound sources vary over time and space. In addition to providing new data about sound in the sanctuary, the project aims to build capacity within sanctuaries for monitoring sound levels over time and considering the acoustic environment during permitting and management planning.

IMPROVE OCEAN LITERACY

Newcomers’ to Olympic Peninsula dive into ocean conservation

On Tuesday November 6, the Olympic Newcomers’ Club hosted Olympic Coast National Marine Sanctuary education staff as their guest speaker for their monthly meeting. Olympic Newcomers’ is a friendship club designed to give men and women the opportunity to meet and develop friendships with others who live in the area. Seventy-six members attended the monthly event sharing lunch and an informational presentation on local areas and opportunities. Sanctuary staff provided an overview of national marine sanctuaries and Olympic Coast, highlighting this amazing backyard treasure as a recreation and inspiration destination. Our changing ocean and the potential impacts to our ocean environment, as well as current research and events were shared, including opportunities for the new community members to get involved in local ocean conservation through volunteering.

Soroptomist International Port Angeles focus on killer whales for November meeting

Olympic Coast National Marine Sanctuary education staff presented to 15 members of the Soroptomist International Port Angeles at their monthly meeting on November 8, 2018. The Olympic Study Club, an active club on the peninsula since 1921, dove into the habitats and organisms of Olympic Coast with an added emphasis on Southern Resident Killer Whales and the multifaceted approach to protecting this iconic and beloved species. The club hosts sanctuary staff annually in order to stay connected and up to date on the state of our ocean’s health.

Pacific Northwest provides information on new funding opportunity

Pacific Northwest Watershed Education and Training (PNW B-WET) provided an informational webinar for 15 potential applicants to learn more about the 2019 PNW B-WET grant opportunity that provides funds to support meaningful watershed educational experiences for students and related professional development for teachers that demonstrate a connection to the ocean environment through

the watershed system. This year’s priorities focus on the issues of ocean acidification and hypoxia and serving underserved and underrepresented audiences. The full FY2019 Federal Funding Opportunity (FFO) can be found at Grants.gov under funding opportunity number NOAA-NOS-ONMS-2019-2005862.

Sanctuary Splash programming reaches northern coast schools

In early December 2018, Olympic Coast National Marine Sanctuary education team AmeriCorps brought Sanctuary Splash to both Clallam Bay and Neah Bay elementary students. A total of 41 fifth graders received the 2-day program with an additional 200 students from K-4th grades getting to “visit” Big Mama. Fifth grade students receive an intro lesson about Olympic Coast National Marine Sanctuary and humpback whales, as well as a lesson about underwater acoustics and vocalization of cetaceans in addition to the anatomical tours of the life size replica of Big Mama the Humpback.



Family Discover Science Weekend at Seattle Aquarium draws thousands interested in ocean conservation and marine science

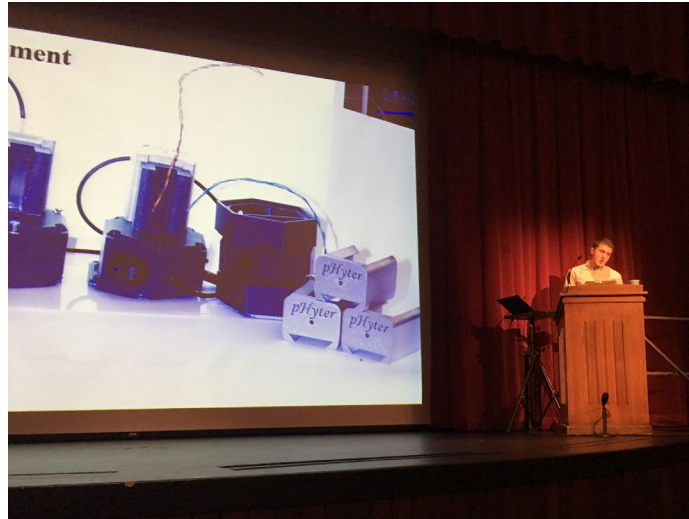
Olympic Coast National Marine Sanctuary education team AmeriCorps members hosted an educational booth as part of the annual Family Discover Science Weekend at Seattle Aquarium November 10-11, 2018. NOAA educators and scientists, conservation groups, and aquarium researchers offered families an opportunity to discover science together through exciting interactive experiments and presentations. Over 6,000 visitors took advantage of the education and information provided over the weekend. In addition to providing outreach around the amazing marine protected area off Washington’s coast, the sanctuary helped visitors hone their whale researcher skills with a mock whale fluke ID challenge that focused on the presence of humpback whales in our sanctuary waters.



The next generation of Ocean Acidification monitoring

On January 3, 2019, Peninsula College STEM (Science Technology Engineering and Math) Club and Studium Generale hosted Dr. David Long and his student William Pardis for a presentation on Ocean Acidification (OA) monitoring and their newly developed tool the pHyter. Approximately 50 Peninsula College students and community members attended the event where David and William talked about engaging the next generation in science, the process of developing the pHyter tool, and their growing

partnership with Sunburst Sensors. Following the Peninsula College presentation, the pHyter developers traveled to La Push, Washington and Olympic Coast National Marine Sanctuary where they met with students at the Quileute Tribal School to conduct hands-on water chemistry testing with the group that has helped to pilot the OA pHyter-plankton monitoring project. Olympic Coast National Marine Sanctuary staff were scheduled to co-present on the project but were not able to due to being on furlough during the lapse in funding appropriations.



Sanctuary opportunities for Environmental Career Fair at University of Washington



Olympic Coast National Marine Sanctuary (OCNMS) AmeriCorps members represented the sanctuary and NOAA Corps as one of several regional organizations invited to attend University of Washington’s Environmental Career Fair. Organized by the University of Washington’s College of the Environment, students ranging from all levels of higher education came through the Mary Gates Hall interested in making connections that could lead to volunteer experiences, internships, and career-level positions. The OCNMS AmeriCorps team interacted with more than 300 students looking for information about sanctuary careers, possible internships, and skills that benefit a career in ocean conservation.

Olympic Coast National Marine Sanctuary participates in partner program teacher professional development

NOAA’s Olympic Coast National Marine Sanctuary (OCNMS) education team participated in a teacher professional development workshop for the B-WET (Bay Watershed Education and Training) funded N.O.W. (North Olympic Watershed) Science Peabody Creek field trip program in conjunction with Feiro Marine Life Center, Olympic National Park, and Dungeness River Audubon Center. Teachers were led through the field investigation portion of the program as well as the complementary classroom lessons that students receive before and after the field trip to better understand the full connection of watershed to ocean. OCNMS educators oriented the teachers to the post-field investigation ocean

acidification lesson as well as a brief introduction to the National Marine Sanctuary System and Olympic Coast and its connection to the Peabody Creek watershed.

CONSERVE NATURAL RESOURCES IN THE SANCTUARY

Northwest Area Committee meets to discuss oil spill planning

The mission of the Region 10 Regional Response Team (RRT) and the Northwest Area Committee (NWAC) is to protect public health and safety and the environment by ensuring coordinated, efficient, and effective support of the federal, state, tribal, local, and international responses to significant oil and hazardous substance incidents within the Pacific Northwest Region. At the recent RRT/NWAC's annual summit, improvements to the Northwest Area Contingency Plan (NWACP) were discussed and attendees provided feedback on potential topics to be addressed in 2019. An Olympic Coast National Marine Sanctuary representative advocated for task forces to review the most recent science on the use of dispersants, the results of an ongoing Endangered Species Act consultation, and tribal engagement strategies; all which support sanctuary priorities. Recommendations of these work groups will focus on improvements to the NWACP.

Puget Sound Harbor Safety Committee adds a Standard of Care for Olympic Coast National Marine Sanctuary

Puget Sound Harbor Safety Committee (PSHSC) recently updated their Harbor Safety Plan to include a standard of care (SOC) for the Olympic Coast National Marine Sanctuary (OCNMS) and Area to be Avoided (ATBA). The PSHSC was created in 1997 by stakeholders with an interest in promoting safety and the protection of Puget Sound, and other navigable waters of Northwest Washington. The goal of the Puget Sound Harbor Safety Plan is to enhance marine safety and environmental stewardship via risk based decision making. First published and distributed early in 2002, the plan was intended to provide information, guidelines, and Standards of Care for marine operations in Puget Sound and adjacent waters. This action was one of the Sanctuary Advisory Committee's Vessel Incident's Working Group's 2017 recommendations, and informs mariners that the loss of a vessel in the sanctuary is prohibited and can result in civil penalties. The SOC also references the ATBA, which was designated to help prevent oil spills.

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

Sanctuary training on Maritime Cultural Landscapes

Acting Office of National Marine Sanctuary (ONMS) Maritime Heritage Program Coordinator, Hans Van Tilburg provided training on Maritime Cultural Landscapes to Olympic Coast National Marine Sanctuary staff. A Maritime Cultural Landscape Approach allows consideration of not just archaeological resources, but such factors as a site's intangible cultural resources, which might include past uses, regional culture, and a sense of human "place." Thus, many traditional practices, such as fishing, traditional plant knowledge, historic navigation aids, lifesaving stations, and many other things, combine to give a community or region a unique character. While these factors are not tangible resources to be managed in a typical way, they are features that can be incorporated into outreach, allowing us to better engage local communities.

SANCTUARY PERMITTING

Issued Permits and Authorizations

OCNMS-2019-001 – Carol Bernthal, Sanctuary Superintendent

Project Title: Olympic Coast National Marine Sanctuary Superintendent's Permit

Permitted Activity: NOAA Office of National Marine Sanctuaries (ONMS) authorizes the sanctuary superintendent, along with specific authorized individuals, to conduct various activities within Olympic Coast National Marine Sanctuary (OCNMS or sanctuary). These activities must be those reasonable and necessary to fulfill management responsibilities consistent with the purposes of the sanctuary management plan.

Project Location: Throughout the sanctuary

Permit Duration: January 1, 2019 through December 31, 2023

Comment: Activities conducted by OCNMS must follow the same regulatory requirements as other individuals, agencies and governments. This permit provides the authorization to conduct activities necessary for sanctuary staff to manage the sanctuary. Each activity will include the same review and adherence to environmental regulations as other permits, and will include documentation in the form of a letter of authorization (LOA) and a decision memo. There are currently no LOAs under this permit.

OCNMS-2019-002 – Jenny Waddell, OCNMS Research Coordinator

Project Title: OCNMS Coastal Mooring Program

Permitted Activity: The deployment of a network of 10 oceanographic moorings.

Project Location: Makah Bay, Cape Alava, Teahwhit Head, Kalaloch, Cape Elizabeth

Permit Duration: April 1, 2019 through March 31, 2024

Comment:

Pending Permit Requests

MULTI-2017-004-A1 – Dr. Aimee Keller, Northwest Fisheries Science Center

Project Title: Northwest Fisheries Science Center's West Coast Groundfish Bottom Trawl Survey

Permitted Activity: Seafloor disturbance to conduct annual stock assessment trawl surveys of groundfish resources of the West Coast on the continental shelf and upper slope (30 - 700 fm); providing a measure of change in abundance, distribution and condition of these stocks in all five of the west coast region national marine sanctuaries.

Project Location: The project is from Cape Flattery, Washington to the U.S./Mexico border, the permit is for work in sanctuaries.

Permit Duration: proposed from May 1, 2019 through April 30, 2023

Comment: The survey is comprised of two passes down the coast using one or two vessels in a stratified-random sampling design. Data collected during the survey are used in stock assessments to improve the information available for managing west coast groundfish. Assessments based on these data are used by the Pacific Fisheries Management Council to establish appropriate fishing quotas and implement sustainable management plans.

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 stationary acoustic receivers (original proposal was for 158 moorings, but permit will likely be for a smaller number based on ongoing consultations). Tagging of fish using 300 acoustic tags. Deployment of an autonomous underwater vehicle (Slocum Glider) that is integrated with two acoustic receivers

Project Location: Proposed 5 km grid pattern starting 1.5 km from shore along the coast of Washington within the Olympic Coast National Marine Sanctuary (subject to ongoing discussions).

Permit Duration: Originally requested from March 1, 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.

LEARN ABOUT YOUR SANCTUARY / NATURAL HISTORY

Olympic Coast National Marine Sanctuary co-hosts European Green Crab Specialist presentation



In the February co-hosted 2018-2019 Speaker Series, Olympic Coast National Marine Sanctuary (OCNMS) and Feiro Marine Life Center were pleased to introduce Emily Grason of Washington Sea Grant as the guest speaker. Emily provided an in-depth presentation on the history and morphology of the invasive European Green Crab in the Salish Sea and outer coast of Washington, as well as the importance of the citizen science monitoring and trapping program, now in its fourth year. European green crabs have been trapped in large numbers in the northern portion of the sanctuary over the past two summers. Insights into the value of the program included the importance of observations for early detection in areas of likely habitat for these crab and the need for population control to avoid establishing competitive advantage over native crab denizens. Approximately 30 Olympic Peninsula residents attended the informative event.

REGIONAL / NATIONAL MARINE SANCTUARY SYSTEM NEWS

Film Team in Hawai'i finishes NOAA PBY project coverage

In February a production team from Brooks Lapping UK, filming a six-part series for National Geographic on the December 7, 1941 attack, completed interviews and project work with Maritime Heritage Program staff. The specific feature involves the story of the attack on Kaneohe Naval Air Station, and the mystery of what occurred to the PBY Catalina patrol planes moored on the bay that morning. NOAA's Maritime Heritage Program, in collaboration with the University of Hawai'i Marine Option Program, surveyed a submerged PBY site there in 2015 (<https://sanctuaries.noaa.gov/news/press/2015/rare-images-of-navy-seaplane-lost-in-pearl-harbor.html>). The series for National Geographic will feature the use of remote sensing and other technologies to reveal greater detail of WWII-related sites. The team conducted photogrammetry at the PBY site, producing a new 3D model then used for archaeological analysis at their on-site lab.

Sanctuary leads coral disease communications, reaches diving community

Alert Diver magazine, the most widely circulated dive magazine in the world with 230,000 readers, featured companion pieces from FKNMS research coordinator and its communications and outreach manager on the topic Stony Coral Tissue Loss Disease. “Glimmers of Hope” highlighted the unprecedented collaborative response to the ecosystem-altering disease event and advised divers on proper gear decontamination and other actions to reduce transmission and promote coral recovery.

Cordell Bank National Marine Sanctuary finalizes support for South Florida PBS Changing Seas Film Production on Cordell Bank National Marine Sanctuary

Comments and sourcing of photos and video footage plus credits for the South Florida PBS Film Series Changing Seas film series are complete. The film will air in June 2019 on South Florida PBS, and online via You Tube. It will be made available for National PBS stations for airing in July 2020. Stations will have two years to air the episode. The film takes a viewer on an overview of the sanctuary and highlights certain research projects in the sanctuary such as hypoxia and the ACCESS collaboration with Greater Farallones National Marine Sanctuary and Point Blue Conservation Science. Staff interviews as well as some other sanctuary constituents and collaborators are included

Reaching far and wide: Education in the National Marine Sanctuary System

<https://sanctuaries.noaa.gov/news/feb19/reaching-far-wide-education-national-marine-sanctuaries.html>

The National Marine Sanctuary System helps raise awareness of our ocean and Great Lakes and inspires stewardship for our beautiful blue planet among people of all ages. Education and outreach of all types – including festivals, debris cleanups, and classroom visits – drives change and progress. By engaging in conversations and activities around the National Marine Sanctuary System, we develop a shared appreciation and understanding for the world we live in. Here is a glimpse into just a few of many National Marine Sanctuary System education programs from the past year: virtual classroom, bringing the ocean to the big screen, Ocean Guardian School Program expansion, Heirs to our ocean: Youth-led conservation, ocean acidification toolkit, and more!

Hope for the ocean’s future

<https://sanctuaries.noaa.gov/news/feb19/hope-for-ocean-future-2018-accomplishments.html>

Facing a variety of threats including global warming, ocean acidification, plastic pollution, and overfishing, our ocean is in a constant state of siege. But there is hope. The National Marine Sanctuary System works with diverse partners, stakeholders, volunteers, and the public to promote responsible, sustainable ocean uses that ensure the health of our most valued ocean places. As we start 2019, we’re looking back at some of our accomplishments across the National Marine Sanctuary System from the past year.

NOAA, recreation industry to strengthen sustainable fishing and boating in federal waters

<https://sanctuaries.noaa.gov/news/jan19/noaa-recreation-industry-promote-sustainable-fishing-boating.html>

Recreational fishing and boating are enormously popular American pastimes, an economic force, and a bridge to conservation. In recognition of the importance of these activities to coastal economies, NOAA announced a formal partnership with leading industry and resource management groups. This partnership aims to strengthen collaboration promoting sustainable, long-term recreational fishing and boating opportunities in federal waters, including national marine sanctuaries.

Diving into the past: NOAA, volunteer archaeologists reveal American history in the deep

<https://sanctuaries.noaa.gov/news/feb19/noaa-volunteer-archaeologists-reveal-american-history.html>

In September 2017, Hurricane Irma tore through Florida Keys National Marine Sanctuary, damaging the sanctuary's coral reef and the surrounding community. The sanctuary has been assessing and restoring the reef but has also been focused on another task. At Molasses Reef, one of the sanctuary's most popular dive sites, the hurricane uncovered a shipwreck structure. With the help of the heritage and environmental preservation nonprofit *Diving With a Purpose* (DWP), the sanctuary has documented wreckage believed to belong to the 19th-century Austrian ship *Slobodna*.

Oh, the places they'll go! Students from Michigan and American Samoa bond over robotics

<https://sanctuaries.noaa.gov/news/mar19/michigan-american-samoa-students-bond-over-robotics.html>

PVC for the frame. Bilge pump motors for the thrusters. Simple switches as controls. And about a full day to build. These are the components that the Stockbridge High School InvenTeam uses to create the ideal remotely operated vehicle (ROV). Recently, these students traveled 7,000 miles away from home to National Marine Sanctuary of American Samoa to engage in outreach at local Samoan high schools. While there, they also helped sanctuary staff conduct research using their ROVs.

REGIONAL / NATIONAL MARINE SANCTUARY FOUNDATION NEWS

National Marine Sanctuary Foundation Debuts Blue Beacon Series at Mystic Aquarium

<https://marinesanctuary.org/news/blue-beacon-series-debut/>

The National Marine Sanctuary Foundation debuted its Blue Beacon Series this month. The Blue Beacon Series aims to bring to light the ocean and Great Lakes' biggest challenges through panels, lectures, and film screenings hosted around the country in order to build communities of support for marine protected areas. This series builds on the momentum of Capitol Hill Ocean Week, the nation's premier conference on ocean and Great Lakes policy issues by bringing these important conversations into locally relevant contexts.

Hawaiian Islands Humpback Whale National Marine Sanctuary Ocean Count will take place despite government shutdown

<https://marinesanctuary.org/news/ocean-count-government-shutdown/>

Hawaiian Islands Humpback Whale National Marine Sanctuary's annual Ocean Count took place January 26 despite the federal government shutdown. This year, the National Marine Sanctuary Foundation, the national non-profit partner for the National Marine Sanctuary System, will coordinate Ocean Count. "Through the support of dedicated volunteers, Ocean Count has provided more than 20 years of data that supplements scientific research and helps monitor humpback whales during their annual migration to the Hawaiian Islands," said Kris Sarri, president and CEO of the National Marine Sanctuary Foundation. Ocean Count is a community citizen science project hosted every year during peak whale season by Hawaiian Islands Humpback Whale National Marine Sanctuary. With the federal government shutdown, the National Marine Sanctuary Foundation is stepping in to make sure the count is not interrupted. The counts conducted on the last Saturdays in January, February, and March, provide a snapshot of humpback whale sightings from the shoreline. Participants tally humpback whale sightings and document the animals' surface behavior during the survey.

National Marine Sanctuary Foundation and partners fill void created by partial government shutdown

<https://marinesanctuary.org/news/national-marine-sanctuary-foundation-and-partners-fill-void-created-by-partial-government-shutdown/>

Partnerships pay off in times of need. With the partial government shutdown affecting Florida Keys National Marine Sanctuary and Dry Tortugas National Park, state and nonprofit organizations stepped in to shepherd a group of college students during a long-planned trip to the Florida Keys. Eleven students from Harford Community College in Bel Air, Maryland, had expected to spend their alternative winter break assisting with programs and projects in the Lower Florida Keys and an overnight stay at Fort Jefferson. The lapse in federal appropriations for the departments of Commerce and Interior shifted their activities, but not the learning opportunities. Coordinated by the National Marine Sanctuary Foundation, students were able to work along scientists and staff with Mote Marine Laboratory, Florida Boy Scouts, Florida International University, and the Florida Fish and Wildlife Conservation Commission. The National Marine Sanctuary Foundation and FIU taught students about the value of Florida Keys natural resources and, with FWC, led a debris cleanup on conservation land on Sugarloaf Key.

OCNMS Online

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

Follow us on Facebook and Twitter!

<https://www.facebook.com/usolympiccoastgov>

<https://twitter.com/olympiccoast>

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

*Comments and suggestions can be sent to:
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Ocean-Related Websites

National Oceanic and Atmospheric Administration

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

National Ocean Service

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

Office of National Marine Sanctuaries

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

NOAA Marine Debris Program

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

NOAA Online Media Library

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

Encyclopedia of National Marine Sanctuaries

<http://www8.nos.noaa.gov/onms/park/>

NOAA Ocean Explorer

<http://oceanexplorer.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>

CoastWatch – West Coast Regional Node

<http://coastwatch.pfel.noaa.gov/>

Northwest Association of Networked Ocean Observing Systems

<http://www.nanoos.org/>

NOAA Pacific Marine Environmental Laboratory

<http://www.pmel.noaa.gov/>

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>.

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