

Hydrilla Early Detection/Rapid Response – Lake County, IL

Mike Adam, Deputy Director

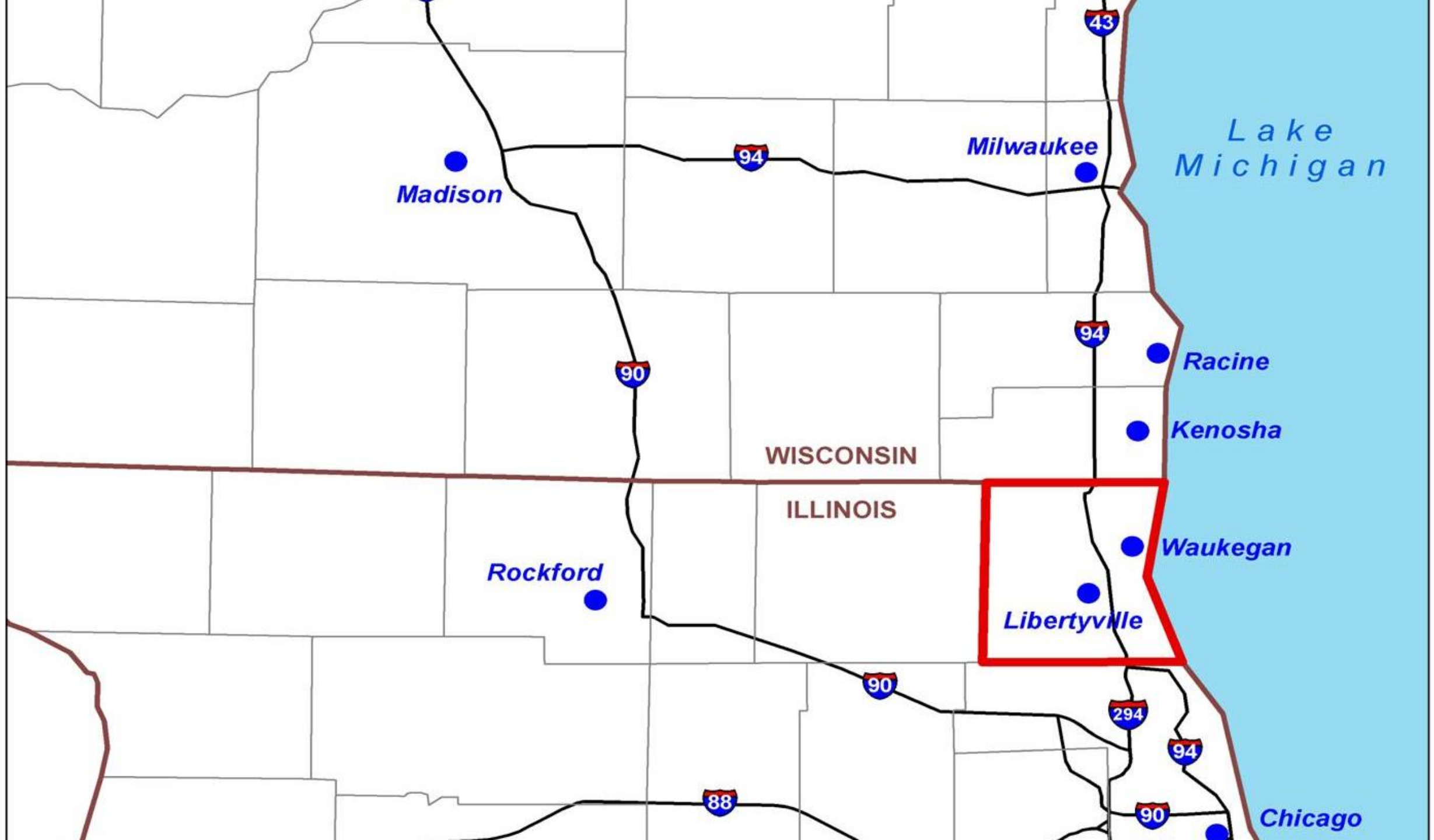
Illinois Lake Management Association
March 13, 2020



LakeCounty

Health Department and
Community Health Center





Lake County Lakes

- Over 200 Lakes
 - Highest concentration of glacial lakes in IL
- Lake Michigan
- Over 100 Swimming Beaches (>1/4 in IL)
- High recreational, property and tourism value
- High ecological value
 - Threatened and endangered aquatic species



Hydrilla

- *Hydrilla verticillata* is considered the perfect aquatic weed.
- It can grow very rapidly and once it reaches the water surface it can quickly produce a dense mat of stems that outshades native submerged aquatic plants.
- It requires little light to grow and can readily colonize deep water (up to 3 meters deep).
- One tuber can produce over 6000 new tubers per m² and several thousand turions.
- Millions of dollars spent in control annually in US.



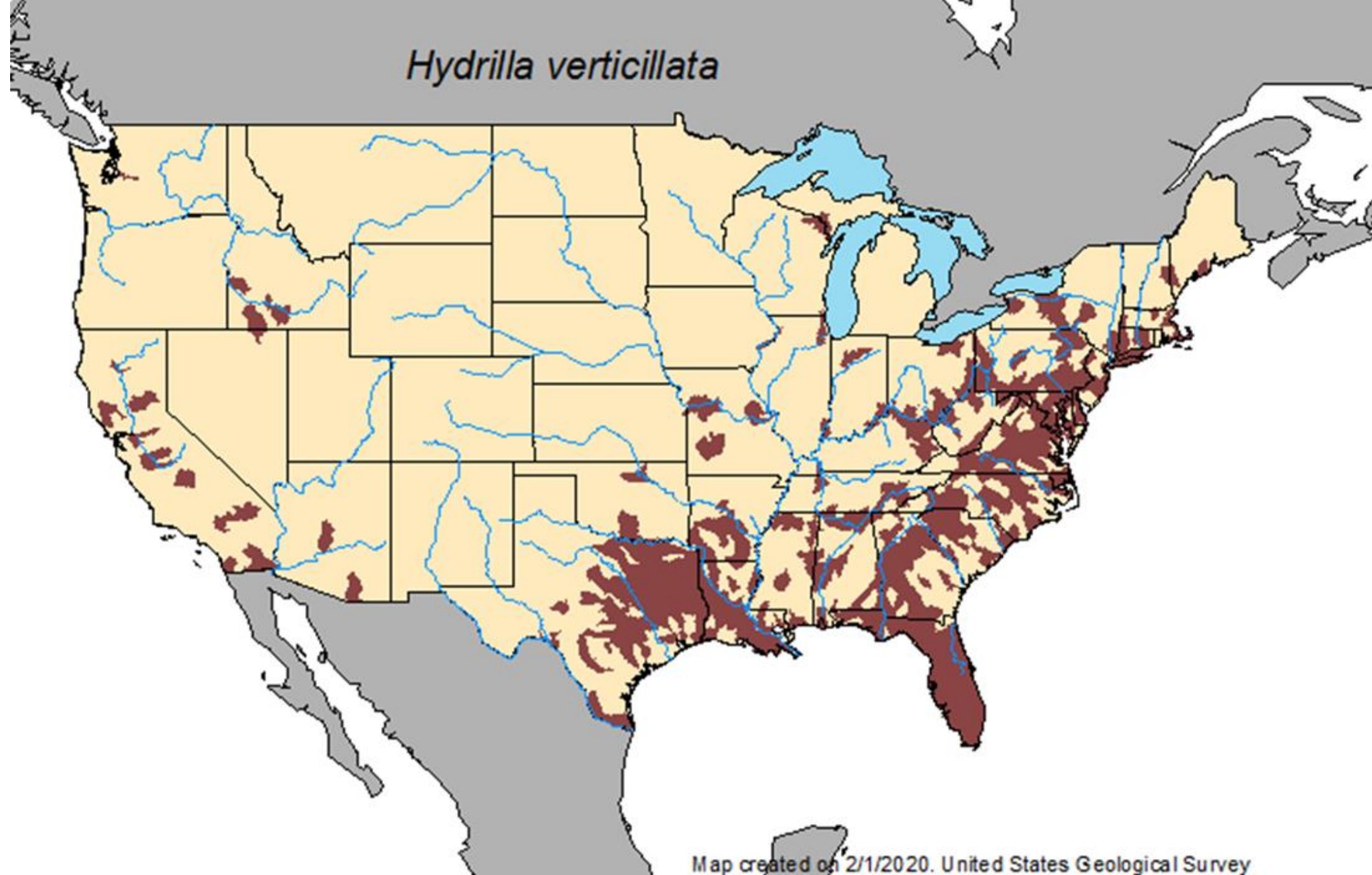
Hydrilla in Midwest

- Wisconsin – small pond, 2005
 - 1.5 acres
 - Pond drained and dredged

- Indiana – Lake Manitou, 2006
 - 775 acres
 - Lake closed to outside boats
 - >\$1 million spent in control



Hydrilla verticillata



Map created on 2/1/2020. United States Geological Survey

Funded by the
Illinois
Department of
Natural
Resources (IDNR)



Early Detection Rapid Response Plan
for *Hydrilla verticillata* in Illinois



updated
January 2015



prepared by:
Illinois Hydrilla Task Force

- Education
- Early Detection
- Rapid Response

Illinois Hydrilla Task Force

(established 2014)

- Northeast Illinois Invasive Plant Partnership (Cathy McGlynn, now in NY)
- Chicago Botanic Garden (Bob Kirschner, now retired)
- Lake County Health Department (Mike Adam, still here)
- Steering Committee (14 members)
 - Illinois Department of Natural Resources (Kevin Irons, Invasive Species Coordinator)



Hydrilla Hunt!

Card (3" x 5")

UNWANTED:
Hydrilla

An invasive aquatic plant recently found in neighboring states, hydrilla could be very detrimental to Illinois fishing, boating and swimming along with waterfront property values. Early detection of hydrilla in Illinois could save millions of dollars in control costs.

HELP IDENTIFY THIS PLANT EARLY ON WHEN POPULATIONS ARE STILL SMALL ENOUGH TO ERADICATE AND MANAGE.

Keep this card handy in your boat or tackle box and let us know right away if you think you've found hydrilla. To learn more about hydrilla and the Hydrilla Hunt! program, visit

www.niipp.net/hydrilla


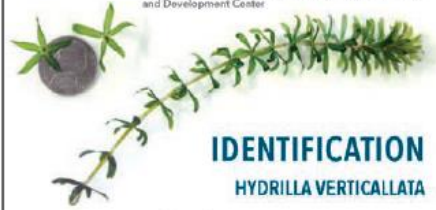



Photo: Michael J. Grodowitz, U.S. Army Engineer Research and Development Center



IDENTIFICATION
HYDRILLA VERTICALLATA



a. whorls of **more than 3** leaves
b. leaves often have **visibly toothed** edge
c. leaf vein often has **small visible spines**

Illustration: Center for Aquatic and Invasive Plants, University of Florida

Notice the **toothed edges** of hydrilla leaves, as well as the whorls of **more than three** leaves.




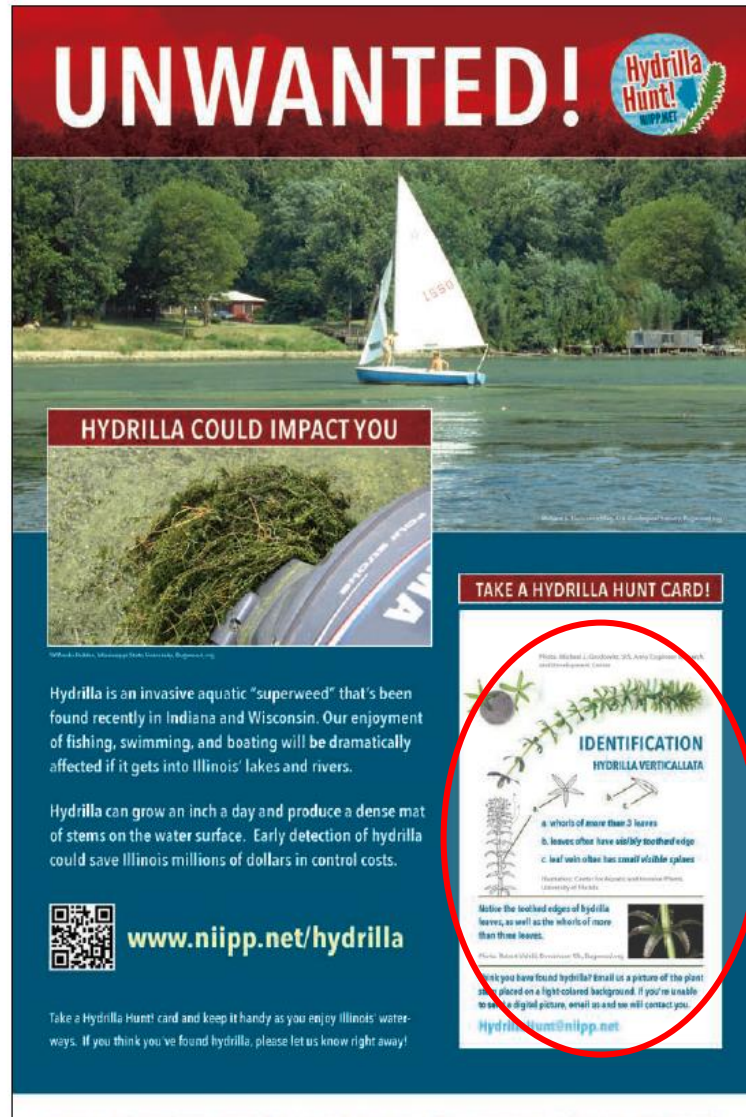
Photo: Robert Vidáki, Doronicum Kft., Bugwood.org

Think you have found hydrilla? Email us a picture of the plant stem placed on a light-colored background. If you're unable to send a digital picture, email us and we will contact you.

HydrillaHunt@niipp.net

Hydrilla Hunt!

Poster (8.5" x 14")



UNWANTED! Hydrilla Hunt!

HYDRILLA COULD IMPACT YOU

Hydrilla is an invasive aquatic "superweed" that's been found recently in Indiana and Wisconsin. Our enjoyment of fishing, swimming, and boating will be dramatically affected if it gets into Illinois' lakes and rivers.

Hydrilla can grow an inch a day and produce a dense mat of stems on the water surface. Early detection of hydrilla could save Illinois millions of dollars in control costs.

www.niipp.net/hydrilla

Take a Hydrilla Hunt! card and keep it handy as you enjoy Illinois' waterways. If you think you've found hydrilla, please let us know right away!

TAKE A HYDRILLA HUNT CARD!

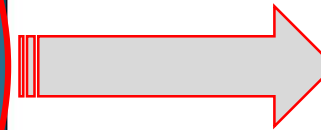
IDENTIFICATION
HYDRILLA VERTICALATA

- a. whorls of more than 3 leaves
- b. leaves often have slightly notched edge
- c. leaf vein often has small white spots

Follow the notched edges of hydrilla leaves, as well as the whorls of more than three leaves.

If you have found hydrilla! Email us a picture of the plant stem placed on a light-colored background. If you're unable to send a digital picture, email us and we will contact you.

HydrillaHunts@niipp.net




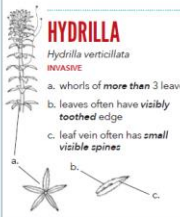

Lake Volunteers

ILLINOIS' LEAST WANTED!

Hydrilla is a highly invasive aquatic plant that threatens the health of Illinois' lakes and rivers—as well as fishing, boating, and swimming. It's **very** easily confused with American elodea (a desirable native aquatic plant), as well as Brazilian elodea (another invasive aquatic plant). If you think you've seen *hydrilla* or *Brazilian elodea*, please take a picture and let us know right away—see the reverse side for contact information.

Hydrilla Hunt!
NIIPP.NET

Join the Search!

INVASIVE	NATIVE
 <p>Michael J. Godwin, U.S. Army Engineer Research and Development Center</p>	 <p>Christian Fischer, www.common.wikimedia.org</p>
<p>HYDRILLA <i>Hydrilla verticillata</i> INVASIVE</p> <ul style="list-style-type: none"> a. whorls of more than 3 leaves b. leaves often have visibly toothed edge c. leaf vein often has small visible spines 	<p>AMERICAN ELODEA <i>Elodea canadensis</i> NATIVE</p> <ul style="list-style-type: none"> a. whorls of exactly 3 leaves b. leaves do not have visibly toothed edge c. leaf vein is smooth underneath 
<p>BRAZILIAN ELODEA <i>Egeria densa</i> INVASIVE</p> <ul style="list-style-type: none"> a. whorls of more than 3 leaves b. leaves do not have visibly toothed edge c. leaf vein is smooth underneath  <p><small>Illustrations: Center for Aquatic and Invasive Plants, University of Florida</small></p>	<p>HYDRILLA: THE PERFECT AQUATIC WEED</p> <p>Hydrilla is extremely well-adapted for competing in an aquatic environment. It grows quite rapidly—up to one inch a day! Once hydrilla reaches the water surface, it can quickly produce a dense mat of stems that crowds out desirable native plants. Within the past few years, hydrilla has been discovered in Wisconsin and Indiana, and it could arrive in Illinois very soon. Early detection of hydrilla could save Illinois millions of dollars in control costs, and prevent many recreational and ecological impacts. Please help identify this plant early on when populations are still small enough to eradicate and manage!</p>  <p><small>Richard S. Hammen, U.S. Geological Survey, Bugwood.org</small></p>

HOW CAN I HELP?

If you think you have found hydrilla or Brazilian elodea, please use your phone or digital camera to take one or two close-up photos of a plant stem placed on a light-colored background (then discard the plant fragment in the trash). Email your photos to us at hydrillahunt@niipp.net

MORE INFORMATION

To learn more about hydrilla, and for more information about the Hydrilla Hunt! program, visit www.niipp.net/hydrilla


We will acknowledge receipt of your email and let you know what we see. If you're not able to send us a digital picture, email us and we will contact you. *Thanks!*

TUBERS: A SPECIAL CHARACTERISTIC OF HYDRILLA

Hydrilla produces tubers that grow in the sediment of lakes and streams. Each tuber can produce a new plant. The tubers are less than 1/2 inch long and can remain alive for many years.

NOTE: native American elodea (*Elodea canadensis*) and Brazilian elodea (*Egeria densa*) do **not** produce tubers.


Notice the toothed edges of hydrilla leaves, as well as the whorls of more than three leaves.



Larisa J. Makhoff, Univ. of Connecticut, Bugwood.org



Robert V. G. A., Dominion KH, Bugwood.org



Photos: Robert V. G. A., Dominion KH, Bugwood.org

Education

DNR taking 'proactive' approach to hydrilla concerns

By Javier Serna
Contributing Writer

Springfield — If hydrilla is ever found in Illinois waters, a major effort is being made that will hopefully eradicate the fast-growing invasive aquatic plant before it establishes itself.

"We want to be proactive," said Kevin Irons, DNR's aquatic nuisance species program manager and a member of Illinois' Hydrilla Task Force, a 17-member group formed last fall by the Northeast Illinois Invasive Plant Partnership (NIIPP). "We are certainly concerned. We are trying to put the infrastructure in for dealing with hydrilla. We don't have hydrilla in Illinois, and we want to keep it that way."

An initiative titled, "Hydrilla Hunt" was launched in June to get the public aware and on the lookout for the unwanted plant, which has popped up in neighboring Indiana and Wisconsin in recent years.

The committee's formation and initiative is all part of a roughly \$100,000 effort, funded by the federal Great Lakes Restoration Initiative, to educate the public on the noxious weed in hopes of detecting it early and developing an action plan for eradicating it if



Angela D. Dow assisted on an invasive aquatic plant survey performed by the University of Notre Dame and the Nature Conservancy in 2010. The snorkel survey took place along the rivers and lakes north of the Ohio River in the southern regions of Illinois, Ohio and Indiana.

Photo provided

it is ever found here.

"That may seem like a lot of money, but it's a drop in the bucket compared to what it costs to deal with hydrilla once it has become established," said Cathy McGlynn, coordinator for the NIIPP.

The task force is made up of natural resource professionals from public, private and non-profit sectors.

While the committee still has work to do, it has made progress. It now has the means to purchase and use herbicide in the event hydrilla is found, an effort that will be lead by the Illinois DNR, though many of the partners are in the process of making commitments to help in the effort.

Hydrilla, native to Asia, Europe, Africa and Australia, is hard to control once it has become established. The strain found in the U.S. is believed to have originated in Korea. It typically out-competes native plants and can grow so out of control that it can completely

choke an entire water column, forming thick mats of vegetation that make fishing, swimming and boating difficult.

In the southeast U.S., millions of dollars have been spent battling to keep it in check with herbicide, to only marginal effect.

"One of the keys is early detection," said McGlynn. "If we get to it early on, it's easier to eradicate and contain. It's hard to control once it has established itself."

In Wisconsin, hydrilla is believed to have invaded a private pond that was planted with soil that was contaminated with hydrilla, said McGlynn, who added that the plant was brought under control in the Badger State. In Indiana, which was the first state in the Midwest to have hydrilla confirmed, the plant was found on 735-acre Lake Manitou in 2006. It has been far more difficult and costly to control the plant, McGlynn said, and treatments continue to this day because hydrilla plants can establish deep root systems called tubers that are difficult to completely destroy.

"They were on it fairly early, but it was still very costly," said Irons, who said that, while much of the state's invasive species efforts in recent years have been battling Asian carp, it still has a responsibility to deal with other threats. "We don't want any aquatic nuisance species to get out of hand."

Indiana has been able to keep

the plant from spreading to other bodies of water. And managers feel it could only be a matter of time before it pops up in Illinois, especially in the greater Chicago area and suburbs, where there is a concentration of sportsmen that could accidentally spread the plant after visiting infested waters.

Hydrilla plant fragments can hitchhike on fishing gear, boats, trailers and bait buckets.

"We have such high numbers of people using our water," said Mike Adams, a senior biologist with the Lake County Health Department. "We do have a high number of folks visiting from other states, whether for recreation or fishing tournaments. Sometimes plants are dumped into local water bodies after they outgrow their containers. The big question is, when it's found, what resources can we pull together."

Last July, the Boater Registration and Safety Act was passed, requiring aquatic plants or animals to be removed from the exteriors of seaplanes and watercraft before putting them into or transporting them away from a body of water, though McGlynn said the law won't take full effect until the new law has been sufficiently posted, an effort that is under way and should be complete by the 2014 boating season.

For more information, visit: www.niipp.net/hydrilla.





Clean Boats Crews

- IL/IN SeaGrant
- IL DNR
- NIIPP





**STOP AQUATIC
HITCHHIKERS!™**

Be A Good Steward. Clean. Drain. Dry.

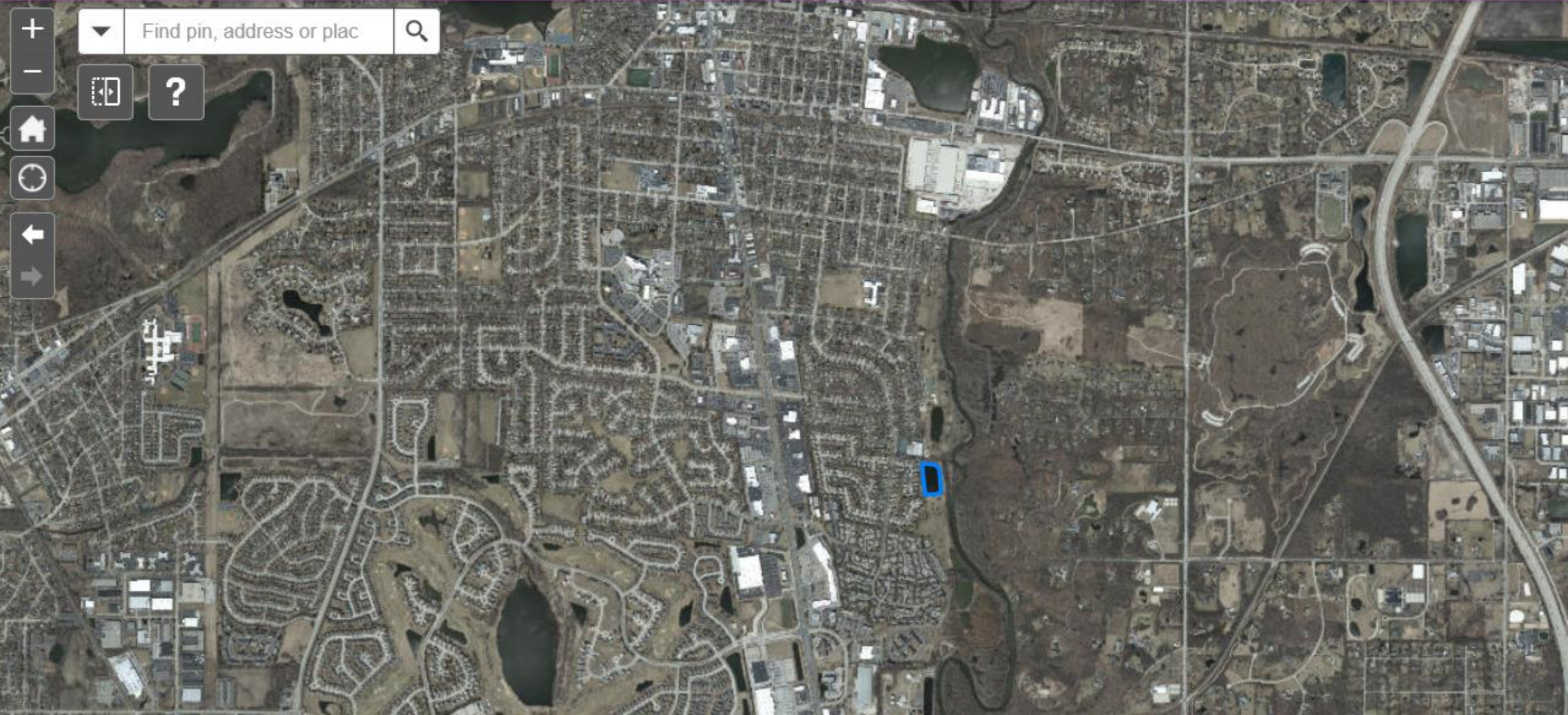


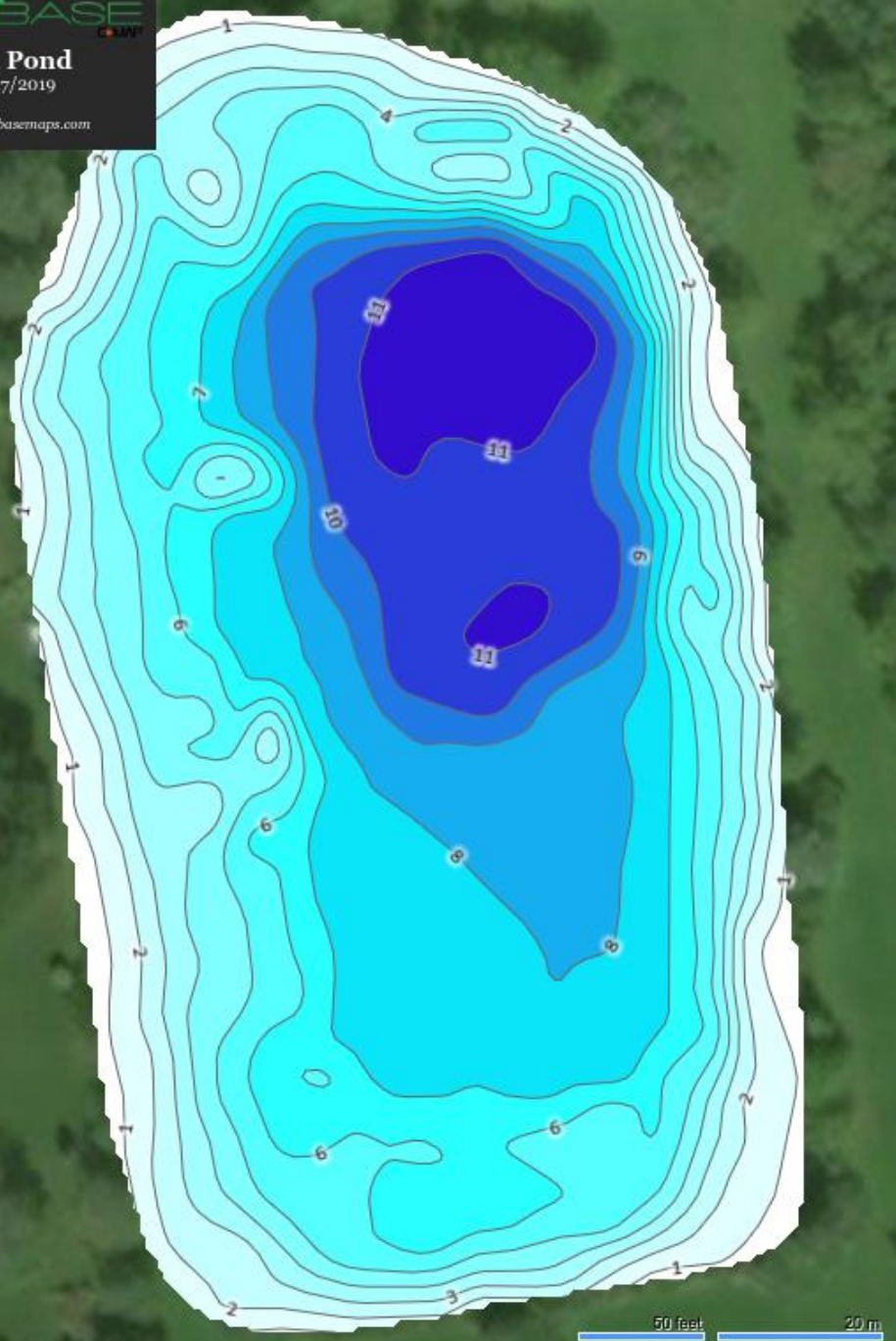
**FIGHT THE SPREAD OF
AQUATIC INVADERS**

• Hydrilla Found! July 2019

- Commercial applicator – Integrated Lakes Management (one of the Steering Committee members)
- Other non-natives
 - Lillies
 - Brazilian Elodea
- Suspected Source: Aquarium/Water Garden







- Red Top Park Pond, Libertyville, Illinois (owner: Village of Libertyville)

Morphometric Data:

- Area: 3.3 Acres
- Volume: 19.99 Acre Feet
- Max Depth: 11 Feet
- Average Depth: 6.0 Feet

April 2017



Google Earth

237 ft

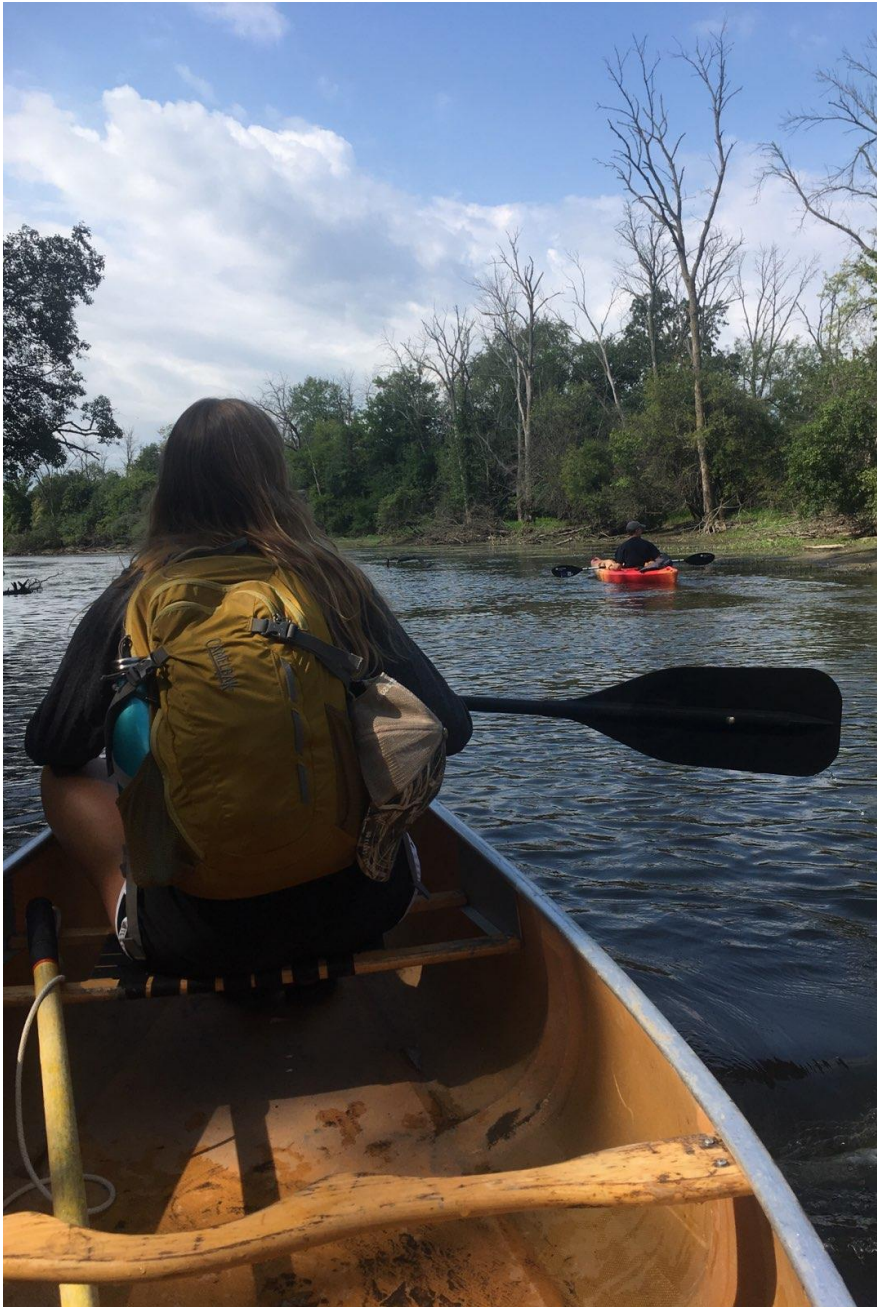




July 2018

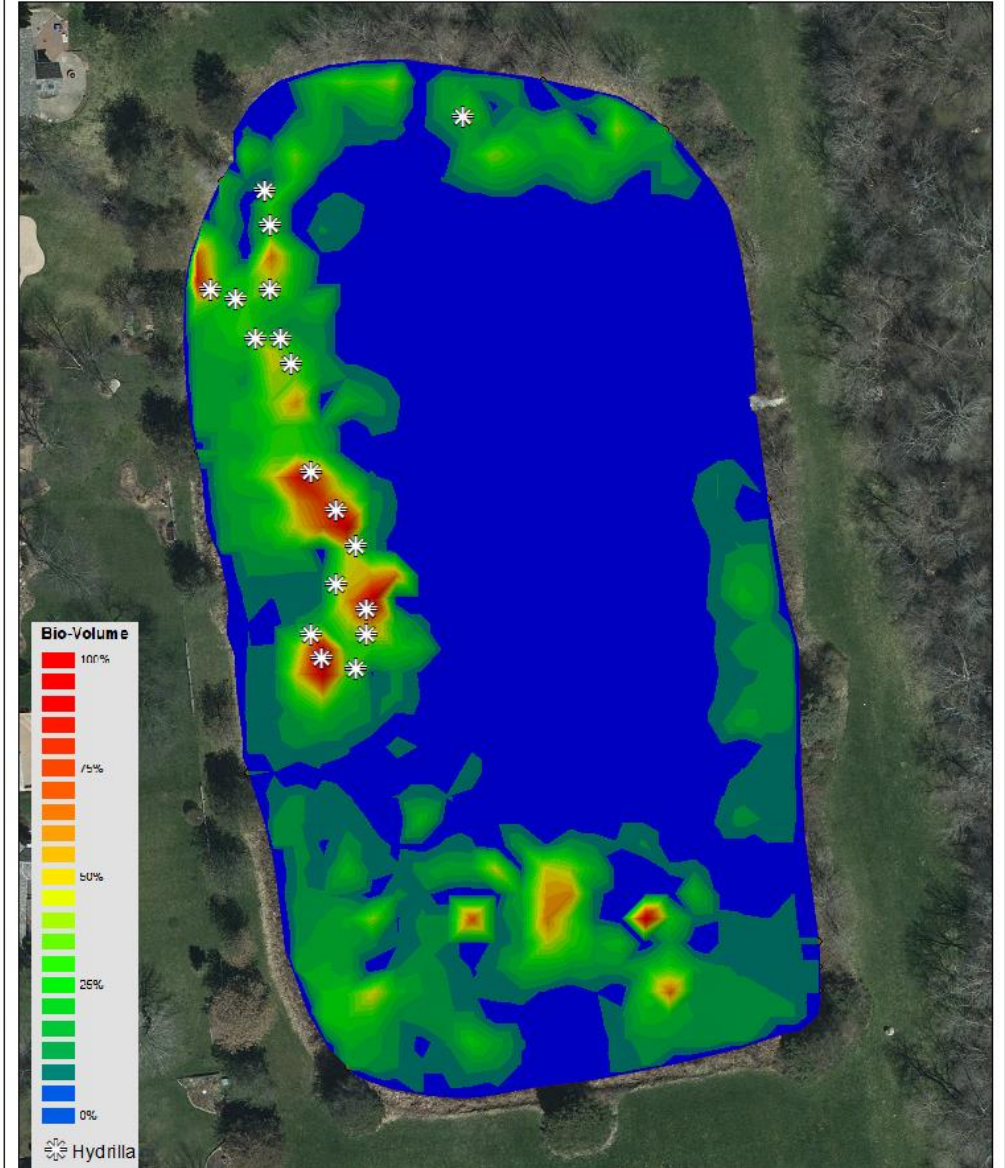
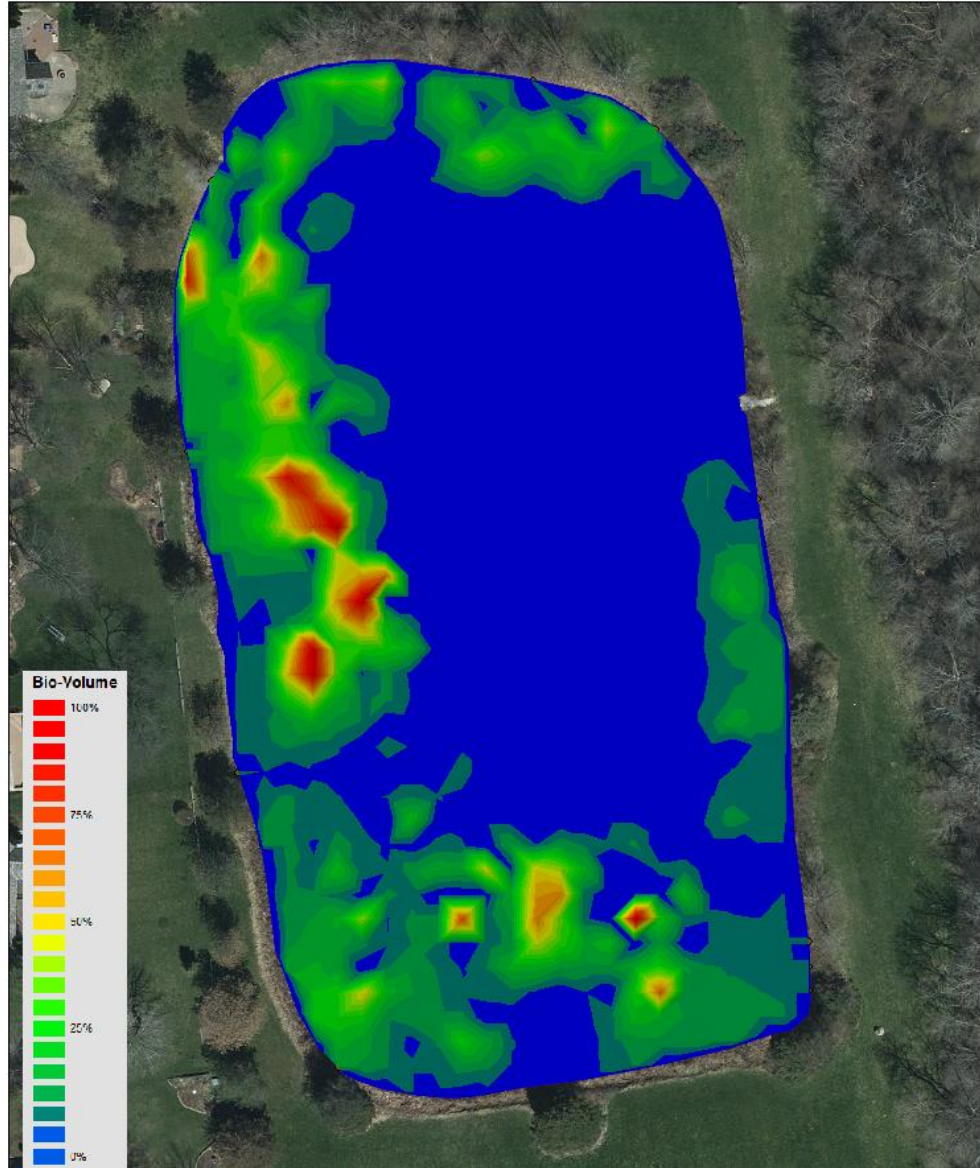


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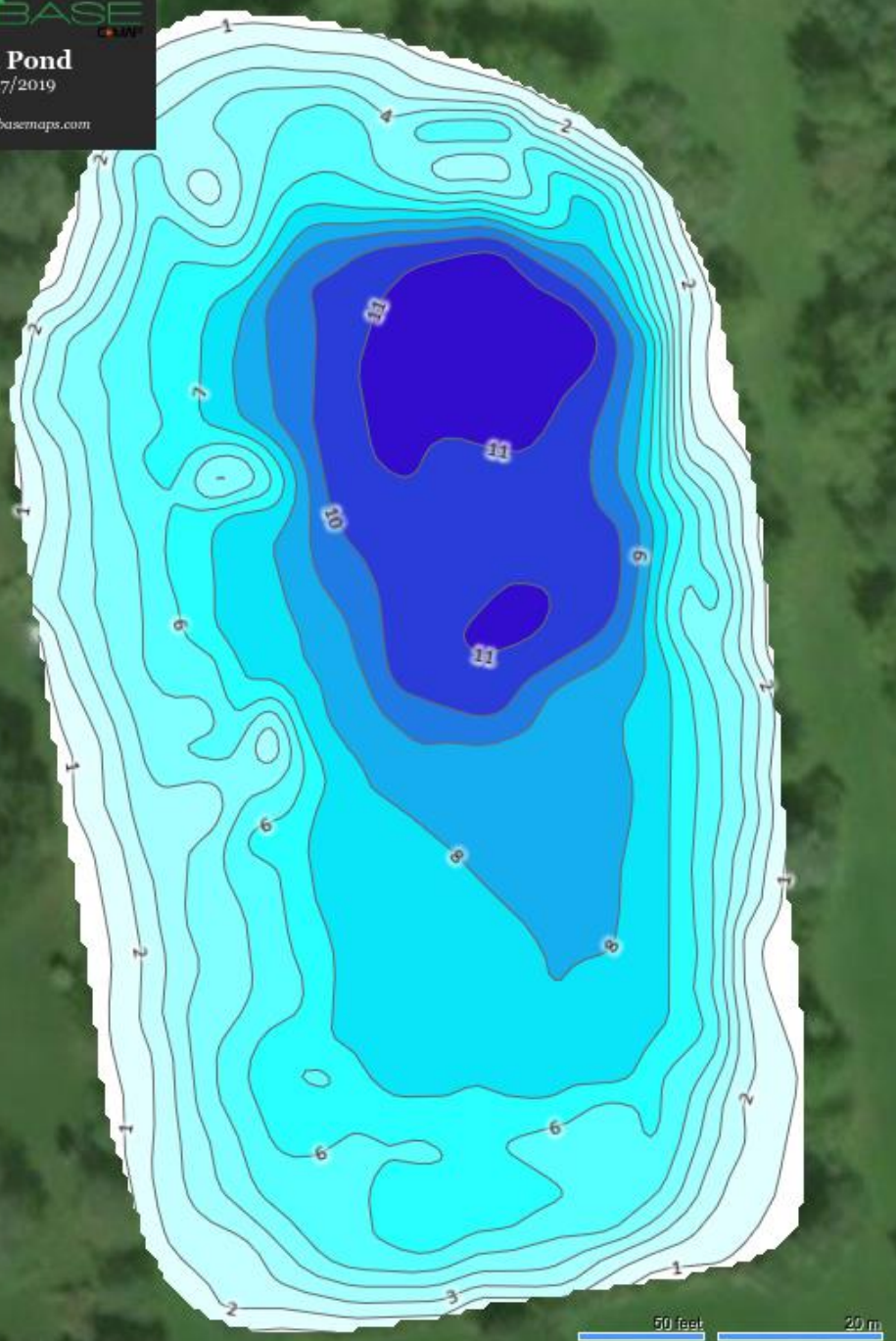
River Survey

October 2019



October 2019
Tubers

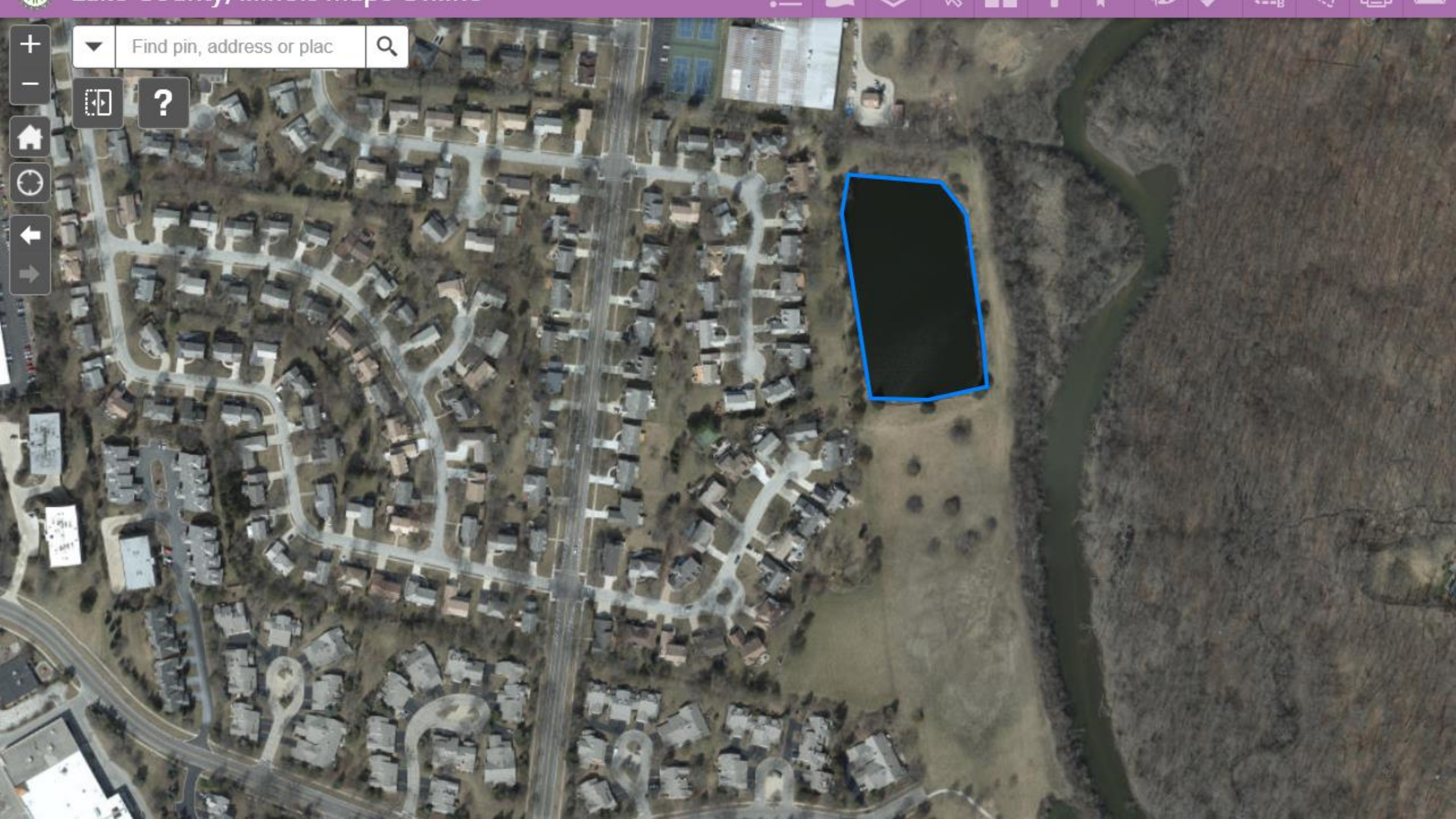




Treatments

- July through September, 2019: 3 treatments of Aquathol K (endothall), 1 treatment of Reward (diquat)
- October 23, 2019: SonarOne (fluridone) pellets (10 ppb)

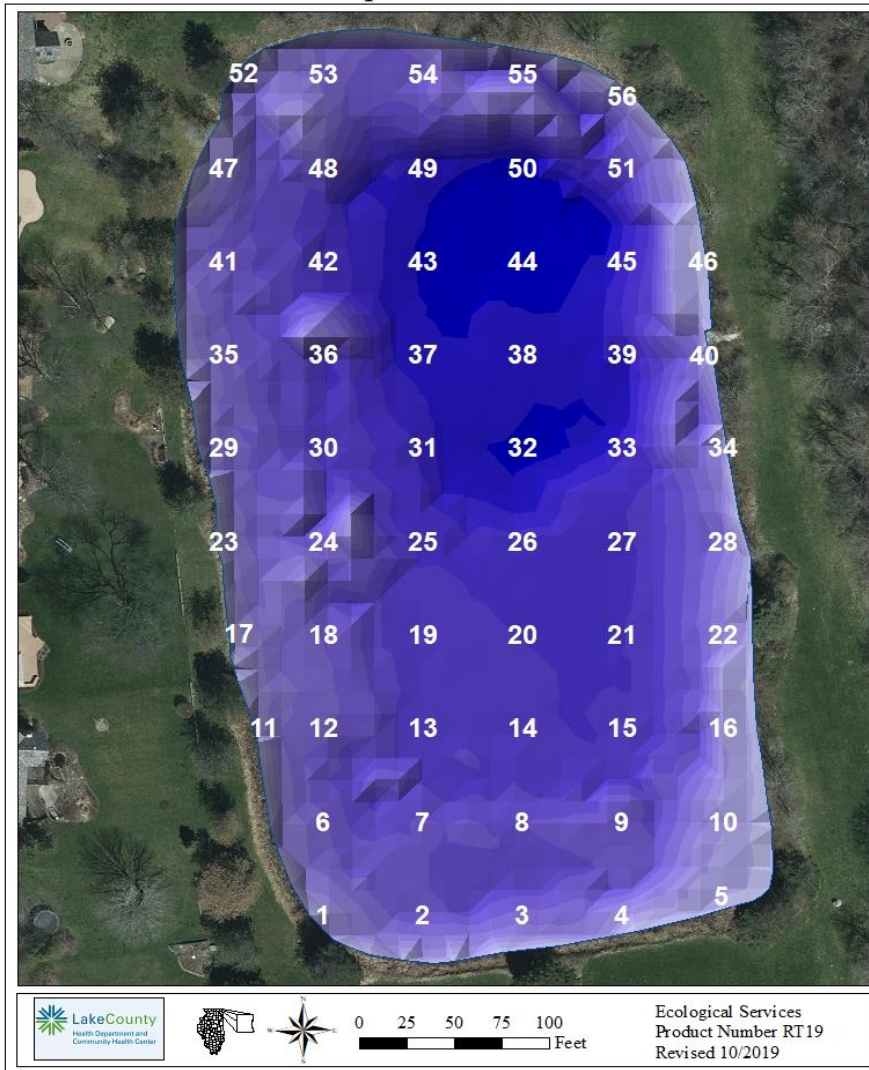




Find pin, address or plac



Redtop Pond 50ft Plant Grid



2020 Plan (and beyond)

- Fluridone treatment May 2020, follow-up as needed
- Routine site visits
- Aquatic Plant Survey – May and August
 - River Survey
- Tuber Survey – October
- Education
 - Signage at Pond
 - Newsletters

Funding

- \$30,000 set aside from EDRR grant from IDNR
 - Looking at options if more is needed or it spreads to other waters
- Village of Libertyville

Key Conclusions

- ED/RR planning efforts paid off
 - Funding in place
- Key partnerships established early (Applicator, Village, County, and State)
 - Input from Hydrilla experts

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Alana Bartolai, abartolai2@lakecountyiil.gov, 847-377-8009

