Terrestrial Ecosystem Mapping of the Coastal Douglas-fir Zone 1:50,000

The Integrated Land Management Bureau (ILMB) retained Madrone Environmental Services Ltd. (Madrone) of Duncan, B.C. to conduct Terrestrial Ecosystem Mapping (TEM) for the Coastal Douglas-Fir moist maritime (CDFmm) biogeoclimatic subzone. TEM consists of the stratification of landscape features into biophysical and ecological map units reflecting climate, physiography, surficial material, bedrock geology, soil, vegetation, and disturbance.

The objective of this project is to provide baseline data that can be used to support planners, scientists, and other decision makers within local, regional and provincial governments to coordinate conservation efforts, prepare sustainable growth strategies, and promote science-based, ecologically sensitive decision making around land use within the CDFmm.

The CDFmm covers approximately 252,000 hectares stretching along the east coast of Vancouver Island, the Sunshine Coast, the Gulf Islands and the Lower Mainland. The study area for this project did not include the Lower Mainland. A total of 200,000 hectares was mapped including the communities of: Powell River, Sechelt, Bowser, Qualicum, Parksville, Nanaimo, Ladysmith, Chemainus, Crofton, Cowichan, Greater Victoria and the Saanich Peninsula; the Gulf Islands: Thormanby, Savary, Hernando, Harwood, Texada, Lasqueti, Hornby, Denman, Gabriola, Valdes, Thetis, Kuper, Galiano and Saltspring.

The thematic map displayed at left is the result of a number queries performed on the final TEM database to classify the mapped ecosystems into eight broad categories: old forest, mature forest, young forest, immature forest, garry oak, non-forested, wetland and anthropogenic. These categories illustrate an overview perspective of the natural and non-natural ecosystems occurring within the CDFmm zone.

MAP AND ECOSYSTEM LEGEND

OLD FOREST

Old forest ecosystems are structurally complex stands comprised mainly of shade-tolerant and regenerating tree species. Snags and coarse woody debris, in all stages of decomposition, and patchy understories are common. These forests are categorized as structural stage 7 and are generally greater than 250 years in age.

MATURE FOREST

Mature forests are made up of trees that have matured since the last disturbance and are typically 80 to 250 years of age. These forests are structural stage 6 and are characterized by well developed understories and a canopy differentiated into distinct layers. A second cycle of shade tolerant trees may become established in mature forests.

YOUNG FOREST

Young forest ecosystems can begin as early as 30 years of age but typically range from 40-80 years old. These forests are structural stage 5 with self thinning evident and a forest canopy which has differentiation into distinct layers. Young forests have vigorous growth and are more open than immature forests.

IMMATURE FOREST

Immature forests are structural stage 4 and consist of trees taller than 10 m. These forests are typically dense and less than 40 years of age. Self thinning and vertical canopy structure is not evident in these forests. This category also includes recently harvested areas and other disturbed forested ecosystems.

GARRY OAK

Garry oak ecosystems include mosaics of woodlands, meadows, grasslands, scattered Douglas-fir stands, and open rocky areas. In British Columbia these ecosystems are red-listed and support high numbers of rare and endangered species of flora and fauna.

NON-FORESTED

Non-forested ecosystems are made up of herbaceous, shrubby, bryoid and sparsely vegetated units with less than 10% tree cover.They range from structural stage 1 to 3 and are generally maintained by environmental conditions or disturbance. Some of the typical non-forested units are cliffs, beaches, gravel bars, and rock outcrops.

WETLAND

Wetlands are characterized with a water table at, near, or above the surface, daily, seasonally or year-round. Soils in wetlands are water-saturated for enough periods that excess water and low soil oxygen concentrations create conditions necessary for water-tolerant plants to dominate. This unit includes fens, swamps,marshes, bogs, shallow open water and estuaries.

NON-NATURAL

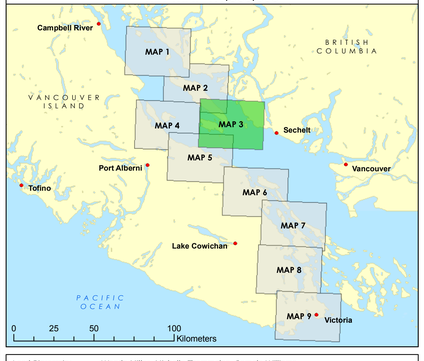
Areas that have been cleared or altered permanently for human settlement or industry. These are anthropogenic units such as cultivated fields, gravel pits, mines, golf courses, orchards, vineyards, road and railway surfaces as well as rural and urban areas.

BASE MAP FEATURES

- Protected Areas (Provincial & Municipal Parks)
- Crown Land (Municipal, Federal & Provincial)
- Major Roads
- CDFmm Boundary

0 750 1,500 3,000 4,500 6,000 7,500 Meters

KEY MAP 1:1,500,000



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MADRONE environmental services ltd.

TERRESTRIAL ECOSYSTEM MAP

SOUTH TEXADA ISLAND, LASQUETI ISLAND & SECHELT
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