



Capital Region PRISM AIS Treatment Report

Date: June 27th, 2022

Site Name: Fish Creek, Saratoga Lake

Site Size: 29.75 Acres, Roughly 1.6 miles total

GPS Location: 43°04'27.2"N 73°41'43.5"W

Physical Address: Kayak Shak 251 County Road 67

County: Saratoga

Town: Saratoga Springs NY 12866

Property Owner Contact: Kayak Shak

kayakshakk@gmail.com

Survey Leaders: Kristopher Williams PRISM Coordinator
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iMapInvasives User ID: Hannah Coppola: 21052

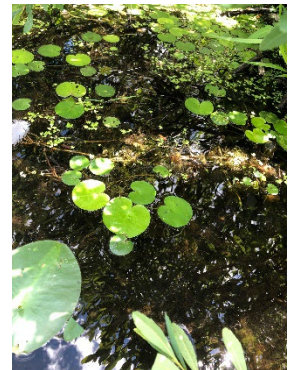


Summary

On June 27th the Capital Region PRISM conducted a water chestnut (*Trapa natans*) pull on Fish Creek in the surrounding area in front of the Kayak Shak and roughly half a mile past the Stafford Bridge. This 29-acre area contains several satellite populations of water chestnut and one larger monoculture. European frog bit (*Hydrocharis morsus-ranae*) is also present with trace to sparse populations along the shoreline. A dense patch of water chestnut is found roughly half a mile up from the Skidmore Boat House. This event has a cultural and economic significance for the kayak shak and recreational users of Fish Creek. Spot treatments of satellite populations of water chestnut and European frog bit resulted in an estimated 1,150 pounds of dewatered plant material by 28 volunteers.

Aquatic Invasive Species Present of Concern

- European Frogbit (*Hydrocharis morsus-ranae*) is a very high threat species with a NEW YORK NON-NATIVE PLANT INVASIVENESS RANKING of 85. Found in trace to sparse populations between Saratoga and Stafford Bridges. The plant is free floating and observed in the shorelines. http://nyis.info/wp-content/uploads/2018/01/c6668_Hydrocharis-morsus-ranae.NYS_.pdf
- Water Chestnut (*Trapa natans*) is a very high threat species with a NEW YORK NON-NATIVE PLANT INVASIVENESS RANKING of 82. http://nyis.info/wp-content/uploads/2018/01/61a2d_Trapa-natans-NYS.pdf
- General Species Information http://nyis.info/invasive_species/water-chestnut/



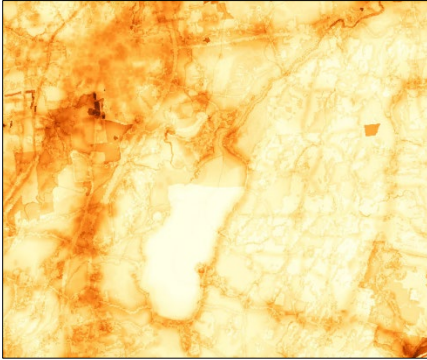
Site Description:

Fish Creek flows east out of Saratoga Lake for 13 miles to Schuylerville, where it empties into the Hudson River. There is a small dam east of Bryant's Bridge Rd that controls the level of the lake and creek. Motorboat traffic is typically heavy on the weekends, but is primarily concentrated on Saratoga Lake. A well-used launch for kayakers and canoeists is off of Stafford's Bridge Rd at the Kayak Shak, which is part of Saratoga Outdoor Center.



iMapInvasives Prioritization Model:

<https://www.arcgis.com/home/webmap/viewer.html?webmap=57d30ff9bfff7426c8950d90b0ba43bba&extent=-81.0352,39.2503,-70.2686,45.8067>



The area surrounding Fish Creek and Saratoga Lake is ranked moderately low on the prioritization model comprehensive score attribute with a weak coloring on the heat map.

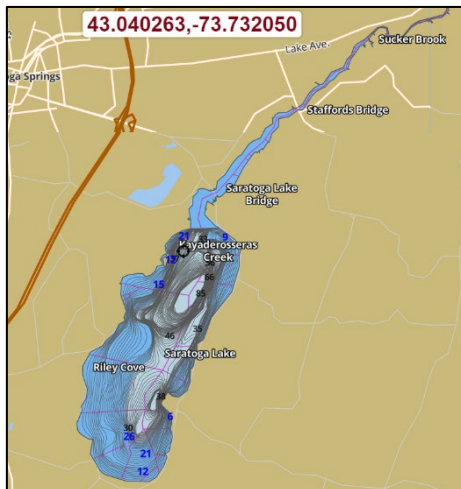
Does this site contain previously treated infestations?

- Yes, a hand pull was conducted in 2021 at this location for recreational, cultural and economic significance. This pull additionally helped to contain the larger monoculture of water chestnut through the removal of satellite populations.

Survey Techniques:

- *Visual Inspection of Surface and Subsurface*

Map:



<http://fishing-app.gpsnauticalcharts.com/i-boating-fishing-web-app/fishing-marine-charts-navigation.html?title=Tomhannock+Reservoir+boating+app#11.29/43.0351/-73.6675>



Section 2: Potential Treatment Species

| Common Name | Scientific Name | Location (GPS) | Growth Type | Phenology | Abundance |
|---------------------------|---------------------------------|---------------------------|----------------|-----------|-----------------------|
| European Frog bit; Common | <i>Hydrocharis morsus-ranae</i> | 43.07461 ° -73.69647 ° | Floating | Annual | Satellite populations |
| Water Chestnut | <i>Trapa natans</i> | Note Treatment Polygon | Surface/Rooted | Rosettes | Satellite populations |

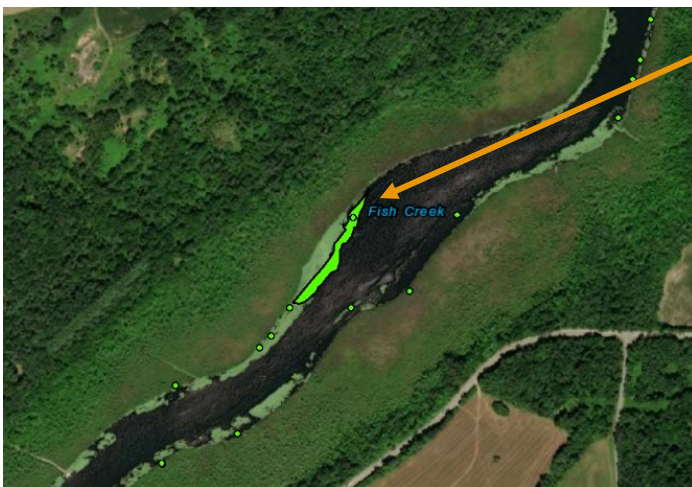
Areas of Concern:

The presence polygons in red where dense abundance of European Frogbit, (*Hydrocharis morsus-ranae*) is observed for removal. There are trace to sparse populations running on the shore line of Fish Creek between the two bridges. Volunteers removed both water chestnut and European Frogbit from this area.



Polygon 1 iMap Invasives Searched Area Record ID: 1086029
iMap Invasives Presence Record Id 1069534
Location: 43.07461 °-73.69647 °
Area: (.1 Acre)

The 2021 Presence polygons in green where dense mats of Water Chestnut (*Trapa natans*) is observed for possible removal. There are also trace to sparse populations running on the shore line of Fish Creek between the two bridges.

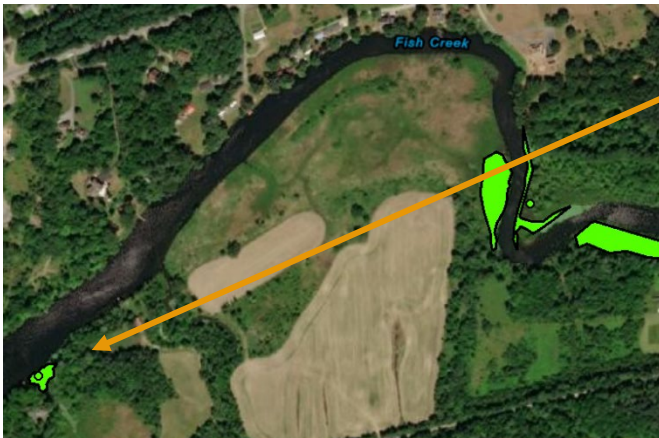


Polygon 2 iMap Invasives Presence Record ID #1069183
Location: 43.08198 °-73.68512 °
Area: 3323 m² (0.8 Acre)

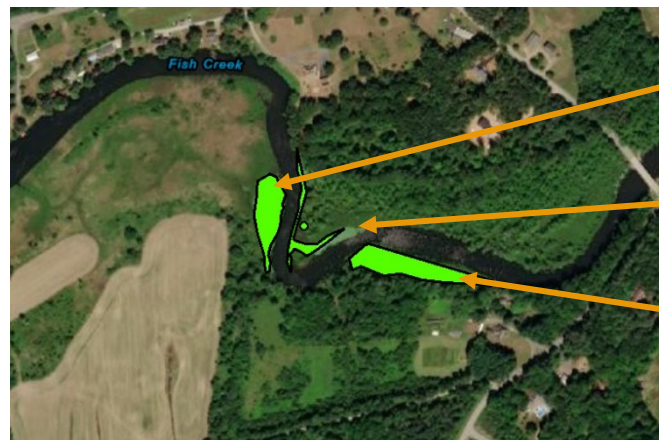


Polygon 3 iMap Invasives Presence Record ID #1069184
Location: 43.08198 °-73.68512 °
Area: 3323 m² (0.8 Acre)

Polygon 4 iMap Invasives Presence Record ID #1069185
Location: 43.08641 °-73.67787 °
Area: 575 m² (0.15 Acre)



Polygon 5 iMap Invasives Presence Record ID #1069186
Location: 43.08968 °-73.67413 °
Area: 721m² (0.18 Acre)



Polygon 6 iMap Invasives Presence Record ID #1069209
Location: 43.09196 °-73.66655 °
Area: 3240m² (0.8 Acre)

Polygon 7 iMap Invasives Presence Record ID #1069201
Location: 43.0918 °-73.66597 °
Area: 1259m² (0.31 Acre)

Polygon 8 iMap Invasives Presence Record ID #10691210
Location: 43.0913 °-73.66419 °
Area: 4559m² (1.1 Acre)



Section 3: Summary of Recommendations

Treatment:

A working group should convene to determine the prioritization level of conducting a pull on Fish Creek weighing the ecological, economic, and cultural impact of such an action.

2021 Integrated Pest Management Results: <https://www.ipmdat.org/>

Manual and Mechanical Harvesting

- Water chestnut overwinters entirely by seeds that may remain viable in the sediment for up to 12 years, repeated annual control is critical to deplete the seed bank. Treatment generally is needed for five to twelve years. A calendar for treatment should be adhered to for successful removal. The best time for coordinating a pull is in August.
- Newly introduced populations of *T. natans*. Early detection of introductions and a rapid control response are key to preventing high-impact infestations. Because *T. natans* is an annual plant, effective control can be achieved if seed formation is prevented. Small populations can be controlled by hand pulling working from canoes or kayaks. As such the Fish Creek populations maybe too large for a complete removal by hand.
- A combination of Manual and Mechanical Harvesting maybe the best approach. A shallow water harvester would be most feasible.
- The Capital Region PRISM recommends collaborating with local business and the Skidmoore Rowing Clubs to recruit volunteers for future removals. Removal Estimation:
4-person crew
Tenth Acre; 32 bags estimated 2400 pounds of water chestnut de-watered 10 hours
Acre; 320 bags 24,000 pounds of water chestnut de-watered 30 hours
- Disposal of material would be best if aloud to decompose on site and then buried on preserve property. Location and modes of transportation need to be determined.

Basic Primer(s) on Water Chestnut and Common Frogbit

- https://www.dec.ny.gov/docs/lands_forests_pdf/aiswatercfs.pdf
- http://nyis.info/invasive_species/water-chestnut/
- <https://seagrant.sunysb.edu/ais/pdfs/WaterChestnutFactsheet.pdf>
- https://www.adkwatershed.org/files/frog-bitfactsheet_sea_grant_0.pdf
- https://www.michigan.gov/invasives/0,5664,7-324-68002_71240_73848-364817--,00.html

Post- Survey Monitoring:

The Capital Region PRISM will continue to monitor the infestation(s) of Water Chestnut (*Trapa natans*) on a triannual cycle and delineate their size using collector polygons. The PRISM will also monitor for other AIS like European Frogbit, (*Hydrocharis morsus-ranae*)

- Will post-treatment management be handled by another person/entity? **No**

Will an Invasive Species Management Plan be created?

Not at this time until an action is determined.

