Lake Adirondack Plant Survey
9/19/18
Glenn Sullivan (Solitude Lake Management), Lenny Croote (Hamilton Cty SWCD)
Water clarity – 2 meters

Sampling methodology
Sampling methods followed the methodology outlined in the 2010 Aquatic Plant Survey Report authored by Scott Kishbaugh (SK) of the NYSDEC. At each sample plot (1-4), two rake tosses were thrown, and results averaged. At each transect (Plots 5-12), two rake tosses were thrown close to the shore, and two rake tosses were thrown further out, and results were averaged.

Plants were counted if they displayed signs of color or vigor, and could be identified to Genus at least. This differs slightly from the 2017 sampling effort, where submersed plants were counted if a reasonable assumption could be made at their identity. (SK, email comm.) Emergent plants were generally not collected by rake toss but were estimated visually.

Sampling results are detailed below. Spatterdock (Nuphar) was the only plant found with any frequency. Many areas of the shoreline supported spatterdock colonies, generally in good condition. These were most prevalent in the rear portion of the lake's eastern cove, and could be considered common in this area. The only other plant found at greater than Trace density in any sample area was water moss (Fontinalis). All other plants were essentially single plants.

Sampling results
Densities - T (trace) – single to fingerful of plants
S (sparse) – handful
M (moderate) – rakeful
D (dense) – difficult to bring into boat

Plot 1 - Nuphar sp. (T)
Plot 2 – Nuphar sp. (S), Utricularia vulgaris (T), Peltandra (T)
Plot 3 – no plants found
Plot 4 – no plants found
Plot 5 – Nuphar sp. (T), Brasenia sp. (T), Myriophyllum verticillatum (T), Myriophyllum tenellum (T), Potamogeton sp. (T)
Plot 6 – Nuphar sp. (S)
Plot 7 – Nuphar sp. (S), Fontinalis sp. (T)
Plot 8 – Nuphar sp. (S), Fontinalis sp. (S)
Plot 9 – Nuphar sp. (S), Isoetes sp. (T)
Plot 10 – Nuphar sp. (S), Brasenia sp. (T)
Plot 11 – no plants found
Plot 12 – Nuphar sp. (T), Potamogeton sp. (T)

Species notes:

Spatterdock (Nuphar sp.) yellow water lily. These plants were most abundant in the lake, and were found in patches along many areas of the shoreline, and throughout the back side of the eastern cove of the lake. They were present in an estimated 10-15% of the overall lake, typically in sparse density, meaning that multiple plants often occurred together, but they did not pose an impediment to navigation even at their greatest density in the eastern cove. Most plants appeared healthy, while grazing impacts could be seen on some leaves.

Water moss (Fontinalis) – Water moss was found along the southwest shoreline of the lake at points 7 & 8. These transects were deeper than those found along the north and east shoreline. Although not observed, it is expected that water moss did occur in other unsurveyed areas of the southern cove of the lake in waters greater than 1 meter.

Common bladderwort (Utricularia vulgaris) – Only a single common bladderwort plant was found, this in the easternmost cove. One additional plant was observed during transit of the lake between points, and 2-3 plants were observed behind the bog corral a few days earlier by Glenn Sullivan (GS) during the grass carp harvest.

Whorled watermilfoil (Myriophyllum verticillatum) – One plant of whorled watermilfoil was found at plot 5, on the south shore of the eastern cove. A floating, vegetated bog was also found at this location, which may suggest that the milfoil escaped from the bog. Another whorled watermifloil plant was observed a few days earlier behind the bog corral (GS).

Leafless watermilfoil (Myriophyllum tenellum) – One plant was found at Plot 5, also the location of the small floating bog.

Watershield (Brasenia sp.) – Two stems of watershield were found at Plot 5, also the location of the small floating bog.

Quillwort (Isoetes sp.) – The only sampled quillwort was found at plot 9, along the western side of the south cove. Several other plants were observed in the eastern cove of the lake during transit to and from plots 2 & 5.

Pickerelweed (Peltandra sp.) – Only one plant was observed, found in Plot 2 in the easternmost cove. Other plants were seen on the floating bog in Plot 5, but were not counted since they were part of the bog and expected to be removed to the corral.

Pondweed (Potamogeton sp.) – Pondweed leaves were found at plots 5 & 12. These leaves were in a state of partial decay, and could not be positively identified to species, but may have been ribbon-leaf pondweed (P. epihydrus).

Comments

Nine plant species were found in survey plots in the September, 2018 survey. By comparison, twelve plant species were found in the August, 2017 survey by Scott Kishbaugh and Lenny Croote. In both surveys, spatterdock (Nuphar sp.) was the dominant species and the only species typically found in greater than trace density. The most noticeable difference in species presence/absence between the two seasons was the absence of 3 emergent plant species observed in 2017 but not in 2018.

Filamentous or colonial species of algae were found at several plots in trace density. These were not identified to genus. Since only macroalgae (Nitella) was recorded in previous surveys, filamentous algae was not counted, but its presence justifies mention. Filamentous algae was found in trace density on rake tosses, and attached to organic material from the lake bottom. In addition, filamentous algae was also observed attached to leafless stems of floating plants throughout the lake.

From 2005 – 2010, from 18-26 plants species were recorded during the annual plant survey, 26 being found in 2010. These surveys routinely found multiple species of submersed pondweeds (Potamogeton), which were largely absent from the 2017 & 2018 surveys. The 2018 survey results show a reduction of at least 50% in species richness from 2010. Any observer familiar with Lake Adirondack can attest to the overall lack of aquatic plant abundance, particularly in shallow areas where the bottom is easily visible. The contention by a few local observers that plant coverage is beginning to rebound from the last grass carp stocking is not supported by the results of the survey or by qualitative analysis (GS).

The goal of the 2018 grass carp harvest was to reduce the grass carp population in the lake by approximately 20% (GS). Since the harvest successfully removed only 3 fish, this goal was obviously not met. Based on the abundance of carp observed, and the lack of existing plant biomass to graze, it is expected that plant coverage in 2019 will continue to be minimal, and less than desirable for general lake health and support of a well-balanced fish community. Further efforts should be made to thin the lake's grass carp population in Spring, 2019.

Respectfully submitted,

Glenn P. Sullivan, CLM