

U.S. West Coast Shellfish Farming and The Effects of Ocean Acidification

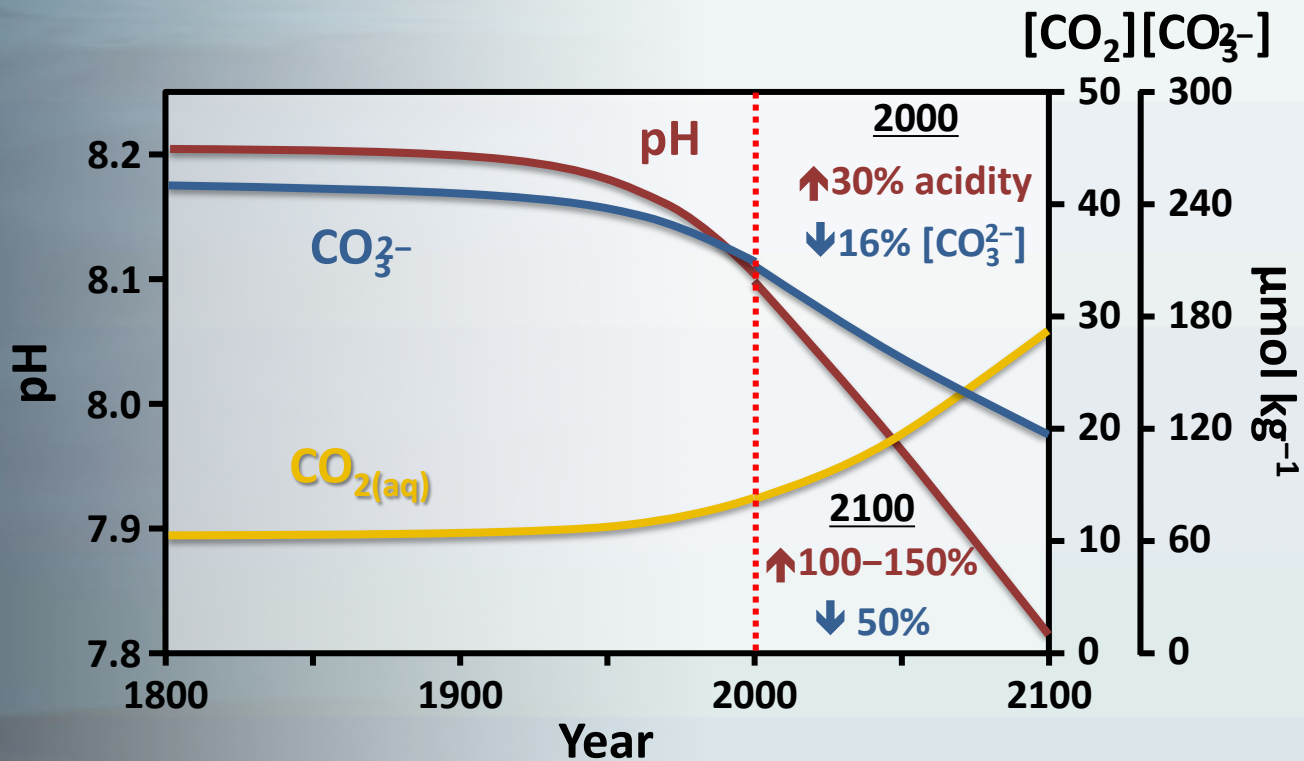
Bill Dewey
Taylor Shellfish Farms



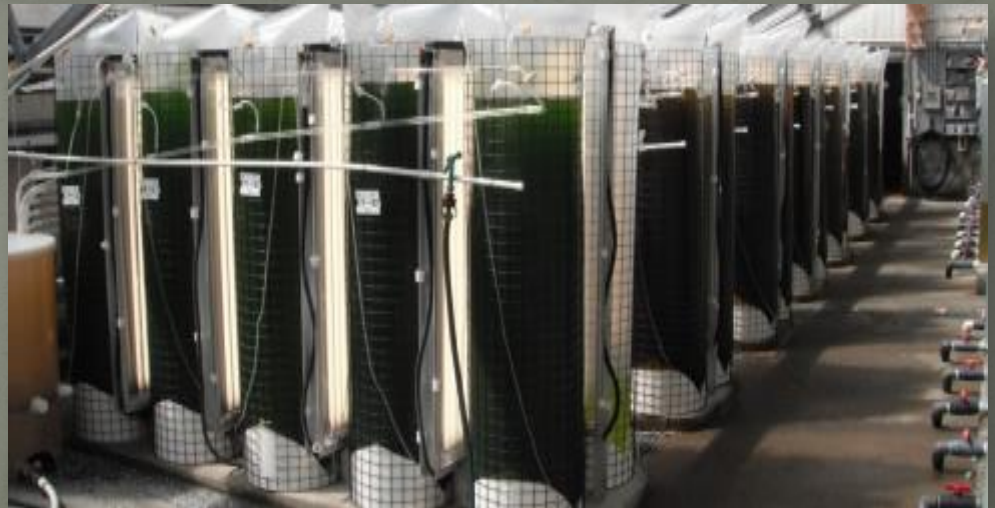
U.S West Coast Shellfish Farms



Ocean chemistry changes



Shellfish seed production



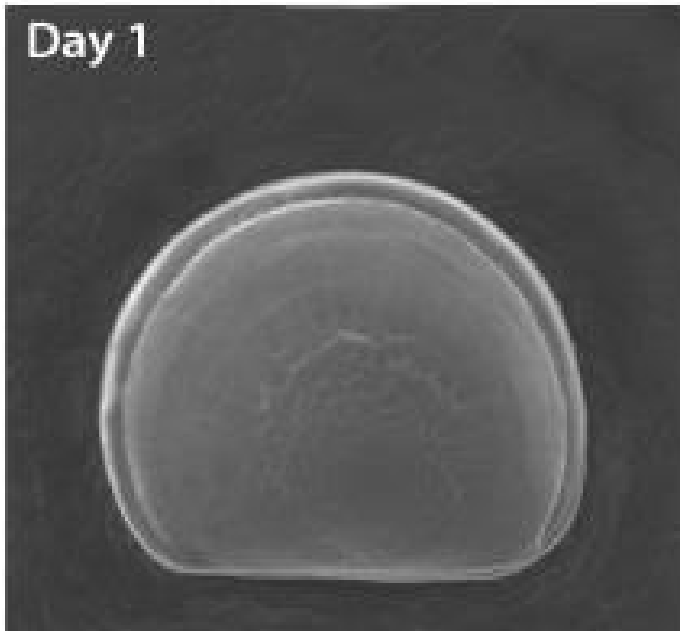
Day old oyster larvae

Healthy

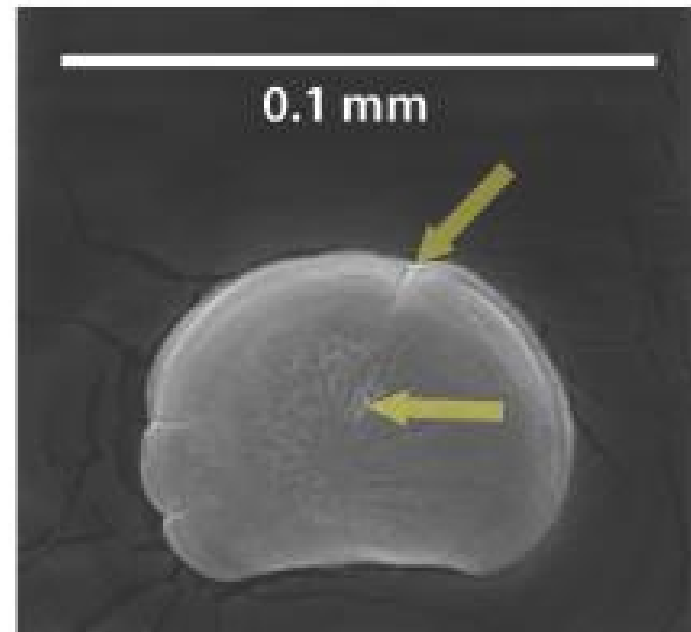
Not healthy

Low $p\text{CO}_2$
High $\Omega_{\text{Aragonite}}$

Day 1



High $p\text{CO}_2$
Low $\Omega_{\text{Aragonite}}$



SEM photo: OSU Brunner/Waldbusser

Oyster larvae

Feeding and
motatating
appendage
(velum)



Oyster larvae



Oceans' rising acidity a threat to shellfish — and humans

As carbon dioxide continues to build up in the atmosphere as a result of burning fossil fuels, the seas absorb much of it. The full effects have yet to be felt.



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Workers harvest oysters in Samish Bay, Wash., at low tide. Scientists have found that the rising acidity of the oceans is preventing the protective shells of some Pacific oysters from developing. (Liz O. Baylen, Los Angeles Times / June 21, 2008)

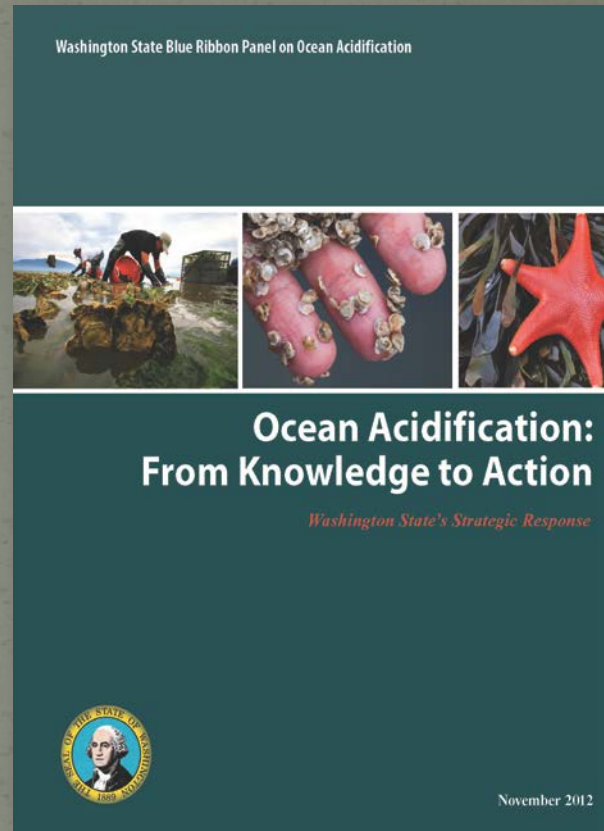
Panic/Adaptation

- Ramped up monitoring and research
- Expanded larvae production capacity at Kona, Hawaii, USA
- Treating hatchery rearing water
- Breeding OA resistant oysters





Washington Governor Gregoire

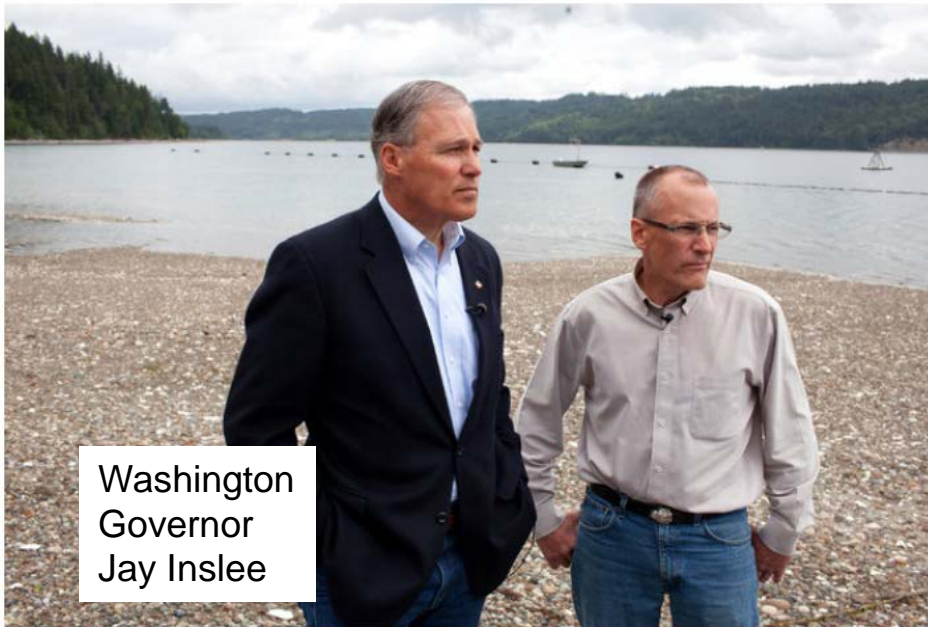


<http://www.ecy.wa.gov/water/marine/oceanacidification.html>

August 3, 2014

As Oysters Die, Climate Policy Goes on the Stump

By CORAL DAVENPORT AUG. 3, 2014



Gov. Jay Inslee, left, with Bill Dewey of Taylor Shellfish Farms during a tour of the company's Quilcene, Wash., hatchery in June. Matthew Ryan Williams for The New York Times

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OLYMPIA, Wash. — Billions of baby oysters in the Pacific inlets here are dying and Gov. Jay Inslee of Washington is busy spreading the bad news.

"It used to be the canary in the coal mine," Mr. Inslee said in a recent interview. "Now it's the oyster in the half shell. You can't overstate what this means to Washington."

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