

Saanich has an Environmental Reference Atlas (ERA) and GIS mapping system (SaanichMap) that is used by staff and the public to identify environmental features and ecosystems in our community. This overview provides information about each inventory in the ERA to help users interpret and understand the mapping. The information sources include:

- Provincial and Federal data
- Municipal data
- Other data contributions

## Provincial and Federal Data

### Sensitive Ecosystem Inventory (SEI)

The SEI was collected by the Ministry of Environment and Environment Canada to map and classify rare and fragile ecosystems. This was created to help with land use planning and stewardship efforts.

The inventory includes seven types of Sensitive Ecosystems considered fragile or rare:

- Coastal Bluff (CB)
- Older Forest (OF)
- Wetland (WN)
- Woodland (WD)
- Riparian (RI)
- Terrestrial Herbaceous (HT)
- Sparsely Vegetated (SV)

Two additional ecosystem types are included in the inventory because of their contribution to biodiversity:

- Older Second Growth Forest (SG)
- Seasonally Flooded Agricultural Field (SF)

The SEI provides mapping polygons of these ecosystems. Not all SEI polygons have been verified and the inventory is known to be incomplete. The District of Saanich has modified the 2002 version of SEI mapping to remove some areas lost to development and to refine some boundaries.



Saanich SEI Mapping:

First Published: 1998.

Last Revision: 2002.

Includes municipal refinements to 2020.

Note: disjointed SEI areas. Due to a Council process, there are properties that do not display SEI areas, resulting in disjointed mapping. These include Tree Top Heights (HT), Tudor-Seaview Roads (HT), 4007 & 4011 Rainbow Road (WD), 4351 Gordon Head Road (CB), Braefoot-Malton Roads (WD), and Cedarglen-Glendenning Roads (WD).

## Rare Plant, Animal, or Plant Association

The Conservation Data Centre (CDC) tracks the locations of all known rare and endangered species and ecosystems. This is also referred to as the red and blue lists. The best way to obtain data on these locations is to use the CDC website mapping tool or contact the CDC directly. Some CDC rare plant and animal locations were purposefully excluded from the ER Atlas for a variety of reasons, including: species known to be extirpated, species not been seen for decades and their exact location is not known, or in cases where the spatial margin of error is too great. The District of Saanich rarely modifies the boundaries of CDC polygons.

Saanich CDC Mapping:

First Published: 1992. Last Revision: 2018.

## Migratory Bird Sanctuary and Ecological Reserve

This data is provided by the Capital Regional District. The Victoria Harbour Migratory Bird Sanctuary extends into Saanich waters from Portage Inlet, along the Gorge to Cadboro Bay. The Ten Mile Point Ecological Reserve is located in Cadboro Bay.

## Coastal Douglas-fir (CDF) Terrestrial Ecosystem Mapping (TEM) **NEW!**

Unlike SEI, CDF TEM aims to categorize the entire landscape based on the ability of a site to support a specific climax plant community. Ecosystems in the Coastal Douglas-fir moist maritime (CDFmm) biogeoclimatic subzone are considered rare. This product was described by Madrone Environmental Services Ltd. for the Provincial government and achieved 9% of polygon verification in the field. Aerial photos of up to 15 years old were used for interpretation. Saanich filtered the data to display only polygons with:

- Older Forest: structural stages 6 and 7
- Woodlands: Garry Oak and associated ecosystems, and Trembling Aspen or Arbutus dominated woodlands
- Wetlands
- Younger Forests: structural stages 1 to 100 ha or more and selected areas (typically riparian areas).
- Shrub dominated areas: 100 ha or more and selected areas (typically riparian areas).

Saanich CDF TEM Mapping

First Published: 2008

As displayed by Saanich: 2020

## Aquifers (individual map)

Aquifer data was obtained from the Ministry of Environment. The aquifer boundaries are general “administrative” boundaries created from limited data sources. Site specific information should be independently verified. They may be inaccurate and may not line up with geological mapping or existing landforms. Because of the scale of the aquifers, they are shown on an individual map at the beginning of the atlas.

Aquifers in Saanich Mapping

Last revision: 2007.

MUNICIPAL DATA

## Saanich Marine Inventory

This was a joint inventory and mapping project with the Veins of Life Watershed during 1990-2000. Resource Inventory Committee (RIC) standards were used wherever possible. More detailed data can be obtained from Saanich Environmental Services.

### Feature Key and Areas

These are ecological features such as kelp beds, eel grass beds, pocket beaches, and isolated stands of mature trees. Exact data can be obtained from Saanich Environmental Services.

### Biodiversity Areas

These are ecological features located just offshore and recorded wherever there was a marked increase in the abundance and variety of species found in a concentrated area.

### Backshore Units

Backshore units classify the backshore area based on their land use and bio-physical characteristics using enhanced SHIM standards. The depth of the backshore unit was assessed visually and verified by aerial photo interpretation.

## Natural State Covenants

These are properties, or portions of properties, that have entered a legal agreement that is permanently registered against the property. Covenants have been used in Saanich since at least 1995 to protect vegetation and natural features that may be otherwise negatively impacted by development.

Marine Backshore Units	
Code	Description
NNB	natural rock faces, boulders and bluffs
NEC	erosion control measures (rip rap, erosion cloth and blocks, gabion baskets, retaining walls)
NUG	garden/domestic land and other small-scale agricultural crops (<5 ha)
NUL	landscaping and/or cultivated lawn (may be non-native spp) (residential areas, golf courses, parks)
NHR	high stability man-made surfaces (roads, sidewalks, parking lots, other concrete surfaces)
NLR	low stability man-made surfaces (dirt and gravel roads; hiking, biking, horse-back riding trails)
NUD	undeveloped (may include native and non-native vegetation)
VBF/ VBFv	>80% broadleaf forest (v=veteran trees present)
VMF/ VMFv	mixed forest (v=veteran trees present)

Codes are based on the SHIM (Sensitive Habitat Inventory and Mapping) methods.

Saanich Mapping

Last Revision: 2020

## Saanich Ecosystem Mapping **NEW!**

The Saanich Ecosystem Mapping layer consists of data collected through the Saanich Environmentally Significant Areas (ESA) Mapping Initiative as well as data submitted to Saanich by professional biologists. The ESA Mapping Initiative was started in 2011 to improve existing inventories that appear in the Saanich Environmental Reference Atlas by looking for areas that may have been missed by other inventories.

Ecosystem mapping locations were: nominated by members of the public, determined from aerial photo interpretation (with field verification where landowner permission was granted), or from an analysis of the CDF TEM product. A technical advisory group was created to set the priorities for site selection and criteria to evaluate the ecological integrity of the sites. A biological consultant (Moraia Grau and Associates) was hired to apply the priorities and criteria to the sites. Individual polygons are added over time as professional biologists submit data to Saanich.

Saanich Mapping

First Published: 2017

Last Revision: 2020

## Significant Trees

Significant Trees are trees which are protected under Schedule "B" of the Tree Preservation Bylaw, 1997, Amendment Bylaw, 2009, No. 8977. The trees have importance to the community for heritage, landmark value, or as wildlife habitat.

## Saanich Wetlands

These wetlands were recorded in Saanich where Provincial Significant Ecosystem Inventories were found to be incomplete, requiring supplementation.

## Watercourse and Waterbody

Watercourses are defined under the Watercourse Bylaw as meaning a river, stream, creek, waterway, lagoon, lake, spring, swamp, marsh or other natural body of fresh water; or a canal, ditch, reservoir or other man-made surface feature in which water flows constantly, intermittently or at any time.

## Culvert Sections

Watercourses in culverts and pipes come from Saanich Engineering's planimetric data.

## Watersheds (individual map)

Watersheds are approximate representations of the flow of water in an area. In most cases, water flows downhill into the nearest creek or river. Watershed information was compiled using Saanich contour maps. Because of the scale of the aquifers, they are shown on an individual map at the beginning of the atlas.

## Aerial Photo

The aerial photo that appears in the background of the Atlas represents ortho-photography captured in July 2019. Digital aerial photographs were merged into a seamless mosaic encompassing the District. Displacements due to camera tilt and relief were corrected to produce uniform scale and an accurate view of the landscape.

OTHER CONTRIBUTORS:

## Wildlife Tree Area (WiTS)

Wildlife tree data was supplied by the Wildlife Tree Stewardship initiative of the Federation of BC Naturalists. The information is current as of 2020. This layer is by no means exhaustive as new nests are found regularly. For the most up-to-date wildlife tree mapping information visit <http://www.wildlifetree.org>.

## Where can I get more information?

Visit our website at:

<https://www.saanich.ca/EN/main/community/natural-environment/environmental-planning/environmental-reference-atlas.html>

or contact:

Saanich Environmental Services at [Planning@saanich.ca](mailto:Planning@saanich.ca) or (250) 475-5471.