

Sensitive and Terrestrial Ecosystems Labels



Sensitive Ecosystems Inventory of the Sunshine Coast and Adjacent Islands



Sensitive Ecosystems

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

Old Forest (OF):

Conifer-dominated dry to moist forest types, structural stage 7 (see table), generally >50 yrs. Subclasses: of (overstorey dominated) - greater than 75% coniferous species

Woodland (WD):

Dry open forests, generally between 10 and 30% tree cover, can be conifer dominated or mixed conifer and shrubs. Because of open canopy, will include non-terrestrial components, often with shallow soils and bedrock outcroppings. Subclasses: co (conifer overstorey) - greater than 75% coniferous species

Herbaceous (HB):

Non-forested ecosystems less than 10% tree cover, generally with shallow soils and often with bedrock outcroppings. Includes large openings, wetlands, meadows, grasslands, shrublands, sometimes vegetated with grasses and herbs, sometimes low shrubs, and moss and lichen communities on rock outcrops. Subclasses: nb (non-herbaceous) - central concept of the category, non-forested, less than 10% tree cover, generally shallow soils, generally with exposed bedrock, predominantly a mix of grasses and forbs, also lichens and mosses

Riparian (RI):

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 1-6. Subclasses: fl (low bench floodplain) - flooded at least once every other year for moderate periods of growing season, plant species adapted to extended flooding and abrasion, low or soft stream banks

Wetland (WN):

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, standing water, tidal influence or poor drainage conditions. Subclasses: bg (bog) - nutrient poor wetland on organic soils (sphagnum peat), water sources predominantly from precipitation, may be forest or shrub dominated

Cliffs (CL):

Very steep slopes, often exposed bedrock, may include steep sided sand dunes, habitat for rare species. Subclasses: ec (coastal cliffs), ic (inland cliffs)

Other Important Ecosystems

Other important ecosystems have high biodiversity values.

Mature Forests (MF):

Usually conifer-dominated, occasionally deciduous, dry to moist forest types, structural stage 6, generally >50 yrs. - >25% of total vegetation cover. Subclasses: co (conifer dominated) - greater than 75% coniferous species

Seasonally Flooded Agricultural Fields (FS):

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

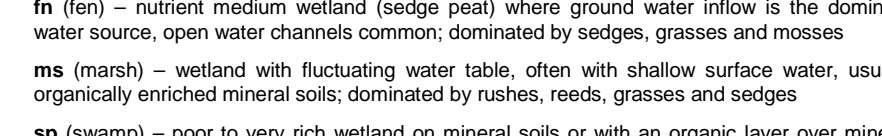
Other Mapped Ecosystems

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

Young Forests (YF):

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

Polygon Label



Some polygon labels will have class and subclass repeated up to three times. This does not an error; it reflects the variability in site units and structural stages occurring within a polygon. More than one site unit can be correlated to a SE class and subclass. Polygon labels on the map do not include the site units. The Sensitive and Terrestrial Ecosystems Labels on the left side of the map provide details about site units mapped in each polygon.

Ecosystem Components

The cartographic product uses 2nd Denitry 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; the colour of the dots indicates the 2nd and 3rd ecosystem class.



Biogeoclimatic Units

- CDiffm Coastal Douglas-fir Moist Maritime Subzone
CWHm1 Coastal Western Hemlock Maritime Subzone
CWHm2 Coastal Western Hemlock Dry Maritime Subzone
CWHm3 Coastal Western Hemlock Submontane Very Wet Maritime Variant

Ecosystems

- GEL Georgia Lowlands Ecosystem
SOG Strait of Georgia Ecosystem
QUF Fjordland Ecosystem
SPR Southern Pacific Ranges Ecosystem

Map Symbols

- Polygon Boundary
Biogeoclimatic Boundary
Ecosystem Boundary
Riparian Area Boundary
Road
20m contour
TRIM Streams
Additional Streams
Intermittent/Seasonal Stream
Drainage Route

Table with 4 columns: Polygon Number, Class, Subclass, and Site Unit. Lists various polygons and their corresponding ecosystem classifications.

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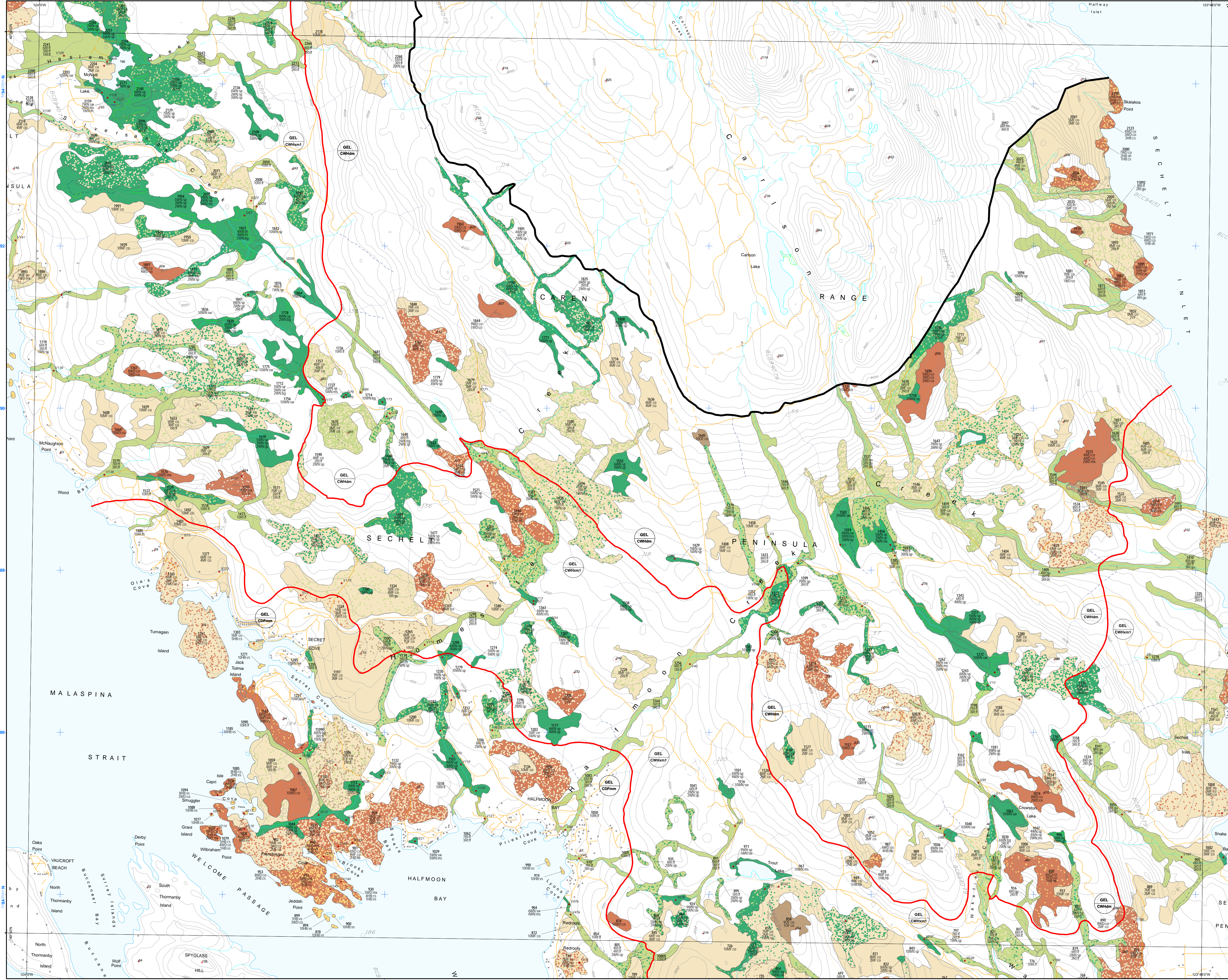


Table titled 'Sensitive and Terrestrial Ecosystems Label' showing the structure of labels. It includes columns for Polygon Number, Class, Subclass, and Site Unit, and explains how they are combined into a single label.

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 typically 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 meadows contribute to high biodiversity values. Here one finds coastal temperate rainforests, dry shorelines, herbaceous meadows and rocky coastal bluffs, wetlands and riparian ecosystems.

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 classes, subclasses, the corresponding Terrestrial Ecosystem site units and structural stages, and stream and drainage corridors not included in TRIM are mapped. Field survey protocols followed Discerning Terrestrial Ecosystems in the Field (RISC 1998) with the addition of a conservation evaluation form to document ecosystem condition and viability. Approximately 20% of the polygons were field checked.

Data Limitations The SEI is a tool to aid decision makers to the existence of sensitive ecosystems, however when land-use changes are proposed detailed site-level assessments are necessary. For sites not field checked, the accuracy of the data depends heavily on the professional judgement of the mapper and the availability of source data. Because the area is changing rapidly, reference to the date of the information source is advised. Aerial photographs used were flown between 1994 and 1999, most are at 1:10,000 scale, some at 1:15,000 scale. Due to the mapping scale, minimum polygon size is usually 1/2 hectare. Minimum riparian polygon width is 20 metres regardless of the stream channel width. Enlargement of the data beyond the source scale may result in unacceptable distortion and faulty registration with other data sets.

What can be done to protect sensitive ecosystems? Direct and indirect impacts to these ecosystems can be avoided by: - Restoring or creating vegetated buffers around sensitive ecosystems to isolate them from outside disturbance; - Controlling land and water access to fragile ecosystems; - Controlling invasive species; - Allowing natural disturbances to occur; - Maintaining water quality. If development must occur, develop carefully! Conduct an ecological inventory to identify the existing flora and fauna and to locate any threatened or endangered plant and animal species, plant communities, and habitat features needing protection.

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