



INTERNATIONAL ALLIANCE TO
COMBAT OCEAN ACIDIFICATION



City of Vancouver's Ocean Acidification Action Plan

Region: Southwest coast of British Columbia, Canada, North America

Kilometers of Coastline: Approx. 60 km

Regionally Significant Marine Resources: Salmon, Crabs, Mussels, Clams and other shellfish, culturally significant shorelines, salt marshes and eel grass beds, sea and shore birds, kelp and various seaweed species.

Status of Action Plan: Adopted and in-progress

Key statistics on ocean economy: Thousands of years before European settlement, x^wməθk^wəyə' m (Musqueam), Skwxwú7mesh (Squamish) and səl ilwəta' ʔɫ (Tsleil-Waututh) villages and settlements dotted the shorelines, with trade and travelers using the waterways as highways to travel great distances. Each Nation had, and continues to have, its own relationship to the area, including place names and uses for the lands and resources. Vancouver sees around 6 million tourists a year and 10 million annual visitors to Stanley Park—one of the largest urban parks in North America. The Port of Vancouver is located within the harbour of Vancouver and is one of the busiest shipping container ports in North America. The coast also supports a vibrant economy with over 15,000 British Columbians employed in commercial fishing, sport fishing or shellfish aquaculture.

What Is at Stake in Your Region?

The Salish Sea is one of the world's largest and biologically rich inland seas containing 419 islands and 16,925 square kilometers of sea surface area. It is home to 8 million people, 37 species of mammals, 172 species of birds, and 253 species of fish. Some of these species are of great cultural, environmental and economic significance including Orcas, 9 species of salmon, halibut, Dungeness crab and a diverse variety of shellfish. Its name pays tribute to the first inhabitants and stewards of the region, the Coast Salish.

Due to the unique geographical location, including proximity to Vancouver Island and other landmasses, the Salish Sea is naturally more acidic than the open ocean. This means that local waters are less resilient and have low tolerance for changes in ocean chemistry. As the ocean becomes more acidic, it will become increasingly difficult for calcium carbonate-fixing organisms such as clams, mussels and oysters to develop the shells that protect them. Ocean acidification also negatively impacts marine life's ability to feed and reproduce.



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The devastating impacts of ocean acidification have already been felt in British Columbia (BC). In 2014, rising acidity levels in Qualicum Bay on Vancouver Island were most likely to blame for the collapse of local scallop stocks. This collapse cost a local business \$10 million and forced the lay off one-third of its workforce. Today, more than 15,000 British Columbians work in commercial fishing, sport fishing or shellfish aquaculture. Together, they contribute close to \$500 million per year to BC's economy. All these industries as well as numerous secondary industries rely on a healthy productive ocean.

Policy Vehicle, Enabling or Authorizing Conditions for Creating an OA Action Plan

In 2016, the City of Vancouver was the first Canadian city invited to join the Ocean Acidification Alliance (OAA), a new program area of the Pacific Coast Collaborative (PCC). The PCC is the product of a 2008 climate action agreement between the Province of British Columbia, Washington State, Oregon and California. The work of the PCC focuses on the mitigation of greenhouse gases.

The Ocean Acidification Framework is an opportunity to amplify the City's current greenhouse gas mitigation and rainwater management work, connect and communicate the benefits of mitigation efforts on ocean health and foster opportunities for further action. We are striving to improve the understanding of ocean acidification, mitigate impacts and build stronger public awareness and education about local impacts and current actions.

The Framework is comprised of actions (current and future) from the following strategies: Climate Emergency Response, Climate Change Adaptation Strategy, Rain City Strategy, and Greenest City Action Plan. The Framework was developed by the Sustainability Group in collaboration with the Engineering department, who is the goal owner of the Rain City Strategy.

Priority Areas or Actions in Your Plan

The City will continue to collaborate with Musqueam, Squamish and Tsleil-Waututh on governance, research, communication and engagement related to adaptation and coastal preparedness in the face of changing ocean conditions.

To advance scientific understanding of ocean acidification, the City currently hosts research collaborations with City Studio (an innovation hub with City staff and university students) and the University of British Columbia to develop a better understanding of the marine ecology of False Creek and surrounding water bodies. In the future, the City is planning to implement a water quality initiative, which will include hydraulic modeling of False Creek, water quality sampling and more actions regarding water quality. Additionally, the City will join a regional ocean acidification research and monitoring network coordinated through MEOPAR.

To mitigate carbon pollution sources of ocean acidification, the Climate Emergency Response sets out targets and strategies to reduce carbon emissions through the city's energy supply, building codes, transportation sectors and through nature-based solutions like increasing canopy cover. Additionally, the Rain City Strategy identifies opportunities and tools to respond to contaminant concerns from road and urban surface runoff through green infrastructure. The Rain City Strategy set an ambitious performance target to capture and clean 90% of



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Vancouver's average annual rainfall by 2022, resulting in a reduction of pollutants such as oil, grease, heavy metals, and sediment from reaching the receiving waters.

In a recent update to the Climate Change Adaptation Strategy, the City introduced the impacts of ocean acidification and will be working with partners to advance the City's understanding in terms of impact, adaptation and monitoring. This work will include future studies to understand coastal processes related to sediment transport, water chemistry and erosion, and sea level rise for Vancouver waterfront parks and open spaces.

In order to communicate more broadly about the issue, the City plans to collaborate across departments with the Resilient Vancouver team, One Water, Sustainability Group, and with Natural Resources Canada to develop and communicate information about ocean acidification. Communications will focus on education, providing support for decision makers and staff, and motivate and empower action from residents and the surrounding communities.

Measures of Success, Challenges, and Lessons Learned

The City of Vancouver is embarking on its ocean acidification work. We look forward to sharing lessons learned in the future.

How Does OA Action Support Your Existing International and Domestic Climate Commitments?

In 2019, the City of Vancouver declared a climate emergency, and in response focused on drastically cutting the city's greenhouse gas emissions. This declaration is in line with Canada's Paris Agreement commitments to limit increases to global temperatures to 2°C and the 2018 Intergovernmental Panel on Climate Change report to limit warming to 1.5°C. The City of Vancouver has also registered our ocean acidification Framework, as a Voluntary Commitment to help support the implementation of the UN Sustainable Development Goal 14, Life Below Water.

As a city, we are thinking globally and acting locally.

Historically in Canada, the local impacts of ocean acidification have been poorly understood by the public. In 2019, the Province of British Columbia ranked ocean acidification in the top five climate risks for the region highlighting that urgent action is needed. The City of Vancouver is responding to the call by learning more about climate impacts and taking action where possible. Including ocean acidification in the City's frameworks and strategies continues to become increasingly important as we learn more about the interconnectivity of our actions on ocean health.

The City of Vancouver has a tradition of taking action on climate and the natural environment. Ocean acidification will impact us all. We must work collaboratively across all levels of government, organizations and communities to advance our understanding of the problem and seek solutions.



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CONTACT INFORMATION

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Link Climate Emergency Response:

vancouver.ca/climateemergency

Link to Climate Change Adaption Strategy:

vancouver.ca/climateadaptation

Link to Rain City Strategy:

vancouver.ca/raincitystrategy