

OUR PLACE, OUR FUTURE COWICHAN VALLEY REGIONAL DISTRICT OFFICIAL COMMUNITY PLAN FOR THE ELECTORAL AREAS

SCHEDULE C TO BYLAW NO. 4373 – OFFICIAL COMMUNITY PLAN FOR THE ELECTORAL AREAS

Arbutus Park



CVRD



Meades Creek

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INTRODUCTION

Cowichan Bay

INTRODUCTION

BC's *Local Government Act* provides local governments with a special tool—the development permit—for managing development on a site-specific basis where the characteristics and/or context of the development site call for more finely-tuned development standards than are contained in the applicable zoning bylaw.

If your property is situated within a development permit area (DPA), any alteration or improvement to the land (by subdivision, clearing or construction, for example), may require an application to the Regional District for a development permit. The permit authorizes you to proceed and sets out any conditions for development to satisfy community standards for safety, environmental protection and appearance. Also note: a development permit is not a building permit; if you are planning construction, you may also need a building permit.



Image 0.1 Plans to alter land or build on it are expected to satisfy community standards.

Depending on their specific purpose, some DPAs encompass the entire regional district, while others only a part of it. Still other DPAs overlap. You can tell which DPAs pertain to your property by looking at the maps that accompany the individual DPA descriptions and guidelines.

Development permit guidelines further support compliance with a variety of regional district, provincial and federal government policies, laws, regulations and best management practices.

Authority for Development Permit Area Designation

The legislative authority for designation of DPAs resides in sections 488 to 491 of the *Local Government Act*, which describe the various purposes for which local governments may create DPAs, the types of activity requiring a development permit, and the range of requirements local governments may impose on applicants for different kinds of development permits.

Activities Affected and Applicability of Multiple Development Permit Areas

Once a local government has designated a DPA, an owner of land in the area is prohibited (under section 489) from taking certain actions without either a development permit or an exemption under section 488(4).

These prohibitions include

- a. subdividing land;
- b. starting construction of, addition to or alteration of a building or other structure;
- c. altering land in any development permit area designated under section 488(1)(a) or (b) (protection of the natural environment, protection of development from hazardous conditions); or
- d. altering land, a building or other structure in a development permit area designated under section 488(1) (d), (h), (i) or (j) (revitalization, energy conservation, water conservation, greenhouse gas reduction).

GG1. Where land lies within more than one development permit area, all the applicable permit requirements must be met for the part of the land lying within the applicable development permit areas.

Permit Exemptions

Section 488(4) of the *Local Government Act* provides that an official community plan or zoning bylaw may specify conditions under which a development permit would not be required in a designated DPA. A list of exemptions for each DPA is contained in CVRD [Bylaw No. 4485 – Zoning Bylaw for the Electoral Areas \(Development Permit Exemptions and Guidelines, 2023\)](#). Some apply to specific activities; others apply to local areas within the DPA.

Information Requirements

Under section 485(1) of the *Local Government Act*, a local government may specify circumstances under which certain information is required prior to approval of a development permit application and may designate areas in which such information is required.

The level of assessment required depends on the type of DPA, the size of a proposed development, and its potential impact on the community and the environment. The greater the potential risk, the more rigorous the information requirement.

CVRD's [Bylaw No. 4545 – A Bylaw to Establish Procedures and Policies for Requiring Development Approval Information](#) sets out the type of information an applicant for a development permit may be required to provide as well as what type of appropriate professional may be required by a CVRD official to prepare the report. Where applicable, a development permit may provide further guidance on specific application requirements.

How to Understand the Development Permit Area Designations and Justifications

Each DPA is formatted for ease of use, according to the following outline

- **Development Permit Area** describes the development permit area by reference to a map.
- **Basis for Designation** refers to the applicable subsection of s. 488 (1) of the *Local Government Act*
- **Justification for Designation** describes special conditions or objectives that justify requiring a development permit in addition to other development approvals, including subdivision approvals and building permits. This section includes references to any relevant technical studies supporting “natural environment” or “hazard lands” designations.

Within this document, individual DPA pages will feature colour-coded footers that correspond with the colours used to shade individual DPAs on their associated maps.

List of Development Permit Areas

The CVRD Official Community Plan for the Electoral Areas (OCP) designates and maps ten DPAs in the regional district. These DPAs are listed below, followed by Designations and Justifications for each. Development Permit Guidelines and Exemptions are contained in CVRD [Bylaw No. 4485 - Zoning Bylaw for the Electoral Areas \(Development Permit Exemptions and Guidelines\)](#), 2023.

Part 1 Protection of the Natural Environment

Development Permit Area 1	Riparian Protection
Development Permit Area 2	Environmentally Sensitive Areas Protection
Development Permit Area 3	Marine Uplands and Foreshore Protection
Development Permit Area 4	Aquifer Protection

Part 2 Protection of Development from Hazardous Conditions

Development Permit Area 5	Wildfire Hazard
Development Permit Area 6	Flood Hazard
Development Permit Area 7	Slope Stability

Part 3 Protection of Farming

Development Permit Area 8	Protection of Farming
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Part 4 Form and Character

Development Permit Area 9	Form and Character Guidelines
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- Intensive Residential Development
- Multi-unit Residential Development
- Commercial and Mixed-use Development
- Industrial Development

Part 5 Energy, Water, Greenhouse Gas Emissions

Development Permit Area 10	Energy and Water Conservation; Greenhouse Gas Emissions Reduction
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Development Permit Area Wayfinding Colour Key

	DPA 1 Riparian Protection		DPA 8 Protection of Farming
	DPA 2 Environmentally Sensitive Areas Protection		DPA 9 Form and Character Intensive Residential
	DPA 3 Marine Uplands and Foreshore Protection		DPA 9 Form and Character Multi-unit Residential
	DPA 4 Aquifer Protection		DPA 9 Form and Character Commercial and Mixed-use
	DPA 5 Wildfire Hazard		DPA 9 Form and Character Industrial
	DPA 6 Flood Protection		DPA 10 Energy Water Conservation Reduction GHG Emission
	DPA 7 Slope Stability		

Definitions

These definitions apply to the DPAs only.

Aquifer is an underground layer of water-bearing material consisting of permeable or fractured rock, or of unconsolidated materials, such as gravel, sand or silt.

Development means any activity referred to in section 489 of the *Local Government Act* and includes alteration or development of land for residential, commercial, industrial, institutional, service or utility uses or activities, to the extent that these uses or activities are subject to local government powers under the *Local Government Act* and without limitation includes the alteration or removal of vegetation and the deposit or removal of soil materials.

Environmentally sensitive area is an area that contains sensitive or rare ecosystems or other environmentally sensitive values. Often used as a synonym for *sensitive ecosystems*.

Fish means all life stages of salmonids, game fish and regionally significant fish.

Floodplain means a relatively flat, low-lying area adjacent to a watercourse, with a potential to flood when water levels are high.

Foreshore means the strip of land that lies between the maximum high and low tide lines and that is alternately wet and dry, according to the flow of the tide.

Groundwater means water found underground in the cracks and spaces in soil, sand and rock. It is stored in and moves through geologic formations of soil, sand and rocks called aquifers.

Invasive plant species means plants that are not native to the area or outside of their natural distribution and are identified on the Provincial Priority Invasive Plant List established by the Coastal Invasive Species Committee and Invasive Species Council of BC.

Natural features, functions and conditions include but are not limited to the following:

- a. large organic debris that falls into the stream or streamside area, including logs, snags and root wads;
- b. areas for channel migration, including active floodplains;
- c. side channels, intermittent streams, seasonally wetted contiguous areas and floodplains;
- d. the multi-canopied forest and ground cover adjacent to streams that
 - i. moderates water temperatures;
 - ii. provides a source of food, nutrients and organic matter to streams;
 - iii. establishes root matrices that stabilize soils and stream banks, thereby minimizing erosion; and
 - iv. buffers streams from sedimentation and pollution in surface runoff;
- e. a natural source of stream bed substrates; and
- f. permeable surfaces that permit infiltration to moderate water volume, timing and velocity and maintain sustained water flows in streams, especially during low flow periods.

—Riparian Areas Protection Regulation, s. 1

Qualified environmental professional means an applied scientist or technologist, acting alone or together with another qualified environmental professional, if

- a. the individual is registered and in good standing in British Columbia with an appropriate professional organization constituted under an Act, acting under that association's code of ethics and subject to disciplinary action by that association; and
- b. the individual's area of expertise is recognized in the assessment methods as one that is acceptable for the purpose of providing all or part of an assessment report in respect of that development proposal, and the individual is acting within that individual's area.

Regional District means the Cowichan Valley Regional District governing body; **regional district** refers to the CVRD's geographical area.

Riparian area means an area adjacent to a watercourse that links aquatic to terrestrial ecosystems and includes both the riparian area vegetation and the adjacent upland vegetation that exerts an influence on the watercourse, the width of which includes the area up to 30 m from each edge of a bank of a watercourse.

Riparian assessment area means

- a. for a stream, the 30 m strip on both sides of the stream, measured from the high-water mark;
- b. for a ravine less than 60 m wide, a strip on both sides of the stream measured from the high-water mark to a point that is 30 m beyond the top of the ravine bank; and
- c. for a ravine 60 m wide or greater, a strip on both sides of the stream measured from the high-water mark to a point that is 10 m beyond the top of the ravine bank.

Sensitive ecosystem means an ecosystem in the landscape that is at-risk or ecologically fragile.

Sensitive Ecosystems Inventory is the standardized method by which sensitive ecosystems are mapped and described. The scale of mapping can be variable, ranging from 1:1,000 to 1:20,000. Sensitive Ecosystems Inventory mapping coverage in the CVRD is only available in some areas.

Shoreline means the normal high-water mark of tidal waters, a coastal or inland wetland, a standing body of water or flowing water.

Stormwater means the water that drains off or into the land following rainstorm or snowfall.

Stream means

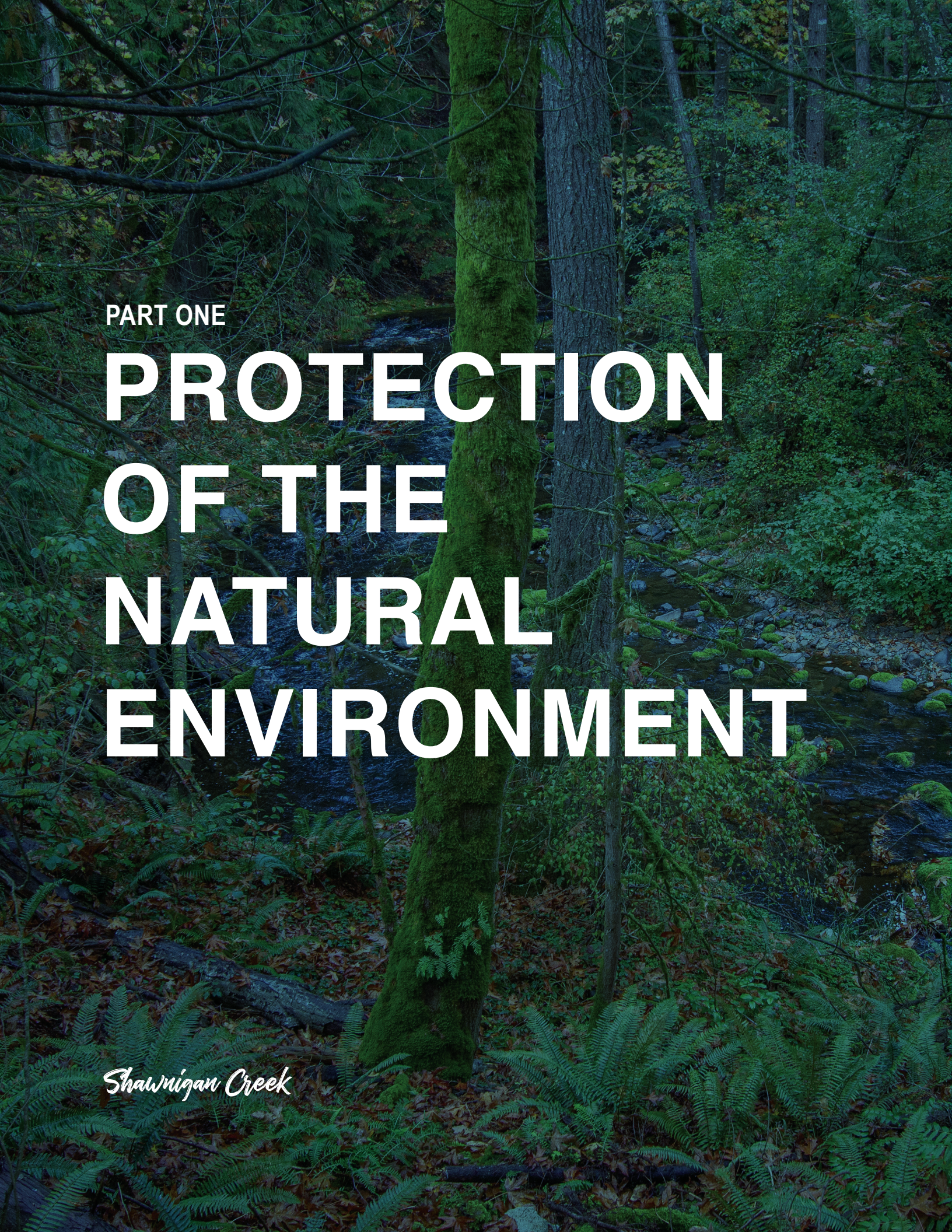
- a. a watercourse or body of water, whether or not it usually contains water and whether or not the watercourse or body of water has been modified;
- b. a spring, whether or not it usually contains water whether or not the spring has been modified;
- c. a wetland, whether or not it usually contains water and whether or not the wetland has been modified; and
- d. a ditch following that is connected by surface flow to any stream referred in paragraphs (a) – (c).

Sustainability means development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability involves integrating social, economic and environmental considerations.

Watercourse means a creek, pond, lake, river, stream or brook, whether usually containing water or not, and any spring or wetland that is integral to a watercourse.

Wetland means land that is inundated or saturated by surface or ground water at a frequency and duration that are sufficient to support and under normal conditions do support vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, fens, estuaries and similar areas that are not part of the active floodplain of a watercourse.

Wildlife corridor means an area of habitat connecting wildlife populations separated by human activities or structures (such as roads, development or logging), providing animals with an opportunity to move freely between two or more habitat patches or habitat types in an otherwise fragmented landscape.

A photograph of a forest scene. In the foreground, a large tree trunk is covered in thick green moss. To the right, a stream flows through the forest, surrounded by rocks and lush green vegetation. The background is filled with more trees and foliage, creating a dense forest atmosphere.

PART ONE

PROTECTION OF THE NATURAL ENVIRONMENT

Shawnigan Creek

The health of ecological systems underpins the economic, recreational and cultural well-being of the CVRD. Simply put, nature in the Cowichan Valley is too valuable an asset to risk losing. Resilience is a primary focus of the OCP, and protection of our natural environment is a top priority.



Image 1.2 Marine mammals in the strait.

For context, and as reported by the CVRD *2010 State of the Environment* report, the human footprint—including development and logging—now covers more than 75% of our land base, affecting its ability to supply and maintain basic ecological values and services. Poorly managed human activity leads to significant impacts that include

- a steady increase in invasive plant and animal species that compromise native ecosystems
- erosion and sedimentation of wetlands and waterways
- point-source and non-point-source pollution from stormwater runoff (including heavy metals, fuel, disintegrating rubber and plastic), poorly maintained septic systems and dispersal of fertilizers, manure, pesticides and even backyard herbicides
- destruction of habitat and disruption of wildlife corridors critical to the maintenance of stable populations



Image 1.3 Garry oak meadow in bloom.

Environmental DPAs identify sensitive aquatic and terrestrial environments and set conditions by which development within these areas may be permitted. Typically, a report prepared by a qualified environmental professional (such as a registered hydrogeologist or biologist) is required to assess potential impacts and/or risks, and applicants are required to adhere to a set of guidelines accompanying issuance of the development permit.



Image 1.4 A heron fishes in the estuary.

Legislative Authority and Activities Affected

Section 488(1)(a) of the *Local Government Act* authorizes an official community plan to designate DPAs for the protection of the natural environment, its ecosystems and biological diversity. This part of the DPAs section of the OCP addresses the need for the protection of riparian areas, sensitive ecosystems, marine shores and aquifers.

Local government approval is discretionary and subject to compliance with guidelines, which are found in Zoning Bylaw No. 4485.

There are four DPAs for Protection of the Natural Environment:

Development Permit Area 1 – Riparian Protection

Development Permit Area 2 – Environmentally Sensitive Areas Protection

Development Permit Area 3 – Marine Uplands and Foreshore Protection

Development Permit Area 4 – Aquifer Protection

Development Permit Area 1: Riparian Protection

Development Permit Area

Those parts of all nine electoral areas of the Cowichan Valley Regional District on Schedule U, UDPA1 Riparian Protection – Regional hatched pale green are designated as a DPA to establish guidelines for the protection of riparian areas pursuant to section 488(1)(a) of the *Local Government Act*.

Basis for Designation

The area included in the DPA is the “riparian assessment area” as defined by the Riparian Areas Protection Regulation (RAPR) under the *Riparian Areas Protection Act*. The width of the riparian assessment area is consistent with the Riparian Areas Protection Regulation as shown in Figures 1-1 and 1-2.

Streams subject to the RAPR within the CVRD electoral areas include, but are not limited to, Cowichan Lake, Cowichan River, Koksilah River, Shawnigan Lake, Shawnigan Creek and wetlands, small watercourses and ditches that are tributary to these streams.

Justification for Designation

The primary purpose of the RAPR is to protect riparian areas from development so that those areas can provide the natural features, functions and conditions that support fish life processes.

Streams and adjacent riparian areas act as natural storage, drainage and purification systems that help maintain and improve water quality. Undisturbed riparian areas can help prevent flooding, control erosion, reduce sedimentation and recharge groundwater. They are also critical to a healthy aquatic environment, providing habitat, shelter, water, shade and food sources for a variety of fish and wildlife.



British Columbia

Water use restricted for critically low Koksilah River on Vancouver Island



Water level so low habitat conditions are 'severely degraded'

The Canadian Press - Posted: Aug 19, 2019 12:29 PM PT | Last Updated: August 19



Image 1.5 Water restrictions are common during the summer months.

Riparian areas provide essential wildlife corridors for numerous species that depend on access to aquatic habitat. Wetlands, which are intricately connected with watercourses, form an integral component of riparian areas and provide similar ecosystem services, in addition to acting as water purification systems through their filtration function.

Many of the region's watercourses, including the Cowichan River, the Koksilah River, Stocking Creek and Porter Creek, are important salmon-spawning streams. Many of the watercourses and waterbodies in the region also provide, or have the potential to provide, drinking water sources for human communities. Waterbodies that currently provide drinking water for such communities include Cowichan Lake, Shawnigan Lake, Holland Lake and Stocking Lake.

The RAPR requires the CVRD to protect riparian areas from adverse impacts of development such as vegetation loss, sedimentation inputs to stream and the alteration of natural processes. Streams, as defined by the RAPR, may include everything from a ditch or a seasonal creek to a lake as large as Cowichan Lake. The RAPR requires a local government to provide a level of protection that meets or exceeds the provincial regulatory standards.

The objectives of designating a DPA for the protection of riparian areas are

- protect streams, their riparian areas and adjacent upland areas that exert an influence on streams from development
- promote the restoration and enhancement of riparian areas to support biologically diverse wildlife habitat, corridors for wildlife movement, and the natural features, functions and conditions that support fish life processes



Image 1.6 Salmon spawning in gravel bar.

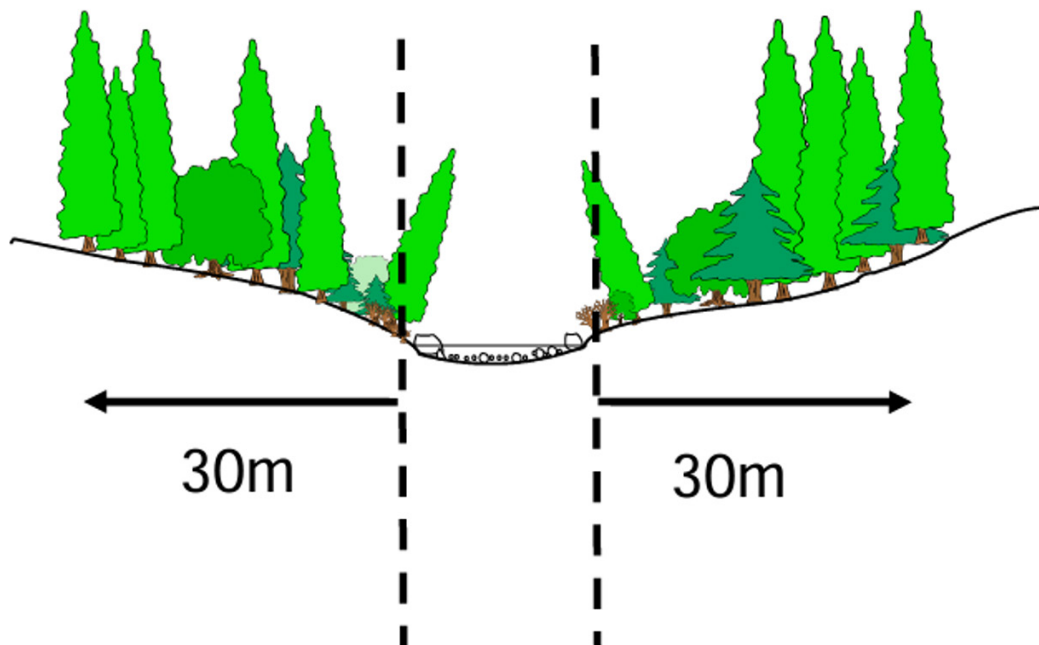


Figure 1.1 Riparian assessment area.

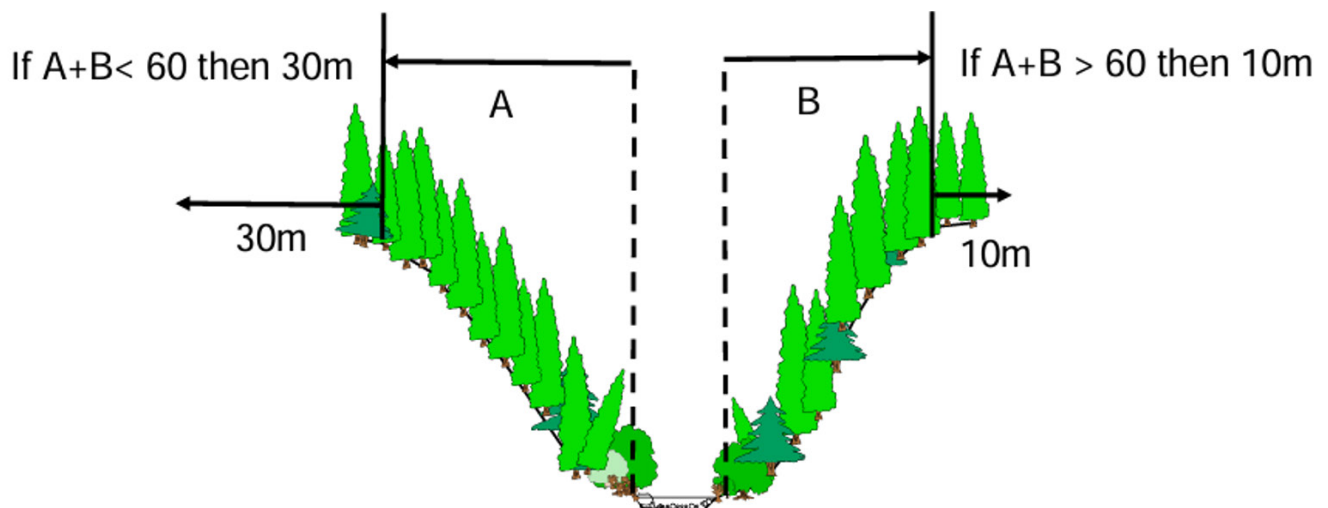


Figure 1.2 Assessment area for ravines.

Development Permit Area 2: Environmentally Sensitive Areas Protection

Development Permit Area

Development Permit Area 2 – Environmentally Sensitive Areas Protection designates the following areas as a development permit area:

- all nine electoral areas of the Cowichan Valley Regional District identified within the report entitled *Environmentally Sensitive Areas Mapping in the Cowichan Region – Phase II* (Madrone Environmental Services, 2018), shaded orange on Schedule U, UDPA2 Environmentally Sensitive Areas Protection – Regional;
- those parts of electoral area E as identified within the report entitled *Western Toad Winter Habitat Requirements in Modified Landscapes on Vancouver Island Summary* (Wind, 2018) for Wake Lake, indicated with dark orange hatched lines on Schedule U, UDPA2 Environmentally Sensitive Areas Protection – Regional; and,
- those parts of electoral area F identified in the *Honeymoon Bay Property Environmental Overview Assessment* prepared by ENKON Environmental Ltd. (2013), shaded brown on Schedule U, UDPA2 Environmentally Sensitive Areas Protection – Regional.

Basis for Designation

These areas are DPAs to establish guidelines for protection of sensitive ecosystems pursuant to section 488(1) (a) of the *Local Government Act*.

Justification for Designation

Sensitive ecosystems provide important habitat for fish, birds and other wildlife. Maintaining the natural diversity of a region's ecosystems is vital to slowing or preventing species extirpations and extinctions and to maintaining natural resilience for the future. Undisturbed ecosystems are a form of natural capital for future economic well-being of the region and provide critical ecosystem services such as storage, drainage, purification of water and carbon sequestration.

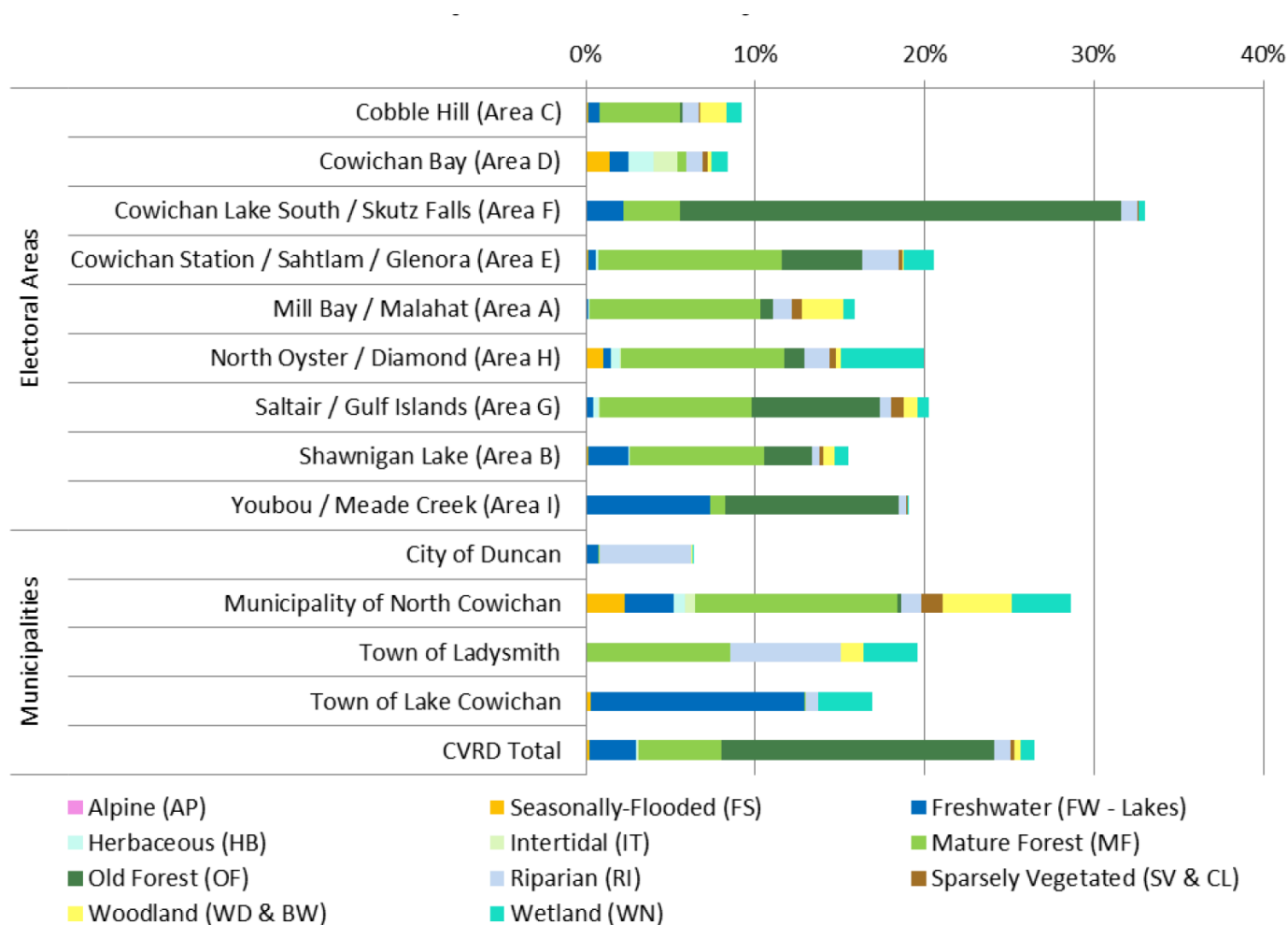


Figure 1.3 Environmentally sensitive areas by jurisdiction.

Environmentally Sensitive Areas Mapping in the Cowichan Region – Phase II

Ecosystems in the CVRD with particularly high ecological values include the following:

- **Garry oak woodlands.** One of the most endangered ecosystems in Canada, Garry oak woodlands provide a home for a wide diversity of species, though some formerly found here have already disappeared—including the Western bluebird, Lewis's woodpecker, the acorn woodpecker and the streaked horned lark (efforts have recently been underway to attempt to re-introduce the Western bluebird to eastern Vancouver Island). Not surprisingly, Garry oak woodlands have long been one of the most favoured locations for development, resulting in severe losses to this type of ecosystem.
- **Estuaries.** Among shoreline ecosystems, estuaries have particularly high ecological value because of the rich mix of habitat types they contain. The Cowichan River estuary is among BC's most ecologically valuable, and other smaller estuaries are locally valuable.¹

¹ CVRD, 2010 State of the Environment, p. 45

Western Toad Winter Habitat Requirements in Modified Landscapes on Vancouver Island Summary

- **Wake Lake.** Wake Lake has been identified as an important breeding site for Western toad (*Anaxyrus boreas*), a species listed federally as *Special Concern*. Primary threats to this species include the loss of natural terrestrial habitats and aquatic breeding sites, and road mortality during annual migrations. A report entitled *Western Toad Winter Habitat Requirements in Modified Landscapes on Vancouver Island Summary* (Wind, 2018) identifies increased road density and traffic volumes as a serious threat to this population.



Image 1.7 The Cowichan Bay estuary is highly ecologically valuable... and vulnerable.

The focus of Development Permit Area 2 is sensitive terrestrial ecosystems, including Wake Lake.

The report entitled *Environmentally Sensitive Areas Mapping in the Cowichan Region – Phase II* (Madrone Environmental Services, 2018) covers a portion of the plan area and identifies rare and fragile terrestrial ecosystems that should be protected. The report includes the following categories of ecosystems: Cliff, Freshwater, Herbaceous, Intertidal, Mature Forest, Old Forest, Riparian, Seasonally Flooded Agricultural Fields, Sparsely Vegetated, Wetland and Woodland. These upland and aquatic ecosystems provide important breeding, overwintering, cover and foraging habitat for native wildlife, such as the Western toad. Native plants, wildlife and their habitat in sensitive ecosystems are particularly vulnerable to threats posed by invasive plant species.

The objective of designating a DPA for the protection of sensitive ecosystems is to protect from development rare and fragile ecosystems identified in the Sensitive Ecosystems Inventory.

A DPA designation is required to ensure protection of these ecosystems from gradual degradation by human activities. It includes measures to protect these areas from land clearing, construction of buildings or roads, or other site alteration activities that have the potential to impair the ecological value of these areas.

Honeymoon Bay Property Environmental Overview Assessment

The report entitled *Honeymoon Bay Property Environmental Overview Assessment* prepared by ENKON Environmental Ltd. (2013) covers a portion of electoral area F. The focus of the field survey inventory was to determine the potential presence of rare and endangered vascular plant communities and to confirm the location of environmentally sensitive areas.

Following a review of available mapping and aerial photographs, a field survey was completed to determine vegetation composition. ENKON visited the study site on November 20, 22 and 23, 2012, at which time vegetation communities and environmental features were mapped. The vegetation plots are mapped in the report. The following information was collected for each plot:

- dominant tree species (primary and secondary canopy)
- dominant tall and low shrub species
- dominant herbs (limited due to survey timing)
- structural stage
- aspect and gradient

Due to the timing of the field survey, it was not possible to complete a comprehensive plant species list. Similarly, the rare plant and vegetation survey was restricted by seasonal limitations.

The objective of designating a DPA for Honeymoon Bay is to protect rare and fragile ecosystems from development.

The Sensitive Ecosystems Inventory

The BC Sensitive Ecosystems Inventory began as a joint initiative of the federal and provincial governments in 1993. Its purpose was to identify and map ecologically significant and relatively unmodified terrestrial ecosystems in order to support sustainable land use decisions and encourage wildlife conservation.

The *Sensitive Ecosystems Inventory: East Vancouver Island and Gulf Islands*, completed in 1997, focused primarily on the Coastal Douglas-fir biogeoclimatic zone, which is the smallest and rarest of BC's 16 ecological zones and contains BC's highest number of species and ecosystems at risk, many of them ranked globally as imperiled or critically imperiled. [*Cowichan Region State of the Environment Report Update 2014.*]

Note: Data from the Sensitive Ecosystems Inventory is integrated within the Environmentally Sensitive Areas Mapping in the Cowichan Region

– Phase II report completed by Madrone in 2018.

Development Permit Area 3: Marine Uplands and Foreshore Protection

Development Permit Area

Marine Uplands and Foreshore Protection refers to those parts of electoral areas A, C, D, G and H of the Cowichan Valley Regional District on Schedule U, UDPA3 Marine Uplands and Foreshore Protection – Regional indicated in pink. This DPA covers approximately 76 km of marine shoreline on the east coast of Vancouver Island along the waterfronts of Stuart Channel, Satellite Channel and Saanich Inlet including

- upland areas extending 15 m inland from the high-water mark in electoral areas A, C, D and H;
- upland electoral areas extending 30 m inland from the high-water mark in area G; and
- water lease tenures as mapped in Schedule U.

Basis for Designation

These areas are designated as DPAs to establish guidelines for protection of the marine and foreshore environment, pursuant to section 488(1)(a) of the *Local Government Act*.

Justification for Designation

Development on land almost always affects the marine environment in ways that can have cumulative and significant impacts. Shoreline development can alter natural sedimentation processes, introduce pollution and modify the infiltration of sunlight to marine species.

Marine shorelines, including both the upland area above the high-water mark and the foreshore between the high- and low-water marks, provide many ecological services including slope and soil stability, sediment control, water purification, nutrient input and habitat. The shoreline and adjacent waters provide important habitat both for wildlife and the forage fish on which commercially valuable fish species depend for prey. Eelgrass beds, for example, are vital for spawning and rearing a variety of fish species and are vulnerable to damage from sedimentation resulting from shoreline development. Shoreline riparian areas are also important to the health of marine ecosystems by absorbing runoff containing sediments and pollutants.

Forming the interface between terrestrial and marine environments, the shoreline is ecologically important to both. In addition to providing critical habitat for many marine and intertidal species, shorelines are important

Climate Change and the Foreshore

Projected impacts of climate change heighten the importance of ensuring careful development along shorelines. The *Cowichan Region State of the Environment Report Update 2014* (CVRD) noted that the sea level has already risen except in areas being pushed upwards by geological processes and is expected to rise by at least one metre by the end of the century. Storm surges from windstorms and rainstorms will continue to become more frequent and intense.

Rising seas and increased storm activity will change the location of the shoreline and the nature of erosion and sedimentation patterns along shorelines. Development needs to consider both current natural features and future patterns that may be hard to predict.

for key species such as forage fish (examples include herring and lancefish) that provide a prey base for ecologically and commercially valuable marine species like Pacific salmon and, in turn, orca whales.

Parcels along the shoreline generally slope down to the ocean and may have complex topography. They can be on the receiving end of drainage and seepage, may have wetter soils and may be susceptible to instability. The cumulative impact of careless development of waterfront parcels, such as situating buildings close to the top of escarpment banks or clearing vegetation for views, may disrupt natural beach processes and detrimentally affect other properties and marine habitat. Measures to stabilize one site can lead to instability of other nearby sites because of wave and tidal actions combined with longshore drift energy. The demand for private boat docks and other overwater structures may also threaten the integrity of the foreshore and valued upland habitats.

One of the most vulnerable and ecologically valuable locations along the shoreline is the Cowichan River estuary. In addition to acting as a globally significant flyway for migratory birds, the estuary provides important habitat for a broad variety of wildlife and fish species. Without proper mitigation, overwater structures such as piers, docks and floating homes can adversely affect estuarine habitat by affecting light, wave energy, seabed layers and water quality. In recognition of the importance and vulnerability of the estuary, the Ministry of Environment introduced the Cowichan Estuary Environmental Management Plan by order-in-council (1987) to provide a framework for environmental decisions and to balance environmental priorities and concerns with those of other interests and organizations.



Image 1.8 Recreational, commercial and industrial uses in Cowichan Bay.



Image 1.9 A view of the Saanich Inlet toward Finlayson Arm.

The designation of a DPA for the protection of marine uplands and foreshores includes the following objectives:

- to protect shoreline ecosystems from negative impacts of sedimentation and pollution
- to reduce the risk of bank erosion resulting from development
- to mitigate impacts of shoreline development on neighbouring and nearby properties
- to minimize impacts of overwater structures on Cowichan River estuary habitat

New tenures and expansion of structures outside existing water tenures (at the time the OCP was adopted) are not included in the DPA 3 maps. In the future, other levels of government are responsible for protecting the marine area with license or lease conditions for new or expanded tenures, possibly informed by consultation with the CVRD.

Development Permit Area 4: Aquifer Protection

Development Permit Area

Development Permit Area 4 – Aquifer Protection comprises all areas indicated in purple and filled with purple dots on Schedule U, UDPA4 Aquifer Protection – Regional. The boundary of the DPA encompasses the following:

- those parts of electoral areas A, B, C, D, E, F G, H and I included in the 2023 provincial Ground Water Aquifers dataset.

The quality of surface and groundwater is affected by both natural factors, such as geology or climate, and human-caused factors related to land use. Agricultural activities, sewage discharges, landfills or industrial composting can provide sources of nutrients, such as phosphorus or nitrogen, that influence the water quality within nearby aquifers and streams.

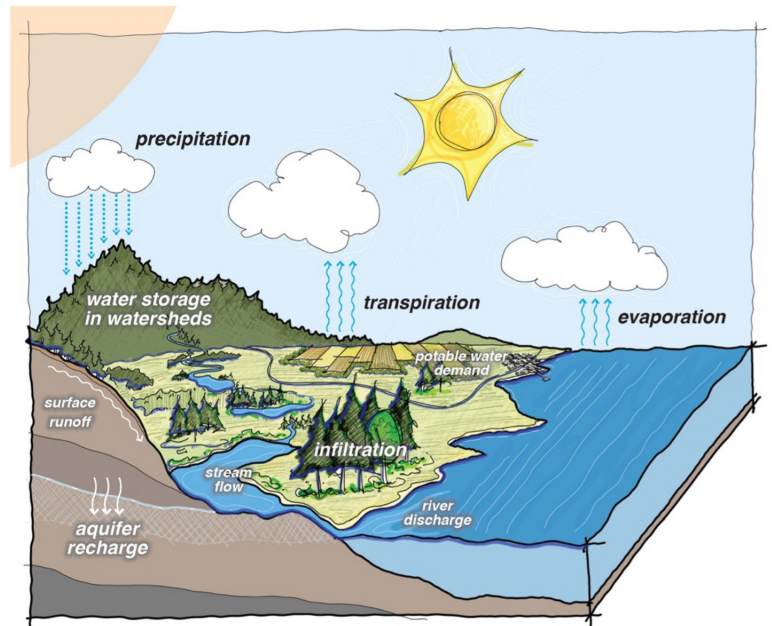


Figure 1.4 The Hydrological Cycle.

It is important to preserve and protect the quality of aquifer water and to ensure its quantity is not unduly diminished by human overuse and by reductions in the surficial flows on which it depends for replenishment. In short, the ongoing health of aquifers depends on a combination of protection from contamination and promotion of efficient and frugal use of water supplies.

Basis for Designation

These areas are designated DPAs to establish guidelines

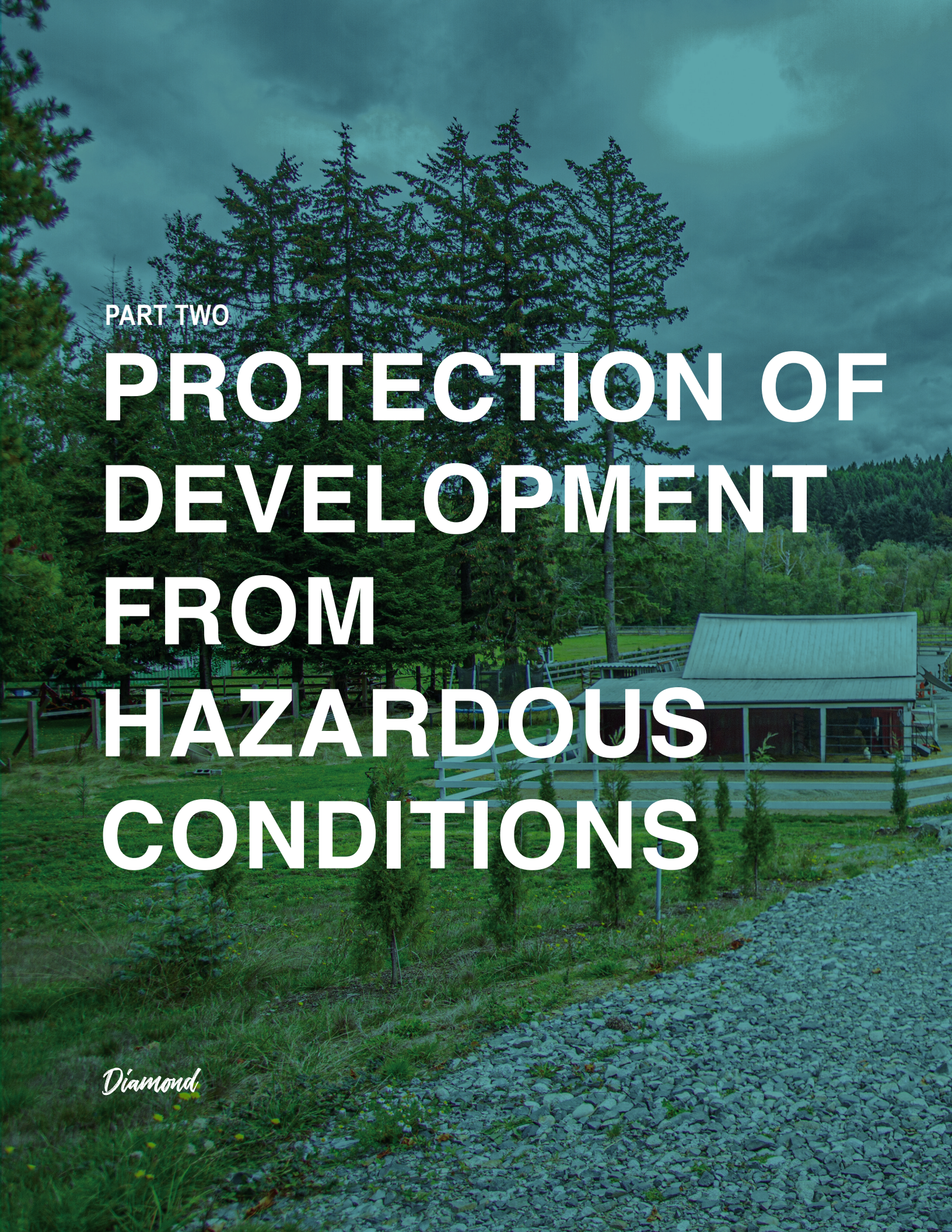
- to protect the natural environment, its ecosystems and biological diversity pursuant to section 488(1) (a) of the *Local Government Act* and
- to conserve water pursuant to section 488(1)(i) of the *Local Government Act*.

Justification for Designation

Access to clean, uncontaminated water supplies for domestic use is a critical priority for Cowichan Valley communities. A significant portion of Cowichan Valley Regional District households and commercial enterprises depend on aquifers for their daily water use. Aquifers in the region are vulnerable to the impacts of drought and overuse on recharge capabilities and to the impacts of contamination on water quality.

The objectives of the guidelines for aquifer protection are to

- protect subsurface aquifers from contamination by land use and development activities
- avoid depletion of aquifer water supplies, maximize their recharge and promote the efficient use of water to ensure a stable and sustainable hydrologic system

The background image is a photograph of a rural scene. In the foreground, a gravel driveway leads from the bottom right towards the center. To the left of the driveway is a grassy area with some small trees. In the middle ground, there is a white wooden fence and a barn with a corrugated metal roof. Behind the barn and fence are several tall evergreen trees. The sky is overcast with grey clouds. The overall tone of the image is somewhat muted, with a blueish-grey tint.

PART TWO

PROTECTION OF DEVELOPMENT FROM HAZARDOUS CONDITIONS

Diamond

2 | PROTECTION OF DEVELOPMENT FROM HAZARDOUS CONDITIONS

Development of land in areas subject to periodic damage by catastrophic natural events requires careful planning to minimize the risk and to mitigate the impacts of such events on communities and structures. The need for risk management is increased by the likelihood that climate change will magnify the severity and the frequency of wildfires and of flooding, particularly in natural floodplain areas. In addition, steep slopes in some parts of the region may be associated with unstable ground and present the risk of landslide. The three DPAs (Wildfire Hazard, Floodplain Hazard and Slope Stability) and associated guidelines described in this section provide an important means of addressing these risks in the approval of development permit applications.



Image 2.1 Potential for hazardous conditions must be anticipated and addressed by future development.

The use of appropriate precautionary measures during site and building design, construction and long-term maintenance can reduce the risk of a variety of hazardous conditions in addition to minimizing the high social and individual cost of event impacts. Hazardous conditions include such events as floods, mud flows, debris torrents, bank instability, erosion, groundwater seepage, land slip, rock falls, subsidence, avalanche and wildfire.

In some instances, catastrophic natural events may be causally related to one another: flooding may increase land instability and trigger mud flows and debris torrents; landslides on steep slopes, by destroying or damaging trees, may contribute to fuel loads for wildfire; and wildfire has the potential to influence both slope instability and disruption of hydrological conditions by destroying forests that lend stability to the terrain in addition to serving as natural filtration systems to regulate the flow of rainwater and stormwater.

Development Permit Areas

Mapping of areas susceptible to catastrophic natural events has been updated and made more accurate following a series of natural hazard risk assessments and updated floodplain mapping throughout the region.

This [map of natural hazard risk assessment study areas](#) shows the extent of natural hazard risk assessments completed by the CVRD. It is not a comprehensive inventory of natural hazards in the region; instead, it shows those areas where the risks from a specific hazard have been studied.

CVRD's Natural Hazard Risk Tolerance Policy

Risky locations make for difficult decision-making, and difficult decisions require careful assessments to ensure the decision-maker has the best information possible about levels of risk.

Recognizing the wide range of natural hazards across the region and growing levels of risk resulting from climate change and continuing growth, the CVRD in 2019 adopted a Natural Hazard Risk Tolerance Policy. The policy establishes tolerance criteria for decisions made by the CVRD to protect public safety and minimize potential life loss. The CVRD recognizes the wide range of natural hazards across the region, the historic development patterns that may affect some communities, as well as the growing level of risk due to both climate change and continued growth. Therefore, the CVRD will apply the hazard acceptability thresholds and responses to inform planning, land use and decisions related to subdivision; construction of, addition to or alteration of a building or other structure; or land alteration as well as management of infrastructure.

Distinction between existing development and new development under the policy can be reflected in exemptions and in different criteria for technical reports required.

Basis for Designation

Section 491 of the *Local Government Act* spells out the types of conditions a local government may set before granting a development permit to an applicant.

Justification for Designation

Applicants for development permits within the DPA for protection of development from hazardous conditions need to be prepared to support their application with a technical report, if required. While it is preferable that a DPA for protection of development from hazardous conditions is supported by a technical report, other types of information, including observation of natural phenomena such as floods and land slides, is acceptable.

The risk associated with hazardous conditions can vary greatly from one location to another within a relatively small area depending on such factors as the nature of the terrain, hydrological patterns in the area, past history of hazard events, impacts of past development and the type of work proposed. The acceptability thresholds document describes the types of development applications that relate to natural hazard criteria. It can be found here:

cvrld.bc.ca/DocumentCenter/View/97301/CVRD_HazardAcceptabilityThresholds

Best Management Practices for Protection from Hazardous Conditions

In addition to following the guidelines associated with each DPA for protection from hazardous conditions, holders of development permits should adhere closely to best management practices published by the British Columbia and federal governments as well as those developed by organizations with relevant expertise. Some of the most pertinent best management practices resources are listed below.

Wildfire

[The Home Owner's FireSmart Manual](#)

Government of British Columbia

Flood

[Environmental Protection in Flood Hazard Management](#)

Fraser Basin Council, 2010

[Stormwater Planning](#)

Government of British Columbia, 2002

Landslide

[A Guide for Management of Landslide-prone Terrain in the Pacific Northwest](#)

BC Ministry of Forests, 1994

General

[Natural Resource Best Management Practices](#)

Government of British Columbia

Hazards 101: Homeowner Tips for Understanding and Managing Natural Hazards in the CVRD

A useful first step for understanding the risks associated with different types of natural hazards in the Cowichan Valley Regional District as well as tips on how to anticipate and prepare for that risk would be a review of the [Natural Hazards guide for homeowners](#) published by the CVRD.

For fire in particular, the [Homeowner's FireSmart Manual, BC edition](#), provides a wealth of advice about how to protect property and persons from the risk of uncontrolled wildfire.

Note the assurance process for development permit holders:

Hazard Assurance Statement Form

cvrld.bc.ca/DocumentCenter/View/96534/Hazard-Assurance-Statement-Form

Hazard Assurance Guidelines

cvrld.bc.ca/DocumentCenter/View/96536/Hazard-Assurance-Guidelines

The [Busyplace Creek Stormwater Management Plan](#) and the [Natural Hazard Risk reports](#) for flood, sea level rise and slope failure include additional recommendations for development in hazard areas.

There are three DPAs for Protection of Development from Hazardous Conditions:

[Development Permit Area 5 – Wildfire Hazard](#)

[Development Permit Area 6 – Floodplain Hazard](#)

[Development Permit Area 7 – Slope Stability](#)

Development Permit Area 5: Wildfire Hazard



Image 2.2 Wildfire risks come with serious consequences.

Development Permit Area

Development Permit Area 5 – Wildfire Hazard refers to those parts of all electoral areas of the Cowichan Valley Regional District on Schedule U, UDPA5 Wildfire Hazard – Regional identified in the orange patterned area within 200 metres of moderate, high or extreme wildfire behaviour threat class areas.

This applies to land and water but excludes First Nations reserve land and member municipalities.

Basis for Designation

These areas are designated DPAs to establish guidelines for the protection of development from wildfire pursuant to section 488(1)(b) of the *Local Government Act*.

Justification for Designation

The following reports identified areas of the regional district with moderate, high or extreme wildfire behaviour threat classes:

- Cowichan Valley Regional District Central Zone Community Wildfire Protection Plan 2017 Update – submitted by B.A. Blackwell & Associates Ltd, June 25, 2019
- Cowichan Valley Regional District North Zone Community Wildfire Protection Plan 2017 Update – submitted by B.A. Blackwell & Associates Ltd, November 20, 2018
- Cowichan Valley Regional District South Zone Community Wildfire Protection Plan 2017 Update – submitted by B.A. Blackwell & Associates Ltd, September 28, 2018
- Cowichan Valley Regional District West Zone Community Wildfire Protection Plan 2017 Update – submitted by B.A. Blackwell & Associates Ltd, May 1, 2019

Once started, wildfires can move quickly and far. Dwellings and other structures can be ignited by sparks and embers that may travel up to 2 km, by extreme heat that can ignite materials from a distance of 30 m, or by direct flame spreading along flammable objects. In some locations, there are structures within moderate, high or extreme wildfire threat classes located over water. In addition to adhering to the guidelines in Zoning Bylaw 4485, following **FireSmart** practices can greatly reduce the potential impacts of wildfires.

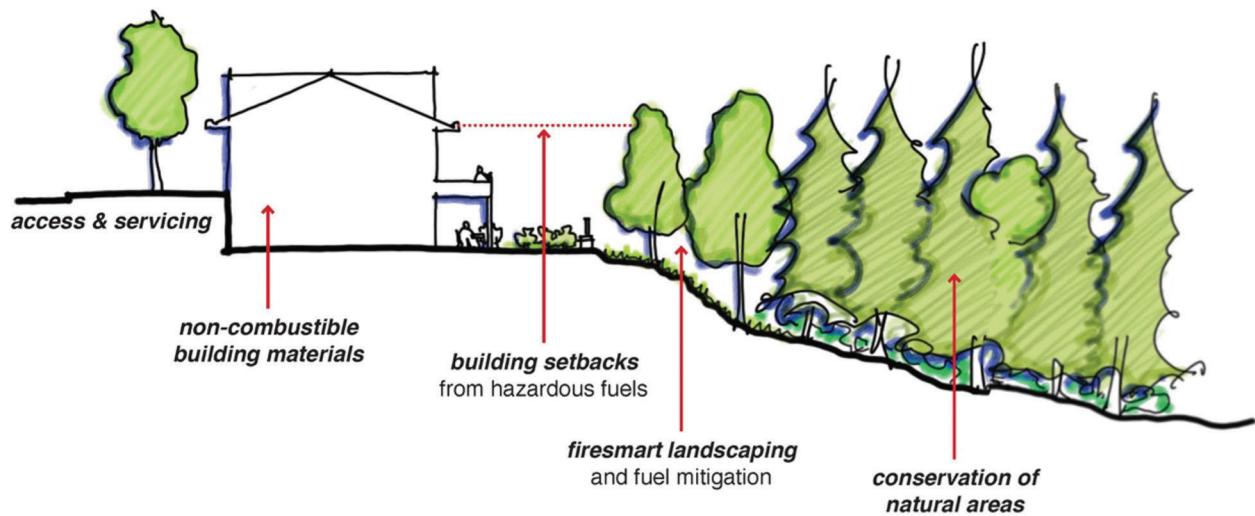


Figure 2.1 Designing with FireSmart practices in mind.

The primary objectives of designation of the DPA for protection from wildfire hazard are to

- reduce the risk of wildfire in areas of high and extreme risk and increase capacity to contain wildfire events
- prevent personal injury and property loss, protect structures from damage, ensure stable and accessible building sites, and ensure risks of predictable natural hazards are identified and mitigated
- reduce the risk of post-fire landslide, debris flow and erosion
- conserve the visual and ecological benefits of forests throughout the regional district

Development Permit Area 6: Floodplain Hazard



Image 2.3 Flood events are anticipated to increase with climate change.

Development Permit Area

The following areas are designated a floodplain hazard DPA:

- those parts of electoral areas F and I of the Cowichan Valley Regional District shaded light grey on Schedule U, UDP A6 Floodplain Hazard – Regional designated as floodplain in June 1984 by the Province of BC and mapped in the [Mapped Floodplains in BC \(Historical\)](#) dataset; and
- those parts of electoral area I of the Cowichan Valley Regional District shaded light grey and indicated in grey on Schedule U, UDP A6 Floodplain Hazard – Regional (Youbou Lands).

The following flood management bylaws were adopted under s.524 of the *Local Government Act*:

[Bylaw 4348 – Shawnigan Lake Flood Management](#)

[Bylaw 4358 – Cowichan River Flood Hazards](#)

[Bylaw 4381 – Cowichan and Koksilah River Flood Hazard](#)

Basis for Designation

These areas are designated DPAs to establish guidelines for protection from flood and erosion, pursuant to section 488(1)(b) of the *Local Government Act*.

Justification for Designation

The Youbou Lands development site largely comprises an alluvial fan, part of which remains active, and protecting development from the possibility of flooding, erosion and associated accumulation of debris is necessary.

In 2019, Northwest Hydraulic Consultants conducted a **risk assessment** of the floodplains around the Cowichan Lake area of the Cowichan River. Modelling of flood levels was carried out for four scenarios, including a present day (baseline) scenario and increases in precipitation of 10, 20 and 40 percent to represent the range of climate projections.

Floodplains are typically adjacent to or overlap areas with high biological diversity and fisheries values and consequently are also likely to be included in Development Permit Areas 1 (Riparian Protection) and 2 (Environmentally Sensitive Areas Protection).

The primary objectives of the DPA for protection from floodplain hazards are to

- minimize development in floodplains and other areas known to be at high risk of flooding
- mitigate impacts of flooding in already developed areas
- prevent personal injury and property loss, protect structures from damage, ensure stable and accessible building sites, and ensure risks of predictable flood events are identified and mitigated
- maintain a natural riverine and floodplain regime and its contingent ecological, hydrological and aesthetic benefits

Development in Floodplains

“In floodplain areas that are still undeveloped, these areas should be kept in a natural state and the land should remain undeveloped. Undeveloped land can be rehabilitated as riparian and aquatic habitat.

“Future urban development should be promoted in areas with low flood risk and a lower habitat sensitivity. Tools that help with the long-term planning are Flood Hazard Maps and Habitat Sensitivity Maps.”

Risk Assessment of Floodplains and Coastal Sea Level Rise: Strategic Climate Risk Assessment for the Cowichan Valley Regional District. Northwest Hydraulic Consultants, 2019, p. 95.

Development Permit Area 7: Slope Stability



Image 2.4 Development at the toe-of-slope faces increased risk.

Development Permit Area

The following areas are designated as a slope stability hazard DPA, indicated in dark red with dark red horizontal stripes on Schedule U, UDPA7 Slope Stability – Regional:

- those parts of electoral area E of the Cowichan Valley Regional District, as identified in the report [Allenby Road Slope Hazard Overview Assessment](#) (McQuarrie Geotechnical Consultants Ltd, 2019) and *Slope Stability Hazard Assessment 3064-3070 Allenby Road* (Thurber Consultants Ltd, 1982);
- those parts of electoral area G of the Cowichan Valley Regional District (Saltair Bluffs) as mapped on Schedule U, UDPA7;
- those parts of electoral area H of the Cowichan Valley Regional District as indicated in the reports completed by Ministry of Highways and Public Works (1979) and Hardy BBT Ltd (1991), including parcels containing land above the 300-foot (91.44 m) contour level of Woodley Range; and
- those parts of electoral area I of the Cowichan Valley Regional District as identified in the report [Debris Flow Runout Model: North Shore Cowichan Lake: LABS Model Results 2021 Rev2](#) (Stantec and Palmer, 2021), (Youbou Lands).

A technical report for the Saltair Bluffs, [Coastal Slope Stability Assessment](#) (Stantec Consulting Ltd in association with Palmer) was undertaken in 2022.

A technical report for Cowichan Bay in electoral area D is identified in Schedule A as work to be undertaken.

Basis for Designation

These areas are designated DPAs to establish guidelines for the protection of development from landslide, pursuant to section 488(1)(b) of the *Local Government Act*.

Justification for Designation

The primary objectives of designation of the DPA for slope stability are to

- manage development in steep slope areas in a manner that reduces the risk to life and property, prevents erosion and potential risks to down-slope property, prevents destabilization of slopes and protects the aesthetic quality of the slopes
- ensure public safety and prevent damage to property from lands considered to contain or that exhibit hazardous conditions
- prevent erosion, if possible, in areas of steep slopes by leaving slopes uncleared, retaining areas of mature tree cover and preserving other natural features

Land slippage and sloughing between Miller Road and Allenby Road resulted in the destruction of a building in December 1975. Incidents of soil creep have been evident since then, including small slides in 1979 and in December 1984, the latter case resulting in some structural damage to a building. Since 1975, several engineering studies, including those by Thurber Consultants (1979) and B.H. Levelton and Associates (1979 through 1984), have identified the potentially hazardous condition that exists in the area should the slope be developed without regard to drainage, slope stability or potential sloughing. Some vegetation removal has occurred on the slope face, which has further reduced stability.

A 1979 Ministry of Transportation report on the Woodley Range concluded that major portions of the area appear unsuitable for development due to the extreme shallow nature of the soils, moderate to steep complex topography and potential surface drainage problems. Since 1979, site-specific geotechnical reports, completed as part of development applications, have identified evidence of geotechnical instability and rockfall hazards. Multiple other reports have been undertaken since, and the boundaries of these reports are outlined in Figure 2-2.

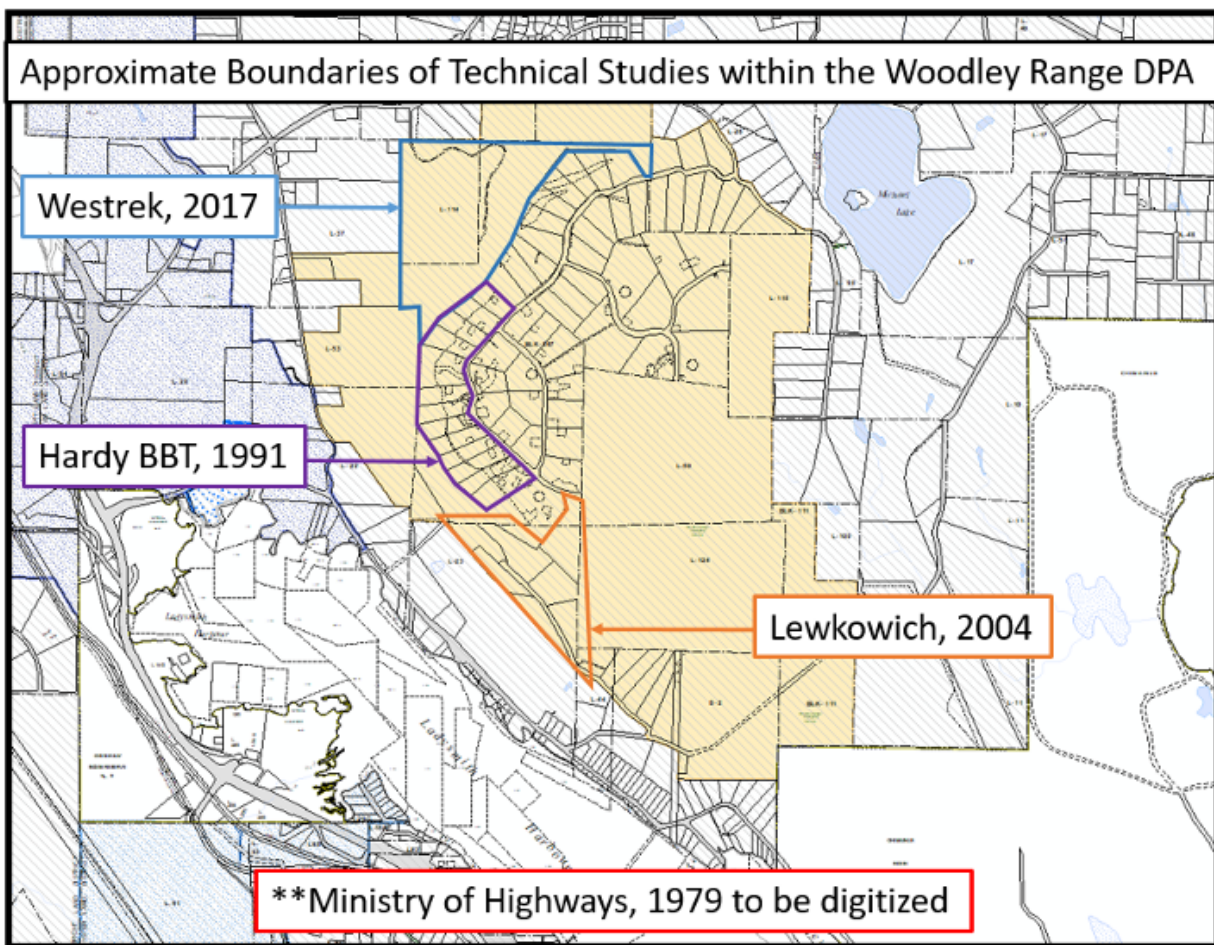


Figure 2.2 Approximate boundaries of technical studies within the Woodley Range development permit area.

In 2020, Stantec Consulting Ltd., in association with Palmer Environmental Consulting Group, carried out an assessment of the risks associated with various types of landslides (debris flows, debris floods) on the steep slopes above Youbou and Lake Cowichan. Stantec, in association with Palmer, conducted debris flow and debris avalanche runout modelling to better discretize the encounter probability map and refine the hazard component of risk to the residents of the north shore of Cowichan Lake.

In the community of Saltair, the marine foreshore bluffs consist of steep slopes and complex topography. The bluffs have been created by wave action eroding away at the glacial material of the backshore. There is limited beach material protecting the bluffs. The bluff and foreshore are low in gravel and high in silt and clay.



PART THREE

PROTECTION OF FARMING

Cobble Hill

3 | PROTECTION OF FARMING



Image 3.1 Protection of our land resources is fundamental to the protection of farming.

Agriculture is a central component of the Cowichan Valley's economy and culture, thanks in large part to the mildest year-round climate in Canada, a lengthy history of farming activity from colonial times to a 21st century influx of innovative entrepreneurs, and strong community support. Cattle farming has been a mainstay of the Valley's agricultural scene ever since the establishment of the Cowichan Creamery in 1895—more farms are devoted to cattle production than to other activity—but the Cowichan Valley today features one of the most diverse ranges of agricultural activity, large and small, in the country. And with climate change predicted to have a significant impact on regional temperature and precipitation patterns in years to come, further changes in the makeup of Cowichan Valley farming may be expected as new agricultural activities become feasible and some existing ones face greater challenges.

One of the keys to ensuring the future stability of agriculture lies in protecting farm land from conversion to other uses. Only about 10% of the area of the regional district is capable of agricultural production. Agricultural land has always been in relatively short supply in British Columbia and under threat from development pressures. Provincial government efforts to secure a healthy future for the farming industry included the 1970s establishment of the Agricultural Land Reserve and the 1990s enactment of the *Farm Practices Protection (Right To Farm) Act*, which protects farms from nuisance claims as long as their farm operations comply with land use regulations and adhere to normal farm practices.

The importance ascribed to agriculture through these legislative initiatives continues in the *Local Government Act* provision, in section 488(1)(c), for designation of DPAs for protection of farming. Section 491(6) lists the types of requirements that may be included in such protection: screening, landscaping, fencing and siting of buildings or other structures, in order to provide for the buffering or separation from farming on adjoining or reasonably adjacent land.

Normal Farm Practices and Environmental Protection

In order to qualify for protection under the *Farm Practices Protection (Right to Farm) Act*, and hence for protection under DPA guidelines, a farm operation must not only be in the Agricultural Land Reserve but must also be conducted in accordance with normal farm practices. A normal farm practice means a practice that is conducted in a manner consistent with “proper and accepted customs and standards” and any standards prescribed by the Lieutenant Governor in Council.

One such set of standards is the [Code of Practice for Agricultural Environmental Management](#), a provincial regulation that was developed to ensure agricultural practices are consistent with the protection of clean water and clean air. The regulation specifies clear requirements for the storage of and use of manure, other nutrient sources (such as fertilizers) and agricultural material. In a region such as the Cowichan Valley with many riparian areas, sensitive ecosystems, and aquifers and other groundwater sources critical to the supply of domestic water, adherence to the best management practices incorporated in the Code of Practice is of critical importance.

Although the Protection of Farming DPA guidelines are restricted in their scope to addressing potential threats to agricultural land from encroaching development, the Code of Practice for Agricultural Environmental Management comes into play in other DPAs where protection of water quality, fish habitat and other biodiversity concerns are a central issue.

There is one DPA for Protection of Farming:

Development Permit Area 8: Protection of Farming

Development Permit Area

Protection of Farming includes all areas shown on Schedule U, UDPA8 Protection of Farming – Regional shaded light green and identified as Protection of Farming. For clarity, this includes all land in electoral areas A, B, C, D, E, F, G, H and I adjacent to the Agricultural Land Reserve boundary and Agriculture land use designation and extends 30m into the non-agricultural lands (measured by DataBC provided by the Agricultural Land Commission on May 3, 2023) and from the boundary of the Agriculture land use designation. The Agricultural Land Reserve boundary is not always consistent with parcel boundaries.

Basis for Designation

These areas are designated DPAs for the protection of farming, pursuant to section 488(1)(c) of the *Local Government Act*.

Justification for Designation

Protection of agricultural lands and productive soils is vital for the sustainability of the Cowichan Valley's agriculture industry. Non-farm uses located close to agricultural land can lead to land use conflicts.

Landscape buffers between farms and surrounding lands can reduce potential conflict (e.g. visual, noise, dust and odour impacts), control the spread of invasive species and help protect agricultural productivity.



Figure 3.1 Protection of farming guidelines in the Cowichan Valley Regional District.

The primary objectives of designating the Protection of Farming DPA are to buffer and separate development from farming on adjacent land with screening, landscaping, fencing and siting of buildings on development sites in order to

- minimize the impact of urban encroachment on agricultural land
- minimize conflicts between farm and non-farm uses in agricultural areas
- promote the sustainability of farmland and farm operations

PART FOUR

FORM AND CHARACTER

Cowichan Bay

4 | FORM AND CHARACTER

The form and character—or overall “look and feel”—of development is important in enhancing the livability of communities. Guidelines in this section address factors such as exterior design, accessibility, security, connectivity within the neighbourhood and larger community, and high-quality standards in building and landscape design. The guidelines have been created to identify, reflect and strengthen the best qualities of Cowichan Valley communities and direct the “look and feel” of future development.

While basic principles of good design are applicable to all development, individual communities throughout the region have unique contextual qualities and, accordingly, distinct patterns and characteristics of development. The form and character DPA respects and captures these differences while at the same time supporting a standard of quality.

Development Permit Area 9: Form and Character

There is one Form and Character DPA, which includes four different designations:

- **Intensive Residential Development**
- **Multi-unit Residential Development**
- **Commercial and Mixed-use Development**
- **Industrial Development**

Intensive and multi-unit residential development share some similar characteristics, but intensive residential development typically comprises single detached houses on smaller lots, whereas multi-unit residential development typically includes buildings containing three or more residential units.

Each form and character area is described both in text (under the heading Area) and through their associated coloured shading on a map of the region. When one DPA overlaps with another on the map, the guidelines for both DPAs apply to any development that is not specifically exempted. In the instance of Cowichan Bay foreshore, where more than one form and character designation is mapped, the guidelines apply to the use associated with the designations.

General guidelines define a standard of development and apply to development applications in all designations of the form and character DPA, except where otherwise indicated as exempt within the zoning bylaw. In addition, all development must comply with the general form and character guidelines listed in the zoning bylaw. Where this DPA overlaps with other DPAs, all applicable guidelines must be considered.

Basis for Designations

Section 488(1)(e) and (f) of the *Local Government Act* authorizes an official community plan to designate DPAs to establish objectives for the form and character within four specific uses: intensive residential, multi-unit residential, commercial and industrial.

Section 488(1)(d) also authorizes the designation of DPAs for the revitalization of an area in which a commercial use is permitted, for example in conjunction with initiatives to promote a mix of uses that preserve and enhance village character.

The commercial and mixed-use form and character areas address both commercial development under section 488(1)(f) and revitalization of commercial areas with mixed uses under section 488(1)(d).

Under section 491 of the *Local Government Act*, guidelines governing the character of an intensive residential development may be more detailed than for the other three categories described in section 488(1)(e) and (f) and may address the particulars of landscaping and the siting, form, exterior design and finish of buildings and other structures.

Intensive Residential Development

Intensive residential development includes single detached houses on smaller lots and may include duplex dwellings depending on the varying definitions of intensive residential development.

This DPA designation establishes objectives for the form and character of intensive residential development in electoral areas A, B, C, D, E, F, G, H and I, as seen on the Schedule U, UDPA9 Intensive Residential Development – Regional indicated in bright purple with bright purple vertical stripes.

Basis for Designation

These areas are designated DPAs pursuant to section 488(1)(e) of the *Local Government Act*.

Justification for Designation

Cowichan Valley communities aim to provide for future residential growth that is sustainable and considers both the historic character of each community as well as contemporary priorities such as adaptability to climate change, water and energy conservation, community cohesion and connectivity, accessibility and safety. Intensive residential development is located in lower-density residential neighbourhoods, primarily in areas serviced with lanes, close to neighbourhood-scale amenities (services, parks) and where gentle densification is most appropriate. Development permit guidelines help maintain the historic character of neighbourhoods and enhance their livability.

The guidelines for intensive residential development are intended to ensure that residential infill development occurs in a manner that is sensitive to the existing built form by encouraging new development to consider local characteristics and incorporate high-quality design into the siting configuration, landscaping treatments and overall building aesthetics.

The guidelines will enable the Regional District to ensure that new intensive residential development

- provides a healthy, safe and livable environment for residents
- fits with and relates to its context and is compatible with surrounding land uses
- minimizes environmental impact
- provides safe vehicular and pedestrian access
- ensures a “friendly face” along residential frontages and secondary edges, where applicable, with a comfortable relationship to the street
- is compatible with surrounding land uses
- supports the social and environmental goals of the OCP
- is constructed to high standards, both materially and aesthetically

Multi-unit Residential Development

Multi-unit residential development includes a wide range of higher-density housing forms, including multiplexes, row-houses, townhouses, low-rise apartments and high-rise apartments.

This DPA designation establishes objectives for the form and character of multi-unit residential development in electoral areas A, B, C, D, E, F, G, H and I, as seen on the Schedule U, UDPA9 Multi-unit Residential Development – Regional indicated in yellow with yellow vertical stripes.

Basis for Designation

These areas are designated DPAs pursuant to section 488(1)(f) of the *Local Government Act*.

Justification for Designation

Certain neighbourhoods and areas have been designated for multi-unit development to accommodate the demand for housing choice, increased affordability and living close to amenities and services. The multi-unit guidelines ensure successful integration of these housing types into their neighbourhoods.

Guidelines for multi-unit housing provide a means to enhance neighbourhoods and create sensitive transitions in scale and density by addressing issues such as privacy, landscape retention and neighbourliness.

New development should recognize and respect local scale and patterns of development with the following objectives:

- ensure social spaces and support for active living (through provision of amenity spaces and in door-out-door relationships)
- avoid shadow/shading impacts to public parks and priority pedestrian realm
- encourage high quality materials and design

Commercial and Mixed-use Development

Commercial use refers to buildings used for commercial purposes only, while mixed-use buildings typically accommodate retail on the ground floor with office and/or residential above.

This DPA designation establishes objectives for the form and character of commercial and mixed-use development in electoral areas A, B, C, D, E, F, G, H and I as seen on the Schedule U, UDPA9 Commercial Mixed-use Development – Regional indicated in red with red vertical stripes.

Basis for Designation

These areas are designated DPAs pursuant to section 488(1)(f) of the *Local Government Act*, and for the revitalization of an area in which a commercial use is permitted pursuant to section 488(1)(d).

Justification for Designation

The visual quality of commercial areas is important to residents, as is accommodation of pedestrians in commercial areas with significant vehicle traffic.

Commercial and mixed-use development encourages a wide range of developments that can support both commercial-only use and mixed-use (e.g., retail, office, residential), preserving affordable forms of commercial development and allowing for people to move into higher-density, higher-amenity neighbourhoods.

New development should recognize and respect local scale and patterns of development with the following objectives:

- produce streetscapes defined by attractive buildings and landscaping
- transition extensive areas of surface parking to more pedestrian friendly and amenity-rich neighbourhood commercial
- provide an attractive, comfortable, safe environment for pedestrians as well as vehicular traffic
- establish building forms, site planning principles and landscape standards appropriate to quality urban spaces thus avoiding the appearance that characterizes some 'strip plaza' type developments
- reflect multi-unit residential design guidelines for mixed-use residential development

Industrial Development

Industrial use refers to buildings and sites used for assembling, storing, transporting, distributing, wholesaling, testing, servicing, repairing or salvaging goods, materials or things.

This DPA designation establishes objectives for the form and character of industrial development in electoral areas A, B, C, D, E, F, H and I as shown on the Schedule U, UDPA9 Industrial Development – Regional indicated in green with green hatching.

Basis for Designation

These areas are designated DPAs pursuant to section 488(1)(f) of the *Local Government Act*.

Justification for Designation

Management of visual and environmental impacts of industrial developments is important to the well-being of area residents and to environmental values such as clean air and water.

Industrial development should respect and accommodate neighbourhood and environmental values through

- visual and noise buffering
- high aesthetic design standards
- reflecting multi-unit residential design guidelines for mixed multi-unit residential development

PART FIVE

ENERGY AND WATER CONSERVATION; GREENHOUSE GAS EMISSIONS REDUCTION

South Cowichan

5 | ENERGY AND WATER CONSERVATION; GREENHOUSE GAS EMISSIONS REDUCTION

Climate change has already had a significant impact on the Cowichan Valley's ecosystems, resource base and economy. As the change accelerates, so, too, will the local impacts be magnified. A concerted community response will be required to adapt to the effects of climate change, more efficiently use and conserve natural resources impacted by climate change and take practical steps to reduce the community's greenhouse gas emissions, such as carbon dioxide and methane, which contribute to and magnify climate change by absorbing and emitting radiant energy. The DPA guidelines applicable to this section are located in Zoning Bylaw 4485.

The near-term regional impacts of climate change (to the year 2050) are expected to include an increase in mean annual temperature of 1.6 degrees Celsius, more winter and less summer precipitation, and less snowpack. These changes, in turn, will be accompanied by a range of impacts that will have widespread effects on the region and are to some extent addressed by the guidelines attached to other DPAs—for example, an increased risk of flooding and wildfire; a significant rise in sea level; the introduction of more invasive species, pests and diseases affecting native ecosystems; and more (and more prolonged) summer drought.

The Cowichan Valley Regional District is already a study in extremes where precipitation is concerned: the west coast is one of the wettest areas of British Columbia and will become gradually wetter; the east coast of Vancouver Island, where most of us live, is one of the driest coastal areas of the province and, along with the expectation of summer drought and loss of snowpack, there will be growing demand for water by a growing human population. Conservation of our potable water resource is therefore a priority.

Stormwater is associated with flooding, erosion and pollution—including noxious manufactured substances and organic wastes and sediments—and is known for its negative effects on slope stability (i.e. landslide hazard), fish habitat and water quality.

Rainwater is distinguished from stormwater because rainwater is understood as a precious resource to be well managed, whereas stormwater is seen as a negative force to be mitigated. The guidelines are intended to manage rainwater and to avoid the generation of stormwater.

The *Local Government Act* recognizes the singular importance of including climate change as an appropriate subject for a DPA, providing authorization in section 488(1)(h), (i) and (j) for a local government to establish objectives to promote energy conservation, water conservation and the reduction of greenhouse gas emissions.

There is one DPA for Energy and Water Conservation; Greenhouse Gas Emissions Reduction:

Development Permit Area 10: Energy and Water Conservation; Greenhouse Gas Emissions Reduction

Development Permit Area 10: Energy and Water Conservation; Greenhouse Gas Emissions Reduction

Development Permit Area

Development permit area 10 includes those parts of electoral areas A, B, C, D E, F, G, H and I of the Cowichan Valley Regional District indicated in teal with teal vertical stripes on Schedule U, UDPA10 Energy and Water Conservation; Greenhouse Gas Emissions Reduction – Regional for the conservation of energy and water and the reduction of greenhouse gas emissions.

Basis for Designation

These areas are designated DPAs pursuant to section 488(1)(h), (i) and (j) of the *Local Government Act*.

Justification for Designation

Natural water supplies are of vital importance throughout the Cowichan Valley. In addition to the potential of climate change to exacerbate drought conditions, overuse of water for human purposes can have serious ecological consequences such as causing streams to run dry and become unable to support aquatic ecosystems. The impacts of wells and water licences, for both domestic and industrial uses, on groundwater and surface water supplies are of significant concern. Additional pressures on water supplies are anticipated with population increases and reductions in runoff to lakes and streams resulting from lower snowpack.

The Cowichan region's west coast includes some of the wettest ecosystems in BC, and some of the driest ecosystems in coastal BC exist on the region's east coast. This means that the part of the regional district with the least water has the highest demand and highest potential for changes to natural hydrology due to land use changes.

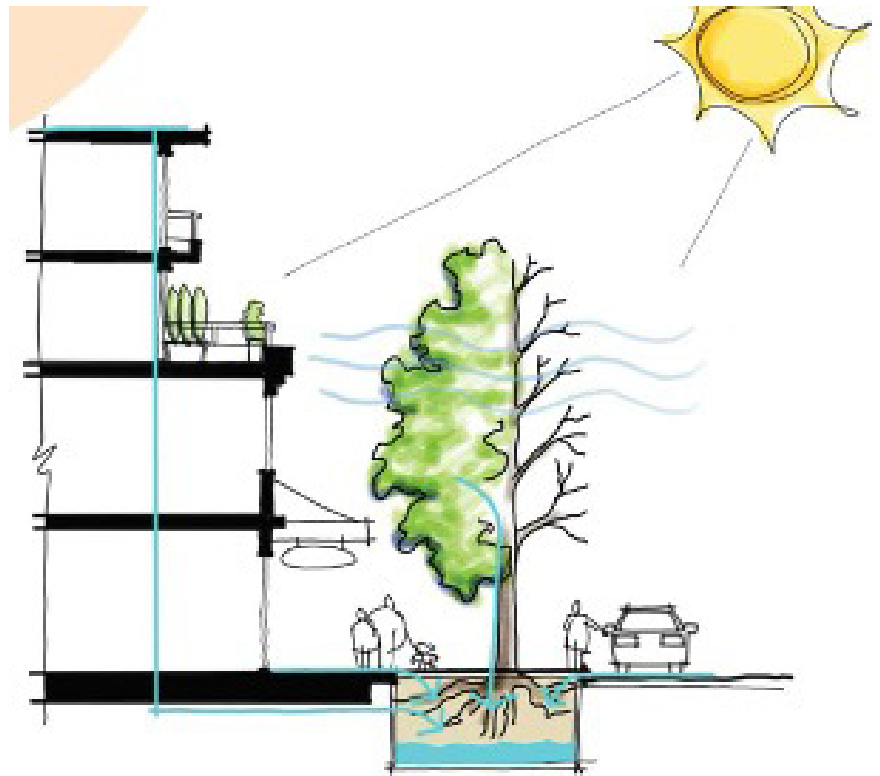


Figure 5.1 Solar shading is an important green building principle.

Energy use and greenhouse gas emissions can be measured through the Community Energy Emissions Inventory, which tracks energy use from buildings, transportation and waste in all BC communities. The contribution of transportation to greenhouse gas emissions is several times higher than that from buildings because a major source of energy for buildings is electricity rather than fossil fuels. On-road transportation accounts for almost three-quarters of the greenhouse gas emissions in the CVRD.²

Deforestation is also a significant source of greenhouse gas emissions in the Cowichan Valley. Natural ecosystems such as forests, wetlands and grasslands act as “carbon sinks” by absorbing carbon dioxide from the atmosphere, thus mitigating the effect of human-caused greenhouse gas emissions. Disruption of those ecosystems by timber harvesting and wildfire results in significant amounts of carbon being released back into the atmosphere, as does the conversion of wetlands to agricultural and other uses.

The establishment of a DPA for energy and water conservation and reduction of GHG emissions has three related objectives:

- to reduce energy and water consumption in new buildings
- to reduce costs associated with ongoing operation and maintenance of buildings
- to promote innovation in building design and development

² CVRD, *Cowichan Region State of the Environment Report Update 2014*, p. 8