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STATE OF
OPPORTUNITY

Department of
Environmental
Conservation

Hydrilla in New York: The Hunt is On!

NYSFOLA - Lower New York Chapter Meeting
July 22, 2016

Background

- Hydrilla discovered in Croton River, Westchester County in October 2013

- Aquatic plant survey conducted in 2014 and follow-up monitoring in 2015 indicate the infestation is widespread and expanding.

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A “Most Wanted” Species

- Federal Noxious Weed List
- Noxious weed and/or banned in at least 17 states
- Prohibited under 6 NYCRR Part 575

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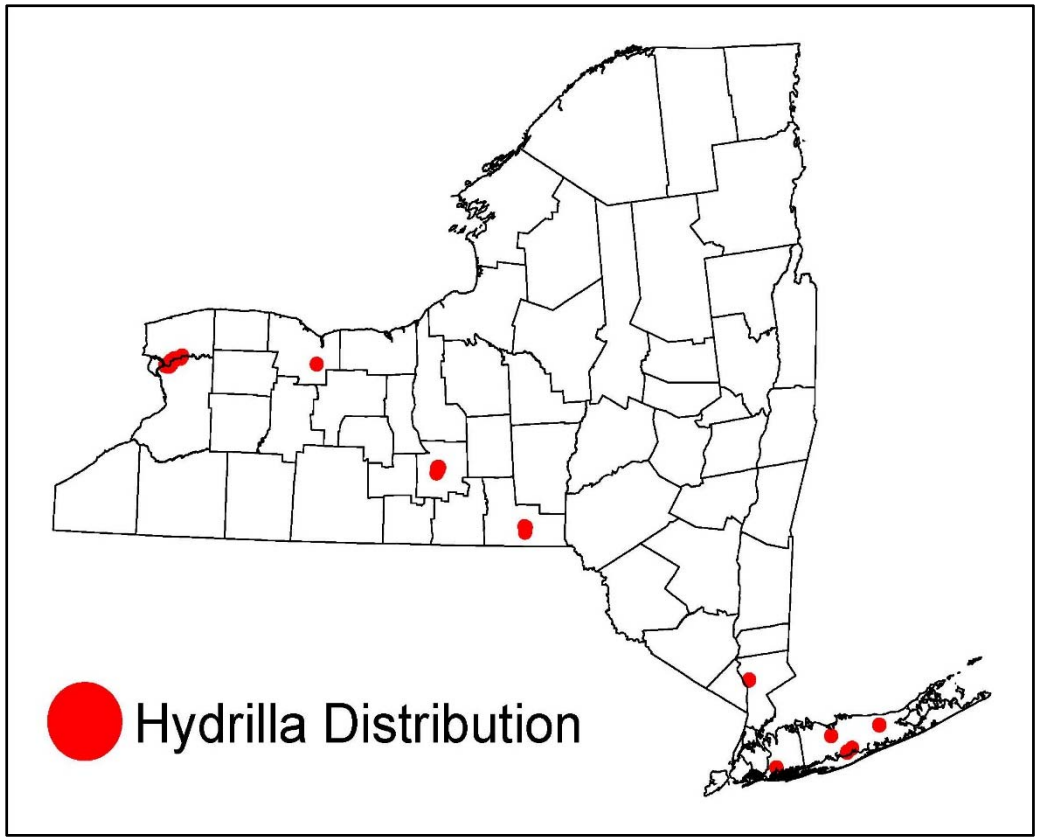

Broome, Erie, Kings, Monroe, Nassau, Niagara, Orange, Suffolk, Tompkins, and Westchester Counties.

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Important Species Characteristics

- Highly adaptable
- Establishment deterred by wave action, exposure, and hard substrate
- Does not do well with regular exposure to > 3 ppt salinity
- Grows in water depths of > 30 feet (depending on clarity)
- Water clarity > 1.3
- Hydrilla maintains vegetation at colder temperatures (40°F)

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Important Species Characteristics

- Turions (produced in early summer)
- Tubers (after July 4th) – carbohydrate storage
- Vegetative spread by fragments

Robert Videki

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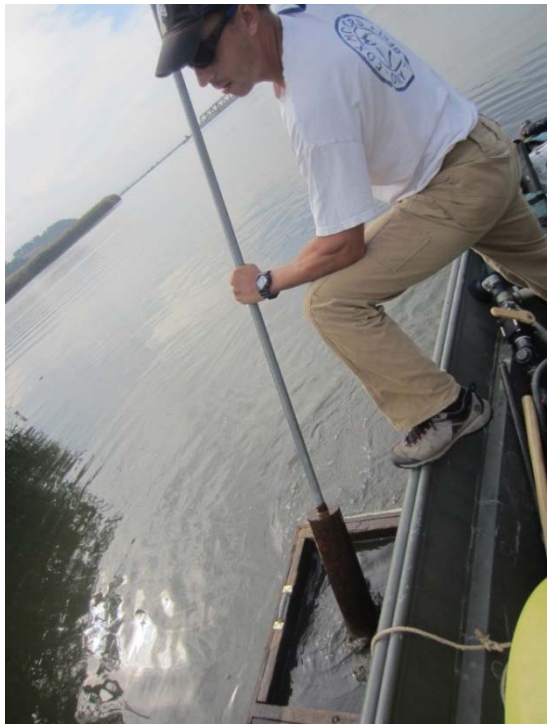
Dealing with hydrilla

Often complex factors

Often requires multi-organization collaboration

No quick fix – average control program 5 to 7 years

Financial cost – (large scale infestations) up to $500K per year



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Urgency for Response

- Risk to Submerged Aquatic Vegetation (SAVs): *Vallisneria americana* (water celery)
- Risk to waterfowl and raptors: toxic cyanobacteria (*Aetokthonos hydrillicola*)

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Urgency for Response

- Threat to waters in NYS and adjacent states: biodiversity

- Impacts to recreational water use

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Best Method: Prevention

"It doesn't seem to be covered in our invasive species management plan."

Transport on watercraft and/or equipment

Accidental planting of hydrilla tubers

Aquaria dumping

Waterfowl transport

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What you can do (to be a super hero)

Clean, drain, and dry your watercraft and equipment

Be a proactive aquatic gardener

Make smart choices about your aquarium and its inhabitants

Spread the word!

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Second Best Method: Early Detection

- Get populations while they’re small
- Easier to control or eradicate
- Reduced ecological and economic impacts

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Hydrilla Hunters

Photo: Chris Doyle, Solitude Lake Management

Volunteer monitoring

- Priority Hudson River locations (survey 2015)
- Plan to connect existing teams statewide
- Private and public lakes

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Hydrilla Hunters

Volunteer monitoring

- Rake toss survey
- Visual survey

Chris Doyle, SOLitude Lake Management

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Hydrilla Hunters: Keys to Monitoring

- Be consistent (yearly is ideal)
- Conduct surveys in the same locations each year
- Record GPS locations and data on data sheets (keep copies)

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Hydrilla Hunters: Keys to Monitoring

If you think you've found hydrilla –

- Send us photos
- We may follow up to ask for samples

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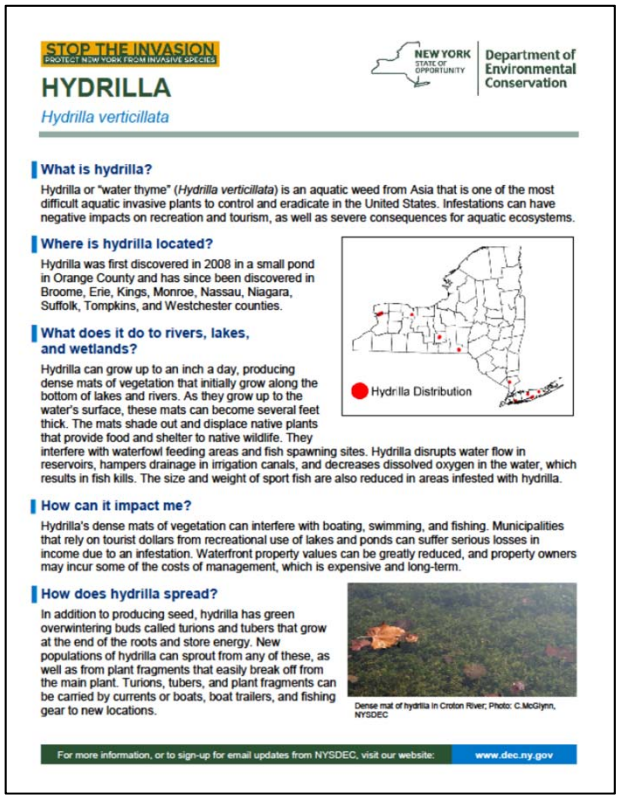
Education and Outreach Products



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HYDRILLA

Hydrilla verticillata

What is hydrilla?

Hydrilla or "water thyme" (*Hydrilla verticillata*) is an aquatic weed from Asia that is one of the most difficult aquatic invasive plants to control and eradicate in the United States. Infestations can have negative impacts on recreation and tourism, as well as severe consequences for aquatic ecosystems.

Where is hydrilla located?

Hydrilla was first discovered in 2008 in a small pond in Orange County and has since been discovered in Broome, Erie, Kings, Monroe, Nassau, Niagara, Suffolk, Tompkins, and Westchester counties.

Hydrilla Distribution

What does it do to rivers, lakes, and wetlands?

Hydrilla can grow up to an inch a day, producing dense mats of vegetation that initially grow along the bottom of lakes and rivers. As they grow up to the water's surface, these mats can become several feet thick. The mats shade out and displace native plants that provide food and shelter to native wildlife. They interfere with waterfowl feeding areas and fish spawning sites. Hydrilla disrupts water flow in reservoirs, hampers drainage in irrigation canals, and decreases dissolved oxygen in the water, which results in fish kills. The size and weight of sport fish are also reduced in areas infested with hydrilla.

How can it impact me?

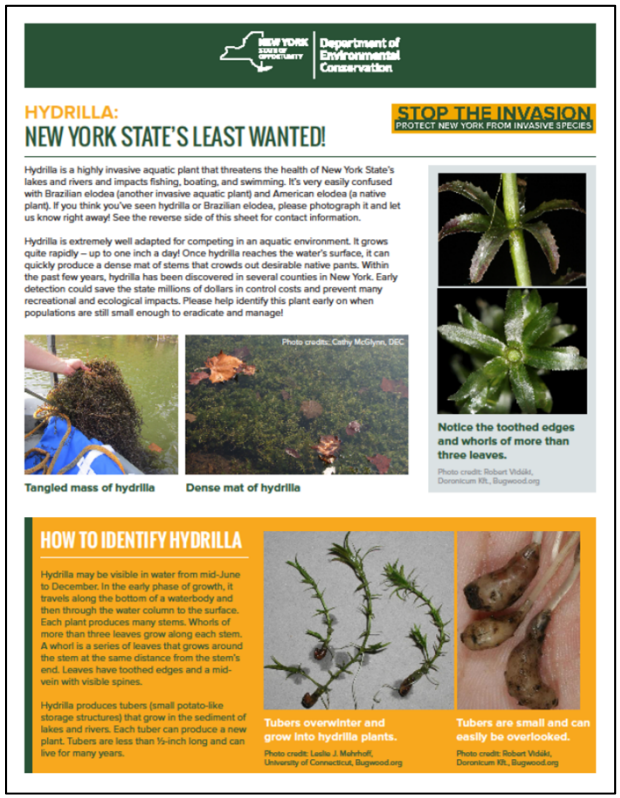
Hydrilla's dense mats of vegetation can interfere with boating, swimming, and fishing. Municipalities that rely on tourist dollars from recreational use of lakes and ponds can suffer serious losses in income due to an infestation. Waterfront property values can be greatly reduced, and property owners may incur some of the costs of management, which is expensive and long-term.

How does hydrilla spread?

In addition to producing seed, hydrilla has green overwintering buds called turions and tubers that grow at the end of the roots and store energy. New populations of hydrilla can sprout from any of these, as well as from plant fragments that easily break off from the main plant. Turions, tubers, and plant fragments can be carried by currents or boats, boat trailers, and fishing gear to new locations.

Dense mat of hydrilla in Croton River; Photo: C.McGlynn, NYSDEC

For more information, or to sign-up for email updates from NYSDEC, visit our website: www.dec.ny.gov



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HYDRILLA:
NEW YORK STATE'S LEAST WANTED!

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Hydrilla is a highly invasive aquatic plant that threatens the health of New York State's lakes and rivers and impacts fishing, boating, and swimming. It's very easily confused with Brazilian elodea (another invasive aquatic plant) and American elodea (a native plant). If you think you've seen hydrilla or Brazilian elodea, please photograph it and let us know right away! See the reverse side of this sheet for contact information.

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's surface, it can quickly produce a dense mat of stems that crowds out desirable native pants. Within the past few years, hydrilla has been discovered in several counties in New York. Early detection could save the state 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!

Photo credits: Cathy McGlynn, DEC

Tangled mass of hydrilla

Dense mat of hydrilla

Notice the toothed edges and whorls of more than three leaves.

Photo credit: Robert Vidiki, Doronicum Kft., Bugwood.org

HOW TO IDENTIFY HYDRILLA

Hydrilla may be visible in water from mid-June to December. In the early phase of growth, it travels along the bottom of a waterbody and then through the water column to the surface. Each plant produces many stems. Whorls of more than three leaves grow along each stem. A whorl is a series of leaves that grows around the stem at the same distance from the stem's end. Leaves have toothed edges and a mid-vein with visible spines.

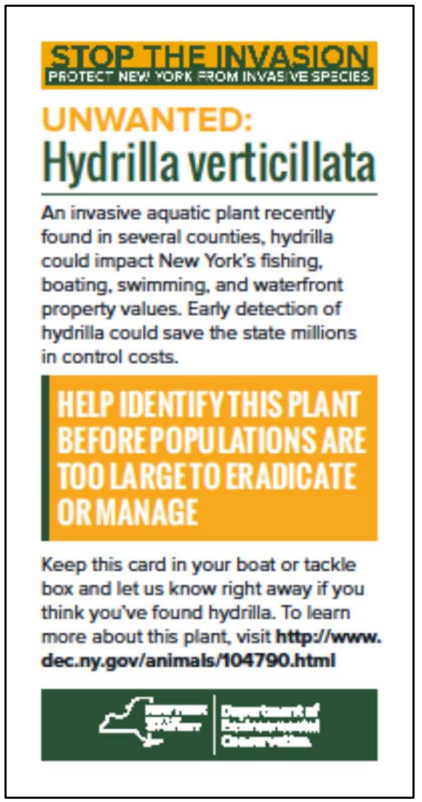
Hydrilla produces tubers (small potato-like storage structures) that grow in the sediment of lakes and rivers. Each tuber can produce a new plant. Tubers are less than ½-inch long and can live for many years.

Tubers overwinter and grow into hydrilla plants.

Photo credit: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

Tubers are small and can easily be overlooked.

Photo credit: Robert Vidiki, Doronicum Kft., Bugwood.org



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UNWANTED:
Hydrilla verticillata

An invasive aquatic plant recently found in several counties, hydrilla could impact New York's fishing, boating, swimming, and waterfront property values. Early detection of hydrilla could save the state millions in control costs.

HELP IDENTIFY THIS PLANT BEFORE POPULATIONS ARE TOO LARGE TO ERADICATE OR MANAGE

Keep this card in your boat or tackle box and let us know right away if you think you've found hydrilla. To learn more about this plant, visit **http://www.dec.ny.gov/animals/104790.html**

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Thank you!

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