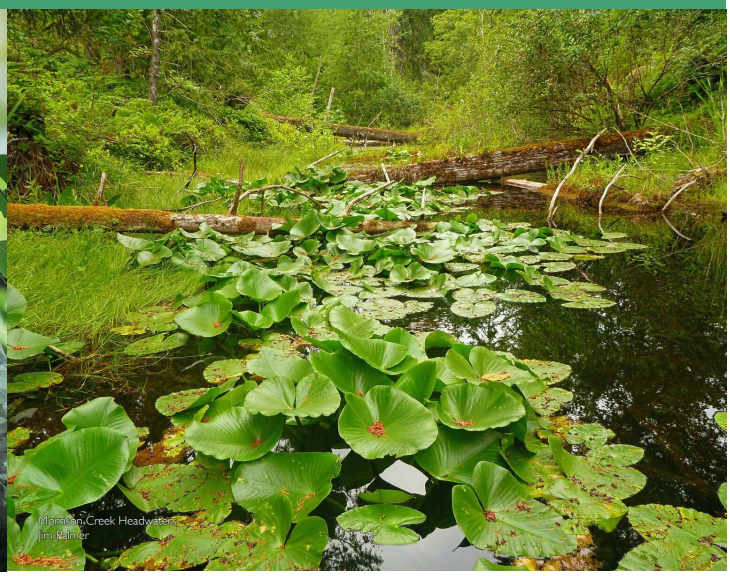
FINDING BALANCE

COMOX VALLEY LAND TRUST



A Framework for Establishing Environmental Development Permit Area (EDPA) Regulations for the Protection and Restoration of Environmentally Sensitive Areas (ESAs)

Prepared by the Comox Valley Conservation Partnership with support from:

Comox Valley LAND TRUST & Conservation Partnership

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A Framework for Establishing Environmental Development Permit Area (EDPA) Regulations for the Protection and Restoration of *Environmentally Sensitive Areas (ESA's)* and Corridors

(Note: All terms found in the definitions section (pages 10-14) are in italics)

1) Objective

The objective of this framework is to balance the need to accommodate growth and development while protecting natural values that are important to the community as a whole. This framework is intended to provide guidance for the development of Environmental Development Permit Area (EDPA) regulations that direct development away from environmentally sensitive areas (ESAs) to protect *ecosystems* and restore and connect them over time.

2) Background

The Comox Valley was once a large and pristine region of intact ecosystems. Recent analysis of the 2014 *Sensitive Ecosystem Inventory* (SEI) completed for the Comox Valley Land Trust in partnership with the Comox Valley Regional District (CVRD) shows less than 5% of those ecosystems remain intact. The SEI provides an important evidence-based indicator of the impacts of industry and development on ESAs. Protection of the remaining intact ecosystems and restoration of damaged environmentally sensitive areas is the primary goal for strengthening Environmental Development Permit Area (EDPA) regulations and the quality of the land designated within them.

The Comox Valley Conservation Strategy (CVCS), endorsed by all local governments in the Comox Valley in 2008, provides a land use planning framework to protect and restore a healthy environment. The goal of the CVCS is to protect and restore natural landscapes, creeks, wetlands, forests and shorelines that make up the environmentally sensitive areas of the Comox Valley. The economy and the key to livable communities rely on a healthy natural environment. Protecting and restoring environmentally sensitive areas is the goal of robust Environmental Development Permit Area (EDPA) regulations. EDPA regulations are an important way to implement the Comox Valley Conservation Strategy.

3) Benefits & Costs

EDPA regulations that direct development away from ESAs and encourage restoration of damaged areas will ensure communities benefit from free ecosystem services that healthy ecosystems provide. Benefits that accrue to the environment, local government, landowners and citizens' quality of life from ecosystem services include:

Environment	Local Government	Land Owners	Quality of Life
• Wildlife & plant habitat • Healthy watersheds • Water quality • Fish & aquatic habitat • Pollination • Biodiversity • Intact ecological processes • Climate change resilience	• Improved water quality • Natural rainwater (storm water) management • Reduced infrastructure maintenance and costs	• Increased property values • Reduced risk of flooding • Reduced infrastructure costs & lower property taxes	• Clean water • Improved air quality • Reduced demands on health care system • Access to green space, outdoor recreation, active living, nature education

One of the outcomes of effective EDPA regulations is to ensure the environmental, economic and social costs are mitigated when landowners exercise their development rights. In some instances, the potential economic value gained from development may be reduced when regulations limit the location and type of development. The potential economic loss to individual landowners must be balanced with community costs and benefits. Community costs from development in environmentally sensitive areas can lead to higher infrastructure costs, flooding downstream and loss of quality of life benefits. Landowners benefit from ESAs on or adjacent to their properties as evidence shows that proximity to natural amenities raises property values.

Local governments have tools, such as zoning, *density bonuses* and variances that can help mitigate the impacts that EDPAs might have on some landowners.

4) EDPA Framework

This Framework proposes an approach to EDPA's that can be referenced by all municipal, regional or First Nation's governments in the development of Official Community Plan (OCP) and/or Local Area Plan (LAP) Bylaws. This Framework provides examples from the best practices and approaches to date in British Columbia.

4.1) Purposes

The primary function of an EDPA is to ensure that ESAs are protected, connectivity restored and maintained, and development impacts mitigated. This includes allowing decision makers to have the ability to place conditions on development.[1] ESAs include the following:

[1]See Appendix A: Local Government Act Legislation establishing EDPA regulations, pages 15-17.

- All areas identified by the most up to date Sensitive Ecosystem Inventory (SEI)
- All sensitive areas, known and that are discovered during the assessment phase preceding development
- Critical habitats of rare and endangered species
- Fish, all waters they inhabit and the waters that support hydrological function
- All *riparian/littoral areas*
- Critical bird breeding, nesting and rearing areas
- Contiguous natural corridors (biodiversity corridors) of natural vegetation
- Natural features that are critical in maintaining hydrological function
- Ecological communities at risk

4.2) Natural Stormwater (Rainwater) Management

Protect and restore ESAs that provide natural systems for managing rainwater in accordance with the Water Balance Model and the most recent *integrated watershed management plan, integrated stormwater (rainwater) management plan* and Water Sustainability Plans under the BC Water Sustainability Act. This includes managing rainwater on site, maintaining pre-development drainage flows and integrating drainage with natural systems in ways that reduce rapid runoff and contribute to landscape level infiltration.

4.3) Connectivity

Maintain biodiversity by ensuring sensitive ecosystems and habitat areas are connected by a network of *natural areas.* This is becoming increasingly important as some species will migrate north or to higher elevations to adapt to climate change. Figure 1 and Table 2 show examples of land use components that make up a natural areas network.

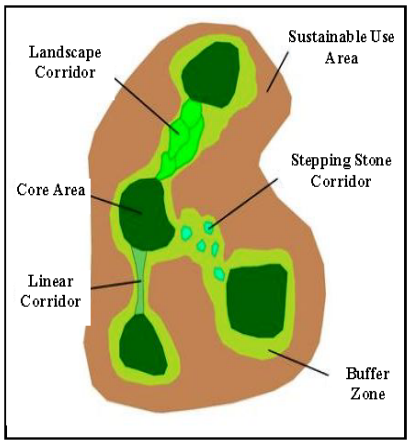


Figure 1: Components of a natural areas network: a mosaic of land uses that can support biodiversity

Natural Area Network Components	Land Use
Core Areas	Parks, reserves and protected areas - such as sensitive ecosystems, critical habitats, areas of unfragmented natural habitat and large forested areas.
Buffer Areas	Areas of transition that protect core areas from adjacent uses.
Corridors	Land and water corridors that link core areas; they can include intact and restored areas, and some areas under compatible human use, such as forestry and agriculture.
Sustainable Use Areas	Lands designated for human settlement and use

Table 2: Land Use descriptions for areas within a Natural Area Network

EDPA provisions that maintain and protect the components of a network of natural areas that connect ecosystems are essential for maintaining biological diversity and ecosystem functioning.

4.4) Quality of Life

Provide for enhanced access to natural areas for quality of life and personal health.

5) Key Elements of Robust EDPA regulations

5.1) Designation of areas covered by EDPA regulations

When comprehensive mapping has not occurred then EDPA designations will need to be applied extensively throughout the jurisdiction. This will allow the jurisdiction to set site assessment criteria to identify important environmental features such as sensitive ecosystems or habitat for *species at risk* (SAR) when development is proposed within these areas.

For example Saanich has mapped discrete EDPA polygons where they occur throughout the municipality. By contrast the village of Cumberland has designated large areas that contain mapped and unmapped ESAs in lands zoned for future development.

For examples of an EDPA that designates the physical coordinates of ESAs through investment in scoping and mapping see Saanich's EDPA, p 115, p 122; and the City of Kelowna that has mapped watersheds and watercourses as well as terrestrial ESAs to determine areas covered by EDPA regulations. See Kelowna's EDPA map.

5.2) Establishment of *"no touch" areas* for Environmentally Sensitive Areas (ESAs)

ESAs would be specified as "no touch" areas. In "no touch" areas development is not permitted. Where riparian areas have been impacted by development or logging a no touch area of 15 meters minimum in sites already developed and 30 meter minimum in undeveloped green field sites would apply.

Alternatively, no touch areas could be established through mapping based on site assessment by local governments to predetermine no touch areas of special concern.

5.3) Establishment of *buffer zones* around all ESAs

Buffer zones would be required around all environmentally sensitive areas. A 5 meter no disturbance minimum would apply. *Low impact development (LID)* would be allowed in the buffer zone beyond the 5 meter minimum such as non-motorized trails, gazebos and benches and rainwater management infrastructure. Only development that does not affect the integrity of the buffer area to protect the ESA would be allowed.

The size of the buffer zone and type of development allowed within the zone would be defined in development permit guidelines and require assessment by a *Qualified Environmental Professional* (QEP).

For examples of buffer zones in an EDPA refer to the City of Courtenay's Arden Corridor Environmental Development Permit Area, Arden Area LAP, section 9 p 21-22; Village of Cumberland OCP, EDPA, section 10.5. 1-4, p 90-92; Saanich's EDPA, p 115.

5.4) Bio-inventory Assessment of all Sites

Before any land clearing takes place, and before development design begins, an application for a development permit will require a biological site inventory (bio-inventory) according to the procedures described in the most current "Develop with Care" Guidelines for Urban and Rural Land Development in British Columbia.

For examples of a Bio-inventory assessment refer to the City of Courtenay's Arden Corridor LAP, p 17-23; Village of Cumberland OCP, EDPA, 10.1.5 sections 1-4, p 90-9; Environmental Development Permit Areas: In Practice and in Caselaw, Regional District of Central Okanagan Regime, section 2.4.7 p 18.

5.5) Qualified Environmental Professional (QEP)

Only a QEP with the qualifications appropriate for the type of assessment required and who has worked in the ecosystems of the Comox Valley should undertake the assessment. Should there be cause to believe that the original assessment is erroneous or insufficient to confirm the bio-inventory assessment a 3rd party QEP may be retained by the jurisdiction and paid for by the applicant. In riparian areas local governments would have to establish EDPAs that exceed Riparian Area Regulations (RAR) to allow for 3rd party assessment.

For an example of 3rd party assessment see Arden Corridor LAP; Section 18, p 23; for example of appropriate qualifications for type of ESA see Nanaimo OCP, DPA2, p 165.

5.6) *Biodiversity Corridors*

Biodiversity Corridors on all sites will require protection and/or restoration over time. Bio-inventory assessments would include documenting and mapping (GPS) the presence of existing and potential biodiversity corridors. Planning for development should include identifying and protecting corridors so that contiguous corridors are established over time.

For examples of biodiversity protection see: Village of Cumberland OCP, EDPA 1, p 85-88; Arden Corridor LAP, section 5.i p 21; Environmental Development Permit Areas: In Practice and in Caselaw, Regional District of Central Okanagan Regime, section 2.4.7 p 18.

5.7) Require that Province of BC "Develop With Care" Guidelines be followed

Site planning, design and construction activities will follow the most current Province of BC "Develop With Care" Guidelines.

5.8) Monitoring and Security

Monitoring should be required to ensure that the conditions of the development permit have been met. The length of monitoring should be based upon the nature of the site disturbance, proposed mitigation and maintenance required.

For an example of comprehensive monitoring requirements see Nanaimo OCP, DPA2, p 166.

Monitoring should be undertaken by a QEP with the appropriate professional designation to assess the environmental values on the site and the complexity of the development.

Security should be required and set at a level to ensure that all requirements of the conditions, mitigation and maintenance have been met.

For an example of an effective performance bond to safeguard against non-compliance, see City of Kelowna Natural Environment DP, chapter 12, p 11, Performance Bonding.

5.9) Existing development

Redevelopment of sites within an EDPA where development existed before the EDPA came into effect will only be allowed on the existing footprint. Development outside the existing footprint will be subject to EDPA regulations and will require measures for restoration of damaged or lost environmentally sensitive areas. Wherever possible a redevelopment will bring the footprint into compliance with *Riparian Area Regulation (RAR)* and EDPA regulation. Where restricted by lot size and gaining buffers is not possible, the applicant would work with the local authority to gain optimum protection/restoration which could include paying for mitigation elsewhere (Development Variance Permit maybe required).

6) Incentives and Variances

In order to support the EDPA goal of the restoration and protection of environmentally sensitive areas, OCP policies will allow the jurisdiction to use zoning tools such as *conservation zoning setbacks*, *amenity density bonus* (municipality) and *clustering*. Local Government can also make adjustments to *Development Cost Charges* and taxation to support and encourage restoration and protection measures.

For an example of the use of a zoning variance see section Arden Corridor LAP, #4.8, p 21.

Local Governments should support initiatives such as the *Conservation Tax Incentive Program* (CTIP) as an incentive to landowners who place their land or a portion of their land into a Conservation Covenant in perpetuity.

7) Assumptions

This EDPA Framework assumes the following:

- An acceptance of the Provincial Sensitive Ecosystem Inventory as a fundamental starting point and includes all environmentally sensitive areas (ESAs) discovered and added over time. It is important that map data is continually added to the region's mapping database (Sensitive Habitat Atlas). This would include data provided by Qualified Environmental Professionals (QEP's) who discover/encounter *Streamside Protection and Enhancement Areas (SPEAs)* under the Riparian Area Regulations (RAR) and any mapping undertaken under local policy requirements or by Watershed Stewards.
- Modern Integrated Stormwater (and Rainwater) Management Planning (ISMP) would be in alignment with this Framework and would inform this Framework as plans are developed.

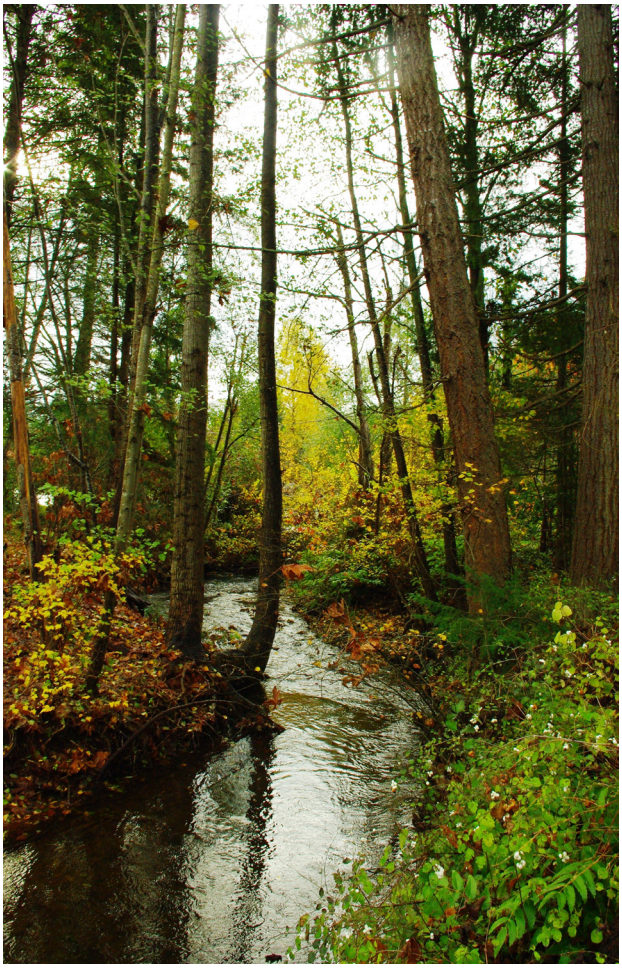
- Urban or Regional tree strategies/bylaws, soil removal and deposit bylaws, and watercourse protection bylaws would be in place and in alignment with this framework and would inform this document as required.
- The security required in the EDPA is adequate to ensure EDPA guidelines are met.
- Environment Canada's Species at Risk Act (SARA) Registry and the BC Conservation Data Centre would also inform this framework through definitions of species habitats cross-referenced with Development Assessment Reports.

8) Watershed Health and EDPAs

Watershed health is described by the development of an *Integrated Watershed Health Index* that can be utilized for site or project screening levels. The index would utilize GIS right through to statistical and geospatial modeling of ecological and hydrological attributes and their contribution to the overall health of the watershed. Such an index should include:

- Habitat
- Soils
- Landscape condition
- Hydrology
- Geomorphology
- Water quality
- Water quantity
- Biological condition and vulnerability

For information on how to assess watershed health and integrate multiple indicators see examples of regional and local Integrated Watershed Assessments



Once data has been gathered an Integrated Watershed Health Index can be created and used to develop an Integrated Watershed Management Plan.

Local Governments should:
Consult with local stewardship groups and support collaborative monitoring and data collection activities for development of an Integrated Watershed Health Index. Monitoring data collected over time should be used to inform watershed plans.

For an example of collaborative water monitoring program see Regional District of Nanaimo Community Water Monitoring Project. For example of watershed management plans see Tsolum River Recovery Plan and the Bowker Creek Watershed Management Plan.

9) Strategies to Employ as Guidance

- Follow the Province of British Columbia's Develop With Care Guidelines
- Utilize the Federal ACT (Development Standards: A Guide for Practitioners) initiative.
- Modern Integrated Stormwater Management Planning provides a significant opportunity to integrate environmental protection and restoration on a watershed scale. These plans should form a part of a sustainable service delivery process that safely and effectively integrates natural systems with human-made green and piped infrastructure as parts of a holistic approach to overall rainwater management across the landscape.
- Use the *Precautionary Principle* to decide if the environmental impact of a given development is acceptable (environmentally sensitive development is the key objective of this Framework)
- Use Low Impact Development (LID) site layout, patterning and building form to guide and evaluate development adjacent to sensitive areas. This principle recognizes that the building and development should aim to understand the interrelationships between drainage, landforms, soils, habitat and land use and that there is an explicit desire to depart from the 'conventional' approach of stormwater servicing, road widths and layouts including single family housing developments.
- Engage in public consultation and involve organizations that seek to improve watershed health and have been doing so over time (Watershed Stewardship Groups).
- Assess environmental impacts of activities on public lands and protect ESAs by directing development away from ESAs, limiting tree and native species removal and installation of hard infrastructure. When development needs to occur, utilize LID techniques, green infrastructure and undertake restoration of damaged ecosystems.
- Limit stream crossings. When required, clear span bridge crossings are encouraged.
- Consider adopting a Regional Conservation Strategy and embedding it into the RGS.
  "*A Regional Conservation Strategy is a big picture, landscape view of the region as a whole and provides a framework for considering conservation options for entire watersheds and ecosystems. This larger, regional view encourages thinking beyond municipal boundaries and presents opportunities for collaboration among municipalities on conservation efforts often with cost-saving benefits.*"

  -Excerpt from the Green Bylaws Toolkit, 2016, p 55.

This work has already been completed in the Comox Valley by the Comox Valley Land Trust and is presented in the documents Nature Without Borders: A Regional Conservation Strategy and Nature Without Borders, 2nd Edition: The Comox Valley Land Trust Regional Conservation Strategy.

10) Definitions

Amenity Zoning (Density Bonus): Amenity zoning is the general term for often unique zoning that provides an incentive to developers to provide an amenity such as parkland, clustering, waterfront access, daycare facilities, or affordable housing as part of a rezoning package. Amenity zoning and density bonus provisions are often used interchangeably because in exchange for increased density the developer provides the amenity.[2]

Aquatic Habitat Corridors*: Biodiversity corridors* designated to protect watercourses, and the wetlands and fisheries sensitive zones surrounding them.[3]

Biodiversity Corridor: The land and water pathways that link core parks and protected areas. They incorporate intact and restored ecosystems, areas that have the potential for restoration and are key to connectivity and areas under human use, such as forestry and agriculture. These habitat connections are critical to maintaining health and biodiversity in plant and animal populations. They provide fish, birds and other species with the opportunity to move across the landscape, to find food, birthing and rearing spaces, and protection from predators. They include areas of public and private ownership. The two types of biodiversity corridors are: *Aquatic Habitat Corridors* and *Upland Habitat Corridors*.[4]

Buffer zones: A Natural Area surrounding an *Environmentally Sensitive Area* (ESA) that acts to buffer the impact of land use that might otherwise compromise the natural functioning of the ESA. Buffer zones create a transition from ESAs to other land uses.[5]

Clustering: Clustering of development refers to the rezoning and subdivision of a larger parcel so that new lots can "cluster" on a portion of the new properties (or property if it is a comprehensive development zone) away from sensitive *ecosystems* and greenways.[6]

Conservation Zoning Setbacks: Once mapping has identified the location of *Environmentally Sensitive Areas* (ESAs), zoning can create setbacks between development and ESAs to maintain undeveloped landscape-level corridors.[7]

Conservation Tax Incentive Programs: Voluntary programs designed to recognize, encourage and support the long term sound stewardship of environmentally valuable lands. It offers **property** tax exemption to those **private** landowners who agree to protect the natural heritage values of their property. Under the program, landowners agree not to undertake activities that will degrade, damage or result in the loss of features for which it was identified. For an example see Ontario's Conservation Land Tax Incentive Program.

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[2]Definition derived from, Green Bylaws Toolkit: For Conserving Sensitive Ecosystems and Green Infrastructure, Environmental Law Clinic, University of Victoria Faculty of Law, and Deborah Curran & Company, pages 79-80.
[3]Definition for Aquatic Habitat Greenways derived from the Comox-Strathcona Regional District Bylaw No. 2152 (1999) Electoral Area Plan and Greenways Plan for Area 'B'. Aquatic Habitat Greenways located within the Agricultural Land Reserve are defined as 'Working Landscape Fisheries Sensitive Zones.'
[4]Nature Without Borders, second edition, 2013, Glossary Terms, page 50.
[5]Definition derived from the Village of Cumberland OCP No. 990, Section D Implementation, 10.1.5 b), page 88.
[6]Definition derived from, Green Bylaws Toolkit: For Conserving Sensitive Ecosystems and Green Infrastructure, Environmental Law Clinic, University of Victoria Faculty of Law, and Deborah Curran & Company, page 75.
[7] Definition derived from, Green Bylaws Toolkit: For Conserving Sensitive Ecosystems and Green Infrastructure, Environmental Law Clinic, University of Victoria Faculty of Law, and Deborah Curran & Company, page 74.

Density Bonus: See *Amenity Zoning* above.

Development Cost Charges: Development cost charges (DCC's) are monies that municipalities and regional districts collect from land developers for the incremental cost to existing road, park, water, and sewer services. The intent is for the new development to offset the additional cost it brings to these existing infrastructure systems as a direct result of this new development.[8]

Ecosystems: A complete system of living organisms interacting with the soil, land, water, and nutrients that makes up their environment. An ecosystem is not complete without three elements: composition, structure, and function. The composition includes the pieces that make up the ecosystem (e.g., species); structure refers to the physical and spatial aspects of an ecosystem; and function is about natural processes such as fire, floods, insect outbreaks and wind throw that shape it. An ecosystem can be any size—a log, pond, field, forest, or the earth's biosphere—but it always functions as a whole unit. Ecosystems are commonly described according to the major type of vegetation—for example, old-growth forest or grassland ecosystem.[9]

Environmentally Sensitive Areas (ESAs): ESAs are areas having high ecological value, such as sensitive ecosystems, requiring protection from development. For a full list of ESAs see section 3.1a on page 2.

Integrated Stormwater (and Rainwater) Management Planning (ISMP): Is a process for integrating stormwater management and land use planning that protects and or enhances ecological values of stream health including riparian areas and water quality. The planning process is intended to take an infiltration-based Low Impact Development approach to rainwater to prevent drainage-related problems like flooding and erosion while facilitating land development or redevelopment.[10]

Integrated Watershed Health Index: Is a tool for measuring the health of a watershed based on an assessment of key indicators of the watersheds ecological health such as water quality, landscape condition, hydrology and biological assessments.[11]

Integrated Watershed Management: Is a process of decision making about the conservation and use of land and natural resources within a watershed to balance diverse goals and uses for environmental resources, and to consider how cumulative actions may affect the long-term sustainability of these resources.[12]

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[8] http://www.cscd.gov.bc.ca/lgd/finance/development_cost_charges.htm
[9] Village of Cumberland OCP Bylaw No. 990, 2014, Part D Implementation, Appendix A Glossary, page 171.
[10] Definition derived from BC Ministry of the Environment, Stormwater Planning: A Guidebook for British Columbia, Part C, Section 9.1, page 9-1.
[11] Definition derived from US Environmental Protection Agency website: Healthy Watersheds: Developing a Watershed Health Index
[12] Definition derived from Green Bylaws Toolkit: For Conserving Sensitive Ecosystems and Green Infrastructure, Environmental Law Clinic, University of Victoria Faculty of Law, and Deborah Curran & Company, page 257.

Low Impact Development (LID): Low Impact Development (LID): Refers to the practice of mitigating stormwater runoff by utilizing the natural drainage patterns of the land. This practice also seeks to reduce conventional stormwater conveyance infrastructure and treatment to minimize costs and maximize natural processes such as retention ponds, wetlands, bioswales, landscape buffers and vegetative roof systems on buildings. Design using LID principles follows four simple steps:

a. Determine pre-developed conditions and identify the hydrologic goal.
b. Assess treatment goals, which depend on site use and local keystone pollutants.
c. Identify a process that addresses the specific needs of the site.
d. Implement a practice that utilizes the chosen process and that fits within the site's constraints.[13]

Natural Areas: Open space containing unusual or representative biological, physical or historical components. It either retains or has had re-established a natural character, although it often is not in a natural or undisturbed state.[14]

No touch areas: Refers to Environmentally Sensitive Areas protected from encroachment by development through Environmental Development Permit Area regulations.[15]

Precautionary Principle: Where there are threats of serious or irreversible damage to the environment or human health, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent the environmental degradation from occurring.[16]

Qualified Environmental Professionals (QEP's): 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,
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
c. the individual is acting within that individual's area of expertise.[17]

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[13] Village of Cumberland OCP Bylaw No. 990, 2014, Part D Implementation, Appendix A Glossary, page 173.
[14] Village of Cumberland OCP Bylaw No. 990, 2014, Part D Implementation, Appendix A Glossary, page 173.
[15] See also, restricted development zones, as defined in the Village of Cumberland OCP Bylaw No. 990, 2014, Part D Implementation, Section 10.1.5a, page 88.
[16] United Nations Environment Programme (UNEP). Rio Declaration on Environment and Development. (United Nations Environment Programme, http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=78&ArticleID=1163) Accessed: May 2011.
[17] Definition derived from, Green Bylaws Toolkit: For Conserving Sensitive Ecosystems and Green Infrastructure, Environmental Law Clinic, University of Victoria Faculty of Law, and Deborah Curran & Company, page 259.

Riparian Areas: The area adjacent to a stream which may be subject to temporary, frequent, or seasonal inundation. The area supports plant species that are typical of an area of inundated or saturated soil conditions and that are distinct from plant species on freely drained adjacent upland sites. The riparian ecosystem is influenced by, and exerts an influence on, the associated aquatic ecosystem.[18]

Riparian Area Regulations (RAR): Is a set of regulations created by the BC Ministry of Environment which is used throughout B.C. to evaluate land development in riparian areas. This regulation involves a consistent process whereby the BC Ministry of Environment (MoE), Fisheries and Oceans Canada (DFO) and local governments can work together to consider projects. Decisions and recommendations about developments and land use changes are made by these groups based on their respective policies. The RAR involves a Riparian Assessment Area of 30 metres measured from the High Water Mark. It also outlines the requirements and methods for determining specific regulatory setbacks within these Assessment Areas, called Streamside Protection and Enhancement Area (SPEA) setbacks.[19]

Sensitive Ecosystem Inventory (SEI): Rare and/or fragile ecosystems that have been identified through a Sensitive Ecosystems Inventory. In the early 1990s, an inventory of nine rare and/ or fragile and threatened land based ecosystems was conducted in the lowland Comox Valley area using information from 1984-1993 air photos. The Sensitive Ecosystem Inventory (SEI) for the lowland Comox Valley has been reassessed two times since the original inventory, using 2002 and 2012 air photos. The nine sensitive ecosystems inventoried are: Wetland, Riparian, Older Forest, Woodland, Terrestrial Herbaceous (rocky outcrops), Coastal Bluff, Sparsely Vegetated (dunes, spits and cliffs), Seasonally Flooded Agricultural Fields and Older Second Growth Forests.

Species At Risk (SAR): A species that has been defined as at risk (of extirpation) by either the federal or provincial government due to its vulnerable, threatened or endangered status.[20]

Streamside Protection and Enhancement Areas (SPEA): The area adjacent to a stream that links aquatic to terrestrial ecosystems and includes both the riparian area and the adjacent upland area that exerts an influence on the stream, the width of which is determined in accordance with the RAR. SPEA setbacks must be determined by Qualified Professionals.[21]

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[18] Village of Cumberland OCP Bylaw No. 990, 2014, Part D Implementation, Appendix A Glossary, page 174.
[19] Definition derived from City of Courtenay Official Community Plan, Development Permit Areas, Section 8.7, page 120.
[20] Definition derived from City of Courtenay Official Community Plan, Development Permit Areas, Section 8.7, page 121.
[21] Definition derived from City of Courtenay Official Community Plan, Development Permit Areas, Section 8.7, page 121.

Upland Habitat Corridors: *Biodiversity corridors* that provide connectivity between terrestrial ecosystems. Upland Habitat Corridors are mapped to recognize the existing or potential connections between habitat refuges and reservoirs including core protected areas such as nature parks and conservation lands.[22]

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[22] Definition derived from Comox-Strathcona Regional District Bylaw No. 2152 (1999) Electoral Area Plan and Greenways Plan for Area 'B'. The CSRD separately defined Upland Habitat Greenways within the Agricultural Land Reserve for policy purposes.

Appendix A: Local Government Act Legislation establishing EDPAs

Local Government Act: Section 7, 488-491

Designation of development permit areas

488 (1) An official community plan may designate development permit areas for one or more of the following purposes:

(a) protection of the natural environment, its ecosystems and biological diversity;
(b) protection of development from hazardous conditions;
(c) protection of farming;
(d) revitalization of an area in which a commercial use is permitted;
(e) establishment of objectives for the form and character of intensive residential development;
(f) establishment of objectives for the form and character of commercial, industrial or multi-family residential development;
(g) in relation to an area in a resort region, establishment of objectives for the form and character of development in the resort region;
(h) establishment of objectives to promote energy conservation;
(i) establishment of objectives to promote water conservation;
(j) establishment of objectives to promote the reduction of greenhouse gas emissions.

(2) With respect to areas designated under subsection (1), the official community plan must

(a) describe the special conditions or objectives that justify the designation, and
(b) specify guidelines respecting the manner by which the special conditions or objectives will be addressed.

(3) As an exception to subsection (2) (b), the guidelines referred to in that subsection may be specified by zoning bylaw but, in this case, the designation is not effective until the zoning bylaw has been adopted.

(4) If an official community plan designates areas under subsection (1), the plan or a zoning bylaw may, with respect to those areas, specify conditions under which a development permit under section 489 would not be required.

Activities that require a development permit

489 If an official community plan designates areas under section 488 (1), the following prohibitions apply unless an exemption under section 488 (4) applies or the owner first obtains a development permit under this Division:

(a) land within the area must not be subdivided;
(b) construction of, addition to or alteration of a building or other structure must not be started;
(c) land within an area designated under section 488 (1) (a) or (b) [natural environment, hazardous conditions] must not be altered;
(d) land within an area designated under section 488 (1) (d), (h), (i) or (j) [revitalization, energy conservation, water conservation, greenhouse gas reduction], or a building or other structure on that land, must not be altered.

Development permits: general authority

490 (1) Subject to this section, a local government may, by resolution, issue a development permit that does one or more of the following:
(a) varies or supplements a land use regulation bylaw or a bylaw under Division 11 [Subdivision and Development: Requirements and Related Matters];
(b) includes requirements and conditions or sets standards under section 491 [development permits: specific authorities];
(c) imposes conditions respecting the sequence and timing of construction.
(2) The authority under subsection (1) must be exercised only in accordance with the applicable guidelines specified under section 488 in an official community plan or zoning bylaw.
(3) A development permit must not vary the use or density of the land from that permitted in the bylaw except as authorized by section 491 (3) [protection from hazardous conditions].
(4) A development permit must not vary a flood plain specification under section 524 (3).
(5) If a local government delegates the power to issue a development permit under this section, the owner of land that is subject to the decision of the delegate is entitled to have the local government reconsider the matter.

Development permits: specific authorities

491 (1) For land within a development permit area designated under section 488 (1) (a) [protection of natural environment], a development permit may do one or more of the following:
(a) specify areas of land that must remain free of development, except in accordance with any conditions contained in the permit;
(b) require specified natural features or areas to be preserved, protected, restored or enhanced in accordance with the permit;
(c) require natural water courses to be dedicated;
(d) require works to be constructed to preserve, protect, restore or enhance natural water courses or other specified natural features of the environment;
(e) require protection measures, including that vegetation or trees be planted or retained in order to
(i) preserve, protect, restore or enhance fish habitat or riparian areas,
(ii) control drainage, or
(iii) control erosion or protect banks.

(3) Conditions and requirements under subsection (2) may vary the use or density of land, but only as they relate to health, safety or protection of property from damage.
(4) Before issuing a development permit for land within a development permit area designated under section 488 (1) (b), a local government may require the applicant to provide a report to assist the local government in determining what conditions or requirements it will impose under subsection (2) of this section.
(5) A report required under subsection (4) must
  (a) be provided by the applicant at the applicant's expense, and
  (b) be certified by a professional engineer with experience relevant to the applicable matter.
(6) For land within a development permit area designated under section 488 (1) (c) [protection of farming], a development permit may include requirements for screening, landscaping, fencing and siting of buildings or other structures, in order to provide for the buffering or separation of development from farming on adjoining or reasonably adjacent land.
(7) For land within a development permit area designated under any of the following, a development permit may include requirements respecting the character of the development, including landscaping, and the siting, form, exterior design and finish of buildings and other structures:
  (a) section 488 (1) (d) [revitalization of commercial use area];
  (b) section 488 (1) (e) [intensive residential development];
  (c) section 488 (1) (f) [commercial, industrial or multi-family residential development];
  (d) section 488 (1) (g) [resort region development].
(8) For land within a development permit area designated under section 488 (1) (f), a development permit may include requirements respecting the character of the development, as referred to in subsection (7) of this section, but only in relation to the general character of the development and not to particulars of the landscaping or of the exterior design and finish of buildings and other structures.
(9) For land within a development permit area designated under section 488 (1) (h), (i) or (j) [energy conservation, water conservation, greenhouse gas reduction], a development permit may include requirements respecting the following in order to provide for energy and water conservation and the reduction of greenhouse gas emissions:
  (a) landscaping;
  (b) siting of buildings and other structures;
  (c) form and exterior design of buildings and other structures;
  (d) specific features in the development;
  (e) machinery, equipment and systems external to buildings and other structures.
(10) For land within a development permit area designated under section 488 (1) (h), (i) or (j), a development permit may establish restrictions on the type and placement of trees and other vegetation in proximity to the buildings and other structures in order to provide for energy and water conservation and the reduction of greenhouse gas emissions.