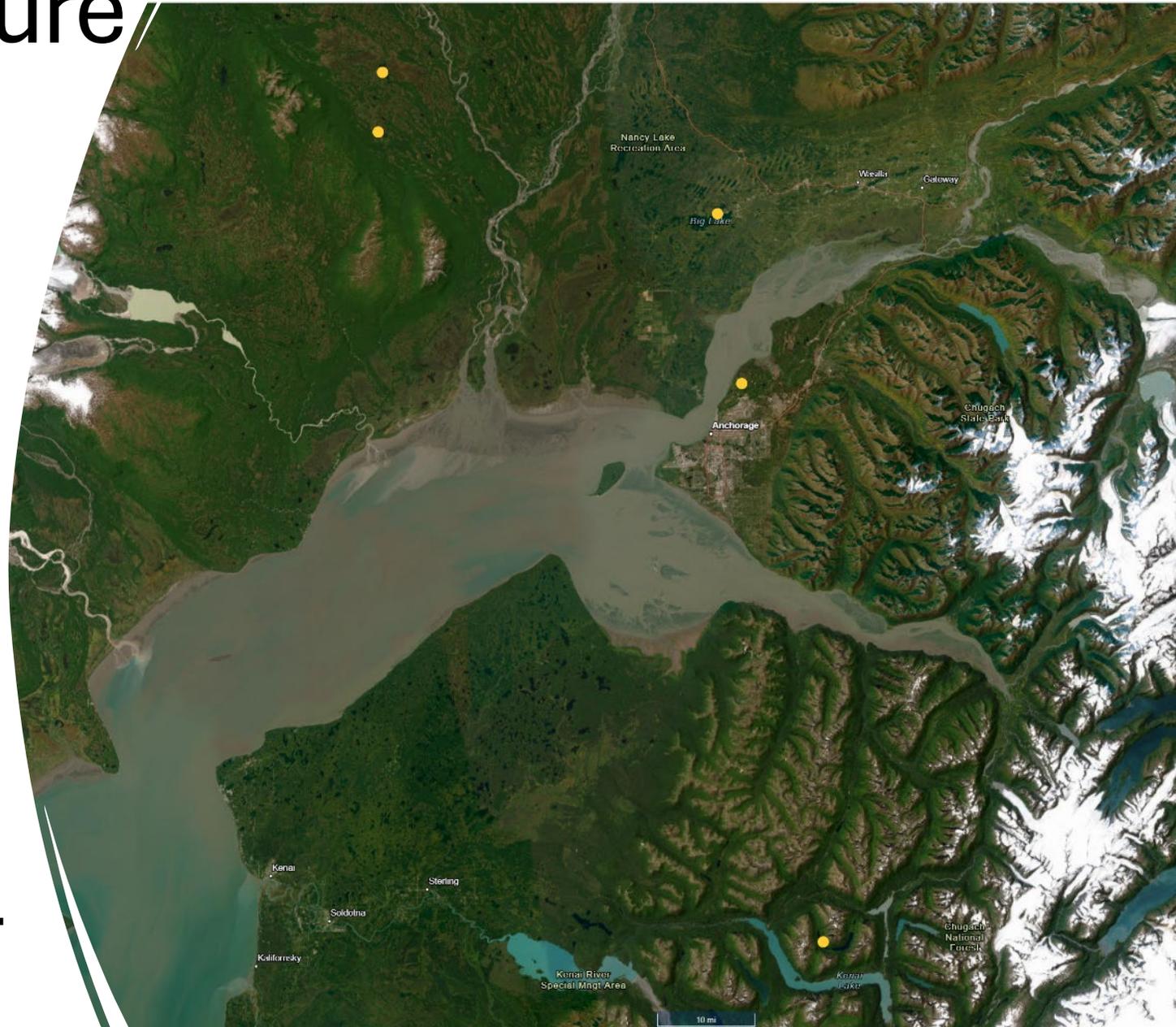


Division of Agriculture Elodea Treatments 2025

- Alexander Lake – Mat-Su Valley
- Sucker Lake(s) – Mat-Su Valley
- Big Lake - Mat-Su Valley
- Sixmile Lake – JBER – Anchorage
- Crescent Lake – USFS/HSWCD-KP
- Harding Lake – FBX SWCD



Cody Jacobson
Invasive Species Coordinator
Division of Agriculture
October 2025





Canada Waterweed
(*Elodea canadensis*)



Photo credit: WIKI

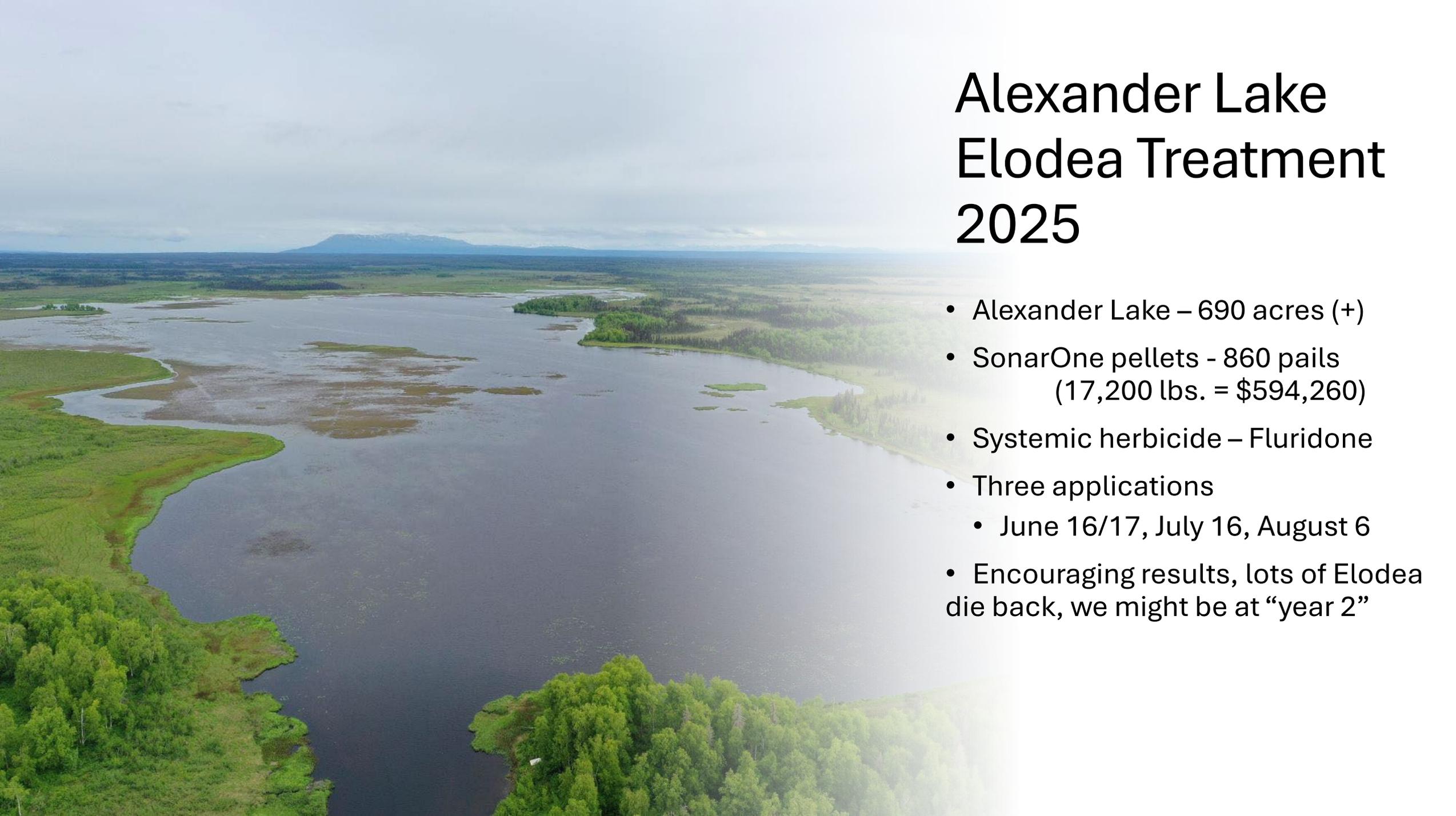
1 cm



Photo credit: TTCD

What is Elodea?

- Native to parts of lower 48 and southern Canada. Worldwide history of invasion and Alaska's first invasive submerged freshwater aquatic plant.
- Negative ecological impacts; impacts to native fish habitat is of particular concern.
- Only a plant fragment is needed to infest a water body because it easily reproduces vegetatively.
- Likely introduced into Alaska as an aquarium plant deposited into nearby water bodies. It has since spread via flowing water, seasonally fluctuating water levels, and anthropogenic influences including boats, gear, and float planes.

An aerial photograph of Alexander Lake, showing a large body of water with several small islands and peninsulas. The water is dark, and there are patches of brownish-green vegetation (Elodea) visible in some areas. The surrounding landscape is a mix of green fields and forests. In the background, there are mountains under a cloudy sky.

Alexander Lake Elodea Treatment 2025

- Alexander Lake – 690 acres (+)
- SonarOne pellets - 860 pails
(17,200 lbs. = \$594,260)
- Systemic herbicide – Fluridone
- Three applications
 - June 16/17, July 16, August 6
- Encouraging results, lots of Elodea die back, we might be at “year 2”



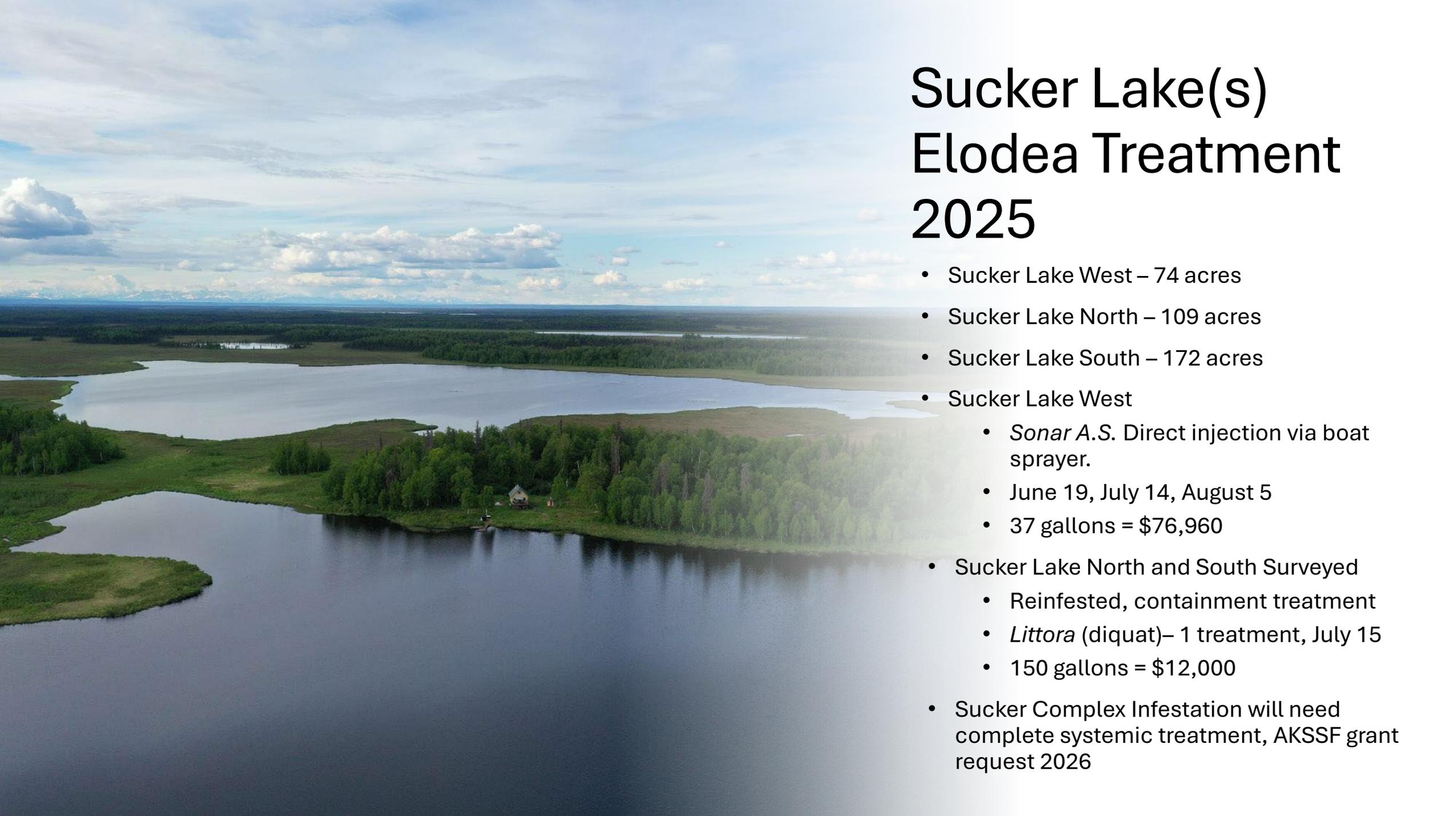
SonarOne

- SonarOne pellet applications – whole or partial lake options
 - Labor intensive – lots of product handling, ideally get overlapping coverage – consistent level of herbicide
 - Costly applications – lots of product needed, multi-year
 - Fluridone – systemic control – typically requires 3 years to gain control, slow-release pellets



Logistical Challenges & Costs

- Each pail (20lb) or bag (40lb) must be handled several times prior to application into the water
- Large systems require thousands of pounds of product a year (Alexander ~17K lbs., Harding ~15K lbs., Big Lake ~?)

An aerial photograph of a large, multi-lobed lake system. The water is a deep blue-grey color. The shoreline is a mix of green grass and dense forest. In the foreground, a small wooden cabin is visible on a grassy peninsula. The sky is filled with scattered white clouds, and the overall scene is bright and clear.

Sucker Lake(s) Elodea Treatment 2025

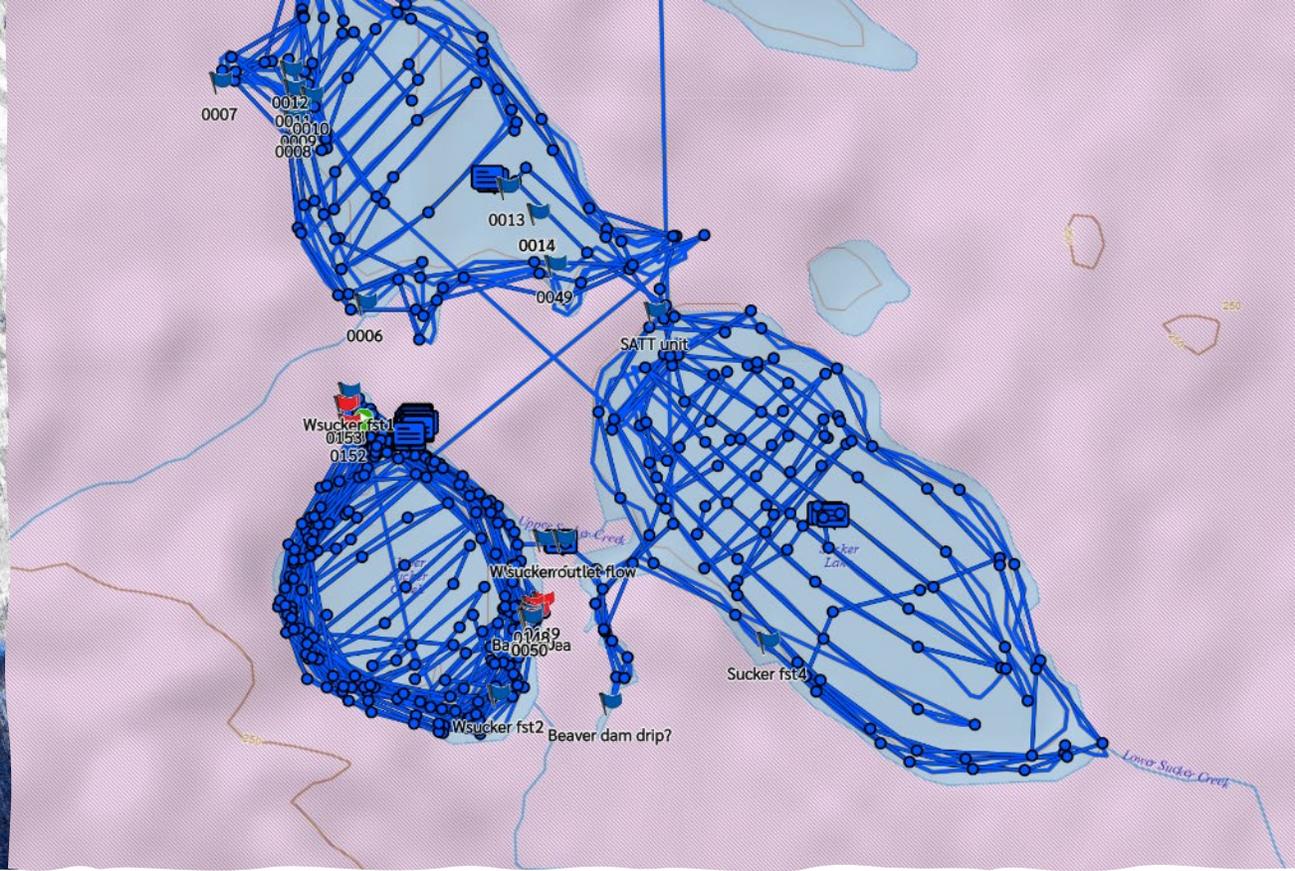
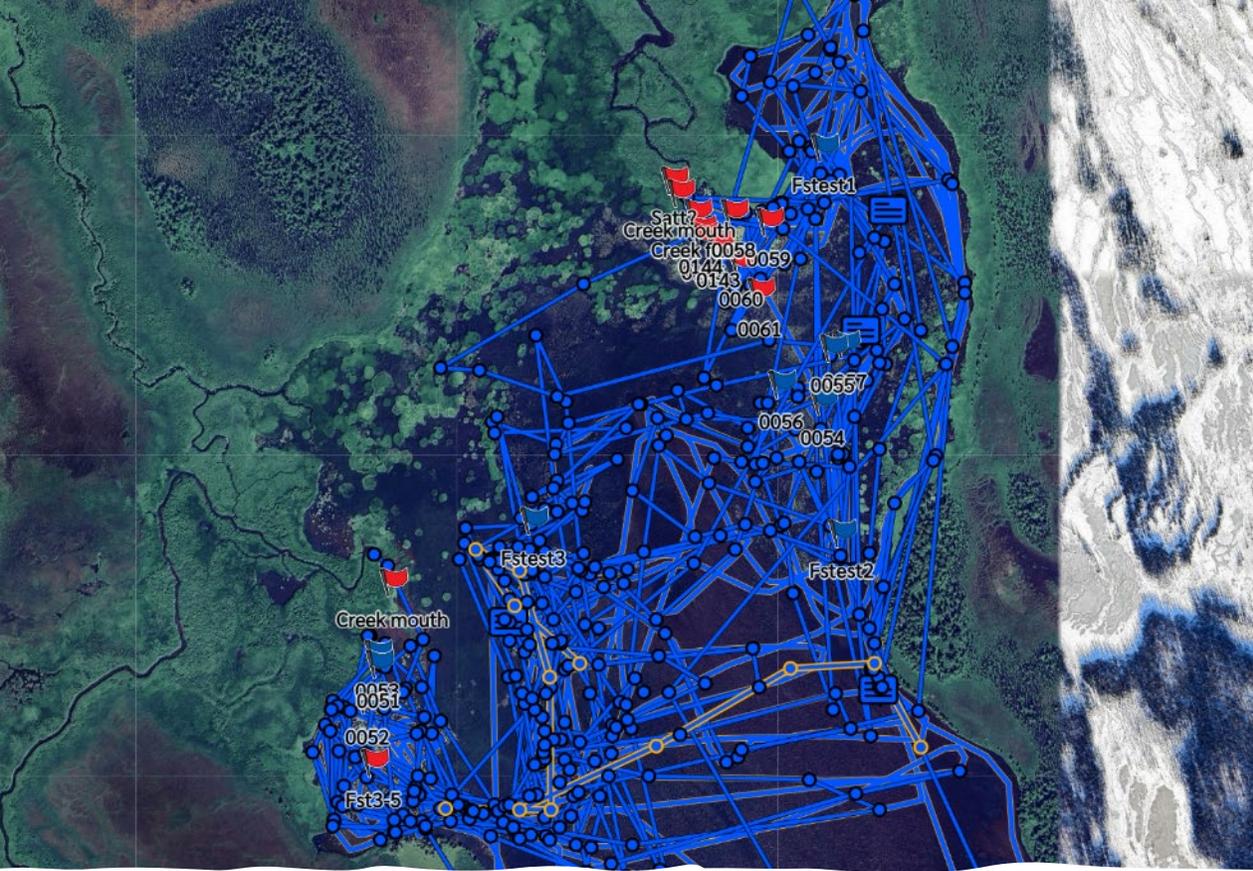
- Sucker Lake West – 74 acres
- Sucker Lake North – 109 acres
- Sucker Lake South – 172 acres
- Sucker Lake West
 - *Sonar A.S.* Direct injection via boat sprayer.
 - June 19, July 14, August 5
 - 37 gallons = \$76,960
- Sucker Lake North and South Surveyed
 - Reinfested, containment treatment
 - *Littora* (diquat)– 1 treatment, July 15
 - 150 gallons = \$12,000
- Sucker Complex Infestation will need complete systemic treatment, AKSSF grant request 2026



Direct Injection via Sprayer Applications

- ***Sonar A.S.*** – liquid Fluridone – systemic control
- ***Littora*** – liquid Diquat – contact only, biomass knock down
- ***ProcellaCOR*** – liquid – systemic – the Future?





GPS guided tracked applications

- Handheld GPS tracking – ensures coverage
- Repeatability each year of treatment – track progress
- Goal – to integrated onboard navigation & steerage



Proper PPE

- Full face respirator – not mandatory, but nice, HOT!
- Rain Jacket / long sleeves
- Waders & PFD
- Nitrile gloves



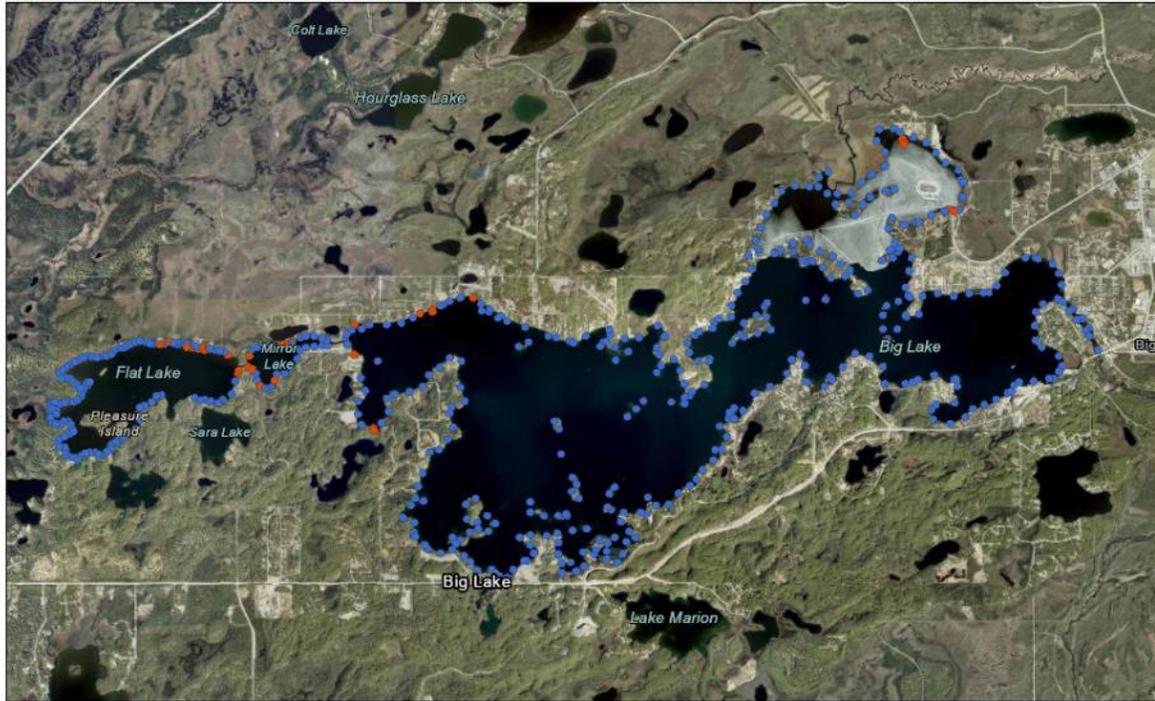
Fluridone Effects – UV damage, starvation of the plant's roots

Big Lake Elodea Treatment 2025

- Big Lake – 2495 acres
- Flat Lake – 296 acres
- Mirror Lake – 44 acres
- No Funding currently available for systemic treatments
- Diquat dibromide treatments for containment – vector control
 - Two applications – Big Lake only
 - October 15 and 16, 2025
 - 150 gallons = \$12,000



Previous Elodea Survey Points



10/10/2025
AKEPIC Elodea Observations
• false
• true

World Imagery
Low Resolution 15m Imagery
High Resolution 60cm Imagery

High Resolution 30cm Imagery
Citations

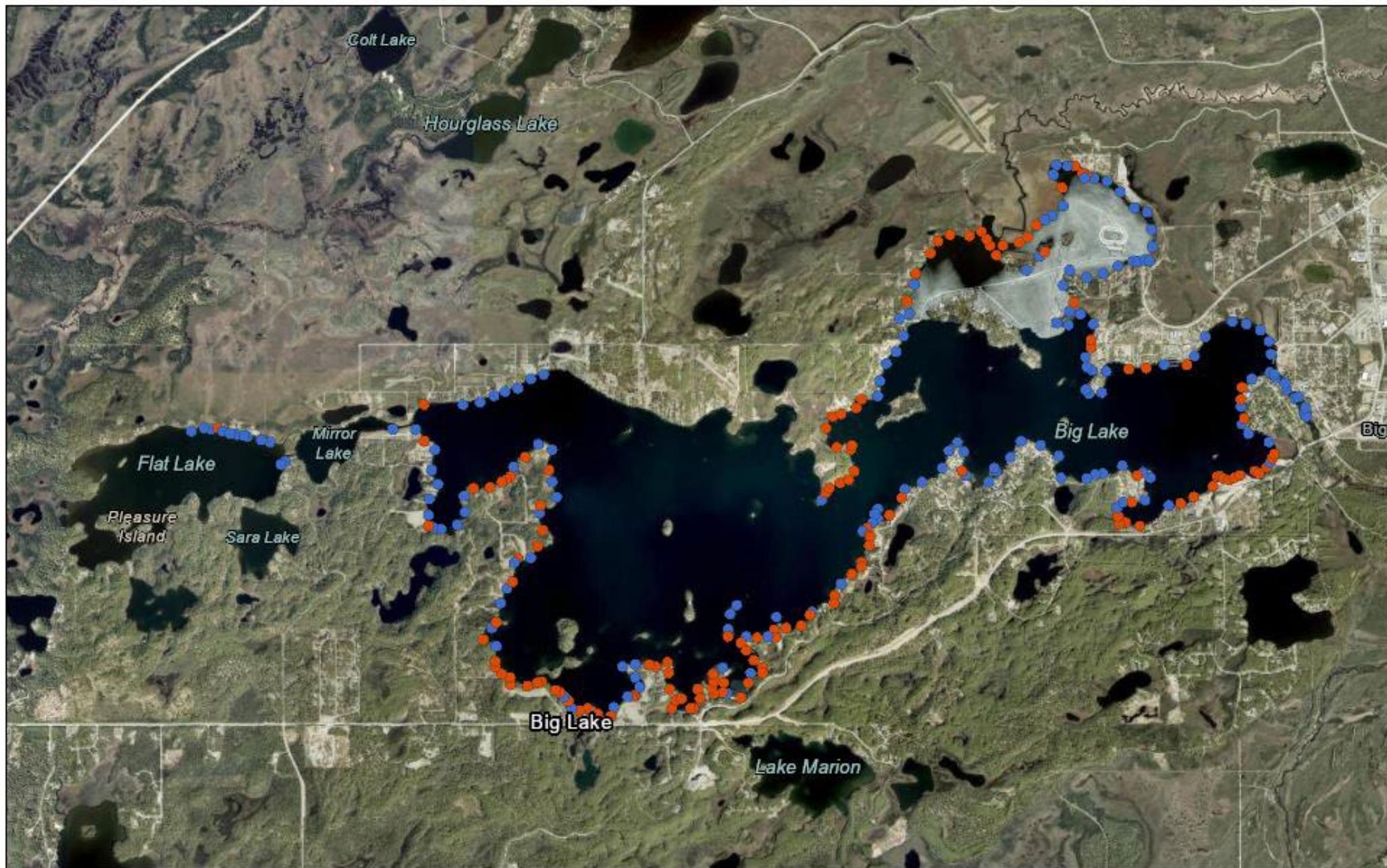
1:96,961
0 0.4 0.8 1.6 mi
0 0.5 1 2 km
Earthstar Geographics, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community



Survey Needs

- High vector waterbodies really need yearly surveys
- Surveys should be conducted when weed growth is high and visibility conditions optimal
- Allow rapid response, treatment costs are far lower

2025 Big Lake Elodea Survey Map







The State of Elodea...*Decision Point*

Challenges...

- **FUNDING \$\$\$- (Need stable and consistent!)**
- Extremely high cost of herbicide
- Must be a three-year commitment, best case scenario...
- Remote and dynamic aquatic systems
- Surveys – needed yearly in some areas
- Vector/Decon Education - for all user groups – Collaborators in the room!

Choices...

- **Prioritizing Treatments**
 - Some infestations may not see treatment for years
 - Which waterbodies are “more valuable”
- **Prioritizing Surveys**
 - The Vector concern
 - Elodea Vulnerability Mapper Tool
 - Have more partners / citizen scientist on the look out

The Road Forward...

- New infestations – likely...
- Persistent locations
- Loss of funding ?
- New herbicides
- Need to raise awareness!
- Demonstrate the risk/cost before it is too late...



