

Draft Classification of Flood Plain Features



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Approach to developing a draft decision tree

- Looked at the strengths/weaknesses of two existing classification schemes: CREEC 5 Geomorphic Catena and NWI
- Made a visual comparison of features mapped by these schemes, and how the CREEC 6 Landcover classification mapping “nested” within them.
- Determine which scheme may best provide a nomenclature useful for ERTG’s process of weighing uncertainties.

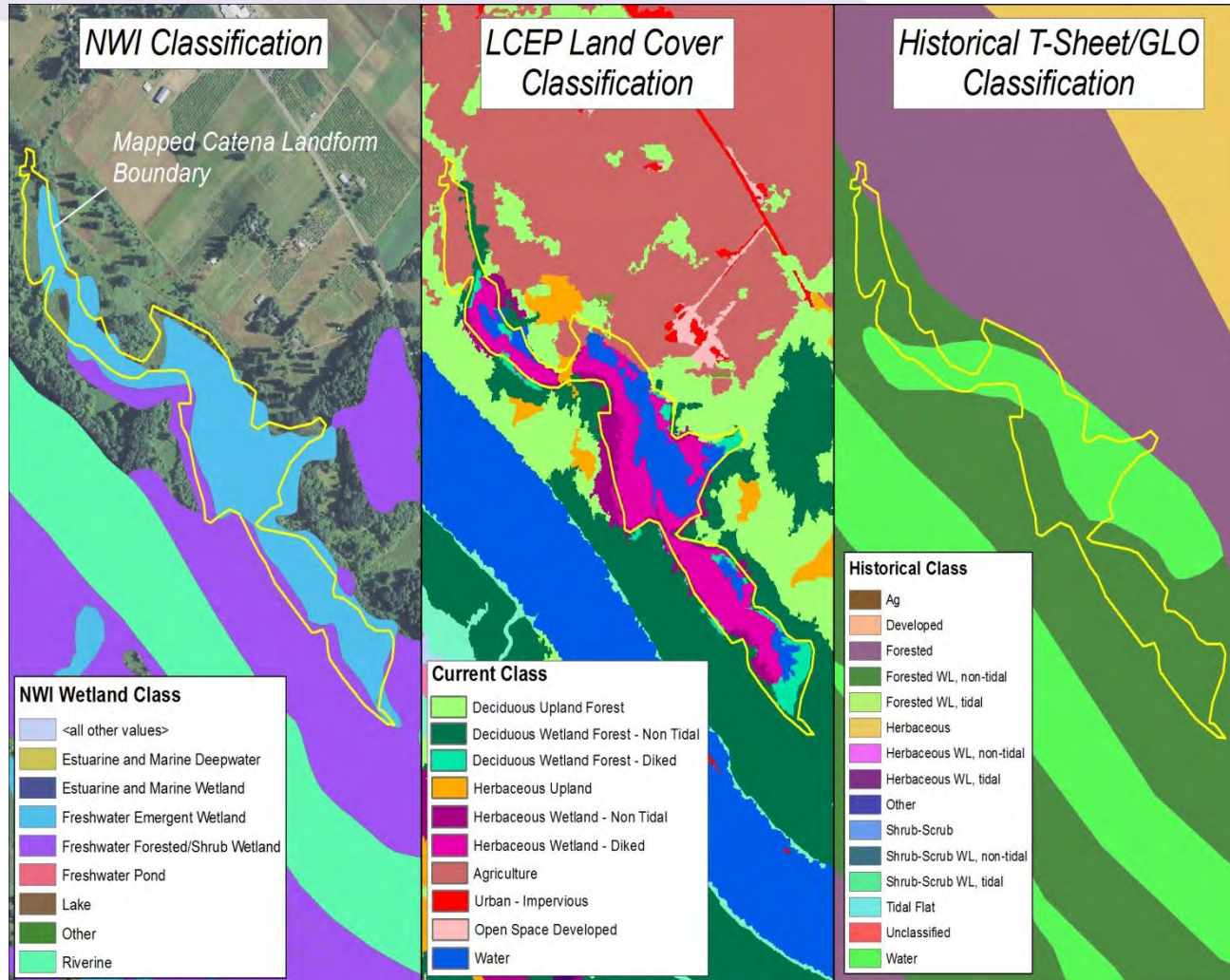
CREEC 5 Classification

Class System	Used For	System Class	Source	Defining Characteristics	Strengths	Weakness
CREEC Catena 5	Intended to assist scientists and managers who seek a broader scale of understanding required to study, manage, and restore transitional estuarine ecosystems.	Lake bed	CREEC Synthesis Report	The lake bed class generally corresponds to areas that were historically lakes and have been drained, but not otherwise modified. This class usually corresponds to drained lakes in backswamp or bar and scroll areas in the Portland Basin that are artificially protected from flooding.	• Recent data. • Tailored to estuarine env. inclusive of tidally influenced freshwater. • Many data sources (LiDAR, NRCS, NWI, historical maps, landcover classifications). • High res. data sources, spatial accuracy	• The distinction between lakes and wetlands is in places subjective because the extent of inundation changes seasonally. • A catena Level 5 lake may be classified as an emergent wetland in Level 6 land cover. • The distinction between lakes (deepwater habitat) and ponds (shallow water habitat) is not made. • Some wetlands mapped on the NWI are not mapped within the Catena because they are a distinct catena landform (levee).
		Lake /pond	CREEC Synthesis Report	Non-channelized body of water on the flood plain. Most lakes are in backswamp areas of the Portland Basin. Lakes were interpreted by the presence of water in aerial photographs and LiDAR topography. In places aerial photographs from dry years were also considered.		
		Wetland	CREEC Synthesis Report	Low relatively flat areas in flood plain that are or historically were seasonally inundated. Channels that no longer convey water are commonly included in the wetland designation. Considerations in wetland determinations for this classification were relative elevation, presence of water or vegetation differences in aerial photographs, NRCS soils mapping, landcover classification, historical maps, and the National Wetlands Inventory (NWI). Wetlands mapped in this classification are not necessarily functional or jurisdictional wetlands. In many cases they are altered or drained, but are mapped as wetland because they are expected to contain wetland (hydric) soils.		

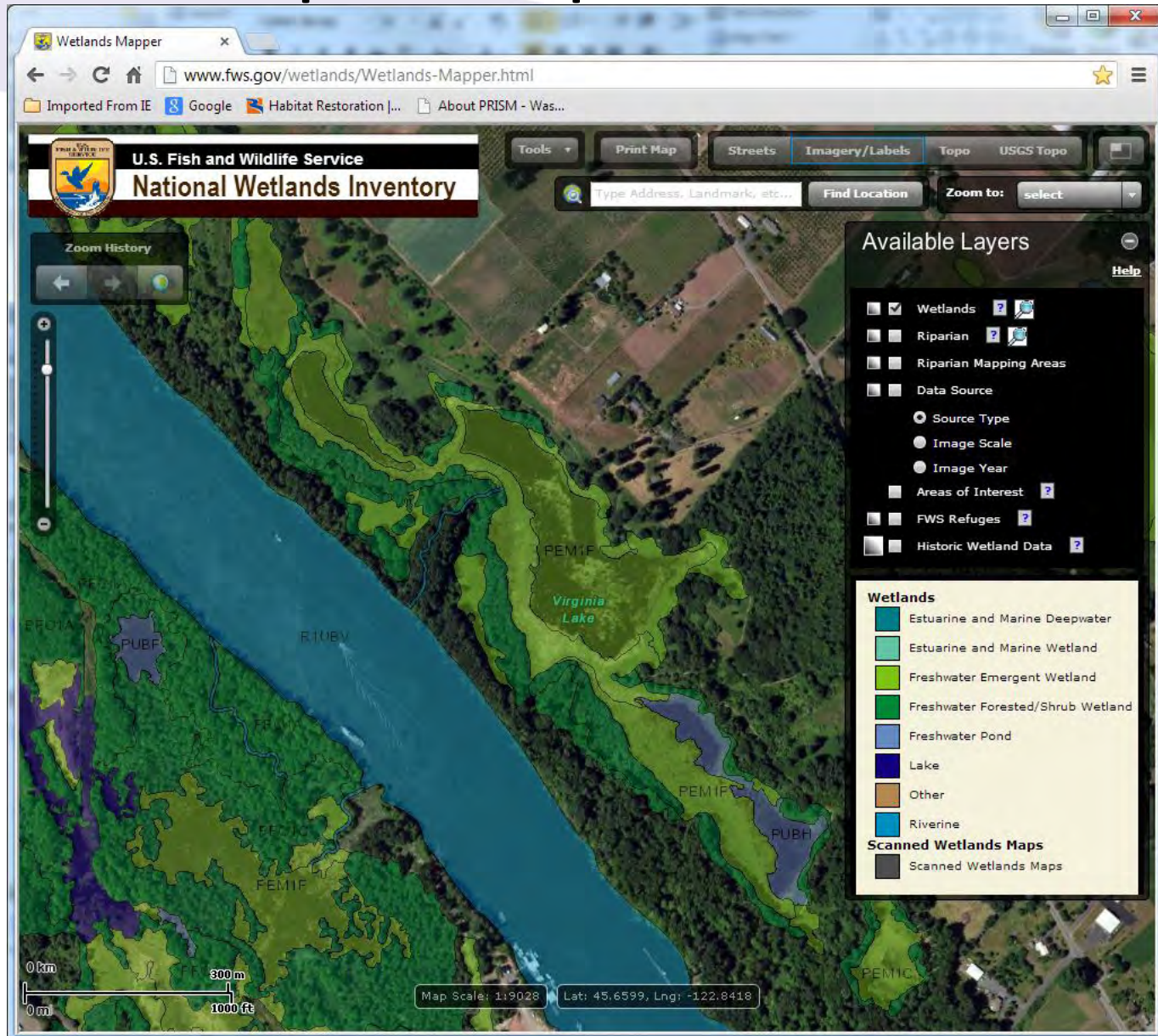
NWI Classification

Class System	Used For	System Class	Source	Defining Characteristics	Strengths	Weakness
National Wetland Inventory	Established by the US Fish and Wildlife Service in 1974 to conduct a nationwide inventory of U.S. wetlands and deepwater habitats to provide its biologists and others with information on the distribution of wetlands to aid in wetland conservation efforts. Federal/state Wetlands and Other Waters delineations, mitigation, and Section 404 permitting.	Lacustrine (Lakes)	Cowardin Classification	Deepwater habitat in topographic depression or dammed river channel, and: • <30% vegetated, and; • >20 acres, or; • water depth >2 meters . Notes: Salt water tidally influenced if ocean derived salinity is <0.5 ‰.	• Uniformity of usage: federal standard for wetland and deepwater classification (adopted by the Federal Geographic Data Committee on July 29, 1996: 61 Federal Register 39465). Cowardin system is used in federal/state regulatory processes for delineating wetlands and Section 404 permits. • 95% of mapped wetlands per USGS 7.5 minute quad are verified to confirm correct classification. • Incorporates depth and vegetation information in its classification label.	• Does not capture well the continuum and shifting nature of estuarine ecosystems. Estuarine is solely defined where influence from tides on wetlands/waters occur and salinity >0.5 ‰. Freshwater tidal modifiers can be added, but are non-descriptive. • Wetlands smaller than one acre not mapped, thus a wetland with multiple contiguous systems, will be mapped as one type. • Accuracy is to +/-33 feet.
		Palustrine (Wetlands and Ponds)	Cowardin Classification	Non-deepwater habitat dominated by vegetation (>30% vegetated) and with ocean derived salinity <0.5 ‰, or given low vegetative cover, meeting all of the following characteristics: • <20 acres; • absence of wave-formed or bedrock shoreline; • water depth <2 meters; • ocean derived salinity <0.5 ‰. Notes: Features within floodplains are outside of the Riverine classification, as the primary source of hydrology is groundwater. Vegetated permanent waters and open water ponds are within this system class.		

Wapato Access



Wapato: Updated NWI



Key Criteria to Consider for a Draft Floodplain Feature Decision Tree

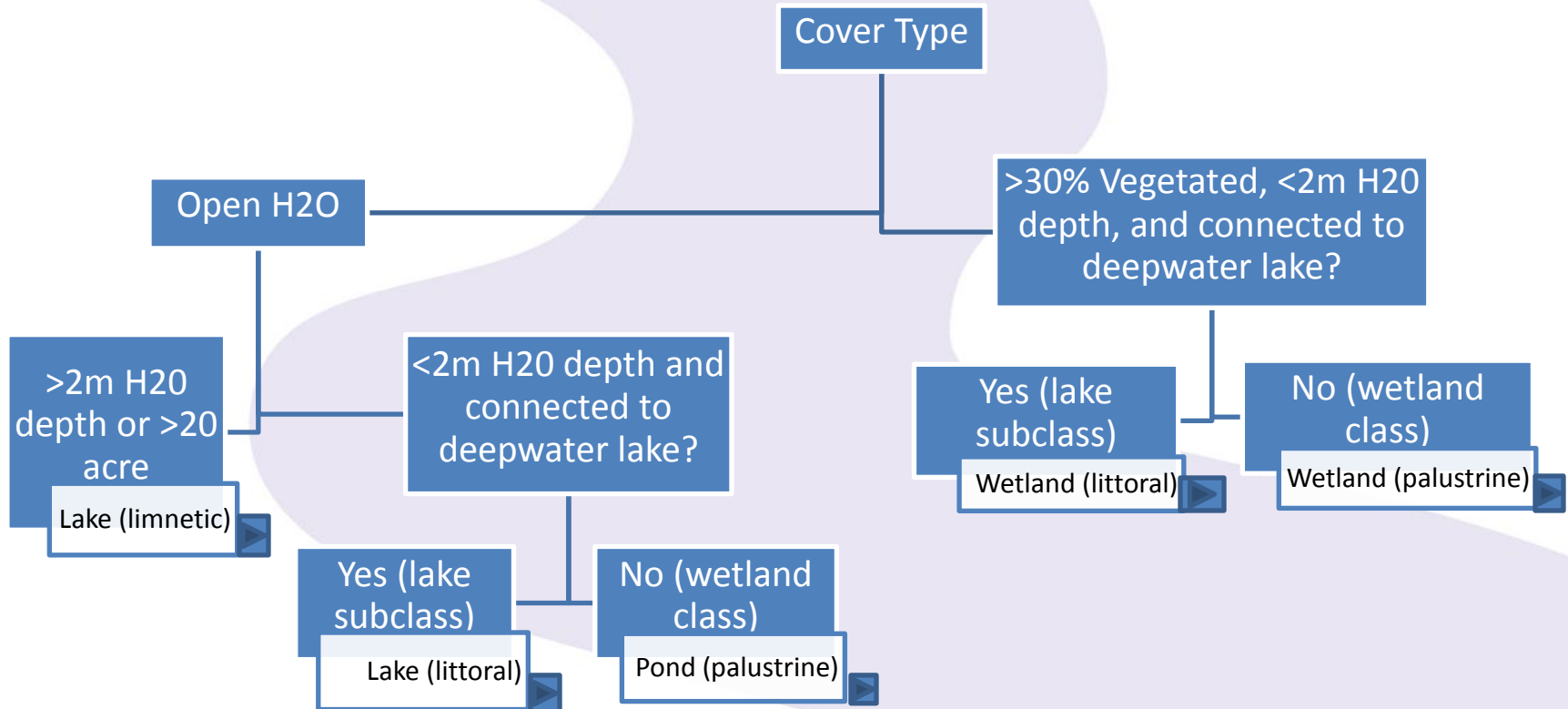
Mapping Criteria

- Robust: Reflect continuum of lake/wetland types on the floodplain
- Accurate: Minimize discrepancies between initial desktop analysis and later ground-truthing

Classification Criteria

- Water Depth
- Vegetation-type and cover
- Spatial relationship to deepwater habitat

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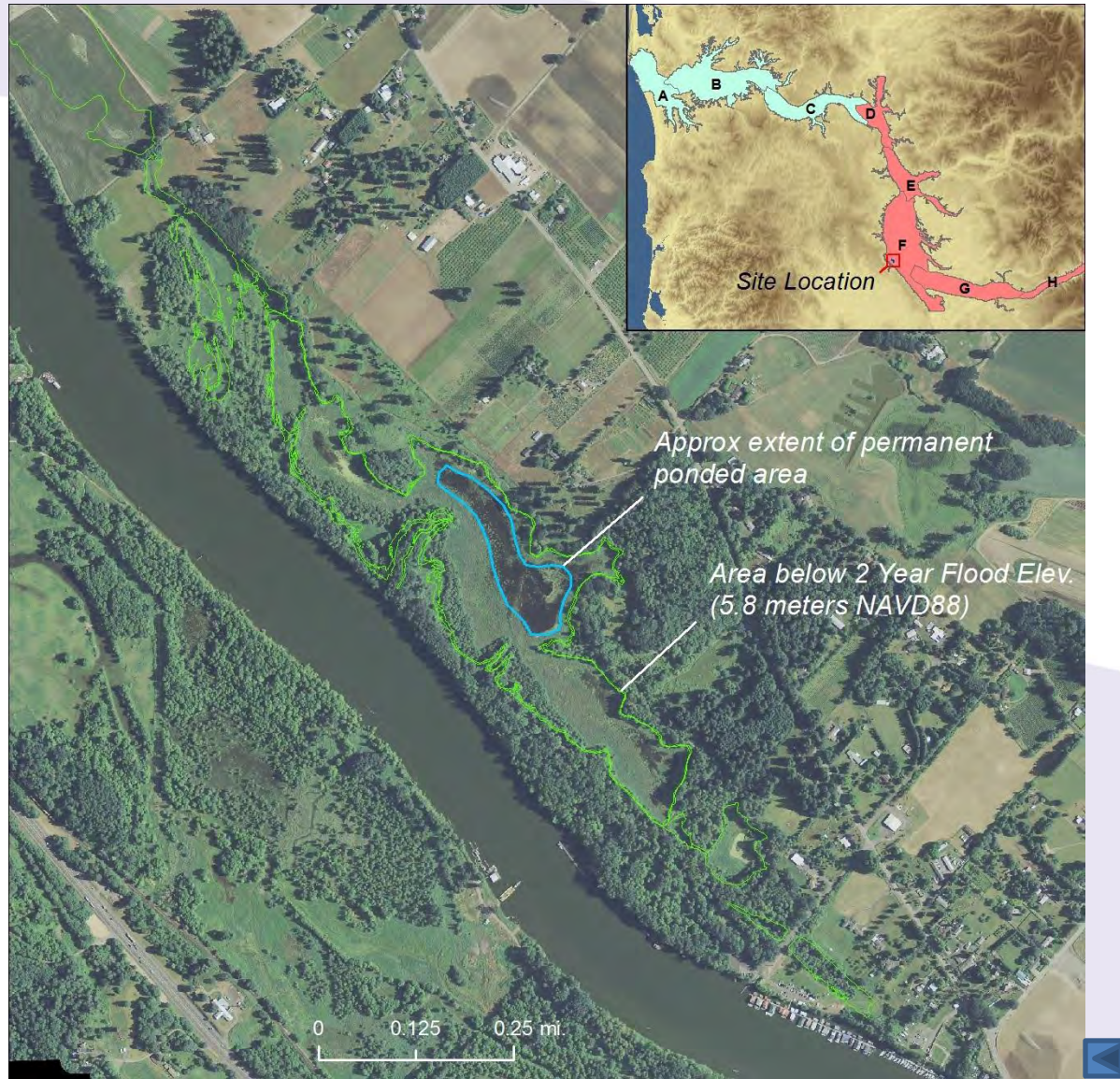
Benson Lake: Lake (limnetic subclass)



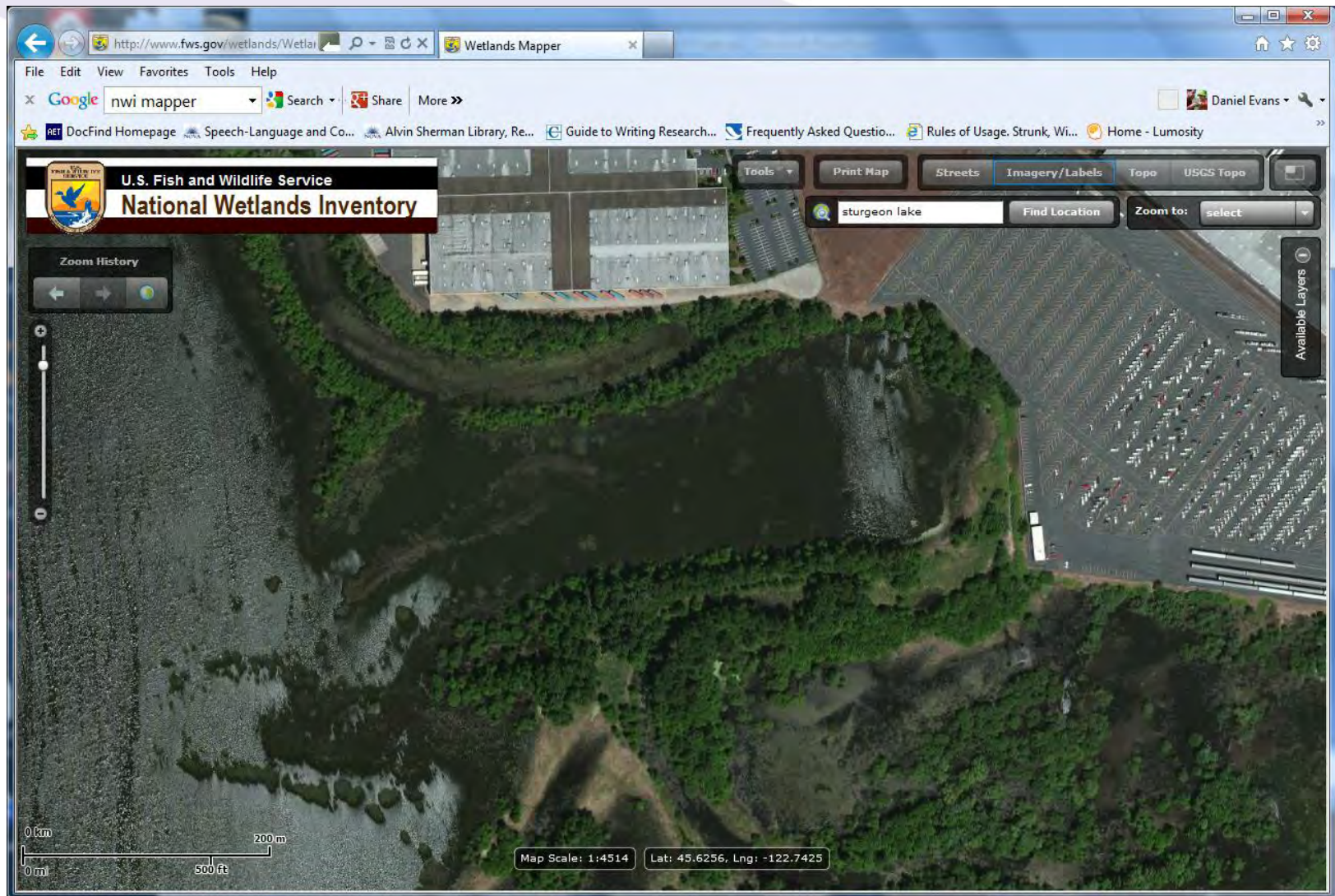
Steigerwald Lake: Pond (Interior)



Wapato Access: Wetland (Exterior):



Bybee Lake: Lake (Littoral subclass)



Ruby Lake: Wetland

