

# SANCTUARY ADVISORY COUNCIL



July 19, 2019

*Lee Whitford, Chair*  
*Casey Dennehy, Vice-Chair*  
*John Veentjer, Secretary*

Ms. Carol Bernthal, Superintendent  
Olympic Coast National Marine Sanctuary  
115 East Railroad Avenue, Suite 301  
Port Angeles, WA 98362

## Representation

*Citizen-At-Large*  
*Commercial Fishing*  
*Conservation*  
*Education*  
*Marine Business*  
*Outer Coast Marine Resource*  
*Committees*  
*Research*  
*Tourism/Economic Development*  
*Hoh Tribe*  
*Makah Tribe*  
*Quileute Tribe*  
*Quinault Indian Nation*  
*Local Government:*  
*Clallam County*  
*Jefferson County*  
*Grays Harbor County*  
*Washington State:*  
*Dept. of Ecology*  
*Dept. of Fish and Wildlife*  
*Dept. of Natural Resources*  
*NOAA Fisheries*  
*Olympic National Park*  
*U.S. Coast Guard*  
*U.S. Fish and Wildlife Service*  
*U.S. Geological Survey*  
*U.S. Navy*

*Artwork: David Sones*

Dear Superintendent Bernthal:

The Advisory Council (AC) of the Olympic Coast National Marine Sanctuary (OCNMS) is concerned with changing conditions in the ocean. These changes warrant attention.

At the July 19, 2019 Advisory Council meeting, OCNMS AC passed a consensus resolution supporting the recommendations of the Ocean Acidification Sentinel Site working group (OASesWG).

The OASesWG recommends that OCNMS should be formally designated as an ONMS Sentinel Site for Ocean Acidification as part of the greater Olympic Coast Ocean Acidification Sentinel Site with the goals and objectives adopted by the working group; a Steering Committee should be convened to further refine the deliverables of the Olympic Coast Ocean Acidification Sentinel Site; and OCNMS should serve as the coordinating entity and provide staff support to the Olympic Coast Ocean Acidification Sentinel Site.

Sincerely,

A handwritten signature in blue ink that reads "Lee N. Whitford".

Lee Whitford  
Chair, Olympic Coast National Marine Sanctuary Advisory Council

Attachment: OCNMS\_SAC\_OASes\_Recommendations\_7-2019

The opinions expressed in this letter do not reflect the views of Federal agencies represented on the sanctuary advisory council. Additionally, the council is an advisory body to the sanctuary superintendent, and as such the opinions and findings of this letter do not necessarily reflect the position of the sanctuary and the National Oceanic and Atmospheric Administration.

# **Final Report**

## **Ocean Acidification Sentinel Site Working Group**

### **Introduction**

The Olympic Coast National Marine Sanctuary Advisory Council formed the Ocean Acidification Sentinel Site (OASeS) Working Group in 2016. The group was established in response to:

- increased regional, national, and international concern for potential impacts of ocean acidification to ecosystems and local economies;
- a recognized need, and potential, for collaborative efforts to promote monitoring, research, outreach and public engagement regarding Ocean Acidification;
- the potential benefits of collaboratively investing in the necessary science, identifying management needs, and demonstrating the application of the science to those needs; and
- the September 2013 Sanctuary Advisory Council resolution in which specific actions of the Washington Blue Ribbon Panel on Ocean Acidification were identified and prioritized for immediate implementation along the outer coast of Washington.<sup>1</sup>

The working group's purpose was to develop and plan a workshop to assist OCNMS in becoming a Sentinel Site for Ocean Acidification. After the workshop, the group was tasked with identifying short and long term actions to designate and implement an Ocean Acidification Sentinel Site on Washington's outer coast.

### **OASeS Workshop**

The working group held three conference calls to plan and organize a workshop in September 2016, "Exploring Options for an Olympic Coast Ocean Acidification Sentinel Site." The workshop brought together 45 subject matter experts and resource managers. Goals of the workshop were:

1. Explore the scope and potential functions of an Olympic Coast Ocean Acidification Sentinel Site;
2. Identify relevant collaborations and partnerships to support an Olympic Coast Ocean Acidification Sentinel Site;
3. Determine priority information and products to meet science, management, communication and awareness needs regarding ocean acidification;
4. Explore how an Olympic Coast Ocean Acidification (OA) Sentinel Site can leverage larger ocean acidification efforts within NOAA and other organizations.<sup>2</sup>

---

<sup>1</sup> OASeS Working Group Charter.

<sup>2</sup> Exploring Options for an Olympic Coast Ocean Acidification Sentinel Site, Workshop Report, September 2016.

The next series of conference calls (10/2016 – 3/2018) was devoted to production and revision of the workshop report and proceedings. The proceedings and final report from the 2016 OASeS workshop are available on the Washington Sea Grant website.<sup>3</sup>

### **Development of Goals and Objectives**

Starting in November 2018, the OASeS working group began meeting approximately monthly via conference call. The group determined that prior to setting up a Steering Committee, they should identify goals and objectives of the Sentinel Site. The goals and objectives would inform the makeup of the Steering Committee and provide a starting point for their work. The goals and objectives were adopted by consensus in the May 2019 conference call. A list of recommended member organizations and Tribes to sit on the steering committee has been proposed and an early draft of Terms of Reference has been developed as a starting point for the steering committee. These documents are attached to this report.

### **Recommendations**

The working group recommends the Sanctuary Advisory Council forward the following recommendations to Carol Bernthal, OCNMS Sanctuary Superintendent, and if she concurs, onward to John Armor, Director of the Office of National Marine Sanctuaries:

1. Olympic Coast National Marine Sanctuary should be formally designated as an ONMS Sentinel Site for Ocean Acidification as part of the greater Olympic Coast Ocean Acidification Sentinel Site with the goals and objectives adopted by the working group;
2. Convene a Steering Committee to further refine the deliverables of the Olympic Coast Ocean Acidification Sentinel Site;
3. OCNMS should serve as the coordinating entity and provide staff support to the Olympic Coast Ocean Acidification Sentinel Site.

---

<sup>3</sup> <https://wsg.washington.edu/our-northwest/ocean-acidification/>

## **Olympic Coast Ocean Acidification Sentinel Site (OASeS) Steering Committee DRAFT Terms of Reference**

### Purpose

The OASeS Steering Committee will provide strategic direction and leadership to implement the Vision, Goals and Objectives for the Olympic Coast Ocean Acidification Sentinel Site (Appendix A).

### Term

These terms of reference are effective from (start date) and will remain in effect until terminated by agreement of the parties.

### Scope

The Steering Committee will coordinate activities and distribute results in the following areas (from OASeS Workshop Final Report):

- **Science** – Conducting and/or facilitating research and monitoring (natural resources and socioeconomic considerations)
- **Education** – Formal and informal activities and programs
- **Outreach and Awareness** – Social media and direct public engagements
- **Partnerships** – Develop or promote new partnerships to increase capacity and reach
- **Management Goals** – Defined for the Sanctuary, partners, and local communities

### Membership

The Steering Committee will be comprised of members from the list of tribes and organizations in Appendix B. Others may be invited, as applicable. The initial membership of the Steering Committee will be solicited by the OASeS working group and designated by the tribe or organization. Members will serve for (#) years. The committee may review the list in Appendix B every (#) years. Any alterations to the list will be determined by consensus.

The committee will elect a chair or co-chairs at their initial meeting. The chair/co-chair will serve for (#) year(s).

### Meeting Arrangements

The Steering Committee will meet in person 3-4 times per year. Meeting sites will rotate between the Olympic coast and locations closer to the Seattle metro area. The meeting will be facilitated by the chair/co-chairs. The committee will operate under consensus decision making.

The meeting agenda will be set by the chair/co-chairs with solicitation of agenda items from the committee. The committee will designate a member to prepare and distribute minutes to the committee. The minutes should be made available to the OCNMS Sanctuary Advisory Council, the organizations listed in Appendix A, and other outlets determined by the committee.

### Reporting

The Steering Committee will prepare an annual briefing of its actions and accomplishments to be disseminated the OCNMS Sanctuary Advisory Council, the organizations listed in Appendix A, and other outlets determined by the committee.

### Deliverables

The Steering Committee is responsible for delivering upon the Goals and Objectives as outlined in Appendix A.

## Appendix A

### The Olympic Coast Ocean Acidification Sentinel Site

Ocean conditions are changing. Increased atmospheric carbon dioxide levels are driving warmer temperatures and ocean acidification and can enhance hypoxia. Localized processes, such as upwelling, contribute to these conditions. Marine heat waves, hypoxic events, and increasing ocean acidification are occurring on the Olympic Coast. These changes warrant attention.

**Vision:** An ocean acidification (OA) sentinel site on the Washington State Olympic coast will focus on OA related science and identify trends in carbonate chemistry and hypoxia. The sentinel site will be used to inform resource managers and coastal communities by telling the story of OA and its impacts on both Washington coastal marine resources, coastal cultures, communities, and economies. The sentinel site will seek to ensure that the Washington state Olympic Coast is well prepared for changing ocean conditions, with research and management actions in place.

**Goal 1: The Olympic Coast OA Sentinel Site facilitates identification and coordination of shared OA management priorities and seeks to fill information needs.**

#### Objectives

1. Consider and address the information needs of resource managers, policy makers and coastal communities (what are the impacts of 'x' on 'y' ), and identify natural and social science research and monitoring priorities;
2. Report and interpret, as appropriate, OA data, knowledge products, and best management practices to decision makers in a form that is readily usable;
3. Integrate sentinel site actions into regional, national, and international OA efforts to coordinate research with management goals;
4. Facilitate ongoing information sharing and exchange.

**Goal 2: The Olympic Coast OA Sentinel Site facilitates and promotes strategic science collaborations in recognition of management needs.**

#### Objectives

1. Develop a joint natural and social science research plan based upon research priorities identified under Goal 1;
2. Assess the constellation of current monitoring to identify gaps and the efficacy of current efforts to attribute chemical, biological, and ecosystem change to OA;

3. Collaborate with Olympic Coast communities to identify and elevate social science research and information needs that are reflective of their priorities and values;
4. Collect data that can help validate models, improve forecasting, and develop early warning systems;
5. Make data available to larger regional and global networks such as NANOOS and GOA-ON;
6. Collaborate on OA funding proposals, focusing on research and long term studies that address the priorities of the Sentinel Site.

**Goal 3: The Olympic Coast OA Sentinel Site promotes ocean literacy, awareness and inspires stewardship, with an emphasis on OA, for a diverse range of audiences which may include: resource managers, scientists, educators, funders, visitors, elected officials, decision and policy makers, media, local communities, and virtual visitors.**

#### Objectives

1. Educate the public, resource managers, and decision makers through formal and informal activities and programs;
2. Connect educators with relevant materials and curriculum;
3. Enhance education and outreach to the public with targeted digital and in-person engagement activities;
4. Raise awareness and mobilize public support.

## **Appendix B**

### **Tribes and Organizations Represented on the Steering Committee**

1. Hoh Tribe
2. Makah Tribe
3. Quileute Tribe
4. Quinault Indian Nation
5. Olympic Coast National Marine Sanctuary
6. Olympic National Park
7. Washington Sea Grant
8. Washington Ocean Acidification Center
9. Washington Department of Ecology
10. Washington Department of Fish and Wildlife
11. Washington Department of Natural Resources
12. Washington Governor's Office
13. NOAA's Pacific Marine Environmental Laboratory
14. NOAA's Ocean Acidification Program
15. NOAA's Northwest Fisheries Science Center
16. Surfrider Foundation
17. OCNMS Foundation or Sanctuary Advisory Council Chair
18. Northwest Indian Fisheries Commission