



OLYMPIC COAST NATIONAL MARINE SANCTUARY

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 200 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.....	4
Sanctuary Permitting.....	4
Learn About Your Sanctuary / Natural History.....	5
Regional / National Marine Sanctuary System News.....	6
Regional / National Marine Sanctuary Foundation News.....	8
Contact Information.....	9

TREATY TRUST RESPONSIBILITIES

Finalization of 304(d) consultation protocol between Makah Tribe, Olympic Coast National Marine Sanctuary, and Office of National Marine Sanctuaries

On March 19, 2018 a government to government meeting was held between the Makah Tribe, Olympic Coast National Marine Sanctuary (OCNMS), and the Office of National Marine Sanctuaries (ONMS) Director John Armor. One of the topics covered was Makah Tribal engagement on National Marine Sanctuary Act (NMSA) section 304(d) consultations regarding federal actions within OCNMS. The resulting protocol, developed by ONMS, OCNMS, and Makah staff, was finalized on December 16, 2019. This protocol is intended to provide an effective process for OCNMS to be informed of the Makah Tribe's views on non-ONMS federal agency actions that are: 1) likely to destroy, cause the loss of, or injure any OCNMS sanctuary resources, and 2) have the potential to result in tribal implications for the Makah Tribe.

COLLABORATIVE AND COORDINATED MANAGEMENT

Consultation on Marine Protected Area Network

The United Nations Environmental Program (UNEP) and NOAA's Marine Protected Areas (MPA) Center hosted a virtual meeting of marine protected area managers from across the United States. Organized into regional hubs, the groups explored challenges, key issues, and best practices in MPA management, as well as the opportunities for creating a community of practitioners and share ideas and best practices. The group discussed whether a national network would help make these connections and if so, what would be priorities at either a regional, national, or tri-national level. Carol Bernthal, sanctuary superintendent participated in the Pacific Northwest meeting hosted by the Jamestown

S’Klallam Tribe in Blyn, Washington and which was also attended by other regional marine managers. Common themes including changes in marine protected areas from climate change and ocean acidification, the power and value of partnerships in addressing these challenges, and how organizations are adapting to staffing and budget constraints while still achieving MPA goals.

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

Olympic Coast National Marine Sanctuary consults with experts on sanctuary condition

From January 14 through January 16, 2020, Olympic Coast National Marine Sanctuary (OCNMS) conducted a condition report workshop in Ocean Shores, Washington. OCNMS staff worked with NOAA colleagues from the Office of National Marine Sanctuaries, National Centers for Coastal Ocean Science, Integrated Ecosystem Assessment program, and Marine Biodiversity Observing Network to compile and present data and information for review by local and regional experts, including staff from Washington's four Coastal Treaty Tribes. Despite a freak snowstorm that week, the workshop saw a good turnout of experts from federal, state, and tribal agencies, non-governmental organizations, and academia. Experts representing many different fields helped ONMS assess the condition of sanctuary resources, habitats, and communities based on trends during the past decade, by addressing 16 standardized questions and considering nine ecosystem services that may provide benefits for human communities of the Olympic Coast (<https://sanctuaries.noaa.gov/science/condition/>). This information will be used to update the sanctuary's [2008 Condition Report](#) and help inform an upcoming review of OCNMS' [2011 Management Plan](#).



IMPROVE OCEAN LITERACY

Teachers design high impact field experiences with community partners

Olympic Coast National Marine Sanctuary (OCNMS) education staff supported a teacher professional development workshop with Forks Elementary teachers and Pacific Education Institute (PEI). The workshop focused on teacher-led high impact field experiences with students. PEI worked with teachers to establish community partners that could support meaningful outdoor learning. OCNMS, as a community partner, worked with both second and third grade teachers, looking at their disciplinary core idea, science and engineering practices, and crosscutting concepts to develop experiences that would be safe, community supported, and locally relevant. Additionally, community partners and teachers identified any content-training teachers needed to prepare for the field experience, what the role of the community partner is in the field experience, and how to evaluate the field experience to ensure all

partners have a voice. The field lessons will ultimately enhance their unit goals as well as support implementation of Next Generation Science Standards.

Olympic Coast staff practice intentional communications

Youth Outside delivered a half day training to Olympic Coast National Marine Sanctuary and National Marine Sanctuary Foundation staff in Port Angeles, Washington, focused on intentional communication for stronger relationships. The session introduced the basic concepts of non-violent communication; provided an opportunity for participants to identify their values and their feelings; and created space to practice expressing our feelings and values to others. The framework provided in this workshop can serve as a powerful tool for moving forward together through challenging conversations. Additionally, this framework is supportive of on-going efforts to develop empathy, equity, and inclusion.

Pacific Northwest B-WET holds successful annual grantee meeting in Olympia, Washington

Pacific Northwest Bay Watershed Education and Training (B-WET) grant recipients, NOAA staff and partners met at Billy Frank Jr Nisqually National Wildlife Refuge in Olympia, Washington to increase communication and share best practices at the annual Pacific Northwest B-WET grantee meeting. The first day was spent with Youth Outside who facilitated a training designed to build increased awareness and capacity to address issues of equity, inclusion, and relevancy throughout our programs. The second day focused on sharing information to better understand various approaches to meaningful watershed educational experiences, and to learn how to better utilize B-WET grantee resources. The meeting ended with a “Sense of Place” guided field trip through the wildlife refuge.



Olympic Coast National Marine Sanctuary AmeriCorps teach about ocean acidification

Washington Service Corps AmeriCorps from Olympic Coast National Marine Sanctuary's education team went to NatureBridge's Olympic campus to teach sixth graders from Seattle about ocean acidification (OA). Eighteen students and three teachers from St. George Parish in Seattle met with AmeriCorps on NatureBridge campus in an evening program. The detailed OA lesson included an introduction to the sanctuary, an introduction into OA, two science experiments, and a stewardship action brainstorm. The science experiments were used to further illustrate the effects of an acidic ocean. Students had three cups, each with different pH levels into which they dropped a piece of calcium chalk to watch the chemical reactions. The second experiment showed students how easy it is to change the pH of tap water simply by blowing carbon dioxide through straws into the cups. Students and AmeriCorps then reflected on easy ways students and families could be ocean stewards.

Plankton Presentation and Identification



Washington Service Corps AmeriCorps members, Mel and Gabby, represented NOAA's Olympic Coast National Marine Sanctuary while visiting Forks School sixth grade class. They provided a presentation on the benefits of plankton and led a microscope-based plankton identification activity. The lesson focused on both the definition and basics of what plankton are while also stressing the details of how to handle and use a microscope. Mel and Gabby interacted with three classes of about 20 students each, reaching approximately 60 students in this activity.

Sequim students dive into remotely operated vehicles for competition

Olympic Coast National Marine Sanctuary education staff briefed Sequim Middle School students on “everything remotely operated vehicles (ROVs)” for the upcoming Olympic Coast Marine Advanced Technology Education (MATE) ROV Competition. Twelve middle school Robotics Class students went over the properties and physics of ROVs, as well as the new annual mission overview for the 2020 MATE ROV competition. Students were able to ask questions around developing their competition strategies and presentation rubrics, as well as share creative solutions to vehicle builds and manipulators. Three Sequim teams are hoping to compete at this year's MATE Olympic Coast ROV Competition.

Olympic Coast National Marine Sanctuary supports the Environmental Career Fair at University of Washington

Olympic Coast National Marine Sanctuary (OCNMS) AmeriCorps and NOAA Corps represented OCNMS 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 and interested in making connections that could lead to volunteer experiences, internships, and career-level positions came through the Husky Union Building to talk with invited representatives. The interactions led to multiple contacts with students who are interested in exploring an AmeriCorps position through OCNMS. Overall, they interacted with more than 300 students looking for information about sanctuary careers, possible internships, and skills that benefit a career in ocean conservation.

CONSERVE NATURAL RESOURCES IN THE SANCTUARY

Olympic Coast National Marine Sanctuary joins in inaugural European Green Crab Regional Stakeholder/Partner Meeting

Olympic Coast National Marine Sanctuary (OCNMS) staff participated in the first European Green Crab (EGC) Regional Stakeholder/Partner Meeting in Montesano, Washington. Participants included all four Coastal Treaty Tribes plus Shoalwater Bay tribal members, Washington Department of Fish and Wildlife (WDFW) Aquatic Invasive Species unit staff, U.S. Fish and Wildlife Service staff, Washington Sea Grant staff and Crab Team, Taylor Shellfish, Brady’s Oysters, Pacific Seafood, Goose Point Shellfish, University of Washington researchers, Oregon State University researchers, and Washington Department of Natural Resources staff. Goals, priorities, resources, and partnerships were discussed. In the near term, WDFW will appeal to the governor’s office for resources to conduct a coast-wide assessment of EGC populations.

SANCTUARY PERMITTING

Issued Permits and Authorizations

OCNMS-2017-009-A1 – Brad Hanson, Northwest Fisheries Science Center

Project Title: Determining the distribution of killer whales and other cetaceans in the coastal waters of the U.S. using acoustic recorders.

Permitted Activity: Requested deployment of three bottom-anchored moorings acoustic recorders.

Project Location: The proposal is to reoccupy the currently occupied locations.

Permit Duration: While the requested period is from September 4, 2019 through December 31, 2021, the current permit is valid through December 31, 2019 allowing additional time to process the permit.

Comment: Little is known about the coastal movements of cetaceans, particularly the Southern Resident killer whale community, in the winter months. This data gap has been identified as a key element in better understanding the role of potential risk factors to this cetacean population. This project will study all cetaceans but the focus will be Southern Resident killer whales. Southern Resident killer whales have been observed in the Olympic Coast, Greater Farallones, and Monterey Bay national marine sanctuaries in the winter.

OCNMS-2019-007 John Mickett, University of Washington Applied Physics Laboratory

Project Title: Deployment of a subsurface, near real-time, HAB-detection mooring at the UW-NANOOS Mooring Site

Permitted Activity: Deployment of a mooring for four consecutive spring-to-fall periods starting in the spring of 2021, with the mooring positioned at the UW-APL/NANOOS mooring site.

Project Location: 13 miles WNW of La Push

Permit Duration: Requested from January 1, 2020 through December 31, 2025

Comment: Observations from this mooring will be displayed in near-real time on the NANOOS Real-time HABs website: <http://www.nanoos.org/products/habs/real-time/home.php>. Additionally, email notifications will be sent for any toxin levels detected above a set threshold.

Pending Permits

OCNMS-2020-001 Dr. Sean Higgins, Columbia University Lamont-Doherty Earth Observatory

Project Title: Illuminating the Cascadia plate boundary zone and accretionary wedge with a regional-scale ultra-long offset multi-channel seismic study

Permitted Activity: Deployment of six Ocean Bottom Seismometers (OBS) on the seafloor and the abandonment of 1m² iron grate anchors

Permit Duration: Requested from May 1, 2020 through August 31, 2020

Comment: This seismic survey will utilize an air gun array as a sound source, which is known to cause impacts to marine resources such as marine mammals. The National Science Foundation, as the federal funding source, is in consultation with NMFS Office of Protected Resources and seeking an Incidental Harassment Authorization (IHA) under the MMPA and a Biological Opinion (BO) under the ESA. In addition to the sanctuary permit, there will also be a consultation between OCNMS, NMFS, and NSF on the IHA and BO.

LEARN ABOUT YOUR SANCTUARY/NATURAL HISTORY

Speaker series highlights “All Things Kelp”

Olympic Coast National Marine Sanctuary and Feiro Marine Life Center welcomed researcher Dr. Tom Mumford to discuss “All Things Kelp” in Washington state to 44 members of the public at their speaker series event. His presentation discussed what kelp is and is not, where it is found, its role in ecosystems, and human uses for kelp. A lively question and answer session followed the talk.



REGIONAL/NATIONAL MARINE SANCTUARY SYSTEM NEWS

High interest in learning how national marine sanctuaries are being managed in a changing ocean

As part of the National Marine Sanctuaries Webinar Series, 92 formal and informal educators and other interested parties of the 395 registrants, participated in the live webinar presentation titled "Managing National Marine Sanctuaries in a Changing Ocean" provided by Dr. Zac Cannizzo. This webinar series is a way to connect with educators and provide them with educational and scientific expertise, as well as resources and training to support ocean and climate literacy with their students. Fifty-nine percent of attendees who completed the follow-up evaluation plan to integrate this content into their work within the next year. An archive of the webinar is available at

<https://sanctuaries.noaa.gov/education/teachers/webinar-series-archives.html>.

Grand opening celebration of the Kauai Ocean Discovery facility

<https://sanctuaries.noaa.gov/news/jan20/kauai-ocean-discovery-educational-facility-opening.html>

On January 11, in partnership with the National Marine Sanctuary Foundation and Kukui Grove Center, NOAA's Office of National Marine Sanctuaries opened a sanctuary learning facility on the island of Kaua'i. More than 1,000 guests visited the facility on its opening weekend. This is the only admission-free, marine-oriented environmental education facility on the island. Kaua'i Ocean Discovery features interactive displays, maps, illustrated panels, and a children's learning area designed to share the traditions and knowledge of our ocean connections and inspire stewardship. The exhibits take their inspiration from Hawaiian Islands Humpback Whale National Marine Sanctuary and Papahānaumokuākea Marine National Monument. The facility will offer educational programs for a variety of audiences, while school visits, summer programming, internships, and traveling exhibits are planned for the future.

Listening for haddock in Stellwagen Bank NMS

On January 14, a team of scientists from Woods Hole Oceanographic Institution and the Northeast Fisheries Science Center deployed an autonomous glider off the coast of Massachusetts destined for the Stellwagen Bank National Marine Sanctuary. As part of the Navy/NOAA Sanctuary Soundscape Monitoring Project, the glider will dive along a stationed route through May 2020 with monthly maintenance to change out batteries and will survey areas of the sanctuary predicted to have high abundances of spawning Atlantic haddock. The instrument will record ambient sound and detect any tagged marine life in its vicinity. Following success listening for spawning Atlantic cod using this method, the goal is to support understanding of the distribution and acoustic behavior of spawning haddock. In addition, the glider detects calls made by several species of baleen whales, including the endangered North Atlantic right whale. Detections of whale species are relayed in real time, and the glider's progress can be tracked online

(http://dcs.who.edu/sbnms0120/sbnms0120_we04_html/sbnms0120_we04_summary.html).

A search to uncover a slave ship's past leads to a writer's spiritual awakening

<https://sanctuaries.noaa.gov/news/feb20/finding-sanctuary-african-american-history.html>

In 1992, journalist and author Michael Cottman was part of a group from the National Association of Black Scuba Divers who placed a memorial plaque on the seabed where the slave ship *Henrietta Marie* sunk in June 1700, waters now part of Florida Keys National Marine Sanctuary. In his book, *The Wreck of the Henrietta Marie*, Cottman reflects on the significance of the shipwreck and its place in African American history.

Community members chosen for proposed Lake Ontario National Marine Sanctuary Advisory Council

<https://sanctuaries.noaa.gov/news/feb20/community-members-chosen-for-proposed-lake-ontario-national-marine-sanctuary-advisory-council.html>

Last April, NOAA proposed a new national marine sanctuary in Lake Ontario, which would protect historically significant shipwrecks and maritime heritage resources. Community involvement is vitally important to the establishment and management of all national marine sanctuaries. Thus, in September 2019, NOAA put out a call for membership in the new Sanctuary Advisory Council for the proposed Lake Ontario sanctuary. The members have been selected, and the first meeting will be at 6:30 pm on March 18 at the Lake Ontario Event and Conference Center, 26 East 1st Street, Oswego.

Thunder Bay National Marine Sanctuary sinkholes hold clues to Earth's distant past

<https://sanctuaries.noaa.gov/news/mar20/thunder-bay-national-marine-sanctuary-sinkhole-research.html>

Mats of purple and white drape a sinkhole in the Lake Huron lakebed near Alpena, Michigan. Hills of rock, formed by methane release, rise up from the sediment. They appear desolate but are actually the habitat for a special kind of organism, able to survive in these deep waters' harsh conditions: microbes. This ecosystem, captured via video cameras on remotely operated vehicles (ROV), only comprises a small section of Thunder Bay National Marine Sanctuary, but is biologically fascinating. Sinkholes are like a time capsule, taking us back to how Earth may have appeared approximately 2.5 billion years ago, at the beginning of the Proterozoic Eon.

Lending a “kelping” hand in Greater Farallones National Marine Sanctuary

<https://sanctuaries.noaa.gov/news/jan20/kelp-forest-restoration-greater-farallones-national-marine-sanctuary.html>

Tracking the health of marine ecosystems like kelp forests requires scientific monitoring, which depicts how these ecosystems have changed over time. In recent years, NOAA's Office of National Marine Sanctuaries, the Greater Farallones Association (GFA), and Greater Farallones National Marine Sanctuary (GFNMS) have collaborated with the California Department of Fish and Wildlife, Ocean Protection Council, and The Nature Conservancy to document the transition from kelp-dominated to urchin-dominated ecosystems along the West Coast, a shift accompanied by a steep decline in biodiversity. In an effort to bring back the kelp forests' biodiversity as swiftly as possible, the GFA, a non-profit organization that supports habitat restoration within GFNMS, used recommendations from the GFNMS Advisory Council to develop the Sonoma-Mendocino Bull Kelp Recovery Plan. The recovery plan contains strategies for kelp forest recovery and involves restoration site selection, monitoring, research, and community engagement.

A safe haven in a changing world

<https://sanctuaries.noaa.gov/news/feb20/channel-islands-ocean-acidification-refuge.html>

Can Channel Islands National Marine Sanctuary serve as a local refuge against ocean acidification? These islands form an archipelago that runs from east to west. This unique orientation creates coastal shorelines and marine ecosystems that face north, a feature that does not exist elsewhere in the California Current System. The currents trapped between the northern island shorelines and the California mainland, in combination with the irregularity of the coast in this region, prevent deep water from being upwelled to the surface along the northern Channel Islands. Thus, according to Dr. Lydia Kapsenberg, the high level of acidity associated with upwelled deep waters along the California mainland coast does not reach these island waters.

REGIONAL / NATIONAL MARINE SANCTUARY FOUNDATION NEWS

Dive industry businesses speak out on behalf of protection for Florida Keys

<https://marinesanctuary.org/news/dive-industry-businesses-speak-out-on-behalf-of-protection-for-florida-keys/>

Florida Keys National Marine Sanctuary (FKNMS) protects spectacular, unique, and nationally significant marine resources stretching from Miami to the Tortugas, including North America’s only coral barrier reef, extensive seagrass beds, mangrove-fringed islands, and more than 6,000 species of marine life. The sanctuary also protects an estimated 800 underwater historic sites. As one of North America’s most popular diving and fishing destinations, FKNMS supports the region’s success in global tourism, with more than half the jobs in Monroe County tied to ocean activities. More than 50 dive businesses, industry groups, and individuals signed and delivered a letter urging the National Ocean and Atmospheric Administration (NOAA) and the Florida Fish and Wildlife Conservation Commission (FWC) to take action to protect and restore FKNMS and the species and seascapes on which the dive industry depends.

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:
jacqueline.laverdure@noaa.gov.*

Ocean-Related Websites

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 14 national marine sanctuaries along with 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 – on detail

Kevin Grant – Acting Superintendent, Deputy Superintendent for Operations & Administration

George Galasso – Deputy Superintendent for Policy & Programs

Anna Hallingstad - NOAA Corps Officer, Vessel Operations Coordinator

Jenny Waddell – Research Coordinator

Katie Wrubel – Resource Specialist

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

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

