



INTERNATIONAL ALLIANCE TO
COMBAT OCEAN ACIDIFICATION

CASE STUDY:
CITY OF
VANCOUVER,
BRITISH COLUMBIA, CANADA



OA MEMBER:

CITY OF VANCOUVER



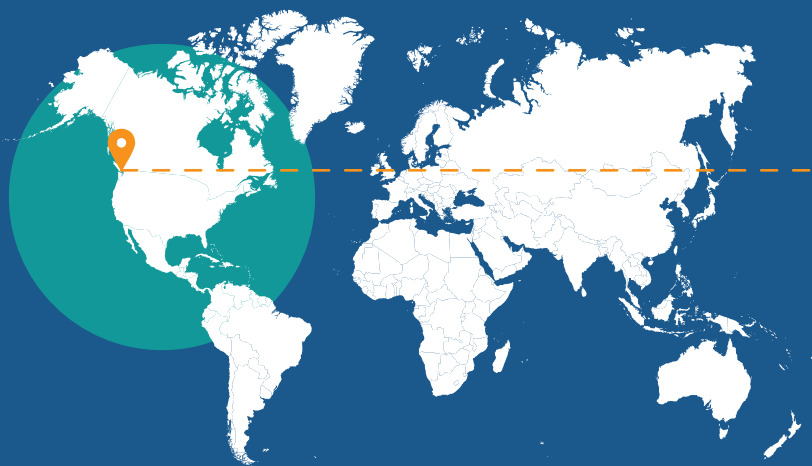
MEMBER TYPE:
GOVERNMENT MEMBER

POINT OF CONTACT:

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LOCATION & DEMOGRAPHY:



CONTINENT:
NORTH AMERICA

OCEAN BASIN:
PACIFIC

POPULATION SIZE:
675,218

KILOMETERS OF COASTLINE:



60 km

REGIONALLY SIGNIFICANT MARINE ECOSYSTEMS:



CLIMATE-OCEAN CHANGE CONCERNS IN THE AREA:

- Ocean & coastal acidification
- Hypoxia or oxygen depletion
- Sea-level rise
- Heat waves (increasing temperatures)
- Eutrophication/nutrient enrichment

REGIONALLY SIGNIFICANT USES OF RESOURCES:

Coastal tourism

Artisanal or subsistence fisheries

Cultural practices or traditions

Aquaculture

OCEAN RESOURCES IN YOUR AREA

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.

Thousands of years before European settlement, Musqueam, Squamish and 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.

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.

CLIMATE-OCEAN CHANGE TRENDS OR CONCERNS

Concerns regarding climate change identified by policy makers, communities, industry or scientists in the region:



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.

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.

Entities helping to advance ocean monitoring and research that will have practical management applicability related to understanding OA

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.

POLICY VEHICLES FOR ADDRESSING CLIMATE-OCEAN CHANGE

On a national level:

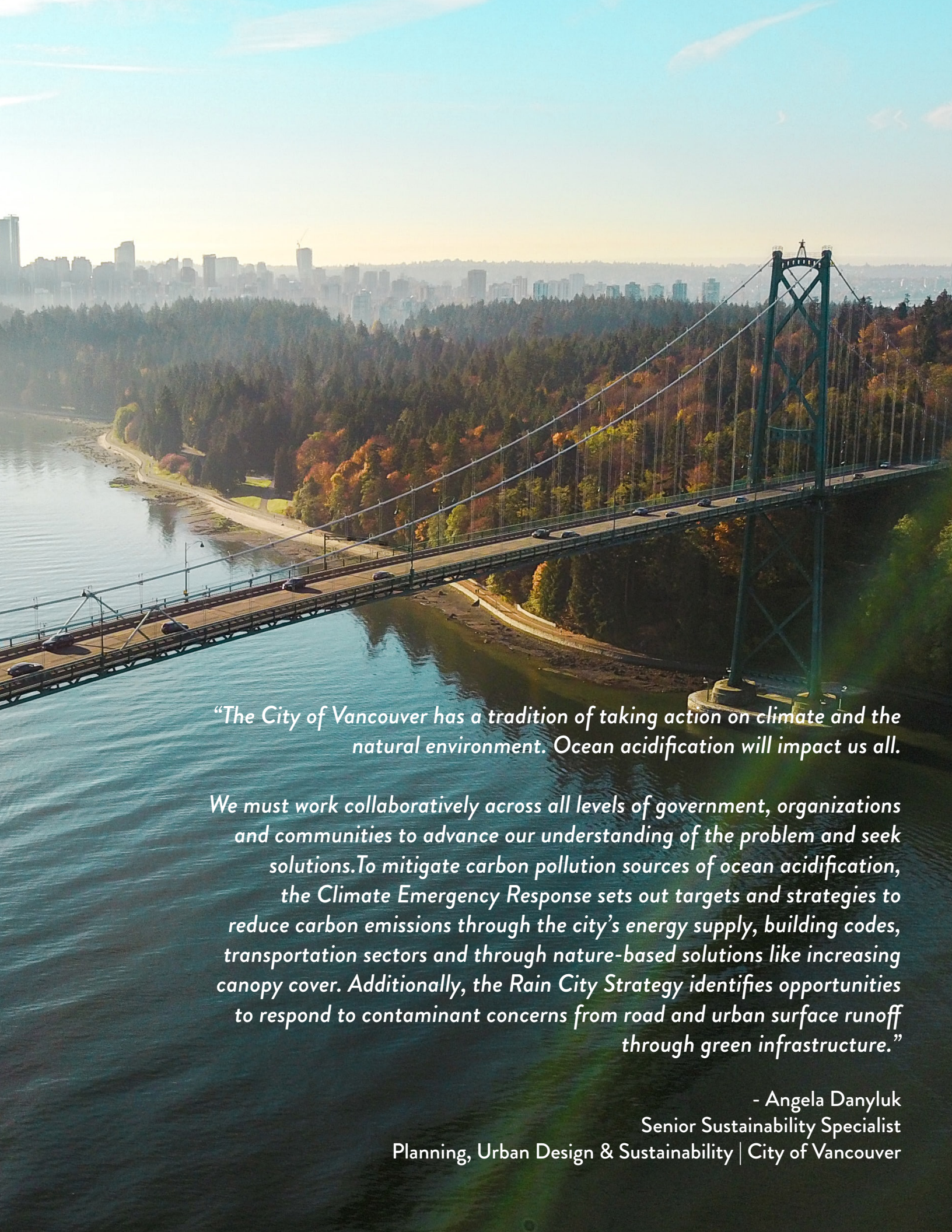
The Ocean Acidification Framework is an opportunity to amplify the City's current greenhouse gas mitigation and rainwater management work, connect and communicate the benefits of mitigation efforts on ocean health and foster opportunities for further action. We are striving to improve the understanding 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.

Supporting International and Domestic Climate-Ocean 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



“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. 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 to respond to contaminant concerns from road and urban surface runoff through green infrastructure.”

*- Angela Danyluk
Senior Sustainability Specialist
Planning, Urban Design & Sustainability | City of Vancouver*



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Learn more about how you can advance climate-ocean action
through the OA Alliance. Visit:
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This case study was published on 2018.
However, please note that climate-ocean commitments, policies, and priorities are dynamic. They are responsive to new information, administration changes and funding. Activities reflected here may have changed or evolved since the time of this publication.