

# NEWS

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## OCEAN ACIDIFICATION THREATENS PUGET SOUND ECOSYSTEMS AND SEAFOOD INDUSTRY

Seattle WA. On March 30 and 31, 2010, 50 government and university scientists, fishermen, shellfish aquaculturists, conservationists, Native Americans, and U.S. Congressmen meeting at the University of Washington agreed that acidification is a major threat to economically and ecologically important marine species. The *Puget Sound Ocean Acidification Workshop* was co-organized by Marine Conservation Biology Institute, Sustainable Fisheries Partnership, the University of Washington and the National Oceanic and Atmospheric Administration, with funding provided by The Bullitt Foundation, The Peach Foundation, and The Educational Foundation of America.

“This is the first time such a diverse group of people has assembled to discuss effects of extraordinarily high levels of carbon dioxide in Puget Sound waters,” says Dr. John Guinotte, workshop co-organizer and biogeographer at Marine Conservation Biology Institute. “We hope this workshop sets a precedent for addressing ocean acidification around the country,” Guinotte says.

Congressmen Norm Dicks, Jay Inslee, and Brian Baird highlighted their concern about ocean acidification. “This is another manifestation of what my friend Al Gore calls the ‘inconvenient truth’ that human actions have begun to influence serious changes in environmental conditions which pose fundamental and very serious challenges to our society as a whole. I believe acidification is a serious issue in Puget Sound and that we must address its causes here as well as in all of America’s ocean waters before it’s too late,” Congressman Dicks stated during his remarks to conference attendees.

“The ocean is a way of life for those of us who live in and around the Puget Sound,” said Congressman Inslee. “Ocean acidification threatens that way of life by striking at the foundation of the food chain that supports the seas. That is why I am authoring legislation to address it, including bills to jumpstart our clean energy economy.”

The term “ocean acidification” refers to the reduction in the oceans’ pH when carbon dioxide from the atmosphere dissolves in seawater. Through burning fossil fuels, deforestation and certain industrial processes, humankind has been adding ever-increasing amounts of CO<sub>2</sub> to the atmosphere; about 30% of this gas dissolves in the oceans.

Since the 1980s, a growing body of scientific evidence from every corner of the globe has shown that this increasing acidity can have profound effects on many marine species, including key plant and animal plankton species, corals, shellfish, and fish. The world’s oceans are the source of a sixth of the animal protein humans eat and play a crucial role in maintaining the stability of our climate; the oceans’ health is critical to America’s economy and national security.

### Marine Conservation Biology Institute

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"When you talk about ocean acidification, people need to understand that it means more acid in the ocean and that it affects the food chain. Acid is not a good thing, acid is scary," Congressman Baird said. "When I talk to fishermen in my district, I talk about how ocean acidification will impact the food supply for the salmon. Then they get it."

Puget Sound is particularly vulnerable to ocean acidification because freshwater and nutrient inputs and low-oxygen dead zones in parts of Puget Sound can add to acidification. But existing research and monitoring systems are currently insufficient for documenting changing seawater chemistry and evaluating the risks to Puget Sound.

"Over the past six years Pacific Coast oyster growers have experienced significant larval mortalities, and have gathered evidence suggesting that ocean acidification is a major cause of harm to our oysters." says Robin Downey, Executive Director of The Pacific Coast Shellfish Growers Association. "West Coast molluscs are a \$117+ million a year industry and critical to our economy and way of life," Downey adds.

Workshop participants strongly backed a comprehensive ocean acidification research and monitoring program in Puget Sound. They want more frequent chemical surveys and more buoys in Puget Sound to measure acidity. Information obtained by this buoy system would be coupled with a multi-agency biological monitoring program that would document changes in Puget Sound's marine ecosystems. This information is critical to understanding the threats Puget Sound faces from ocean acidification. This monitoring will be part of an ocean acidification early warning system to help the shellfish aquaculture industry and other fisheries. An early warning system could tell shellfish producers to protect their stock at critical life stages.

The total cost of a comprehensive ocean acidification research and monitoring program in Puget Sound is estimated to be \$25 million over 5 years.

**Marine Conservation Biology Institute** is a nonprofit organization dedicated to advancing the science of marine conservation biology and securing protection for the world's marine ecosystems. Founded in 1996, MCBI is headquartered in Bellevue WA, and has offices in Honolulu HI, Glen Ellen CA and Washington DC.

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