

Expanded Detection and Control of *Hydrilla* in Ohio's Lake Erie Basin

Ohio Aquatic Invasive Species Committee Meeting

Mark Warman

Hydrilla Project Coordinator

3-9-2017



Hydrilla verticillata – Du Jour



Lotussuperfoods.com



...something that is enjoying great but probably **short-lived popularity or publicity.**



Good Greens

“I love hydrilla! I take a teaspoon almost everyday in a smoothie!”

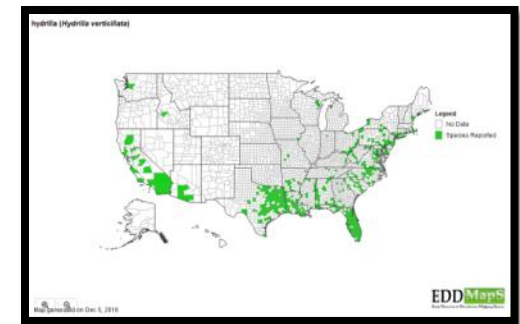
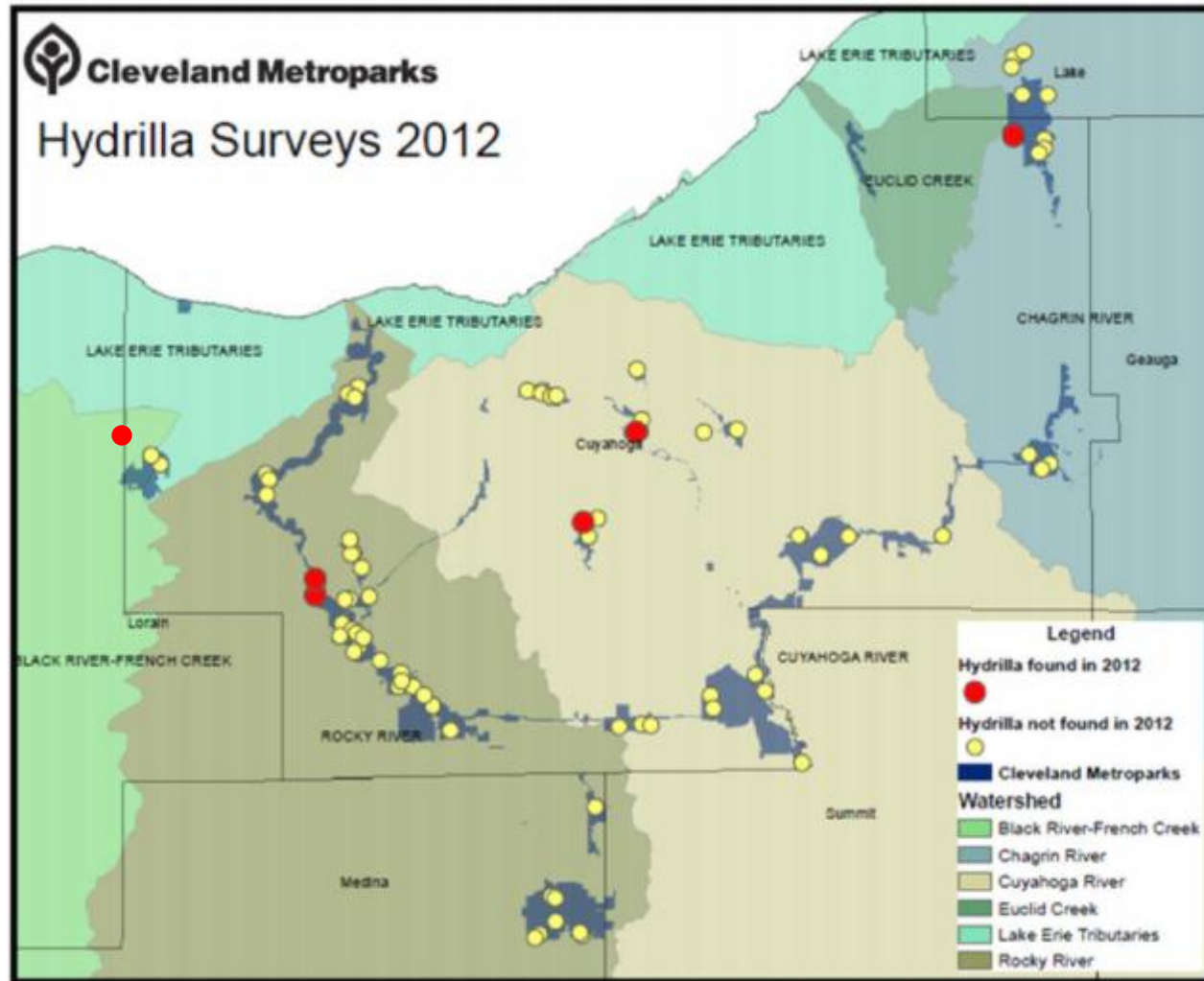
“Hydrilla is really amazing – my energy levels have been through the roof!”

Cleveland Metroparks Hydrilla Management

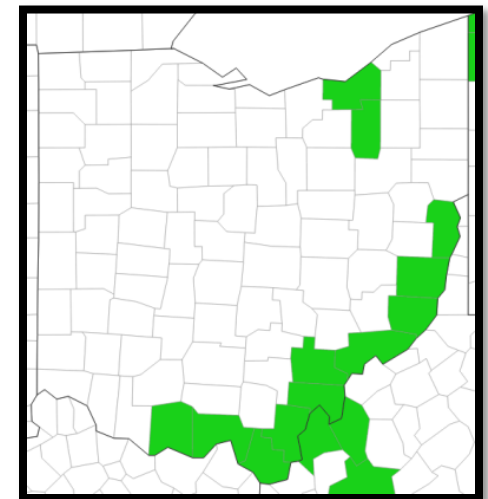


West Creek Reservation, Parma, Ohio 2011

Hydrilla distribution

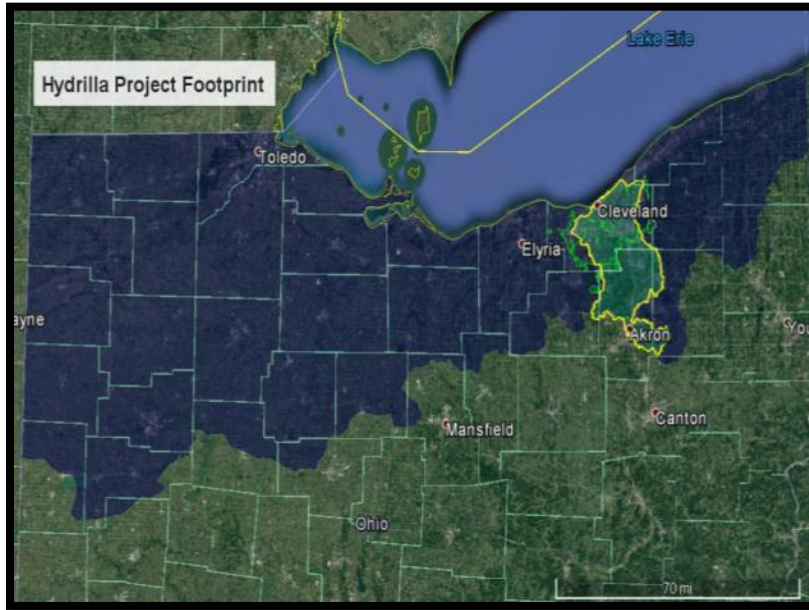


Recorded in 29 states
2017 distribution



- 80 + sites annually
- Rocky River, Chagrin, Cuyahoga
- Presence / absence
- One report outside of CMP

Cleveland Metroparks Hydrilla Project 2017 – 2018



Education & outreach

Lake Erie
Basin



Survey 80+ sites, 23,000+ acres

Cleveland
Metroparks



Cuyahoga
AOC

Expand detection network*



Sampling for hydrilla tubers

Publicized on CWMA website

Train/advise region on survey and treatment techniques

Oversee treatment on up to 25 new acres

*Obtain access permission for surveys

Methods: Right of Entry

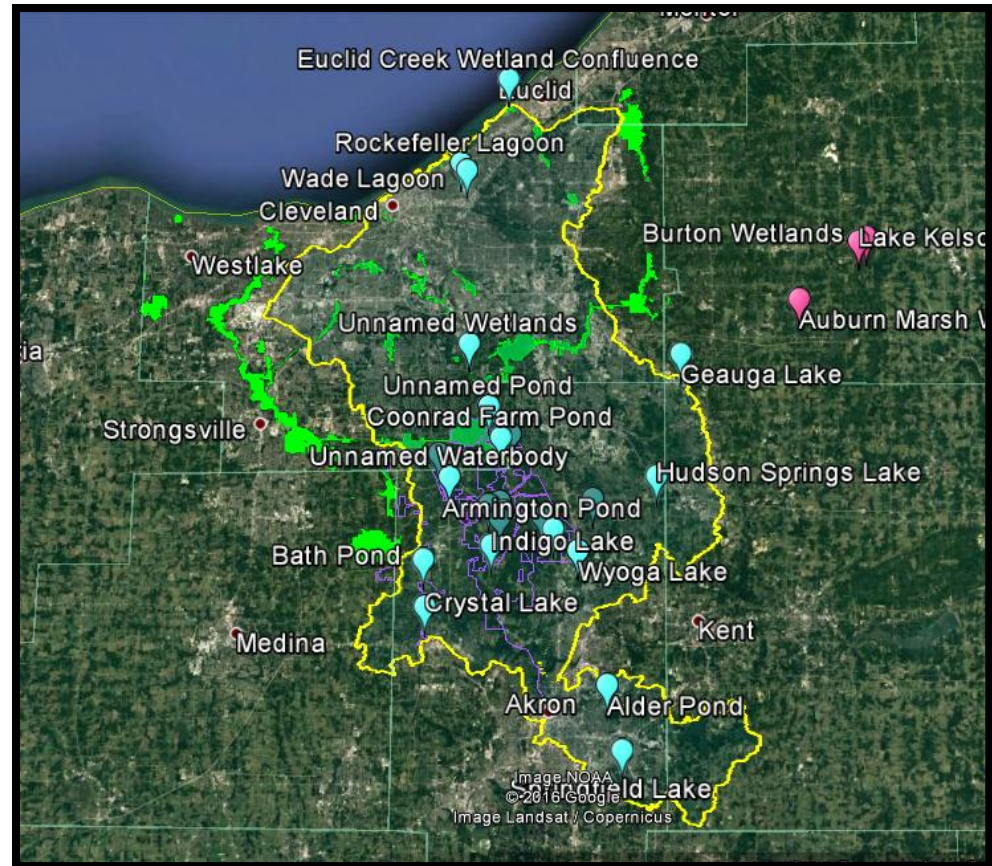
-Publicly-accessible

-Partnerships

- CMNH
- Local watershed groups
- National Park Service
- ODNR
- Sewer treatment plants
- Soil & water conservation districts
- Townships
- Western Reserve Land Conservancy

-Cold calls

-Right of Entry Form



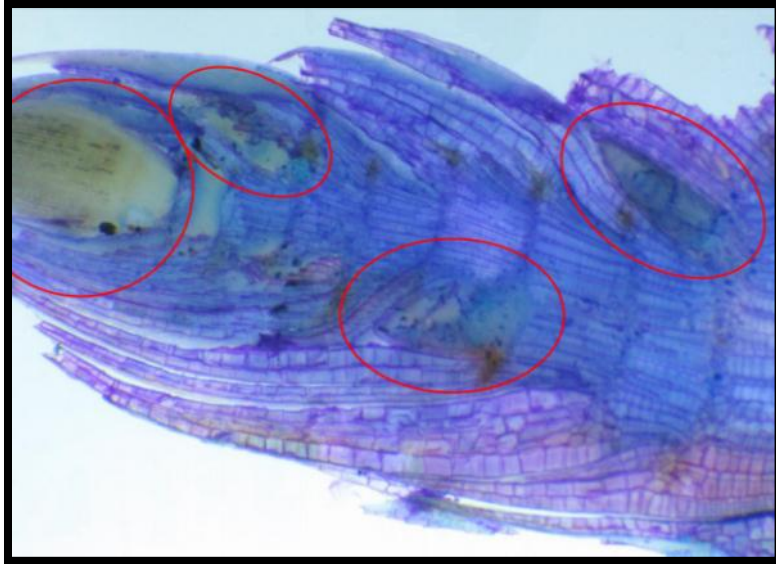
Cuyahoga AOC

Methods: Surveys

- Wader surveys
- Rake toss surveys
- Boat surveys
- Decontamination
- Tuber sampling...

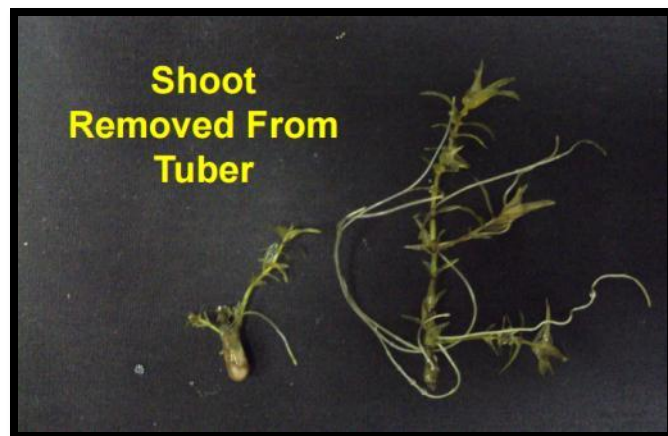


A bit more about tubers



NC State University

- Monoecious tubers at density of 3,000 m²
- 7-10 years elimination of tuber bank
- One year of treatment skipped, tuber density rebound 74%



NC State University

Hydrilla Spread

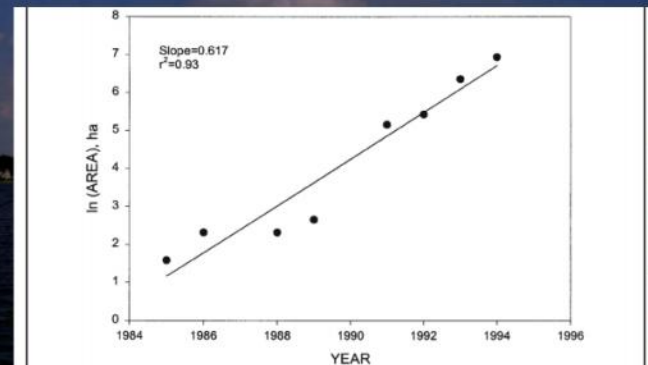
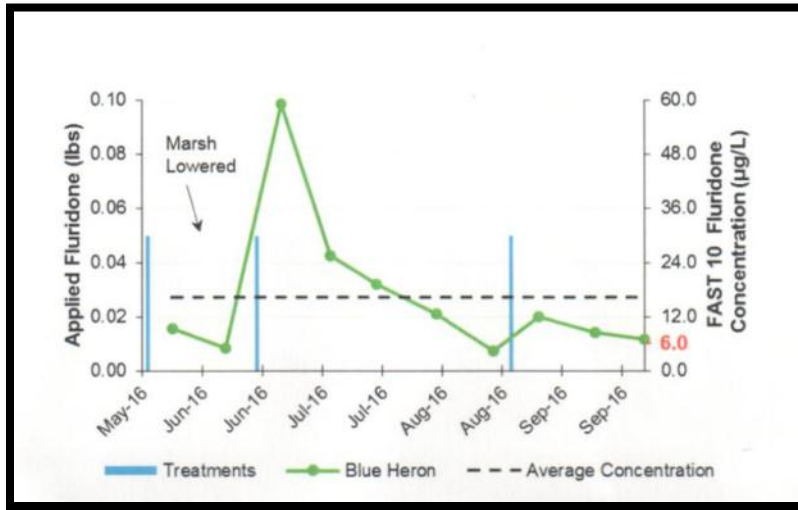


Figure 2. Exponential expansion rate calculated from data on the area of hydrilla versus year, Gaston Lake, NC

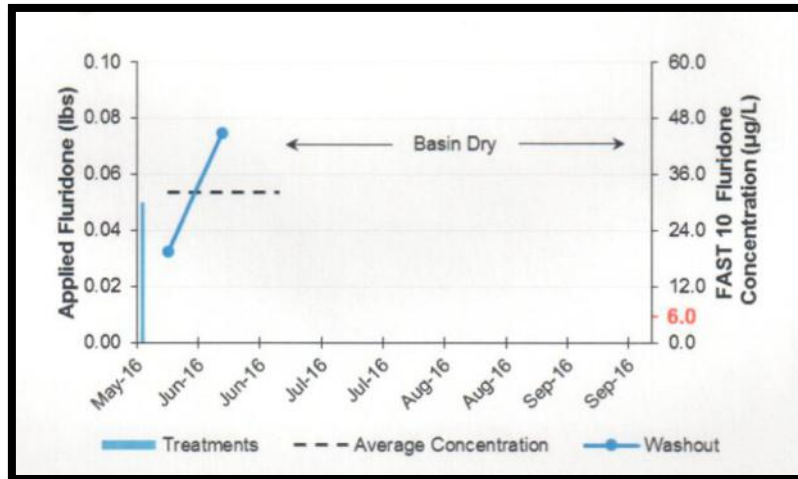
Madsen and Owens 2000

This is an 80% rate of increase per year in monoecious hydrilla

Methods: Management



Aqua Doc



Aqua Doc



- Shallow wetlands
- Fluridone & penoxsulam
- Hydrilla selective herbicide

Methods: **\$99,152.47**
Cost

Costs to CMP, 2011 - 2016

GLRI funds for 25 acres



Hydrilla at Wakulla Springs, Florida
Hydrilla verticillata
Photo by Vic Ramey
Copyright 1998 Univ. Florida

Methods: Outreach

- Hands-on, in-the-field training
- Support from Ohio Sea Grant
- Mobilizing volunteers
- Decontamination protocol
- Shared on CWMA website



Watershed Volunteer Program training

Question:

Would you be interested in attending a training?

Methods: Data Management

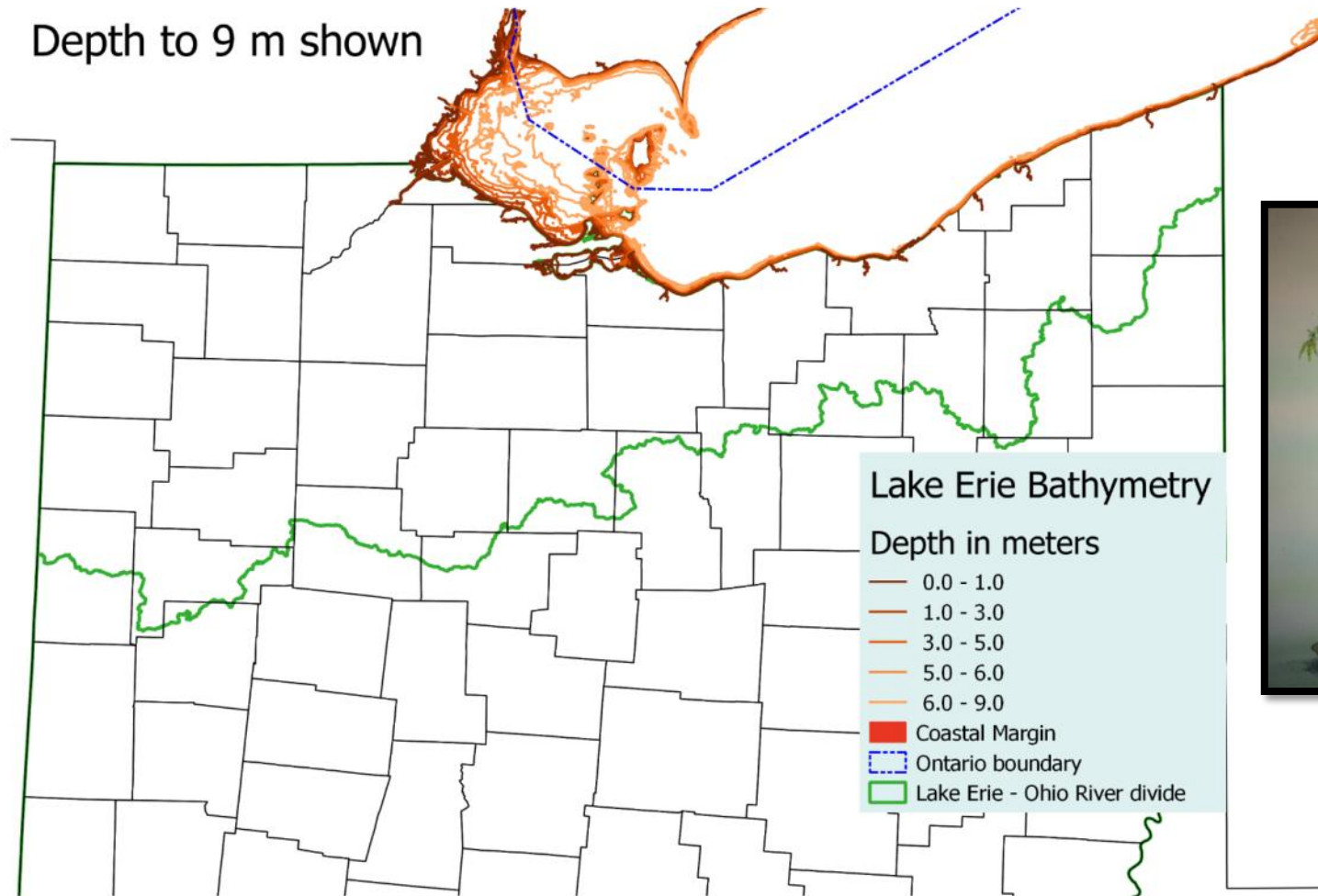
- Cleveland Metroparks Database
 - Fulcrum
- EDDMapS
- CWMA website



EDDMapS
Early Detection & Distribution Mapping System

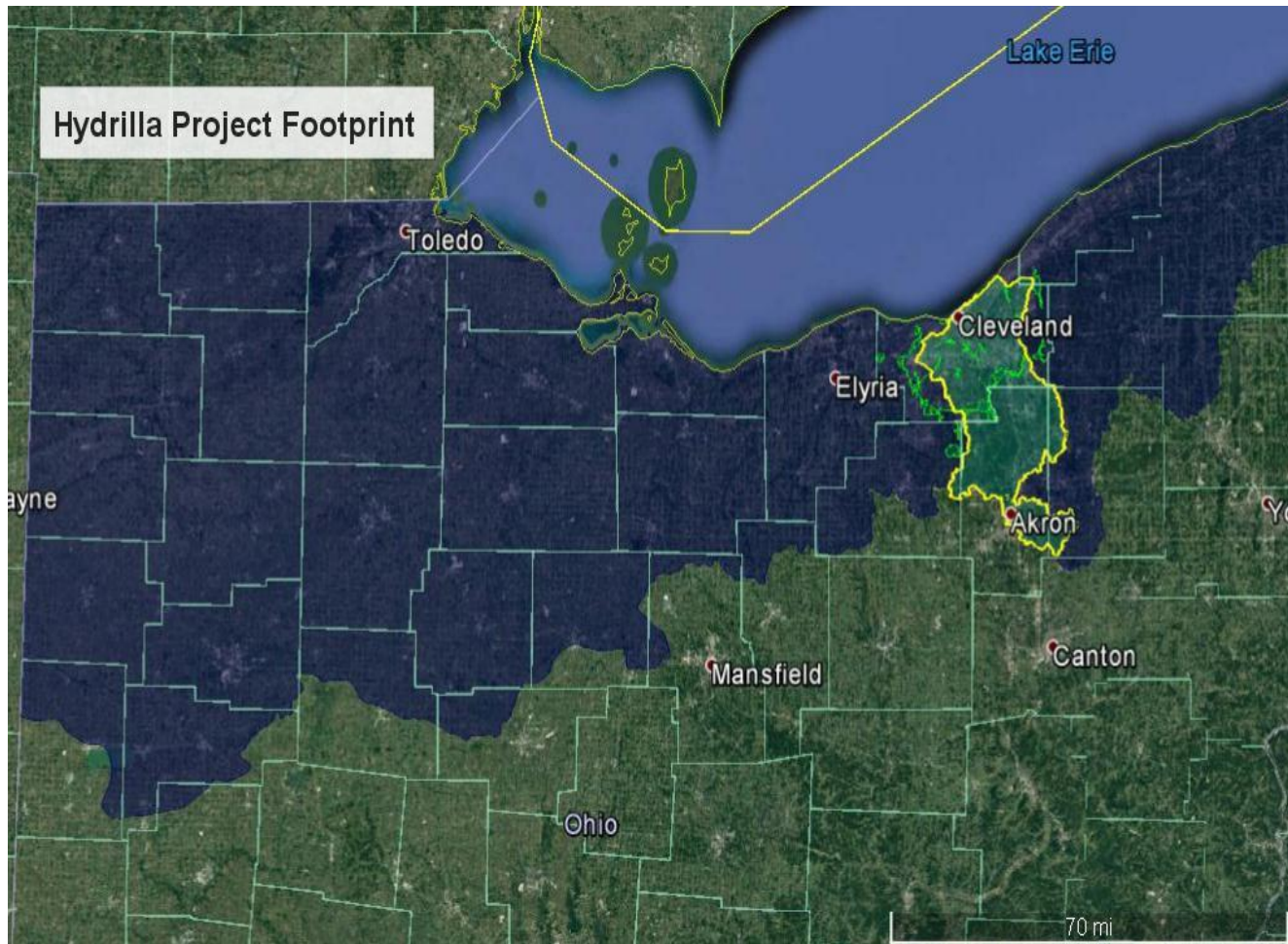
<https://www.eddmaps.org>

Possible *Hydrilla* Territory





Hydrilla Project Review



Outreach

- Training
- Presentations
- Shared handouts

Continued management

Expanded detection

- Survey
- Collaborate
- Fund / Oversee treatment

Help us have an impact in the Lake Erie Watershed

Avian Vacuolar Myelinopathy

Aetokthonous hydrillicola

“Eagle Killer that lives on Hydrilla”

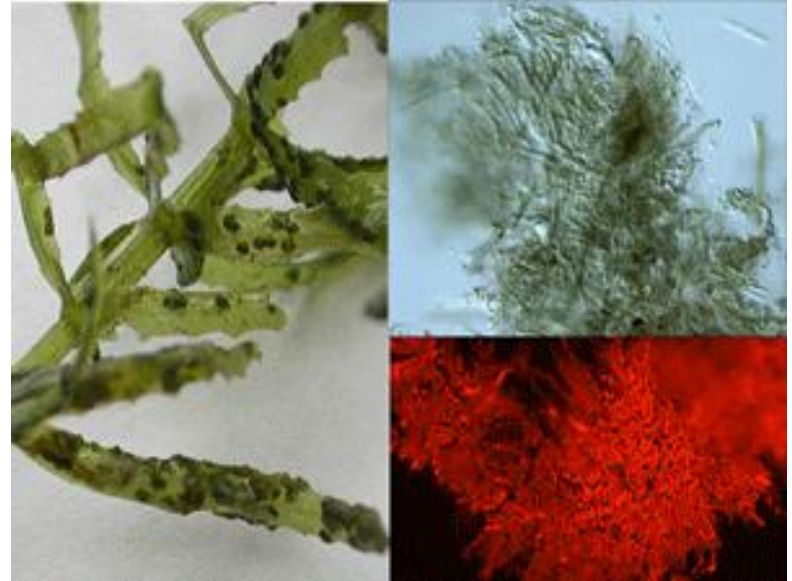
Toxic cyanobacteria grows on *Hydrilla*

Fatal brain lesions

>1,000 American coot deaths

At least 100 bald eagle deaths

First recorded in 1994



SCDNR, 2016

Affects Canada geese, great horned owls, killdeer, mallards, ring-necked ducks, buffleheads, northern shovelers, American widgeons, and other waterfowl

Ecosystem effects

-Reduced sport fish weight

- Fish kills
- Decreased oxygen

Scores Of Fish Die - Hydrilla Blamed

October 29, 1994 | By Katherine Bouma of The Sentinel Staff

-Outcompetes native vegetation

-Alters water chemistry

- Implicated in zooplankton and phytoplankton declines

-Stratifies water column



Question:

What do you need to survey for hydrilla?

Thank You

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