



Sensitive Ecosystems Inventory Mapping of Proposed Community Forest Agreement Area on Cortes Island 2011

Description of Sensitive Ecosystem Inventory

What is a Sensitive Ecosystem?

For the purpose of this study, an ecosystem is considered to be a portion of the landscape with relatively uniform dominant vegetation.

Sensitive ecosystems are those which are fragile and/or rare, or those ecosystems which are ecologically important because of the diversity of species they support.

Rationale

Ecologically significant lands and important wildlife habitats are fast disappearing throughout the lowlands surrounding the Strait of Georgia. Intense development pressures fuelled by population and economic growth have fragmented and degraded many terrestrial ecosystems. A high proportion of these ecosystems are now designated as "at risk". Sensitive ecosystems have high biological diversity and are a vital part of the landscape. They provide ecosystem services for a healthy economy and for social well-being. They regulate climate, clean water, generate and clean soils, recycle nutrients and pollinate our crops. To protect these areas, sensitive ecosystems must be located, identified and mapped. Along the Sunshine Coast the wave-beaten shorelines, coastal plains, rugged mountain slopes, fjords and estuaries contribute to high biodiversity values. Here one finds coastal temperate rainforests, dry shoreline woodlands, herbaceous meadows and rocky coastal bluffs, wetlands and riparian ecosystems.

Purpose

The purpose of the Sensitive Ecosystems Inventory (SEI) of the Sunshine Coast is to identify, classify and map sensitive terrestrial ecosystems along the coastal lowlands (including the adjacent islands) from Howe Sound to Desolation Sound. The goal of the SEI is to encourage informed land-use decisions that will conserve sensitive ecosystems. The SEI on Vancouver Island and Gulf Islands (1993 - 1997) shows that this information can be used in a variety of land-use planning processes and can contribute to the conservation of many sites. Decision makers, consultants and non-government organizations have found the SEI to be an effective planning and management tool. SEI data provides site-specific ecological information that can be used to flag sites of conservation concern, to prompt detailed field studies prior to development projects, and to provide input to Forest Stewardship Plans.

Methodology

The mapping methods are based on the Vancouver Island SEI project and the Resources Information Standards Committee (RISC) Standard for Terrestrial Ecosystem Mapping (TEM) in BC. Ecosystem categories include six Sensitive Ecosystem (SE) classes, two Important Ecosystem classes, and one Other Ecosystem class. The legend to the right of the map provides definitions. Ecosystem

Sensitive Ecosystems

Sensitive ecosystems are fragile and/or rare, or are ecologically important because of the diversity of species they support.

Old Forest

Conifer-dominated dry to moist forest types, structural stage 7 (see table), generally >250yrs.

Woodland

Dry open forests, generally between 10 and 30% tree cover, can be conifer dominated or mixed conifer and arbutus stands; because of open canopy, will include non-forested openings, often with shallow soils and bedrock outcroppings.

Herbaceous

Non-forested ecosystems (less than 10% tree cover), generally with shallow soils and often with bedrock outcroppings; includes large openings within forested areas, coastal heathlands, shorelines vegetated with grasses and herbs, sometimes low shrubs, and moss and lichen communities on rock outcrops.

Riparian

Areas adjacent to water bodies (rivers, lakes, ocean, wetlands) which are influenced by factors such as erosion, sedimentation, flooding and/or subterranean irrigation due to proximity to the water body. Structural stages 1 - 7.

Wetland

Areas that are saturated or inundated with water for long enough periods of time to develop vegetation and biological activity adapted to wet environments. This may result from flooding, fluctuating water tables, tidal influences or poor drainage conditions.

Cliffs

Very steep slope, often exposed bedrock, may include steep-sided sand bluffs; habitat for rare species.

Other Important Ecosystems

Other important ecosystems have high biodiversity values.

Mature Forests

Usually conifer-dominated, occasionally deciduous, dry to moist forest types, structural stage 6, generally >80yrs; > 25 ha, or buffering sensitive ecosystems.

Seasonally Flooded Agricultural Fields

Annually flooded cultivated fields or hay fields, important migrating and wintering waterfowl habitat.

Other Mapped Ecosystems

Other mapped ecosystems occur in mosaic with sensitive ecosystems and are not possible to delineate separately at the mapping scale.

Young Forests

Limited to areas of young forest dispersed among sensitive and other important ecosystems.

Ecosystem Components

This cartographic product uses Dot Density to indicate where more than one ecosystem class is mapped in a polygon. The number of dots indicates the proportion of the polygon represented by the 2nd and 3rd ecosystem class.

- 10% density of additional ecosystem component
- 20% density of additional system component
- 30% density of additional ecosystem component
- 40% density of additional ecosystem component
- 50% density of additional ecosystem component
- The base colour represents the first ecosystem component.
- Coloured dots overlaid upon the base colour indicate a second ecosystem component.
- Two colours of dots indicate a second and third ecosystem.

Map Symbols

- Proposed Community Forest Landbase
- Parks
- Lakes
- Creeks
- Lot Lines
- Paved Road
- Gravel Road
- Trail

Data Sources

Sensitive Ecosystems - from Sensitive Ecosystems Inventory of the Sunshine Coast and Adjacent Islands, 2005. Environment Canada, British Columbia Ministry of Environment, Habitat Conservation Trust Fund, Regional District of Central-Southwest, Sunshine Coast Regional District, Terrestrial Forest Products, and others. See http://10.100.gov.bc.ca/pub/cei/cei_data/cei_report_03-07.pdf
 Cadastral - from TA_SP_SVVN coverage downloaded from LRNDV Sept 17/08
 Island Timberlands extents - from Cortes Ecosystem Society, 2008
 Lot Numbers - from BC Forest Cover data, 1995
 Parks - from Cortes Ecosystem Society, 2008, revised to fit current cadastral and water feature data.
 Roads and Streams - from BC Forest Cover data, 1995, revised by Cortes Ecosystem Society, 2008
 Coast and Lakes - from Sensitive Ecosystem mapping
 Toponymy - from BC Forest Cover data, 1995, revised by Cortes Ecosystem Society, 2008

This map was produced by Cortes Community Forest Co-op and Woodlot Forestry Services Ltd. to provide the means for further habitat analysis, especially ground-truthing creeks and sensitive ecosystems.
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 Map Released on November 7, 2011