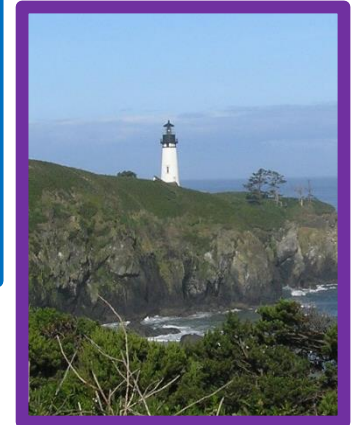




# Oregon's Coordinating Council on Ocean Acidification and Hypoxia

## *Testimony on SB1554*



*Dr. Jack Barth, Co-Chair*  
*Oregon State University*

# Overarching Themes of OAH Council



## Theme 1

Advance scientific understanding to address OAH vulnerabilities



## Theme 2

Develop and use strategies to reduce causes of excess CO<sub>2</sub> and other causes of OAH



## Theme 3

Support resilience to OAH in Oregon's ecosystems and communities



## Theme 4

Share OAH science, impacts, and solutions to raise awareness



## Theme 5

Build sustained support and mobilize agencies to address OAH

# Theme 1

Support and maintain monitoring of OAH and biological response

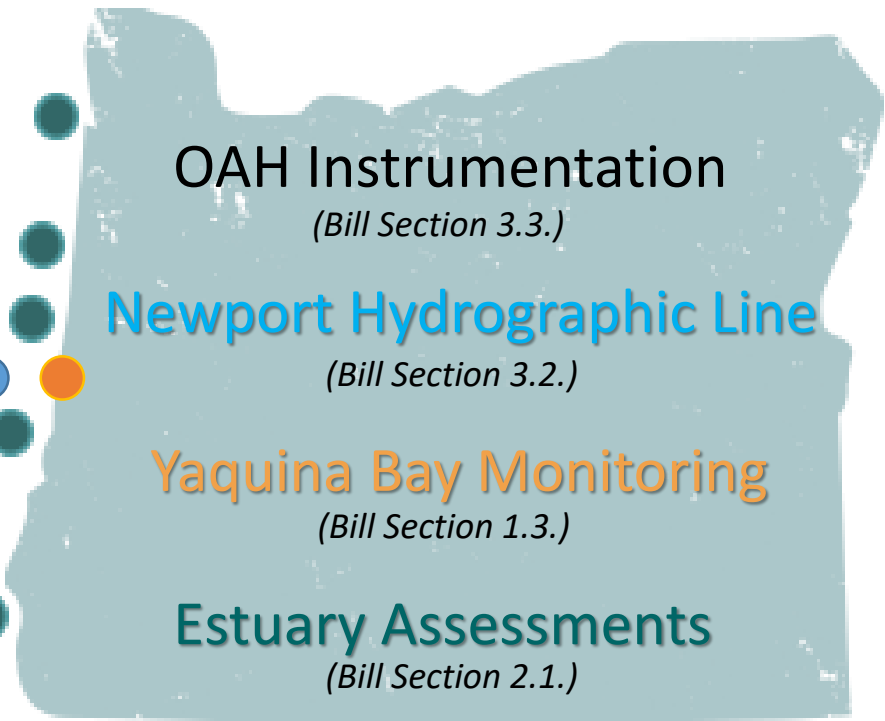


Intertidal monitoring at  
Marine Reserves  
*(Bill Section 1.1.)*



Subtidal monitoring at  
Marine Reserves  
*(Bill Section 1.2.)*

## SB1554: 6 Monitoring Projects



*OAH Report Actions: 1.1.a/c*

# Theme 3

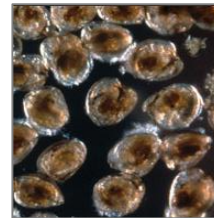
## Promote Ocean Acidification and Hypoxia Adaptation and Resilience

### *SB1554: 6 Economic & Ecosystem Resilience Projects*



Ecosystem modeling of submerged aquatic vegetation

*(Bill Section 1.4.)*



Life cycle research for wild and cultivated stocks

*(Bill Section 1.7.)*



Workshop to promote shellfish and aquatic vegetation

*(Bill Section 1.5.)*



Estuary mapping of native Olympia oysters

*(Bill Section 2.2.)*



Best Management Practices for Shellfish Cultivation

*(Bill Section 1.6.)*



Molluscan Broodstock Program restore and promote native oysters

*(Bill Section 3.1.)*

*OAH Report Actions: 3.2a/b*



# Theme 4

## Raise Awareness of Ocean Acidification and Hypoxia Science, Impacts, and Solutions

### SB1554: 1 communications project

**Take Action**

The Oregon Ocean Acidification and Hypoxia (OAH) Action Plan will have actions that Oregonians can take to adapt to and mitigate OAH impacts. We need all Oregonians to help make a difference facing this global problem.

Here is how YOU can help make a difference

- Help Monitor Ocean Change**  
Enroll in local and regional coastal monitoring programs. Join an existing research or monitoring survey as a volunteer.
- Reduce Excess Carbon and Prevent OAH Stressors**  
Reduce greenhouse gas emissions and energy use. Support local energy and utility programs to increase water recycling. Avoid products and services that contain hazardous materials. Support local water conservation programs.
- Build Resilience to Ocean Change**  
Work with industry, managers, and scientists to develop OAH specific adaptation and mitigation plans. Support sustainable and affordable local food system growth as OAH impacts rise.
- Learn about OAH Science and Solutions**  
Engage with scientists and educators to learn about OAH. Attend science and policy forums, speaker series, and outreach events. Stay up-to-date on news information about OAH science, impacts, and solutions.
- Engage and Participate in Public Processes**  
Submit public input, comments, ideas, or suggestions to local committees and boards on OAH and OAH related topics. Speak with and organize letters to your state and local government representatives for OAH Action.

**Research Needs**

The Oregon Ocean Acidification and Hypoxia (OAH) Action Plan identifies ways that Oregonians can make a difference to slow OAH impacts and adapt to the changes we are already seeing. This abbreviated list of research actions from the OAH Action Plan was prioritized by the OAH Council. This list is meant to be a starting point to help guide researchers and funding groups on what the OAH Council thinks are top priorities for the state of Oregon. Additional research needs and priorities will be developed as needed.

Here are the top RESEARCH ACTIONS that can make a difference

- Advance Scientific Understanding**  
To establish OAH monitoring systems for the OAH Action Plan, researchers working with our coastal and inland communities. Additional goals and objectives along the coast that include the OAH monitoring network.
- Predict Causes**  
To understand the causes of OAH, researchers working with our coastal and inland communities. Additional goals and objectives along the coast that include the OAH monitoring network.
- Create Resilience**  
To identify and develop resilient systems and communities, researchers working with our coastal and inland communities. Additional goals and objectives along the coast that include the OAH monitoring network.



**Species Spotlight**  
Salmon

Ocean Acidification (OA) and Hypoxia (H) are harmful to ocean life and the economic stability of the Oregonians who rely on a healthy ocean. Salmon are one of the favorite pursuits of Oregon's recreational and commercial anglers, as well as being an essential cultural resource for West Coast tribes.

**What is at risk?**

**Salmon**  
Changes in OA can not only affect salmon but are also experienced in estuaries and river environments. These environmental effects have cascading effects on all aspects of the salmon life cycle.

- Foodweb Effects**  
Plankton decline and can kill young salmon shells as they move up the food chain.
- Direct Effects**  
Acidic water can damage salmon gills, making it difficult for them to breathe.
- Economic Effects**  
Reduced salmon populations can affect the livelihoods of commercial and recreational anglers.
- Foodweb Effects**  
Plankton decline and can kill young salmon shells as they move up the food chain.
- Cumulative Effects**  
Early salmon life stages are most vulnerable to OA.
- Sensory Effects**  
Salmon can be affected by changes in pH, making it difficult for them to find food.

**Species Spotlight**  
Olympic and Pacific Oysters

Ocean Acidification (OA) and Hypoxia (H) are harmful to ocean life and the economic stability of the Oregonians who rely on a healthy ocean. Olympic and Pacific Oysters are one of the favorite pursuits of Oregon's recreational and commercial anglers, as well as being an essential cultural resource for West Coast tribes.

**What is at risk?**

**Olympic and Pacific Oysters**  
Changes in OA can not only affect oysters but are also experienced in estuaries and river environments. These environmental effects have cascading effects on all aspects of the oyster life cycle.

- Foodweb Effects**  
Plankton decline and can kill young oyster shells as they move up the food chain.
- Direct Effects**  
Acidic water can damage oyster gills, making it difficult for them to breathe.
- Economic Effects**  
Reduced oyster populations can affect the livelihoods of commercial and recreational anglers.
- Foodweb Effects**  
Plankton decline and can kill young oyster shells as they move up the food chain.
- Cumulative Effects**  
Early oyster life stages are most vulnerable to OA.
- Sensory Effects**  
Oysters can be affected by changes in pH, making it difficult for them to find food.

**Species Spotlight**  
Dungeness Crab

Ocean Acidification (OA) and Hypoxia (H) are harmful to ocean life and the economic stability of the Oregonians who rely on a healthy ocean. Dungeness Crab is one of the favorite pursuits of Oregon's recreational and commercial anglers, as well as being an essential cultural resource for West Coast tribes.

**What is at risk?**

**Dungeness Crab**  
Changes in OA can not only affect crabs but are also experienced in estuaries and river environments. These environmental effects have cascading effects on all aspects of the crab life cycle.

- Foodweb Effects**  
Plankton decline and can kill young crab shells as they move up the food chain.
- Direct Effects**  
Acidic water can damage crab gills, making it difficult for them to breathe.
- Economic Effects**  
Reduced crab populations can affect the livelihoods of commercial and recreational anglers.
- Foodweb Effects**  
Plankton decline and can kill young crab shells as they move up the food chain.
- Cumulative Effects**  
Early crab life stages are most vulnerable to OA.
- Sensory Effects**  
Crabs can be affected by changes in pH, making it difficult for them to find food.

Communications and outreach planning  
(Bill Section 1.8.)

OAH Report Action: 4.2.a

# Oregon's Coordinating Council on Ocean Acidification and Hypoxia



**OregonOcean.Info**

*Comments or Questions? Please contact  
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