

Action for Adaptation Atlas layers and their environmental values

Terrestrial carbon
<p>The focus of the carbon layer is on the forests of southwest BC, which includes standing live and dead timber, woody debris on the ground, soils and roots. Knowing the sources and volume of forest carbon in an area and quantifying its loss under different development scenarios will help planners make informed choices, support compliance with municipal climate change strategies, and can be useful if applying for carbon credits where possible to do so.</p>
Land cover
<p>Using mapping to see current types and quantities of natural land cover is a powerful way to inform planning that accounts for the cumulative effects of development. Comparing existing data with previous mapped layers can help reveal how and where land cover has changed over time. This information can be used to make land use and zoning decisions that retain and enhance ecosystem services and that leverage opportunities for nature-based solutions, rather than further erode them.</p>
Environmentally Sensitive Areas
<p>Environmentally Sensitive Areas (ESAs) are important ecosystems that support at-risk plant and animal species. Due to decades of intensive forest harvesting and development, especially in lower elevations along the coast and in valley bottoms, many of southwest BC's ecological communities are at risk of being lost, particularly old forest ecosystems. Many of these ecosystems will be further imperilled by climate change. Within municipal jurisdictions, loss of sensitive ecosystems is the result of legal and permitted activities such as urban and industrial development. ESAs are priorities for conservation and inclusion within conservation networks due to their provincial and regional scarcity, fragility or vulnerability to disturbance, and also their value to biodiversity.</p>
Species at risk and culturally significant species
<p>Species at risk are plants and animals that are in danger of becoming extinct or extirpated from Canada. ESAs often correlate closely with the habitats of species at risk. As such, species at risk benefit from protection of sensitive ecosystems. Protecting natural areas and ensuring sufficient connectivity among ESAs for the long term through zoning, designating parks or other bylaws, will contribute to the recovery of species at risk and prevent additional species from becoming at risk.</p> <p>Indigenous Peoples have indicated that the term "species at risk" does not express their world view of connectedness between species and places, and that it excludes cultural and spiritual values. The term "culturally significant species" is a better way of expressing those values. These species may not necessarily be listed as species at risk by the federal government, but declines in their abundance have made these species increasingly difficult to find for food and other cultural practices. Protecting ecosystems that contain habitat for all of these species is essential for their survival.</p>
Ecosystem connectivity
<p>In a municipal setting, ecosystem connectivity refers to the degree to which lands or riparian areas are connected to larger areas of intact habitats and support a broad range of species. Ecosystem connectivity is vital for facilitating movements of wildlife populations, maintaining species diversity, and maintaining high-quality habitats. Climate change and human development threaten ecosystem connectivity by disconnecting, fragmenting and changing species' habitat availability and causing ecosystem shifts.</p> <p>The goal is to protect and enhance connectivity so the value of natural areas and their ability to support as many species as possible is maximized. Connectivity patches or corridors should be as large as possible to ensure their resilience to disturbances and to support as many species as possible. Retaining and enhancing connectivity does not only benefit wildlife, it also benefits the human</p>

community by providing ecosystem services, such as flood mitigation, temperature and wind moderation, shade, and soil retention.

Connectivity usually requires retaining existing natural areas that are in good ecological condition and restoring connectivity between important ecosystems. It can also be realized with good quality ecological restoration of underutilized green spaces, such as turf-ed areas in parks.

Hydrologically sensitive ecosystems

These refer to riparian areas, wetlands of all types, and marine estuaries and shorelines. They provide habitat for aquatic and tidal plant and animal species as well as breeding and nesting habitat for birds; and food, shelter, and breeding habitat for a range of vertebrate and invertebrate species. These areas are often essential to connectivity corridors and are high in biodiversity. They provide ecosystem services such as flood mitigation, storm surge protection, and water storage and filtration, making them an especially valuable natural asset.

Retaining connections between streams and waterbodies is essential to the integrity of hydrologically sensitive ecosystems. Several municipalities have restored connectivity by removing barriers to water flow. Opening up and restoring previously buried watercourses (“daylighting”) can significantly improve riparian areas. Fish bearing streams, spawning and rearing areas as well as First Nation fishing sites and culturally important areas should be protected and kept free from contaminants. The Provincial government mandates protection of a riparian buffer zone along streams. Shoreline habitat should also be retained or restored if it has been disturbed.

Environmental Values Policy Toolkit

A component of the Regional Framework for Nature-based Solutions on BC’s South Coast

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Action for Adaptation

The Action for Adaptation website supports policy and land use planning for local governments and First Nations in southwest BC. It is a collaborative effort by the Coastal Douglas-fir Conservation Partnership (CDFCP), UBC Botanical Gardens to produce an online biodiversity atlas and climate adaptation tools that will provide First Nations, local governments and land managers with the resources that they have indicated they need to make informed decisions related to biodiversity in a changing climate.



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COASTAL DOUGLAS-FIR
& ASSOCIATED ECOSYSTEMS
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