



Three Invasive Macrophytes in Ohio:

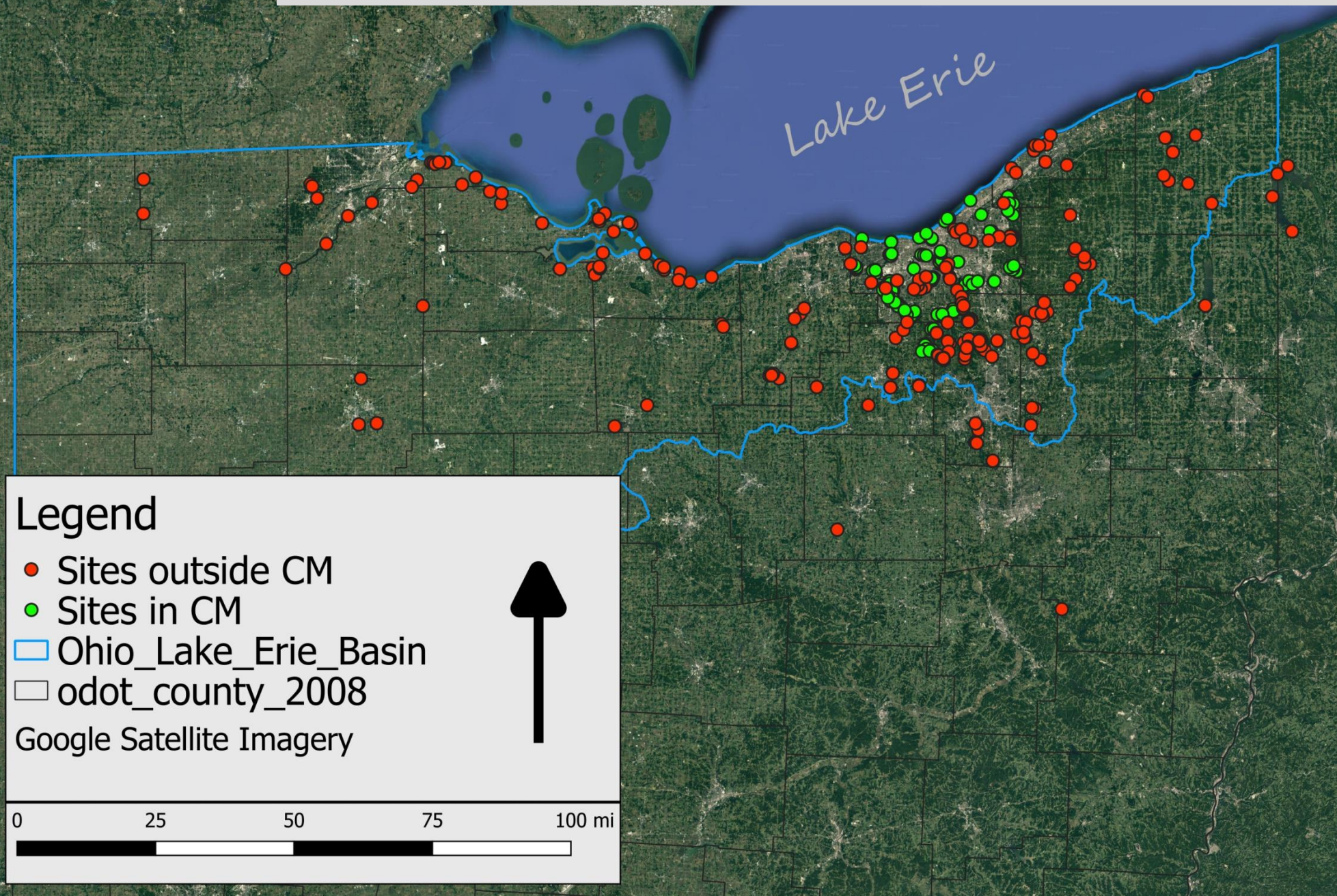
Hydrilla verticillata, *Nymphoides peltata*,
Hydrocharis morsus-ranae

Ohio Aquatic Invasive Species Meeting
12-10-19



Aquatic Invasive Species Survey Sites

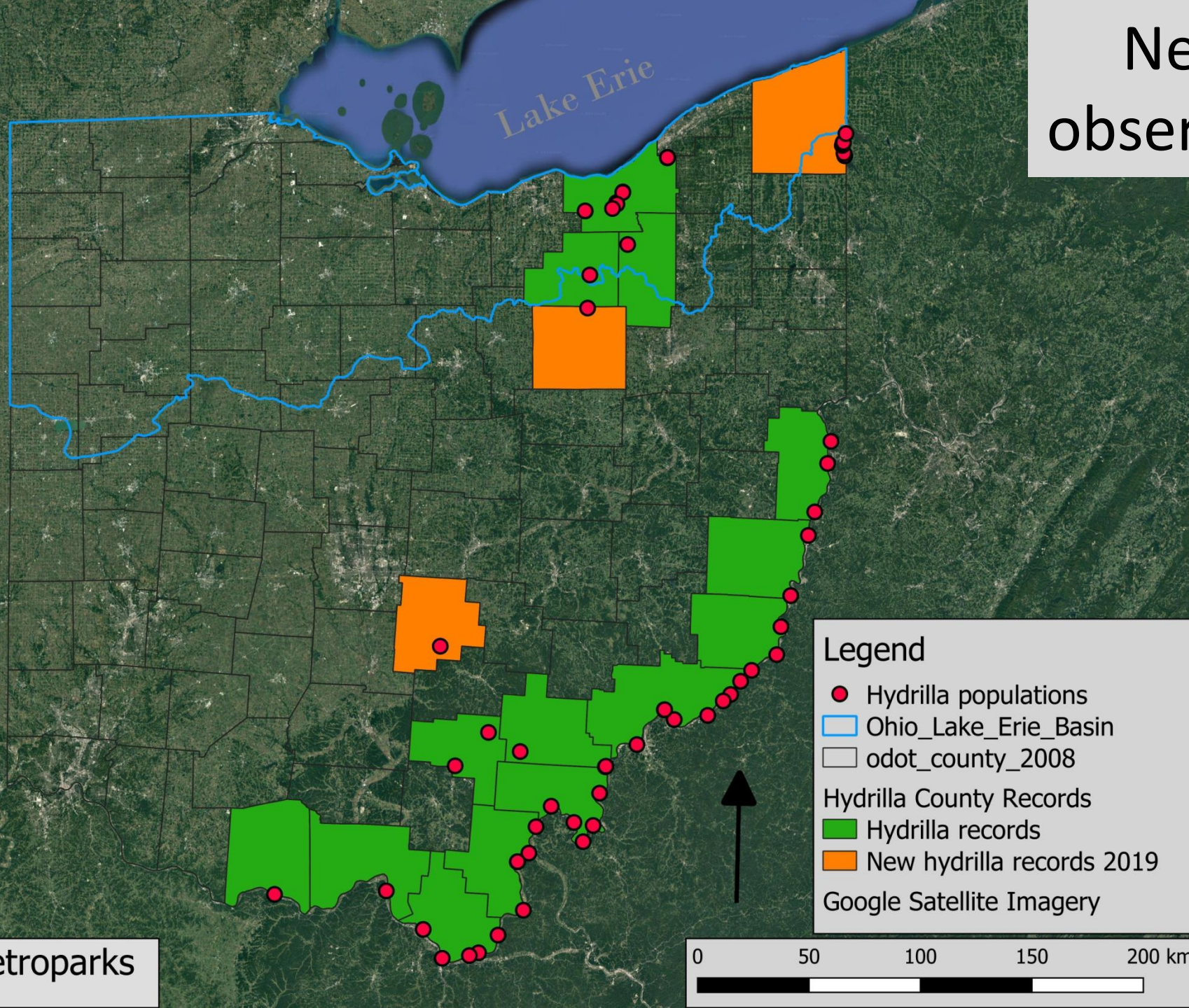
2017-2019



202
external sites

126
sites in CM

New *Hydrilla* observations 2019



17 counties in OH

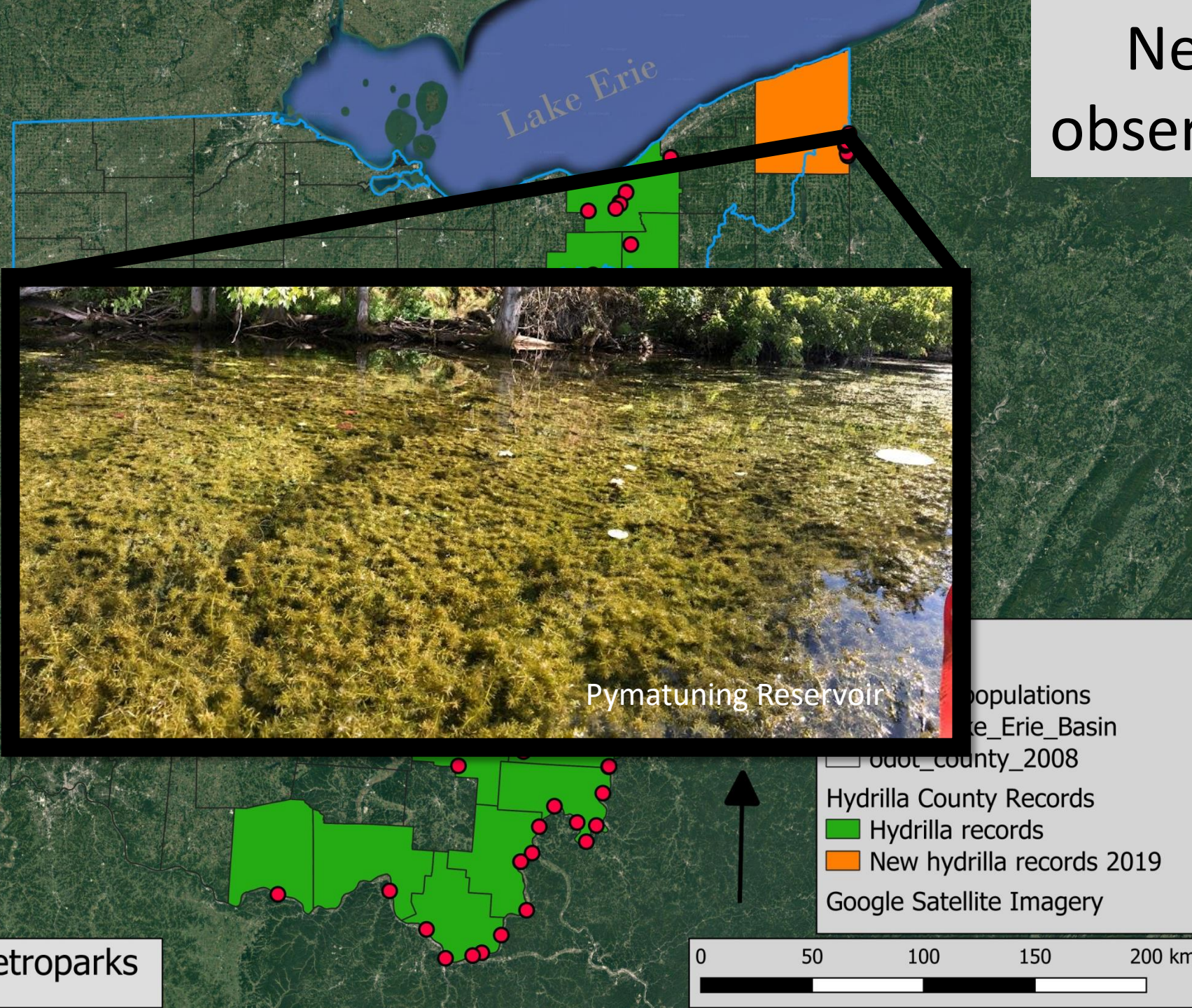
61 total occurrences reported

All Lake Erie Basin populations treated

Records collected from USGS NAS Database, EDDMapS, and iNaturalist on 12/2/19

Cleveland Metroparks

New *Hydrilla* observations 2019



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Hydrilla Management

Chemical

Sonar (Fluridone)

- systemic
- 7-10 years
- eradication possible

Contact treatment:

Aquathol, Cutrine, Diquat

ProcellaCOR

Mechanical

Not used in Ohio

May fragment plants

Fragments may spread

Not recommended for
eradication

Biological

Grass carp

Tuber weevils

Leafcutter moth

Not currently used
in Ohio

Hydrilla Management

Chemical

Sonar (Fluridone)

- systemic
- 7-10 years
- eradication possible

Contact treatment:

Aquathol, Cutrine, Diquat

ProcellaCOR



Cleveland Metroparks sites	<i>Hydrilla</i> last detection	Treatment end date	Monitoring ends (tuber sampling, vegetation survey)
Blue Heron Marsh	2014 (vegetation)	2019*	2022
Greathouse wetlands	2018 (tuber)	2023	2027
Sanctuary & Sunset Pond	2014 (tuber + veg.)	2019*	2022
Wallace Lake	2014 (tuber)	2019*	2022
Washout wetlands	2014 (tubers)	2019*	2022

*Did treat in 2019 with ODNR hydrilla subsidy

Risk of Spread: *Hydrilla*

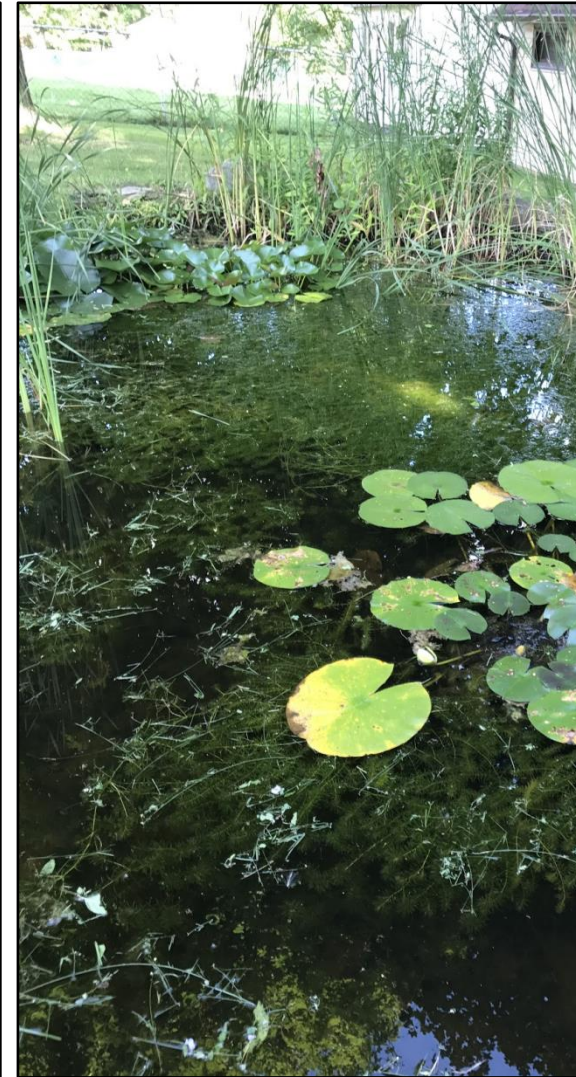
Aquaculture industry
including online sale

Fragmentation

Public locations w/infestations

Animal vector

Via water currents, flooding

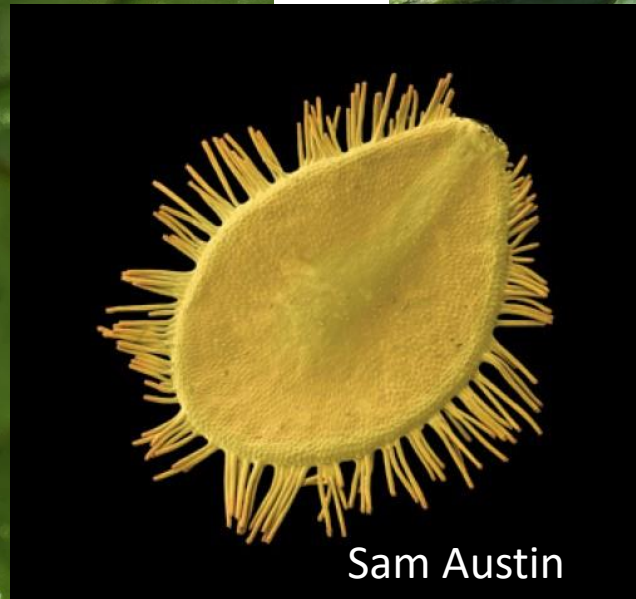


Yellow Floating Heart (YFH)

Nymphoides peltata



Flowers, 10-1-19

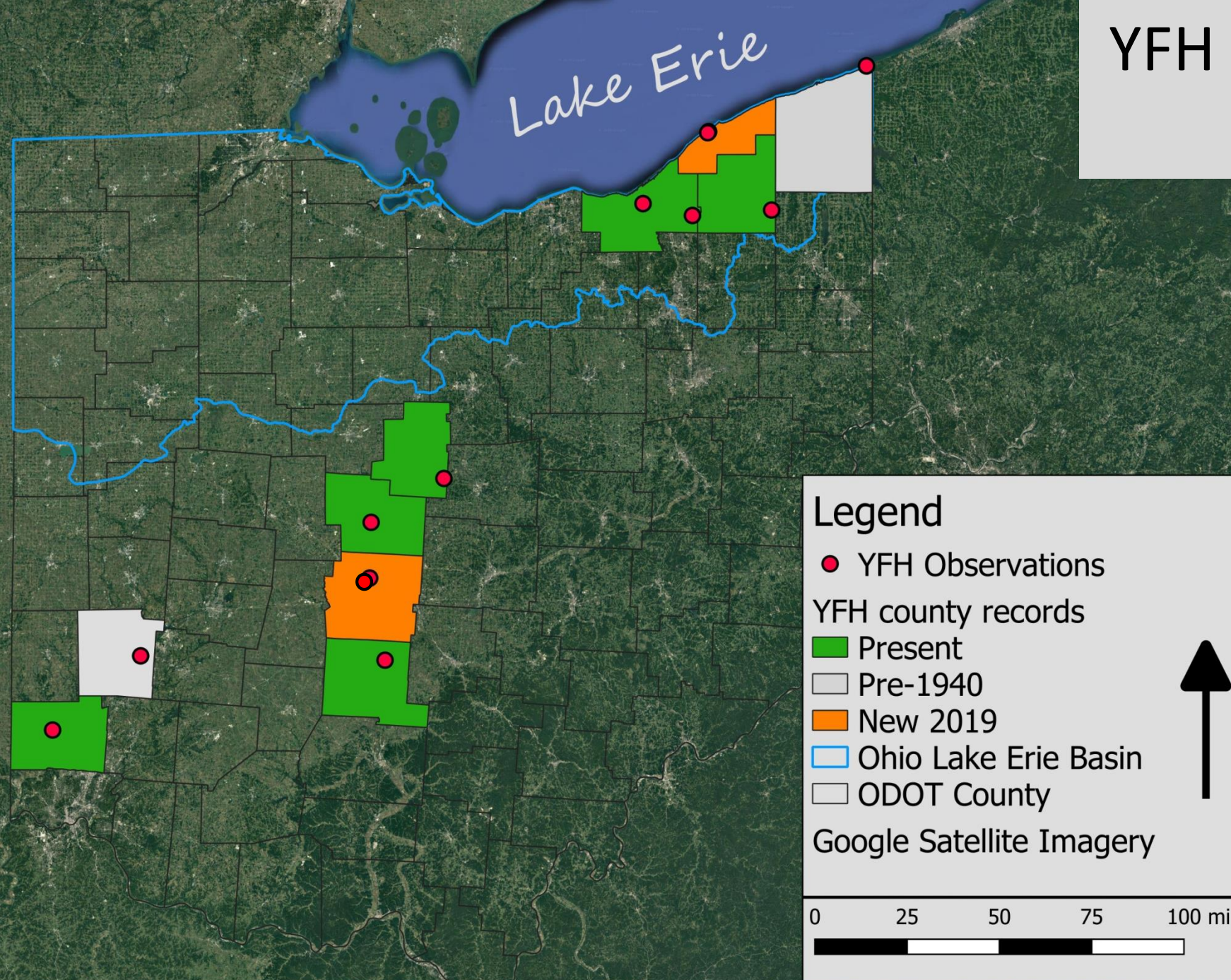


Sam Austin

Seed pods, 10-1-19



YFH Observations 2019

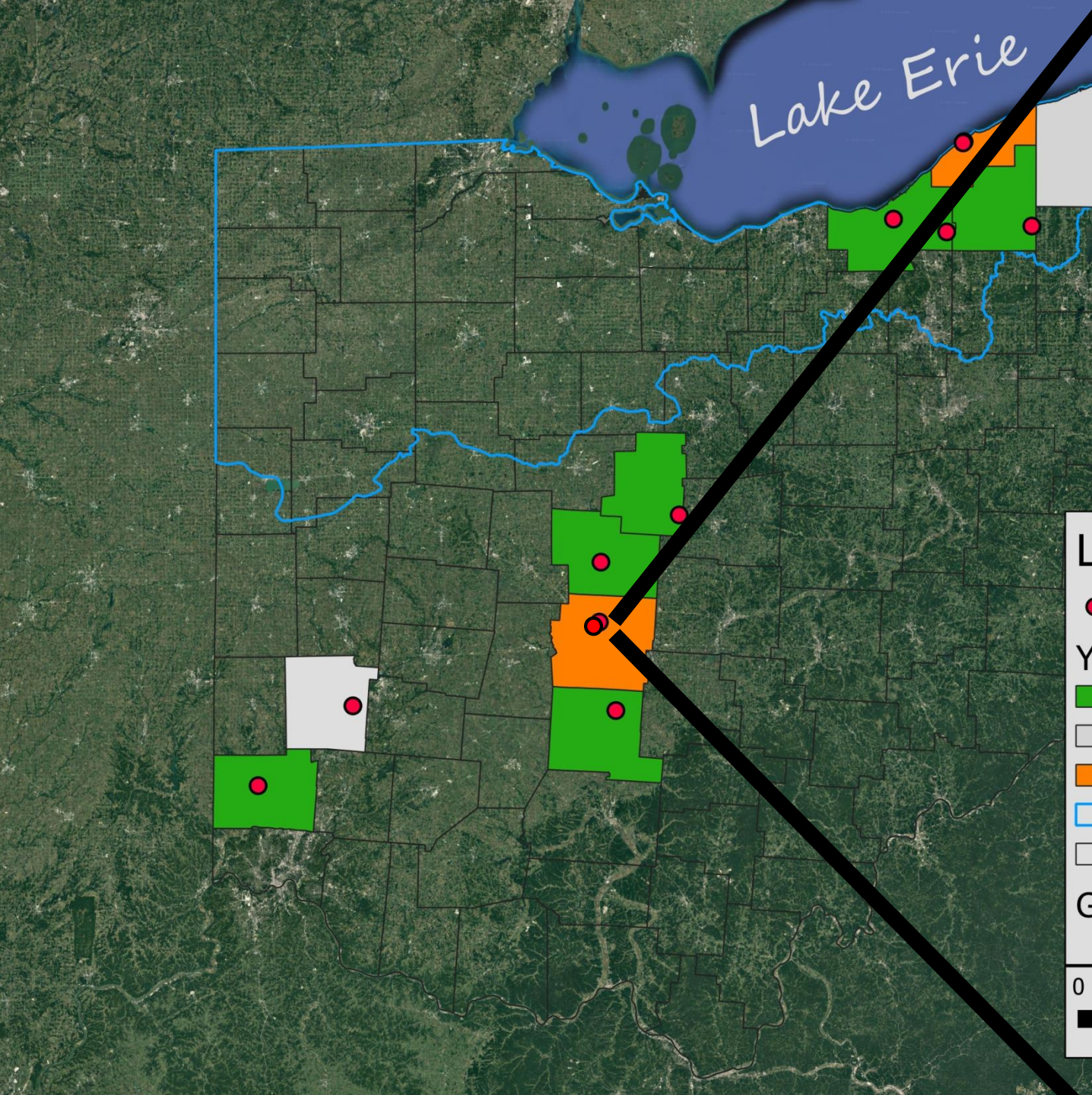


Grey is pre-1940

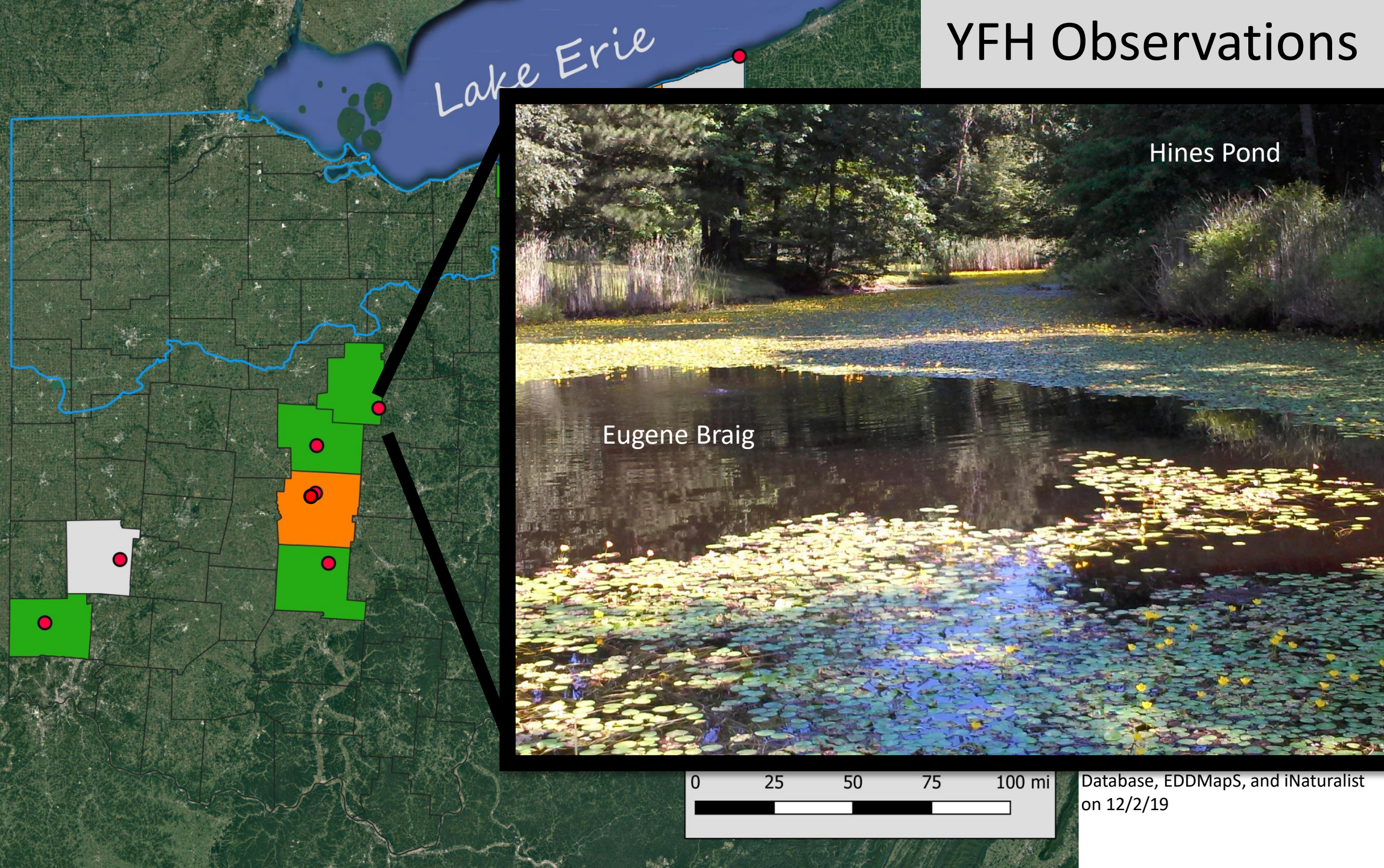
Green is between
2004 – 2018

2019 -
Mentor Lagoons
Mentor Marsh
Whetstone Park
Pond

Records collected from USGS NAS
Database, EDDMapS, and iNaturalist
on 12/2/19



YFH Observations



YFH Management

Chemical

Diquat

Imazapyr

ProcellaCOR

Mechanical

Carefully hand-pull

May leave root fragments

Best in Spring to prevent
seed production

Biological

Some native generalists
exist

No agents yet approved



Risk of spread

Avian hitchhiking vector

Aquaculture industry

Stems as long as 13 feet

Overwinters as dormant,
tuberous rhizomes

Early Detection Rapid Response



*Hydrocharis
morsus-ranae* (EFB)

Metzger Marsh
10-9-19

EFB Observations 2019

Legend

- EFB records
- Ohio_Lake_Erie_Basin
- odot_county_2008

EFB county records

- 2004
- 2012
- 2017
- 2019

Google Satellite Imagery

0 25 50 75 100 mi



Lake Erie

32 new observations in
2019

54 total observations

likely in Sandusky Co.

may be in Stark Co.

Records collected from USGS NAS
Database, EDDMapS, and iNaturalist
on 12/2/19

EFB Management

Chemical

Diquat

Endothall

Flumioxazin

Sonar

Mechanical

Carefully hand-pull

May leave fragments

Should be done in
the spring

Biological

Some generalist feeders
can eat this plant

No agents approved yet



Risk of Spread

Via water currents

Waterfowl

Turions, rosette
fragments,
and seeds(?)

Aquarium trade



North Canton, 8-29-19

Risk of Spread

Magee Marsh
Photo by Eugene Braig





Conclusion

- 1) Aquaculture vector still active
- 2) Education and Outreach to alert private landowners
- 3) Develop strategy for dealing with YFH and EFB
- 4) Advocate for native plants
- 5) Involve others with AIS prevention efforts.

Surveys continue in 2020



Thank you  and  for funding the AIS project in 2020

Questions?

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**Great Lakes
RESTORATION**

