

CHRISTINE O. GREGOIRE  
Governor



STATE OF WASHINGTON  
**OFFICE OF THE GOVERNOR**

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**EXECUTIVE ORDER 12-07**

**WASHINGTON'S RESPONSE TO OCEAN ACIDIFICATION**

**WHEREAS**, acidification of the world's oceans, measured by the lowering pH numbers and caused primarily by increasing levels of carbon dioxide in the atmosphere, has arrived on the West Coast sooner than predicted and is already reaching levels that are corrosive for shellfish and other marine organisms; and

**WHEREAS**, Washington's marine waters are particularly vulnerable to ocean acidification because they experience the effects of global carbon dioxide absorbed by the oceans in addition to regional and local factors. One of the most important regional factors is coastal upwelling, which occurs when strong northerly winds blow across the Pacific Ocean, bringing deeper water up to the surface, along the Washington coast, into coastal estuaries like Willapa Bay and Grays Harbor, and the Puget Sound basin. Today's upwelled water is rich in carbon dioxide and low in pH and oxygen, and was in contact with the atmospheric concentration of carbon dioxide from 30 to 50 years ago, meaning we will continue to see acidification for several decades after global carbon dioxide emissions begin to fall; and

**WHEREAS**, acidification near the coasts, and particularly in highly populated and developed areas, is often exacerbated by local sources of pollutants, such as nutrients and organic material, that generate additional carbon dioxide in marine waters; and

**WHEREAS**, between 2005 and 2009, the Pacific Northwest oyster hatcheries experienced disastrous production failures when billions of their youngest oysters, the larvae, died due to acidified seawater that dissolved shells or prevented their formation; and

**WHEREAS**, Washington is the country's top provider of farmed oysters, clams, and mussels. Our shellfish growers employ directly and indirectly more than 3,200 people around the state and provide an annual total economic contribution of \$270 million statewide. The increasing levels of acidification in Washington's marine waters pose serious and immediate threats to our shellfish resources, and the revenue and jobs supported by the shellfish industry; and

**WHEREAS**, ocean acidification has important implications to Washington's tribal communities and fishermen who increasingly depend on shellfish species to support their families; and

**WHEREAS**, increasing levels of acidity also have implications for the broader marine ecosystem because many organisms that are important food sources for species such as salmon, whales, and seabirds, are dependent on their ability to form and maintain shells, skeletons, or other hard parts; and

**WHEREAS**, Washington is a national leader in addressing the problem of ocean acidification. World-class scientists are already working on ocean acidification; state agencies, businesses, tribes, and others are implementing innovative approaches to reduce carbon dioxide and nutrient runoff; federal partners are engaged on solutions to ocean acidification; the shellfish industry is committed to protecting ecosystems and cultivated resources; and diverse nonprofit organizations are ready to give voice to the problem; and

**WHEREAS**, to chart a course for addressing the effects of ocean acidification on Washington's shellfish resources and other marine organisms, I convened the Washington State Ocean Acidification Blue Ribbon Panel comprised of scientific experts, industry representatives, public opinion leaders, and state, local, federal, and tribal policy makers; and

**WHEREAS**, the Panel produced a *Scientific Summary of Ocean Acidification in Washington State Marine Waters* and a set of recommended actions in a document titled *Ocean Acidification: From Knowledge to Action – Washington's Strategic Response to Changing Ocean Chemistry*, documenting the understanding of ocean acidification in Washington, and recommending actions to reduce contributions to the problem, help the shellfish industry adapt to changes, advance our knowledge about acidification in Washington's marine waters, and educate and engage stakeholders, the public and decision makers in addressing the problem; and

**WHEREAS**, it is critical to our economic and environmental future that effective and immediate actions be implemented in a well-coordinated way and that we work collaboratively with federal, tribal, state, and local governments, universities, the shellfish industry, businesses, the agricultural sector, and the conservation/environmental community to address this emerging threat.

**NOW, THEREFORE, I**, Christine O. Gregoire, Governor of the state of Washington by virtue of the power invested in me by the Constitution and statutes of the state of Washington do, effective immediately, hereby order and direct:

1. The Office of the Governor and the cabinet agencies that report to the Governor to advocate for reductions in emissions of carbon dioxide at a global, national, and regional level. The Office of the Governor and cabinet agencies shall work on this effort with federal and regional partners (including at a minimum Oregon, California, and the Province of British Columbia) and shall consult with affected public and private entities.
2. The Director of the Department of Ecology to:
  - a) Coordinate effective implementation of the Blue Ribbon Panel's recommendations. In doing so, the Department shall work with other state agencies, the Commissioner of Public Lands, the University of Washington, the National Oceanic and Atmospheric Agency (NOAA), the Environmental Protection Agency (EPA), Tribes, non-governmental organizations, and the shellfish industry. This effort will require coordination of numerous activities at the national and regional level aimed at protecting and restoring the health of our marine waters.

- b) Work with the University of Washington (UW), the Commissioner of Public Lands, NOAA and other state agencies to establish a coordinating mechanism to: continue the focused and productive interaction between scientists and decision makers to enhance Washington's ability to respond to the problem of acidification; promote sharing of scientific information; and secure efficiencies in implementing the Panel's recommendations. In doing so the Department shall build on existing efforts such as the Puget Sound Strategic Science Plan, the UW coastal and marine research programs, NOAA Ocean Acidification Program, California Current Acidification Network, Pacific Shellfish Institute, and other related efforts.
- c) Craft and execute a memorandum of understanding or other mechanisms among key state and federal agencies, including Departments of Natural Resources and Fish and Wildlife, NOAA, EPA, and U.S. Department of Interior, to support data sharing, collaboration, and leveraging and prioritizing of funds.
- d) Work with the University of Washington to deliver the technical analysis recommended by the panel on the relative importance to ocean acidification of local land-based sources of nutrients and organic carbon and local air emissions.
- e) Reduce nutrients and organic carbon in locations where these pollutants alone, or in combination with other pollutants, are causing or contributing to multiple water quality problems in our marine waters. This effort shall be coordinated with the Directors of the Department of Agriculture and Department of Health, and the Executive Director of the Conservation Commission. In implementing this directive, Ecology with its partners shall prioritize watersheds with the most significant water quality problems, regardless of the source(s) – urban storm water, septic tanks, large and small sewage treatment facilities, or rural runoff from agricultural lands. This effort shall be carried out in consultation with other agencies, affected local and tribal governments, federal agencies, landowners, and the environmental community. These efforts shall:
  - i. build on existing programs;
  - ii. utilize, where appropriate, the voluntary stewardship program established by RCW 36.70A.710; and
  - iii. utilize other approaches, including technical assistance, funding, permitting and enforcement, where most appropriate and effective.
- f) Formally request that EPA begin the assessment of water quality criteria relevant to ocean acidification and encourage EPA to work with scientists from NOAA, Ecology, and other agencies in carrying out this effort.
- g) In consultation with the Department of Commerce and Department of Transportation, review unimplemented actions recommended by the Climate Action Team and identified in the State Energy Strategy and, where appropriate, propose a path forward to implement additional actions to reduce atmospheric

carbon dioxide. In developing the proposed actions, the Department of Ecology shall consult with affected stakeholders.

- h) Work with other agencies, NOAA, universities, the Puget Sound Partnership, WA Sea Grant, shellfish growers, Tribes, non-governmental organizations, and various education and outreach networks to increase understanding of ocean acidification and its consequences among policymakers, interested organizations, and the public.
- i) Work with other state agencies, the Commissioner of Public Lands, and appropriate federal agencies to engage agricultural, business, and other stakeholders; coastal communities; shellfish and fishery interests; and other affected or interested groups, in developing and implementing local solutions.

3. The Executive Director of the Puget Sound Partnership to work with its partners to advance the implementation of the Panel’s recommendations by incorporating the scientific findings, and strategies and actions into the Puget Sound Action Agenda, the Biennial Science Work Plan, and ecosystem monitoring programs, by December 1, 2014.

4. In implementing this Executive Order, the state and its agencies shall invite consultation, on a government-to-government basis, with affected and interested Indian Tribes and Nations in Washington State.

5. The Director of the Department of Ecology, in cooperation with affected agencies, shall provide a progress report to the Governor by December 31, 2013.

Signed and sealed with the official seal of the state of Washington on this 27th day of November, 2012, at Olympia, Washington.

By:

/s/

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Christine O. Gregoire  
Governor

BY THE GOVERNOR:

/s/

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Secretary of State