

DRAFT

Oregon Ocean Science Trust Conference Call Minutes
July 6, 2022 12:00 PM to 3:00PM
Zoom Video Conference
Department of State Lands
Salem, Oregon

Meeting documents are posted on the Oregon Ocean Science Trust (OOST) webpage:

<https://www.oregon.gov/dsl/OOST/Pages/OOST.aspx>

Recorded meeting can be viewed at:

https://www.youtube.com/watch?v=rTgyeLUwFQw&list=PLZ-e_V4Lk-NWkRiVj7R7eaIQEoxXfVYBB&index=2&ab_channel=OregonDepartmentofStateLands

OOST Members on conference call (Voting and non-voting)

Chair Laura Anderson, Representative David Gomberg, Senator Dick Anderson, Christine Moffitt, Krystyna Wolniakowski, Steve Marx

Interested parties on the call

Dave Fox, ODFW; Charlie Plybon, Surfrider Foundation; Bob Bailey; Lisa DeBruyckere, Creative Resource Strategies; Andy Lanier, Oregon Department of Land Conservation and Development; Aaron Galloway; Leif Rasmussen; Karina Nielsen, Oregon Sea Grant; Greg McMurray; Tom Calvanese, Oregon State University; Deanna Caracciolo; Janie Fereday; Jazmin D'Agostino; Joanna Lyle, Nature Conservancy; Karie Silva; Stephanie Fields; Will White, Oregon State University; Tommy Swearingen; Carlos Garcia, Oregon Community Foundation; Jena Carter, Nature Conservancy; Joe Liebeziet, Portland Audubon & OPAC; Chanel Hansen, Elakha Alliance; Peggy Joyce, OPAC; Rose Graves; Laura Tabor

Department of State Lands (DSL) Administrative Support

Jean Straight, Meliah Masiba, Arin Smith, Allison Daniel, Linda Safina-Massey

Welcome and Introductions

Chair Anderson called the meeting to order at 12:03. Board members were recognized.

Approval of April 6, 2022 meeting minutes

Chair Anderson informed the Board that due to staff changes and technical issues, the April meeting minutes and the June Workshop minutes will be on the agenda at the October meeting.

Applicant for vacant Board position

Chair Anderson introduced Dr. Karina Nielsen and provided some background information for the Board's consideration.

(Please see the You Tube video for the detailed comments and discussion beginning at the 9:13 minute mark.)

Dr. Nielsen provided additional information and answered questions from the Board.

Motion to forward recommendation to the State Land Board for approval of Dr. Nielsen becoming an OOST Board member.

Christine Moffitt moved, and Steve Marx seconded the motion to approve. Motion carried unanimously.

Marine Reserves Assessment update

Dr. Wilson White, Associate Professor, Department of Fisheries, Wildlife, and Conservation Sciences, Oregon State University

Carlos Garcia, Oregon Community Foundation

(Please see the You Tube video for the detailed comments and discussion beginning at the 21:20 minute mark.)

- Chair Anderson introduced Carlos Garcia. Carlos provided additional background information.
- Dr. White presented the interdisciplinary program report.
- Dr. White answered questions from the Board and the public.

Oregon Blue Carbon Fellowship project

Joanna Lyle, The Nature Conservancy

(Please see the You Tube video for the detailed comments and discussion beginning at the 1:15:57 time mark.)

- Overview of the definition of Blue Carbon
- How it effects ocean and wetland plants and animals as well as climate change effects
- Currently no specific Blue Carbon research in Oregon

- Highlight on initial findings and estimates plus stakeholder analysis

Oregon Nearshore science RFP concept approval

Lisa DeBruyckere

HB5202 Oregon Legislature Section 419. Increased by \$1 million. The Nearshore Sub-committee convened for project identification and adaptation to project scope. *(Please see the You Tube video for the detailed comments and discussion beginning at the 1:44:18 time mark.)*

Public Comment

(Please see the You Tube video for the detailed comments and discussion beginning at the 2:16:30 minute mark.)

Joe Liebeziet, Portland Audubon – suggestion to add effects of wildlife and human interactions.

Charlie Plybon, Surfrider Foundation – comments and encouragement to continue the great exciting work on the nearshore projects.

Oregon Nearshore science RFP concept approval (cont.)

(Please see the You Tube video for the detailed comments and discussion beginning at the 2:26:00 minute mark.)

Chair Anderson – resume Board discussion on RFP concept.

Steve Marx – would like to include criteria that Joe Liebeziet brought up in regard to wildlife and human interaction. Include this in the scoring matrix rather than the guidelines? Lisa will add this criterion to the Data Collection List for the RFP Sub-committee to consider.

Motion 1 – Move to approve the OOST Nearshore RFP guidelines dated 7/6/2022 by reference.

Steve Marx moved, and Christine Moffitt seconded the motion to approve. Motion carried unanimously.

Motion 2 – Move to authorize the Chair to assemble an RFP committee and publish the RFPs in the spirit of the approved guidelines.

Christine Moffitt moved, and Steve Marx seconded the motion to approve. Motion carried unanimously.

Motion 3 – Move to retain 10% of the HB5202 allocation for project administration.

*Steve Marx moved, and Christine Moffitt seconded the motion to approve.
Motion carried unanimously.*

OOST website review

(Please see the You Tube video for the detailed comments and discussion beginning at the 2:39:00 minute mark.)

Lisa DeBruyckere

Was built for 2021 Proposal. Not yet live. Proposed framework includes meeting information, Board Member information, Grants, and so forth.

Adjourn

Chair Anderson adjourned the meeting at 2:59PM

Appendix

OOST Nearshore RFP guidelines dated 7/6/2022

Oregon Nearshore Science RFP Workshop Process Document

Oregon Ocean Science Trust

REVIEW: GENERAL OOST RESEARCH PRIORITIES

- (1) Distribution and abundance of nearshore species and habitats.
- (2) Species and habitat associations and interactions that exist in the nearshore to inform ocean health (ecosystem function).
- (3) The effects people have on nearshore resources and the effects of nearshore resources on people and coastal communities.
- (4) The effects of climate change and ocean acidification on species and their habitats and how these key stressors will influence ecological function and species in nearshore habitats in the future.

REVIEW: CROSSWALK DOCUMENT

- HB5202 priority
- 2016 OOST Summit Report
- Oregon Nearshore Strategy (ODFW)
- Territorial Sea Plan

- Oregon Global Warming Commission- Natural and Working Lands Proposal

QUESTIONS TO KEEP IN MIND

As we move through the results of the project subcommittee work, keep the following questions in mind. We will come back to these at the end.

- (1) Has research and monitoring been conducted those changes, or invalidates, any of the research and monitoring priorities in these plans?
- (2) What existing and planned research will help address any of the priorities?
- (3) Do we set these up as “one-off” projects, or for projects that are longer term based on continued funding?
- (4) Which projects may be best suited for direct allocation to agencies vs. competitive RFP?
- (5) How narrow and specific, or how broad, do we want the RFP to be?

REVIEW: SUBCOMMITTEE RESULTS AND RECOMMENDATIONS

A project subcommittee met and discussed the following “big buckets” for an RFP structure. This is summarized as follows:

3 OVER-ARCHING PROJECT AREAS

Data collection

- Contribute data on the distribution and abundance of nearshore species and habitats (see Key Species and Habitats below).
- Contribute data to complete the state’s inventory and mapping of kelp and submerged aquatic vegetation in estuaries and nearshore.
- Contribute data on inter-species and species-habitat associations.

Data modeling

- Develop or contribute to trophic models of Oregon’s nearshore and/or estuarine ecosystems.
- Develop or contribute to models that improve the understanding of nearshore and estuarine ecosystems relative to carbon cycling, storage, and sequestration potential.

Data management, portals and hubs

- Develop a strategy for and/or integrate with an open source data hub infrastructure to integrate, host, and make publicly accessible Oregon Ocean datasets.

In addition **Key Species** of interest that were identified:

- Abalone
- Juvenile fish
- Kelp, eelgrass, and submerged aquatic vegetation
- Sea Urchins
- Seastars/Pycnopia

- Sea otters

RESEARCH QUESTIONS OF INTEREST

We asked the project subcommittee to submit research questions of interest. These are summarized as follows:

Habitat

- Where are Oregon's rocky reefs? (Multibeam sonar mapping of rocky reefs to cover gaps in Oregon's state-waters mapping data (e.g., Rogue Reef))
- What is the character of the benthic habitat of the white zone (the unmapped or poorly mapped areas generally between MLLW and -10 m water depth)?
- Why has Rogue Reef maintained a healthy kelp and red sea urchin population (compare biological and physical characteristics of Rogue Reef to similar reefs, such as Orford)?

Plants and algae

- What is the distribution and abundance (density) of canopy-forming kelp (*Nereocystis*) and other kelp species along the Oregon coast?
- Where is the subtidal algae and seagrass on Oregon's reefs?
- How does the presence of kelp and other macroalgae affect the trophic structure of the nearshore ecosystem?
- Does the distribution and abundance of kelp species affect the distribution and abundance of fish species of commercial and recreational importance?
- How dependent are key fished species (e.g., rockfish, salmon) on submerged aquatic vegetation as nursery habitat?
- What indicators can be used to identify suitable restoration areas, approaches, and methods?
- How does seaweed derived biomass (e.g., sloughed fronds, plants ripped out by waves) disperse away from the point of origin?

Invertebrates, fish, sea birds

- Where are strongholds of endangered rocky reef species in Oregon, such as Pycnopodia and abalone?
- Establish population baseline for abalones in Oregon.
- How far do the effects of urchin barrens extend beyond the edge of the barren?
- What are the differences in fish, invertebrate, and algal communities in areas of high purple urchin concentration vs. areas of low purple urchin concentration?
- What are responses of urchin culling to local communities?
- In a trophic model,
 - How do dynamics change with the decline in Pycnopodia and other sea stars, and how do dynamics change if Pycnopodia are reintroduced?
 - How do dynamics change if urchins are culled?
 - How would various levels of kelp loss/restoration in the future change food availability for commercially important species such as abalone or urchins?

Marine mammals and macrofauna

- Does suitable habitat and sufficient prey exist to support reestablishment of a population of sea otters on the Oregon coast? Map habitat suitability for sea otters on Oregon coast. Model impacts on site specific re-introduction scenarios.
- What is the invertebrate/algae community composition and the relative abundances of keystone species and sea otter prey species at potential sea otter introduction sites?
- What trophic effects can be predicted from modeling the presence of sea otters?

Blue Carbon and Ocean Acidification and Hypoxia

- Could seagrass or kelp forest restoration contribute substantially to carbon sequestration in Oregon?
- What are the amounts of carbon captured, cycled and sequestered in a defined area (e.g., one acre) of kelp forest or eelgrass bed in Oregon?
- What is the carbon sequestration potential of protecting Oregon's sandy seafloor and rocky habitats from disturbance (i.e., ocean areas managed with no bottom contact)?
- What is the relationship between upwelling events, El Niño Southern Oscillation cycle and carbon cycling and sequestration in Oregon's ocean?
- What are available climate mitigation strategies for OAH in estuarine habitats in Oregon (e.g., seagrass restoration, adding discarded calcium carbonate shells to areas of high importance, seaweed aquaculture)?
- How can the amount of carbon captured, cycled, or sequestered as a result of increasing the area and density of kelp, other macroalgae and eelgrass beds be translated into economic value to help support long term maintenance and protection of these features?

DISCUSSION POINT: PROJECT FOCUS AND SCOPE

Somewhere between the Big Buckets and the Research Questions lies the scope for the RFPs. How broad vs narrow/specific do we want to structure the RFP?

As we think about this consider the **sense of urgency** – What are the pressing management questions that research should be addressing in the next few years?

How will we allocate the limited funds across the project needs. Shall we have specific limits on project funding amounts, or provide a general range. (e.g. Fund 3-5 data collection projects in the range of \$50,000-\$200,000 vs. Fund 4 data collection projects at \$150,000 each).

DISCUSSION POINT: GEOGRAPHIC SCOPE

Management, monitoring, and research must accommodate for broad regional distinctions and characteristics, as well as fine-scale geographic and ecological resolution. Shall we narrow the geographic scope to core areas, or allow for projects on any geographic scale?

DISCUSSION POINT: TIME FRAME

Do we set these up as “one-off” projects, or for projects that are longer term based on continued funding?

DISCUSSION POINT: DIRECT ALLOCATIONS VS. RFP

Are we willing to consider direct allocations to agencies for work specific to their mandate or equipment needs relative to nearshore research? Case in point: ODFW is needing to replace their ROV. Would OOST use these funds to support equipment replacement costs for general long term research? Or would OOST use these funds to ensure continuation of long-term data sets (e.g. juvenile rockfish surveys) that are underfunded in their current budget?

9 DISCUSSION POINT: WHAT FACTORS SHALL WE INCLUDE THE RFP SCORING CRITERIA

For example projects that:

- Leverage partnerships and integrate local expertise
- Fill data gaps to complete coastwide mapping and inventory
- Fill temporal gaps to maintain whole existing data sets

An example from the 2016 summit document states factors relative to monitoring vs. research:

- Monitoring should be relevant to management; be question driven – what will it inform? Include ecosystem monitoring – sim Research priorities: The numbers and effectiveness of solutions are proportional to existing knowledge. Strengthen the connection between data/information we are generating and what data/information we need to manage. Validate models.
- Research priorities should address exposure, vulnerability, and adaptive capacity. The effectiveness of mitigation approaches should be evaluated.....ply monitoring the chemistry or fish populations alone is insufficient. Build from what currently exists.

WRAP UP

Goal will be to provide an RFP plan to present to the Board for the July meeting. We will use the wrap up time to discuss any additional needs and or next steps to reach that goal.

Crosswalk of 2016 Summit Report, Oregon Nearshore Strategy, Territorial Sea Plan, Oregon Global Warming Commission and HB5202 priorities

HB 5202	Science on nearshore keystone species including sea otters, nearshore marine ecosystems, kelp and eelgrass habitat and sequestration of blue carbon
<p>2016 Summit Report – Nearshore Priorities - Comprehensive Research and Monitoring Program for Oregon’s Nearshore would include Biodiversity, HABs, Vulnerability/Resilience</p>	<p>RESEARCH: Distribution and abundance of nearshore species and habitats</p> <ul style="list-style-type: none"> • How do the geomorphology, oceanography, species present (including key priority focal species), and physical and biological habitats vary within the Oregon’s nearshore zone? <ul style="list-style-type: none"> ○ Methodologies/technologies ○ Habitat shifts ○ Data <p>RESEARCH: Species and habitat associations and interactions that exist in the nearshore to inform ocean health (ecosystem function)</p> <ul style="list-style-type: none"> • HABs • Food web relationships • Recruitment • Habitats • Species-habitat associations/interactions (including people) • Ecosystem function <p>RESEARCH: The effects people have on nearshore resources and the effects of nearshore resources on people and coastal communities</p> <ul style="list-style-type: none"> • People • Pollution • Fisheries • Ecosystem Services • Climate Change <p>RESEARCH: The effects of climate change and OA on species and their habitats and how these key stressors will influence ecological function and species in nearshore habitats in the future</p> <ul style="list-style-type: none"> • What and where are the primary manifestations of climate change expected on the Oregon Coast? <ul style="list-style-type: none"> ○ Climate change impacts ○ Ecological Function <p>MONITORING:</p> <ul style="list-style-type: none"> • Collect physical parameters, build instrument-based shore stations, or repeatedly conduct nearshore oceanographic cruises • Monitor a suite of physical, chemical, biological, and human parameters scaled to funding level (highest priority parameters were physical and chemical, biological, human parameters)

**Oregon Nearshore
Strategy Research and
Monitoring Needs**

Baseline data on the distribution and abundance of nearshore species and habitats, data on inter-species and species-habitat associations to understand the nuances of nearshore ecosystem function, and issue-specific data on the effects human activities on nearshore resources.

Species Data:

- surveys for marine fish, invertebrates, and algae, which are independent of fisheries and at coastwide or other appropriate scales
- periodic and consistent long-term monitoring of organisms at selected indicator sites, such as the ecosystem monitoring currently conducted in marine reserves and nearby comparison areas by ODFW's Marine Reserves Program, and the selection of specific sites and organisms most likely to demonstrate impacts of climate change
- developing and testing abundance measures or population trend indicators for selected species and monitoring those species over time

Habitat Data:

- examining the relationships between species/communities and habitats to determine the most important habitat features to survey
- large-scale, coastwide survey of seafloor structure and composition employing modern ocean survey methodologies
- detailed surveys of selected areas to support studies of species-habitat relationships

Oceanographic Data:

- large and small scale processes determining local water properties
- water movement and circulation patterns on large and small scales of time and space
- natural variation in oceanographic conditions over short and long time scales
- models with proven predictive ability on short and long time scales
- how local Oregon ocean conditions are tied to global ocean and climate conditions, and how global processes such as climate change and ocean acidification are likely to affect local conditions in Oregon's nearshore waters

Ecosystem Data:

- habitat characteristics that determine community structure
- relationships among species, habitats, and oceanographic variables
- how ocean currents affect larval transport and consequently the genetic structure of populations
- connectivity and relationship between estuary and ocean populations
- factors affecting primary and secondary production
- factors affecting reproduction, recruitment, and natural mortality
- food web relationships and predator-prey dynamics
- natural variability of these and other factors
- climate change impacts on species and habitats related to:
 - sea level rise effects
 - warming ocean temperatures
 - altered weather patterns
 - changes in circulation patterns

	<ul style="list-style-type: none"> ○ changes in species range distribution related to temperature or food requirements ○ upwelling and nutrient availability for primary production ○ changes in food web dynamics ● ocean acidification and hypoxia ● effects of introduced non-native and invasive species <p><u>Human Dimensions and Human Development and Impacts</u></p>
<p>Territorial Sea Plan – Rocky Habitat Management Strategy</p>	<ul style="list-style-type: none"> ● Continued updates to and refinement of the coastwide rocky habitat resource inventory using information from ongoing scientific research and monitoring ● Ongoing inventory and monitoring of rocky habitat ecosystems and species to quickly account for variations and adapt management accordingly ● Increasing understanding of rocky habitat ecosystems through scientific study and gathering of local ecological knowledge ● Incorporation and growth of monitoring activities to support best management measures for ecosystem sustainability and use. Scientific study and monitoring should be implemented through a diversity of forms based on level of information, cost, and frequency of need.
<p>Oregon Global Warming Commission- Natural and Working Lands Proposal</p>	<p>Blue Carbon. The Pacific Northwest Blue Carbon Working Group is advancing several studies to improve GHG sequestration rate coefficients for Oregon’s blue carbon pathways. To build on this work the OGWC recommends the Legislature make additional investments in the:</p> <ul style="list-style-type: none"> ● development of a comprehensive map of restored, restorable and least disturbed tidal wetlands; ● completion of more consistent mapping of submerged aquatic vegetation in all Oregon estuaries; ● (completion of more consistent mapping of kelp in Oregon’s territorial waters; and ● research to better understand the sequestration benefits of protecting and restoring eelgrass and kelp forests. <p>The Oregon Department of Fish and Wildlife has an active eelgrass monitoring program (SEACOR) in a subset of Oregon estuaries that could be expanded to create a coast wide eelgrass dataset. In addition to informing our natural and working lands inventory, these projects would also support improved fisheries management, coastal adaptation planning, and opportunities for addressing ocean acidification and hypoxia.</p>