



## Capital Region PRISM AIS Survey Report

Date(s): 07-15-21

Site Name: Queechy Lake

Site Size: 141 acres

Waterbody Perimeter: 3.1 miles

Mean Depth: 19 ft.

GPS Location: 42.4100, -73.4111

Physical Address: --

Town: Canaan

County: Columbia

Property Owner Contact:

Primary Contact: NYS Department of Environmental Conservation

Secondary Contact: Queechy Lake Club, Inc.

PO Box 92, Canaan, NY 12029

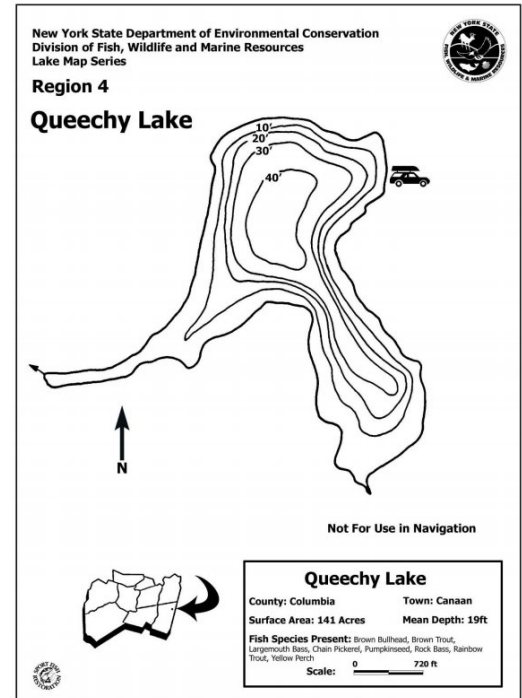
[queechylakeclub@gmail.com](mailto:queechylakeclub@gmail.com)

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Team Members: Trevor Maloney and Greg Zuill

iMapInvasives User ID: 19154, 22552



## Section 1: Survey Summary

Only July 15<sup>th</sup> the Capital Region PRISM conducted an aquatic survey on Queechy Lake in Columbia County. Queechy Lake was reported to have Eurasian watermilfoil present. Upon completion of the aquatic survey it was confirmed that curly-leaf pondweed and water chestnut are present in Queechy Lake.

### Site Description

Queechy Lake is a 141 acre waterbody with a sandy and mucky substrate. The bottom cover of the lake includes macrophytes, leaf pack, and woody debris. Native species are the dominant macrophyte present in the lake with clasping-leaf pondweed showing the most prevalent growth throughout the lake. There are several inflows of water on northwest side of the lake, possibly from a nearby wetland.

There is a public, state-owned cartop boat launch present on the northeast side of the lake that is shows heavy use.

### Survey Techniques

Entire waterbody, top water

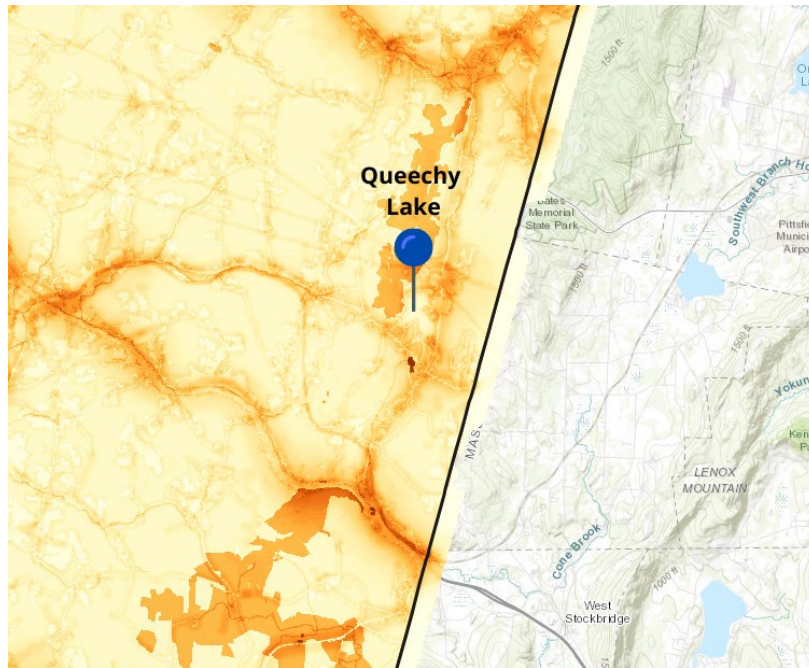
- Top-side (visual)
- Rake toss



## NYS Invasive Species Prioritization Model

Queechy Lake is located in an area with a moderate to high comprehensive score on the NYS Invasive Species Prioritization Model. Locations with high comprehensive scores have high ecological significance, a high risk of spread of invasives into the area, and high value according to their protected status. Early detection is important in these locations to ensure timely management of new infestations if detected.

### [NYS Invasive Species Prioritization Model](#)



Does this site contain previously treated infestations?

Unknown

## Section 2: Survey Result Summary

### Aquatic Invasive Species Presence

- Eurasian watermilfoil
  - New York Non-Native Animal Invasiveness Ranking – 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)
- Curly-leaf pondweed
  - New York Non-Native Animal Invasiveness Ranking – 79.79
    - [http://nyis.info/wp-content/uploads/2018/01/7223b\\_Potamogeton.crispus.NYS\\_.pdf](http://nyis.info/wp-content/uploads/2018/01/7223b_Potamogeton.crispus.NYS_.pdf)
- Water chestnut
  - New York Non-Native Animal Invasiveness Ranking – 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)



Common Name	Scientific Name	Location (GPS)	Growth Type	Phenology	Abundance
Eurasian watermilfoil	<i>Myriophyllum spicatum</i>	Various locations	Submerged	Emerging growth	Dense/Sparse
Curly-leaf pondweed	<i>Potamogeton crispus</i>	42.403990, -73.421800	Submerged	Emerging growth	Sparse
Water chestnut	<i>Trapa natas</i>	42.404435, -73.413718	Floating	Flowering, fruit ripening	Trace (4 rosettes)

**Growth Type:** Tree, Shrub, Vine, Ground Cover, Herbaceous, Riparian, Submerged, Floating, Emergent, Wetland, Pest, Animal

**Phenology:** Flowering, Leaf unfolding, fruit ripening, leaf color change, dormant, swarming, spawning, emergence (insects), migrating, in seed, senesce

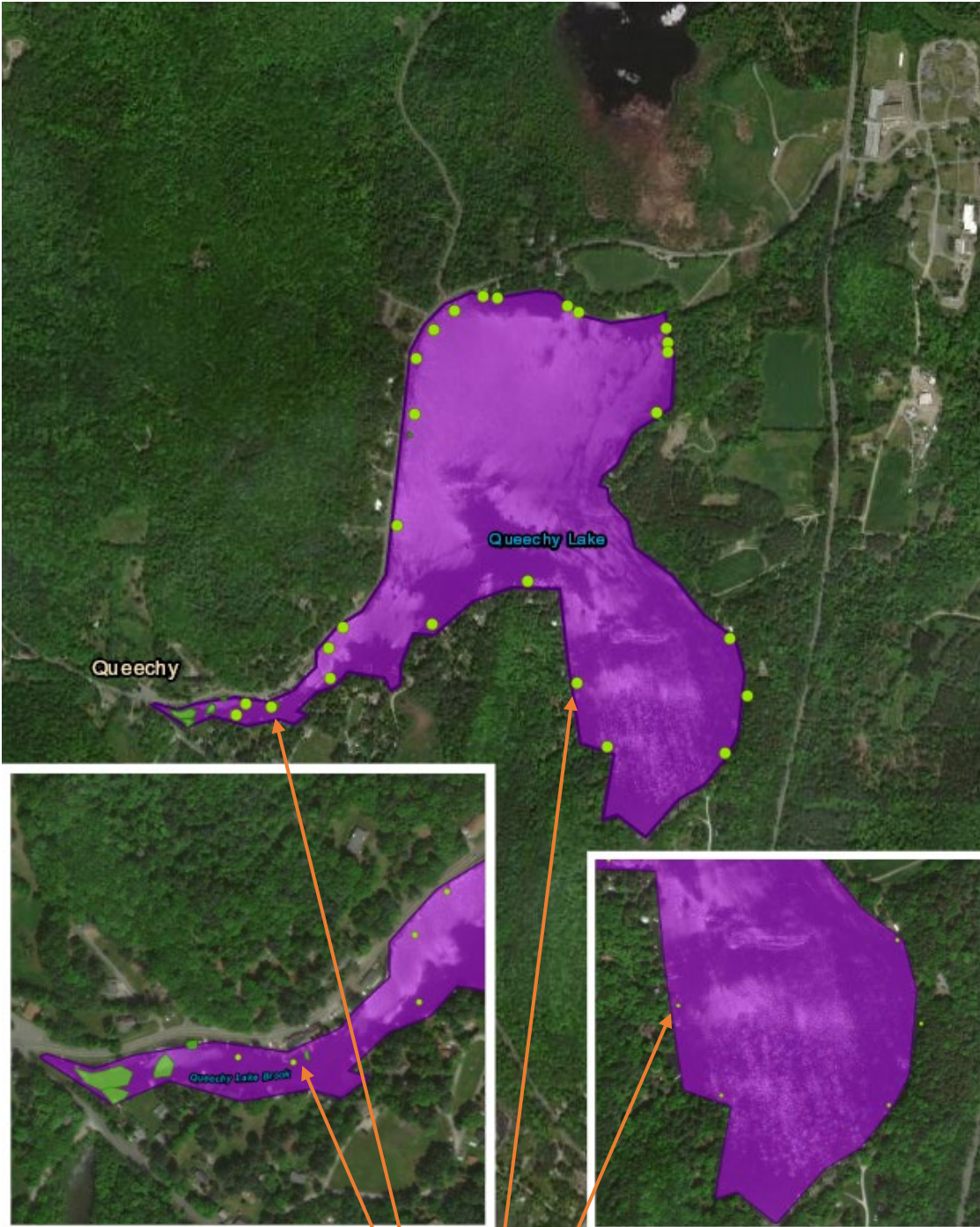
**Distribution/Abundance:** Trace (single plant/clump), Sparse (scattered plants/clumps), Dense plants/clumps, Linearly scattered, Monoculture

### Native Species Presence

- Clasping leaf pondweed (*Potamogeton perfoliatus*)
- White waterlily (*Nymphaea odorata*)
- Common waterweed (*Elodea canadensis*)
- Muskgrass (*Chara*)
- Large-leaf pondweed (*Potamogeton amplifolius*)
- Pondweed (*Potamogeton spp.*)



Map



Areas of Concern:

1. Southwest channel
  - Curly-lead pondweed (sparse distribution)
2. Southern bay
  - Water chestnut (4 plants removed)
3. Eurasian watermilfoil present throughout Queechy Lake with higher concentrations along northwest shoreline and in southwest channel



## Section 3: Summary of Recommendations

### Treatment

#### *Water chestnut*

Annual mechanical removal efforts (1-2 per season) are recommended to ensure a seed bank does not develop. The infestation was detected in early stages and eradication is possible with continued management.

#### *Eurasian watermilfoil*

- Harvest/Suctioning
- Chemical Treatment with Selective Herbicide
  - A number of chemicals impact the growth and survival of *M. spicatum*. Amine salts of Endothall (Hyrothol 191®), and Dipotassium Salts of Endothall (Aquathol K®), Diquat dibromide (Reward®), Komeen® have been found to be effective. Some of these herbicides may also affect other non-target rooted submerged plants, including some rushes. Treatment is most effective in still water in the spring while the plant is actively growing.

The amine formulations of 2,4-D granules (Navigate®, Aquakleen®, Aquacide®) are effective on controlling Eurasian watermilfoil and will not damage most non-target grasses. This herbicide method, however, is not appropriate for large unmanageable areas of milfoil. One low-dose application (10 µg/L) of fluridone (brand names Sonar® and Avast!®) applied in the early stages of growth has the potential to provide season-long control of milfoil. However, this application rate causes collateral damage to native vegetation. Liquid triclopyr (Renovate 3® and Renovate® OTF) can control milfoil without unintended damage to cattails and grasses. Note: Always check state/provincial and local regulations for the most up-to-date information regarding permits for control methods. Follow all label instructions. Mention of chemicals, particularly the mention of brand names in this profile does not represent a recommendation by NY Sea Grant or Cornell University. [http://nyis.info/invasive\\_species/eurasian-watermilfoil/](http://nyis.info/invasive_species/eurasian-watermilfoil/)

### Non-Selective Control Strategies

- Benthic Mats

#### *Curly-leaf pondweed*

- Mechanical
  - Raking, hand cutting, or suction harvesting
- Chemical
  - Only a few of the aquatic herbicides can be used to control curly-leaf pondweed (Tables 1, 2). Good to excellent control of curly-leaf can be obtained using formulations of diquat (e.g., Reward®) and endothall (e.g., Aquathol®). Whole lake treatment with fluridone can also be used to control curly-leaf pondweed. Diquat and endothall (especially the former) are contact herbicides that can be used in small areas. Endothall has been shown to be effective at lower temperatures, and is being used experimentally in largescale applications on entire beds of curly-leaf pondweed. Fluridone is a systemic herbicide that usually has to be applied to whole lakes or bays and requires over 60 days to control curly-leaf pondweed. Potential problems are failure of the herbicides to control curly-leaf, a lag time between treatment and plant knock down, regrowth of curly-leaf the following year, and the removal of beneficial native plants.
- Physical
  - Habitat manipulation – water level drawdown, dredging, benthic mats

### Post-Survey Monitoring

The Capital Region PRISM will continue to monitor Queechy Lake on a biannual schedule. The infestations of Eurasian watermilfoil, curly-leaf pondweed and water chestnut will continue to be monitored and mapped using ArcGIS services. Any new infestations will be documented and monitored in the future.

#### *Will an Invasive Species Management Plan be created?*

- Yes



[Photos](#)





Capital Region PRISM  
Partnership for Regional  
Invasive Species Management

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Department of  
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