Science Recommendations of the Washington Blue Ribbon Panel on Ocean Acidification:

Context and Progress

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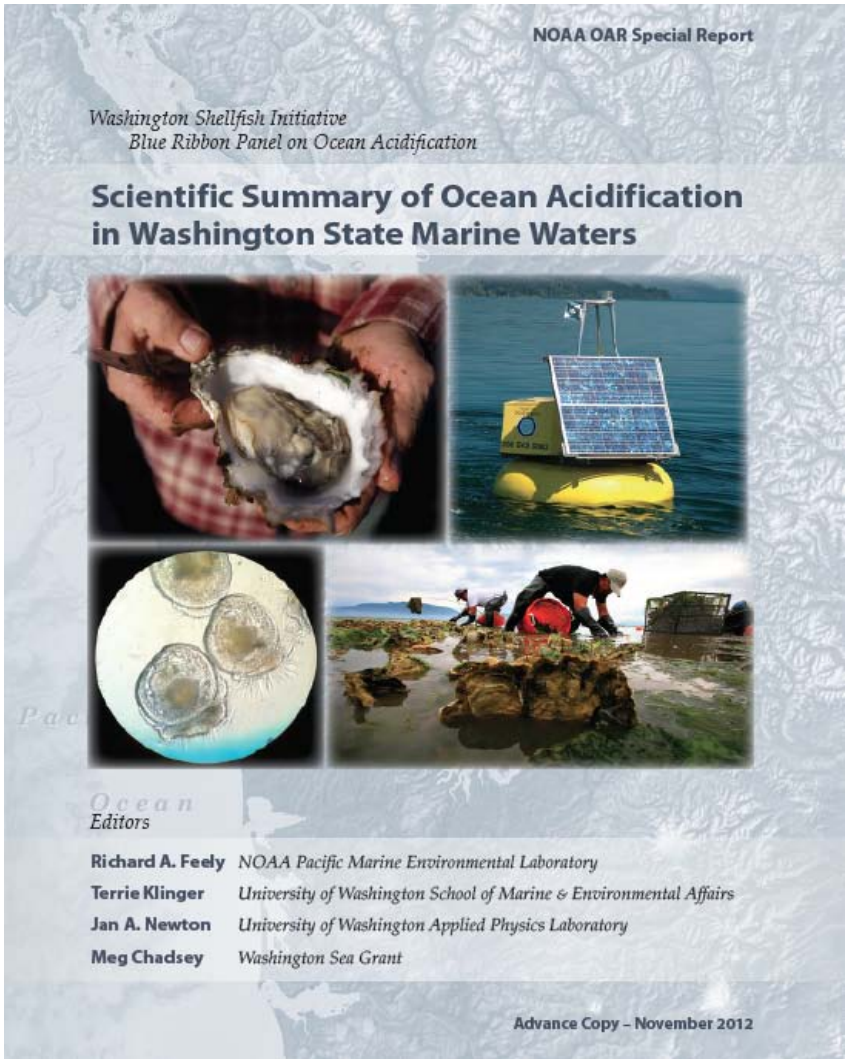
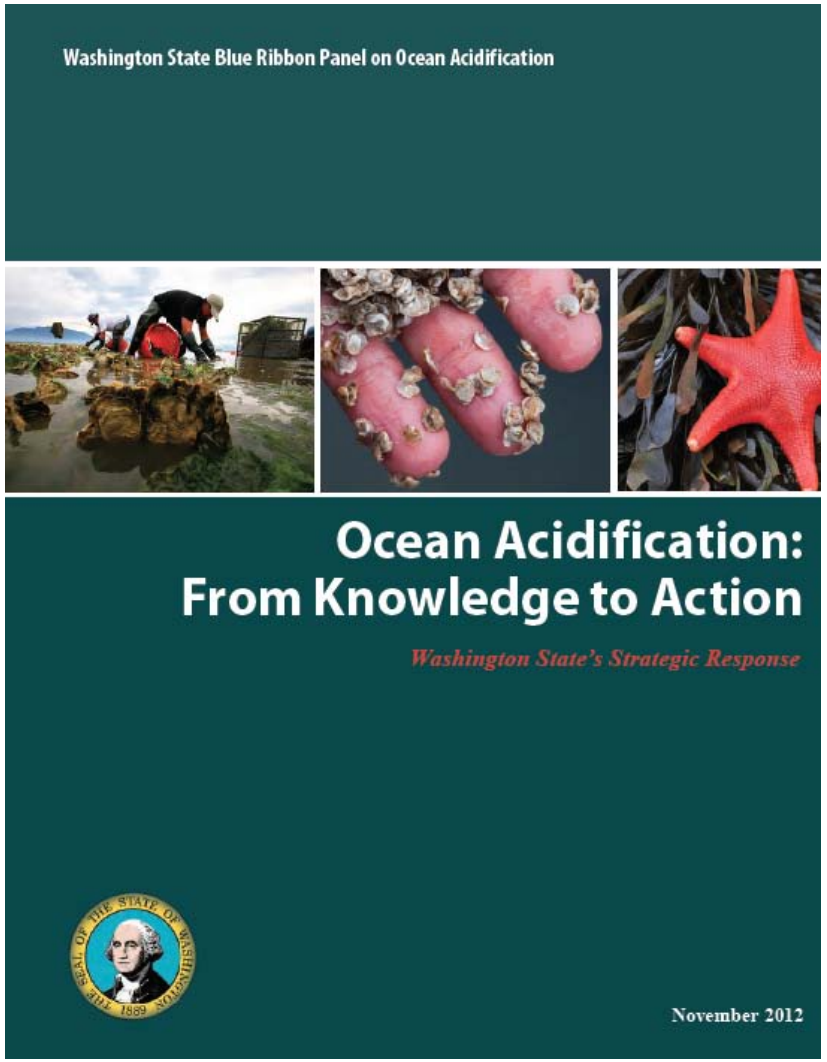
Washington State Panel Reports





http://www.ecy.wa.gov/water/marine/oceanacidification.html

Panel Recommendations

4. Address the root cause of acidification by reducing CO_2 emissions
5. Reduce local land-based pollutants that worsen acidification
6. Foster adaptation and remediation to protect the shellfish industry and marine ecosystems
7. Increase research and monitoring of acidification in state waters
8. Inform, educate, and engage the public, stakeholders, and decision makers in responding to ocean acidification
9. Maintain a sustainable and coordinated focus on ocean acidification

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Panel Recommendations

6. **Foster adaptation and remediation to protect the shellfish industry and marine ecosystems**
7. **Increase research and monitoring of acidification in state waters**

*Within these two categories, the Washington Ocean Acidification Center, located at the University of Washington, was funded to implement five actions, noted by ** in the following slides.*

Foster adaptation and remediation to protect the shellfish industry and marine ecosystems

Strategy 6.2 – Increase the capacity of resource managers and the shellfish industry to adapt to ocean acidification.

Action 6.2.1: Ensure continued water quality monitoring at the six existing shellfish hatcheries and rearing areas to enable real-time management of hatcheries under changing pH conditions**. [KEA] ****

Action 6.2.2: Expand the deployment of instruments and chemical monitoring to post-hatchery shellfish facilities and farms

Action 6.2.3: Investigate and develop commercial-scale water treatment methods or hatchery designs to protect larvae from corrosive seawater**. [KEA] ****

Action 6.2.4: Develop and incorporate acidification indicators and thresholds to guide adaptive action for species and places.

Increase research and monitoring of acidification in state waters

Strategy 7.1 – Understand the status and trends of ocean acidification in Washington's marine waters.

Action 7.1.1: Establish an expanded and sustained ocean acidification monitoring network to measure trends in local ocean acidification conditions and related biological responses [KEA] **

Action 7.1.2: Develop predictive relationships for indicators of ocean acidification (pH and aragonite saturation state).

Action 7.1.3: Support development of new technologies for monitoring ocean acidification.

Increase research and monitoring of acidification in state waters

Strategy 7.3 - Characterize biological responses of local species to ocean acidification and associated stressors.

Action 7.3.1: Determine the associations between water and sediment chemistry and shellfish production in hatcheries and in the natural environment. [KEA]

Action 7.3.2: Conduct laboratory studies to assess the direct effects of ocean acidification, alone and in combination with other stressors, on local species and ecosystems.[KEA] **

Action 7.3.3: Conduct field studies to characterize the effects of ocean acidification, alone and in combination with other stressors, on local species.

Increase research and monitoring of acidification in state waters

Strategy 7.4 – Build capabilities for short-term forecasting and long-term prediction of ocean acidification.

Action 7.4.1: Establish the ability to make short-term forecasts of corrosive conditions for application to shellfish hatcheries, growing areas, and other areas of concern. [KEA] **

Action 7.4.2: Enhance the ability to predict the long-term future status of carbon chemistry and pH in Washington waters and create models to project ecological responses to predicted ocean acidification conditions.

Action 7.4.3: Enhance the ability to model the response of organisms and populations to ocean acidification to improve our understanding of biological responses.

Summary

The Washington OA Center was funded to implement five science actions recommended by the BRP and selected by the Legislature during this biennium.

The Center has made awards for four of these and is actively engaged in planning full implementation of the fifth.

A number of recommendations of the Blue Ribbon Panel remain to be addressed; some of these may be best implemented in sequence and others may be priority gaps to address.

We will work with the MRAC sub-committee to assist their work to make recommendations on priority gaps, to be addressed by future action of the legislature or other entities.