



European Frogbit

New Aquatic Invasive to Ohio

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What is European frogbit?

Hydrocharis morsus-ranae

- Perennial
- Free floating – forms dense mats
- Found in calm water
 - Favors calcium rich
 - Meso to eutrophic conditions
- Diecous (although usually one sex)



Identification



- Single white flower with 3 round petals and a yellow center
- Free floating
- Leaves are kidney-shaped to heart-shaped with a purple-red underside
- Leaves form a rosette

Look alike



Water-shield

Source: Don Cameron, MNAP, VLMP



Water lily



American frogbit

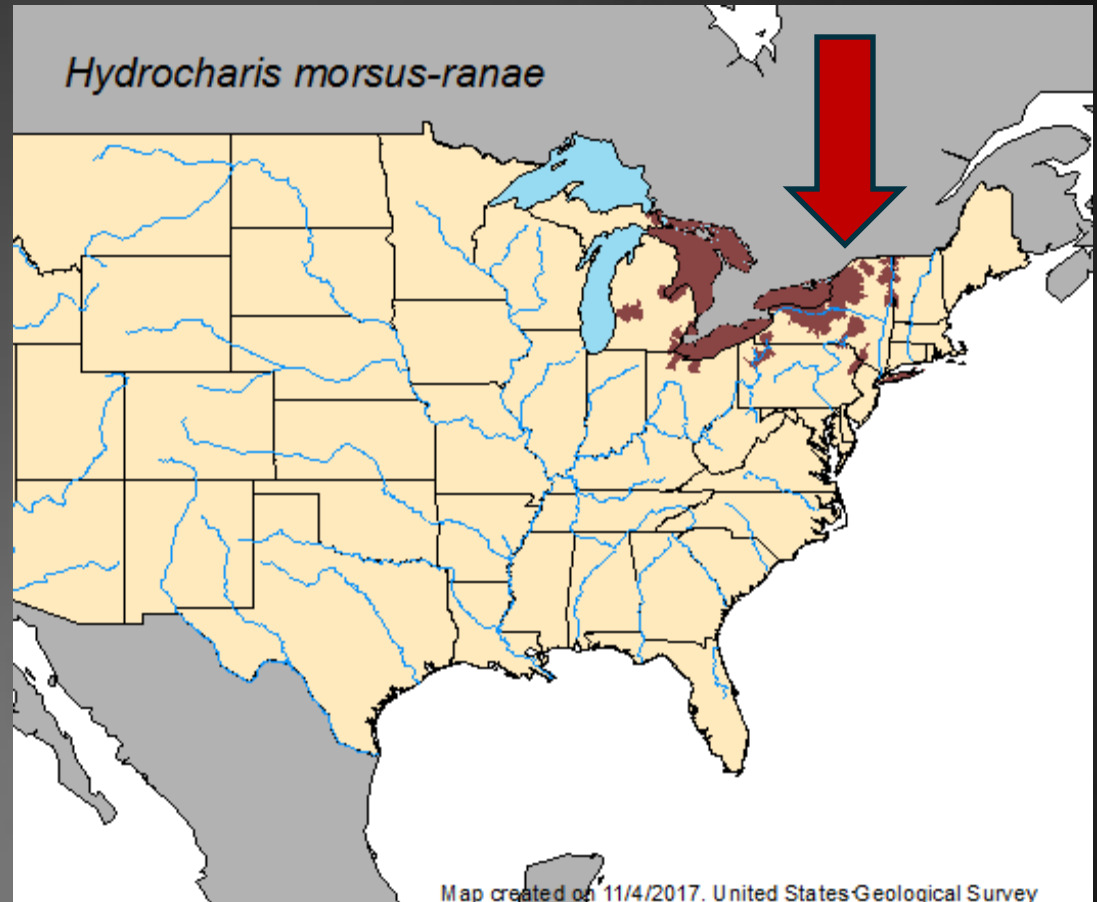
Reproduction

- Flowers/berry
 - July-August
 - Average 24-46 seeds
- Stolons
- Turions
 - Each forms 10 clones
 - Can spread a square meter/season



History

- 1930's
 - Ottawa, Ontario CA
- 1974
 - New York, USA
- 1996
 - Michigan, USA
- Today
 - Lower Great Lakes
 - New England States
 - Washington State



How it spreads

- Water
 - Waves and currents
- Avian
 - Waterfowl and wading shorebirds
- People
 - Boats
 - Water gardening

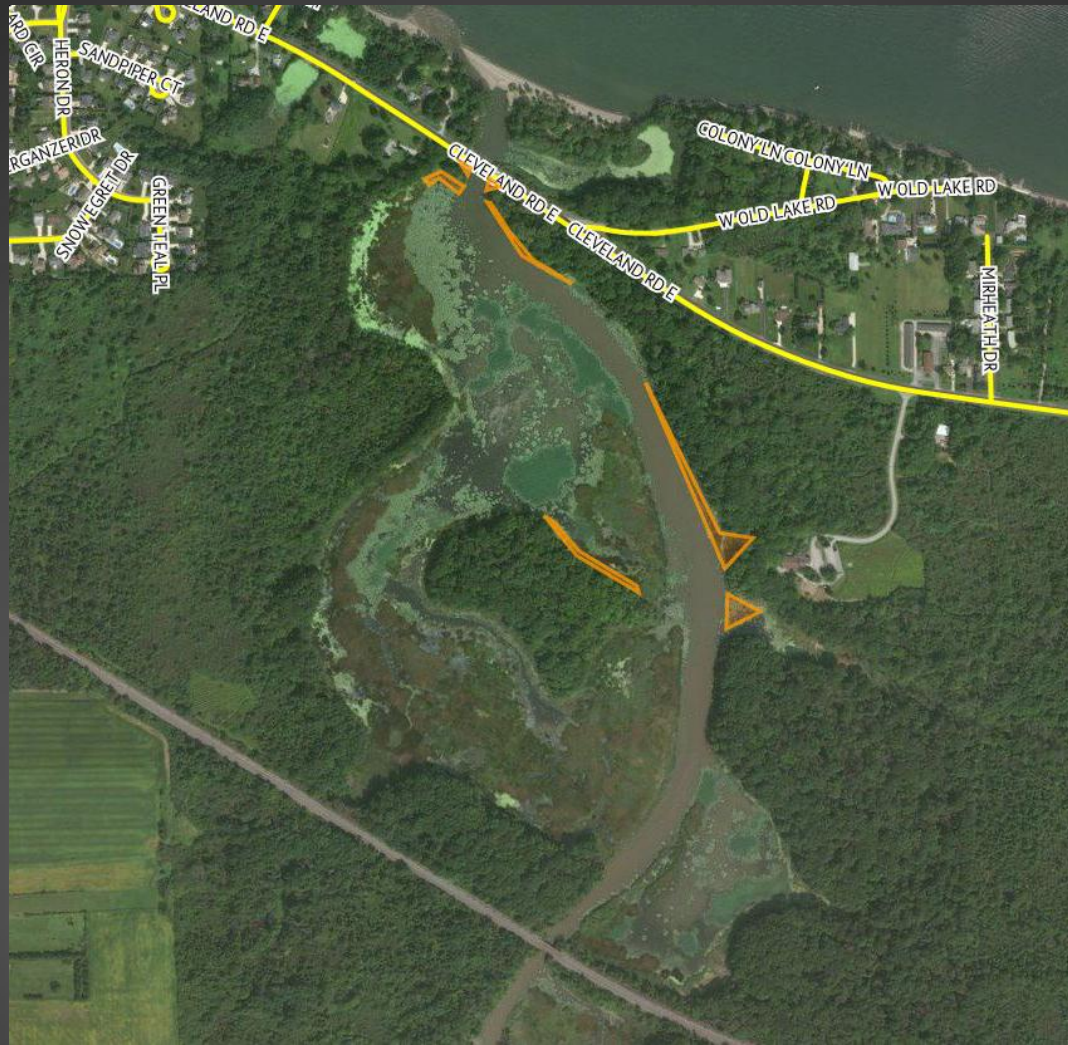


Control Methods

- Mechanical Removal
 - Hand-pulling
- Shading
 - Must be greater than 70%
- Herbicides
 - Endothall, diquat, triclopyr,
 - Roundup? Imazapyr?
- Biological
 - Grass carp?



Old Woman Creek



2017 Removal Attempt

- 12 volunteers (3 staff)
- 4 hours



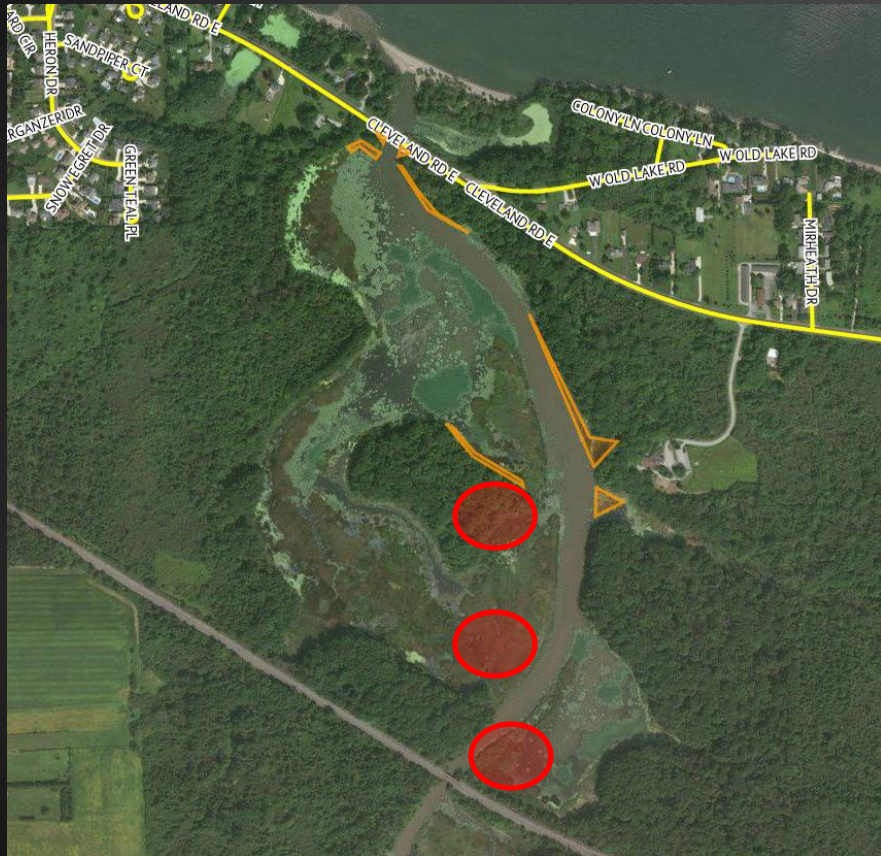


What we learned



- Start early in the year
- Carefully map & prioritize
- Buckets are almost useless
- Set up a relay system
- Plan more than one event
- Know when to stop

Old Woman Creek & beyond



Planning a successful event

- Pick out a compost site BEFORE the event
- Volunteers needed
 - Pullers
 - Transporters
 - Loaders
- Equipment needed
 - Kayaks, canoes, & jon boats
 - Truck & trailer
 - Waders & buckets
 - Pitch forks & rakes



Prevention, Early Detection & Rapid Response!!



Questions?

