



## Nature and Ecosystems

Metro Vancouver is a region with a rich and diverse natural environment that provides important ecosystem services including clean air and water, pollination, flood control, and cooling of urban areas. Furthermore, many aspects of the region's ecosystems hold cultural significance to First Nations, and healthy ecosystems provide the basis for local food security and prosperity for us all. Soil, forests, wetlands and other ecosystems also contribute to the regulation of the global climate by removing and storing carbon dioxide from the atmosphere.

However, the health of our region's ecosystems is deteriorating and vulnerable to further degradation, especially with a changing climate. Many species and ecosystems in the region are at risk of being impacted or displaced entirely due to climate change because they cannot adapt fast enough. This is a complex issue and our understanding is incomplete, but protecting and enhancing natural areas and their connectivity will be essential in helping species and ecosystems adapt to climate change.

Natural areas and greenspaces will play a key role in assisting the region's communities to adapt to climate change. Soils and vegetation capture rainwater, protect the foreshore, and moderate the impacts of extreme weather events, reducing the need for built infrastructure. Trees provide shading in urban areas, which reduces the energy needed to cool buildings and gives relief to residents during extreme heat events. Maintaining tree canopy and managing urban forests so they are resilient to the impacts of climate change will mean they are able to continue to provide these adaptation benefits. Incorporating green infrastructure such as rain gardens, bioswales and green roofs into development projects will increase resilience and help to mitigate environmental impacts, particularly in more urban areas.

### MARINE AND INTERTIDAL ECOSYSTEMS

Our rich marine and coastal areas provide important habitat for fish and wildlife including endangered killer whales, salmon, and hundreds of species of resident and migratory shorebirds. The ocean has spiritual, cultural and ceremonial value for local First Nations, and it provides traditional foods. Salt marshes and seagrasses can store carbon and mitigate flooding in coastal communities. However, these complex intertidal and marine ecosystems are particularly vulnerable to climate change. With rising seas and storm surge, intertidal wetlands will be lost as they are unable to move higher due to sea walls and other man-made structures. In marine environments, warmer temperatures, increased run-off from more extreme rainfall events, and changes in ocean chemistry will alter ecological processes. Federal, provincial, and local governments, First Nations, researchers and conservation groups will need to work together to improve understanding and better protect marine and coastal environments from a changing climate.

