Finger Lakes Institute, Finger Lakes PRISM

HOBART AND WILLIAM SMITH COLLEGES

FINGER LAKES INSTITUTE

FINGER LAKES PRISM
Partnership for Regional Invasive Species Management

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

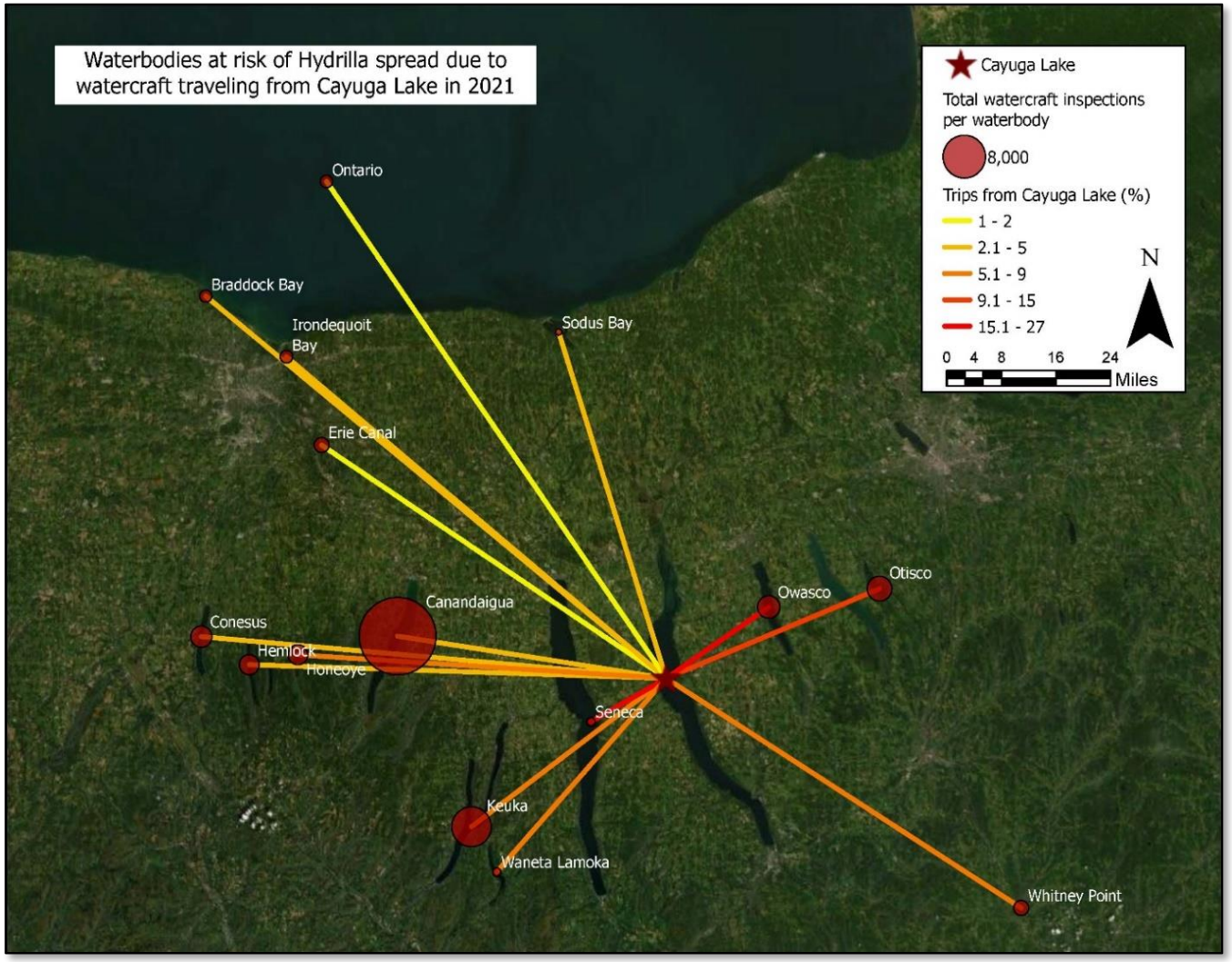
Program areas

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

- Network of state, federal, local agencies, NGOs, and other stakeholders supports diverse and comprehensive approach to invasive species management
- Allows partners to share and leverage limited resources
- Funding through the NYS Environmental Protection Fund administered by the NYS Department of Environmental Conservation

Regional Context

- Large geographic region, easily accessible
- Hydrologic connectivity
- Heavy boat traffic, out of state visitors, angling, derbies
- Top tourism destination in NY



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.

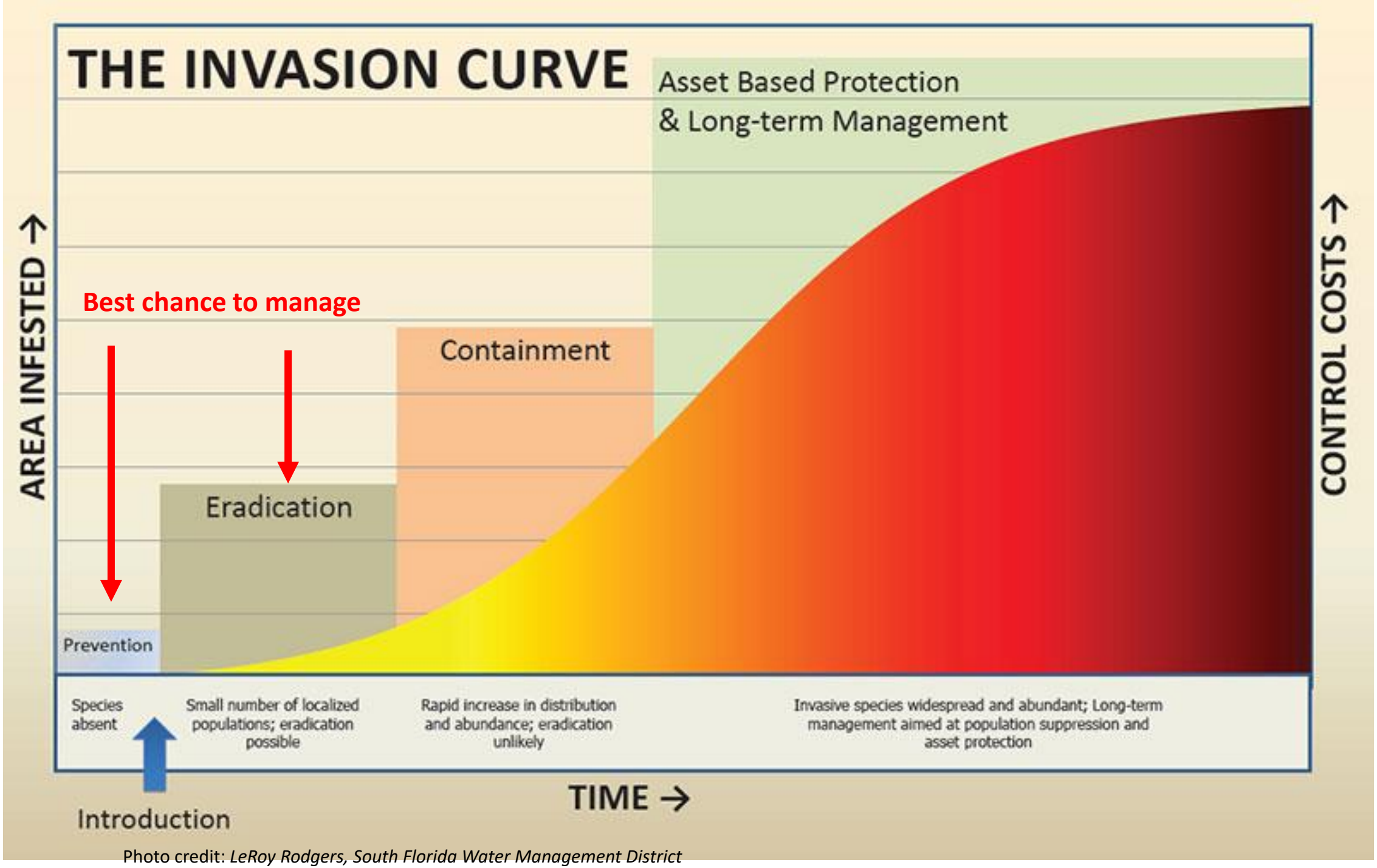


Photo credit: *LeRoy Rodgers, South Florida Water Management District*

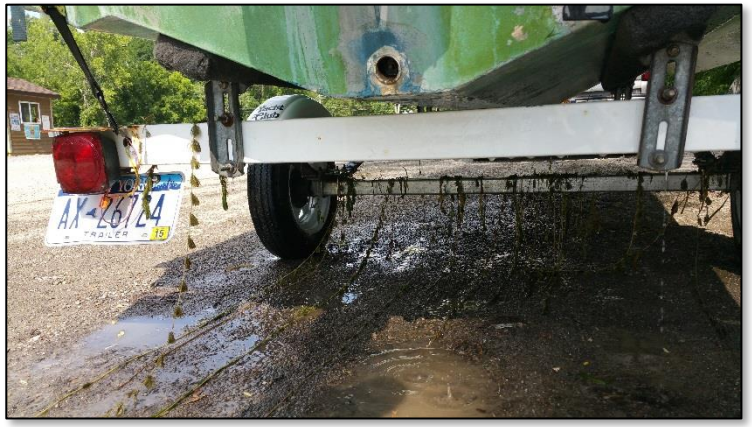
Hydrilla, Water Thyme (*Hydrilla verticillata)*

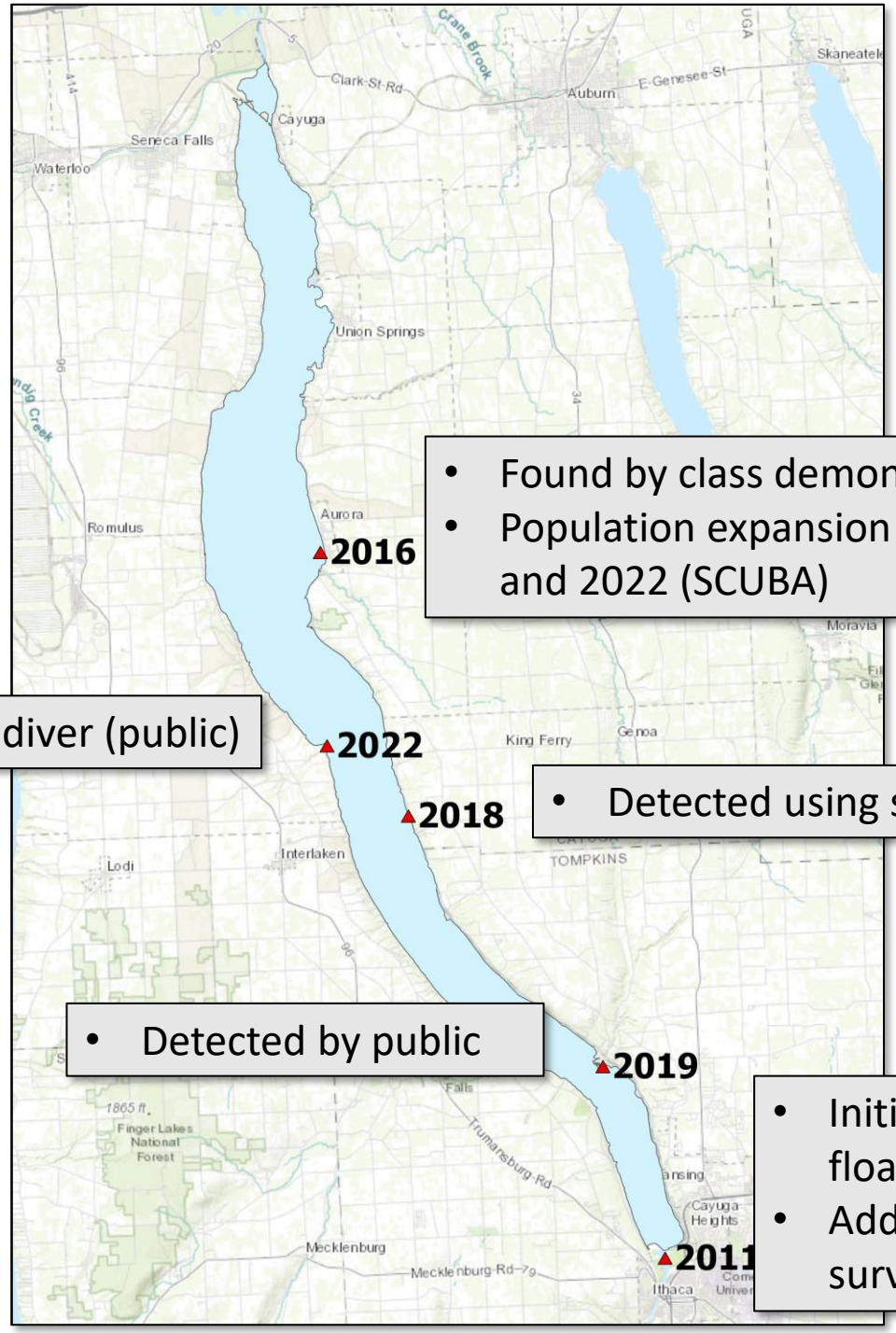
- Broad habitat range
- Monoecious vs. dioecious
- Visibly serrated leaves in whorls of 3-8 (usually 5)
- Spreads by fragments, seeds, tubers, and turions

Prevention=Protection = $$ Saved

Invest in programs to prevent spread

- Watercraft steward programs
- Education and outreach
- Early detection through surveys





- 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

- Detected by public

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

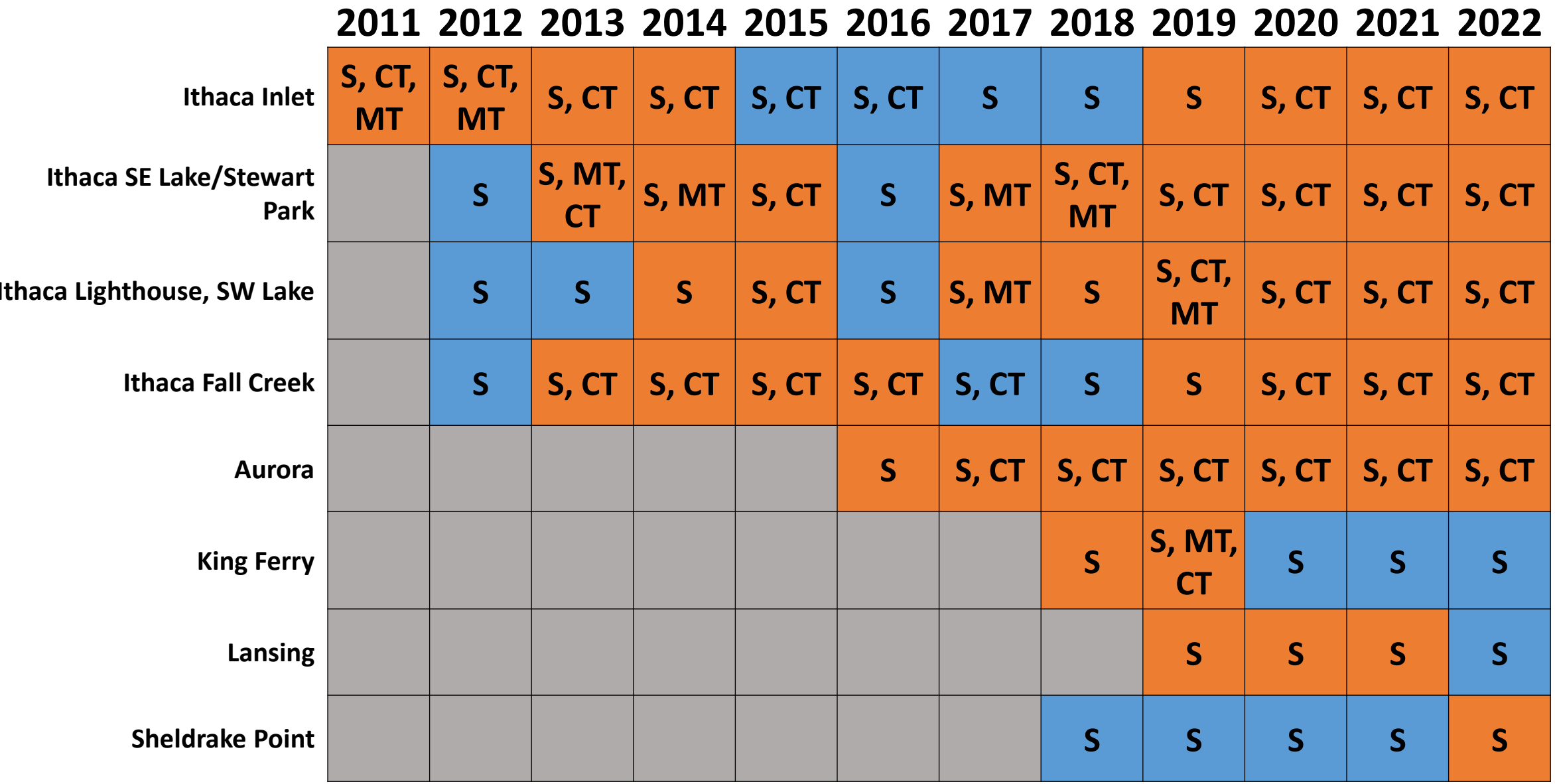
Economic Impact

- Threatens native plant species and fisheries, recreation, transportation, water control infrastructure
- Comparisons to FL and SC show up to $10M annual costs if left unmanaged in NY
- “Least Wanted” by council of Great Lakes Governors

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.


2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022
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
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
Ithaca Lighthouse, SW Lake
S
S
S
S, CT
S
S, MT
S
S, CT, MT
S, CT
S, CT
S, CT
Ithaca Fall Creek
S
S, CT
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S
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Aurora
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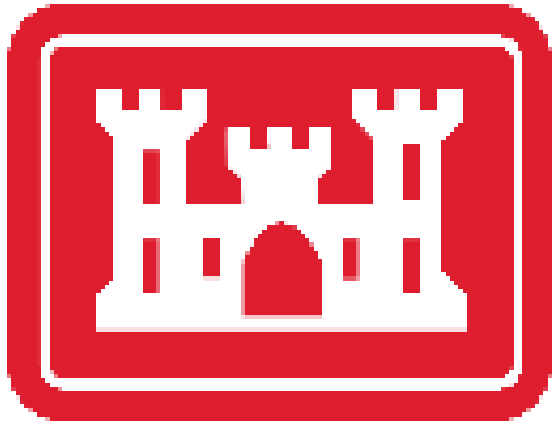
S, CT
S, CT
S, CT
King Ferry
S
S, MT, CT
S
S
S
Lansing
S
S
S
S
Sheldrake Point
S
S
S
S
S
Hydrilla Not Detected
Hydrilla Detected
Site Not Sampled
S = Sampled
CT = Chemical Treatment
MT = Mechanical Treatment

Stakeholders



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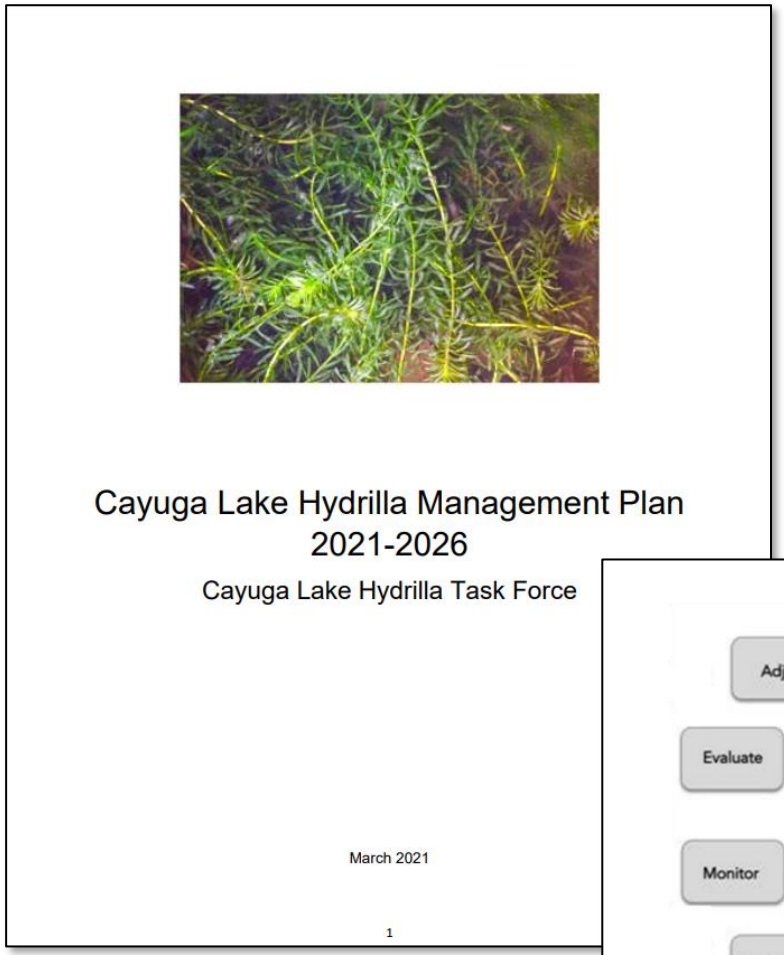
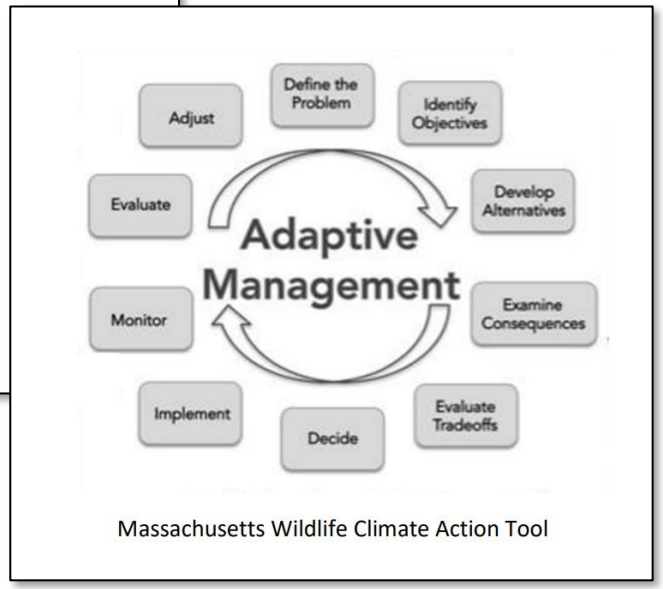
- Hydrilla LTF has remained a unifying and consistent participant for the Ithaca area, Tompkins County SWCD played major role in coordination; focus on the south end
- As other groups become involved, communication has expanded and evolved
- Collaboration has led to delegation of management activities at different sites to active participants

Cayuga Lake Hydrilla Management Plan

- Developed by Cayuga Lake Hydrilla Task Force in 2021
- Includes comprehensive project history – stakeholders, regional context, management methods
- Adaptive management approach to Hydrilla for 2021-2026
- Helpful resources for outreach & education, coordination



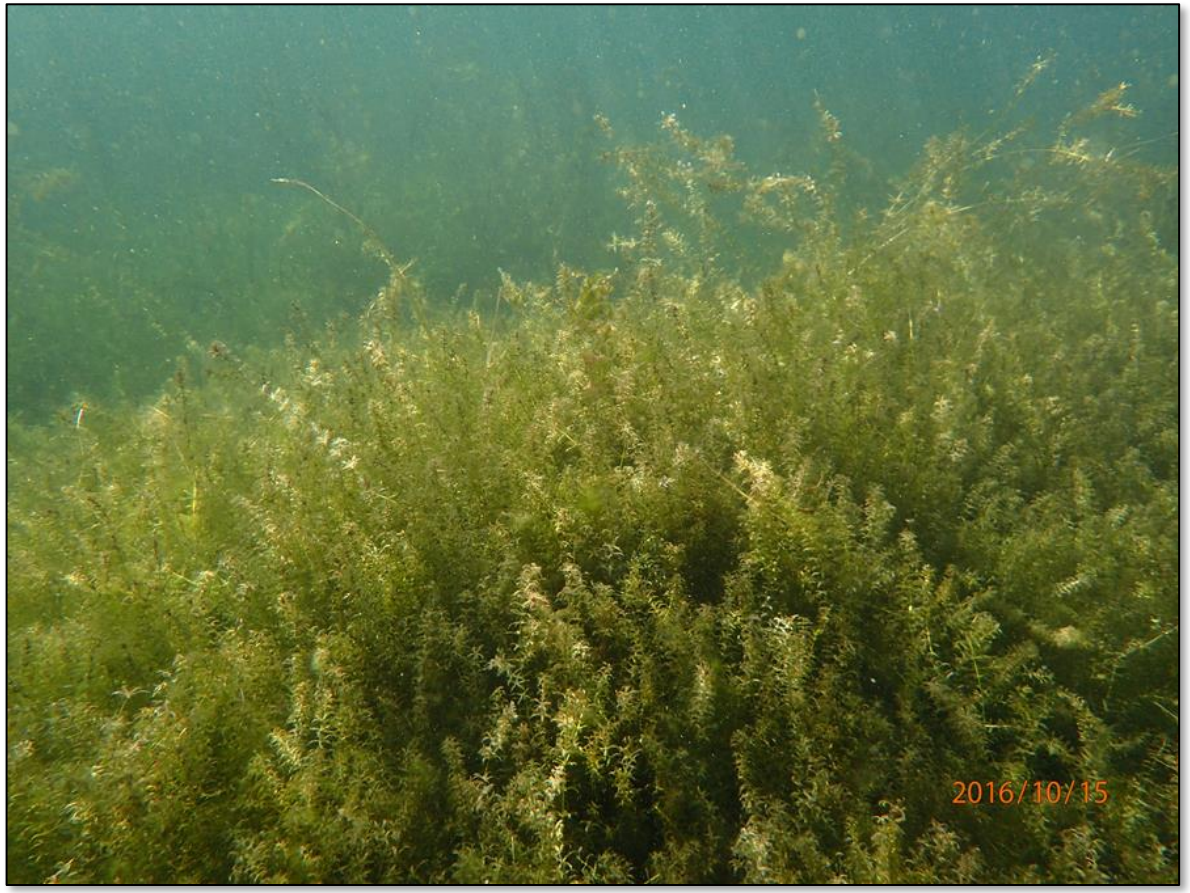


Fine Tuning Detection – Visual Surveys

- Incorporating visual survey methods into field work
  - SCUBA
  - Snorkel
- Survey for new Hydrilla infestations
- Delineate current Hydrilla populations
- Late July – early August when Hydrilla is less detectable on rake tosses
- Focus on northern Cayuga Lake and high traffic areas on adjacent waterbodies

Final Thoughts

- Seasonal activity of the plant itself complicates things
- Collaborative handling of Hydrilla on Cayuga Lake is adaptive
  - Communication
  - Detection/monitoring
  - Treatment



Plans for 2023

- Rake toss surveys on Cayuga Lake and common transient boater destinations from Cayuga
- Weekly treatment site monitoring in King Ferry, Lansing
- Supporting USACE, DEC surveys and monitoring where needed – Aurora, South End
- Dive surveys on Cayuga, Owasco, Canandaigua Lakes
- Contracted treatment in Lansing with SOLitude – permits pending

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Great Lakes RESTORATION