

Ocean Acidification in Northwest Atlantic Fisheries and Aquaculture: Adapting to changing ocean conditions and building resilience

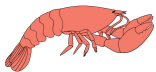


Understanding Ocean Acidification

Our oceans absorb carbon dioxide from the atmosphere, resulting in a change in water chemistry that results in increasing acidity. These conditions can impact growth, behavior, and survival of marine life.

Some fisheries and aquaculture that may be at risk now.

Examples: Average Total Commercial Landing Value
*Does not include reporting from Indigenous entities



American Lobster

\$2 046 492 000 CAD¹

\$920 288 307 USD²



Sea Scallop^{*4}

\$159 596 000 CAD¹

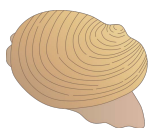
\$ 670 000 000 USD³



Atlantic cod^{*5}

\$20 378 000 CAD¹

\$2 899 675 USD²



Soft-shell Clams^{*6}

\$ 90 075 000 CAD¹

\$33 929 866 USD²

The Scotian Shelf and New England



Commercial, recreational, and Indigenous fisheries support our way of life and the regional economy. Knowing how these fisheries are at risk helps us prepare for the impacts of changing ocean conditions.



The Scotian Shelf and New England

The marine ecosystems here are some of the most biologically diverse regions in North America. The communities and cultures of this region are bound to this rich diversity of species. Coastal Indigenous people have sustainably fished and harvested from the sea for time immemorial. Ocean acidification could have profound effects on species such as lobsters, clams, and halibut, and on the livelihoods, cultural practices, and way of life in these Atlantic regions.



Ocean acidification limits minerals that are building blocks for shell builders like oysters, clams, and other species sensitive to acidifying waters.



Monitoring our ocean lets us track and predict ocean acidification. The more we know, the better we can prepare for changing ocean conditions.



Understanding the biological responses to acidification can help fishermen and aquaculturists make informed decisions that build resilience.



Examining community vulnerability to ocean acidification by monitoring risks is important for understanding socioeconomic and cultural impacts.

In the Same Boat

Together with a team of local scientists, academics, Tribal community leaders, industry professionals, and policymakers, NOAA and DFO are building collaborative partnerships to support the region. Providing scientific information on where and when acidification occurs, future impacts to valuable species, and the associated risks to resource-dependent communities in the region. Through this partnership, actions meet local needs and priorities. Fishing and aquaculture communities will be better prepared to adapt to our changing ocean.



<https://www.oceanacidification.ca/>



<https://oceanacidification.noaa.gov/>

¹<https://www.dfo-mpo.gc.ca/stats/commercial/sea-maritimes-eng.htm>

²<https://www.fisheries.noaa.gov/foss/f?p=215:200:14412789929288::Mail::>

³<https://www.fisheries.noaa.gov/species/atlantic-sea-scallop>

⁴Dieter Tracey, Water and Rivers Commission (ian.umces.edu/media-library)

⁵Kim Kraeer, Lucy Van Essen-Fishman, Integration and Application Network (ian.umces.edu/media-library)

⁶Tracey Saxby, Integration and Application Network (ian.umces.edu/media-library)