Recommended Mapping Tools

Nancy Shackelford – University of Victoria

We have produced a map that shows the location of oak meadow restoration projects and the works undertaken by each project. It was last updated in early 2022 and it spans all of western BC.
https://www.restorationscience.net/map-of-restoration-projects.html
We have also developed an estimate of the current extent of Garry oak meadows on southern Vancouver Island (https://www.restorationscience.net/major-projects.html). It's likely the most fine scale map that currently exists, though it comes with lots of caveats.
We use iMapBC for course soil estimates, SEI distribution etc.
We use iNaturalist to determine where species such as camas occur regionally.

Jackie Churchill – Land Water and Resource Stewardship

Soil Information Finder Tool (SIFT) https://www2.gov.bc.ca/gov/content/environment/air-land-water/land/soil/soil-information-finder
SIFT is an online mapping application that allows the user to explore soil data for BC. Note, that these data contain simplified attribute names, and have been edited to display a seamless product (no overlaps). Download the modified data used in the SIFT application here: **Soil Survey Spatial View**
https://catalogue.data.gov.bc.ca/dataset/soil-survey-spatial-view
Williston Wetland Explorer Tool (WWET) https://catalogue.data.gov.bc.ca/dataset/williston-wetland-explorer-tool-wwet-application
The Williston Wetland Explorer Tool (WWET) is an interactive story map and mapping application series that facilitates the dissemination of data and information resulting from the Fish and Wildlife Compensation Program (FWCP)-Peace supported project (BAPID 6492 and 6538). This multi-year project (model run 1 in 2018 – BAPID 6492 and run 2 in 2019/2020 – BAPID 6538) was designed to predict wetland and riparian habitat in the Williston Drainage Basin. The WWET application provides project background information and allows users to explore field observations (2017, 2018, and 2019), field photographs (2018 and 2019), and wetland and riparian model predictions in 3 and 10 class categories. Other ancillary data sets are included to provide additional regional context for exploring the area.

Michael Stefanyk - Land, Water and Resource Stewardship

Sensitive Ecosystem Inventory Mapping

- Widely adopted by local governments
- Less attributes them TEM making it more user friendly
- Focused on sensitive ecosystems
- Can be modeled from other ecosystems maps (e.g. TEM, PEM)
- Scale is 1:20,000 with coverage over most of SE Van. Island, Sunshine Coast, parts of the Okanagan

Terrestrial Ecosystem Mapping

- Maps all ecosystems whether sensitive or not
- Multiple attributes including up to three ecosystem types per polygon, structural stage, stand composition, soil classification, terrain classification, drainage, slope stability, etc.
- Scale generally ranges from 1:5000 to 1:50,000
- Select coverage through the Province and extensive coverage throughout VI made up of different scales and ages
- Can be applied for a greater number of applications e.g. wildlife habitat mapping

CDC mapping

- Province wide
- Updated yearly
- Many of the ecological communities at risk occurrences on Vancouver island are based on TEM and SEI mapping described above
- May provide more current information then above

GOERT mapping

- Not publicly available

- Some out of date with recent disturbance
- Not complete coverage

For wetlands I query two external wetland mapping sites:

- BC Wetlands Atlas – citizen-science wetlands mapping led by the BC Wildlife Federation.
- Canadian Wetland Inventory – wetlands mapping in the southeast portion of Vancouver Island completed by Ducks Unlimited Canada.

Josephine Clark and Laurie Bates-Fymel – Metro Vancouver

Metro Vancouver Open Data - Open Data Catalogue (metrovancouver.org)
Possible layers of interest include:

- Regional Land use classification (2016)
- Regional Land Cover classification (2014)
- Regional Carbon Storage (biomass and soil)
- Regional Canopy Cover and Imperviousness (2014)
- Regional Sensitive Ecosystem Inventory (2014)
- Terrestrial Ecosystem Mapping (Regional Parks and Drinking Water Supply Lands)

Metro Vancouver's SEI Mapping Tool, which is an online tool available for users who may not have access to GIS. The SEI is in the process of being updated and the tool will be refreshed next year with 2020 data.
A couple mapping tools that we could learn from:

- INTERACTIVE MAP | Átl'ka7tsem/Howe Sound Marine Stewardship Initiative (howesoundguide.ca) (takes a few moments to load)
- GreenPrint (md.gov) State of Maryland GreenPrint Map - check out all the layers and the Parcel Evaluation tool. To use the Parcel Evaluation Tool, first turn on the layer – Parcel Boundary and SDAT data, then click on this symbol  in the top right hand corner, then select a location on the map. The website will then provide information such as habitat connectivity, rare species, importance for water quality etc, for each parcel.

Ben Scheufler – UBC Botanical Gardens

Sentinel Hub EO Browser – useful for satellite imagery and viewing different bands in-browser (e.g. false colour & NDVI).

- Link to the tool: https://apps.sentinel-hub.com/eo-browser/
- Useful features:
  - Browse satellite data from a list of different satellites (mainly Landsat & Sentinel series)
  - Filter images by location, time of day, cloud cover, etc.
  - Generate timelapse videos/gifs directly in browser
  - View different band combinations directly in-browser
  - Download full resolution imagery with a free account
- Scale/resolution: global coverage, resolution varies depending on the satellite (up to 10m for Sentinel & 15m for Landsat 7+)
- Age of the tool: unknown, new data is updated daily

Pamela Zevit – City of Surrey

City of Surrey Mapping Online System:
Surrey has an online mapping system called Cosmos. This system draws in many third-party layers (e.g., SAR CH maps) which they aim to continue to build on e.g. Metro Vancouvers SEI and connectivity layers. Surrey also has a beta biodiversity atlas that pull data from eBird and iNaturalist in real-time.
Link: https://cosmos.surrey.ca/external/

Andrew Simon - IMERSS

IMERSS has developed a model framework integrating species occurrence data, terrestrial ecosystem mapping, and ecocultural information
Link to their GitHub web portal: https://imerss.github.io/imerss-bioinfo/
The project started in 2017 and development is on going.

Leanna Warman – The Nature Trust for BC

BC NGO Conservation Areas - Fee Simple

Link: https://catalogue.data.gov.bc.ca/dataset/ngo-conservation-areas-fee-simple

Description: The NGO Conservation Areas - Fee Simple dataset contains spatial and attribute information for non-governmental organization (NGO) conservation areas in BC. Fee simple NGO conservation areas are private conservation lands owned by non-government organizations and managed for wildlife habitat conservation values.

Scale/Resolution: Provincial

Age: Current to 31 Dec 2021

Wetlands and Riparian Areas

Link: *data will remain available via ftp for two weeks post-workshop*

ftp://ftp.naturetrust.bc.ca/CDFCP_UBC_Mapping_Workshop/Wetland_and_Riparian_Areas

Description: Representation of riparian and wetland areas within British Columbia

Scale/Resolution: Provincial; 20m resolution

Age: 2021

Terrestrial Ecosystem Conversion

Link: *data will remain available via ftp for two weeks post-workshop*

ftp://ftp.naturetrust.bc.ca/CDFCP_UBC_Mapping_Workshop/EcosystemConversion_LinearDevelopment

Description: Percent ecosystem loss (i.e., conversion) per hectare grid area within British Columbia. The analysis focused on non-linear conversion types, including urban and agricultural land use, reservoirs, mines, windfarms, oil and gas wells and airports.

Scale/Resolution: Provincial; 100m

Age: 2022

Density of Roads and Other Linear Development Features

Link: *data will remain available via ftp for two weeks post-workshop*

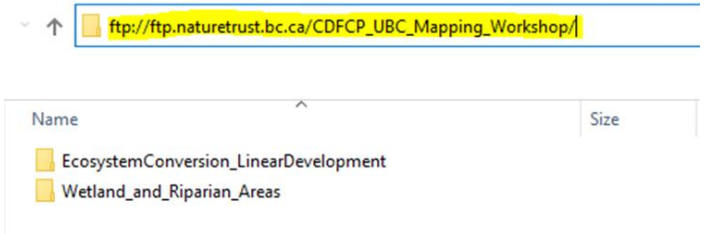
ftp://ftp.naturetrust.bc.ca/CDFCP_UBC_Mapping_Workshop/EcosystemConversion_LinearDevelopment

Description: Density of linear development (km/km^2) per hectare grid area within British Columbia. The analysis was based on linear development features including roads, transmission lines, pipelines, railways, and seismic lines.

Scale/Resolution: Provincial; 100m

Age: 2022

**Please access the ftp links via Windows File Explorer in order to download the data:*



If you have difficulties in accessing the data via the provided links, contact Danielle Morrison at dmorrison@naturetrust.bc.ca for support.