Michigan's Response to Frog-bit

Sue Tangora

Invasive Species Coordinator

Responding to Early Detections

Flowering Rush

Water Hyacinth

Water Lettuce

Parrot Feather

European Waterclover

European Frog-bit

All photos courtesy of Bugwood.org and through MSUE and MNFI
Referenced from A Field Guide to Invasive Plants of Aquatic and Wetland Habitats for Michigan
Suzan Campbell, Phyllis Higman, Brad Slaughter and Ed Schools 2010

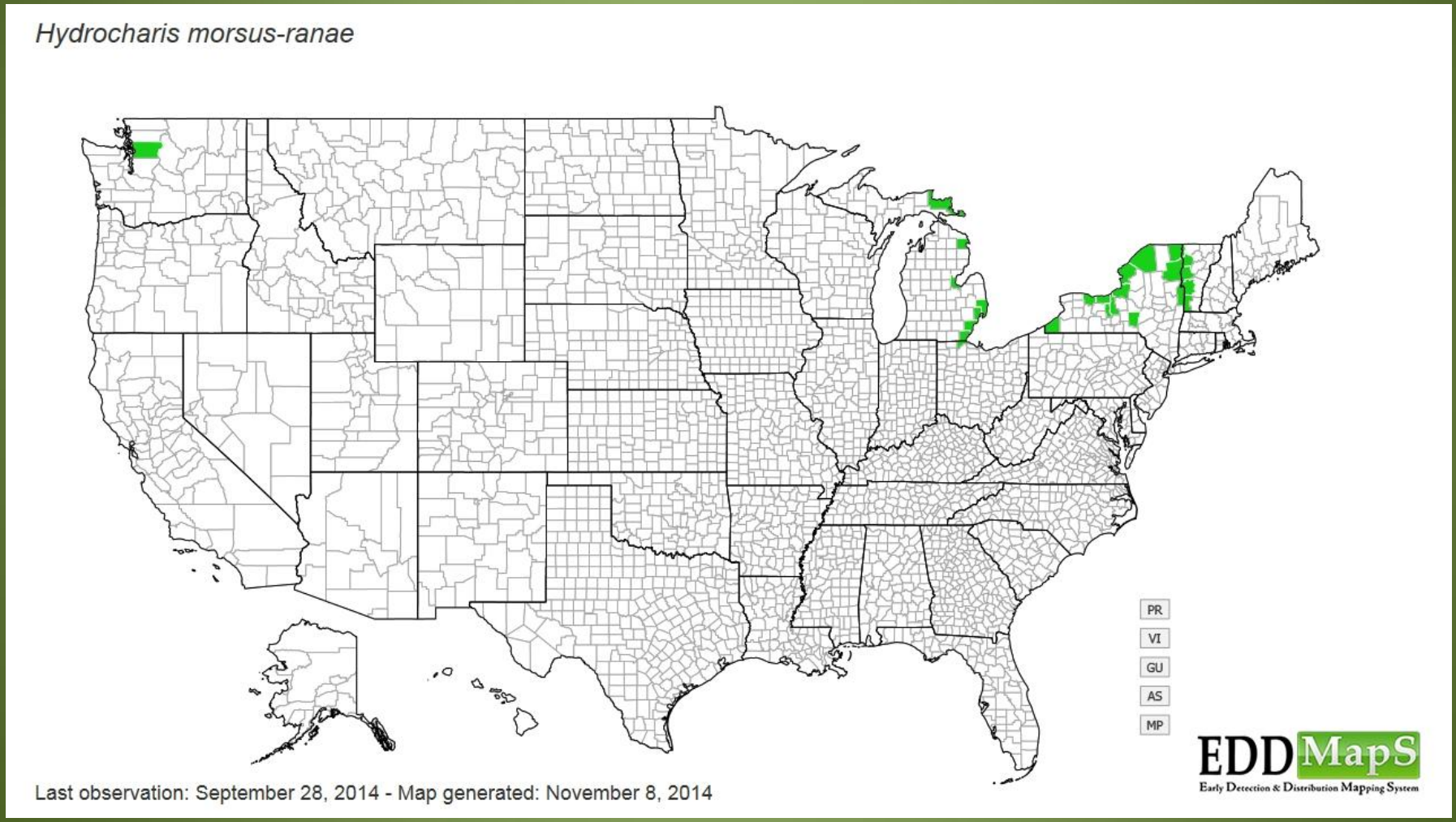
European Frog-bit

1. Leaf Arrangement: basal
2. Leaf Characteristics: smooth, heart shaped leaf bases, 1-2 inches across
3. Flower: regular, 3 white petals
4. Fruit: occasionally produce round berry like fruits
5. Reproduction: vegetative

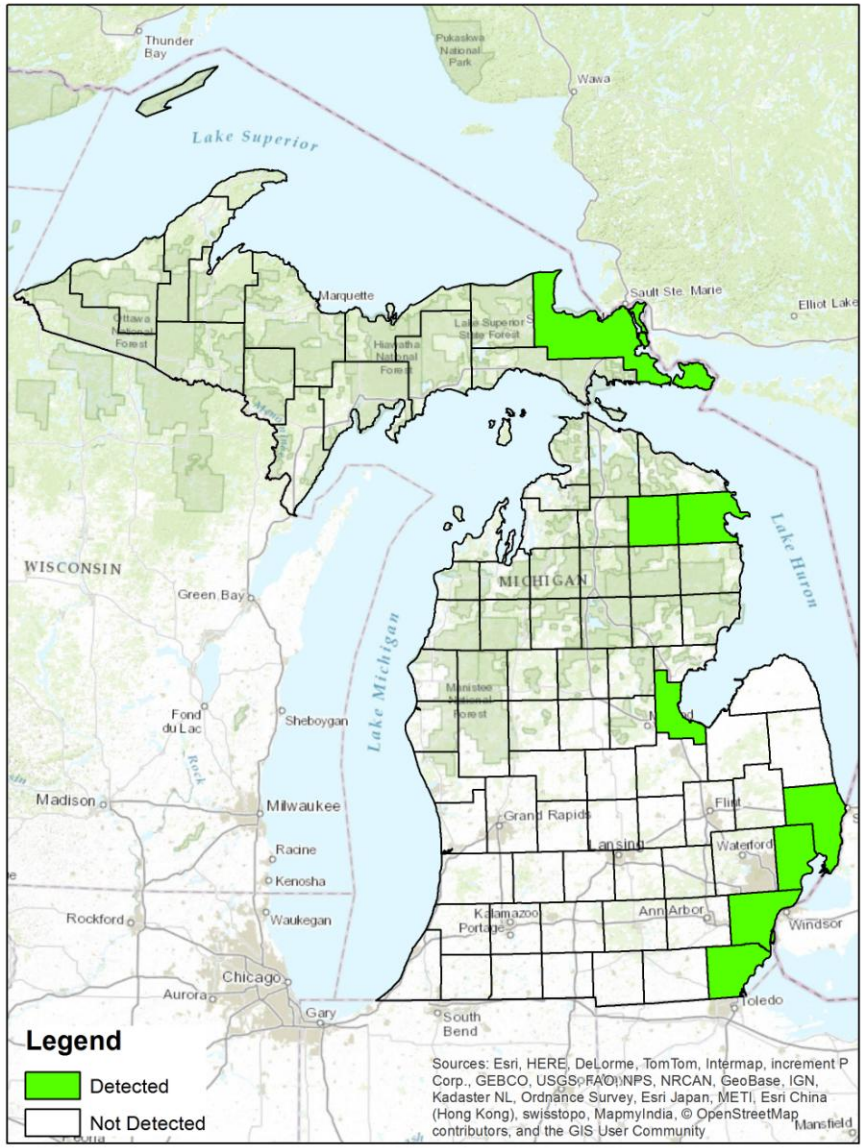
Negative Impacts from European Frog-bit

- Chokes out native vegetation
- Lowers dissolved oxygen
- Degraded spawning habitat
- Decreased recreational value of area
- Blocks and clogs drainage canals and streams

Distribution of European Frog-bit



Positive Detections of European frog-bit (*Hydrocharis morsus-ranae*) in Michigan



Summary of European Frog-bit Response

- 2011-Frog-bit verified in Southeast Michigan and detected in Saginaw Bay
- 2012-Follow up monitoring and surveys conducted, treatment options reviewed
- 2013-Received and verified reports outside of known distribution
  - Northeastern Lower Peninsula and Eastern Upper Peninsula
  - The integration and use of the Incident Command System (ICS) proved to be highly effective
  - Mechanical and initial herbicide treatments
- 2014-Expanded surveys to determine extent of infestations and continued herbicide treatments
- Goal – improve control methods, containment and prevention of spread, local eradication

Mechanical Removals

- Mechanical removal has been tested for effectiveness
- In 2013 and 2014, over 8,500 pounds have been removed
- Mechanical removals are done prior to development of turions

After

Before

Herbicide Test Plots

- Currently testing three herbicides for effectiveness
  - Imazapyr
  - Triclopyr
  - Diquat

Michigan Invasive Species Grant

- 4 million given out in grant money for projects working with invasive species
  - Frog-bit was listed as one of the priority species under this grant program
- Multiple projects funded plan to map and treat Frog-bit

Partnership Example

- Eastern Upper Peninsula CWMA
- Assisted in surveys in removals
- Conducted a large removal at Raber Bay in 2014
  - Volunteers from Lake Superior State University and Bay Mills Indian Community
  - Just over 1,000 pounds removed


Questions?
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