Overview of *Hydrilla verticillata* in Cayuga Lake

Cayuga Lake Public Info Session
12/18/2023

HOBART AND WILLIAM SMITH COLLEGES

FINGER LAKES INSTITUTE

FINGER LAKES PRISM
Partnership for Regional Invasive Species Management

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What's an Invasive Species?

An invasive species is one that is **non-native** to the ecosystem under consideration and whose introduction causes, or is likely to cause, **economic** or **environmental** harm or harm to **human health**.

Economic:

Impacts on agriculture, recreation, wood/forest products, trade/shipping, tourism, utilities (power plants) and management costs.

Environmental:

Impacts on biodiversity, structural diversity, natural processes, aesthetics, ecosystem function and services.

Human Health:

Impacts on soil, water and air quality, flooding, injury, and disease/illness.

Regional Context

Top lures at Cayuga Lake

August 28, 2019

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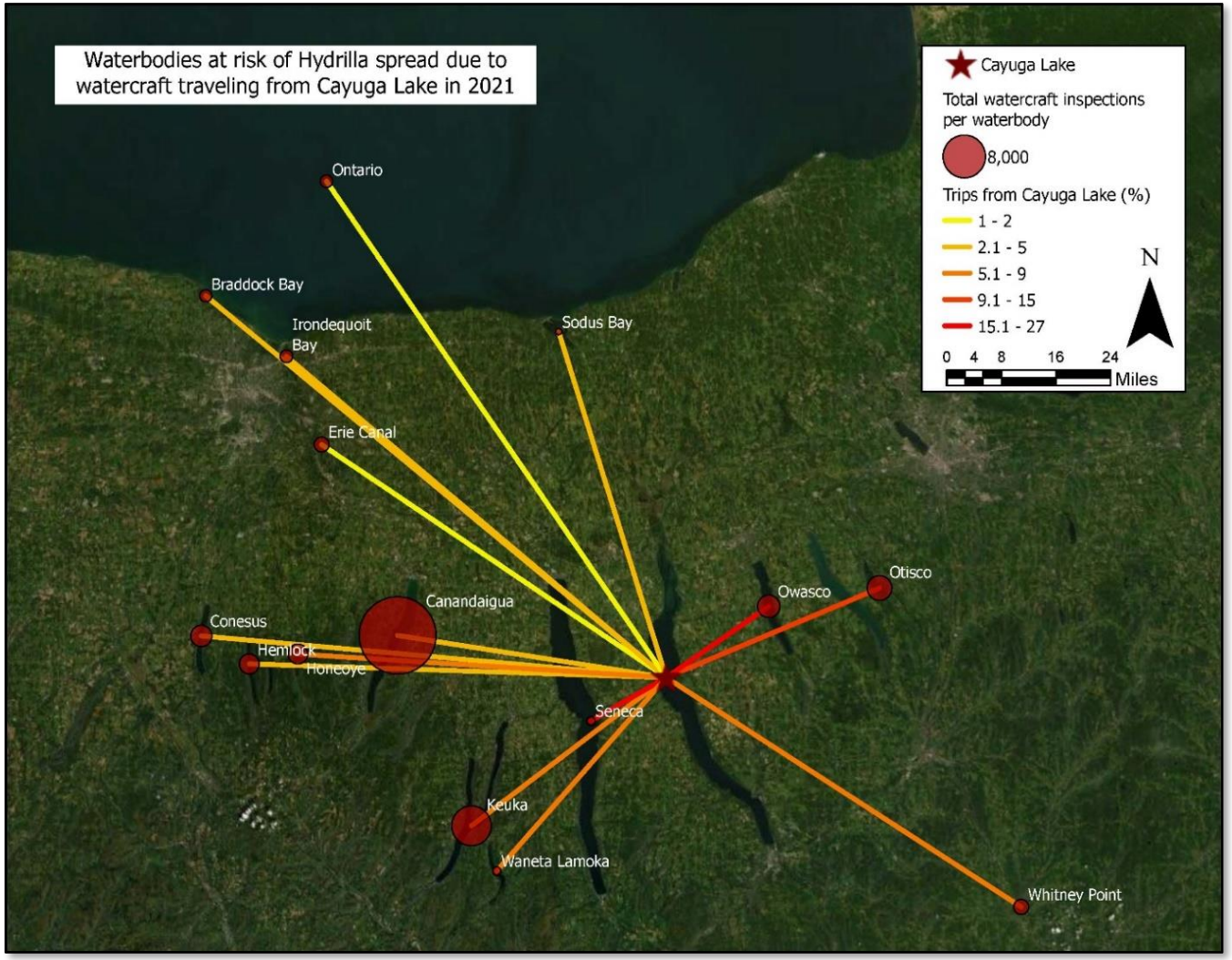


Hydrilla, Water Thyme (*Hydrilla verticillata)*

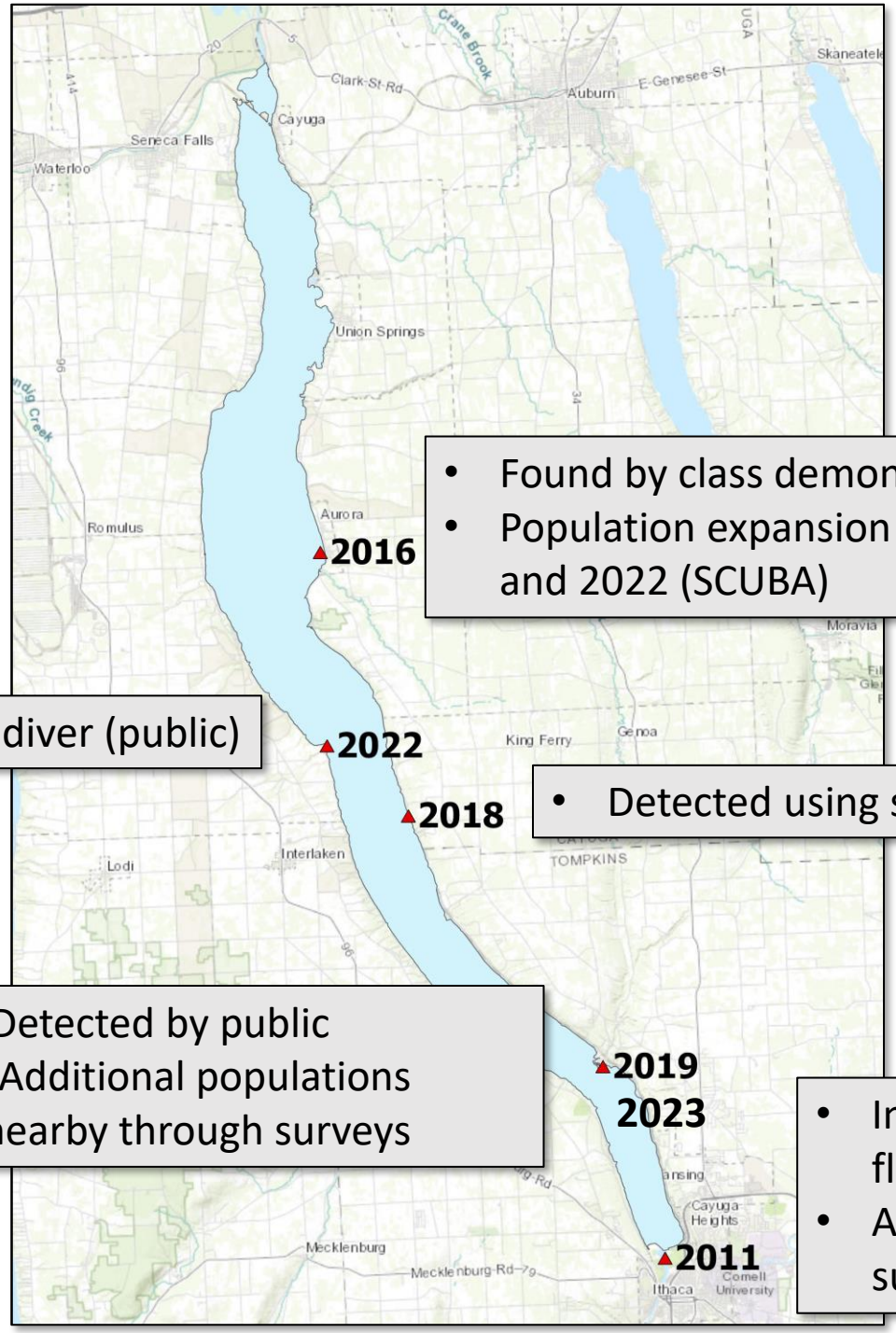
- Broad habitat range
- Monoecious vs. dioecious
- Visibly serrated leaves in whorls of 3-8 (usually 5)
- Spreads by fragments, seeds, tubers, and turions

Threats and Impacts

Minimum and Maximum Estimated Annual Economic Loss Associated with the Establishment of Hydrilla in the Great Lakes

Resource Affected	Minimum Estimated Annual Economic Loss	Maximum Estimated Annual Economic Loss
Recreational Fishing/Angling	$(29,574,008)[1]	$34,814,477
Beach Use	$10,348,000	$31,206,000
Recreational Boating	$87,344,800	$422,887,200
Commercial Navigation/Dredging	$2,277,000	$9,776,250
Water Supply	not estimated	not estimated
Total	$70,395,792	$498,683,927

Notes: [1]This value is positive.



- Found by class demonstrating plant surveys (public)
- Population expansion observed in 2021 (rake tosses) and 2022 (SCUBA)

- Detected by SCUBA diver (public)

- Detected using single-transect 100 m perimeter survey

- 2019 - Detected by public
- 2023 – Additional populations found nearby through surveys

- Initial population found by the public – floating classroom
- Additional populations found through surveys

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Ithaca Inlet	S, CT, MT	S, CT, MT	S, CT	S, CT	S, CT	S, CT	S	S	S	S, CT	S, CT	S, CT	S, CT
Ithaca SE Lake/Stewart Park		S	S, MT, CT	S, MT	S, CT	S	S, MT	S, CT, MT	S, CT	S, CT	S, CT	S, CT	S, CT
Ithaca Lighthouse, SW Lake		S	S	S	S, CT	S	S, MT	S	S, CT, MT	S, CT	S, CT	S, CT	S, CT
Ithaca Fall Creek		S	S, CT	S, CT	S, CT	S, CT	S, CT	S	S	S, CT	S, CT	S, CT	S, CT
Aurora						S	S, CT	S, CT	S, CT	S, CT	S, CT	S, CT	S, CT
King Ferry								S	S, MT, CT	S	S	S	S
Lansing									S	S, CT	S, CT	S, CT	S, CT
Sheldrake Point								S	S	S	S	S	S, CT

Hydrilla Not Detected

Hydrilla Detected

Site Not Sampled

S = Sampled
CT = Chemical Treatment
MT = Mechanical Treatment

Stakeholders

Cayuga Lake Watershed Network

Tompkins County Soil & Water Conservation District

Department of Environmental Conservation • New York State •

CCE Tompkins

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Translating knowledge and research about the Finger Lakes watershed into collaborative action

Program areas

- Contaminants
- Nutrients
- Watershed management
- **Invasive species**

2023 AIS Field Season Summary

- 2 field teams
  - → Hydrilla
  - → ED RR
- 10,341 rake tosses regionally
- Visual surveys
- 1 new hydrilla population detected on Cayuga Lake
- Organized or participated in 6 water chestnut pulls
  - 7,334 lbs. removed
- Water quality data collected monthly
- 5 acres hydrilla treated in Lansing

WISP and ED RR team water chestnut pull, Cross Lake in Jordan, NY