

Aquatic Invasive Species Management Report

Schroon Lake

2018 Final Report

Prepared By:

INVASIVE SOLUTIONS



DIVE COMPANY, LLC

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Preface

First off, everyone at Invasive Solutions Dive Company would like to thank everyone involved with the aquatic invasive species management efforts for their time, energy, and contributions for the 2018 season. We consider this year to be a success in the continued effort in the fight and management of aquatic invasive species throughout the lake. We knew this would be a different experience for everyone involved working with a new company and we feel the season went off without a hitch. Looking forward, we are excited to continue with the management efforts and success on Schroon Lake for years to come.

Introduction

The harvest season for 2018 consisted of four weeks, to include a week in June, two in July, and one in August. In June there was a focus on sites which are known to harbor Curly-leaf Pondweed (CLPW) in order to harvest them before they fully propagate, as well as focusing on sites with heavy boat traffic and higher densities of Eurasian Watermilfoil (EWM). The harvest weeks in July we covered as many sites as able in line with our year's management plan to include slight variations due to aquatic invasive species (AIS) sighting reports, and was focused during the earlier stages of the peak growing season. Finally, our last week in August, we finished any sites which had not been worked yet, and revisited heavy density sites to follow up on possible regrowth.

Overall, we saw an increase in poundage of AIS removed, similar to the increase experienced in 2017, but found that the majority of sites hosted generally small numbers of AIS and were in good management standing.

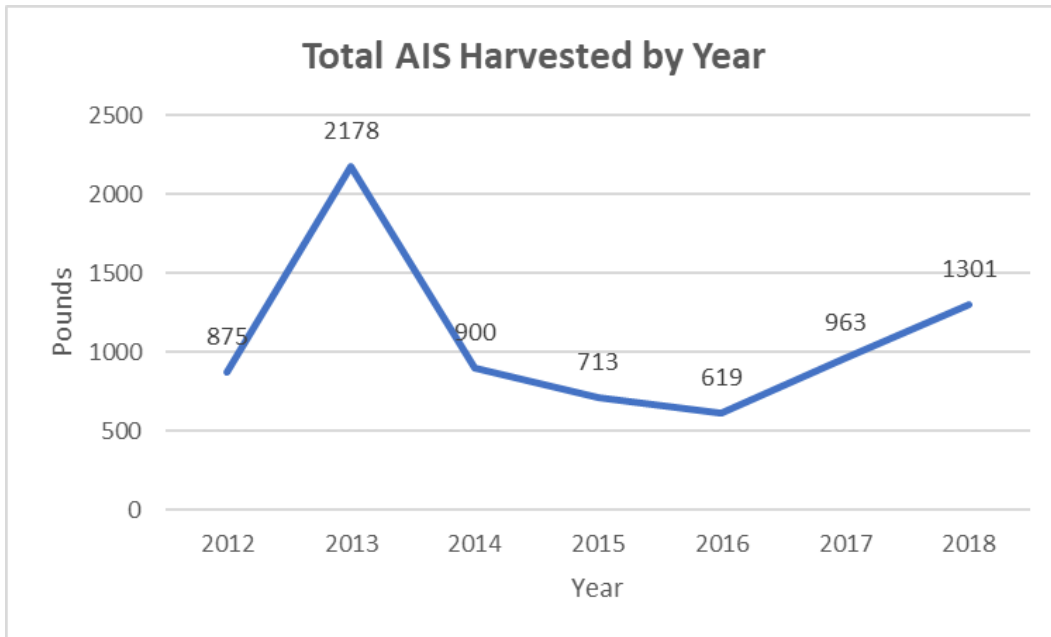
Methodology

The successful harvesting of aquatic invasive species is an ever-evolving world which requires knowledge in many areas to include the bodies of water and their specific tendencies, especially in relation to their natural flow, seasonal changes, historical AIS data and patterns, and knowledge of AIS and their life cycles. Considering the many variables, we develop a foundation for a management plan to lay the groundwork for the harvest season, while still allowing for minor changes in harvesting methods to ensure the best harvesting practices are always being employed.

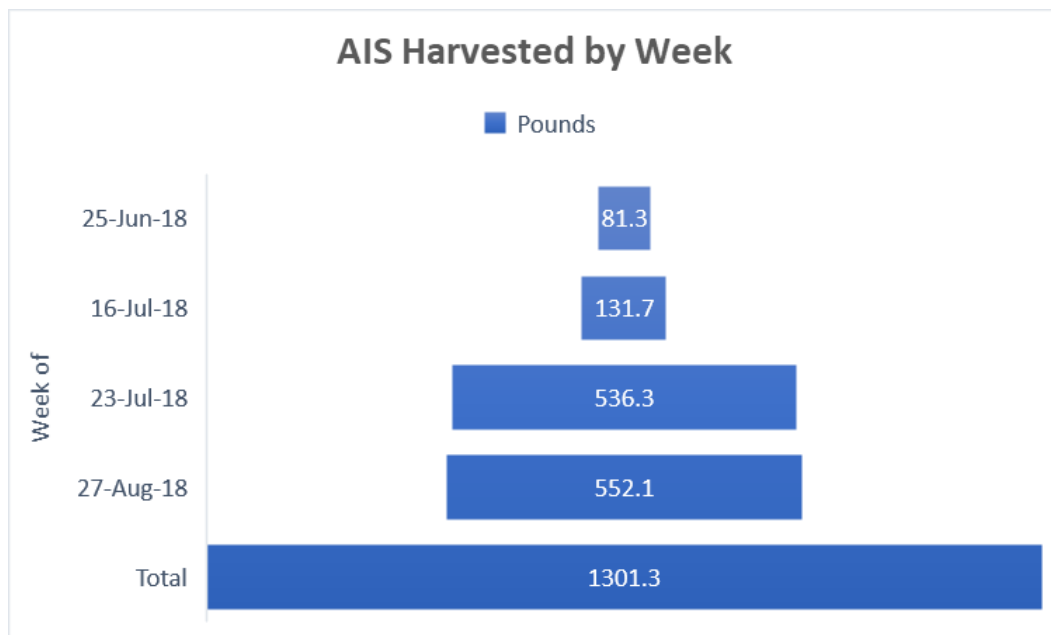
For the management of Schroon Lake, we began planning by using historical harvest data to prioritize site management based upon factors like historical plant densities, the location of AIS sites, AIS type and trend data. Throughout the season, our Crew collects data, to include plant locations via GPS waypoints, plant size and life cycle, bag count, and general data specific to the plant location, all of which can be used throughout the year and successive years.

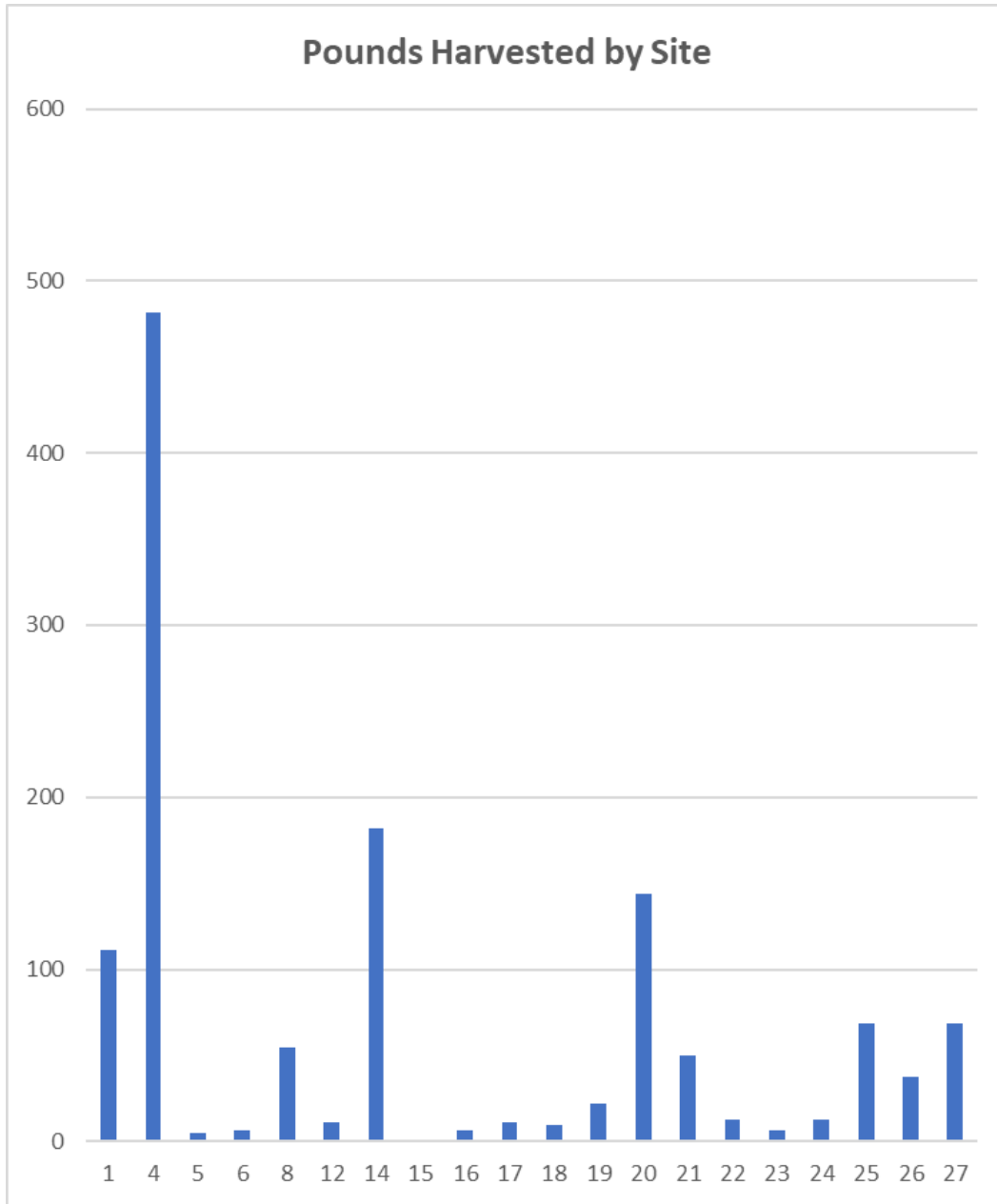
Once the season begins, we start harvesting according to our site prioritization and current findings to ensure the best utilization of time. Throughout the season our Crew continuously monitors the growth cycle of the AIS to ensure we are using the most effective harvesting technique for the most thorough removal of all plant matter. Finally, each week we produce a report to reflect our findings for the week and to show the progress being made on the lake.

The Numbers

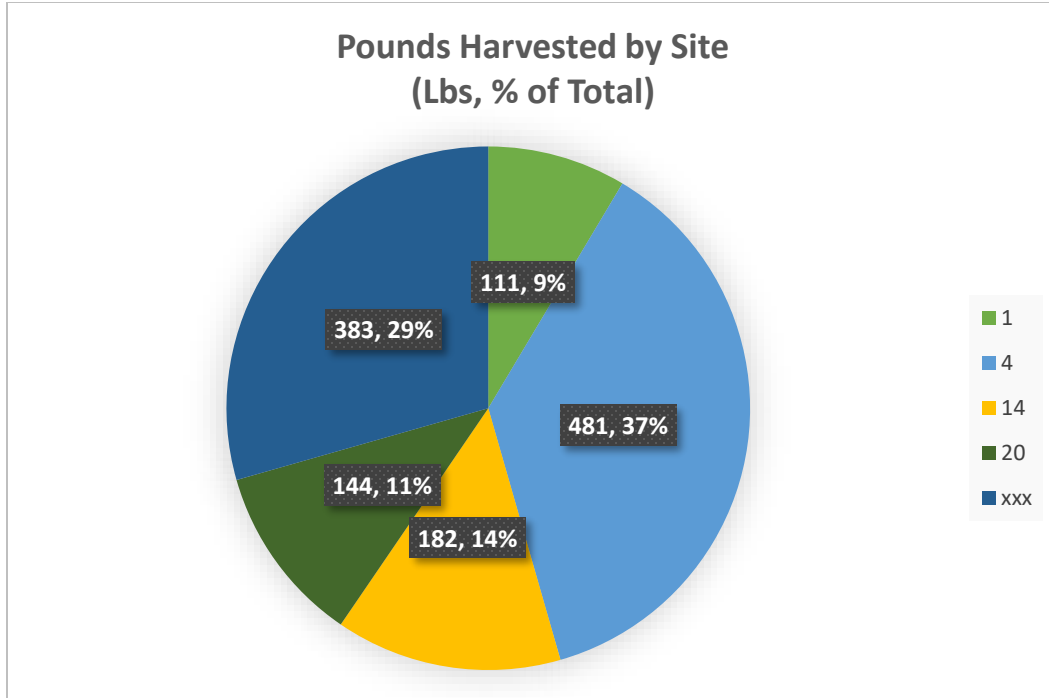


Percent Change Between Years	
2015-2016	-13.2%
2016-2017	55.6%
2017-2018	35.2%





Note: This graph does not include sites without AIS (sites 9, 11) or sites with too little AIS harvested to weigh (sites 2, 3, 7, 10, 13)

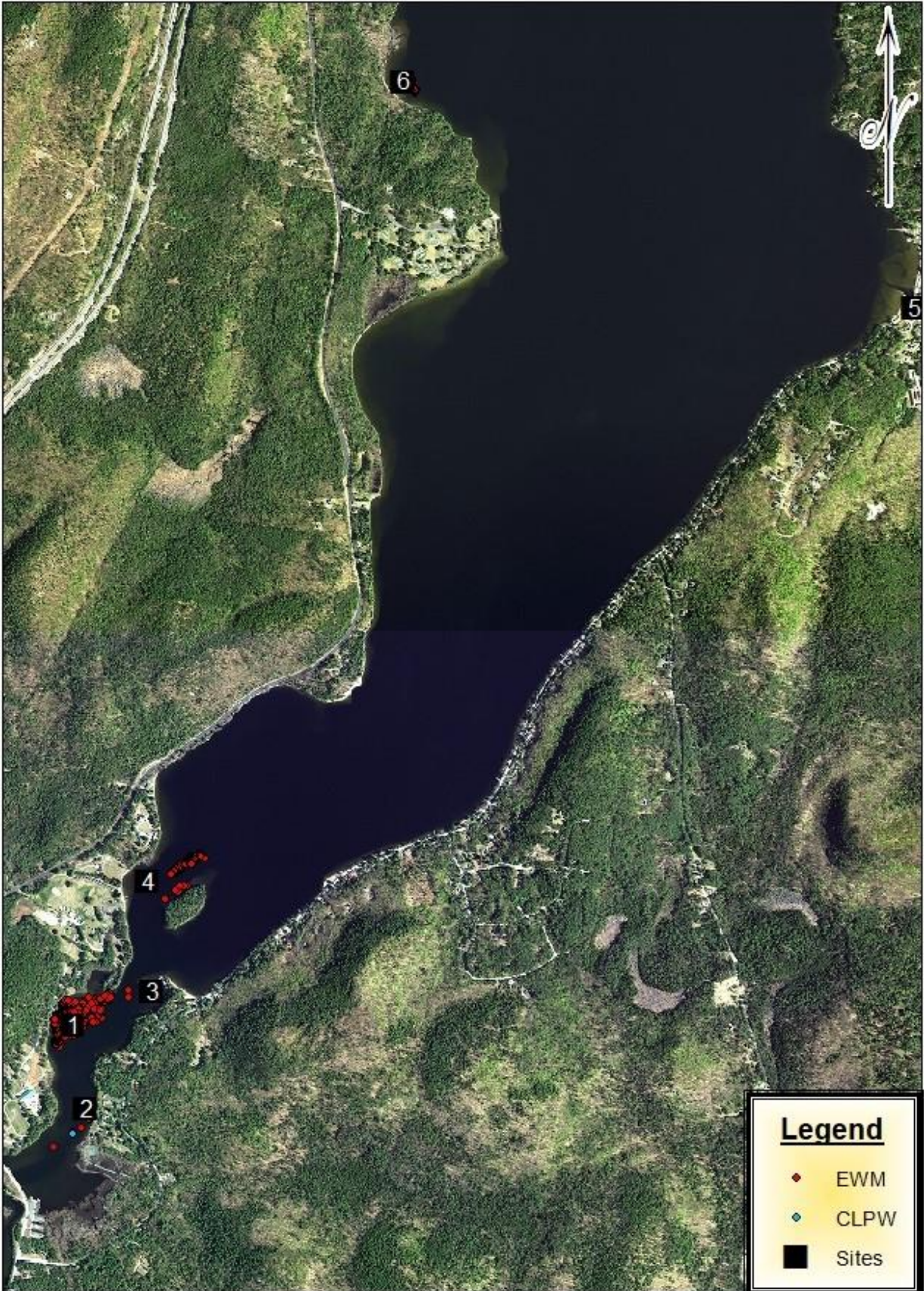


Note: Site xxx represents the remaining 23 sites

Site Maps







Overview and Site Summaries

Overall, the management plan in place allows for all sites to be visited and harvested throughout the season, while allowing for certain high priority sites, like marinas or high density AIS sights to be revisited to more closely monitor the site and harvest any remaining AIS as needed.

Of the 27 sites throughout the lake currently identified, all but two sites (sites 9 and 11) contained EWM. Of the 25 sites with EWM, five sites didn't contain enough AIS to register any weight post-harvest (sites 2, 3, 7, 10, and 13), four sights (sites 1, 4, 14, and 20) contained 71% of the total harvested weight, and site 4 alone accounted for 37% of the total harvested weight for the season.

In addition to the 25 sites with EWM, seven of those sites also contained CLPW (sites 2, 17, 19, 23, 24, 25, and 26). The CLPW harvested was harvested in small enough numbers where it does not account for much of the overall harvested weight, but needs to be monitored to ensure it does not continue to spread. Due CLPW's different life cycle, it is one of the first pondweeds to emerge in the early spring and will begin to propagate and dieback as other plants and AIS begin their heavy growing season. Because of its early life cycle, we must continue to have an early harvest targeting CLPW to stay ahead of it.



Site 1- Word of Life Bay (Ww1)- Overall, there was 111 lbs. of EWM harvested in site 1 this year (9% of the lake's total harvest.) Because of its locality to the Word of Life Camp, site 1 sees high traffic throughout the year. This site is a large area with EWM scattered throughout native plants. This site should be worked both early and late season to harvest plants before they can be disturbed by lake goers and later season to follow up on the work done any help harvest any plants which could remain. Additionally, visiting it in the early season can help to monitor for CLPW due to its locality to site 2, which had CLPW harvested this season.



Site 4- Word of Life Ranch/ west of Brill Island (Ww2)- Overall, there was 481 lbs. of EWM harvested in site 4 this year (37% of the lake's total harvest.) This site tends to produce EWM in 3 general locations, along the west shore of Brill Island and two areas to the northeast of Brill Island in close proximity to one another. Along the west shore of the island produces more sporadic growth, while the other two sites contain high concentrations of EWM mixed among native plants. The two dense areas within site 4 need to be visited multiple times throughout the season to first harvest the bulk of the AIS density, then allow for follow ups to monitor and harvest any remaining AIS or regrowth as needed.



Site 14- Skylark Area (east of sites 13 and 15) (Ew7)- Overall, there was 182 lbs. of EWM harvested in site 14 this year (14% of the lake's total harvest.) This area contains a large EWM patch mixed within native plants which is in open water far from the shoreline. This patch was discovered the previous harvest season and continues to need work. This site produced the second largest volume of EWM this season. This site may likely be repopulated with EWM coming from site 15 to the west and with additional harvests of both sites we should see a reduction in EWM throughout the sites.



Site 20- Word of Life Island Dock area (Ew9)- Overall, there was 144 lbs. of EWM harvested in site 20 this year (11% of the lake's total harvest.) EWM growth in site 20 is concentrated in one area mixed within native plants and was found in multiple clusters throughout the site. This site has seen a rise in EWM numbers and needs to be harvested and monitored to ensure the future reduction of EWM in this area.

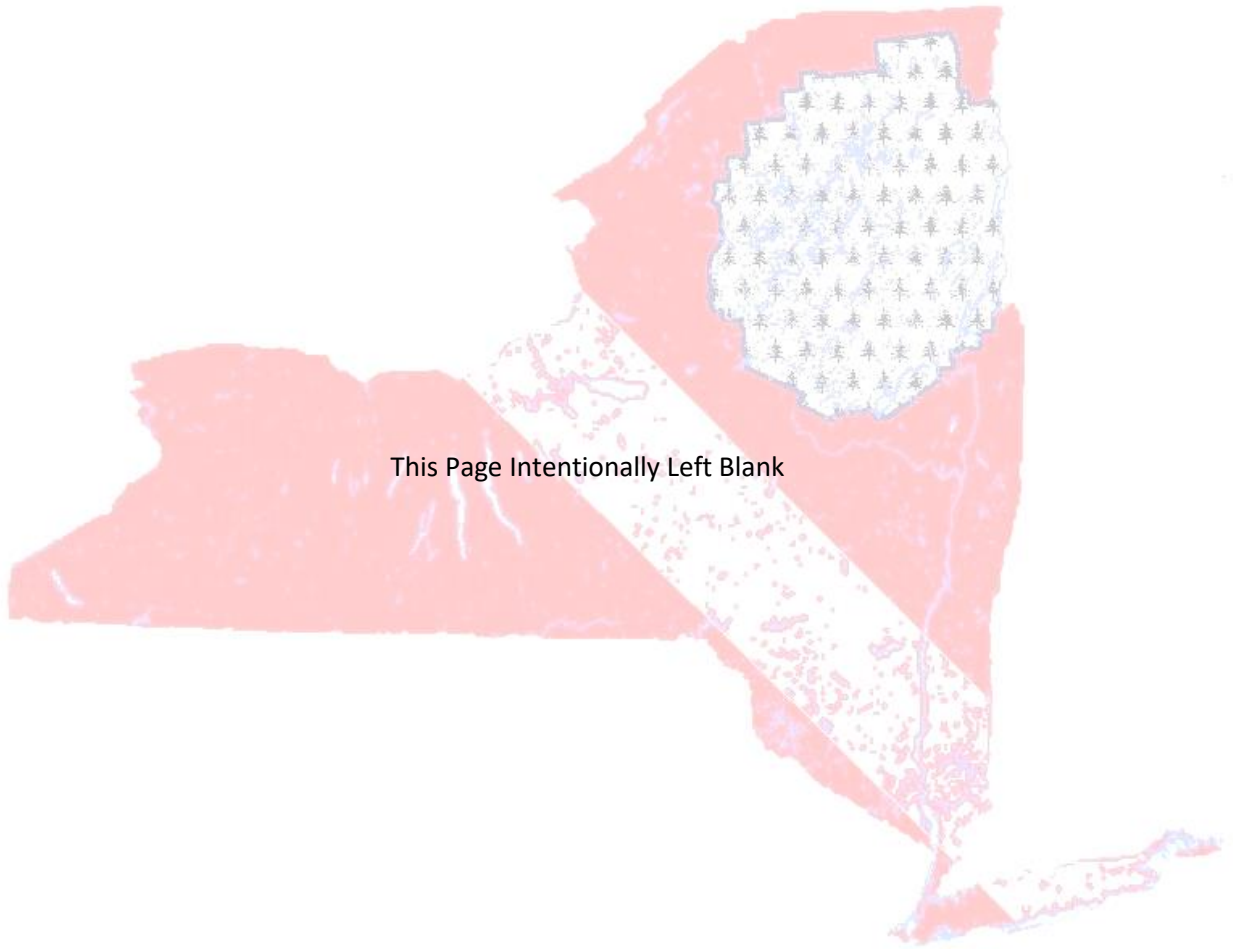
Conclusion

Overall, this season was a success in the continued management of AIS throughout Schroon lake, though there has been an increase of volume harvested over the last two years. Fluctuations in harvest volumes is considered normal as there are many factors affecting plant growth, but we must keep vigilant to ensure we do not begin an upward trend.

The current four-week harvest plan in place allows for all former and presently known AIS sites to be visited and harvested but does not allow for follow up of most sites, additional exploration of sites, nor would it likely allow sufficient harvest time if new AIS sites were to be discovered. In 2017 there was a new EWM patch located near site 14 and this year there was an additional patch located on site 4; this year these two sites account for 51% of the total harvested volume. Sites which produce higher densities of AIS need continued efforts to reduce their numbers which in turn helps to reduce the further spread of AIS to nearby sites. Ideally, these sites should be harvested early in the season to reduce the AIS volume and possible spread or fragmentation of the plant, then require a follow-up harvest to ensure there are no new plants or regrowth. With the ability to visit these sites more than once we can reduce the AIS numbers at a far greater rate than with just one site harvest. With the four-week harvest plan in place, our ability to complete follow ups on sites is limited and is the least number of weeks we would recommend. With the addition of one or more weeks it would allow for all sites to be visited, with the flexibility of revisiting both high density sites and high trafficked sights as well as being able to investigate most if not all AIS sighting reports.

At the end of this season there were reports of additional AIS plants needed to be harvested but the time did not allow for such actions. In particular, there were concerns with some remaining AIS in sites to include The Lodges, Lockwood Bay, Clark Island and the area near Terra Alta which we were not able to revisit. Although it was determined these sites were not of major concern with the limited number of plants, location and the time of the season, these sights will be prioritized for the upcoming season.

Again, we would like to thank everyone involved with the aquatic invasive species management efforts on Schroon lake and look forward to working with everyone again in the years to come.



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