

BL2494 **8.7 Environmental Development Permit Area**

*** Note: All properties within the Arden Corridor LAP area, are subject to specific Environmental Development Permit conditions outlined within the Arden Corridor LAP.**

Table of Contents:

1. Designation
2. Justification
 - 2.1 Ecological characteristics of the Environmental DPA
3. Objectives
4. Exemptions
5. Applicant requirements
6. Guidelines
 - 6.1 Specific guidelines for developing near freshwater ecosystems
 - 6.2 Specific guidelines for developing near the Courtenay River and Estuary
 - 6.3 Specific guidelines for developing near raptors and Great Blue Heron nests
 - 6.4 Specific guidelines for hazardous conditions
7. Definitions

1. Designation

On lands designated as Environmental Development Permit Areas (EDPAs), the City of Courtenay must approve a development permit before land is subdivided or development is undertaken. For all permits, development activities will not exceed those indicated in the site plan approved in the development permit. Depending on the proposed development activities and the environmental sensitivities to the site, the permit may also contain provisions pertaining to construction methods and timing, invasive species management, re-vegetation and monitoring of environmental conditions by a qualified professional, among other conditions.

The EDPA is designated pursuant to Section 919.1(a) and (b) of the *Local Government Act* and the provincial *Riparian Areas Regulations*. The City of Courtenay has two categories of Environmental Development Permits:

Category	Authority	Application
Sensitive Ecosystems	Section 919.1 (a) Protection of the natural environment, its ecosystems and biological diversity. <i>Riparian Area Regulations</i> are complimentary provincial regulations enabled by the <i>Fish Protection Act</i> for the protection of fish and their habitats.	All land development, subdivision, construction or alteration of a building or structure that occur on lands: <ul style="list-style-type: none"> ▪ That contain or are adjacent to streams, rivers, creeks, ditches, ponds, lakes, springs and/or wetlands that provides fish habitat on land under local government jurisdiction. These include the Courtenay, Puntledge and Tsolum Rivers, Finlay, Morrison, Piercy, Millard and Arden Creeks, all stream estuaries, Courtenay River Estuary and all other water bodies, water courses, streams, lakes and wetlands.

Sensitive Ecosystems Continued		<ul style="list-style-type: none"> ▪ That contain sensitive and/or rare terrestrial ecosystems such as Garry Oak ecosystems, woodlands and older forests as defined by the Sensitive Ecosystem Inventory and priority ecological areas for conservation as identified in the <i>Nature Without Borders: The Comox Valley Land Trust Regional Conservation Strategy</i> report.¹ ▪ That contain or are within 60 – 500 meter radius of an active or inactive raptor or Great Blue Heron nest (see Section 6.3 for more information on which buffer distances apply to which species and development contexts). ▪ identified on Map #6.
Hazard Lands	Section 919.1 (b) Protection of development from hazardous conditions ² .	<p>All land development, subdivision, construction or alteration of a building or structure that is in:</p> <ul style="list-style-type: none"> ▪ Areas with grades steeper than 30%.

2. Justification

The primary function of the Environmental Development Permit area designations is to ensure that decision makers have the ability to secure the necessary information and are able to establish conditions on development that minimize as much as possible development impacts on sensitive ecosystems, rare or endangered plants and animals, and fisheries and wildlife resources.

The City of Courtenay is situated in an ecologically productive and biologically diverse region of the province. Many of the natural amenities in and around Courtenay make it an area attractive for settlement. The City and region have experienced steady growth over the past decades; this growth has resulted in development pressure on the ecosystems within the City’s boundaries.

The City recognizes that the surest way to protect ecosystems, and the services they provide, is to avoid development within these areas. Given that the City must balance community growth with environmental protection, the City has provided a number of guidelines to ensure that the remaining sensitive terrestrial and aquatic ecosystems are protected, or under close review developed carefully, to ensure their protection for future generations.

Riparian Area Regulations (RAR) are enabled by the *Fish Protection Act* and apply to all streams, rivers, creeks, ditches, ponds, lakes, springs and wetlands connected by surface flow to a watercourse that provides fish habitat on new residential, commercial and industrial development on land under local government jurisdiction. The City accepts the RAR as a minimum standard for stream and riparian protection.

¹ Nature without Borders: The Comox Valley Land Trust Regional Conservation Strategy. Phase 1- Final Report: Revised and updated July 2008. Prepared by Lynda Fyfe, Regional Conservation Strategy Coordinator, Comox Valley Land Trust.

² Note that areas within identified floodplains are regulated under the City’s Floodplain Management Bylaw No. 1743.

Other sensitive ecological features, lands and values that are addressed in this EDP are isolated wetlands, shoreline waters within the Courtenay River Estuary and sensitive terrestrial ecosystems including habitats of individual organisms. For example, Section 34 of the *Wildlife Act* provides for the protection of eagles and herons, among other species, their eggs and young while the nest is occupied, and the nest at all times. Buffer areas adjacent to these sites are critical to protect the nest(s) from direct and indirect development related disturbance.

Lands deemed hazardous to development also require an EDP to ensure protection of life and property and maintain slope stability.

2.1 Ecological characteristics of the Environmental Development Permit Areas

The Environmental Development Permit Areas include sensitive ecosystems and features that provide habitat for aquatic and terrestrial species, preserve biodiversity, provide ecosystem services and can serve as valuable educative and recreational functions for the community. Examples of ecosystem services to humans include: natural water storage, ground water recharge, rainwater drainage, purification and flood protection; erosion and sedimentation control; thermal regulation; and carbon sequestration. Ecosystems include native flora and fauna, their homes and the resources necessary for their survival.

In cases where public use has been secured but may compromise the ecological integrity of the site, ecosystem protection takes precedence over public use.

The Environmental Development Permit Areas were chosen using provincial Sensitive Ecosystem Inventory (SEI) and Conservation Data Centre (CDC) data, Comox Valley Conservation Strategy data, RAR and topography criteria. SEI defines sensitive ecosystems as those that are rare and threatened (Wetland, Riparian, Old Growth Forest, Terrestrial Herbaceous, Woodland, Coastal Bluff and Sparsely Vegetated) as well as those that are considered to be highly valuable for biodiversity despite being modified by human activity (Seasonally Flooded Agricultural Fields and Older Second Growth Forest). Riparian, Woodland, Wetland, Seasonally Flooded Agricultural Fields and Older Second Growth Forest ecosystems have been identified in Courtenay.

Priority ecological areas for conservation are identified by the CV Conservation Strategy in the *Nature Without Borders: The Comox Valley Land Trust Regional Conservation Strategy* report based on local data that include heron and eagle nest tree sites, Garry oak inventories, and rare species occurrence information.

The environmentally sensitive areas shown on Map 6 are those that have been identified. There are likely environmentally sensitive areas within the City's boundaries that are not shown on the map. The EDP map will be updated as new information is made available. If new areas are incorporated into the City, additional environmentally sensitive areas may be identified and included on the map.

3. Objectives

1. To protect the areas of highest biodiversity and ecological sensitivity within Courtenay including ground and surface water, shorelines, forests, wildlife habitat features and rare and endangered ecosystems and species.
2. To regulate development on lands of natural hazard in order to avoid property loss.
3. To require mitigation, and possibly restoration to damaged or degraded ecosystems, during development.

4. To promote nature education and interpretation opportunities for the public on publically secured lands wherever such opportunities do not compromise the ecological integrity of the site.
5. To provide comprehensive environmental protection guidelines that are scientifically rigorous, clear and transparent to land developers and the greater community.

4. Exemptions

For all categories of Environmental Development Permit, the following activities are exempt from requiring a permit:

1. A report prepared by a Registered Professional Biologist (R.P. Bio), which has been submitted and accepted by the City of Courtenay, and concludes that the land is not environmentally sensitive or the ecosystem or natural feature is no longer present due to previously approved development, and that the proposed project will have no impacts to existing groundwater or surface water conditions, subject to the Riparian Area Regulations.
2. Pre-existing protection: Where a development permit of this type has already been issued or a conservation covenant under section 219 of the *Land Title Act* is registered against title, is granted to the City or a recognized conservancy and includes provisions which protect environmentally sensitive area in a manner consistent with the current applicable EDPA guidelines, to the satisfaction of the City of Courtenay.
3. Farm use: Any Farm use as defined under the *Farm Practices Protection (Right to Farm) Act* for lands zoned for agricultural uses and/or within the Agricultural Land Reserve (ALR). Note that individual agricultural buildings are subject to the Zoning Bylaw which regulate setbacks from watercourses. Note that non-farming activities and buildings on lands that may otherwise be used, designated, or zoned for agriculture are subject to RAR.
4. Emergency procedures: to prevent, control, or reduce erosion, or other immediate threats to life and property, including:
 - a. Clearing of an obstruction from bridge, culvert, or drainage flow, repairs to bridges and safety fences;
 - b. The removal of trees deemed hazardous by a qualified arborist that threaten the immediate safety of life and/or buildings; and
 - c. An activity that is conducted under direction of the Provincial Emergency Program including emergency flood or protection works.

Any emergency works are to be undertaken in accordance with the Provincial *Water and Wildlife Acts* and the Federal *Fisheries Act*. Emergency actions by anyone other than City staff must be reported to the City of Courtenay Operational Services Department immediately.

5. Public infrastructure: including the repair, maintenance of and improvements to all existing public structures, facilities, open spaces, trails, roads, and utilities, meant to include: sanitary sewer, storm sewer, water, natural gas, cable, hydro-electric and telephone, to the satisfaction of the City of Courtenay.
6. Construction of a fence so long as no native trees are removed and the disturbance of native vegetation is restricted to 0.5m on either side of the fence.

7. Gardening and yard maintenance activities within an existing landscaped area, such as lawn mowing, tree and shrub pruning, vegetation planting and minor soil disturbance that do not alter the general contours of the land or cause erosion into adjacent watercourses.
8. The construction of a small accessory building such as pump house, gazebo, garden shed or play house if all of the following apply:
 - a. The building is not located in a Streamside Protection and Enhancement Area (SPEA), or no disturbance zone, where these boundaries have been delineated;
 - b. The building is located within an existing landscaped area;
 - c. No native trees are removed;
 - d. The total area of small accessory buildings is less than 10m².
9. Renovations, repair and maintenance to existing buildings, structures and utilities provided the structure remains on its existing foundation and is in compliance with the *Local Government Act*.
10. Additions to existing buildings and structures that do not encroach into the present setback between the existing building and the defined ecologically sensitive feature.
11. Repair and maintenance of existing roads, driveways, paths and trails, provided there is no expansion of the width or length of the road, driveway, path or trail, and no creation or additional impervious surfacing, including paving, asphaltting or similar surfacing.
12. The removal of invasive plants or noxious weeds on a small scale. For more information on invasive plants and noxious weeds consult with the following organizations: Coastal Invasive Plant Committee and the Invasive Plant Council of British Columbia.
13. The planting and maintenance of native species trees, shrubs or groundcovers for the purpose of enhancing the habitat values and/or soil stability provided the planting is carried out in accordance with the most recent B.C.S.L.A./ B.C.N.T.A landscape standards.
14. Works approved by the City of Courtenay, Department of Fisheries and Oceans, and/or the Ministry of Environment with respect to the installation of public utilities, sewer and water lines, trail construction, stream enhancement, and fish and wildlife habitat restoration or site inspection.
15. Ecological restoration and enhancement projects undertaken or approved by the City of Courtenay, Ministry of Environment or Department of Fisheries and Oceans.
16. Developing near ditches. An EDP will not be required for developing near ditches. Provisions regarding setbacks from both fish bearing and non-fish bearing ditches shall be adhered to at the building permit stage. Five (5) meter leave strips will be required on both sides of known fish bearing ditches. Two (2) meter leave strips will be required on both sides of non-fish bearing ditches. Where it is unknown whether the stream contains fish or not, the five meter leave strip shall apply. Educational materials will be provided to the applicant regarding best ditch management practices upon issuance of a building permit.

5. Applicant requirements

1. Prior to any development work on lands that contain an EDPA, including site preparation, an Environmental Impact Assessment (EIA) shall be prepared by a R.P. Bio and with input from other professionals of specific expertise where required. The applicant will undertake the review at his or her expense based on a Terms of Reference established by City of Courtenay.
2. The EIA must include the following types of information:
 - a. *Ecological Inventory and Assessment*: The intention of which is to assess both the biological conditions and physical conditions of the site. The Ecological Assessment determines a development footprint respectful of sensitive ecosystems including their buffers.
 - b. *Impact Assessment and Mitigation*: Outlines the impact, if any, of the development footprint on sensitive ecosystems and recommends mitigation measures to minimize or cause no impact.
3. The EIA shall be coordinated with the development proposal. The specifics of what information shall be included in the EIA will be confirmed in a pre-submission meeting with planning staff and will be written into a Terms of Reference (TOR) between the applicant and the City.
4. Applicants must also submit a copy of their development plans, including an implementation focused Construction Environmental Management Plan, delineating the non-disturbance areas, erosion and sediment control measures, tree protection measures within the development envelope, and other pertinent recommendations from the EIA, to direct environmental management, including monitoring, during construction.
5. Areas designated as non-disturbance zones, including individual trees, in the EIA must be identified on the property with flagging and/or protected with temporary and possibly permanent fencing during construction.
 - a. Where temporary fencing is required it should be a minimum height of 1.2m and supported by poles placed at 2.5m intervals. The fence will remain in place throughout clearing, site preparation, construction, or any other form of disturbance.
 - b. Where permanent fencing is required it shall allow for wildlife passage as well as appropriate signage in order to prevent encroachment into the protected areas. Permanent fencing specifications are to be approved by the City.
6. If the nature of a proposed project in an ecologically sensitive area changes, the qualified professional may be required to re-assess changes to the proposal with respect to its impact on the ecologically sensitive area, at the expense of the applicant.
7. Should damage occur to the identified ecologically sensitive area during construction, the City may require a professional assessment of the damage and a report on recommendations for rehabilitation to the satisfaction of the City, at the expense of the applicant.
8. The EIA is subject to appropriate City of Courtenay, Provincial and Federal agency review.
9. The Director of Planning Services may require that the EIAs be peer-reviewed by a third body qualified professional, at the expense to the applicant.

10. All replanting shall be maintained by the property owner for a minimum of 2 years from the date of completion of the planting. Maintenance may require the removal of invasive plant species and irrigation.
11. The City may require security to ensure all required mitigation measures will be completed and furthermore continue to function properly as prescribed. The City may require securities for monitoring duties by a qualified environmental monitor. The City shall indicate what professional designation is required to oversee the monitoring work depending on the environmental values present on site and complexity of development works.
12. Where the City requires performance and/or maintenance bonding as a condition of the development permit approval, the applicant must provide a bond for up to a value of 125% of the estimated cost of any remediation and/or maintenance works. A monitoring schedule shall be estimated by the qualified environmental monitor in order to determine bonding requirements for monitoring. 100% of bonding estimation will be taken for monitoring works.
13. The City may require monitoring reports prepared by the qualified environmental monitor, at the expense of the applicant, during and after construction, the purpose of which are to confirm the required conditions of the development permit have been met. The City will establish the length of the monitoring obligations for each proposed project based upon the nature of the site disturbance, proposed mitigation and/or maintenance.
14. The bond(s) shall remain in effect until the City has been notified, in writing, by a qualified professional, and City staff are satisfied, that the conditions of the development permit have been met. However, to confirm that the remedial works, such as successful plant establishment, have been completed, the City will withhold 20% of the bond for 2 years from completion of the date of planting as maintenance securities. The maintenance bond may be held for longer periods if, throughout the 2-year period the persistent failure of the works is documented.

6. Guidelines

The following guidelines are provided in order to:

- a. Assist an applicant in creating a development plan that meets the objectives of the EDP;
 - b. Assist the City in considering and approving proposed land uses; and
 - c. Provide the basis for setting conditions in development permits, though not all guidelines will necessarily apply to every permit.
1. The applicant shall consider dedication of the environmentally sensitive feature, including a watercourse and surrounding areas to the City of Courtenay for the preservation of the area, prior to development or subdivision of land containing or adjacent to an ecologically sensitive area. These lands may not be donated in lieu of 5% parkland requirement.
 2. The City may exercise discretionary power to consider possible variances to the zoning bylaw to minimize encroachment into the Environmental Development Permit Area such as setback reductions and parking requirement reductions.

3. Plan, design and construct all development to avoid encroachment on sensitive ecosystems identified in the EIA. This includes habitat values for individual species, entire ecosystem communities, as well as connectivity between habitats including wildlife travel corridors. Clustering of density is encouraged as a means for preserving sensitive ecosystems, where it is also in accordance with the Zoning Bylaw.
4. Existing, native vegetation is to be retained as much as possible on the parcel(s).
5. Development standards for stormwater source controls, erosion and sediment control, and stormwater ponds shall be in accordance with the City of Courtenay Subdivision Bylaw and where appropriate as directed by a P.Eng Geotechnical Engineer. The use of surfaces such as absorbent landscape, pervious pavement, and similar stormwater source control is encouraged.
6. Employ construction methods and timing to minimize environmental impacts. For example, clearing of land, grubbing, grading, and other activities that expose expanses of soil should be completed during the dry months of the year, usually June through September. Timing of construction should follow the recommended timing windows for species based on provincially accepted Best Management Practices. Note that Fish Habitat Management Timing windows (also known as ‘work windows’) apply to many watercourses within the City’s boundaries.
7. Erosion and sediment impacts must be managed during and after construction according to measures prescribed in provincial Best Management Practices and standards or guidelines used by the City of Courtenay.
8. Re-vegetation, landscape and/or restoration plans prepared by a qualified professional are required where environmental restoration is a condition of the development permit. Environmental restoration may be required where an area has been previously cleared of native vegetation, or is cleared during the process of development. The plan should provide for the retention of existing native vegetation within the development area(s), use native species, recommend timing for plantings, provide cost estimates for the works and recommend monitoring measures during and after said works. Bonding will be taken for any restoration works.
9. Control invasive plant species using site and species appropriate methods. For invasive plant management resources, refer to the Invasive Plant Council of BC and the Coastal Invasive Plant Committee websites for the most current provincial Best Management Practices.
10. In general, ensure that development, design and approach reflects the objectives and guidelines of current provincially accepted Best Management Practices. The City maintains a brochure of resources and a list of guidelines that reflect the spirit and intent of the City of Courtenay’s regulations and may be helpful in informing an applicant’s development proposal.
11. In the case where the actual boundaries of the sensitive areas differ from the area outlined on Map 6, the boundaries shall be determined through a detailed site assessment provided by a qualified professional during the Development Permit process. An EDP will not be required where no environmentally sensitive area is shown to exist.

6.1 Specific guidelines for developing near freshwater ecosystems

1. Minimum buffers for aquatic ecosystems should generally be thirty (30) meters on either side of the watercourse. Alternate buffers may be explored where based on scientific research and professional observation, as outlined in provincial *Riparian Areas Regulation*.
2. On properties that contain streams and other waterbodies covered under the RAR, the following are mandatory minimal requirements for environmental reporting required for processing Environmental Development Permits. RAR Section 4 specifies that the following conditions must be met prior to allowing development to occur in the Riparian Assessment Area (see definition). A qualified professional must:
 - a. certify that they are qualified to conduct the assessment,
 - b. certify that the assessment methods have been followed,
 - c. provide their professional opinion that there will be no harmful alteration, destruction, or disruption (HADD) of natural features, functions and conditions that support fish life processes in the riparian assessment area,
 - d. the SPEA that are identified in the report are protected from development and there are measures identified to protect the integrity of those areas from the effects of development, and
 - e. notify Ministry of Environment (MOE) and Fisheries and Oceans Canada (DFO) of the RAR report. Senior government agencies will alert the City when a report has been received, OR the City receives confirmation from DFO that they will authorize the harmful alteration, disruption, destruction or natural features, functions and conditions that support fish life processes in the riparian area that will result from the implementation of the development proposal.
3. All other EDP guidelines apply, at the discretion of the City, including comprehensive environmental reporting and monitoring requirements.

6.2 Specific guidelines for developing near the Courtenay River and Estuary

1. Developments along the estuary should dedicate or preserve and maintain a natural, vegetated buffer strip within the first 30m above the high-water mark except where access is essential for water transport or public use.

The restoration or rehabilitation of aquatic, riparian and upland areas that have been lost or degraded by previous land uses will be encouraged to maximize their value as fish and wildlife habitat. If restoration is a condition of the permit, a cost estimate must be provided to the City and securities will be taken for the restoration works.
2. The City of Courtenay will support silt and debris removal and channel restoration and/or enhancement in off-channel areas if it does not negatively impact fish and wildlife habitat and it has approval from relevant provincial and federal authorities as may be required.
3. The development of recreational greenways along the Courtenay River and estuary within the City's jurisdiction is encouraged. Public access will be chosen with respect for estuarine and riparian habitat functions.
4. A policy of net habitat gain shall be adopted for estuarine, river and adjacent uplands.
5. No placing or removal of fill or discharge of deleterious material into the Courtenay River estuary or adjacent watercourses and tributaries will be permitted.

6. Development should not detract from shoreline scenic and aesthetic qualities that are derived from natural or cultural features, such as shoreforms, natural vegetative cover, scenic vistas, diverse landscapes, historic structures, and rural and wilderness-like shores. These and other valuable features should be conserved or enhanced by development and utilized as appropriate for open space, fish and wildlife habitat, public access or recreation purposes.
7. Coastal development should consult the *Green Shores Coastal Development Rating System* for more detailed guidelines.
8. Note that the Courtenay River is subject to RAR. See section 6.1.
9. All other EDP guidelines apply at the discretion of the City, including comprehensive environmental reporting and monitoring requirements.

6.3 Specific guidelines for developing near Raptor and Great Blue Heron Nests

1. Maintain a naturally vegetated “no disturbance” buffer of the following distances³, as measured as a radius from the base of the nest tree, for the following development contexts and species:

Species	Development context	Buffer
Bald eagle and other raptors	Urban	60 meters
Bald eagle	Rural	100 meters
Bald eagle	Undeveloped	200 meters
Other raptors	Rural	200 meters
Other raptors	Undeveloped	500 meters
Great blue heron	Urban	60 meters
Great blue heron	Rural	200 meters
Great blue heron	Undeveloped	300 meters

2. The distance may be reduced if the applicant supplies at their own expense a report from a R.P. Bio with experience in assessments for the species in question acceptable to the City that provides detailed recommendations for protecting the function of the nest tree and related perch trees, and which compares these site-specific recommendations to the latest BC Environment Best Management Practices for the species (Develop With Care). The recommendations of the R.P. Bio. will form part of the development permit.
3. When nests are occupied, the following breeding season ‘quiet’ buffers shall apply in which no development activities may take place: 100m for raptors and 200m for Great blue heron nests. A report from a R.P. Bio with experience in raptor assessments may be submitted that states that development activities within these distances will not affect the viability of the nest while it is occupied.
4. Suitable perching trees shall be identified and efforts shall be made to protect them. The protection of perching trees may be a condition of the development permit.
5. Where no suitable perching trees are present, consideration shall be given to pruning mature trees in order to make them more attractive to raptors.

³ These recommended buffer distances are taken directly from the Ministry of Environment Best Management Practices Series document on “Best Management Practices for Raptor Conservation during Urban and Rural Land Development in British Columbia” (March 31, 2005). Consult this document for more information.

6. These regulations do not negate the need for compliance with any federal or provincial statutes and regulations governing the management of Bald Eagles or Great Blue Herons, nests or nest trees (i.e. Federal Migratory Bird Convention Act and the Provincial Wildlife Act).
7. All other EDP guidelines apply, at the discretion of the City, including comprehensive environmental reporting and monitoring requirements.
8. In cases where the City has received written documentation obtained from a representative of the Wildlife Tree Stewardship Program (WITS), the Ministry of Environment or a R.P. Bio that a previously identified nest no longer exists, an EDP is not required to protect that value. If other identified environmental values are on site, an EDP will still be required.

6.4 Specific guidelines for Hazardous Conditions:

1. On parcels where development (including tree and vegetation removal) is proposed for an area with a slope of 30% or greater, the City of Courtenay may require the applicant to supply a report, prepared by a professional geotechnical engineer, indicating that slope stability will not be jeopardized and soil erosion and site mitigation measures can be implemented, to the satisfaction of the City of Courtenay.
2. The City's Floodplain Management Bylaw No. 1743 shall apply.
3. All other EDP guidelines apply to hazardous lands, at the discretion of the City, including comprehensive environmental reporting and monitoring requirements.

7.0 Definitions

The following definitions apply to Section 8 of this bylaw.

Biodiversity: the variability among living organisms of terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems.

Blue-listed: any native species, subspecies, or plant community that is considered to be vulnerable (of Special Concern) in British Columbia. These species are of concern because of characteristics that make them particularly sensitive to human activities or natural events. Blue-listed species are at risk but are not Extirpated, Endangered or Threatened.

Critical habitat: habitat used by species at risk or habitat critical to sustaining local populations of a species, because of its rareness, productivity, and sensitivity. This includes high value spawning/rearing or nesting habitat.

Development: For the guidelines contained within this section, development means any activity referred to in Section 902(1) of the *Local Government Act* and includes the following;

- a. removal, alteration, disruption, or destruction of vegetation;
- b. removal, deposit disturbance of soils;
- c. construction, erection, or alteration of buildings and structures;
- d. creation of non-structural impervious or semi-pervious surfaces;
- e. preparation for or construction of roads, trails, docks and bridges;
- f. provision and maintenance of sewer and water services;
- g. development of drainage systems;

- h. development of utility corridors;
- i. flood protection works; and
- j. subdivision.

Drip line: the area in which the small roots of a tree are located that take up water. The drip line, or root protection zone, should be calculated by multiplying the diameter of the tree at breast height by 18.

Ecosystem: the dynamic and interrelated complex of plant and animal communities and their non-living environment. All parts of an ecosystem, including physical, chemical, and biological components, are interconnected; that is, they affect and are affected by all other parts.

Fish bearing: a watercourse in which fish are present or potentially present if introduced barriers or obstructions could be removed or made passable for fish.

Habitat: the natural home of a plant or animal within an ecosystem, which provides food and shelter and other elements critical to an organism's health and survival.

Hazard tree: any potential tree failure due to a structural defect that may result in property damage or personal injury.

High Water Mark (HWM): the visible high water mark of any lake, stream, wetland or other body of water where the presence and action of the water are so common and usual and so long continued in all ordinary years as to mark upon the soil of the bed of the lake, river stream, or other body of water a character distinct from that of the banks, both in vegetation and in the nature of the soil itself.

Typical features may include, a natural line or "mark" impressed on the bank or shore, indicated by erosion, shelving, changes in soil characteristics, destruction of terrestrial vegetation, or other distinctive physical characteristics. The area below the high water mark includes the active floodplain.

Invasive species: plants, animals, and micro-organisms that colonize and take over the habitats of native species. Most invasive species are also alien (non-native) to the area and can become dominant because the natural controls (e.g., predators, disease) that kept their populations in check in their native environment do not occur in their new location.

Landscaped Area: an area significantly altered by human activity where there is the continuous maintenance of no vegetation, cultivated vegetation and/or landscape materials, including but not limited to stones, boulders, cobbles, pavers and decorative concrete.

Large woody debris (LWD): any large piece of relatively stable woody material having a diameter >10 cm and length >3 m that intrudes into a stream channel.

Native: a species that occurs naturally in the area and is not introduced.

Natural features, functions and conditions that support fish life processes: include but are not limited to the following:

- a. Streams and their active floodplains;
- b. 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;
- iv. Buffers streams from sedimentation and pollution in surface runoff;
- c. Large woody debris that falls into water bodies or the riparian area including logs, snags, and root wads;
- d. Natural sources of stream-bed substrates; and
- e. Permeable surfaces that permit infiltration to moderate water volume, timing and velocity and maintain sustained water flows in streams, especially during low-flow periods.

Noxious weeds: invasive species of plant that has been designated by local, provincial, or national authorities as one that is injurious to agricultural and/or horticultural crops, natural habitats and/or ecosystems, and/or humans or livestock.

Qualified professional: a professional engineer, geoscientist, architect, biologist, planner or other professional licensed to practice in British Columbia, with experience relevant to the applicable matter.

Raptor: predatory birds that include eagles, hawks, falcons, and owls.

Ravine: means a narrow, steep-sided valley that is commonly eroded by running water and has a slope grade greater than 3:1.

Red-listed: any indigenous species, subspecies, or plant community that is Extirpated, Endangered, or Threatened in British Columbia.

Registered Professional biologist: is registered in B.C. under the *College of Applied Biology Act*, and acting under the college's code of ethics and subject to disciplinary action by the college, and who, through demonstrated suitable education, experience, accreditation and knowledge relevant to the particular matter, may be reasonably relied on to provide sound advice within their area of expertise.

Riparian areas: the moist, nutrient-rich lands adjacent to water bodies. Riparian areas are transitional zones between aquatic and terrestrial ecosystems and often exhibit vegetation characteristics of both.

Riparian Area Regulation (RAR): 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 municipalities such as the City of Courtenay 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. SPEAs are also referred to as 'leavestrips' or 'buffers'. See Figure 1.

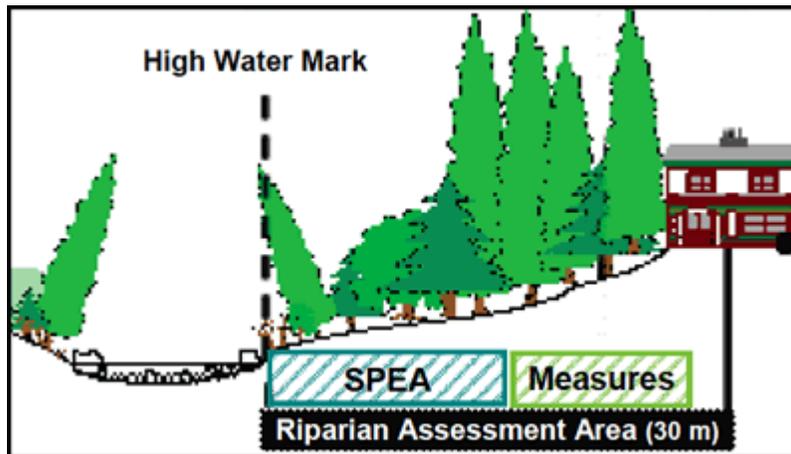


Figure 1: Relative boundaries of High Water Mark, Riparian Assessment Area (RAA), Streamside Protection and Enhancement Area (SPEA) and area where development mitigation measures will be required. Riparian Leavestrips (also known as buffers) will be located within the RAA. Note, in some instances the SPEA may be the entire width of the RAA.

Sensitive Ecosystem: one that is rare, fragile and relatively unmodified. In BC there are nine of these ecosystems defined by Environment Canada and the BC Ministry of Environment: Riparian, Wetland, Old Forest, Terrestrial Herbaceous, Sparsely Vegetated, Woodland and Coastal Bluff. Seasonally Flooded Agricultural Fields and Older Second Growth Forests are also considered valuable for biodiversity despite being modified by human activity.

Snag: a standing, partly or completely dead tree, often missing a top or most of the smaller branches.

Species at risk: 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.

Streamside Protection and Enhancement Area (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.

Top of ravine bank: The first significant break in a ravine slope where the grade beyond the break is flatter than 3:1 (33%) for a minimum distance of 15 metres measured perpendicularly from the break, and the break does not include a bench within the ravine that could reasonably be developed. Any slope change greater than 3:1 must result in a greater than 1 metre elevation gain between the points where the slope is less than 3:1.

Water balance model: a decision support tool that integrates land use planning and engineering design considerations to achieve water sustainability objectives.

Watercourse: 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: land that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support vegetation that is typically adapted to saturated soil conditions. Types of wetlands include swamps, marshes, bogs, fens, vernal pools, and salt water marshes.