

December 8, 2020

Saanich Environmental Mapping

Adriane Pollard
Manager of Environmental Services



Where the maps are...



Bylaw Schedules

- part of a bylaw
- shows where bylaws apply
- a legal tool**

Examples:

- Streamside Development Permit Area Atlas
- Watercourse Bylaw
- Floodplains

GIS Layers

- displays many environmental inventories
- overlay non-environmental layers
- dynamic
- not a legal tool**

Example:

- Sensitive Ecosystem Inventory

Environmental Reference Atlas

(was the ESA Atlas)

- displays all public environmental inventories
- orthophoto & cadastral background
- not a legal tool**
- static--updated when significant volume of new information

Purpose of GIS and Atlas

- display environmental inventories from multiple agencies in a way that is easily accessible to everyone
- overlay inventories with additional information such as an aerial photo and street names to aid interpretation at a local level
- increase awareness of the types of ecosystems and species that occur locally
- flag areas with potential ecological value that should be looked at more closely when detailed information is needed
- inform stewardship planning and activities

ERA Atlas—Why have one?

- ✓ Accessible
- ✓ Low Tech
- ✓ Easy to interpret
- ✓ Portable
- ✓ Comes with additional maps
- ✓ Interpretative introduction
- ✓ Uses Saanich Map Grid System

Official Community Plan (2008): Continue to use and update the “Saanich Environmentally Significant Areas Atlas” and other relevant documents to inform land use decisions. (Policy 4-7.1)

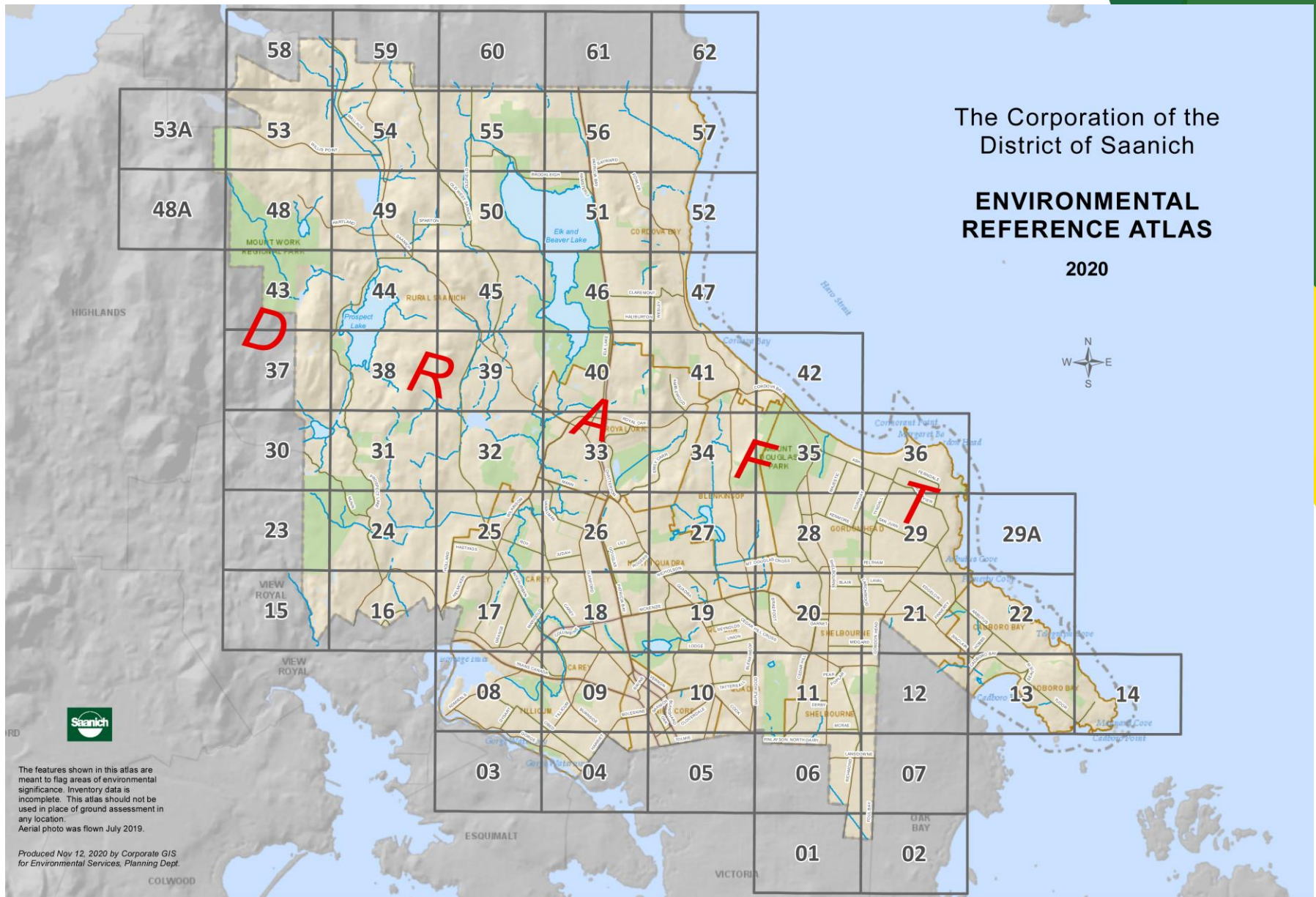
1999



2020



Saanich Map Grid System



Factors affecting accuracy:

- **Purpose**, objectives, and criteria of the inventory
- Adequate resources such as staff, budget, and technology
- Jurisdiction, origins, or ownership of the data
- Methods and standards of the inventory
- Skills of the people who collected the information, mapped the information, stored the information, digitized the information, etc.
- Changes in the landscape since the data was collected
- Access to the land/land ownership for verification
- Scale of original inventory vs scale of display
- Differences of opinion
- Misinterpretation of data or its **purpose**

Verification of Inventories

Inventory	Standard for Verification	% of verified polygons in Saanich	Notes
CDF	5% Detailed 20% Ground Inspection 75% Visual Check	>8%	Additional polygons were inspected and removed.
CDC	100% Ground Inspection	100%	Some verification may be very old
SEM	Verify where access	>45%	
SEI	10% to 45% depending on the ecosystem type	>43%	This number will increase once final data available.

DRAFT




Verification + Accuracy

Verification is achieved through ground or visual verification when the polygon can be accessed by a professional biologist.

Accuracy is best achieved when a surveyor plots the boundaries.

These activities are normally done when a higher level of information is needed.

CDF, SEI, SEM

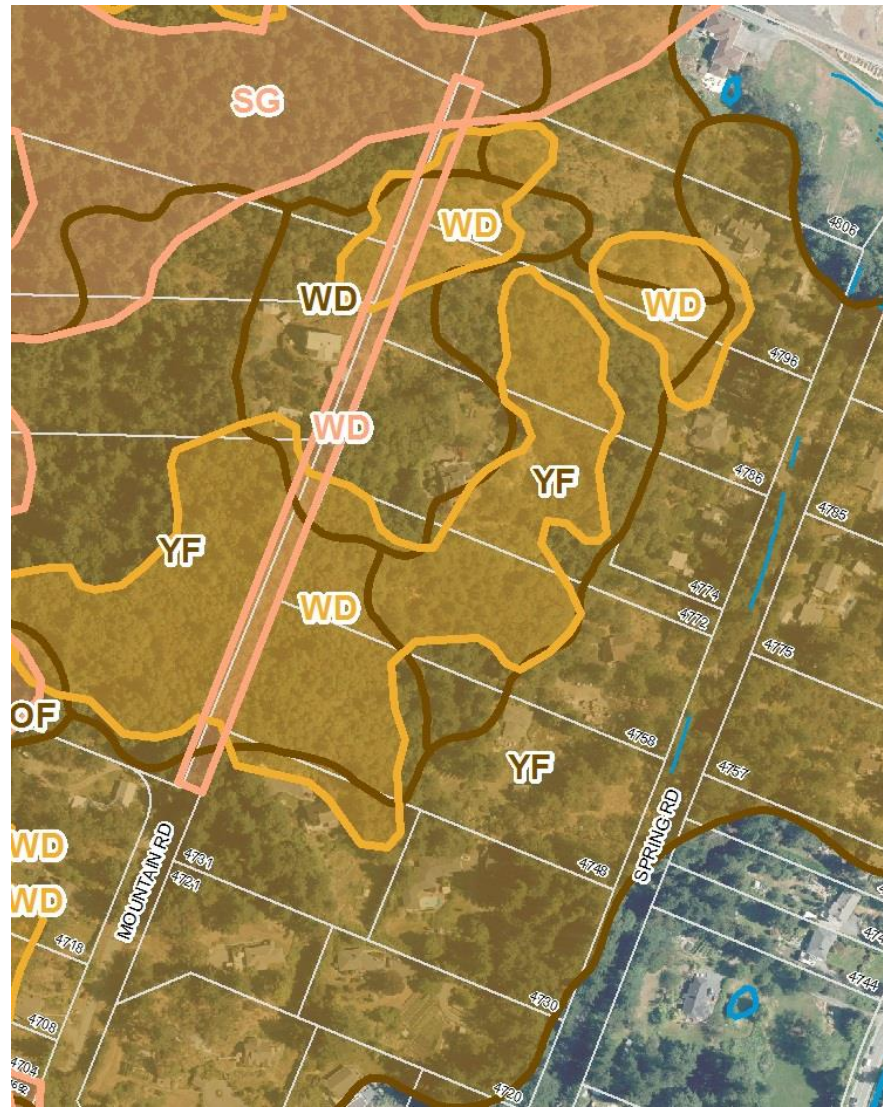
	Federal / Provincial Sensitive Ecosystem Inventory
	Saanich Ecosystem Mapping
	Coastal Douglas-fir Terrestrial Ecosystem Mapping

CB	Coastal Bluff
FS	Seasonally Flooded Agricultural Field
HT	Terrestrial Herbaceous
OF	Older Forest
RI	Riparian
SG	Older Second Growth Forest
SH	Shrub
SV	Sparsely Vegetated
WD	Woodland
WN	Native Wetland Vegetation
YF	Younger Forest

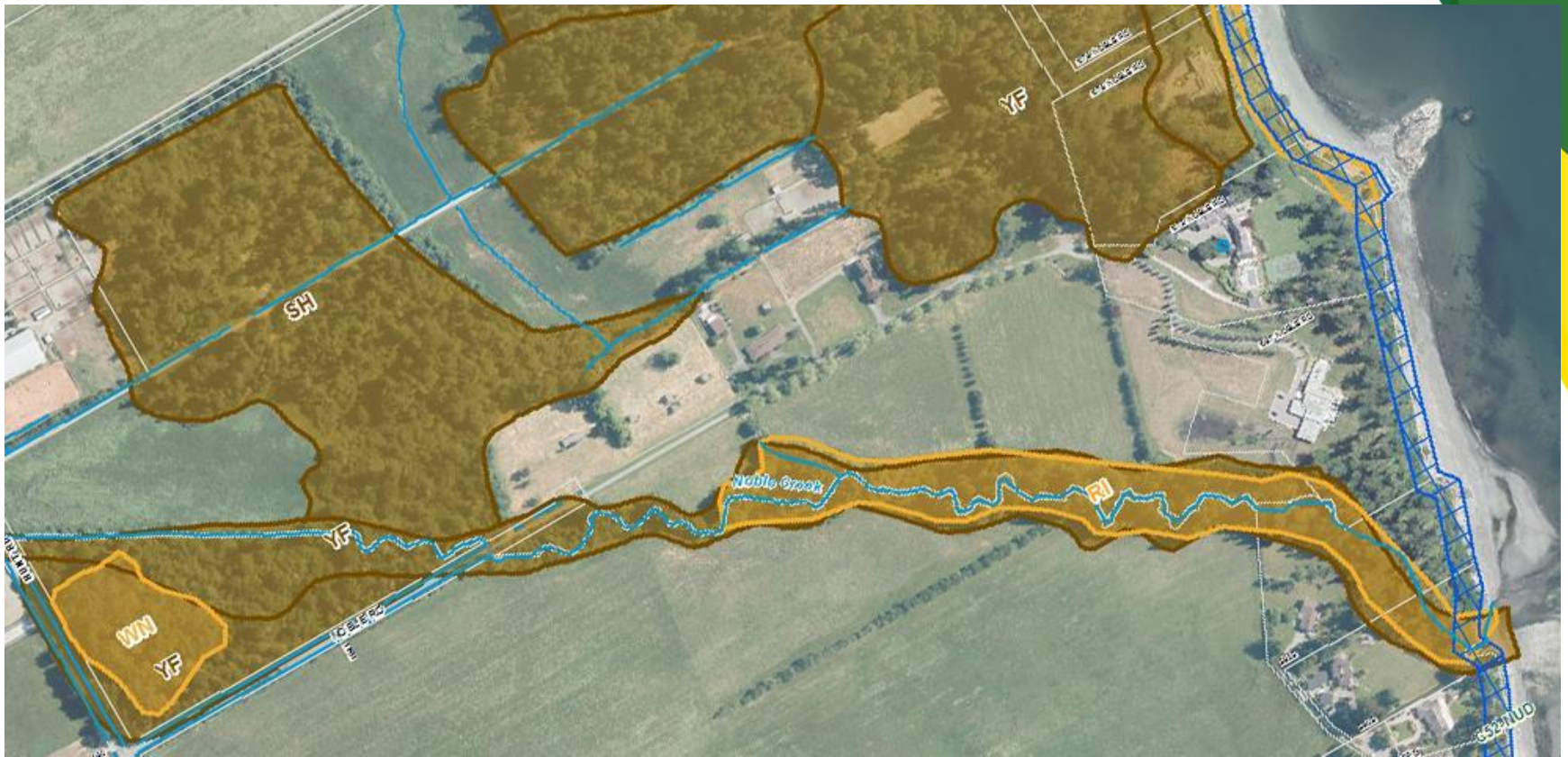
Comparison of ecosystem mapping/inventories

Inventory	Origin	Purpose	Standard
CDC	Provincial	Map locations of ecosystems that are at risk of being lost to assist in the conservation of biodiversity in BC.	Standard for Terrestrial Ecosystem Mapping in British Columbia & Condition Evaluation Form
CDF	Provincial	Map according to climate, physiography, surficial material, bedrock geology, soil, and vegetation to support interpretations for various land management activities.	Standard for Terrestrial Ecosystem Mapping in British Columbia
SEI	Provincial/ Federal	Map ecological communities sensitive to disturbance and listed as special concern, threatened, or endangered by the British Columbia Conservation Data Centre (CDC) together with the abiotic and ecological processes at a particular site.	Standard for Mapping Ecosystems at Risk in British Columbia
SEM	Municipal (Saanich)	Map smaller sites and add to existing inventories.	Modified SEI

CDF, SEI, SEM--Overlapping

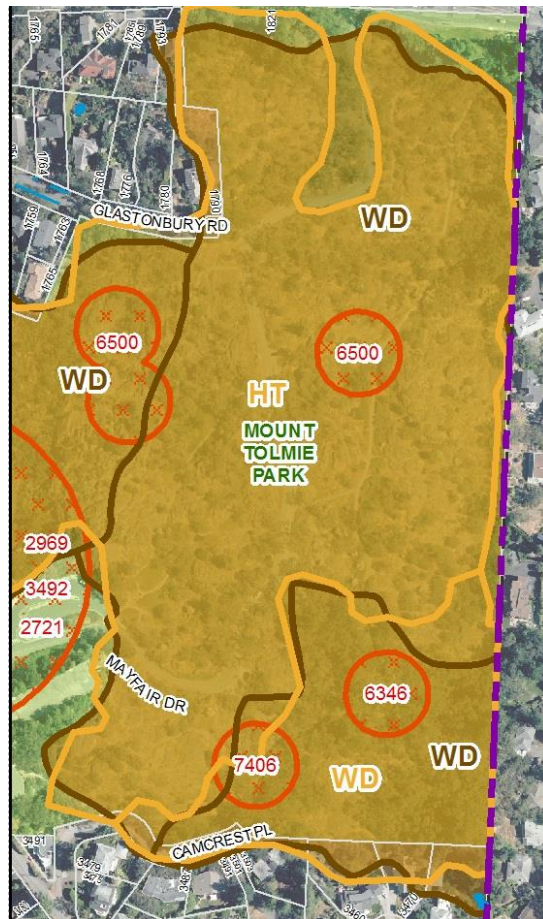


CDF—shrub and young forest





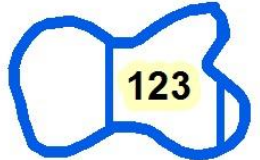
Rare Plant, Animal, or Plant Association (CDC)



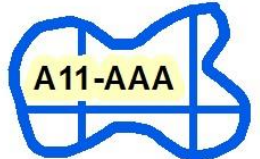
Saanich Marine Inventory:



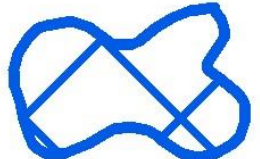
Marine Feature Key



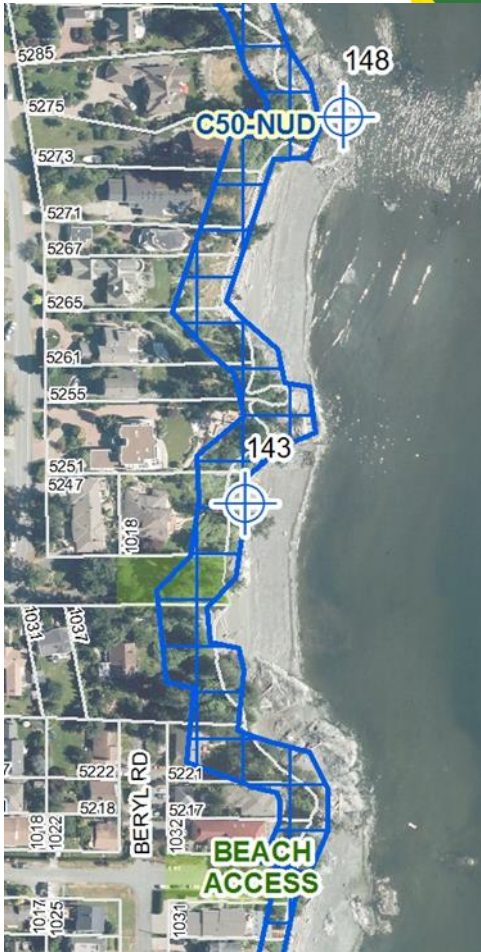
Marine Feature Area



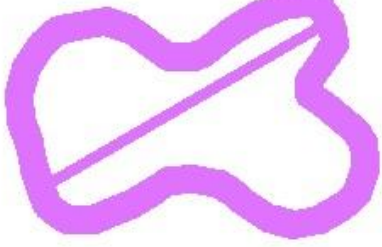
Marine Backshore Unit



Marine Biodiversity Area



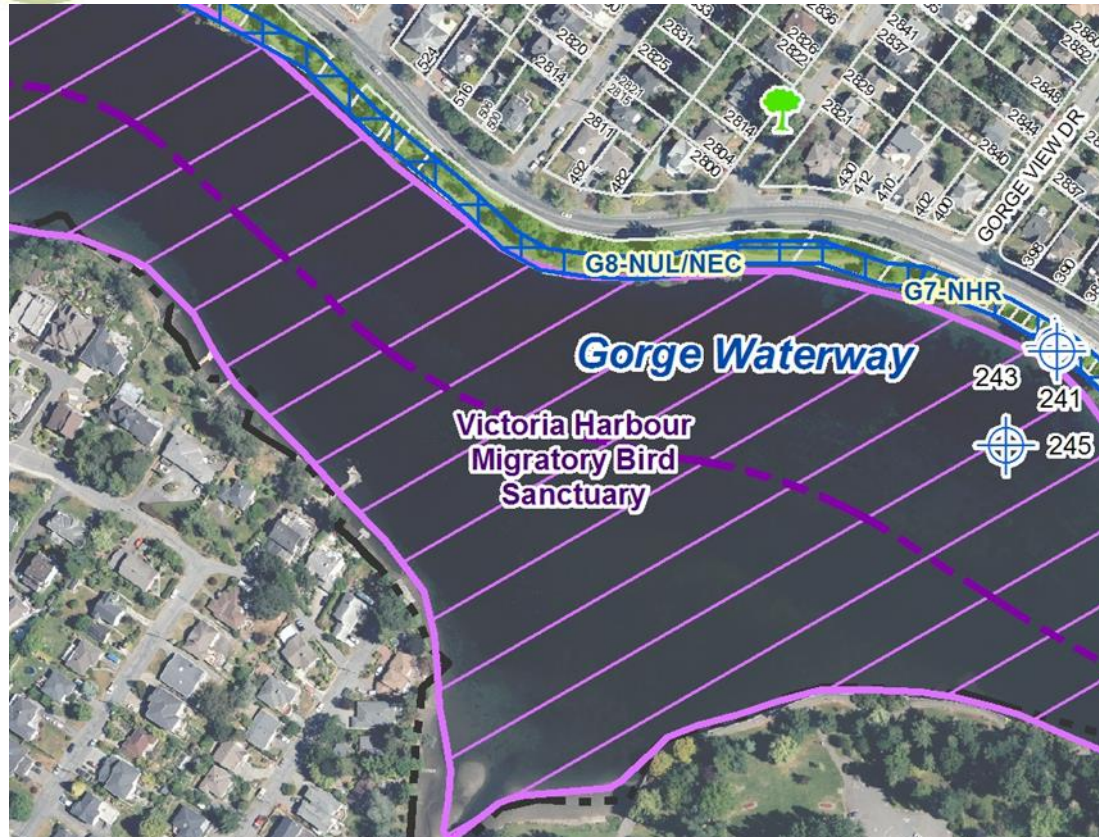


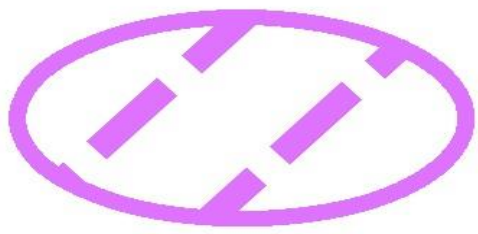


Migratory Bird Sanctuary



10 Mile Point Ecological Reserve

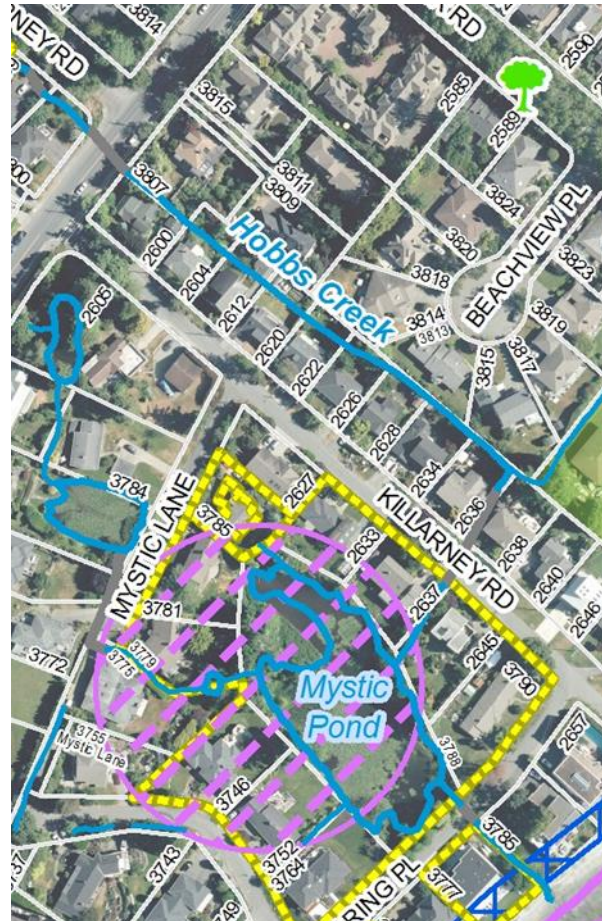


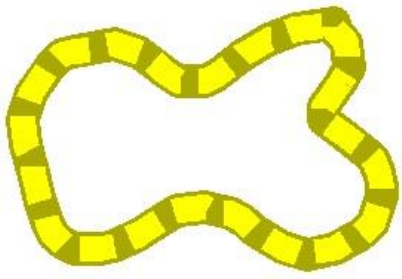


Wildlife Tree Area (WiTS)

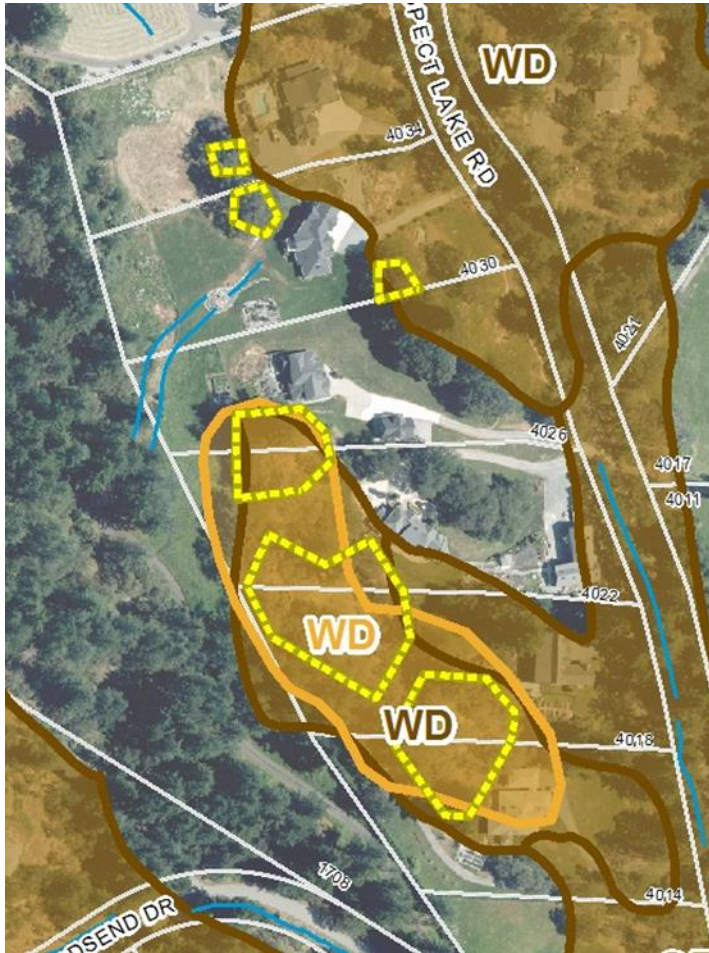


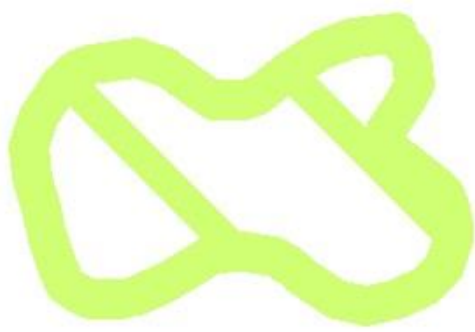
Significant Tree



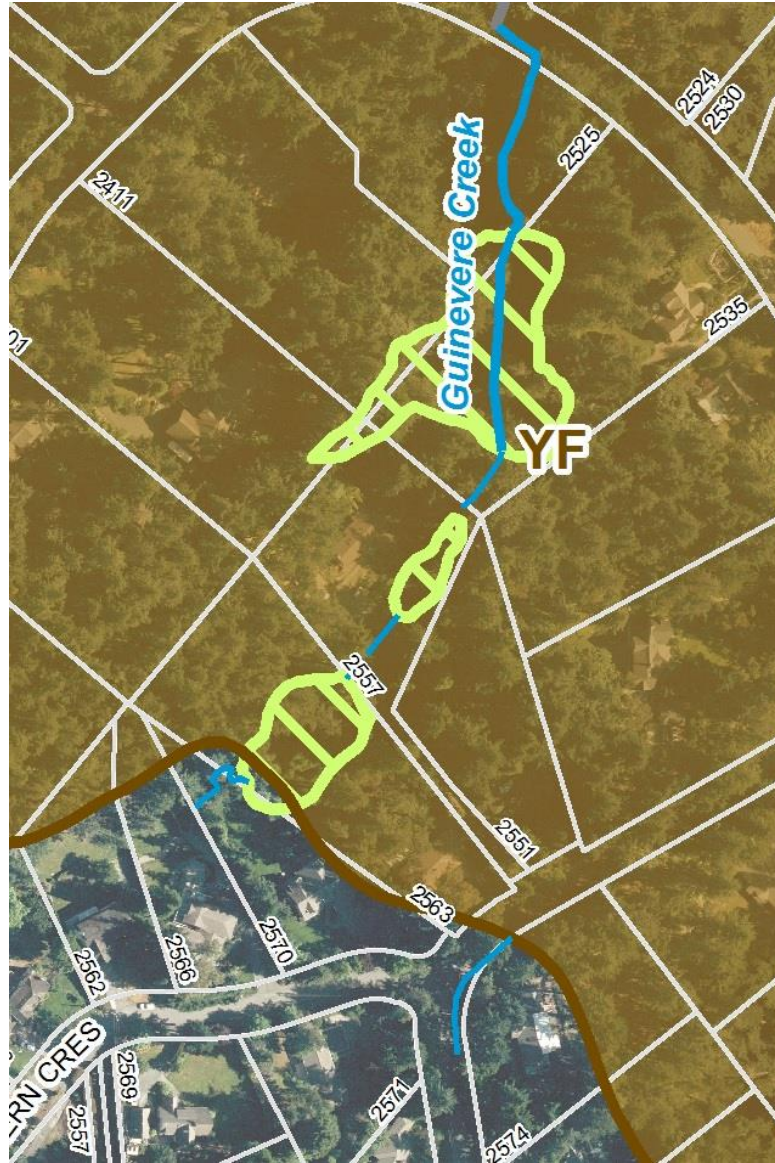


Natural State Covenant





Saanich Wetland

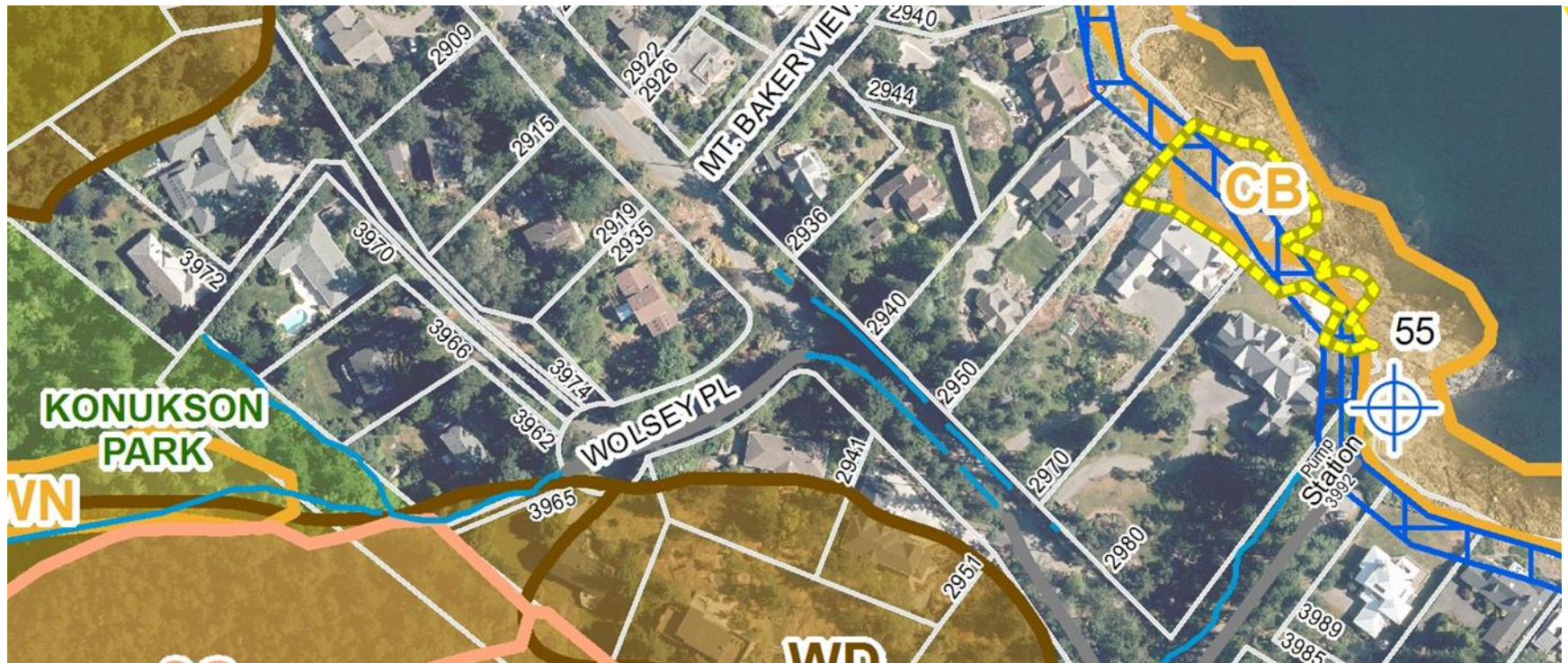




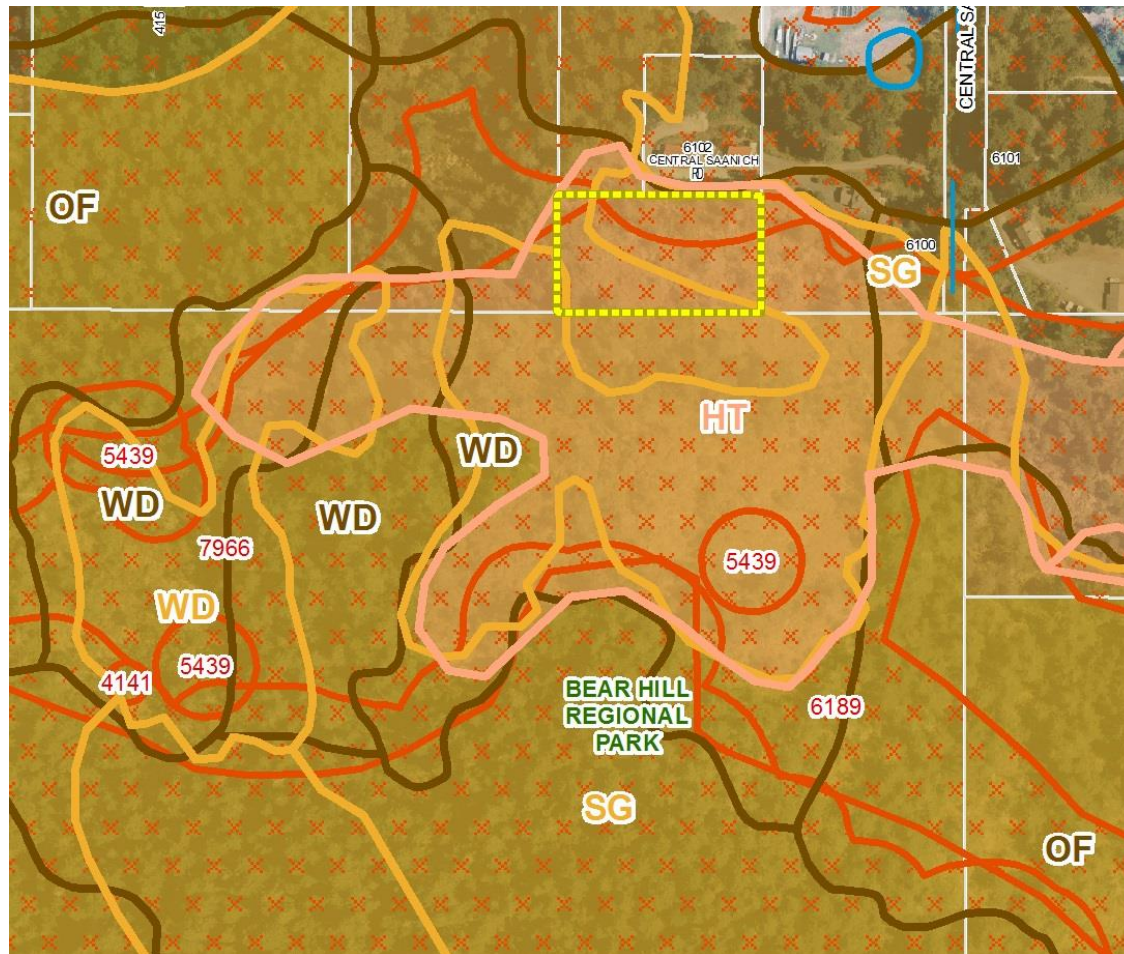
Water Course



Culvert



Need some clarity?



Next Steps

- Publishing further SEI boundary refinements
- Adding information about the level of verification for each polygon in each inventory
- Consolidating of inventory databases to better track mapping updates as they move through the process
- Potential refinement of CDF TEM polygon boundaries (to remove impervious surfaces)
- A database of protected natural areas in Saanich
- Updating of the CDC layer based on newly published data from the provincial government

Questions?

