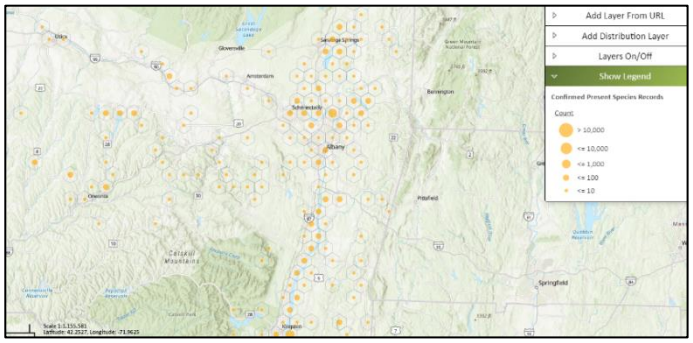
Water Chestnut Pull Prioritization

Water chestnut (*Trapa natans)* colonizes areas of freshwater lakes and ponds and slow-moving streams and rivers, where it forms dense mats of floating vegetation, causing problems for boaters and swimmers and negatively impacting aquatic ecosystem functioning. The aquatic plant has been introduced to the northeast for over a century and is widespread. The purpose of the prioritization scale below is to determine if an effort is warranted to manually control a plant through hand harvesting, or if a recommendation for mechanical harvesting should be pursued.



NYS Invasive Species Information Water Chestnut

- https://nyis.info/invasive_species/water-chestnut/

NYS Non-Native Threat Ranking - 82 Very High

- https://nyis.info/wp-content/uploads/2018/01/61a2d_Trapa-natans-NYS.pdf

Capital Region PRISM Tier Ranking

Tier 4 – Local Control Eradication from PRISM not feasible; focus on localized management over time to contain, exclude, or suppress to protect high-priority resources like rare species or recreation assets. Be strategic when deciding if/where to control.

Selection for pulls would meet the most criteria in each category:
Points or Benchmarks for Criteria *(if all qualifiers are met proceed)*

	1. Ecologically significant habitat based on natural heritage prioritization model **+2** • http://www.capitalregionprism.org/ny-invasive-species-prioritization-map.html • Optional consideration: How does the proposed work site align to recommendations in the Aquatic Invasive Species Pond and Lake Vulnerability Prioritization for New York? https://www.nynhp.org/projects/aquatic-invasive-prioritization/
	2. High elevation / source waterbody **+1** • Downstream from source (stop/justify benefits of proceeding with removal)
	3. Benefit to public or recreational value present **+1**
	4. Species abundance at local level • Less than an acre (proceed) **+2** • More than an acre but less than five (estimate time and value) **+1** • Over five acers (stop) **-1**
	5. Are there partner agencies or volunteers available for assistance? **+2**
	6. Long term viability to sustain repeat pulls and post monitoring treatments? **+1**
	7. Is disposal feasible? **+1** • Are nearby facilities present or disposal on site?
	8. Is a permit needed? Check the Environmental Resource Mapper **+1** • https://gisservices.dec.ny.gov/gis/erm/ • https://www.dec.ny.gov/permits/106121.html ○ NYS freshwater wetlands permit ○ Joint application federally wetlands and waterbodies permit

Other Considerations:

1. Review the Capital Region PRISM Framework of Response to assess the cost benefit ratio of the activity proposed
   - https://www.capitalregionprism.org/framework-for-response.html
   - Document work through an Invasive Species Management Plan

2. Document water chestnut pulls in an iMapInvasives advanced data collection tool *(iMMA/ESRI)*
   - https://www.nyimapinvasives.org/report-an-invasive

3. Time and person power estimate for a hand-pull based on past practices:
   - Consider taking a scale to a site
   - One Monoculture: Tenth of an Acre
     - Number of Bags Removed: 30 (45-gallon bags) with approximate weight of 75 pounds dewatered
     - Total Weight of Biomass: 2400 pounds (1.2 tons)
     - 4 Person Team 10 Hours
   - One Monoculture: One Acre (extrapolation)
     - Number of Bags Removed: 300 (45-gallon bags) with approximate weight of 75 pounds dewatered
     - Total Weight of Biomass: 22,500 pounds (approximately 11 tons)
     - 4 Person Team 100 Hours

The New York State Department of Environmental Conservation provides financial support to The Capital Region PRISM via the Environmental Protection Fund.