

Hydrilla Monitoring Summary

Finger Lakes Marine Service

Cayuga Lake, Lansing, New York

2021



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PRISM

Partnership for Regional
Invasive Species Management

Background

A Hydrilla population was discovered in a private marina, located in Lansing, Tompkins County, NY, late August of 2019. Patches of Hydrilla were growing throughout a 5-acre area consisting of the enclosed marina and a small, connected pond (Figure 1). This site has received three years of chemical control; a copper-based herbicide (Harpoon Granular) was utilized in October 2019, and fluridone (Sonar H4C) was applied the following summers.

Management

In 2021, the third year of treatment, Solitude Lake Management was contracted to prepare permit applications, complete herbicide applications, and complete water quality monitoring. Fluridone was applied to the 5-acre area in a pelletized formulation, trade name Sonar H4C. After a two-week delay due to permit timing and inclement weather, six weekly applications occurred July 15, 2021 - August 19, 2021 at the following concentrations: 20ppb, 20ppb, 10ppb, 10ppb, 10ppb, 10ppb.

Monitoring

Water samples (n=48) were collected by SLM staff and shipped to the SePRO lab for analyses. FastEST results were provided throughout the season. Herbicide levels remained below permit restrictions.

Tuber sampling was performed June 16 and September 30, 2021. A post-hole digger was used to collect sediment samples in locations where Hydrilla had been previously observed. Sampling in June occurred in areas the field team was able to reach the sediment from a jon boat, so points were restricted to the edges of the marina and throughout pond due to water depth. The handles of the post-hole digger were extended for the September sampling and the field team was able to sample deeper water depths. In total, 105 sediment samples were collected (44 in June and 61 in September, Figure 2). No Hydrilla tubers were found during either sampling event.

Plants were monitored throughout the growing season using the rake toss method. Sampling occurred weekly from June 9, 2021- September 15, 2021, then every other week until October 29, 2021. Hydrilla was observed only within the treatment area, on July 21, July 28, August 18, and August 25 (Figure 3). No Hydrilla was detected afterward. Throughout the growing season, 2,521 rake tosses were done within the marina or within a point-intercept survey around the marina and proximal waterbody access points, including the Meyer's Park boat launch and Salt Point (Figure 4). Within the entire survey area, the majority of rake tosses returned zero or trace densities. Within the treatment area, the most frequently observed species was the native coontail, while American eelgrass was most frequently observed species outside of the treatment area (Figures 5, 6).

Looking Ahead

For the 2022 field season, treatment timing will be targeted to begin the last week of June or first week of July, to coincide with other Hydrilla treatments on the lake, depending on the water temperatures.

Plant monitoring at the marina will occur weekly throughout most of the growing season, then every other week once plants begin to senesce.

Portions of the point-intercept survey around the marina will be completed twice, once earlier in the season and once later in the season, to look for new emerging Hydrilla patches.



New York State, Maxar, Microsoft, County of Tompkins, Esri, HERE, Garmin, iPC

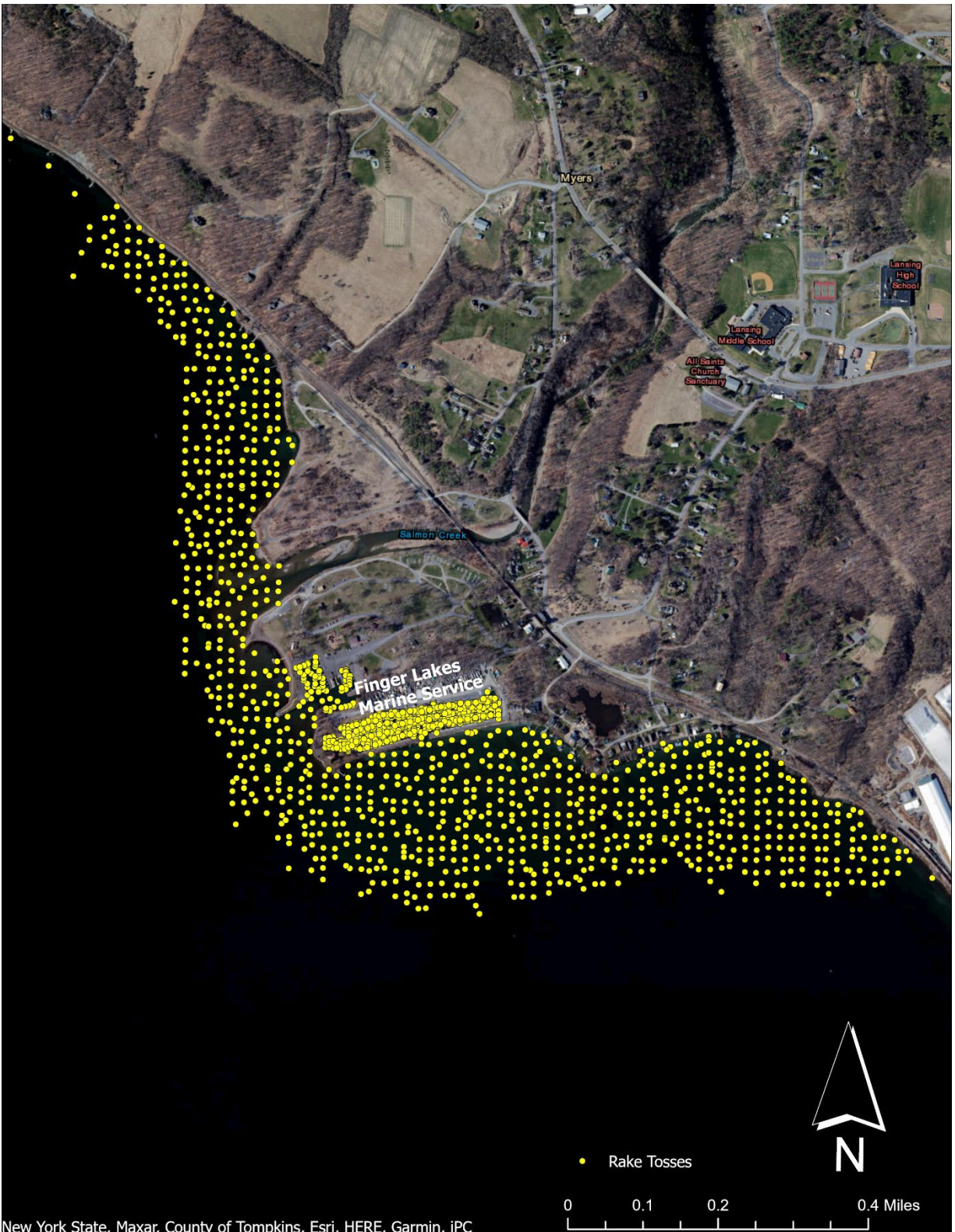
Figure 1. Hydrilla detections in Finger Lakes Marine Service, Lansing, NY.



Figure 2. Tuber sample locations in the Finger Lakes Marine Service treatment area, Lansing, NY, in 2021.



Figure 3. Hydrilla detections in Finger Lakes Marine Service, Lansing, NY during the 2021 field season.



New York State, Maxar, County of Tompkins, Esri, HERE, Garmin, iPC

Figure 4. Rake toss locations during the 2021 field season, within and around the treatment area.

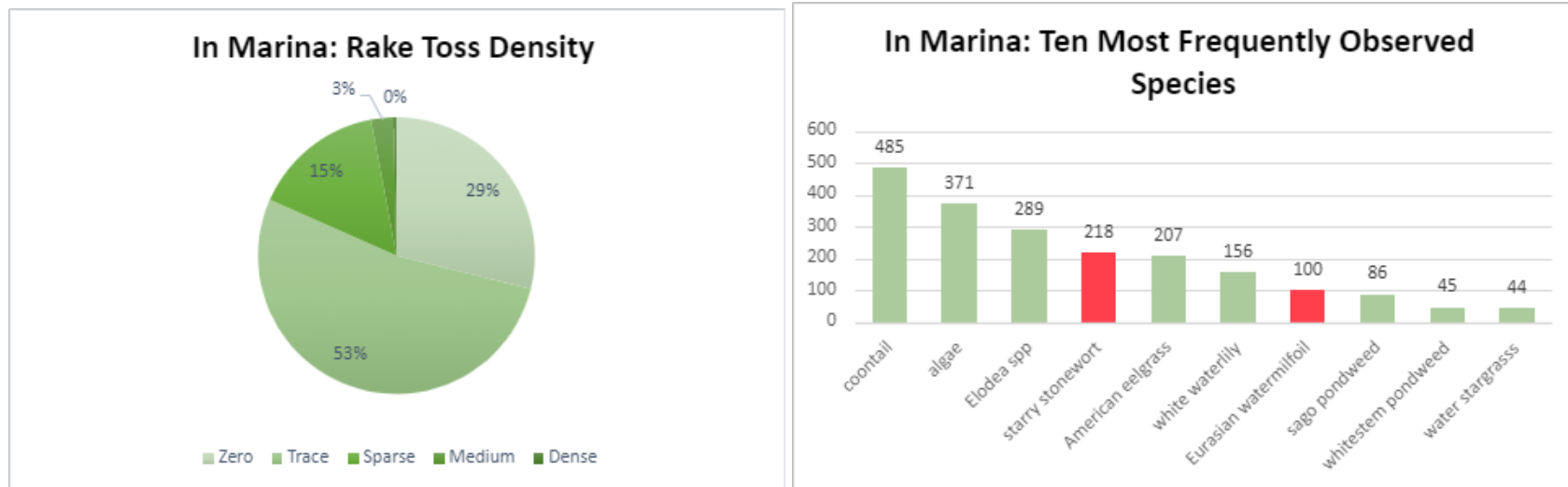


Figure 5. Rake toss densities and ten most frequently observed species observed within the treatment area in 2021.

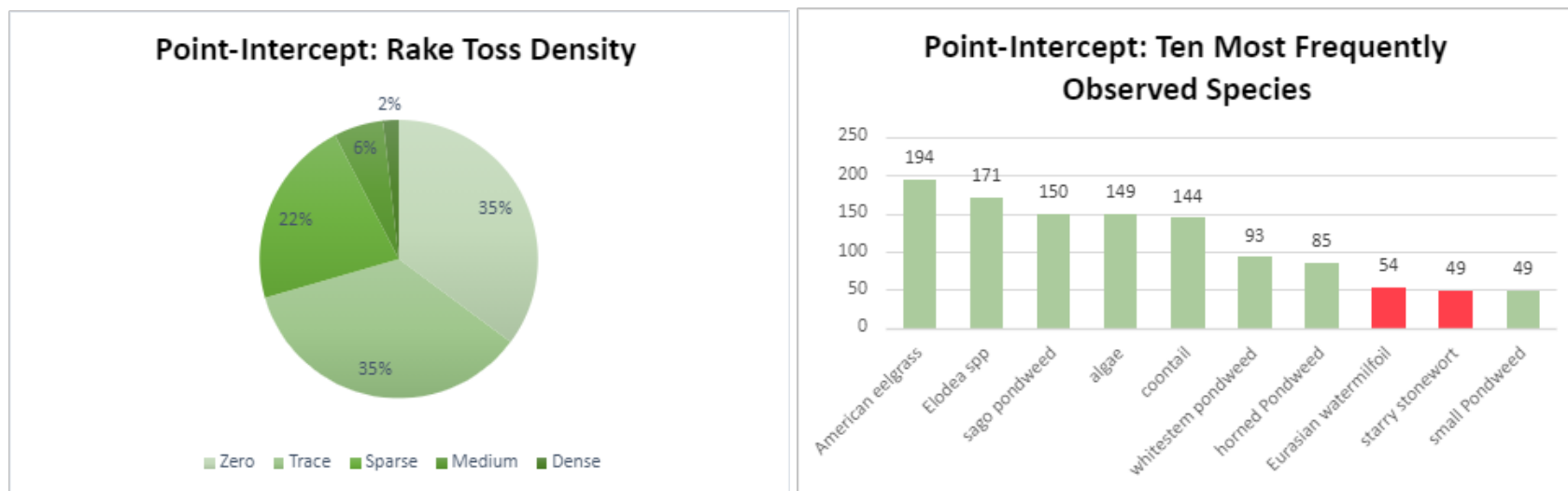


Figure 6. Rake toss densities and ten most frequently observed species within the point-intercept survey surrounding the treatment area.