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

Ohio Aquatic Invasive Species Committee Meeting

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Hydrilla verticillata – Du Jour

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

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

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

- Recorded in 29 states
- 2017 distribution

- 80 + sites annually
- Rocky River, Chagrin, Cuyahoga
- Presence / absence

- One report outside of CMP

Infested counties
Cleveland Metroparks Hydrilla Project 2017 – 2018

Education & outreach

Survey 80+ sites, 23,000+ acres

Expand detection network*

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

Sampling for hydrilla tubers
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
Methods: Surveys

- Wader surveys
- Rake toss surveys
- Boat surveys
- Decontamination
- Tuber sampling...
A bit more about tubers

- Monecious tubers at density of 3,000 m$^2$
- 7-10 years elimination of tuber bank
- One year of treatment skipped, tuber density rebound 74%

NC State University

NC State University

NC State University

Nawrocki 2011

Nawrocki 2011
Methods: Management

- Shallow wetlands
- Flouridone & penoxsulam
- Hydrilla selective herbicide
Methods: Cost

$99,152.47
Costs to CMP, 2011 - 2016

GLRI funds for 25 acres
Methods: Outreach

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

Question:
Would you be interested in attending a training?
Methods: Data Management

- Cleveland Metroparks Database
  - Fulcrum
- EDDMapS
- CWMA website

https://www.eddmaps.org
Possible *Hydrilla* Territory

Depth to 9 m shown
Hydrilla Project Review

Help us have an impact in the Lake Erie Watershed

Outreach
- Training
- Presentations
- Shared handouts

Continued management

Expanded detection
- Survey
- Collaborate
- Fund / Oversee treatment
Avian Vacuolar Myelinopathy

*Aetokthonous hydricolicola*

“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

- 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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