

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>