



## Capital Region PRISM AIS Lake Survey Report

Date: August 18<sup>th</sup> and 26<sup>th</sup> 2020

Site Name: **Tomhannock Reservoir**

Site Size: 1720 acre(s) / Lake Perimeter: 19 Miles / Mean Depth: 23 Feet

GPS Location: 42.8189 -73.5246

Physical Address: Route 7

County: Rensselaer

Town: Pittstown NY

Property Owner Contact: City of Troy City Clerk's Office  
433 River Street Troy, NY 12180

Primary Contact Wischman, Dennis (DEC) <[dennis.wischman@dec.ny.gov](mailto:dennis.wischman@dec.ny.gov)

Secondary Contact Chris VanMaaren Regional Fisheries Manager, Division of  
Fish and Wildlife New York State Department of Environmental  
Conservation 65561 State Hwy 10, Stamford, N.Y. 12167-5029

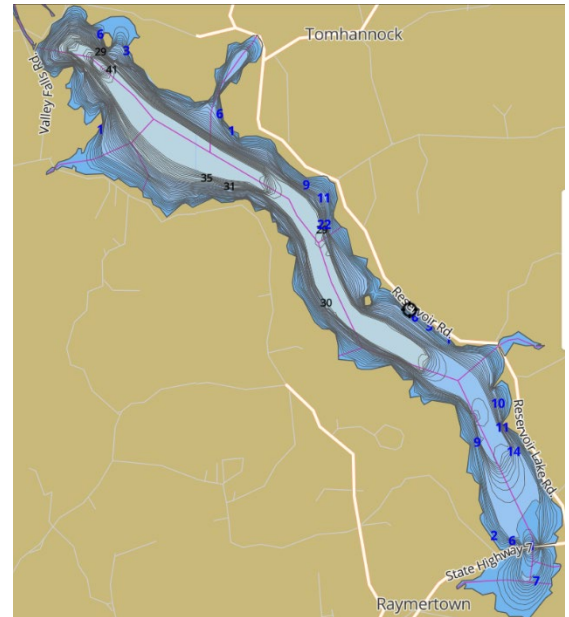
P: (607)652 2620|[chris.vanmaaren@dec.ny.gov](mailto:chris.vanmaaren@dec.ny.gov)

Survey Leader: Kristopher Williams PRISM Coordinator

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iMapInvasives User ID:9274



<http://fishing-app.gpsnauticalcharts.com/i-boating-fishing-web-app/fishing-marine-charts-navigation.html?title=Tomhannock+Reservoir+boating+app#12.29/42.8421/-73.5364>

### Summary

On August 18<sup>th</sup> and 26<sup>th</sup> 2020 the Capital Region PRISM conducted an Aquatic Invasive Species Macrophyte Survey to delineate Water Chestnut (*Trapa natans*) monocultures on the Tomhannock Reservoir a drinking water supply for the City of Troy and other municipalities in Rensselaer County. A visual inspection of the surface waters and subsurface were conducted along the (littoral zone) shoreline of the water body. The New York State Department of Fish and Wildlife assisted in the two survey dates. Rensselaer County Soil & Water Conservation District USDA NRCS Service Center Conservation Technician was also present of the first day of surveying.

The infestations are occurring in the shallow portions of the littoral zone where soft sediments are present. There are six major infestations present with a seventh forming. The seven sites altogether account for 71.75 acres of biomass on the surface waters or 4.15% of the total lake acreage. Data was delineated using ARC GIS Collector. Please note the iMap Invasives Presence polygons on the second page showing the infestations. The percent coverage of the littoral zone is not known at this time.

There are portions of the reservoir where water chestnut is not present or is present but in isolated and sparse patches. These areas are in rocky deep waters. Notably the northeastern shore of Reservoir Lake Road and portions of the southwestern shore. The likelihood of future infestations are low in these areas due to the deep and rocky lake geomorphology. Note the link and map above of the littoral zone.

### Aquatic Invasive Species Present of Concern

- 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](http://nyis.info/wp-content/uploads/2018/01/61a2d_Trapa-natans-NYS.pdf) General Species Information [http://nyis.info/invasive\\_species/water-chestnut/](http://nyis.info/invasive_species/water-chestnut/)
- Eurasian Water-milfoil; (*Myriophyllum spicatum*) is a very high threat species with an assessment score of 100. [http://nyis.info/wp-content/uploads/2018/01/5cdc8\\_Myriophyllum.spicatum.NYS\\_.pdf](http://nyis.info/wp-content/uploads/2018/01/5cdc8_Myriophyllum.spicatum.NYS_.pdf) For General Species Information: [http://nyis.info/invasive\\_species/eurasian-watermilfoil/](http://nyis.info/invasive_species/eurasian-watermilfoil/)

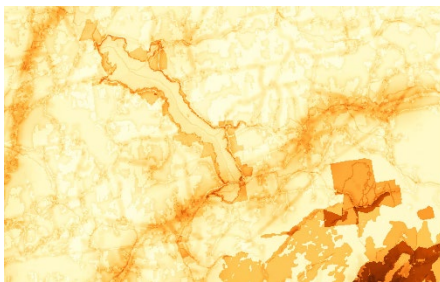


## Site Description:

The water source for the city of Troy, New York is the Tomhannock Reservoir, a man-made reservoir 6.5 miles (10.5 km) northeast of Troy in the town of Pittstown. The reservoir is 5.5 miles (8.9 km) long, and holds 12.3 billion US gallons (47,000,000 m<sup>3</sup>) when full. Licensed fishing (both warm-weather and ice fishing) is a popular recreational activity. The reservoir is surrounded by agricultural lands with fragmented forest. The Reservoir has a shore line elevation of 400 feet and overflows in to the Tomhannock Creek to the Hoosic River. Otter and Sunkauissia Creek drain into the reservoir. 1. Troy NY Water Department reports Archived 2007-10-22 at the Wayback Machine Retrieved 2011-08-05.

## iMapInvasives Prioritization Model:

<https://www.arcgis.com/home/webmap/viewer.html?webmap=57d30ff9bff7426c8950d90b0ba43bba&extent=-81.0352,39.2503,-70.2686,45.8067>



The shoreline of the Tomhannock Reservoir is ranked moderately high on the prioritization model comprehensive score attribute with a strong coloring on the heat map.

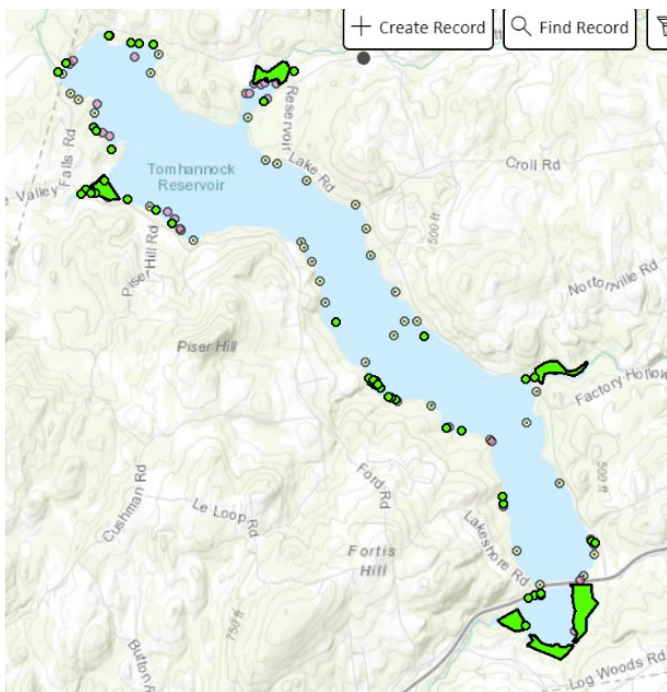
## Does this site contain previously treated infestations?

- No

## Survey Techniques:

- *Visual Inspection of Surface and Subsurface*

## Map: Searched/Presence Areas: Tomhannock Reservoir (Entire Littoral Zone)



Water Chestnut (*Trapa natans*) Monoculture  
Tomhannock Reservoir 2020





## Section 2: Survey Result Summary

Common Name	Scientific Name	Location (GPS)	Growth Type	Phenology	Abundance
Brittle Naiad	<i>Najas minor</i>	42.8198 -73.5181	Floating		n/a
Curly-leaf pondweed	<i>Potamogeton crispus</i>	42.8198 -73.5181	Floating	Detritus	n/a
Eurasian Water-milfoil; European Water-milfoil	<i>Myriophyllum spicatum</i>	Intermittent through out	Submerged/Rooted	Growth	Sparse/Dense
Water Chestnut	<i>Trapa natans</i>	Note Seven Polygons	Surface/Rooted	In seed	Monoculture(s)
Suspected HAB Reported to DEC	n/a	42.8163 -73.5209	Surface/Water Column		n/a

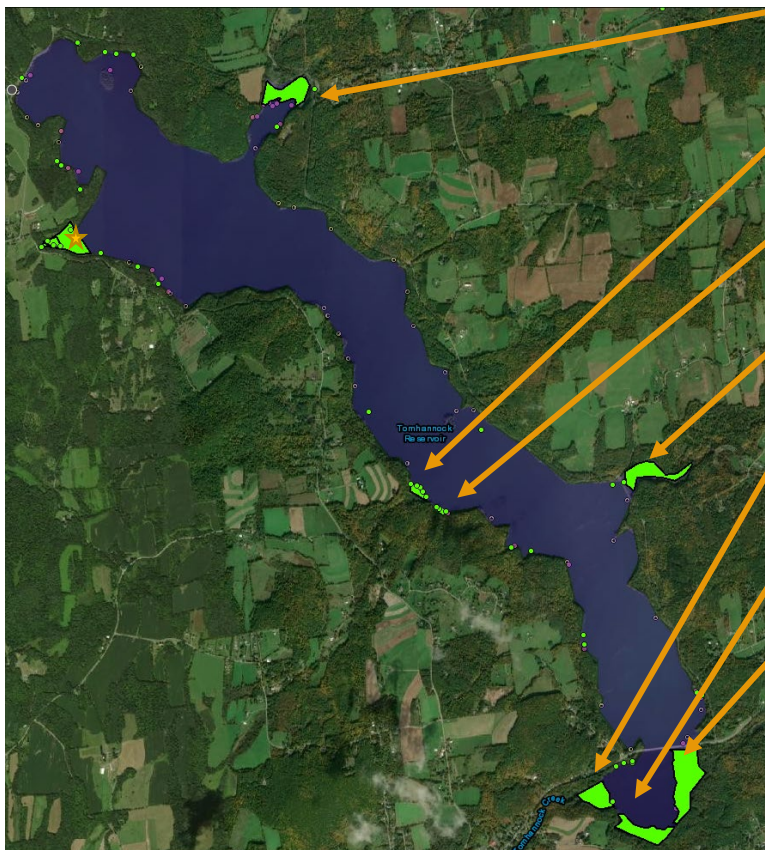
### Native species observed in Tomhannock Reservoir

*Myriophyllum sibiricum* - Northern watermilfoil  
*Najas flexilis* - Slender/bushy naiad  
*Elodea sp.* (*E. canadensis*, *E. nuttallii*) - Elodea, waterweed  
*Nymphaea odorata* - White water lily

*Ceratophyllum demersum* - Coontail  
*Chara vulgaris* - Chara, muskgrass  
*Potamogeton amplifolius* - Large-leaf pondweed  
*Potamogeton perfoliatus* - Clasping Pondweed

### Areas of Concern:

The Presence polygons in green where dense monocultures of Water Chestnut (*Trapa natans*) are confirmed.



**Polygon 1** iMap Invasives Presence Record ID: #1064700

Location: 42.86744 ° -73.55809 °  
Area: 52264.97 m<sup>2</sup> (12.91 Acres)

**Polygon 2** iMap Invasives Presence Record ID #1064699

Location: 42.83815 ° -73.54509 °  
Area: 8689.08 m<sup>2</sup> (2.14 Acres)

**Polygon 3** iMap Invasives Presence Record ID #1064701

Location: 42.8368 ° -73.54286 °  
Area: 847.7 m<sup>2</sup> (0.21 Acre)

**Polygon 4** iMap Invasive Presence Record ID #1064698

Location: 42.8395 ° -73.52187 °  
Area: 48819.73 m<sup>2</sup> (12.1 Acres)

**Polygon 5** iMap Invasives Presence Record ID #1064695

Location: 42.81579 ° -73.52717 °  
Area: 37388.06 m<sup>2</sup> (9.3 Acres)

**Polygon 6** iMap Invasives Presence Record ID #1064696

Location: 42.81326 ° -73.52247 °  
Area: 47272.29 m<sup>2</sup> (11.7 Acres)

**Polygon 7** iMap Invasives Presence Record ID #1064697

Location: 42.81709 ° -73.51834 °  
Area: 95075.53 m<sup>2</sup> (23.5 Acres)

\*Upper left polygon in the North West is not a presence polygon from this survey and does not represent a monoculture, however water chestnut is found in this area in trace and sparse populations. iMap Invasives Presence Record ID #334979 David Newman - 4221 6.7.2012

Polygon data was delineated using ARC GIS Collector in the field.



## Section 3: Summary of Recommendations

### Treatment:

Chemical treatment is not an option for the public water supply.

Bio-Based mapping should possibly be considered to determine the possible extent in which soft sediments occur in the reservoir within the littoral zone. These areas can represent possible environments for future expansion of the plant into new un-established habitat.

### Mechanical Harvesting:

- 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.
- Established and large infestations usually require the use of mechanical harvesters.
  - Regardless of treatment, ideally removal should take place before the fruit has ripened and dropped to the bottom forming a long-term seed bank.
  - 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.
  - Shallow water aquatic weed harvesters maybe needed for control / eradication in sections of the littoral zone in conjunction with larger harvesters. Some hand pulling maybe required.

### Basic Primer(s) on Water Chestnut

- [https://www.dec.ny.gov/docs/lands\\_forests\\_pdf/aiswatercfs.pdf](https://www.dec.ny.gov/docs/lands_forests_pdf/aiswatercfs.pdf)
- [http://nyis.info/invasive\\_species/water-chestnut/](http://nyis.info/invasive_species/water-chestnut/)
- <https://seagrant.sunysb.edu/ais/pdfs/WaterChestnutFactsheet.pdf>

### 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.

Will post-treatment management be handled by another person/entity? Not Applicable at this time.  
If yes- please provide the contact information:

Will an Invasive Species Management Plan be created? Not Applicable at this time.





Capital Region PRISM  
Partnership for Regional  
Invasive Species Management

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