

## OFFICE REPORT

### ABOUT THE SANCTUARY

Olympic Coast National Marine Sanctuary spans 3,189 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.

### OLYMPIC COAST NATIONAL MARINE SANCTUARY NEWS AND PROGRAM UPDATES

Organized by Olympic Coast National Marine Sanctuary (OCNMS) management plan priority areas.

### FULFILL TREATY TRUST RESPONSIBILITY

#### Celebrating 50th Anniversary of Ozette Archaeological Exploration

John Armor, Acting Director for the Office of National Marine Sanctuaries, and Carol Bernthal, Sanctuary Superintendent of Olympic Coast National Marine Sanctuary, attended a series of celebrations hosted by the Makah Cultural and Research Center/Museum celebrating the 50th anniversary of *Ozette*, site of a Makah whaling village and a world famous archeological site. With the support of the Makah Tribe, Dr. Richard Daugherty, with a team of graduate and undergraduate students and Makah tribal members, undertook a full-scale excavation of the site from 1966 to 1981. The site revealed longhouses and their contents—including ordinarily perishable wood and basketry objects that had been buried in a mudflow well before the arrival of Europeans in the region. The work culminated in the creation of the Makah Cultural and Research Center and Museum where more than 55,000 Ozette artifacts are curated and displayed. The information gathered from these artifacts helped the Makah Tribe move forward on exercising their treaty rights by yielding valuable information on traditional whaling, sealing and fishing practices.

#### Sanctuary Consults With Tribal Staff on Cultural Resource Management

Olympic Coast National Marine Sanctuary is currently looking at how it meets its responsibilities under the National Historic Preservation Act and the National Marine Sanctuary Act and is drafting a Maritime Heritage and Cultural Resource Management Plan. The idea of developing such a plan came out of conversations between the sanctuary and the Washington Department of Archeology and Historic Program. Deputy Superintendent George Galasso is working with a team, including Hollings Scholar Gabe Almario and National Science Foundation Graduate Research Intern Jonathan Malindine. Separate meetings have been held on the Makah, Quileute and Quinault reservations to receive feedback on the plan outline and to discuss the appropriate scope of the document.

### ACHIEVE EFFECTIVE AND COORDINATED MANAGEMENT

#### Second Fishing Vessel Runs Aground South of Olympic Coast National Marine Sanctuary

On May 23, F/V *James Marie* grounded just north of the entrance to Grays Harbor in the immediate vicinity of the F/V *Privateer*, which flooded on April 15 and subsequently ran aground. F/V *James Marie* was towed off the beach at high tide by two tug boats and did not spill any oil. The salvage of the F/V *Privateer* was challenging. Sanctuary staff members were notified of the tracking salvage operations since the incidents were in the vicinity of Olympic Coast National Marine Sanctuary. Grounding incidents remind us of the importance of maritime safety to the protection of life, property and the environment. Responses to these incidents were timely and well organized with partners including USCG, Washington Department of Ecology, and NOAA Office of Response and Restoration.



## EPA Consultation With Olympic Coast National Marine Sanctuary on Offshore Seafood Processing

The Environmental Protection Agency (EPA) consulted with Olympic Coast National Marine Sanctuary (OCNMS) on a proposal to issue a general wastewater discharge permit to offshore seafood processors in federal waters off the Washington and Oregon coasts, which includes sanctuary waters. Under section 304(d) of the National Marine Sanctuary Act, the sanctuary has provided the EPA with alternatives meant to address concerns with the potential impact of this activity to water quality in the sanctuary, including the potential to exacerbate the generation of harmful algal blooms and hypoxic conditions.

## IMPROVE OCEAN LITERACY

### Get Into Your Sanctuary at Olympic Coast National Marine Sanctuary

The system-wide Get Into Your Sanctuary Day events for the National Marine Sanctuary System encouraged visitation and provided opportunities for the general public to practice safe, responsible wildlife viewing and nature photography in areas adjacent to sanctuaries, as well as educational opportunities. Olympic Coast National Marine Sanctuary (OCNMS) celebrations kicked-off on June 17 with an evening *Discover the Olympic Coast* at Olympic National Park Visitor Center in Port Angeles, WA. The video was filmed and produced by acclaimed marine videographer Florian Graner, and highlights OCNMS habitats and the animals that depend on it, through the eyes of a young harbor seal. Florian discussed the value of marine protected areas, his experience as a diver, and the making of the film. More than 70 people attended the event.



On June 25, sanctuary staff hosted an educational presentation and kids' activity at the Port Angeles library to encourage families to visit the coast and Port Angeles-based Olympic Coast Discovery Center. Participants practiced building a food web to learn about the marine ecosystem. On the same day, OCNMS staff partnered with Olympic National Park to conduct a nature photography workshop at Ruby Beach. Forty visitors received instruction on photography tips and preparedness, before taking advantage of the world-class tidepools and majestic seascapes of Ruby Beach as their photo inspiration. Sanctuary staff provided information about OCNMS, the importance of marine protected areas, and beach etiquette, while highlighting the role photography can play in marine conservation. Participants were encouraged to submit their photos to the national Get Into Your Sanctuary photo contest and contribute to the social media aspects.



On June 25 on Makah Reservation, Tribal member and renowned nature photographer, Meredith Parker, worked with sanctuary staff to lead a nature photography workshop for youth. Fifteen participants from Makah Youth Program and Clallam County 4H Club learned about Meredith Parker's love for nature and the Makah's homeland, tips on taking great photographs, and how nature photography has encouraged and inspired her. Youth participants used the emerald waters, rocky outcrops, marine life and visitors of Tsoo-yess Beach and Cape Flattery as their photo content.

During Get Into Your Sanctuary weekend, Olympic Culinary Loop showcased sustainable seafood options at Olympic Peninsula restaurants. Five hundred Olympic Coast National Marine Sanctuary activity placemats were distributed to restaurants including: Warmhouse Restaurant in Neah Bay, River's Edge Restaurant in La Push, Kalaloch Lodge in Olympic National Park, Salmon House on Lake Quinault, Ocean Crest in Moclips, Westport Winery in Westport, Jig and Lure in Port Angeles, and Nourish in Sequim. Visitors were encouraged to enjoy culinary delights around the Olympic Peninsula, with a focus on healthy and sustainable foods, such as the variety of sustainable seafood choices available on local restaurants' menus, including Olympic Culinary Loop.

### Changing the Conversation on Climate Change

On May 11-12, Olympic Coast National Marine Sanctuary (OCNMS) education staff participated in a National Network for Ocean and Climate Change Interpretation (NNOCCI) training hosted by Lincoln Park Zoo, in Chicago, IL. NNOCCI designs semester-long online and in-person trainings with peer groups of 22 informal science educators on strategic framing. NNOCCI's goal is to establish a national network of professionals who are skilled in communicating climate science to the American public in ways that are engaging and stimulate productive dialogue. Participants represent various zoos, aquariums, science centers or other types of visitors centers from around



the U.S. and join as a team in a Study Circle. The third and final meeting dealt with “Strategic Framing for Maximum Impact” and consisted of shared final projects of well-framed interpretations and preparation for implementing strategic framing back at our home institutions. The completion of the NNOCCI training equips participants with strategic framing skills and tools to provide climate change interpretation trainings to staff, volunteers and local and regional groups. NNOCCI is funded by National Science Foundation, New England Aquarium, and partners with Woods Hole Oceanographic Institute, Penn State University and NewKnowledge.org.

### **Olympic Coast Invited to Represent Olympic Peninsula on UK Familiarization Tour**



Olympic Coast National Marine Sanctuary (OCNMS) education staff joined Olympic Peninsula hospitality representatives, and fifteen selected UK tourism agents with their host, Brand USA, on a whale watching tour with Puget Sound Express. Travel agents were welcomed to the Pacific Northwest by southern resident orcas, including two of the young orca calves, a minke whale, a bald eagle, and many Steller sea lions. Brand USA, in partnership with American Airlines and British Airways, hosted this event to feature Olympic Peninsula as part of various holiday destinations of the United States for UK visitors seeking diverse, new experiences. During this large, multi-destination familiarization tour, nearly 100 agents embarked on one of seven itineraries, showcasing a total of eighteen U.S. states. The fifteen agents who traveled throughout Washington and Oregon were a part of the “Pacific Wilds” tour, and received resources and

information on Olympic Coast National Marine Sanctuary as a destination. Agents were encouraged to highlight ecotourism on the Olympic Coast for UK visitors. At the end of their respective trips, all participating tourism agents gathered in Huntington Beach, California to conduct an overall show-and-tell event, enabling everyone to share the many unique experiences they had around the United States.

### **Olympic Coast Discovery Center Volunteers Complete Training**

On May 24, five new docents completed their series of six training sessions in order to begin volunteering in Olympic Coast Discovery Center (OCDC). The training sessions consisted of various presentations, most given by Olympic Coast National Marine Sanctuary (OCNMS) staff, representing each of OCDC’s exhibits and current sanctuary and marine issues. The 2016 spring OCDC volunteer training also included an all-day field trip to Neah Bay to incorporate tribal culture from the Makah Cultural and Research Center, followed by a hike to Cape Flattery where volunteers witnessed some of the sanctuary’s natural resources including sea lions and a sea otter. The field trip ended with a short stop at Hobuck Beach, where new volunteers experienced the northern most accessible beach of OCNMS. The trainees also learned about intertidal species and habitats at Salt Creek Reserve during a half-day tidepooling excursion.



### **Student Education Programs in Olympic Coast Discovery Center**



Olympic Coast Discovery Center (OCDC) manager, Karlyn Langjahr, worked with education staff to welcome students from the region into OCDC for educational experiences. On May 27, 11 Port Angeles high school students and their teacher learned about ocean acidification. Students performed the educational activities demonstrating the effects of increased carbon dioxide on the ocean’s acidity. She facilitated discussions on the impacts to the marine food web, and how changes to the ocean impact humans as well. They also received a tour of OCDC, learned about the National Marine Sanctuary System and shared about community-level actions that we can take to mitigate the impacts of climate change. On May 31, Karlyn hosted third grade students and their teacher from Crescent School in Joyce, who conducted a scavenger hunt in OCDC to learn about the various exhibits featuring natural and cultural resources of the sanctuary, as well as its programs. On June 3, 54 students and their teachers/chaperones from first and third grade classes from Helen Haller School in Sequim, learned about sanctuary wildlife and habitats before exploring the OCDC in conjunction with an education program with partners at Feiro Marine Life Center. On June 3,

marine biology students from Peninsula College in Port Angeles spent the afternoon in OCNMS’s classroom learning about seabirds and marine mammals before exploring the OCDC. The Peninsula College Marine Biology class incorporates information about OCNMS and national marine sanctuaries every year as part of their curriculum. On June 10, Jefferson Elementary first grade students in Port Angeles, learned about OCNMS and ocean literacy, incorporating weather and climate

into the program. Students were then provided a staff guided tour of the OCDC to learn more about sanctuary programs and resources. Students completed their field trip with a visit to Feiro Marine Life Center.

### **NatureBridge Olympic Educators Provided With Training From Olympic Coast National Marine Sanctuary**

Olympic Coast National Marine Sanctuary (OCNMS) staff provided training for all education staff training to be NatureBridge Olympic educators. Training topics included an overview of the NOAA Office of National Marine Sanctuaries and OCNMS history, organizational mission, habitats and organisms, followed by two ocean acidification curriculums. Ocean acidification programs included “The Ocean’s Recipe for Success,” and “Deep Coral Communities of the West Coast”. Resources and hands on materials were provided to aid in implementation of more marine science and outreach into their programs. NatureBridge Olympic provides high-impact field experiences and environmental education reaching 5,000 students yearly. With a heavy focus on upper watershed health and riparian ecosystems, the fifteen educators and four program managers at NatureBridge Olympic are eager to raise their understanding and knowledge of the local marine environment. Future trainings are being set up for marine debris and tidepool organisms.



At another session, OCNMS staff presented to 12 regional teachers, representing grades 5-12, who were participating in a teacher workshop focusing on field studies to support next generation science standards. The evening presentation provided an introduction to Olympic Coast and the importance of marine protected areas around our nation, followed by curricula that support science, technology, engineering, and math. The West Coast Region Deep Coral Communities curriculum was introduced, including activities that could be adjusted to meet younger grades. The evening wrapped up with an introduction to the Marine Advanced Technology Education program in the Pacific Northwest, and a chance for teachers to build their own student Remotely Operated Vehicles while discussing how this could be implemented into classrooms across grades 5-12. Sanctuary and partner resources were provided for continued support and ideas through the school year.

Additionally, 10 NatureBridge educators learned about marine debris education and action from the OCNMS Outreach Specialist. After an overview of marine debris information and history, they looked at resources and activities to understand the impacts of marine debris and the community based solutions that can encourage the elimination of plastics entering our ocean. NatureBridge educators will be conducting backpacking trips this along Washington’s coast focusing on marine debris removal from our remote wilderness coastline. High school students from around the world will be participating in the coastal backpacking trip, enjoying the shoreline of Olympic Coast National Marine Sanctuary while leaving the beaches cleaner than they found them.

### **Neah Bay High School Students Focus on Water Quality Sampling and Food Sovereignty Field Investigation**

Neah Bay high school students participating in the Ecosystem Pen Pals program conducted their final field investigation aboard the Neah Bay charter boat *Wind Song*. Calm seas and mostly sunny skies made for pleasant cruise conditions as students, Makah Natural Resource staff, and Olympic Coast National Marine Sanctuary (OCNMS) staff conducted water quality sampling and food sovereignty discussions tied to marine health. Water column samples, plankton tows, and water chemistry data were collected in deep open waters, nearshore waters and inside the harbor waters. The trip was funded through a Hands on the Land Mini Grant awarded to OCNMS and Neah Bay high school. The grant provided the hands-on experience of ocean sampling with their local resource managers, while getting students into the sanctuary waters to experience the marine protected area they have been studying. The investigation was a follow up from a November cruise collecting similar data with Philippe Cousteau and his film company EarthEcho International. The students wrapped up their school year, and the pilot Ecosystem Pen Pals program. Ecosystem Pen Pals is a cultural and natural exchange program connecting indigenous students around the Pacific Rim and adjacent to national marine sanctuaries in Washington, Hawaii and American Samoa.

### **North Olympic Watershed Science Spring Programming Successfully Completed**

Olympic Coast National Marine Sanctuary (OCNMS), with partners Feiro Marine Life Center and Olympic National Park, engaged fifth grade students throughout the Sequim, Port Angeles and Crescent School districts during the North Olympic Watershed (NOW) Science spring program. The program began with staff from each organization conducting a classroom visit to expose students to the introductory principles of watershed science. A field study followed to engage students in a full day of experiential learning, including a walk of the Peabody Creek watershed, collecting and observing



water quality, and ocean acidification experiments. Students worked with sanctuary educators to draw the global connection between human actions and changing ocean chemistry. Students concluded in the OCNMS classroom by discussing changes we can make on a personal level, as well as community level, to help reduce the amount of carbon dioxide being released into our atmosphere to ultimately reduce the impact of ocean acidification. More than 750 students from 35 classes were reached through NOW Science fourth and fifth grade programs, which are developed to complement Next Generation Science Standards.

### **Taholah High School Students Explore Remotely Operated Vehicles Program**

Olympic Coast National Marine Sanctuary (OCNMS) staff conducted a remotely operated vehicle (ROV) workshop with Taholah high school science students on Quinault Indian Nation as part of World Oceans Day on June 8. Twelve students built their own student ROVs using bilge pump motors and PVC, and tested their vehicles for buoyancy and balance. They then practiced piloting their vehicles in the provided pool. Afterwards students, teachers and Quinault Natural Resource staff participated in ship to shore communications with E/V *Nautilus*. The *Nautilus* had recently explored the rim of Quinault Canyon in OCNMS and continued cruising the Cascadia margin and along the west coast. Quinault Indian Nation students were extremely interested in learning about the exploration of the highly productive area of Quinault Canyon. The ship to shore communications included 10 minutes of participant questions, where the group learned about skills needed to be an ROV pilot, some of the technology and sampling procedures used on the boat, and some of the most interesting things seen on the exploration mission so far.

### **Olympic Coast Welcomed Three NOAA Office of Education Hollings Scholars**



Olympic Coast National Marine Sanctuary (OCNMS) welcomed three new Hollings Scholars, Riley Evans, Lauren Kowalski and Gabe Almario. The Hollings Scholarship under NOAA's Office of Education is designed to support undergraduate studies in oceanic and atmospheric science, research, technology, and education, to increase public understanding and support for stewardship of the ocean and atmosphere, and to improve environmental literacy as well as recruit and prepare students for public service careers with NOAA.

Riley is a rising senior studying mathematics and education at the University of San Diego. Partnering with Feiro Marine Life Center, Riley is planning and leading two four-day Jr. Oceanographer camps and one four-day Marine Technology ROV camp. Through interactive and engaging activities, the camps promote understanding of OCNMS and its purpose, support Ocean Literacy principles, and foster lifelong interest and stewardship of our marine environment.

Lauren is currently a senior majoring in Oceanography at the University of Washington and minoring in Earth and Space Science. Lauren will be leading three four-day camps this summer with the OCNMS in conjunction with the Feiro Marine Life Center. She will conduct two oceanography based camps and one marine tech camp, reaching youth between ages 5-12. The camps will use hands-on activities to promote Ocean Literacy, while fostering lifelong ocean stewards.

Gabe is a senior Microbiology major at the University of Maryland—College Park, and has plans to attend law school for environmental law. He is assisting George Galasso, Deputy Superintendent for Policy and Programs, in creating a management plan for the Maritime Heritage resources found within the sanctuary. The management plan may encompass a wide array of resources, from shipwrecks and middens, to culturally important districts. To create a more comprehensive plan, Gabe is consulting with representatives of the Coastal Treaty Tribes, the state Department of Archaeology and Historic Preservation, and Olympic National Park. Gabe is also creating a policy recommendation, analyzing the consequences and alternatives to the resource management plan.

### **ROV Club Culminates at Kitsap Underwater Robotics Competition**

Olympic Coast National Marine Sanctuary and partners Feiro Marine Life Center conducted their second annual Remotely Operated Vehicle (ROV) after-school club over the academic school year, which culminated in the Kitsap Underwater Robotics Competition on June 11. Three teams from the club—one high school team, and two middle school teams—participated in the competition. The two middle school teams placed first and fifth out of 26 teams and the high school team placed 11th out of 16 teams. Students showed exemplary skills in teamwork, troubleshooting and problem-solving, while confidently approaching each challenge in the competition. The ROV club will resume in the fall of 2016.



### **Olympic Coast Students Participate in Ocean Science Education**

Olympic Coast National Marine Sanctuary (OCNMS), with Feiro Marine Life Center and Seattle Aquarium, conducted another successful year of ocean science education with Washington coastal schools. The ocean science program provided hands on experiential learning opportunities to approximately 350 students and 43 parent chaperones along Washington's coast, reaching eight schools and 17 teachers. Participating schools enjoyed a classroom visit focusing on intertidal monitoring, marine debris and watersheds, followed by a field trip to their local beach for intertidal monitoring and exploration or sandy beach exploration activities. Students also conducted NOAA marine debris surveys and focused on actions we can take personally and at community levels to encourage trash-free seas. Student groups were provided with waterproof cameras to photo-document their field investigations and marine debris collections. Schools were also given the opportunity for a second field trip to either Feiro Marine Life Center or the Seattle Aquarium. Participating schools included Clallam Bay, Queets Clearwater, Lake Quinalt, Taholah, Pacific Beach, Ocean Shores and Simpson elementary schools. Ocean science is designed to integrate NOAA Ocean Literacy concepts and principles into western Washington formal and informal educational programs. The program is a collaborative effort between Feiro Marine Life Center, Olympic Coast National Marine Sanctuary, and Seattle Aquarium, and supported by North Pacific Coast and Grays Harbor marine resource committees, as well as NOAA Marine Debris Program.

### **Junior Oceanographer Summer Camps Launched with Feiro Marine Life Center**

Olympic Coast National Marine Sanctuary (OCNMS) Hollings Scholar Riley Evans developed and led a four-day summer camp for children, ages five to six, in partnership with Feiro Marine Life Center in Port Angeles. Campers learned about the marine life of the Olympic Coast through interactive and hands-on learning, including a plankton tow, albatross bolus dissection, and many other activities. Each day campers followed the "Sense"ational Sea Life theme as they explored learning through touch, hearing, sight and taste. At the end of each day, campers reflected on what they learned and added information to a community board hanging cut-outs of various marine animals. The camp culminated by showcasing of each child's art and activities to parents and guests.



OCNMS Hollings Scholar Lauren Kowalski developed and led a four-day summer camp for children aged seven to nine in partnership with Feiro Marine Life Center in Port Angeles. The campers explored the ocean through its different zones across the four days. The week started off with students entering the intertidal zone and kelp forests, traveling to the sunlight zone, the twilight zone and the abyss. They learned about the different environments, animals, and animal adaptations to the environment for each zone through hands-on demonstrations of buoyancy, interacting with the touch tank animals at Feiro, playing games representing food webs and echolocation, and watching short video clips from ROVs that depicted animals of the twilight zone and the abyss. Each day ended with the campers drawing animals from each zone they learned about to add to an ocean zone mural.

### **Quileute Tribal School Summer School Students Dive Into Ocean Research and Plankton Studies**

Olympic Coast National Marine Sanctuary staff partnered with Northwest Indian College and Northwest Association of Networked Ocean Observing Systems (NANOOS) to conduct two days of summer school activities for Quileute Tribal School students. The activities were part of outreach events associated with the Integrated Ocean Observing Systems recent funding to monitor Harmful Algal Blooms (HABs) along Washington's coast. Students spent the first day exploring ocean research through remotely operated vehicles (ROV) and had the opportunity to build their own student ROVs and pilot it on site. Kindergarten students practiced balance and buoyancy with a build a plankton activity, while first through eighth grade students built their ROVs in teams with Northwest Indian College students. The afternoon was dedicated to understanding NANOOS data and how to ask questions with that data. The second day focused on plankton communities and HABs. Students built their own plankton nets, conducted plankton tows and microscope work, then spent the afternoon working with NANOOS data collected from the Cha'ba buoy located 12 miles off-shore of La Push.



### **Sanctuary Speaks to Forks Community**

Deputy Superintendent George Galasso presented "What's going on with Olympic Coast National Marine Sanctuary-2016 Programs", during an Olympic Natural Resource Center Evening Talk. The Evening Talk Program provides speakers, involved in Forestry and Ocean Science, an opportunity to talk about their work to the Forks Community.

## Ecosystem Pen Pals: Connecting Indigenous Communities Around the Pacific Rim



focusing on food sovereignty, as well as ocean research, climate change and ocean acidification.

Coastal communities around the world are feeling the negative impacts of climate change and ocean acidification to their way of life. For coastal indigenous people, who have relied on the ocean for sustenance and cultural connections for millennia, the need to increase their ability to understand and adapt to changing ocean and coastal conditions is essential. Through NOAA's Pacific Northwest Bay Watershed and Training Program (B-WET), Suquamish Tribe developed Ecosystem Pen Pals, an environmental and cultural exchange program. Ecosystem Pen Pals assembled indigenous students from across the Pacific Rim living near national marine sanctuaries – from the Hawaiian Islands, American Samoa, and the western coast of Washington State – in a series of year-long educational and pen pal activities

Students used their local marine environments as their context for sharing, documenting their own ecosystems and producing field guides, videos, or posters, while providing an opportunity to connect to their surroundings and foster local knowledge. Students and their families also put together “ecosystem suitcases” filled with natural and cultural artifacts gifted to their partner schools. On Earth Day, students came together through a virtual and in-person “Indigenous Youth Summit on Climate and Ocean Change”, hosted by Suquamish Tribe, NOAA Olympic Coast National Marine Sanctuary and EarthEcho International. The summit celebrated our blue planet while concentrating on the urgency for solution-based conversations and actions. Students from each school provided short presentation on ocean and climate change and the impacts facing their cultural and natural resources. Overall, the Ecosystem Pen Pal program encouraged awareness and understanding of how changes in the marine environment are affecting indigenous ecosystems, culture, economy, and traditional ways of life while exploring ways students can take action to protect these precious resources for future generations.

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

### Exploring a Deep Canyon in Olympic Coast National Marine Sanctuary

A team of experts from the College of Charleston, University of Washington, and Oregon State University contributed to the NOAA-led, multi-disciplinary survey of Quinault Canyon in Olympic Coast National Marine Sanctuary. The survey gathered data for a host of research projects and ocean management activities, including swath bathymetry, acoustic backscatter and water column data. The mission revealed rocky outcrops along the canyon rim and a remarkable number of methane plumes throughout the water column, setting the stage for future ground-truthing surveys by remotely operated vehicles. Researchers plan to further investigate methane releases at various depths and the presence of habitats for living organisms on the deep canyon's previously unmapped ridges.

### EV *Nautilus* Provides First Images of WWII Shipwreck and Quinault Canyon Rim



Ocean Exploration Trust's Exploration Vessel (E/V) *Nautilus* conducted the Cascadia Margin cruise between June 1 and 19, 2016, with a focus on exploration of maritime heritage resources, methane seeps, and seafloor habitats along the Pacific Coast between Victoria, British Columbia and San Francisco, California. A sonar target just north of Olympic Coast National Marine Sanctuary waters about 30 miles west of Cape Flattery proved to be the wreck of SS *Coast Trader*, a freighter carrying newsprint that was hit when attacked by a torpedo from the Japanese submarine I-26 in June 1942. Sinking in less than an hour, *Coast Trader*'s crew took to lifeboats in extreme weather, and were rescued by a fishing boat crew. All except one survived. A remotely

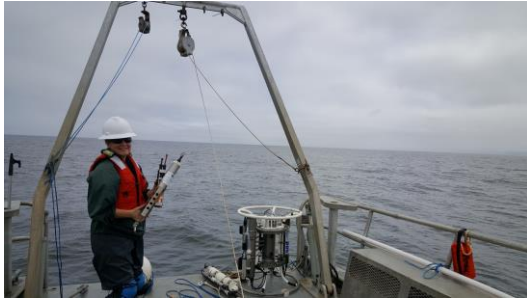
operated vehicle provided the first images of the shipwreck, which was sitting upright on the seabed, substantially intact with the torpedo impact area clearly discernable.

Another dive with the *Nautilus*'s remotely operated vehicles explored the sanctuary seafloor along the rim of the Quinault Canyon. The mission was to ground-truth recently collected sonar mapping data, to explore various substrates and habitats identified in sonar data, and provide the first video and images of the geology and marine life from this highly productive area. In both dives, sanctuary staff participated as Scientists Ashore to provide guidance to vessel operations and direct immediate mission priorities for sampling, photography and documentation.



### Sanctuary Deploys Oceanographic Moorings for 2016 Field Season

NOAA's Olympic Coast National Marine Sanctuary commenced the 2016 summer field season and its oceanographic mooring program with deployment of instrumented buoys between Makah Bay and Cape Elizabeth off the Washington coast.



This program was initiated in 2000 to monitor water quality and currents, plankton density (including harmful algal blooms), upwelling and low oxygen events that affect marine life, and human health in the region. Ten mooring buoys are positioned in nearshore waters at 15 and 42 meters depth at five locations along the 135 mile sanctuary coastline. The mooring buoys were deployed from the sanctuary's Research Vessel (R/V) *Tatoosh* and will be recovered in early October before harsh winter ocean conditions develop. Data being collected include ocean temperature, conductivity (salinity), current velocity and direction, dissolved oxygen, fluorescence (a proxy for plankton), and turbidity.

### Sanctuary Crew Assists with 2016 West Coast Ocean Acidification Cruise

Simultaneous with NOAA's Pacific Marine Environmental Laboratory operations at deep stations off the Washington coast, Olympic Coast National Marine Sanctuary and Olympic National Park (ONP) staff sampled waters closer to shore to establish a transect and characterize water quality conditions across the continental shelf. Sanctuary staff, operating from their 40 foot Research Vessel (R/V) *Tatoosh*, deployed a rosette with bottles programmed to collect water samples at multiple depths through the water column along two transect lines offshore from shore-based stations where ONP has intertidal water monitoring stations with instruments continuously recording data. This collaboration with ONP and NOAA's ocean acidification cruise helped to link the long-term seawater chemistry data with the 'snapshots' captured by the scientists aboard the NOAA Ship *Ronald Brown*. All together, these measurements will generate a more comprehensive picture of ocean acidification from the shore out across the continental shelf off Washington's outer coast.

### Monthly Seabird Surveys Re-started After Two Year Hiatus

Funding from the Office of National Marine Sanctuaries' West Coast regional office and support from volunteers enabled Olympic Coast National Marine Sanctuary to conduct its first monthly seabird survey on June 18 following a two-year gap due to staffing shortage and technical challenges. These surveys, initiated by sanctuary researchers in 2006 and conducted from the sanctuary's R/V *Tatoosh*, provide seasonal distribution data for seabirds and marine mammals from a box transect crossing the continental shelf and fingers of the Juan de Fuca Canyon complex in northern sanctuary waters. The surveys fill a significant data gap by providing abundance and distribution data for pelagic seabirds over a biologically productive area with active upwelling of nutrient-rich waters. Bob Boekelheide, an Advisory Council member and expert birder, helped recruit and schedule observers with experience identifying birds found in offshore waters. Other birders on board included Scott Horton, wildlife biologist with Washington Department of Natural Resources, Sue Thomas, seabird biologist from Washington Islands National Wildlife Refuge Complex, and sanctuary staff at the helm and on data entry. Surveys are planned through October if suitable weather conditions persist into the fall.



## CONSERVE NATURAL RESOURCES IN THE SANCTUARY

### Olympic Coast National Marine Sanctuary and Partners Hold Successful Beach Cleanup in Neah Bay

On July 5, Olympic Coast National Marine Sanctuary (OCNMS)—in coordination with Washington CoastSavers and the Makah Tribe—conducted a fifth beach cleanup following Independence Day celebrations on Tsoo-Yess Beach on Makah Tribe Reservation. Washington Service Corps AmeriCorps member based at OCNMS, Rebecca Lewis, led the effort with the help of an OCNMS volunteer. Rebecca and the OCNMS volunteer were able to communicate with several Makah Tribal members during the cleanup to encourage future prevention and removal of marine debris.





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

### **Cooperative Assessment of SS *Coast Trader***

On June 2, a remotely operated vehicle reconnaissance of a WWII shipwreck just outside the boundaries of Olympic Coast National Marine Sanctuary was undertaken in cooperation with NOAA's Office of Ocean Exploration and Research (OER), Pacific Marine Environmental Laboratory (PMEL), the U.S. Coast Guard, and the non-profit Ocean Exploration Trust (OET) of Dr. Robert Ballard. The dive was conducted by the ROV Hercules from the E/V *Nautilus*. The wreck, SS *Coast Trader*, was a civilian vessel under U.S. Army charter when it was torpedoed by the Japanese Submarine I-26 on June 7, 1942 and sunk off the entrance of the Straits of Juan de Fuca. One crew member died of exposure awaiting rescue. The wreck is considered historic, and was also subsequently identified by NOAA in its Remediation of Underwater Legacy Environmental Threats report to the Coast Guard as a concern due to a significant portion of the 8,088 bbls of Bunker C fuel that could still remain in the ship. *Coast Trader's* exact position was only recently determined through a Canadian multibeam sonar survey, and this site visit marked the first time the ship has been seen since her loss. OET, working with PMEL on a cruise in the vicinity led by Dr. Robert W. Embley, was able to provide the vessel and a several hour dive which was led by Dr. James Delgado, NOAA's Office of National Marine Sanctuaries (ONMS) Maritime Heritage director, and archaeologist Frank Cantelas of OER. Lisa Symons of ONMS arranged for the participation of NOAA's Office of Response and Restoration and the Coast Guard. The wreck was positively identified and assessed in a telepresence broadcast dive and much was learned. While the stern section has been destroyed by the torpedo attack, the remainder of the vessel was intact and appears to be in good condition. No signs of leaking oil were observed.

### **Olympic Coast National Marine Sanctuary Participates in Tribal Cultural Resources Summit**

Olympic Coast National Marine Sanctuary staff attended a Tribal Cultural Resources Summit, organized by Washington State Department of Archeology and Historic Preservation and hosted by the Squaxin Island Tribe. The meeting included updates by members of the Advisory Council of Historic Preservation and discussions between federal and state agencies, Tribal Historic Preservation Officers, and professional archeologists. This was an excellent forum for discussing issues related to the implementation of the National Historic Preservation Act in Washington State. The event was timely, as the sanctuary is currently working on a Maritime Heritage Resource management plan, meant to address these obligations.

### **Maritime History of Washington State**

On May 18, Washington State Archaeologist Rob Whitlam spoke to 30 community members on archaeological and maritime history in Washington State at The Landing Mall in Port Angeles. Rob highlighted the role of maritime heritage in the development of the state's history and culture, showcasing the major archaeological finds of the area and the available human settlements as glaciers retreated north over the last 13,000 plus years. The Olympic Peninsula's outer coast had an extended shoreline in glacial periods, leading to the thought that much of the evidence of early human settlements along the Washington coast could lie under Olympic Coast National Marine Sanctuary (OCNMS) waters. Archaeology is an important area of interest for marine protected areas. Thorough seafloor mapping of our sanctuaries is also important, and may reveal new archaeological findings. The event was part of the public speaker series, a partnership program between Feiro Marine Life Center and OCNMS.



## SANCTUARY PERMITTING

### **Issued Permits and Authorizations**

**OCNMS-2014-004 Amendment 1** – John Mickett, University of Washington

**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:** Altering or disturbing the seafloor in connection with the placement, operation and retrieval of two oceanographic moorings

**Project Location:** Approximately 15nm WNW of La Push, Washington

**Permit Duration:** May 19 – December 31, 2016

**Comment:** A permit amendment has been requested to deploy a third mooring in summer 2016 to get functional pH meter, plus current meter and thermistors in the water. A fully recoverable mooring and anchor will be used.

**OCNMS-2016-005** – Heather Reed, Washington Department of Fish and Wildlife

**Project Title:** Coastal razor clam population assessment, Dungeness crab management, enforcement and derelict gear recovery surveys in Olympic Coast National Marine Sanctuary

**Permitted Activity:** Razor clam stock assessment work at Kalaloch Beach; overflights within the sanctuary's overflight restriction zone for crab fishery enforcement and survey for derelict crab gear to support removal operations

**Project Location:** Coast-wide within the sanctuary

**Permit Duration:** Five years, through May 2021

**Comment:** The previous permit covering same activities (OCNMS-2011-003) expired before renewal so a new permit will be issued. This permit also supports derelict crab gear assessment and removal efforts by The Nature Conservancy in collaboration with the Quileute Tribe and Quinault Indian Nation.

#### **Pending Permit Requests**

**OCNMS-2016-002** – Brad Hanson, NMFS

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

**Permitted Activity:** Altering or disturbing the seafloor in connection with the deployment of seven moorings in OCNMS

**Project Location:** Seven mooring locations widely distributed in the sanctuary

**Permit Duration:** Five years, through 2020

**Comment:** There is concern about repeated anchor abandonment at the same locations for multiple years, an issue identified by Quileute Natural Resources. An analysis of vessel capabilities and availability, field conditions, and costs associated with fully retrievable anchor systems will be conducted before permit terms are defined and this permit is issued. No progress has been made on this evaluation, thus this permit is pending.

**OCNMS-2016-003** – Florian Graner, Sealife Productions

**Project Title:** Intertidal StormCam

**Permitted Activity:** Altering or disturbing the seafloor in connection with installation of two base plates for camera housing in the intertidal area

**Project Location:** Sokol Point, north of Hole in the Wall/Rialto Beach

**Permit Duration:** Fourteen months, April 2016 through June 2017

**Comment:** This project is a collaboration with Olympic National Park. The permittee has not returned a signed permit and is seeking permission from the Makah Tribe for an alternative installation location, which will require a permit modification.

**OCNMS-2016-004** – Shawn Larson, Seattle Aquarium

**Project Title:** Use of Drones for Sea Otter Foraging Data Collection

**Permitted Activity:** Overflight with drone within sanctuary's overflight restriction zone

**Project Location:** Nearshore coastal areas where sea otters are distributed; proposed for launch from Makah lands and Giant's Graveyard/Toleak area if Park permission granted

**Permit Duration:** One year, through June 2017

**Comment:** All drone use permits will include recording and reporting of observations of wildlife during drone flights to provide information to support further evaluation of disturbance impacts and definition of appropriate operational procedures. Restrictions on drone launch from National Park lands may limit areas of operation allowed in a sanctuary permit. Need to verify new FAA rules for approval and certification for drone use and Makah approval for launch from Makah lands.

**OCNMS-2016-006** – Van Helker, National Marine Fisheries Service

**Project Title:** Aerial surveys of Olympic Coast National Marine Sanctuary Steller sea lion sites with an unmanned aircraft

**Permitted Activity:** Overflight with drone within sanctuary's overflight restriction zone

**Project Location:** Vicinity of Carroll Island and Sea Lion Rock

**Permit Duration:** Two years, through September 2017

**Comment:** All drone use permits will include recording and reporting of observations of wildlife during drone flights to provide information to support further evaluation of disturbance impacts and definition of appropriate operational procedures. Drone launch from a boat is proposed. Permittee has FAA approval for UAS piloting. Permit was completed but permittee withdrew request on 14July2016 because pup counts had declined already for the season. Will re-evaluate need and conditions for a permit in 2017.

**OCNMS-2016-007** – Tim Wooton, University of Chicago

**Project Title:** Large-scale shoreline monitoring using aerial photographic platforms

**Permitted Activity:** Overflight with drone within sanctuary's overflight restriction zone

**Project Location:** Vicinity of Tatoosh Island

**Permit Duration:** Five years, through 2021

**Comment:** All drone use permits will include recording and reporting of observations of wildlife during drone flights to provide information to support further evaluation of disturbance impacts and definition of appropriate operational procedures. Need to verify new FAA rules for approval and certification for drone use. Makah approval (research permit) has been provided for launch from Makah lands.

## LEARN ABOUT YOUR SANCTUARY / NATURAL HISTORY

### A Raft of Sea Otters Observed During Annual Census

Just in time to show off for the annual Washington Sea Otter Census on July 1, a raft of 687 sea otters moved inshore from Destruction Island to North Rock near the Hoh River the last week of June, according to Washington Department of Fish and Wildlife biologist Steve Jeffries. An additional 30 sea otters were sighted on the back side of North Rock – seen in the corner of the photo taken during the survey. Large groups of sea otters were also seen off Kalaloch and just off the break at South Beach Campground.



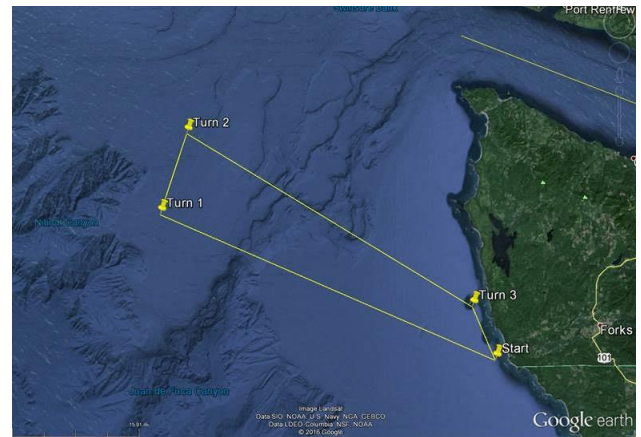
### Report on OCNMS Seabird Survey

A seabird survey aboard Olympic Coast National Marine Sanctuary (OCNMS) research and monitoring vessel R/V *Tatoosh* followed a research cruise track established in 2006 to quantify birds in offshore waters of OCNMS. The cruise route outlined a long rectangular shape, or box transect, starting about two miles off La Push, proceeding west-northwest approximately 40 miles offshore, jogging north about 10 mi, back to the coast in the vicinity of Carroll and Sea Lion Islands, and eventually returning to La Push along the coast 2 to 3 miles offshore. The track crossed the Juan de Fuca Canyon on both outbound and inbound legs.

Observers used seabird survey protocols, counting within 300 m of the boat on the forward port quarter, relaying observations to the data recorder (OCNMS staff) who entered data on a laptop using SEABIRD data entry software. Seabird observers included Bob Boekelheide, Scott Horton (WDNR biologist), and Sue Thomas (USFWS biologist). Visibility was excellent throughout the trip.



The most active area for seabirds and marine mammals was about 20-25 miles offshore near the Juan de Fuca Canyon. On the outward leg, surveyors encountered thousands of sooty and pink-footed shearwaters, along with humpback whales, Risso's dolphins, Pacific white-sided dolphins, and Dall's porpoises. On the return leg during the afternoon large numbers of shearwaters were found, but fewer marine mammals. The shearwaters largely sat on the water in resting flocks, or flew by in fairly random directions, and were not seen actively feeding. Some areas--particularly far offshore on the return leg and some areas of the continental shelf--yielded infrequent bird sitings and fewer marine mammals. Other notable wildlife observed included harbor porpoises, orcas, northern fur seals, a blue shark and *Mola mola*.



## REGIONAL / NATIONAL MARINE SANCTUARY SYSTEM NEWS

### “Get Into Your Sanctuary” Makes a Splash

On June 25-26, national marine sanctuaries across the system welcomed the public to the 2nd National “Get into Your Sanctuary” Celebration – under the unifying theme to build awareness of these iconic destinations and encourage responsible enjoyment of the natural and cultural resources protected within. More than 8,180 visitors took part in sanctuary activities that included guided kayak, maritime history and eco-tours, photography workshops, interpretive programs, whale watching, gear demos, and reef clean-ups. Many events demonstrated cross-sector partnerships, and several also supported initiatives

like the National Park Centennial, Great Outdoors Month, and Every Kid in a Park. The celebrations garnered involvement from 13 congressional offices and press coverage on more than 18 media outlets. Social media provided another vector for engagement (#ILoveMySanctuary posts potentially reached 1 million during June), and a photo contest is prompting visitors to visually share sanctuary experiences through July 15 (<http://sanctuaries.noaa.gov/earthisblue/photo-contest.html>).

### **NOAA Announces Proposals to Expand Flower Garden Banks National Marine Sanctuary**

Building on more than 30 years of scientific studies, including numerous reports released in the last decade and in the aftermath of the 2010 *Deepwater Horizon* oil spill disaster, announced a proposal to expand Flower Garden Banks National Marine Sanctuary to protect additional critical Gulf of Mexico habitat. The plan lays out five expansion scenarios, ranging from no expansion of the 56-square-mile sanctuary, to one bringing it to a total of 935 square miles. In NOAA's preferred scenario, the sanctuary would expand to 383 square miles to include 15 reefs and banks that provide habitat for recreationally and commercially important fish, as well as a home to 15 threatened or endangered species of whales, sea turtles, and corals.



Expansion of the sanctuary emerged as one of the top priority issues during a review of the sanctuary's management plan in 2012. The *Deepwater Horizon* oil rig explosion, which resulted in the largest marine oil spill in U.S. history, also accelerated interest in expansion, with government scientists and non-governmental organizations urging additional protections for marine life and essential Gulf habitat. For more information, visit: <http://flowergarden.noaa.gov/>.

### **National Marine Sanctuaries Invest in Building Capacity to Adapt to Climate Change**

The Office of the National Marine Sanctuaries (ONMS) took advantage of the very successful Ocean Climate Summit and the climate-smart conservation training offered by the California Landscape Conservation Cooperative to train other sanctuaries' staff in integrating building resilience to climate change impacts through adaptation planning. Greater Farallones National Marine Sanctuary and Association, in partnership with numerous regional entities, convened the Fourth Ocean Climate Summit: Resilience through Climate-Smart Conservation on May 17 in San Francisco, California. Participants attended from ONMS and American Samoa, Olympic Coast, Channel Islands, Cordell Bank, Monterey Bay, and Hawaiian Islands Humpback Whale national marine sanctuaries. The Ocean Climate Summit and subsequent climate smart conservation training provided a unique opportunity for sites to gather ideas, lessons learned, best practices from the work in Central California, and witness how the work was executed through the Sanctuary Advisory Councils enabling a strong public engagement.

### **Earth Is Blue Magazine Launched**

Office of National Marine Sanctuaries Education & Outreach Division has launched the inaugural issue of *Earth Is Blue: The Magazine of the National Marine Sanctuaries*. Created in partnership with the National Marine Sanctuary Foundation, this yearly 80-page magazine uses vivid imagery and engaging articles to showcase the diversity of amazing marine life within national marine sanctuaries and marine national monuments and to tell stories about the people who depend on them. The print version of the magazine was launched at Capitol Hill Ocean Week 2016, while the online version went live on June 24. Earth Is Blue magazine on the web: <http://sanctuaries.noaa.gov/magazine/1/>

## **MARINE-RELATED NEWS COVERAGE**

### **Change Ahead for Port Angeles' City Pier; Consultants Unveil Concepts**

"City Pier is destined for big changes. It will take a while but those who weighed-in on the future of the Port Angeles City Pier last week told consultants with Studio Cascade of Spokane that they don't want just a light touch of a new coat of paint and other sprucing up."

[www.peninsuladailynews.com/article/20160516/NEWS/305169990](http://www.peninsuladailynews.com/article/20160516/NEWS/305169990)

### **NOAA: Dungeness Crab in Peril From Acidification**

"As levels of carbon dioxide rise in the atmosphere due to fossil fuel burning and other human-caused pollution, it changes water chemistry, hurting survival of crab larvae."

[www.seattletimes.com/seattle-news/environment/noaa-dungeness-crab-in-peril-from-acidification/](http://www.seattletimes.com/seattle-news/environment/noaa-dungeness-crab-in-peril-from-acidification/)

### **Native Olympia Oysters Have Built-In Resistance to Ocean Acidification**

“Native Olympia oysters have a built-in resistance to ocean acidification, according to a newly published study in the Journal of Limnology and Oceanography. Native Olympia oysters are smaller than the larger, faster-growing Pacific oysters preferred by farmers.”

[kuow.org/post/native-olympia-oysters-have-built-resistance-ocean-acidification-0](http://kuow.org/post/native-olympia-oysters-have-built-resistance-ocean-acidification-0)

### **Can Kelp Save The Pacific Ocean?**

“When it comes to ocean acidification, the Pacific Northwest is set to be ground zero for some of the most dire impacts — so it makes sense that scientists in Washington state would be on the forefront of research aimed at finding solutions.”

[thinkprogress.org/climate/2016/07/06/3795470/kelp-ocean-acidification/](http://thinkprogress.org/climate/2016/07/06/3795470/kelp-ocean-acidification/)

### **Studies Testing Kelp as Local Fix for Acidifying Seawater**

“Scientist Joth Davis unspooled 150 feet of line holding thousands of tiny spores of kelp into Hood Canal in Washington state, while Brian Allen dove underwater and affixed the line to a buoy. Submerged about 10 feet underwater, the bull kelp seedlings will eventually form thick, slimy ribbons of brown seaweed and in the process take up carbon dioxide and other nutrients. Researchers hope it could offer a local strategy to ease the effects of ocean acidification - when seas absorb carbon dioxide released into the atmosphere by human activity, a phenomenon that raises acidity and threatens marine life.”

[www.khq.com/story/32352409/studies-testing-kelp-as-local-fix-for-acidifying-seawater](http://www.khq.com/story/32352409/studies-testing-kelp-as-local-fix-for-acidifying-seawater)

### **UW, NOAA Deploy Ocean Robot to Monitor Harmful Algal Blooms Off Washington Coast**

“Scientists with the University of Washington and the National Oceanic and Atmospheric Administration deployed a new tool this week that will constantly be on the lookout for harmful algal blooms and their toxins off the coast of La Push, Washington.”

[www.washington.edu/news/2016/05/25/uw-noaa-deploy-ocean-robot-to-monitor-harmful-algal-blooms-off-washington-coast/](http://www.washington.edu/news/2016/05/25/uw-noaa-deploy-ocean-robot-to-monitor-harmful-algal-blooms-off-washington-coast/)

### **NOAA: Harmful Algae Still Around But Not Producing Much Toxin**

“A microscopic organism that forced state health officials to close razor clam and Dungeness crab seasons last year is still around at varying levels in seawater along the West Coast, but isn’t producing much domoic acid toxin, federal scientists reported this month after wrapping up a research cruise.”

[www.chinookobserver.com/co/local-news/20160628/noaa-harmful-algae-still-around-but-not-producing-much-toxin](http://www.chinookobserver.com/co/local-news/20160628/noaa-harmful-algae-still-around-but-not-producing-much-toxin)

### **'The Blob' Overshadows El Niño**

“El Niño exerted powerful effects around the globe in the last year, eroding California beaches; driving drought in northern South America, Africa and Asia; and bringing record rain to the U.S. Pacific Northwest and southern South America. In the Pacific Ocean off the West Coast, however, the California Current Ecosystem was already unsettled by an unusual pattern of warming popularly known as ‘The Blob.’”

[phys.org/news/2016-07-blob-overshadows-el-nino.html](http://phys.org/news/2016-07-blob-overshadows-el-nino.html)

### **Study Reveals Harm to Fish From Tiny Bit of Plastic Pollution**

“Scientists have demonstrated for the first time the devastating physiological and behavioral effects on fish exposed to the tiny bits of plastic pollution clogging the world's oceans.”

[www.reuters.com/article/us-science-fish-idUSKCN0YO2XD](http://www.reuters.com/article/us-science-fish-idUSKCN0YO2XD)

### **Plastic Pollution Fight Should Start on Beaches**

“Efforts to rid our oceans from plastic pollution should focus on cleaning up beaches rather than the sea itself, according to research carried out by Eunomia Research & Consulting.”

[resource.co/article/plastic-pollution-fight-should-start-beaches-11120#.V0ghEbjVtwg.twitter](http://resource.co/article/plastic-pollution-fight-should-start-beaches-11120#.V0ghEbjVtwg.twitter)

### **Researchers Examine Second World War Wreck Found in BC Waters**

“In life, Coast Trader was a nondescript old coastal freighter that plied the west coast of the U.S., ferrying goods between Washington, Oregon and California. In death, however, it has grown in stature, being the second merchant vessel to be sunk during the Second World War by a submarine off the west coast of North America.”

<http://vancouversun.com/news/local-news/researchers-examine-historic-second-world-wreck-found-in-b-c-waters>

### **NOAA Killer Whale Patrols Begin in San Juan Islands**

“Officers with NOAA’s Office of Law Enforcement (OLE) will soon begin seasonal summer patrols in Haro Strait around Washington’s San Juan Islands. They will be enforcing special Federal regulations designed to protect endangered Southern Resident killer whales by keeping boat traffic at a safe distance from the whales.”

<http://sanjuanislander.com/news-articles/environment-science-whales/whales-2/22208/noaa-killer-whale-patrols-begin-in-san-juan-islands>

### **Transient Orcas Visiting Northwest Waters in Record Number**

“Now deemed ‘resident transients,’ mammal-eating orcas are becoming familiar visitors to northwest waters. ‘I remember Dr. John Ford (head of the Cetacean Research Program at the Pacific Biological Station) telling me at least 10 years ago that by this time we’d start seeing an influx of transient killer whales in the Salish Sea, and he was right,’ explained Capt. Mark Malleson, of Prince of Whales Whale Watching.”

[www.kiro7.com/news/local/transient-orcas-visiting-northwest-waters-in-record-number/291793836](http://www.kiro7.com/news/local/transient-orcas-visiting-northwest-waters-in-record-number/291793836)

### **Orcas are First Non-Humans Whose Evolution is Driven by Culture**

“You could call it a culture shock. Many researchers accept that cultural experiences have helped shape human evolution – and evidence has now emerged that the same may be true of killer whales. Human genomes have evolved in response to our cultural behaviours: a classic example is the way that some human populations gained genes for lactose tolerance following the onset of dairy farming.”

[www.newscientist.com/article/2091134-orcas-are-first-non-humans-whose-evolution-is-driven-by-culture/](http://www.newscientist.com/article/2091134-orcas-are-first-non-humans-whose-evolution-is-driven-by-culture/)

### **Feds to Pursue New Approach to Protect Whales From Noise**

“The ocean is getting noisier. That’s bad news for whales, dolphins and other marine mammals that rely on their hearing for navigation, communication, foraging for food and just about everything else. In response, the National Oceanic and Atmospheric Administration has announced a new approach for fighting underwater noise.”

[www.scpr.org/news/2016/06/02/61244/feds-to-pursue-new-approach-to-protect-whales-from/](http://www.scpr.org/news/2016/06/02/61244/feds-to-pursue-new-approach-to-protect-whales-from/)

### **A Plan for Turning Down Manufactured Ocean Sounds**

“The ocean is loud: Ship propellers, sonar, oil and gas drilling and other industrial work make sounds, even if, like the proverbial tree falling in the forest, no one can hear it.”

[http://www.nytimes.com/2016/06/03/science/noise-pollution-oceans-noaa-roadmap.html?\\_r=0](http://www.nytimes.com/2016/06/03/science/noise-pollution-oceans-noaa-roadmap.html?_r=0)

### **Washington Ecology Director Says Region 'Falling Short' On Oil Spill Response**

“Friday’s oil train derailment and fire comes as Washington state prepares to put new oil shipment safety rules into effect. In fact, the derailment in the Columbia Gorge happened just as the first public hearing on those rules was wrapping up in Vancouver, Washington.”

[www.kplu.org/post/washington-ecology-director-says-region-falling-short-oil-spill-response](http://www.kplu.org/post/washington-ecology-director-says-region-falling-short-oil-spill-response)

### **Community Invited to ‘Get Into Your Sanctuary’**

“The Office of National Marine Sanctuaries is inviting the public to ‘Get into Your Sanctuary,’ as part of a national celebration of America’s underwater treasures. Get into Your Sanctuary activities will include guided tours, gear demonstrations, scavenger hunts, a youth fishing tournament, beach surveys, island hikes and whale watch tours.”

[www.sequimgazette.com/news/382260601.html](http://www.sequimgazette.com/news/382260601.html)

### **WEEKEND: Olympic Coast National Marine Sanctuary Plans Nature Photography Workshop, Film for Saturday**

“A nature photography workshop and a film on the Olympic coastline are scheduled for Saturday. The two free events are planned by Olympic Coast National Marine Sanctuary officials to introduce residents to the natural resource. Get Into Your Sanctuary is a national movement that promotes and celebrates the 14 national marine sanctuaries across the country.”

[www.peninsuladailynews.com/article/20160624/NEWS/306249979](http://www.peninsuladailynews.com/article/20160624/NEWS/306249979)

### **Cantwell Receives Oceans Leadership Award**

“On Tuesday night in Washington, D.C., Sen. Maria Cantwell was awarded the Leadership Award from the National Marine Sanctuary Foundation. The award recognizes Cantwell’s leadership in ocean conservation and her advocacy for the Olympic Coast National Marine Sanctuary. The Foundation also recognized Cantwell’s advocacy for sustainable fisheries, keeping Washington’s coastal economies vibrant and oil spill prevention.”

[thedailyworld.com/news/local/cantwell-receives-oceans-leadership-award](http://thedailyworld.com/news/local/cantwell-receives-oceans-leadership-award)

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### **After the Dams: A River of Junk Runs Through Unleashed Elwha**

“The two dams have been removed, but the work isn’t done on the Elwha River, on the Olympic Peninsula. Debris endangers boaters, a rock fall threatens fish passage upstream, and a once-again-wild river has washed out campgrounds and a road.”

[www.seattletimes.com/life/outdoors/after-the-dams-a-river-of-junk-runs-through-unleashed-elwha/](http://www.seattletimes.com/life/outdoors/after-the-dams-a-river-of-junk-runs-through-unleashed-elwha/)

### **River Revives After Largest Dam Removal in U.S. History**

“In August 2014, workers completed the largest dam removal project in U.S. history, as the final part of the 210-foot-high (64-meter-high) Glines Canyon Dam was dismantled on the Elwha River in northwestern Washington State.”

[news.nationalgeographic.com/2016/06/largest-dam-removal-elwha-river-restoration-environment/](http://news.nationalgeographic.com/2016/06/largest-dam-removal-elwha-river-restoration-environment/)

### **WEEKEND REWIND: Parking Issue Delays Port Angeles City Pier Recommendation**

“A consulting company has delayed a recommendation for City Pier's future after online survey respondents were divided on the importance of retaining full use of a downtown parking lot at the site.”

[www.peninsuladailynews.com/article/20160702/NEWS/307029981](http://www.peninsuladailynews.com/article/20160702/NEWS/307029981)

### **OUTDOORS: Edmonds Kayaker Catches Record 124-pound Halibut Off Neah Bay**

“A fish tale blending equal parts of Ernest Hemingway’s ‘The Old Man and the Sea’ and the classic “teach a man to fish” parable recently unwound in the Pacific Ocean near Neah Bay. Leo Vergara, a 34-year-old Edmonds angler, achieved his fishing dream near Strawberry Rock in Makah Bay: he caught a halibut while sea kayaking.”

[www.peninsuladailynews.com/article/20160526/NEWS/305269994/outdoors-edmonds-kayaker-catches-record-124-pound-halibut-off-neah](http://www.peninsuladailynews.com/article/20160526/NEWS/305269994/outdoors-edmonds-kayaker-catches-record-124-pound-halibut-off-neah)

### **OUTDOORS: Some Coho Fishing Coming After All on the North Olympic Peninsula**

“The complete details of last week's salmon season agreement between state Department of Fish and Wildlife and treaty tribes is available online at [tinyurl.com/PDN-Salmon16-17](http://tinyurl.com/PDN-Salmon16-17).”

[www.peninsuladailynews.com/article/20160602/NEWS/306029989/outdoors-some-coho-fishing-coming-after-all-on-the-north-olympic](http://www.peninsuladailynews.com/article/20160602/NEWS/306029989/outdoors-some-coho-fishing-coming-after-all-on-the-north-olympic)

## 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](mailto:Jacqueline.Laverdure@noaa.gov).*

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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's Pacific Marine Environmental Laboratory**

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



## 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](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 170,000 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>.

### OCNMS Staff

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