

1.0 Cowichan Region State of the Environment

1.1 Introduction

Working with the principle of “if you don't measure, you can't manage,” this State of the Environment Report endeavours to establish some reliable and repeatable ways of measuring the condition or health of the environment of the Cowichan Region. This report is the first of its kind for the Cowichan Region, and provides a snapshot of the wide and complex environmental issues facing this area. It has been developed by a partnership between the Cowichan Valley Regional District's Environmental Policy Division and the Region's volunteer Environment Commission.

The development of this report by the regional government marks a shift in responsibility for environmental management; local government has not traditionally been engaged in environmental monitoring and protection. In the past, natural resource stewardship was primarily a federal and provincial responsibility. However, as senior government resources are directed to these areas less and less, the job increasingly falls to local governments. Accompanying this shift have been growing public concerns about the health of the natural environment, and increasing expectations that all levels of government do a better job of managing the environment.

This report relies on existing data from a number of sources, including local, regional, provincial, federal and First Nations governments, as well as information from community organizations. Unfortunately, due to data inconsistencies and access challenges, many data gaps exist which future State of the Environment reports will hopefully be able to fill. Nonetheless, this report provides an important first step to understanding more about the region's environment, and begins to paint a picture of some of the area's successes and challenges.

This State of the Environment Report builds on the Sustainable Cowichan framework developed by the Cowichan Valley Regional District (CVRD) Environment Commission in 2008. This framework contains four goals², and suggests 12 strategic actions to achieving sustainability.

For more information, visit www.12things.ca

² The CVRD Environment Commission's four goals are: (1) To protect the environment from harm; (2) To restore, rehabilitate and enhance the natural environment; (3) To encourage economic and social development compatible with environmental stewardship; and (4) To lead by example.

Key Questions

This inaugural State of the Environment Report strives to answer questions such as:

Is the natural environment healthy?

- > Are our ecosystems and species being adequately protected?
- > Is our biodiversity resilient in the face of change – in particular climate change and population growth?
- > Are we approaching, or crossing, the region's natural thresholds?³
- > Is the water safe? Is there enough for people, plants and animals?
- > Is the air quality good?

Are we living within the "natural" capital'?

- > Are we effectively balancing the needs of ecological functions and economic activity?
- > Is our natural capital⁴ (e.g., fisheries and forests) being managed in a sustainable way? Will it be at least as abundant and productive for future generations?
- > Are we making good use of available land, and creating smart, flexible, and resilient communities?
- > Are we producing enough local food?
- > Are we addressing the challenges of climate change?

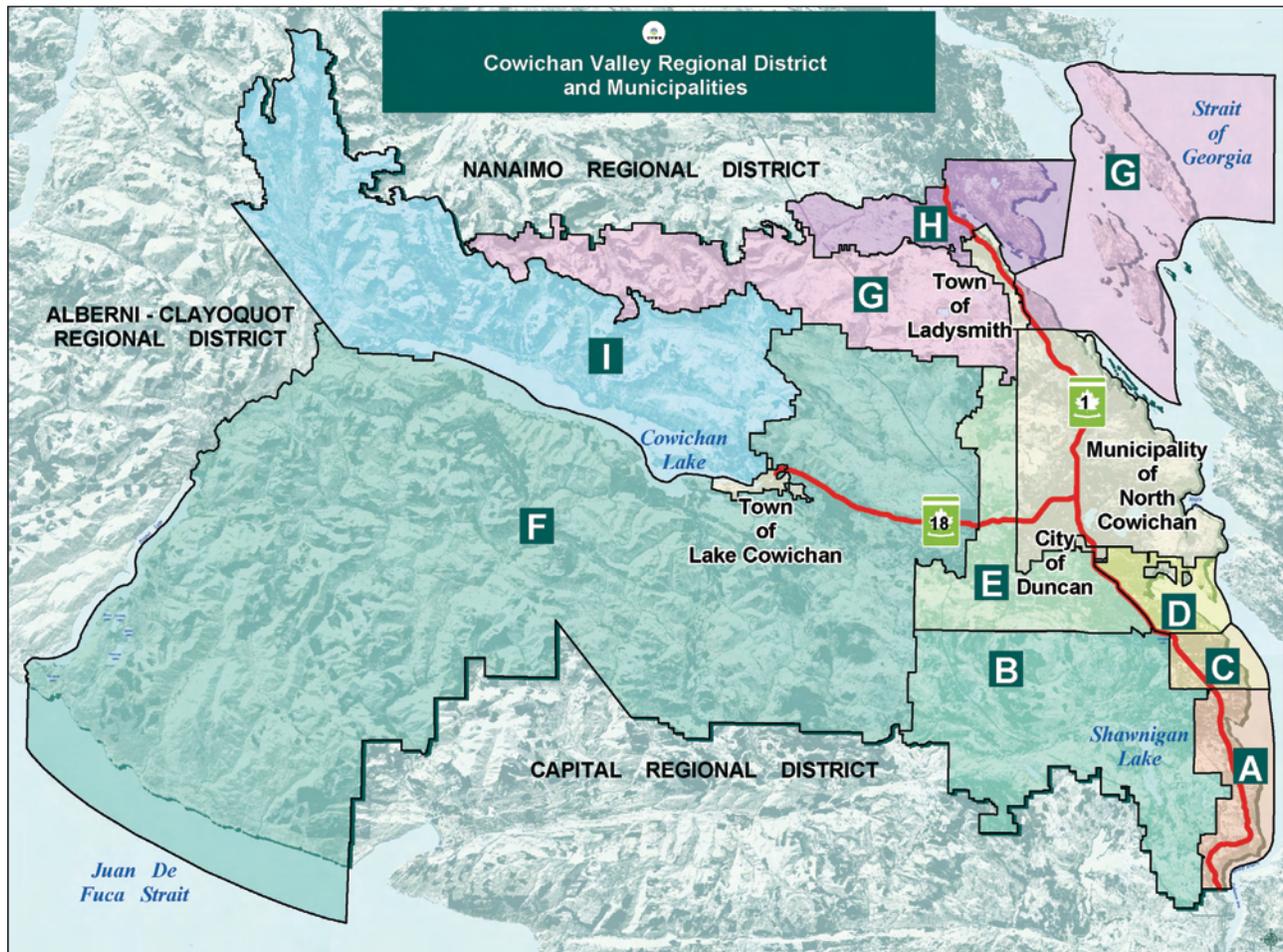
3 Example of an ecosystem threshold: the species diversity of a landscape may decline steadily with increasing habitat degradation to a certain point, and then fall sharply after a critical threshold of degradation is reached.

4 Natural capital is all of the elements that sustain all forms of life, such as water and oil, the land, and the ecosystems that maintain clean water, air and a stable climate. Most of these elements are irreplaceable and not renewable.

The Cowichan Region

The Cowichan Valley Regional District (CVRD) is located on southern Vancouver Island in British Columbia. It covers an area of more than 3,473 square kilometres stretching from the Pacific Coast to the Strait of Georgia, and includes the southern Gulf Islands of Kuper, Thetis and Valdes. The CVRD is made up of four municipalities – City of Duncan, Town of Lake Cowichan, District of North Cowichan and Town of Ladysmith – and nine electoral areas (Figure 1.1).

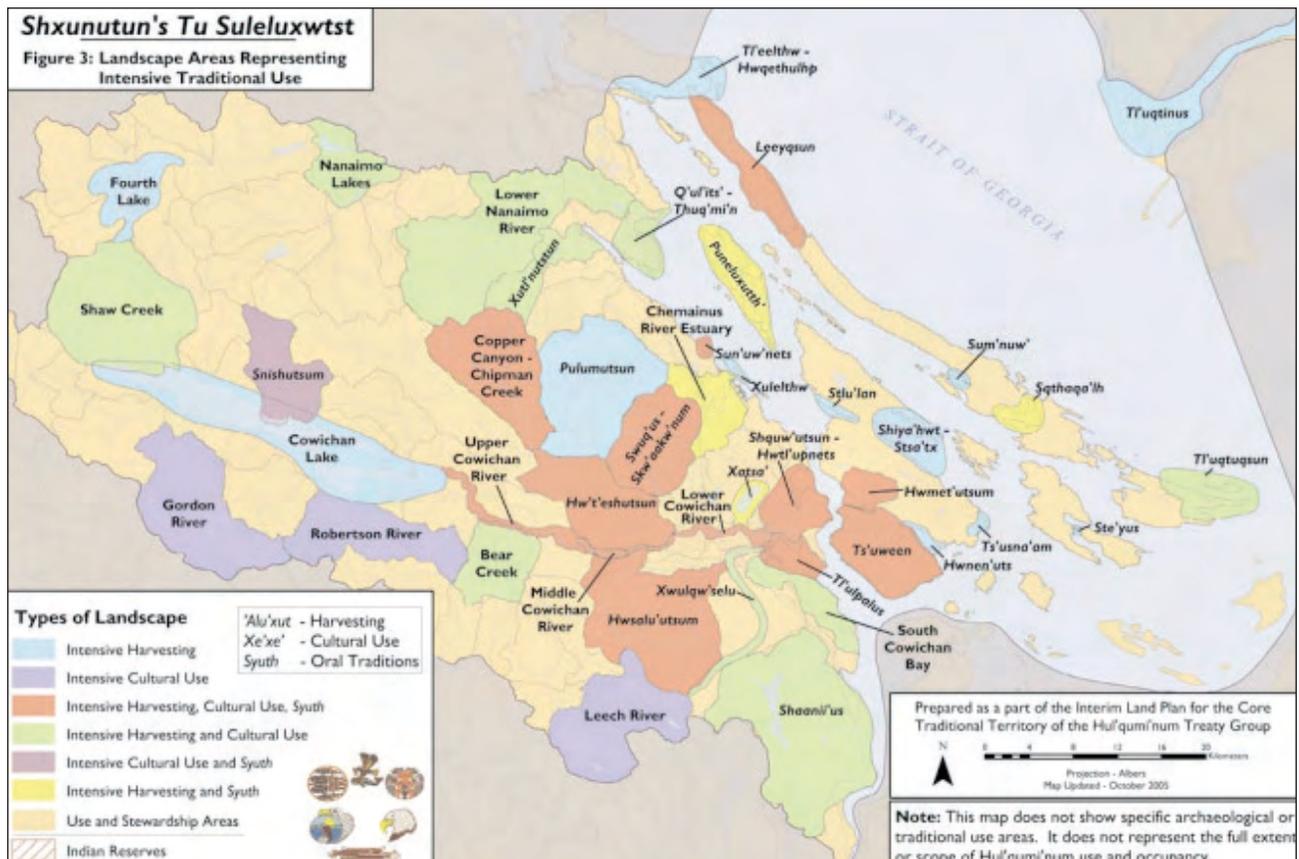
FIGURE 1.1: Cowichan Valley Regional District



Source: CVRD website www.cvr.bc.ca

The CVRD land is part of the traditional territories of several First Nations, including the Cowichan people (the largest First Nation in the province), Chemainus, Penelakut, Lyackson, Halalt, Malahat, Pauquachin, and Lake Cowichan First Nations. Today, these First Nations make up the Hul'qumi'num Treaty Group. In addition the traditional territories of the Ditidaht First Nations lie within the region. Traditionally, these First Nations occupied overlapping, ecologically based territories that included the Salish Sea and the Fraser River (Figure 1.2). The landscape was a source of both spiritual and physical nourishment.

FIGURE 1.2: Partial representation of the scope of use and occupancy of the Hul'qumi'num Treaty Group's traditional territories



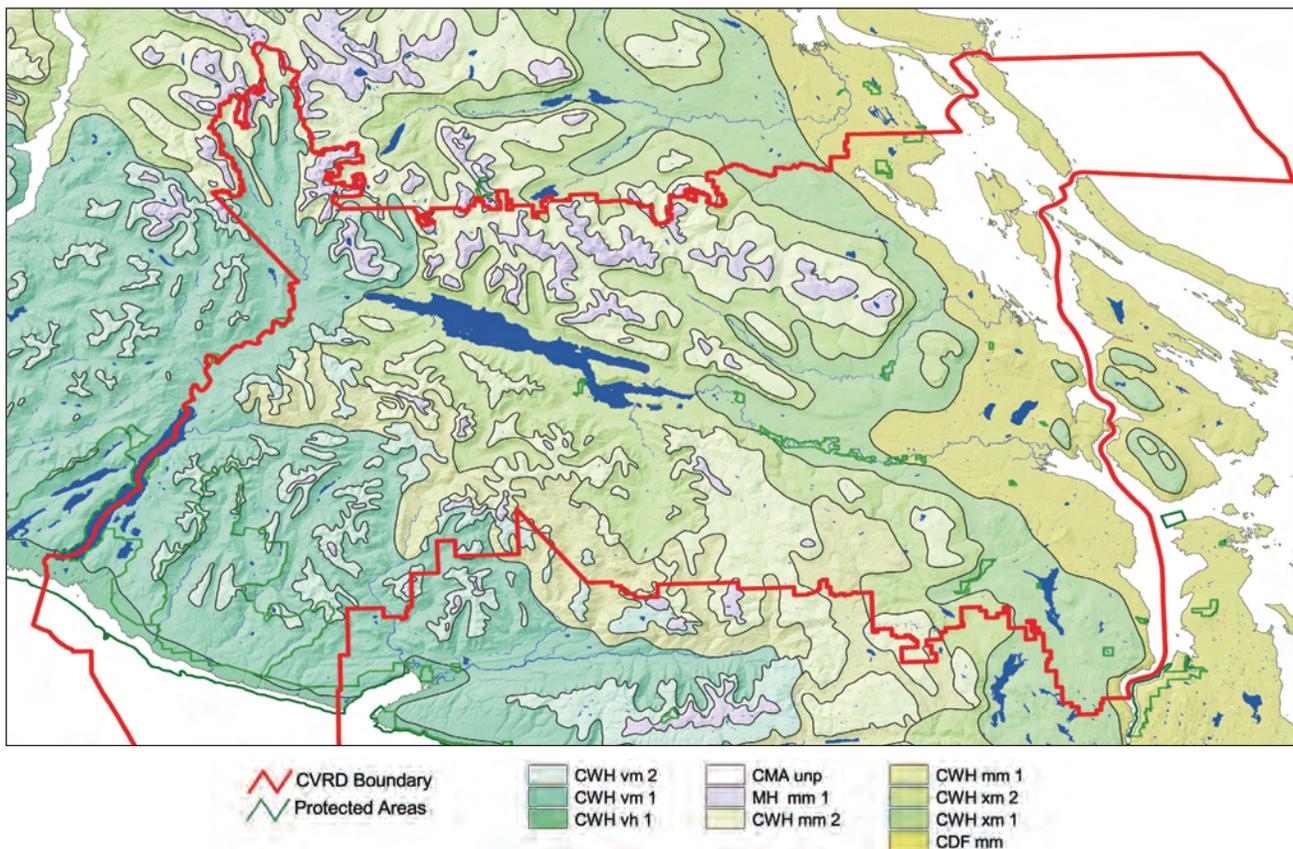
Source: Hul'qumi'num Treaty Group. 2005. Shxunutun's Tu Suleluxwtst. In the footsteps of our Ancestors. Summary of the Interim Strategic Land Plan for the Hul'qumi'num Core Traditional Territory.

Local Ecology

Vancouver Island is classified into four ecosections, and the ecosystems within them are divided into a large number of biogeoclimatic zones (Figure 1.3)⁵. The eastern side of the Island – the Nanaimo Lowland and Leeward Island Mountains – are characterized by dry forests dominated historically by Coastal Douglas-fir (CDF) and Garry oak, which historically burned relatively frequently by both “natural” and First Nation-driven fires.

In contrast, the forests on the west side of Vancouver Island are some of the wettest in the province, and so burn very infrequently – some forests here have escaped any large disturbance for 4,000 years or more. As a result, they are characterized by huge statures and often old or ancient western red-cedar, yellow-cedar, coastal western hemlock (CWH) and Sitka spruce forests. These multi-storied canopy forests (forests with many layers) provide a home to a large diversity of plants and animals and perform many natural functions, including the long-term storage of carbon.

FIGURE 1.3: Vancouver Island biogeoclimatic zones



CWH = Coastal Western Hemlock zone; CMA = Coastal Mountain-heather Alpine Zone; MH = Mountain Hemlock Zone; CDF = Coastal Douglas-fir zone. The letters (e.g., vm2) following these zone titles describe moisture and temperature variability within each broader area.

See Footnote 5 for additional information about these zones.

5 A description of these zones can be found on the Ministry of Forest's Biogeoclimatic Ecosystem Classification (BEC) website: www.for.gov.bc.ca/HRE/becweb/resources/classificationreports/subzones/index.html

The diversity of ecosystems – unique combinations of plants, animals and their physical environment – defines the beauty and richness of the natural world. The CVRD contains a range of rare, sensitive and keystone ecosystems that have very high ecological and social values. For example, the region's Garry oak woodlands are among the most endangered ecosystems in Canada, and provide a home for a wide diversity of species – including seven species of reptiles, seven species of amphibians, 33 species of mammals, 104 species of birds, 694 species of plants and more than 800 species of insects and spiders.⁶

Other sensitive ecosystems in the region include wetlands and riparian⁷ habitats, older forests, terrestrial herbaceous areas (rocky outcrops and grassy knolls), coastal bluffs, and coastal dunes and spits, as well as many shoreline ecosystems. Shoreline ecosystems are the interface between terrestrial and marine environments, and allow land species access to the abundance of the ocean, as well as providing critical habitats for many marine and intertidal species.

6 Garry Oak Ecosystems Recovery Team, www.goert.ca

7 A riparian habitat or zone is the interface between land and a flowing surface water body such as a river. Riparian zones play a significant role in soil conservation, and influence biodiversity and aquatic ecosystem health.



FIGURE 1.4: Example of oak savanna – The Nature Conservancy of Canada's Cowichan Garry Oak Preserve

Source: Chris Junck, Garry Oak Ecosystems Recovery Team