

Ex. 2a Elodea Demo Notes

Elodea Background

Elodea or western waterweed is a non-native invasive plant that is starting to infest areas of CYR and Southern NOS. Infestations are started in lakes and rivers around boat ramps, launch sites, and float plane accessible lakes. Just a small piece of Elodea can start an infestation. You can read details in the report in CYR Section D Biotic Change Agents.

Demo Purpose:

- To show the data associated with the Elodea vulnerability and infestation analyses to help plan future analysis of sampling sites
- To demo some ways to view the data using AGOL that you would be able to easily view, and share with stakeholders and collaborators including people who own boats and float planes! Wow, this would make a great story map to warn folks to clean off boats and floats. It just needs some local knowledge and graphics too...

Note: This demo was created with unpublished CYR data. The maps linked below will need to be restored when the data are published to a different URL. Please email with questions or for help:

blm_oc_rea_data_portal_feedback_team@blm.gov

REA analysis process:

- 1) Mapped known infestations
- 2) Identified vulnerable waterbodies where Elodea could be introduced and might establish:
 - a. Streams and rivers: network traced upstream (navigable) and downstream of road crossings and boat ramps (n=37 id'd), and by natural dispersal downstream. Reaches were ranked low – high based on how many of these criteria they met.
 - b. Lakes accessible by float planes. Length > 1km = likely accessible. Length 0.5 – 1 km possibly accessible. This does not consider other specific limitations on these lakes (e.g. depth, pH, etc) or likelihood of landings (proximity to developed areas, recreational areas).
 - c. Layer of Elodea habitat suitability was laid over vulnerable lakes. Habitat suitability based on 23 climatic and topographic variables – recent past and future
- 3) Results
 - a. River length > 8,000km has high or medium-high susceptibility to Elodea IV
 - b. Lakes:
 - i. 1,500 are road accessible (especially around Fairbanks-North Pole area where Elodea already exists)
 - ii. 3,500 are floatplane accessible
 - iii. 11,000 lakes are possibly accessible in CYR
 - c. Overlaying habitat suitability weeds out only a few areas. Lower elevation areas tend to be highly vulnerable.

Demo

I made two web apps in AGOL to demo the data. For further analyses, such as to identify survey sites, see permafrost exercise for general methods.

1. Four map comparison (Section and Figure number):
 - a. Named rivers susceptible to Elodea introduction (d7)
 - b. Road accessible lakes susceptible to Elodea introduction (d8)
 - c. floatplane accessible lakes susceptible to Elodea introduction (d9)
 - d. Historic climate suitability for Elodea and floatplane accessible lakes with high climate suitability (d10)
 - e. <http://blm-egis.maps.arcgis.com/apps/CompareAnalysis/index.html?appid=e1c8e3f5ed7d467b9666235b4ba356bd>
2. Swipe widget map comparison of climate/habitat suitability maps: 1987-2006 v. 2040-2059 with float plane accessible lakes with high climate suitability (d10)
 - a. <http://blm-egis.maps.arcgis.com/apps/webappviewer/index.html?id=d27b919afd424b3a8b8ecdcd0e2fd36>
 - b. The future climate is based on RCP 4.5