



OLYMPIC COAST NATIONAL MARINE SANCTUARY

A Report for Sanctuary Advisory Council Members Reporting Period: March 6 - May 7, 2021

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 Indian Nation.

OLYMPIC COAST NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES

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

Table of 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
- Sanctuary Permitting 4
- Regional/National Marine Sanctuary System News 6
- Regional/National Marine Sanctuary Foundation News 7
- Contact Information 9

TREATY TRUST RESPONSIBILITIES

Olympic Coast National Marine Sanctuary (OCNMS) seeks to work directly with the Coastal Treaty Tribes on a government-to-government basis to promote a healthy ecosystem in the waters adjacent to the Olympic Peninsula for the support and enhancement of tribal treaty rights and resources, cultural resources and activities, tribal self-determination, and sovereignty. OCNMS supports and works with the Olympic Coast Intergovernmental Policy Council to obtain guidance and the collective views of the Coastal Treaty Tribes and the state of Washington on maintaining a healthy marine ecosystem in the waters off the Olympic Peninsula for the benefit of all citizens and for future generations.

COLLABORATIVE AND COORDINATED MANAGEMENT

Olympic Coast National Marine Sanctuary meets with the Navy

Olympic Coast National Marine Sanctuary (OCNMS) held their annual meeting with the Navy. These meetings allow the sanctuary to better understand annual Navy Northwest Testing and Training activities with OCNMS, discuss areas of mutual interest and research, and identify areas for improvement, as well as building a strong relationship. The timing of this meeting was especially relevant given the annual reports the Navy provides to the sanctuary. Also, given our recent 304(d) consultation for NWT 2020-2027 activities, this meeting served as a good opportunity to discuss lessons learned.

ONMS Leadership team sets sights on the future

The Office of National Marine Sanctuaries (ONMS) Leadership Team met May 4-5 to discuss future strategic priorities for the ONMS, with a particular focus on Climate Change and Indigenous Engagement, among other topics. Presentations on reports recently completed, including by the National Academy of Public Administration (NAPA) and the Meridian Institute, helped lay out future strategic foci areas to meet evolving needs. This information will be funneled into an update to the ONMS Strategic Plan.

Sanctuary Splash! Meet the humpback whale five-part webinar series

Hundreds of students and adults around the world learned all about Olympic Coast National Marine Sanctuary while focusing on charismatic humpback whales through five engaging presentations. The final presentation, “Ask a Scientist,” featured an analyst on the *SanctSound* project, Jack Barkowski, who answered student questions and provided insight on his research on ocean sound in three of the west coast region national marine sanctuaries. For more information on the *SanctSound* project, visit [SanctSound overview](#).



Webinar recordings are available at:

[Chapter 1: Introduction to Humpback Whales](#)

[Chapter 2: Humpback Whale Behaviors \(feeding, pooping, and more!\)](#)

[Chapter 3: Meet Big Mama, a very special humpback whale](#)

[Chapter 4: Studying Sound and Whale Vocalizations](#)

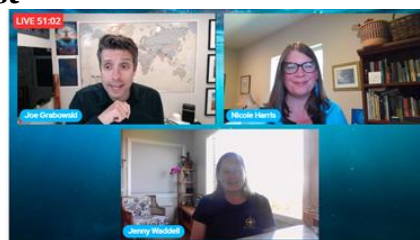
[Chapter 5: Ask a Scientist – Ocean Sound with Jack Barkowski](#)

Deep-sea vents, seeps, and chemosynthesis, Oh My!

Olympic Coast National Marine Sanctuary (OCNMS) education staff, in partnership with NOAA’s Office of Ocean Exploration and Research (OER) conducted the second of a two-part Teacher Professional Development (TPD) opportunity looking at hydrothermal vents and chemosynthesis. OCNMS hosted the site-specific follow-up virtual workshop for 22 local and regional teachers, exploring teaching resources aimed at incorporating deep-sea phenomena into the classroom in relevant and meaningful ways. Dr. Andrew Thurber from Oregon State University joined the group, along with graduate student Lila Bellucci, to share research and findings from their work looking at methane seeps, including the most recent exploration vessel *Nautilus* cruise in Olympic Coast National Marine Sanctuary in 2020. Teachers were also introduced to a Hydrothermal Vent Performance Task, a resource that uses local scientific phenomena as the topic for persuasive essay writing using evidence gleaned from text and video sources. This workshop is part of OER’s mini-TPD series, and OCNMS has joined as an alliance partner to offer these resources and access to specialists in an effort to bring deep-sea exploration topics into the classroom. OCNMS will continue to provide these mini TPD opportunities to area teachers, with the next topic focusing on seafloor mapping.

Students explore cosmic deep-sea adventures in Olympic Coast

Olympic Coast National Marine Sanctuary (OCNMS) education and research staff joined *Explore by the Seat of Your Pants* for a virtual presentation on the 2020 E/V *Nautilus* expedition to students and classrooms around North America. Over 100 student classrooms joined via the YouTube streaming platform and six camera classrooms joined us on *StreamYard* as we explored bubbling methane seeps, the “floofiest” paragorgia (bubblegum) corals, “fantastical” sponges, and even hunted for space rocks in sanctuary waters. Students were wowed by the wonderful underwater videos and images provided by Ocean Exploration Trust, as they went through the tools needed for deep-sea exploration, the habitats targeted through the 2020 mission, and the student career opportunities in ocean conservation and exploration. Following the engaging presentation by Nicole Harris, students were able to ask questions with Jenny Waddell, lead scientist for the 2020 expedition in Olympic Coast. This was the first of three presentations that will focus on the 2020 E/V *Nautilus* expeditions in the national



marine sanctuaries of the West Coast, with Channel Islands highlighted on April 28th, and Monterey Bay and Greater Farallones highlighted on May 5th. Watch the recording of [OCNMS' presentation](#).

NATURAL HISTORY

Elevated domoic acid levels continue to preclude shellfish harvests on the Washington coast

Along Washington's Pacific Coast, resource managers regularly test shellfish to ensure they do not contain dangerous toxins and are safe for human consumption. Recent Washington Dept. of Health marine toxin monitoring results from samples collected in late April 2021 detected high levels of the diatom *Pseudo-nitzschia* species at several locations coast wide. Domoic acid, which is produced by the diatom under certain circumstances, acts as a neurotoxin and can cause serious injury or death when consumed by humans. Domoic acid is the most prevalent toxin affecting harvest of razor clams (*Siliqua patula*) – a species important to tens of thousands of recreational and tribal diggers. In 2019-2020, nearly 254,000 digger trips accounted for over \$23 million in fishery value. The 2020-2021 razor clam fishery has been closed since December 2020, and will remain closed based on findings that domoic acid levels in razor clam tissues continue to be above the action level of 20 parts per million.

SANCTUARY PERMITTING

Issued Permits and Authorizations

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 three Ocean Bottom Seismometers (OBS) on the seafloor and the abandonment of 1m² iron grate anchors.

Requested Permit Duration: Requested start date of May 1, 2021 through August 31, 2021

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. Permit processing is on hold during consultations.

OCNMS-2021-002 Greg Schorr, Marine Ecology and Telemetry Research

Project Title: Cetacean surveys in coastal waters for determining killer whale prey selection and deployment of tags

Permitted Activity: Collection of samples to assess killer whale prey selection, biopsy samples, deployment of suction tags (SRKW) and Low Impact Minimally Percutaneous External-electronics Transmitter (LIMPET) tags (non-SRKW whales), and overflights of an un-crewed aerial system (UAS or drone).

Requested Permit Duration: Requested start date of April 1, 2021 through June 30, 2022

Comment: This research is aimed at advancing our understanding of killer whale distribution and prey selection.

OCNMS-2021-003 Jennifer Hagen, Quileute Tribe

Project Title: Quileute Hypoxia Mooring

Permitted Activity: Deployment of two benthic lander moorings to monitoring real-time near-bottom dissolved oxygen and velocity measurements during the field season (6 months).

Requested Permit Duration: Requested start date of April 12, 2021 through April 11, 2026

Comment: These moorings would be placed near the Cha'ba mooring and are designed to limit seafloor disturbance.

OCNMS-2018-005-A2 Gregg Dietzman

Project Title: Mudprobe

Permitted Activity: To assess marine microbial diversity by collecting 333 marine sediment and detritus samples from 37 proposed sampling stations, which may be evaluated for use as industrial enzymes and pharmaceutical agents or diagnostics. Sample sizes are roughly 10 grams each and no more than nine samples per site is allowed.

Requested Permit Duration: Requested start date of June 30, 2021 through September 30, 2024

Comment: This is a permit amendment extending the duration of this permit. No other changes have been requested.

OCNMS-2021-004 Chris Macon, Army Corps of Engineers

Project Title: National Coastal Mapping Program (NCMP)

Permitted Activity: Low altitude overflight within OCNMS' Overflight Restriction Zone with a minimum altitude of 1,200 feet above ground/water level to capture locations previously unable to due to weather.

Requested Permit Duration: Requested start date of August 1, 2021 through December 31, 2021

Comment: ACE will be targeting areas of the coast they were unable to survey last year due to poor weather conditions.

OCNMS-2021-005 Jenny Waddell, OCNMS

Project Title: Recording underwater sound from operation of an airgun array for seismic surveys of the Cascadia Margin in OCNMS in summer 2021

Permitted Activity: Deployment of a SoundTrap mooring near the NSF funded seismic survey tracklines off of La Push to capture the maximum sound expression.

Requested Permit Duration: Requested start date of May 17, 2021 through August 31, 2021

Comment: This deployment will utilize sandbag anchors.

OCNMS-2021-006 James Girton, UW APL

Project Title: Passive acoustic data collection using EM-APEX floats over the Washington coast continental shelf

Permitted Activity: Deployment of an autonomous profiling float able to collect data on ocean properties, change its volume by inflating an oil-filled chamber to allow the float to rise and sink, and communicate with a shore data server via Iridium phone when at the surface. The primary goal of the EM-APEX deployment is the collection of passive acoustic recording data, so the float will use at least part of its time parking below the surface or on the bottom, running only the ambient sound recorder. At other times, it will be ascending or descending through the water column or floating on the surface acquiring GPS data or making satellite phone calls.

Requested Permit Duration: Requested start date of May 3, 2021 through November 1, 2021

Comment: This float will be deployed in May and November during the Cha'ba mooring servicing.

Pending Permits and Amendments

OCNMS-2021-007 Global Diving and Salvage

Project Title: Survey and removal of sunken 48' Pacemaker motor vessel

Proposed Permitted Activity: Global Diving will conduct a hydrographic survey to locate and determine the condition of a reported sunk 48' Pacemaker power vessel for the responsible party. Using sidescan and multibeam sonar systems, appropriate targets will be identified for visual surveys using a remotely operated vehicle. Results will be communicated and the search area can be expanded pending findings as required. Global Diving and Salvage will develop a salvage plan and submit a permit amendment.

Requested Permit Duration: Requested start date of May 1, 2021 through October 1, 2021

REGIONAL/NATIONAL MARINE SANCTUARY SYSTEM NEWS

Sanctuary Soundscape (SanctSound) project releases story map and holds 3rd annual progress meeting

The Sanctuary Soundscape Monitoring Project (SanctSound) held its 3rd annual meeting virtually, allowing collaborators from over 20 institutions to share latest project results from this national-scale effort to describe underwater sound conditions across the U.S. National Marine Sanctuary System. To coincide with the meeting, SanctSound released a [story map](#) that allows the public to tour the places where this work is occurring and explore various aspects of what the project is learning.

Island of the Giants: "Big Momma" is not alone

There's a saying that goes "everything is bigger in Samoa." This may be a sweeping statement, but when it comes to corals, it's true that the waters surrounding Ta'u Island in American Samoa are home to some of the largest known corals in the world. The newly documented [Porites bommie](#) measures 26 feet tall, 73 feet in diameter, and 226 feet in circumference. *Porites* are slow growing, so its colossal size indicates it must be very old. Scientists estimate the coral is between 420 and 652 years old!

Living museums in the sea: Students help preserve underwater artifacts

For over 30 years, Dr. Charles Beeker has been working with NOAA's Office of National Marine Sanctuaries to make his vision of "[living museums in the sea](#)" a reality. As the director of Indiana University's (IU) Center for Underwater Science, he and his colleagues engage university students as curators of many of the underwater artifacts and biological resources in the National Marine Sanctuary System. IU's is one of the oldest and largest academic diving programs in the U.S. and a leader in maritime archeology, underwater research, resource management, and park development.

MPA Center co-hosts webinar on MPA science

On April 29, the MPA Center co-hosted and moderated a webinar with Open Communications for the Ocean (OCTO) and the National Ocean Protection Coalition on [The "Why" Behind 30x30: The State of the Science on Marine Protected Area Benefits](#). The webinar provided an overview of recent MPA ecological and social science, including evidence of ecological benefits of MPAs; social science around MPA benefits and costs, including ecosystem services; and studies to map the potential benefits of areas for biodiversity, carbon storage, and fisheries production.

Channel Islands National Marine Sanctuary publishes paper in PLOS One on how to effectively track climate change impacts on living marine resources

Channel Islands National Marine Sanctuary (CINMS) researchers published a study in the open access journal PLOS One: [Species-specific thermal classification schemes can improve climate related marine resource decisions](#), which describes how to develop classification schemes to effectively and accurately track the impacts of climate change on living marine resources. This developed classification tool can easily be used by other resource management agencies dealing with fish resources on the U.S. West Coast. By combining multiple datasets to create thermal classifications, this methodology can cut down on potential bias from singular datasets and create a more accurate understanding of ecological phenomena.

REGIONAL/NATIONAL MARINE SANCTUARY FOUNDATION NEWS

Discover wonder: The Octopus Garden honored at International Ocean Film Festival

The National Marine Sanctuary Foundation's film, [Discover Wonder: The Octopus Garden](#), was honored with the Shorts Award as best short film at the 18th Annual International Ocean Film Festival. The 9-minute film follows a team of scientists to the depths of NOAA's Monterey Bay National Marine Sanctuary to view one of the rarest and deepest octopus brooding colonies on the planet, which was discovered by researchers on the Ocean Exploration Trust's E/V *Nautilus*.

National Marine Sanctuary Foundation releases report on 2020 Marine Debris Removal

The National Marine Sanctuary Foundation released a [report on the marine debris removal work](#) it supported through *Goal: Clean Seas* in 2020 in both Florida Keys and Channel Islands national marine sanctuaries. Overall, the Foundation supported the removal of 13,002 pounds of debris from 12,000 square meters of underwater area and 2.5 miles of shoreline in national marine sanctuaries.

Ocean Awards Gala honors protection of Northwestern Hawaiian Islands and Papahānaumokuākea

The Ocean Awards Gala returns in 2021 with a new virtual format to [celebrate the voices of Papahānaumokuākea Marine National Monument](#) (PMNM) on Thursday, June 10 at 7 p.m. ET / 7 p.m. PT / 6 p.m. HT. The gala will honor the dedicated Native Hawaiian cultural practitioners, kūpuna, commercial, recreational and subsistence fishers, divers, researchers, environmentalists, and elected and governmental officials, who had the vision and commitment to protect the Northwestern Hawaiian Islands and establish PMNM.

National Marine Sanctuary Foundation statement on the Biden-Harris Administration's "America the Beautiful" initiative

National marine sanctuaries play a critical role in building a more climate-resilient future for our ocean, the Great Lakes, and the communities that depend on them. We applaud the Biden-Harris Administration's call for the [expansion and investment in the National Marine Sanctuary System](#) and stand ready to work with them.

OCNMS Online

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

Visit our website at:

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

Comments and suggestions can be sent to:

jacqueline.laverdure@noaa.gov.

Follow us on Facebook and Twitter!



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



<https://twitter.com/olympiccoast>

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/	Office of National Marine Sanctuaries – Earth is Blue https://sanctuaries.noaa.gov/earthisblue.html
NOAA Ocean Explorer http://oceanexplorer.noaa.gov/	NOAA Marine Debris Program http://marinedebris.noaa.gov/	National Marine Sanctuary Foundation https://marinesanctuary.org/

OLYMPIC COAST NATIONAL MARINE SANCTUARY

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 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>

OCNMS STAFF

Carol Bernthal – Superintendent

Kevin Grant – 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

Cheyenne Palmo – Washington Service Corps AmeriCorps member Education and Stewardship Specialist

Holly Keedy – Washington Service Corps AmeriCorps member Education and Stewardship Specialist

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

