Lake George Milfoil Project
Annual Report

2022

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2022
Lake George Annual Report

Prepared by Christopher Sheldon

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Introduction

Lake George is a 32-mile-long lake situated in Northern New York State. It is about 2 miles wide at its widest point, 196 feet deep at its deepest, and holds approximately 550 billion gallons of water.[1] It is considered a fairly 'young' lake, having been formed as glaciers receded and filled the sunken basin approximately 10,000 to 12,000 years ago. The relatively younger age of the lake tends to mean that it will have higher ratings for water clarity, lower levels of vascular plant growth, and higher levels of dissolved oxygen, as is true in Lake George. These features, along with lake's prominently rocky or sandy shoreline, result in a naturally lower phosphorous enrichment and low algal growth combine to classify Lake George as an oligotrophic lake. This classification means the waters of Lake George are suitable as an unfiltered drinking water source and is rated by the state of New York as a Class AA Special drinking water source.[2]

Figure 1:' Lake George' by James Casil, Copyright 2021, All rights reserved.

Bordering 9 municipalities and crossing through 3 counties, the waters of Lake George also support thousands of businesses and residents who call the surrounding areas home. 12 communities in three counties depend on the Lake George watershed. The natural quality of the water also makes it an ideal inhabitant for many species of plants and animals both in its waters and in the surrounding lake shore watershed.[3] Thirty-six fish species have been catalogued in Lake George, from the American Eel to the Yellow Perch. Invertebrates, native mollusks, crustaceans, and a rich variety of microorganisms populate the waters and wetlands of the lake.

Figure 2: A boat drives by Three Brothers Islands. (Photo by MajicPhotos, Copyright 2021, All rights reserved.)

Native plants number in the thousands, many of which are integral to the wellness of the lake chemistry and ecosystem. Birds large and small utilize Lake George along migratory routes, and many species call it home more permanently. Several species of turtle, salamander, frog, toads, and snakes live within the watershed and mammals, from White-tailed Deer to American Bobcat, feed and drink along its shores. In 1961, New York State passed Article 43 of the New York State Consolidated Laws Environmental Conservation, which established the "Lake George Park" and thereby designated, "The lake and its land drainage basin as an area so distinctive in natural qualities and scenic beauty that it is deserving of special protection."[4]

Lake George, heralded as one of the cleanest lakes in the US, and nicknamed the 'Queen of American Lakes', is

[1] "Lake George Facts: Separating Fact from Fiction about the 'Queen of American Lakes.'" *Lake George Association*, 24 Mar. 2021, https://www.lakegeorgeassociation.org/about-us/lake-george-faq/#Facts.

[2] "Lake George Water Quality." *Lake George Association*, 5 July 2018, https://www.lakegeorgeassociation.org/educate/science/lake-george-water-quality/.

[3] Ibid

[4] "About the Lake George Park Commission." *Lake George Park Commission*, https://lgpc.ny.gov/about.

also a critical part of the financial wellness of its area, as it hosts thousands of seasonal residents and visitors every year. Several recreational sports, in every season, depend on the lake for transit and enjoyment. It's active boating community consists of everything from kayaks, sailboats, and fishing boats to jet skis, historic paddle boats, steam ship cruisers, and search and rescue boats. The lake's natural beauty effortlessly draws thousands for fishing, SCUBA diving, parasailing, and swimming. Additionally, several scientific research projects, sites, and stations, including the Darrin Freshwater Institute and the Lake George Association Floating Classroom, learn and work within the ecosystem that is Lake George.

With so many ecosystems, economies, and residents relying on the health of the lake, it is absolutely critical to identify, reduce, and manage those things which threaten Lake George. One significant threat facing the lake ecologically, economically today is the invasive is Eurasian Watermilfoil.

Eurasian Watermilfoil

Eurasian Watermilfoil, (*Myriophyllum spicatum* L.) is a non-native aquatic plant. Discovered in 1986 in the lake, this invasive species threatens the ecology and economy of communities depending on Lake George. Its rapid growth robs the aqua soil of the nutrients many native plants and animals rely on and helps to forms a large, lush canopy which blocks light from reaching other plants and organisms. Large mats of fragmented plants congest water passageways for humans and animals alike, and dense beds growing below can take over quickly, displacing native plants essential for many species of fish and other animals. Large stands of older plants also reduce the dissolved oxygen in the water as they die and decay, threatening water quality as a whole. Its presence can reduce property values in lake front communities and discourage participation in water sports and activities.

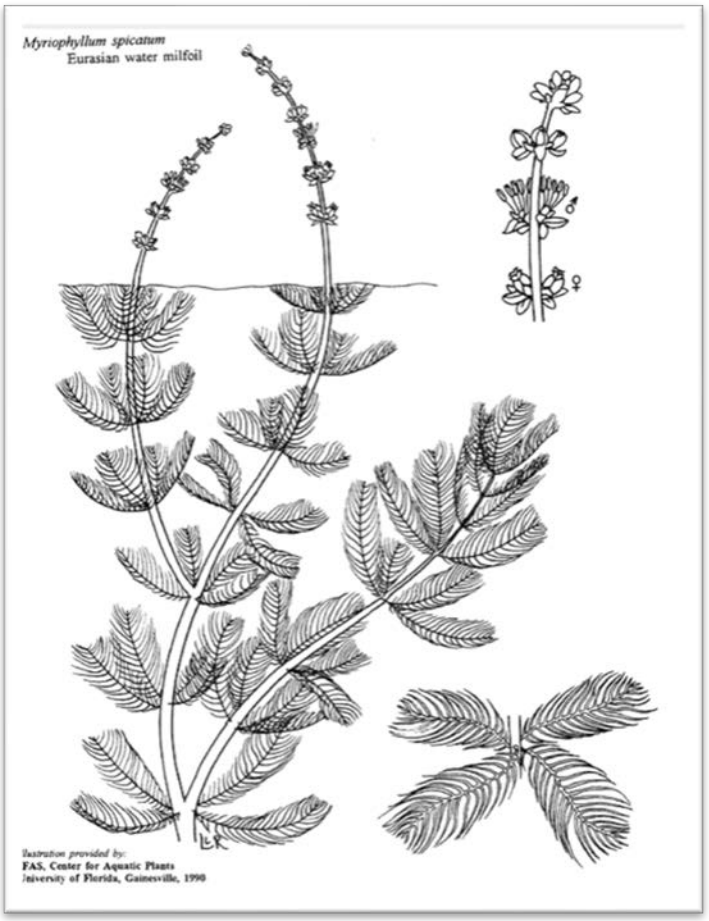


Figure 3: Eurasian Watermilfoil Myriophyllum spicatum; curtesy of the Center for Aquatic and Invasive Plants, Copyright 2021. All rights reserved.

Eurasian Watermilfoil is a perennial aquatic herb which naturally occurs in Eurasia and Northern Africa. It generally lives in 10 to 15 feet of water but has been found in clear lakes like Lake George in depths closer to 20 feet. Plants normally grow between 6 and 10 feet but can grow bigger given the right circumstances. Eurasian Watermilfoil outcompetes many native species due to various biological and chemical characteristics and is able to withstand a wide variety of water pH, from brackish waters in southern intercoastal areas to the cold fresh waters of northern lakes and rivers. It is also able to overwinter in freezing temperatures of the north as well as survive shallow overheated areas within the tropical regions of Florida.

Another significant competitive advantage is its ability to reproduce in three ways: seeds production, rhizomes, and fragmentation.[5] Seeds, (formed through the sexual reproduction of the plant through pollination), are produced from small reddish-brown to pinkish-white flowers which grow out of the water on a long, emersed,

[5] Buchan, Lucy A., and Dianna K. Padilla. "Predicting the Likelihood of Eurasian Watermilfoil Presence in Lakes, a Macrophyte Monitoring Tool." *Ecological Applications*, vol. 10, no. 5, 2000, pp. 1442–1455., https://doi.org/10.1890/1051-0761(2000)010[1442:ptloew]2.0.co;2.

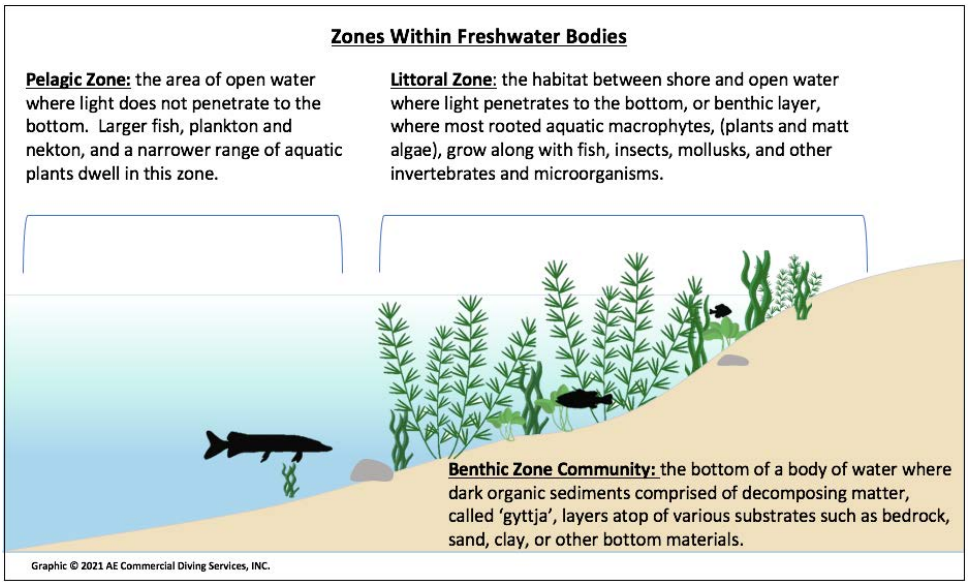
Figure 4: Root ball of Eurasian Watermilfoil with rhizomes. (Photo by Wesley Sheldon. Copyright 2021, All rights reserved.)

flower spike. At the end of the growing season, seeds enter the water in what is called the 'seed rain'. The seeds which are returned to the benthic layer, (or lake bottom), are then able to stay dormant for nearly 5 years. Even when dried, the seeds can remain viable for almost 36 weeks until the right conditions arise for germination.[6] Seeds can also be dispersed through the digestive systems of several animals, including waterfowl and fish. (*NOTE: This is one reason it is extremely important not to relocate caught fish into or from Lake George.*)

Rhizomes, (a form of vegetative reproduction), are lateral roots which develop from axillary bud on the mother Eurasian Watermilfoil plant. Rhizomes are capable of sending up new shoots which develop into new plants. This is one reason why it is not enough to simply remove the stems of the plant; if the root ball of the Eurasian Watermilfoil plant is not removed, it will regenerate stems and continue to thrive.

The third process is an asexual process called fragmentation. Eurasian Watermilfoil will naturally 'auto fragment' as part of its life cycle. Auto fragmentation begins when small root hairs develop along the stem of branched stems near the surface of the water. These small, branched stems break free from the plant and enter the water column where they are dispersed in several ways: currents, wind, waterfowl, water flow between connected waterbodies, and human-related activities.[7] Once dispersed, these fragments can settle and begin rooting. While this plant is separate from its mother plant, it remains an identical genetic copy of the original plant.

Eurasian Watermilfoil can also spread through fragmentation of the plant caused prematurely by natural phenomenon, such as large storm events or animal behavior such as beaver activity and migratory birds. *However, the biggest source of premature fragmentation and dispersal is human activity*. Efforts to cut tops of plants, pull plants without pulling as much of the complete root structure as is possible, and raking the plant may be well meaning but add to the proliferation of the plant.



Additionally, because all human activities on the lake require transit through the littoral zone, (the primary habitat for Eurasian Watermilfoil), the best long-term control solution is an integrated strategy of prevention, identification, and complete removal of the plant.

[6] Standifer, Nathan E., and J. D. Madsen. "The Effect of Drying Period on the Germination of Eurasian Watermilfoil Seeds." *Journal of Aquatic Plant Management*, vol. 35, 1997, pp. 35–36., https://doi.org/http://www.apms.org/japm/vol35/v35p35.pdf.

[7] Buchan, Lucy A., and Dianna K. Padilla. "Predicting the Likelihood of Eurasian Watermilfoil Presence in Lakes, a Macrophyte Monitoring Tool." *Ecological Applications*, vol. 10, no. 5, 2000, pp. 1442–1455., https://doi.org/10.1890/1051-0761(2000)010[1442:ptloew]2.0.co;2.

2022 Milfoil Management Program

Figure 5: Crews led by Bennett Sheldon head out on a foggy Lake George. (Photo by Wesley Sheldon. Copyright 2021. All rights reserved.)

Though it is unclear how Eurasian Watermilfoil was originally introduced to Lake George, efforts to identify, manage, and reduce Eurasian Watermilfoil are vital. Directed by the Lake George Park Commission, in cooperation with the Lake George Association the Milfoil Management project effort has resulted in nearly 64.22 tons of Eurasian Watermilfoil being removed from the lake in 2022. AE Commercial Diving Service, INC (AECDS) has proudly served as the contractor responsible for removing the invasive plant since 2018. In 2022, nearly 64.22 tons of Eurasian Watermilfoil (EWM) was removed from 31 sites by AE Commercial Diving Services as directed by the Lake George Park Commission. Crew from AE Commercial Diving Services, INC (AECDS) applied a combination of techniques for removal, including Diver Assisted Suction Harvesting (DASH), and hand harvesting.

Applied Removal Techniques

Diver Assisted Suction Harvesting, (hereby referred to as DASH), is the process by which SCUBA divers guide a suction hose to the area of the targeted species within a body of water and, after carefully removing the roots from the substrate, deliver the stems and root ball to the suction hose. The entire plant then travels up the length of the hose to boat on the surface where it is deposited on a table and sorted by a boat tender for disposal. DASH is an effective method to reduce and control large beds of Eurasian Milfoil to prevent it from spreading through fragmentation or seeding. AE Commercial Diving Services has developed a patent pending sorting system that allows the nutrient rich substrate to return to the bottom where it is needed to support regrowth and health of the native species. This system also delivers the material back to the bottom in such a way as to reduce large plumes of sediment from disturbing the water column.

Figure 6: An AECDS DASH Diver begins to harvest a Eurasian Watermilfoil plant from the top down in order to reduce fragmentation and capture any parts which are already fragmented but trapped in the foliage of the plant.. Photo by Wesley Sheldon, Copyright 2021.

Hand Harvesting is a technique usually applied to an area where the targeted species is growing sporadically. Instead of utilizing a suction hose, the SCUBA diver instead removes the target species and places it in a mesh bag carried by the diver. Once the area is cleared or the bag is full, the diver returns to the surface and hands the bag to the boat tender for sorting and disposal.

2022 Crew

In 2022, three DASH units and a supervisor boat were staffed and present, for a total of 11 employees. All our divers are certified and have experience as certified scientific divers, recreational divers, commercial divers, or working divers. The diversity of our divers' education and experience has never failed to contribute positively to the overall crew success. The team was headed by AECDS Site Supervisors Bennett Sheldon and Wesley Sheldon, who have a combined

total of 36 years working in the diving industry. A total of 3 DASH boats, and a supervisor's boat were deployed in the lake this year.

Disposal Efforts

Disposing of close to 64.22 tons of Eurasian Watermilfoil was a significant part of making sure the project was a success. Roger Smith, Lake George Park Commission Conservation Operations Supervisor, coordinated the disposal and dumping of strategically placed trailers sites. This sometimes required his attention several times per week. Working mostly with local transfer stations or farms to receive the biomass, Roger also coordinated with local highway departments throughout the watershed to assist.

Figure 7: Transport Barge brining Eurasian Watermilfoil plants to assigned disposal sites. Picture by Wesley Sheldon. Copyright 2021. All rights reserved.

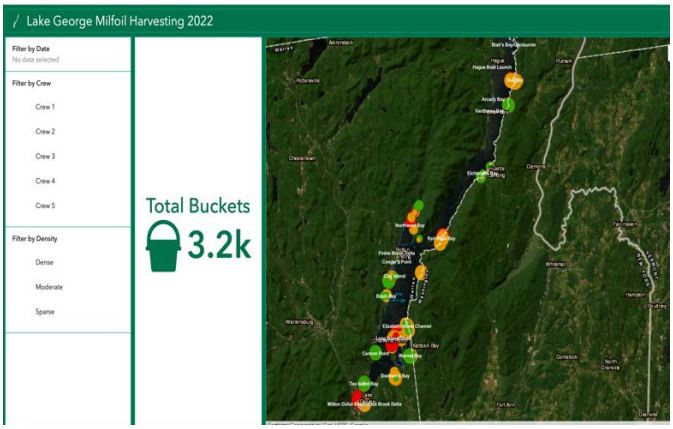
Bottom Barrier Removal

Bottom (or benthic) barriers were removed from Gull Bay and Tea Island. Removal occurred over the course of a week after the harvesting season was completed.

2022 Data Collection Collaboration

Over the summer of 2022 AE Commercial Diving Services staff used a real-time GPS-enabled data collection method for the milfoil harvesters working on Lake George. This method was developed in 2021 by staff from the Warren County Planning Department, (Ethan Gaddy, Assistant County Planner, Sara Frankenfeld, GIS Administrator and Amanda Beck, Junior Planner),

This method, using ESRI's Survey123 and ArcGIS Online software, proved successful on several fronts. First, it streamlined and simplified the data reporting procedures for the harvest contractors. Next, it allowed stakeholders to view data collection progress in real-time. Finally, it resulted in much more accurate and comprehensive milfoil location, density, and volume data.



Handheld devices were provided by the Planning Department for each harvesting vessel to record data on daily. Sara Frankenfeld and Amanda Beck completed the data analysis using the survey platform and helped to curate the data into maps, charts, and data summaries. The improved data, which is stored in the County's Geographic Information System, will allow stakeholders to quantify progress with milfoil eradication over time and ensure that funds are being used effectively. An online dashboard provides real-time access to the field data.

Figure 8: Screen Shot of the new GIS data collection system provided by the Warren County Planning Department. (Photo curtesy of Sara Frankenfeld. Copyright 2021. All Rights Reserved.)

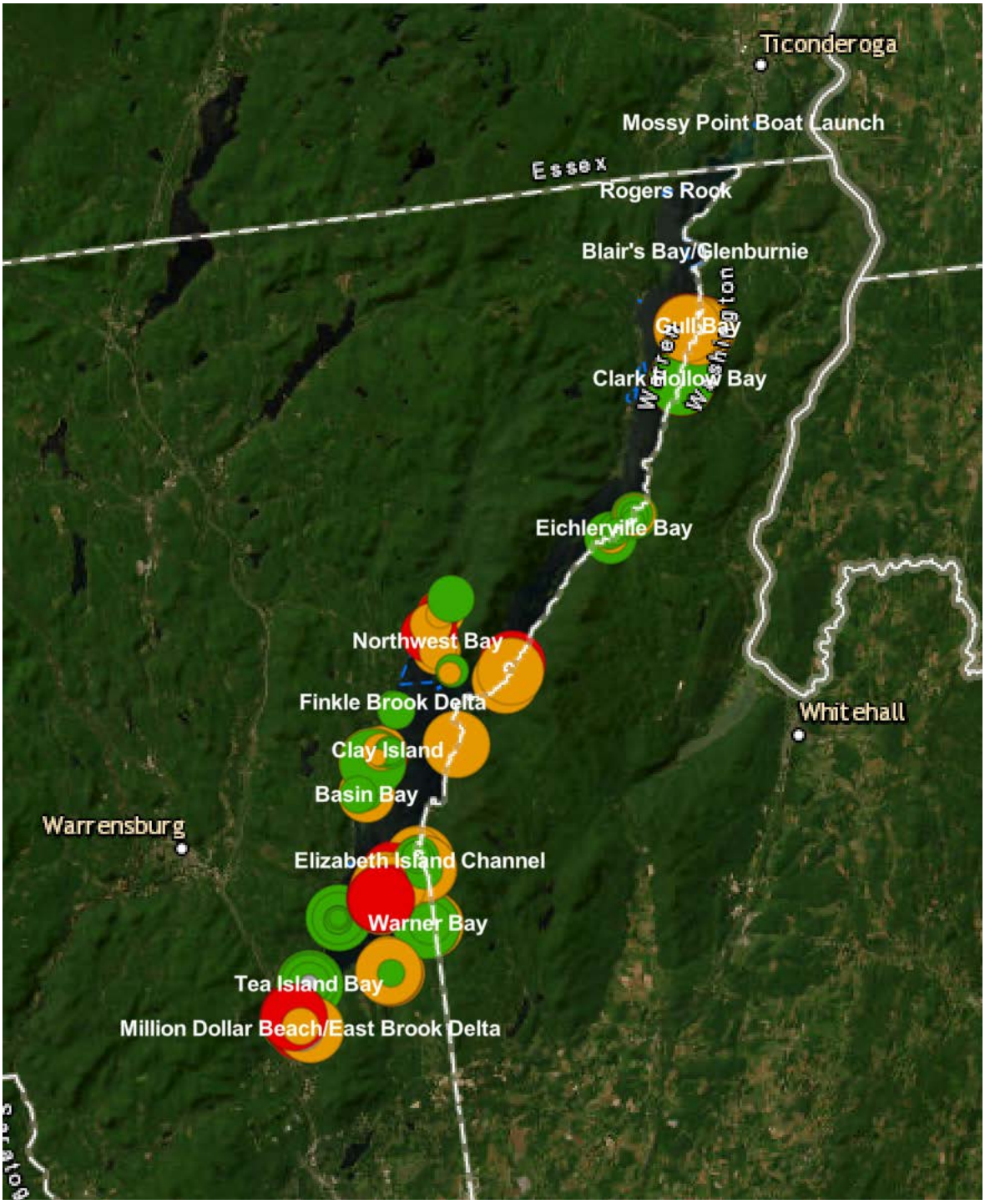
2022 Funding for Removal Efforts

The total amount spent on removal of Eurasian Watermilfoil was slightly lower in 2022. A total of $359,687.50 was spent by the project partner organizations for removal of Eurasian Watermilfoil. There were two distinct funding sources in 2022:

Lake George Park Commission: $219,687.50
Lake George Association: $140,000

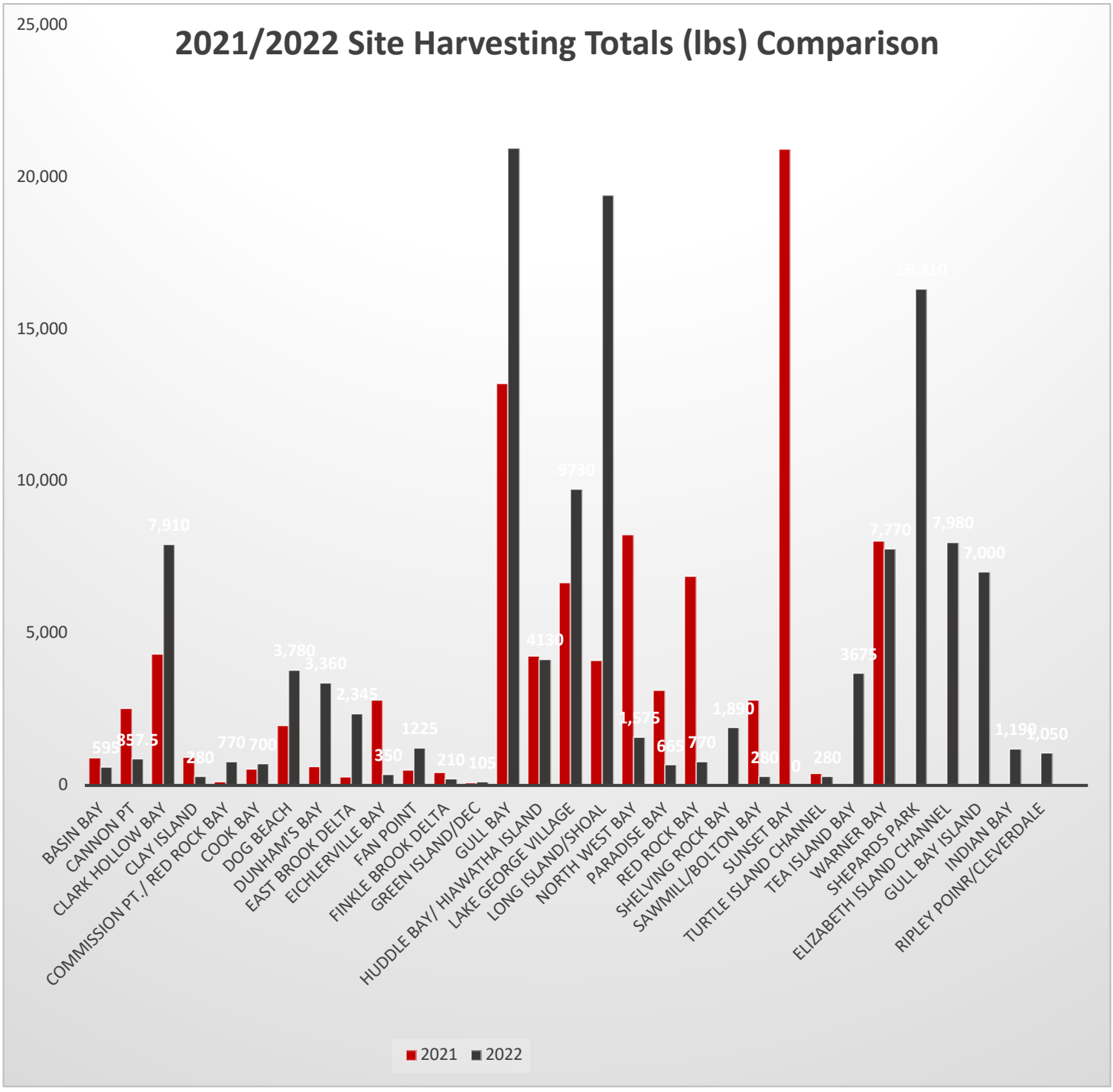
2022 Funding TOTAL: $359,687.50

Sites Worked Maps



Data Analysis

Total Sites Worked: 31 sites
Total Weight Removed: 128,442.50 lbs or 64.22 tons



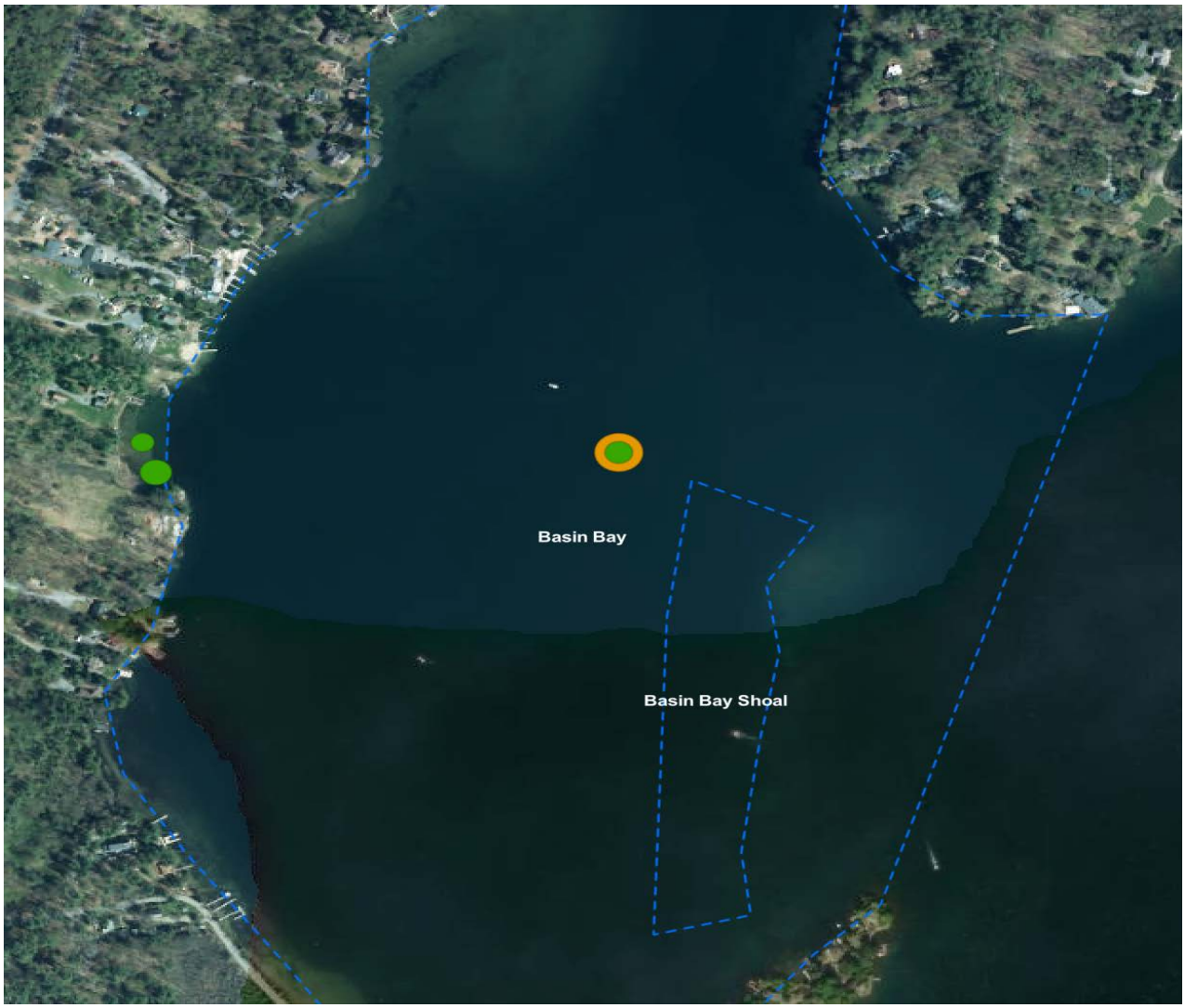
PART II: Harvesting Site Totals Annual Comparison

(10 Hours = 1Day)

#	Site Name	2022 # of Crew Days	2022 Pounds	2021 # of Crew Days	2021 Pounds	2020 # of Crew Days	2020 pounds	2019 # of Crew Days	2019 pounds
1	Harris Bay	**-**	**-**	26	24,465	21.9	14,670	12	4,665
2	Sunset Bay	**1**	**0**	14	20,895	16.7	12,780	47.5	18,375
3	Gull Bay	**18**	**20,930**	20	13,195	20.7	15,330	-	-
4	Northwest Bay	**5**	**1,575**	17	8,225	10.8	4,390	19.5	7,400
5	Warner Bay	**13**	**7,770**	12	8,015	9	8,040	12.5	4,530
6	Red Rock Bay	**4**	**770**	4	6,860	-	-	-	**-**
7	LG Village	**9**	**9,730**	8	6,650	-	-	-	-
8	Arcady Bay	**-**	**-**	9	5,005	16	13,830	-	-
9	Clark Hollow Bay	**6**	**7,910**	4	4,305	8	8,560	-	-
10	Huddle Bay/ Hiawatha Island	**11**	**4,130**	17	4,235	11.2	12,840	-	-
11	Long Island Shoal	**19**	**19,390**	8	4,095	-	-	10	1,515
12	Village North	**-**	**-**	6	3,500	-	-	-	-
13	Paradise Bay	**2**	**665**	2	3,115	4	4,890	-	-
14	Eichlerville Bay	**2**	**350**	4	2,800	18	14,100	12	4,970
15	Sawmill Bay/Bolton Bay	**2**	**280**	11	2,800	35.1	20,010	-	-
16	Cannon PT	**3**	**857.5**	2	2,520	3.8	2,040	13	6,885
17	Lynden Point	**-**	**-**	3	2,240	-	-	-	-
18	Refuge Island	**-**	**-**	3	2,240	-	-	-	-
19	Dog Beach	**7**	**3,780**	5	1,960	22	10,650	1	150
20	Van Buren Bay	**-**	**-**	5	1,750	20	1,380	-	-
21	Middleworth Bay	**-**	**-**	3	1,050	-	-	-	-
22	Clay Island	**3**	**280**	9	910	8.3	1,650	33.5	13,205
23	Basin Bay	**2**	**595**	3	892.5	3.7	4,680	-	-
24	Cook Bay	**2**	**700**	1	525	-	-	-	**-**
25	Fan Point	**3**	**1,225**	2	490	3.8	3,870	-	-
26	Speaker Heck Island	**-**	**-**	3	490	-	-	-	-
27	Finkle Brook Delta	**3**	**210**	4	420	2.6	540	9	1,555
28	Oakley Way	**-**	**-**	3	420	-	-	-	-
29	Turtle Island Channel	**2**	**280**	3	385	7.8	3,000	-	-
30	M.D.B/East Brooke Delta	**2**	**2,345**	4	262.5	5.5	2,490	5.5	2,490
31	Commission Point/ Red Rock Bay	**3**	**770**	2	105	12.5	14,850	-	-

32	Dunham's Bay	**7**	**3,360**	3	105	15	9.630	15	9,630
33	Green Island/DEC	**1**	**105**	1	70	1	90	1.5	570
34	Elizabeth Island Channel	**18**	**7,980**	**-**	-	-	-	6	750
35	Gull Bay Island	**8**	**7,000**	-	-	-	-	-	-
36	Indian Bay	**3**	**1,190**	-	-	-	-	21-	6,750
37	Million Dollar Beach / East Brook	**2**	**1,340**	4	262.5	5.5	2,490	16.5	6,135
38	Ripley Point / Cleverdale	**3**	**1,050**	-	-	-	-	-	-
39	Shelving Rock Bay	**3**	**1,890**	-	-	-	-	-	-
40	Tea Island Bay	**4**	**3,675**	-	-	4.6	1,590	8	1,170
41	Shepards Park Pier	**8**	**16,310**	-	-	-	-	-	-
	TOTAL:	**177**	**128,442.50 lbs**	**161**	135,502.5 lbs	238.5	186,590 lbs	200	84,333

1. Basin Bay:



Days Allotted in 2022: 2
Total Pounds Harvested: 595

Summary:
Basin Bay is another site that has shown a reduction year to year. The focus this year for Basin Bay was to remove any regrowth from the previous season. The bay overall looked good with little regrowth and took very little time to harvest this season.

Recommendations:

The good news is the shape and location of the bay on the lake make it difficult for fragmentation from other locations to settle in the basin. But current success does not guarantee future success so the bay should be monitored year to year for potential growth.

2. Cannon Point:

Days Allotted in 2022: 3
Total Pounds Harvested: 857.50

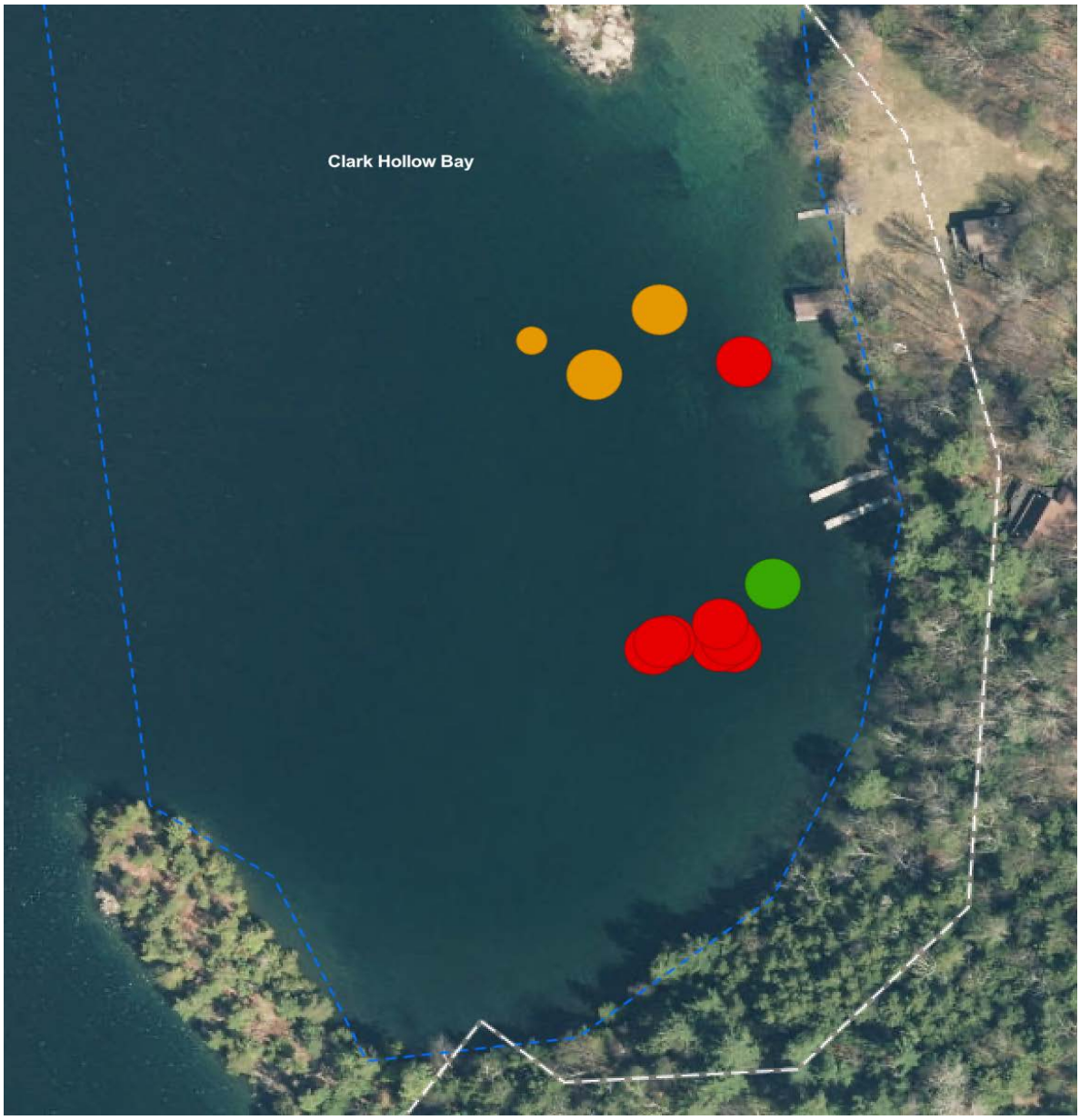
Summary:

Cannon Point continues to see a reduction in Eurasian Watermilfoil each year. This season the harvesting crew were there for 3 days and only removed 490 gallons of material. The native plant life has become very dense and is starting to move into the areas that have been harvested over the last few years. Although this is what we hope for it does make the harvesting process more challenging. The divers are very selective during the removal process, but a good deal of unintended native bycatch is included in the total amount removed. The bottom composition in this site also poses a problem. The lite colored sediment stays suspended in the water column longer than in other sites and reduces visibility and therefore slows production.

Recommendations:

A survey each season of the area to clean up any regrowth will ensure continued success and allow the native plants to regain control.

3. Clark Hollow Bay:



Days Allotted in 2022: 6
Total Pounds Harvested: 7,910

Summary:

This is the third season of harvesting this site and Clark Hollow Bay is showing slow progress. We saw about a 50% reduction in overall material removed from 2020 – 2021 but the progress in 2022 has slowed. The bottom composition in some areas is sandy which makes it difficult to remove the entire root structure of the plants which would account for the regrowth. As the maps show, most of the material removed this season was from the same sites that have been harvested in previous seasons.

Recommendations:

We recommend that Clark Hollow Bay be closely monitored for regrowth each season. We do anticipate an overall reduction in material removed next season.

4. Clay Island:

Days Allotted in 2022: 3

Total Pounds Harvested: 280

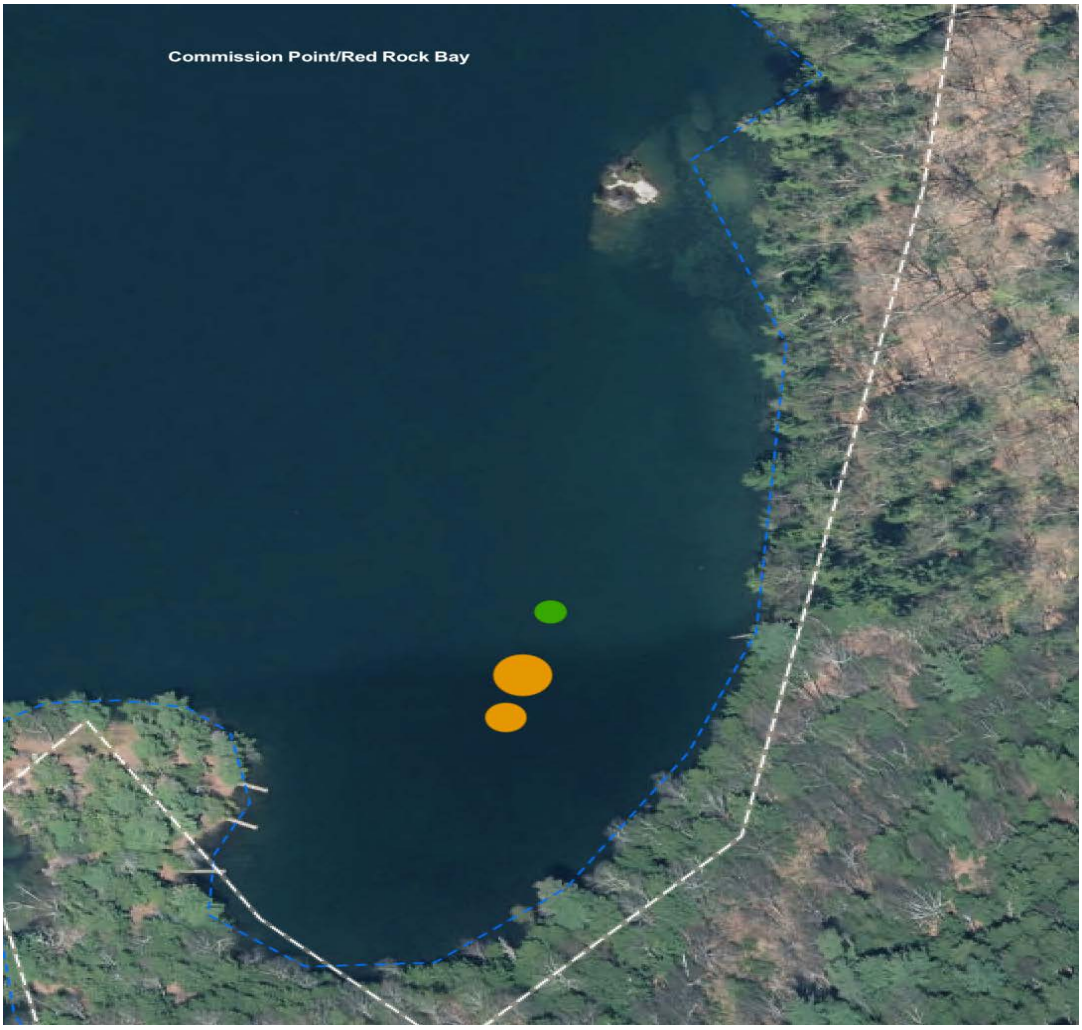
Summary:

This is the fourth season of harvesting at Clay Island. The area continues to respond well to our DASH efforts, and we saw a reduction in material removed again this season. The DASH crews found mostly sporadic plants at the site with the largest concentration near the sunken coal barge located just off the island in about twelve feet of water.

Recommendations:

We feel that this site has reached a maintenance situation but recommend continued attention at the site to ensure continued success.

5. Commission Point:



Days Allotted in 2022: 3
Total Pounds Harvested: 770

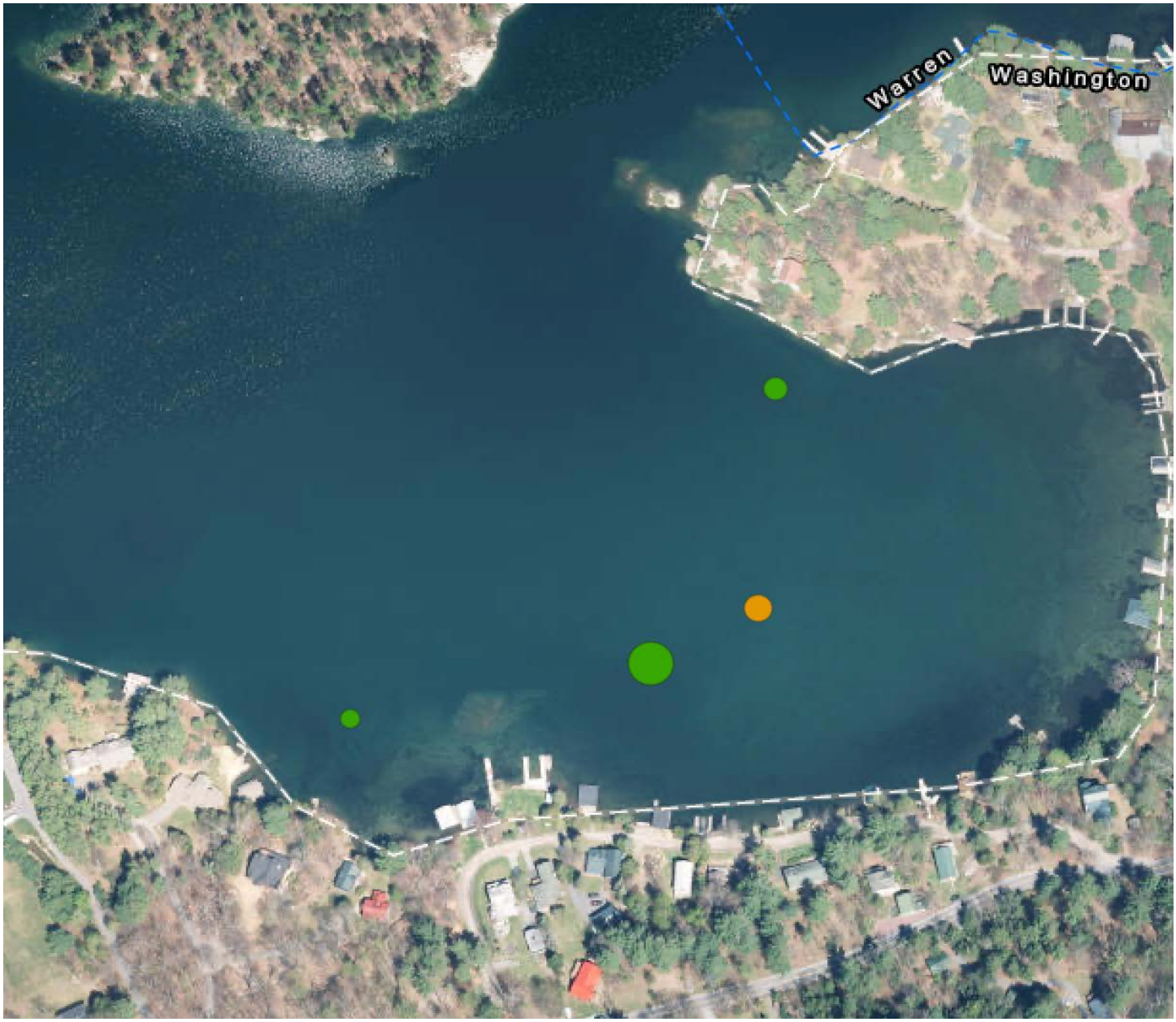
Summary:

In general, this bay has improved dramatically over the last three seasons. This area was completely harvested in 2020, 2021, and again in 2022. Most of the material harvested this season came from the original DASH location in the northern most end of the bay. Only a handful of sporadic plants were located and removed in the rest of the site.

Recommendations:

We anticipate lite regrowth in the area and feel that the site has reached a maintenance level of effort.

6. Cook Bay:



Days Allotted in 2022: 2
Total Pounds Harvested: 700

Summary:

This was the second year that divers from AECDS worked in Cook Bay. Divers did find small, isolated regrowth patches scattered around the bay and quickly removed them. The site showed a small reduction of material removed is trending in the right direction.

Recommendations:

This bay has a soft, muddy bottom composition that makes the removal process easy. But this same bottom composition also makes new plant growth a real possibility. Therefore, the site should be checked for growth early in the season.

7. Dog Beach:

Days Allotted in 2022: 7
Total Pounds Harvested: 3,780

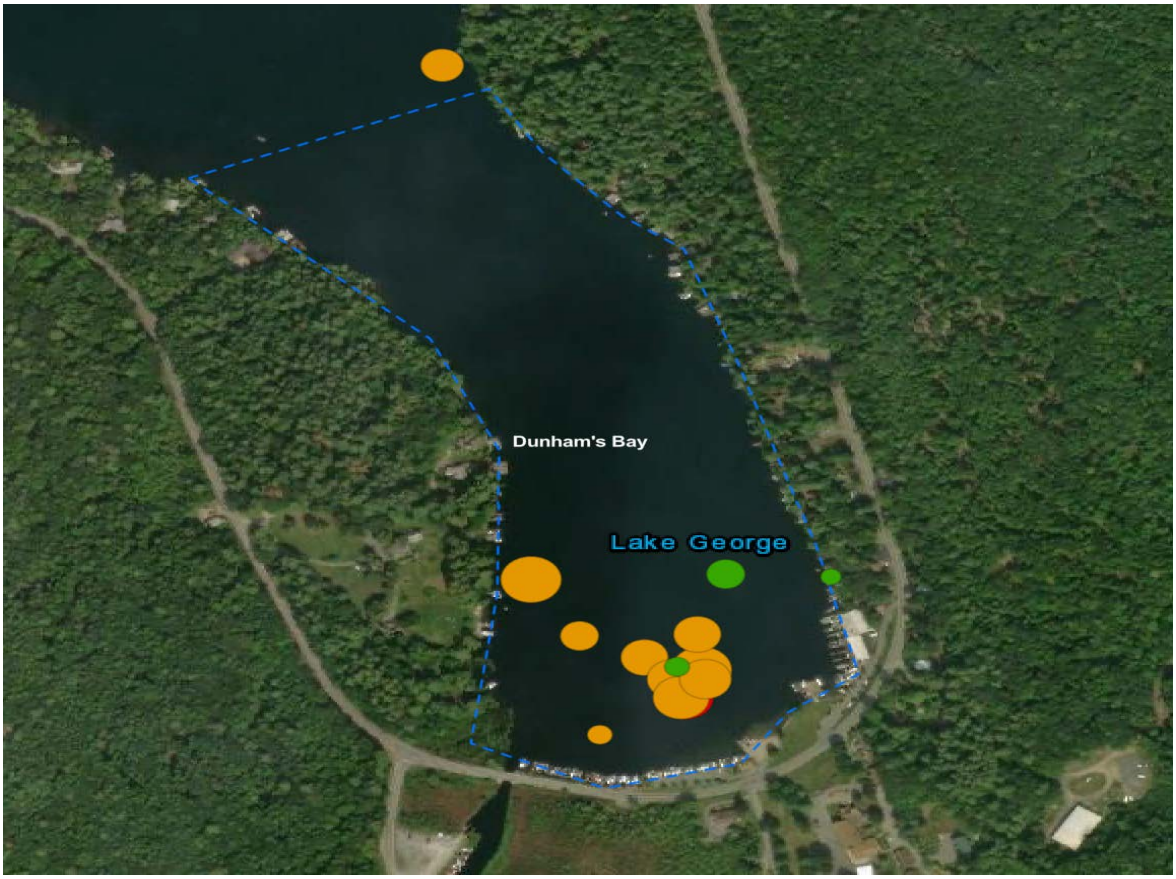
Summary:

Dog beach has improved significantly since 2020. This site has a dense sandy bottom composition, which can sometimes make removal difficult, regrowth certain, and more time consuming. We did see a small increase in material removed this season however, this area has responded well to the treatment plan. The material removed this season consisted of large, multi-stemmed, sporadic plants. No large beds of Eurasian Watermilfoil were found this season.

Recommendations:

We recommend that this site be monitored for regrowth as it is a high traffic area for both boating and other human activities and plant fragmentation could lead to an escalation, which could set this site back quickly.

8. Dunham's Bay:



Days Allotted in 2022: 7
Total Pounds Harvested: 3,360

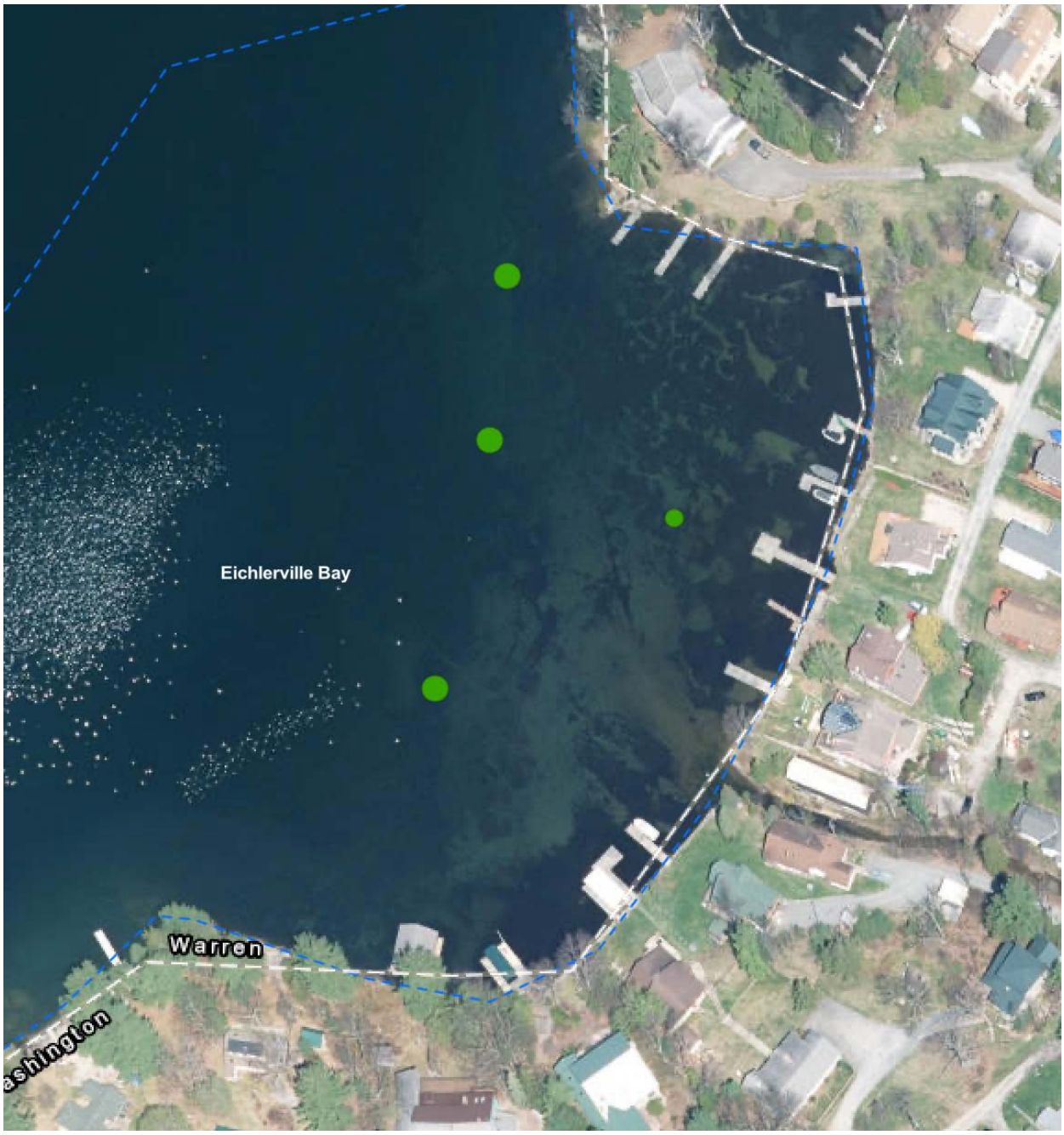
Summary:

The site has shown progress over the last four years but continues to be a trouble spot. Eurasian Water Milfoil seems to be coming back in the same locations year to year. This could be due to the current caused by the inlet located at the southern end of the bay. This current carries any fragmentation coming into the bay directly down the shoreline and into the same areas. Eurasian Water Milfoil could also could have worked its way up the wetland and is fragmenting into the bay due to the heavy boat traffic in the area.

Recommendations:

We would recommend a survey of the site and the wetland.

9. Eichlerville Bay:



Days Allotted in 2022: 2
Total Pounds Harvested: 350

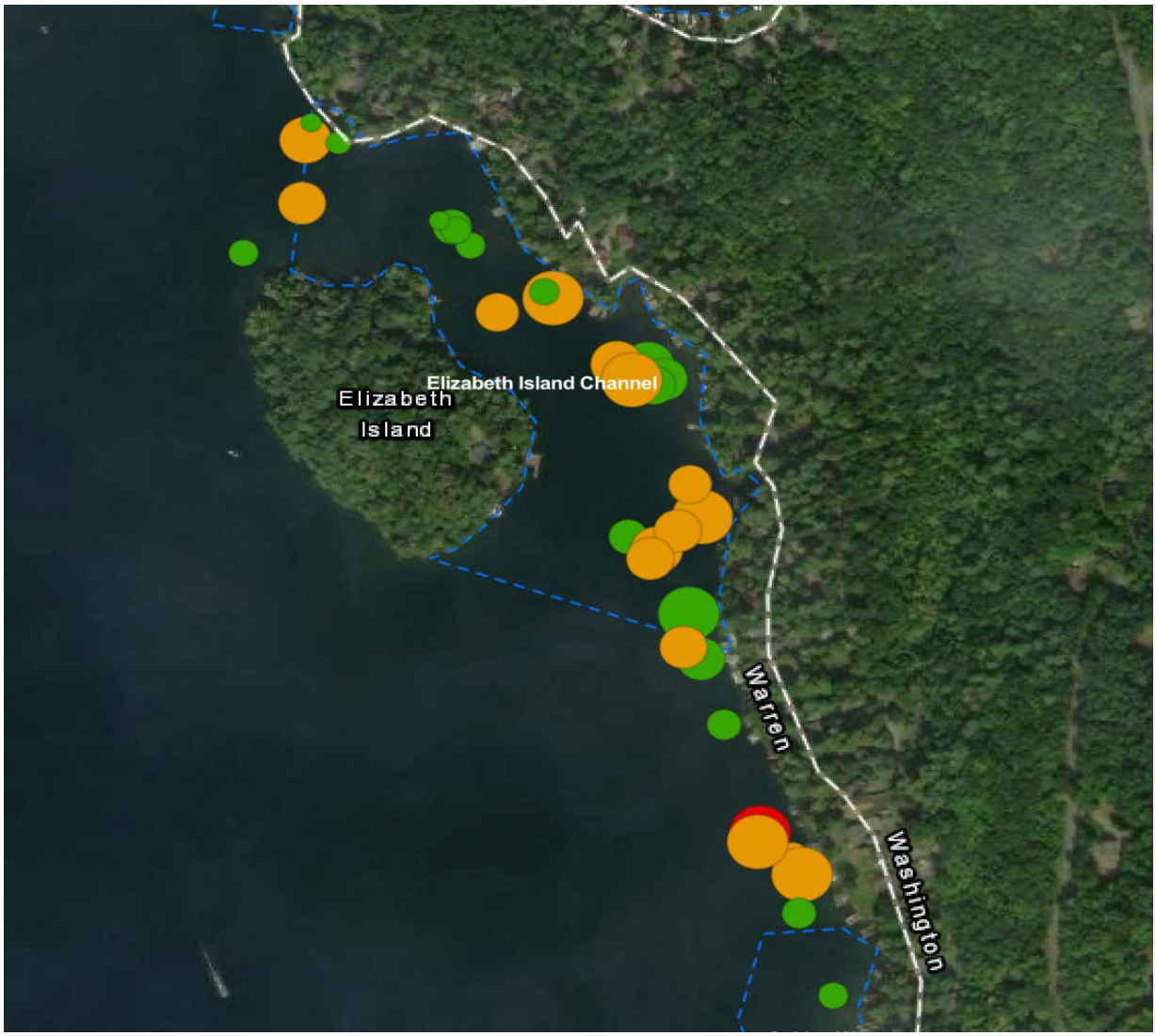
Summary:

Eichlerville Bay has continued to show a huge improvement year to year. This season the DASH crew only found and removed 200 gallons of material from the bay. That is a reduction of 13,900 pounds in 3 years.

Recommendations:

We recommend continued vigilance at the site to ensure continued success.

10. Elizabeth Island Channel:



Days Allotted in 2022: 18
Total Pounds Harvested: 7,980

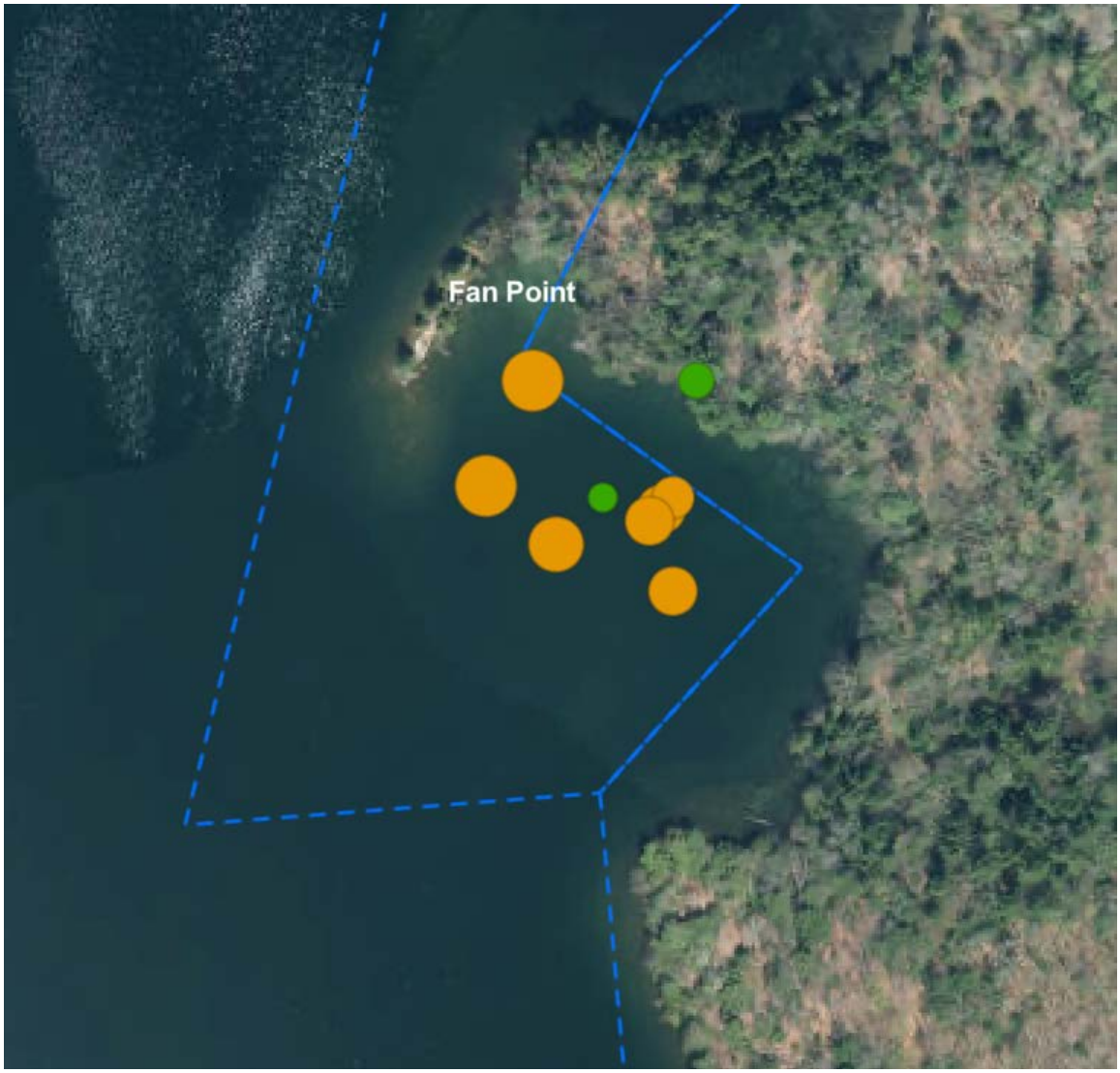
Summary:

Elizabeth Island Channel was last worked with DASH in 2019. Not much was found in 2019 and it was quickly removed. A lot has changed since 2019. We returned to the channel in 2022 only found one dense bed of Eurasian Water Milfoil but found a good deal of moderate to light growth down a large portion of the mainland shoreline. The site covers a relatively large areas so one DASH crew spent 18 days and removed 4,560 lbs of material at this location.

Recommendations:

We believe this site helps seed Oakley Way through fragmentation. We recommend that this site be tackled as early in the season as possible to help avoid this scenario.

11. Fan Point:



Days Allotted in 2022: 3
Total Pounds Harvested: 1,225

Summary:

This was the third year of DASH operations at this location. This is another site that is responding well to treatment. The site was quickly cleaned up with 700 gallons of material removed in 2022. Plants were mostly found in small, sporadic patches throughout the site.

Recommendations:

We do not anticipate much regrowth at this site. The bottom composition makes the site easy, quick, and efficient to work. An annual survey and regrowth removal of the site is recommended so that forward progress can be maintained.

12. Finkle Brook Delta:

Days Allotted in 2022: 3
Total Pounds Harvested: 210

Summary:

Finkle Brook Delta continues its decline in Eurasian Water Milfoil growth with a reduction of the amount removed again this season.

Recommendations:

The heavy boat traffic in this area should make it a priority for an early season survey. This will allow us to find and remove any regrowth before it becomes a problem.

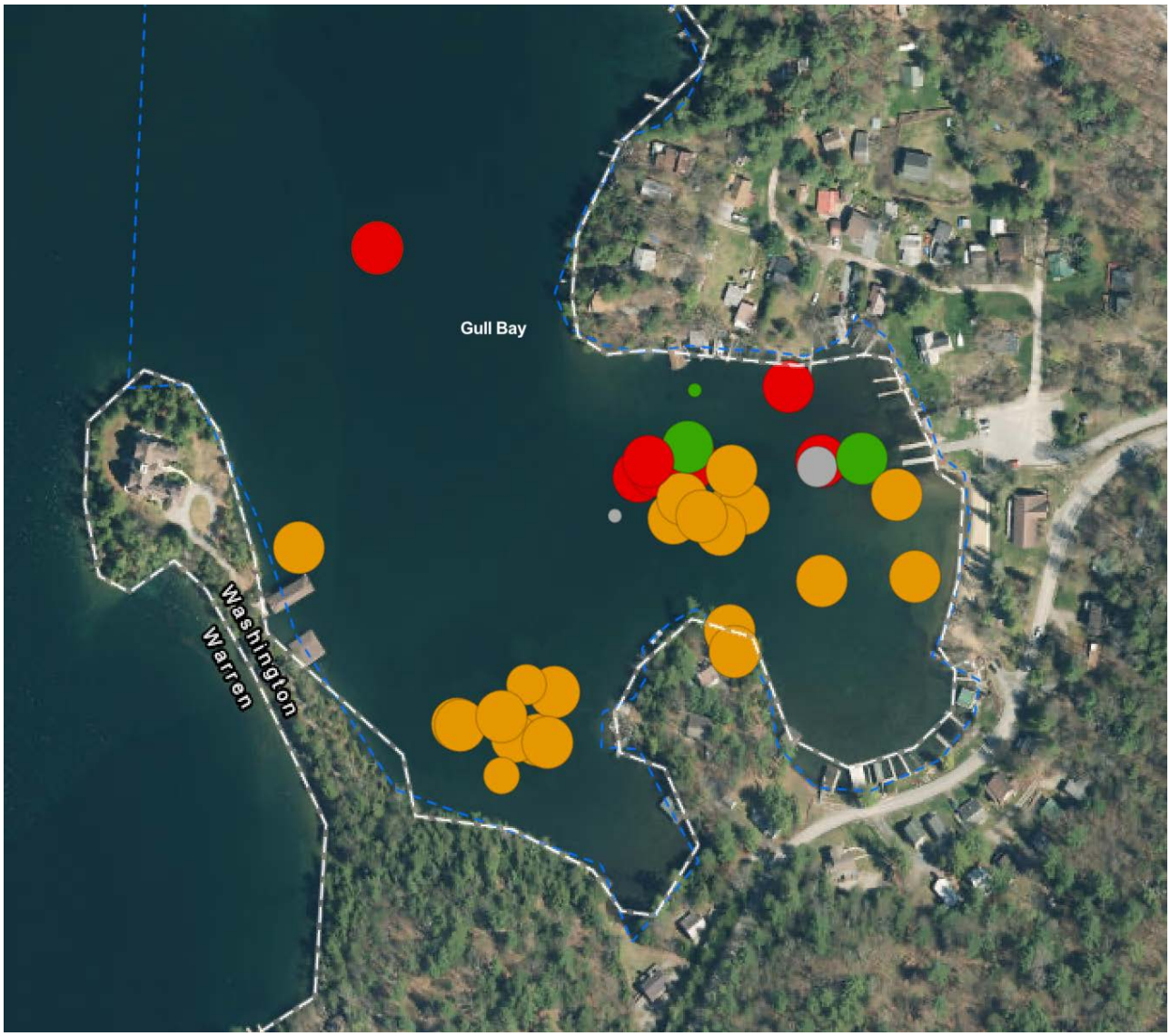
13. Green Island/DEC:

Days Allotted in 2022: 1
Total Pounds Harvested: 105

Summary:
The Green Island/DEC site continues to experience minimal regrowth again this season.

Recommendations:
We recommend an early season survey of this site due to the heavy boat traffic in the area. We anticipate the downward trend to continue.

14. Gull Bay:



Days Allotted in 2022: 18
Total Pounds Harvested: 20,930

Summary:

This was the third season that DASH was performed at this site and the first year after the removal of the bottom barriers. We have seen a slow but consistent downward trend in the amount of material removed each season. The site consists of pockets of dense material that are connected by more sporadic growth. The area harvested is large and the bottom composition is comprised of clay. Once the clay is suspended in the water column takes a long time to settle which reduces visibility for the divers and productivity. The area was completely harvested in 2019, 2020, 2021, and again in 2022. One of the contributing factors to the slow decline of Eurasian Water Milfoil could be the large bed at Gull Bay Island. The Gull Bay Island bed was removed this season also.

Recommendations:

With the removal of the dense Gull Bay Island bed, we hope to see an overall reduction in the amount of material removed next season. As always, an early season survey of the site is recommended to determine the level of effort needed next year

15. Gull Bay Island:

Days Allotted in 2022: 8
Total Pounds Harvested: 7,000

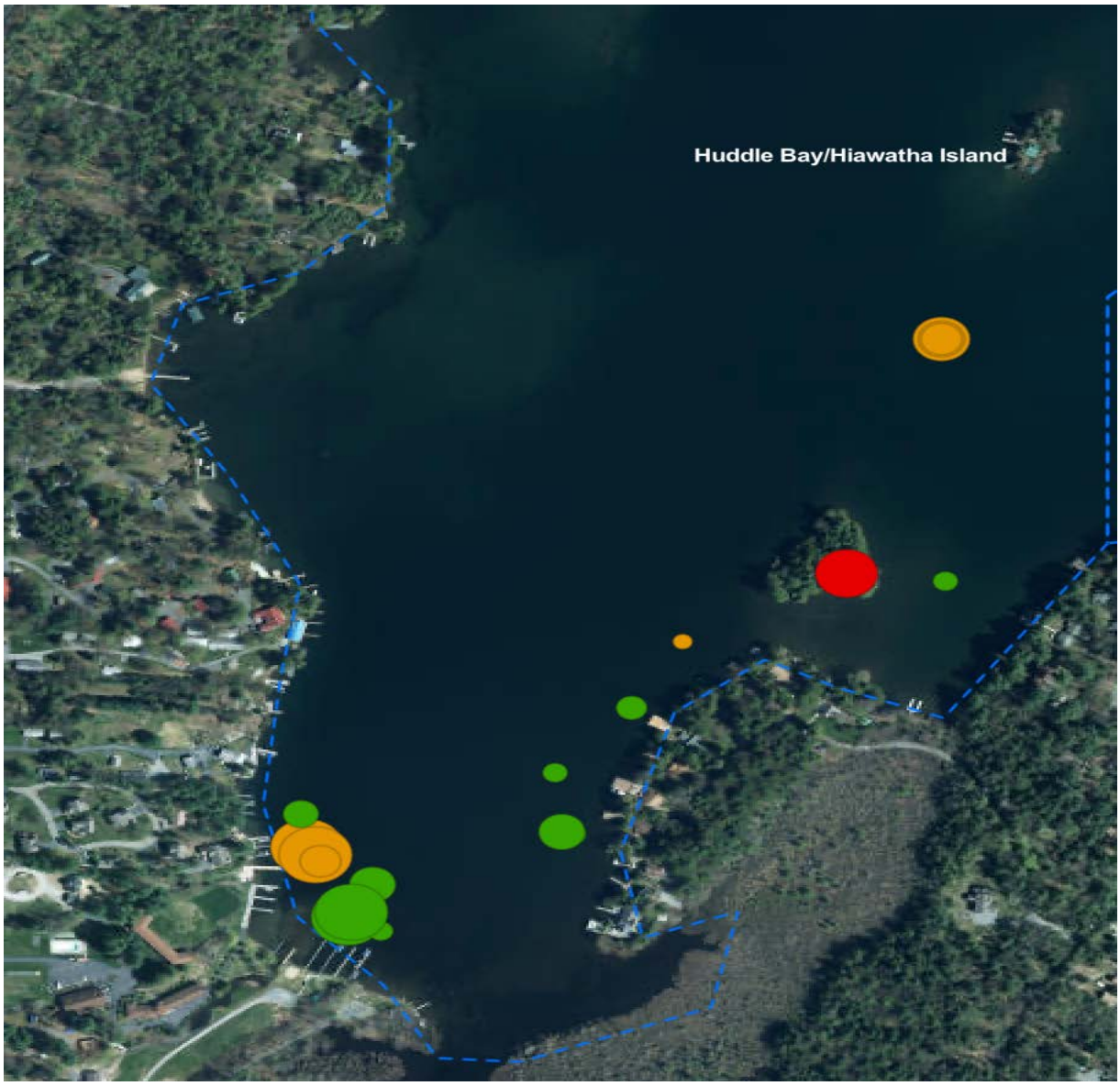
Summary:

This was the first season of DASH work at Gull Bay Island. Large beds of very tall, dense, multiple stemmed plants were found around the entire island. Some plants were 18 feet in height with up to 25 stems each. The bottom composition consisted of rock and ledge with pockets of soft sediment. These pockets of soft sediment are where the Eurasian Water Milfoil was well established. Because of this the divers were able to maintain their visibility and move through the area quickly and efficiently.

Recommendations:

It is our recommendation that this site be closely monitored. It's important that this site be maintained because of its proximity to Gull Bay. With the removal of the bed at this site it is our hope that we will see a reduction in the amount of material removed from the adjacent site at Gull Bay.

16. Huddle Bay/Hiawatha Island:

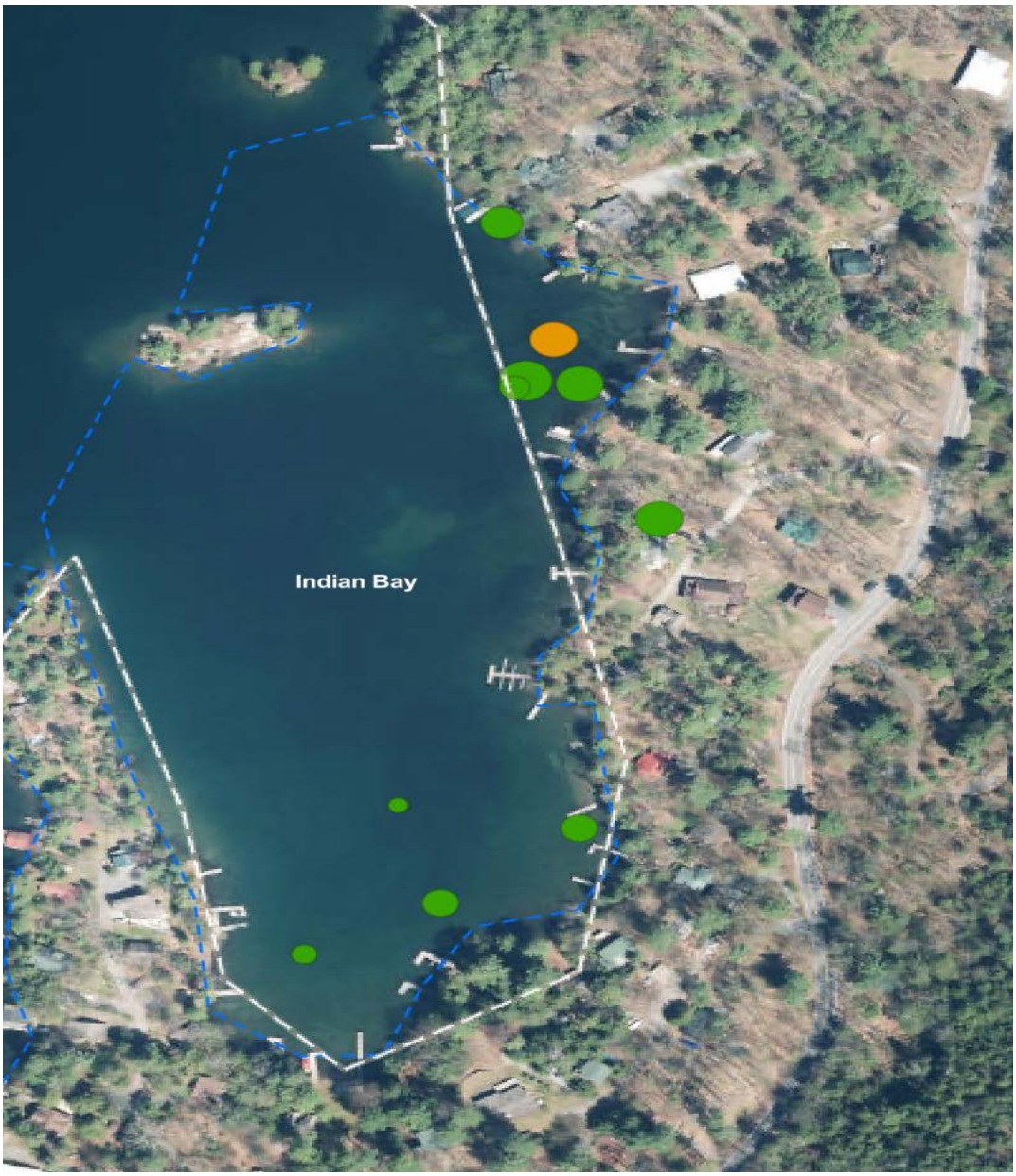


Days Allotted in 2021: 11
Total Pounds Harvested: 4,130

Summary:
Huddle Bay has seen a significant reduction in the amount of material removed and level of effort needed each season. This is the third season in a row that we have worked the bay and we have seen a reduction of 10,480 pounds since 2019. Huddle Bay is a very fertile area and because of its relatively shallow depths has a very large surface area for potential plant growth. The Eurasian Water Milfoil plants tend to hit the surface by mid-summer making fragmentation an issue. The poor visibility and the sporadic plant growth make it a time-consuming site to work. Hiawatha Island is also part of the site but is quickly cleaned up each season.

Recommendations:
Vigilance is recommended to continue seeing progress in Huddle Bay.

17. Indian Bay:



Days Allotted in 2022: 3
Total Pounds Harvested: 1,190

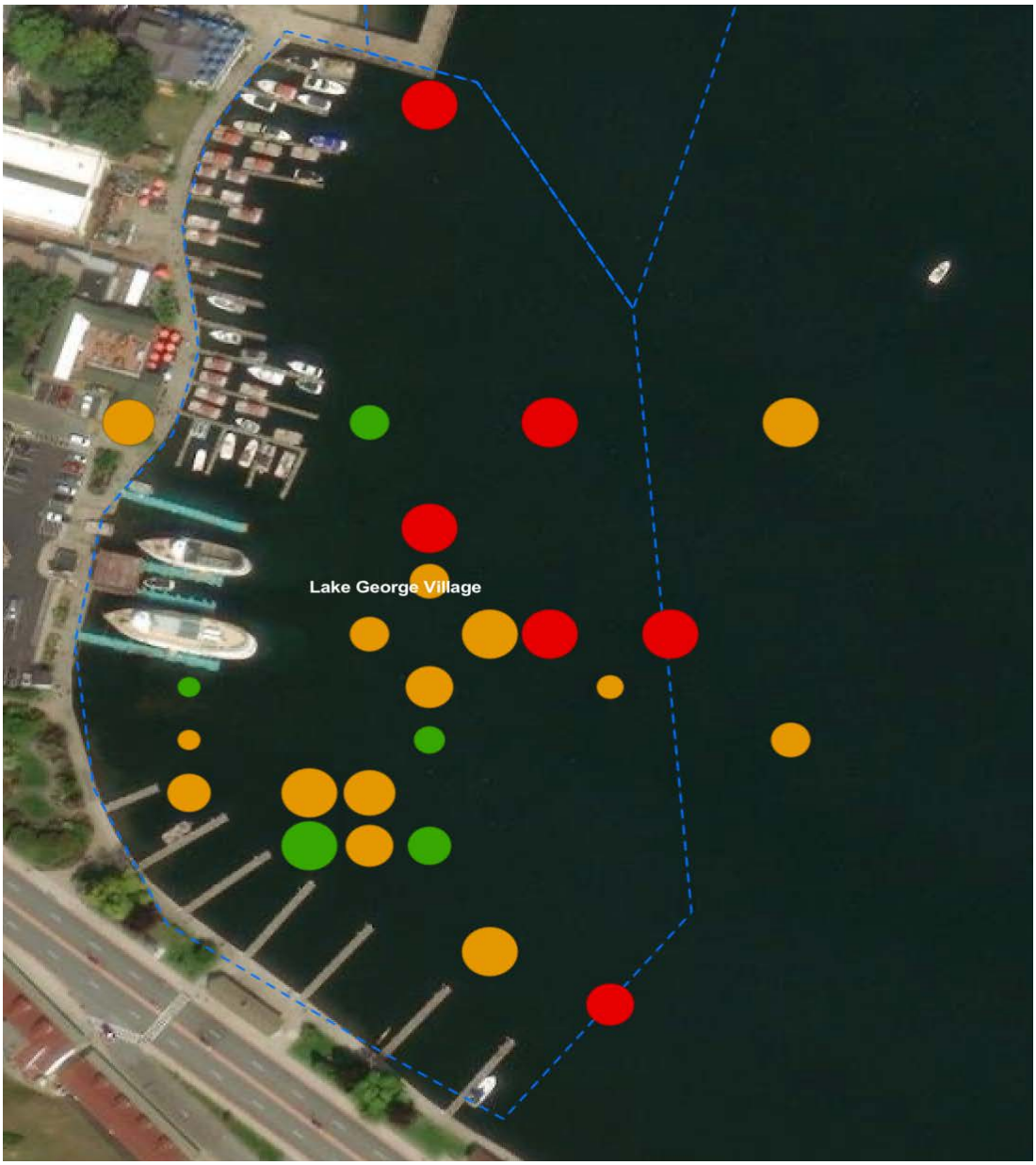
Summary:

Indian Bay was last worked in 2019. It contained several large isolated dense beds of Eurasian Watermilfoil with sporadic growth in-between. The site has a bottom composition that is ideal for DASH work, but the site wasn't completed in 2019 before the season ended which was an obvious concern. A total of 21 crew days and 6,750 pounds of material was removed in 2019. We returned to the site this season and found very little regrowth. Finding mostly scattered sporadic plant growth around the bay that were quickly removed.

Recommendations

A quick site survey is recommended annually to keep the Eurasian Watermilfoil from coming back.

18. Lake George Village:



Days Allotted in 2022: 9
Total Pounds Harvested: 9,730

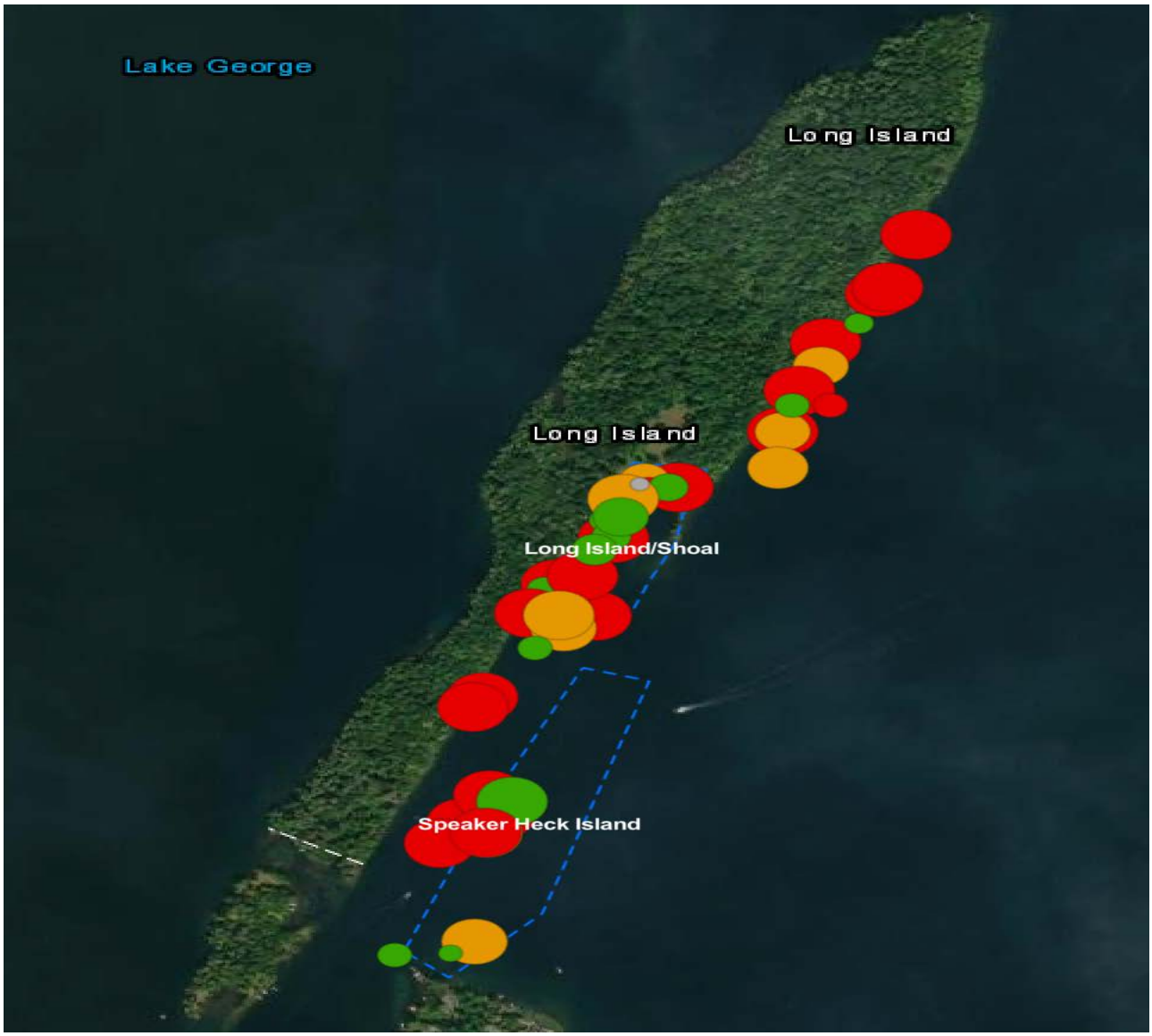
Summary:

The 2022 season was the first season that the entire village dock area was harvested. The beds of Eurasian Watermilfoil were very large and dense in the corner between the para-sail company and the Marine Patrol docks. The plants became more sporadic as we moved east towards Million Dollar Beach. The site has heavy boat traffic throughout the season making it challenging to work. The bottom composition is loose sediment that turns to sand the closer you get to shore.

Recommendations:

This site should see a reduction in Eurasian Watermilfoil in 2023. Because of the heavy boat traffic and the wind blowing most of the fragments into the south end of the lake It is recommended that this site be maintained each season.

19. Long Island Shoal:



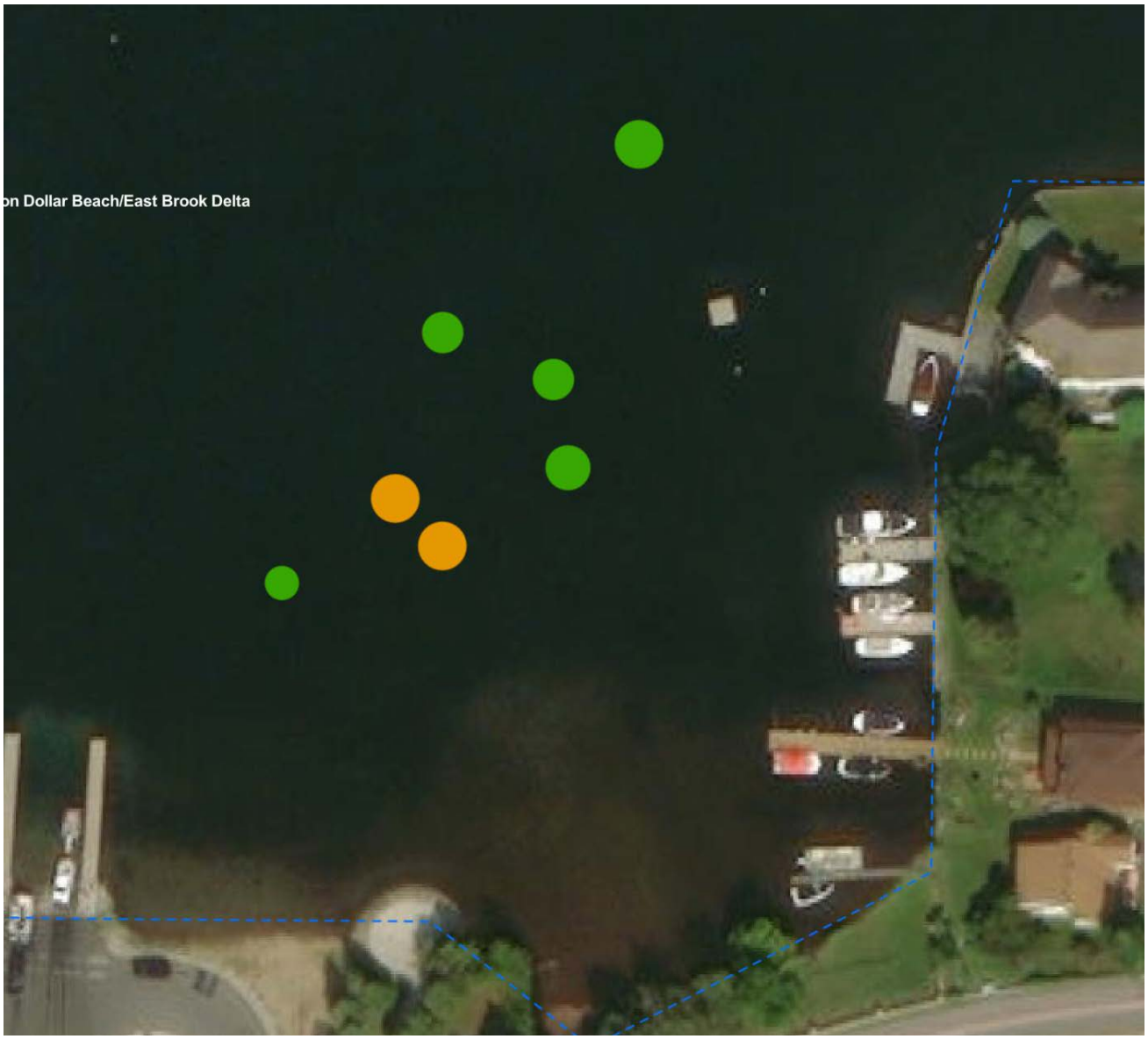
Days Allotted in 2022: 19
Total Pounds Harvested: 19,390

Summary:

Long Island continues to be a work in progress. Regrowth is inevitable because of the rocky nature of the bottom composition. Each season the beds of Eurasian Watermilfoil seem to be moving further south along the island. This season the site consisted of two dense beds located at the southernmost end of Long Island. Connecting the two dense beds was a vein of moderate to sporadic plants.

Recommendations:
We recommend an early DASH effort and an annual survey of this site. The rocky nature of the bottom and the heavy boat traffic make this site difficult to work. Maintaining safe DASH operations is only possible early or late in the season due to the boat traffic. We also feel that this site could be seeding the larger bays along the southeast shoreline and should be a priority.

20. Million Dollar Beach/East Brook:



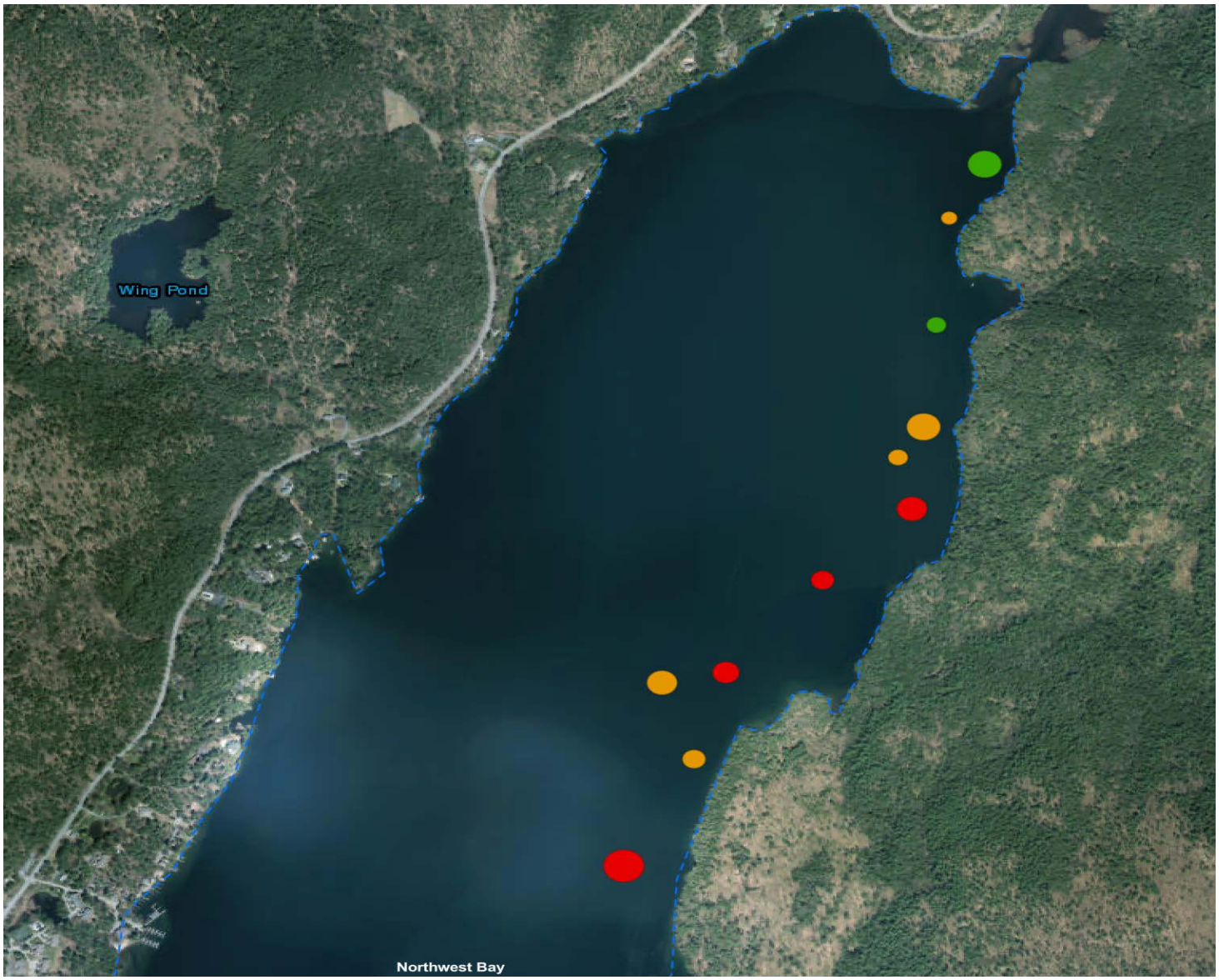
Days Allotted in 2022: 2
Total Pounds Harvested: 2,345

Summary:
The Million Dollar Beach/East Brook Delta site has been worked with DASH for the last four seasons. The original DASH location northeast of Million Dollar Beach still looks good and minimal effort was needed to maintain it this season. Most of the material removed, and time spent this season was closer to the east shore and north of the boat launch.

Recommendations:

This site should be surveyed early in the season to determine the level of effort needed. The boat launch and the amount of boat traffic at this site make it easy for boats to pick up fragments and transport them to other locations in the lake making this site a priority.

21. Northwest Bay:



Days Allotted in 2022: 5
Total Pounds Harvested: 1,575

Summary:

Two sites have been harvested in Northwest Bay over the last four seasons. Because of this the numbers have gone done in 2022. The previously harvested areas showed little regrowth and were cleaned up quickly. The native plant life and river current are certainly playing a factor in this. Another location was found out in the bay last season, but budget would not allow the area to be completed yet. Some progress is being made but it remains a problem.

Recommendations:

We recommend an early season survey to assess the regrowth in this bay and its harvesting needs. Continued effort on the new location is needed to maintain what has been done and possible cover some more ground.

22. Paradise Bay:

Days Allotted in 2022: 2
Total Pounds Harvested: 665

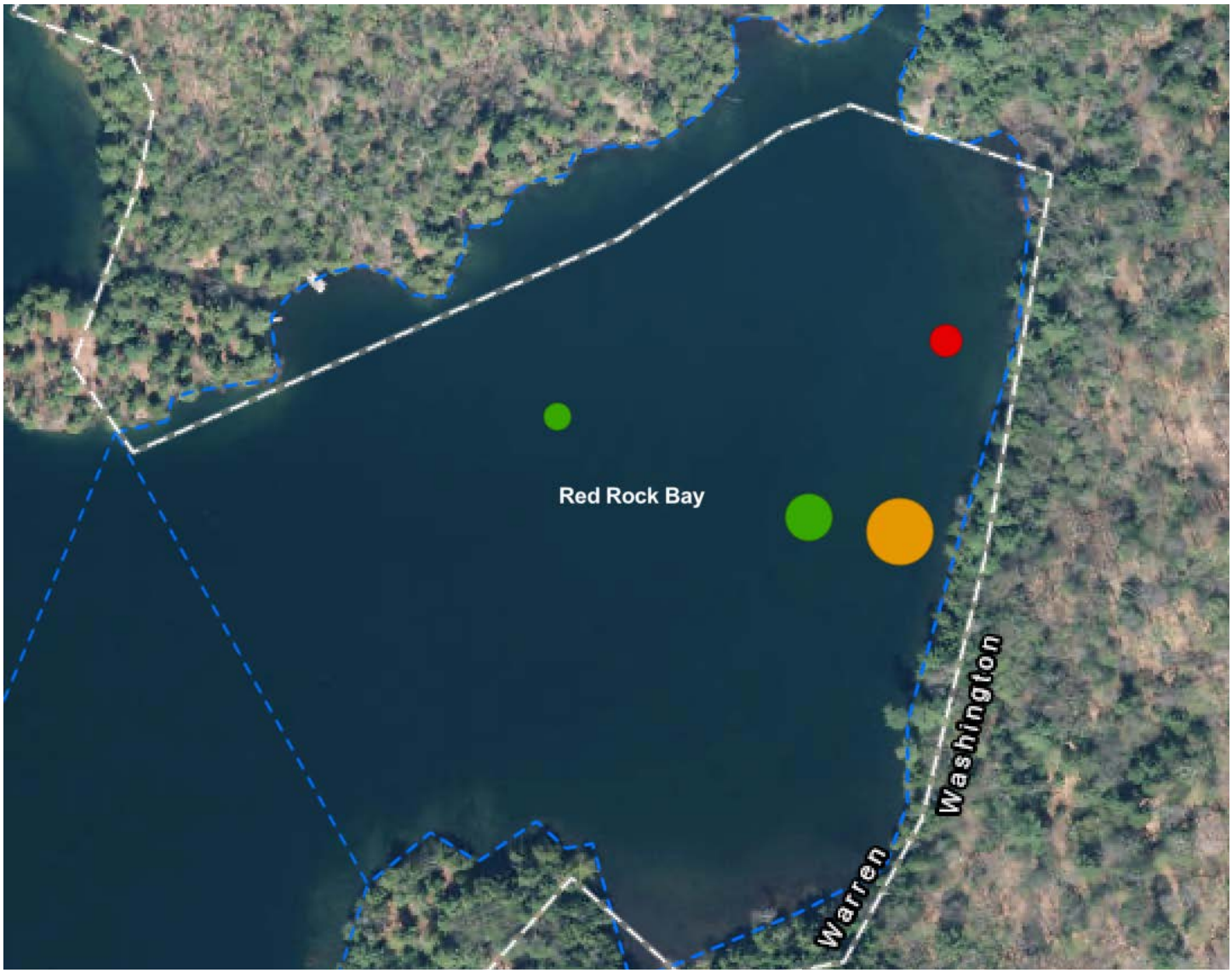
Summary:

This is the third year of harvesting at Paradise Bay. The original bed was located deep in the bay. This season the bed seemed to move north but was much smaller and less dense than previous years. We have seen a significant decline in the amount of material removed each year and the level of effort required.

Recommendations:

We recommend that continued attention be paid to this site until harvesting data reveals the maintenance level of both days and EWM biomass to keep this site controlled.

23. Red Rock Bay:



Days Allotted in 2022: 4
Total Pounds Harvested: 770

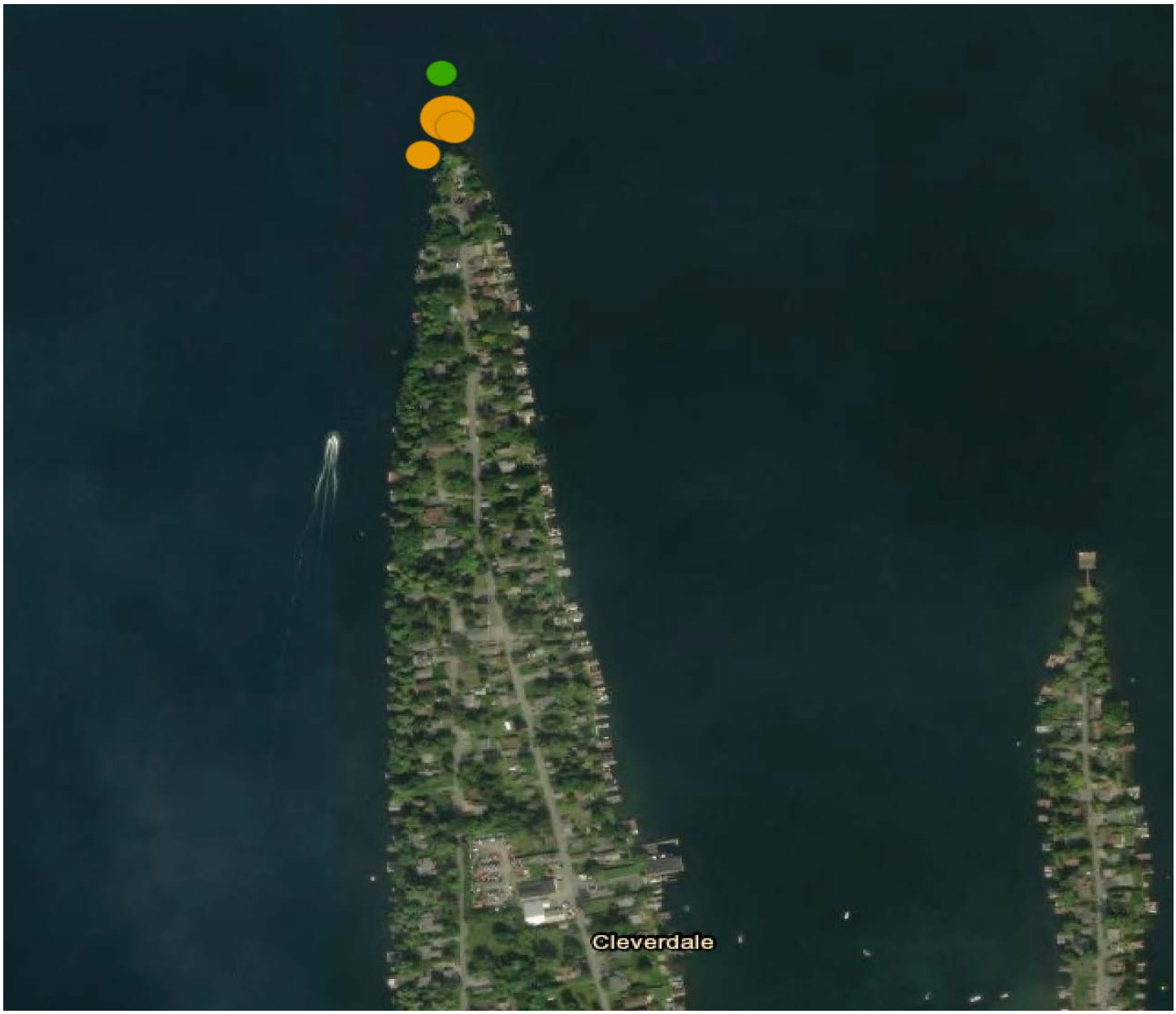
Summary:

This was the second year of harvesting in Red Rock Bay. The site has responded well to treatment, and we have seen a significant reduction in the amount of material removed compared to the 2021 season. In 2021 we harvested 6,860 pounds of material and in 2022 we harvested 770 pounds of material.

Recommendations:

The bay should be checked for regrowth early in the season to ensure continued success.

24. Ripley Point/Cleverdale:



Days Allotted in 2022: 3
Total Pounds Harvested: 1050

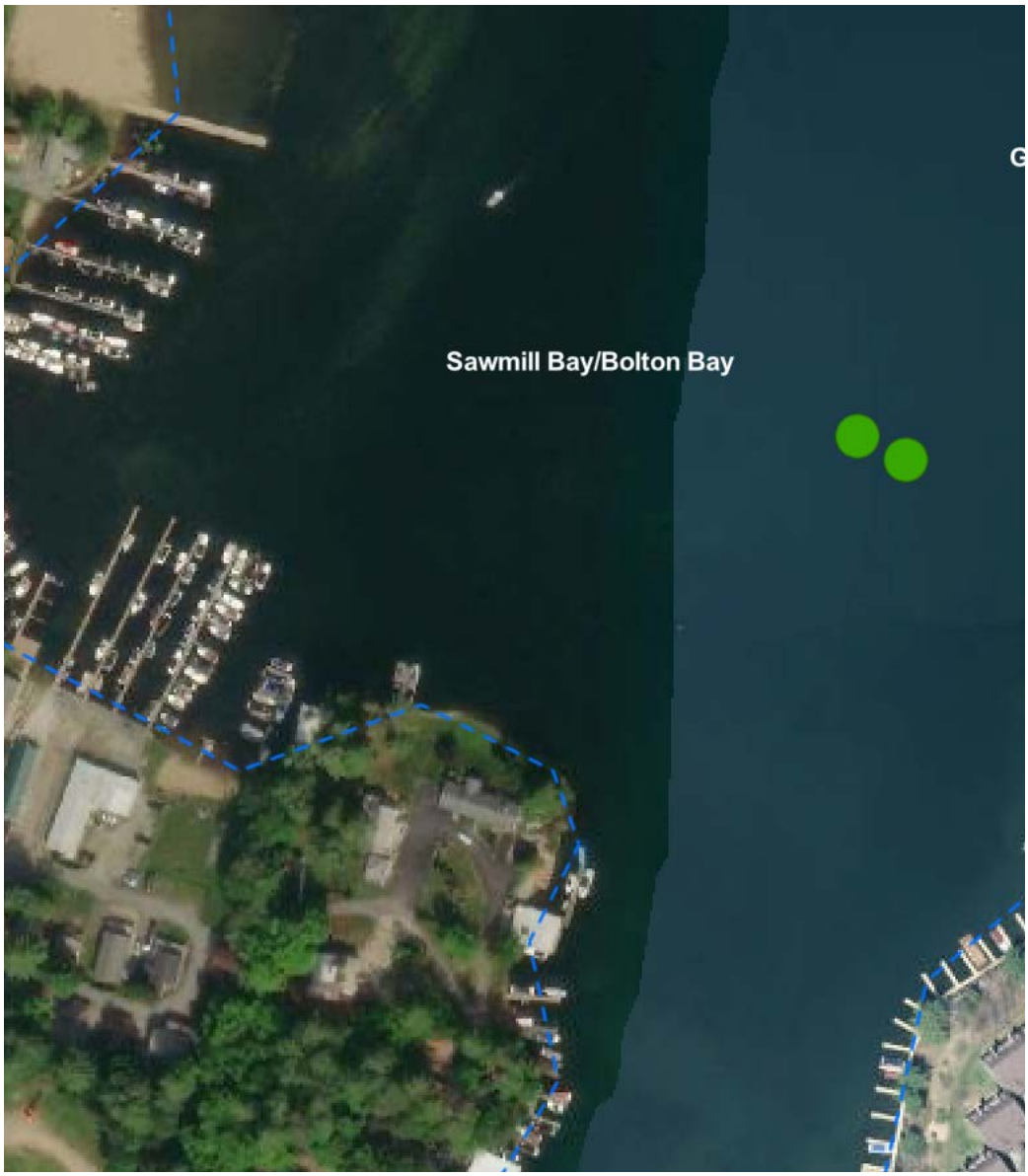
Summary:

This is the first year working the Ripley Point/Cleverdale site. A small, dense patch was removed over a 3-day period for a total of 1050 pounds of material.

Recommendations:

We do not anticipate heavy regrowth in this area, but an early survey should be conducted to determine the level of effort needed for the season.

25. Sawmill Bay/Bolton Bay:



Days Allotted in 2022: 2
Total Pounds Harvested: 280

Summary:

This site showed an 99% reduction in EWM removed from 2020. Because of this very little time was needed in the area in 2022. The area is large, so a couple of days were needed to ensure the entire site was searched but the site remains in good shape.

Recommendations:

A quick survey of the area each year will help determine the level of effort needed to maintain our momentum in this area.

26. Lynden Point:

Days Allotted in 2022: 3
Total Pounds Harvested: 1,890

Summary:

This is the first year working the Lynden Point site. This site is along the eastern shore just north of Refuge Island. The site consisted of sparse to moderate Eurasian Watermilfoil growth and was quickly cleaned up.

Recommendations:

As with all the sites worked in Lake George, this one should be surveyed each year to keep it trending in the right direction. We don't anticipate a large amount of regrowth.

Sunset Bay:

Days Allotted in 2022: 1
Total Pounds Harvested: 0

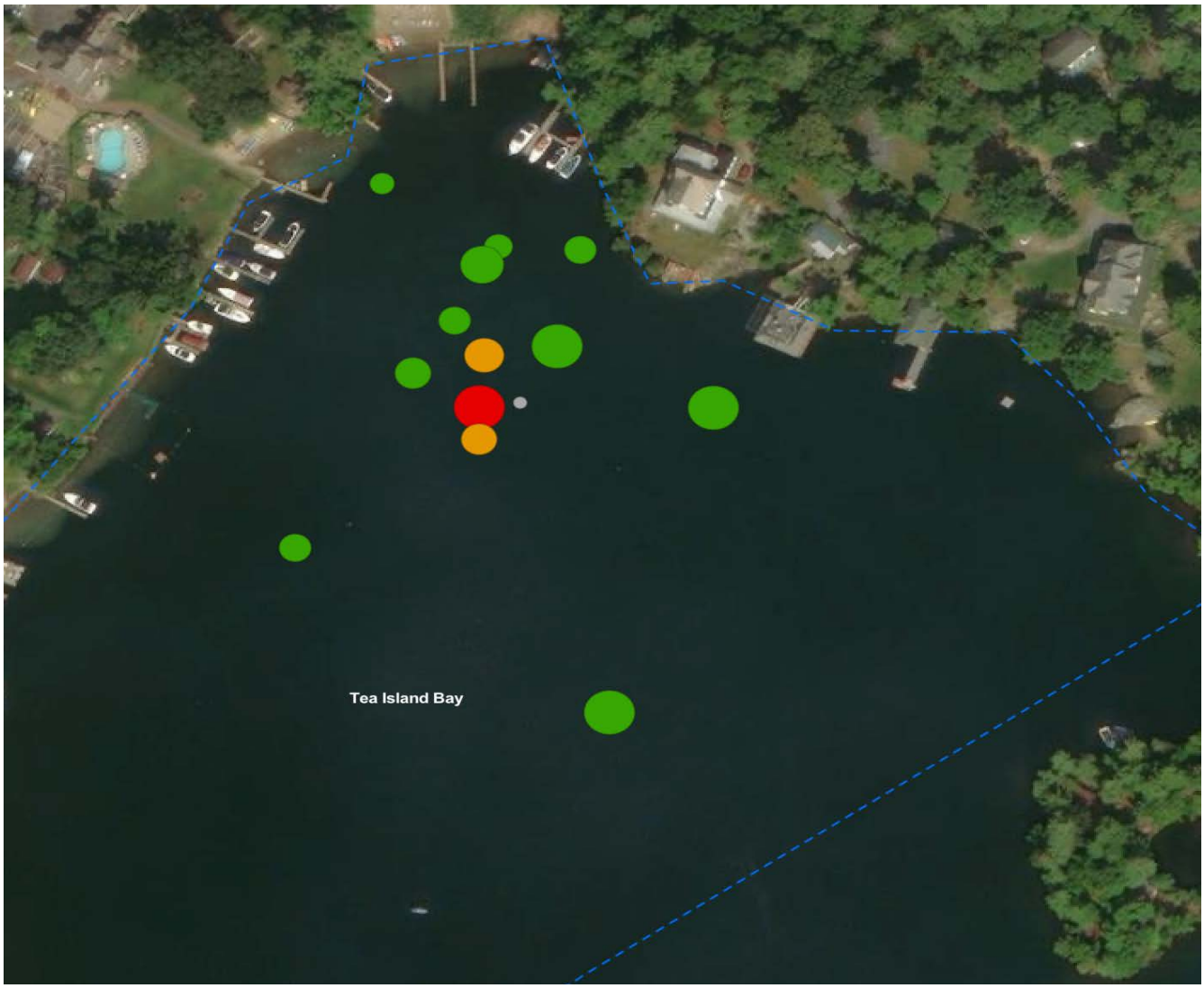
Summary:

Sunset Bay was surveyed in early October of 2022 but was not worked. The survey showed areas of dense Eurasian Watermilfoil growth.

Recommendations:

We recommend a survey of the site early in 2022.

27. Tea Island Bay:



Days Allotted in 2022: 4
Total Pounds Harvested: 3,675

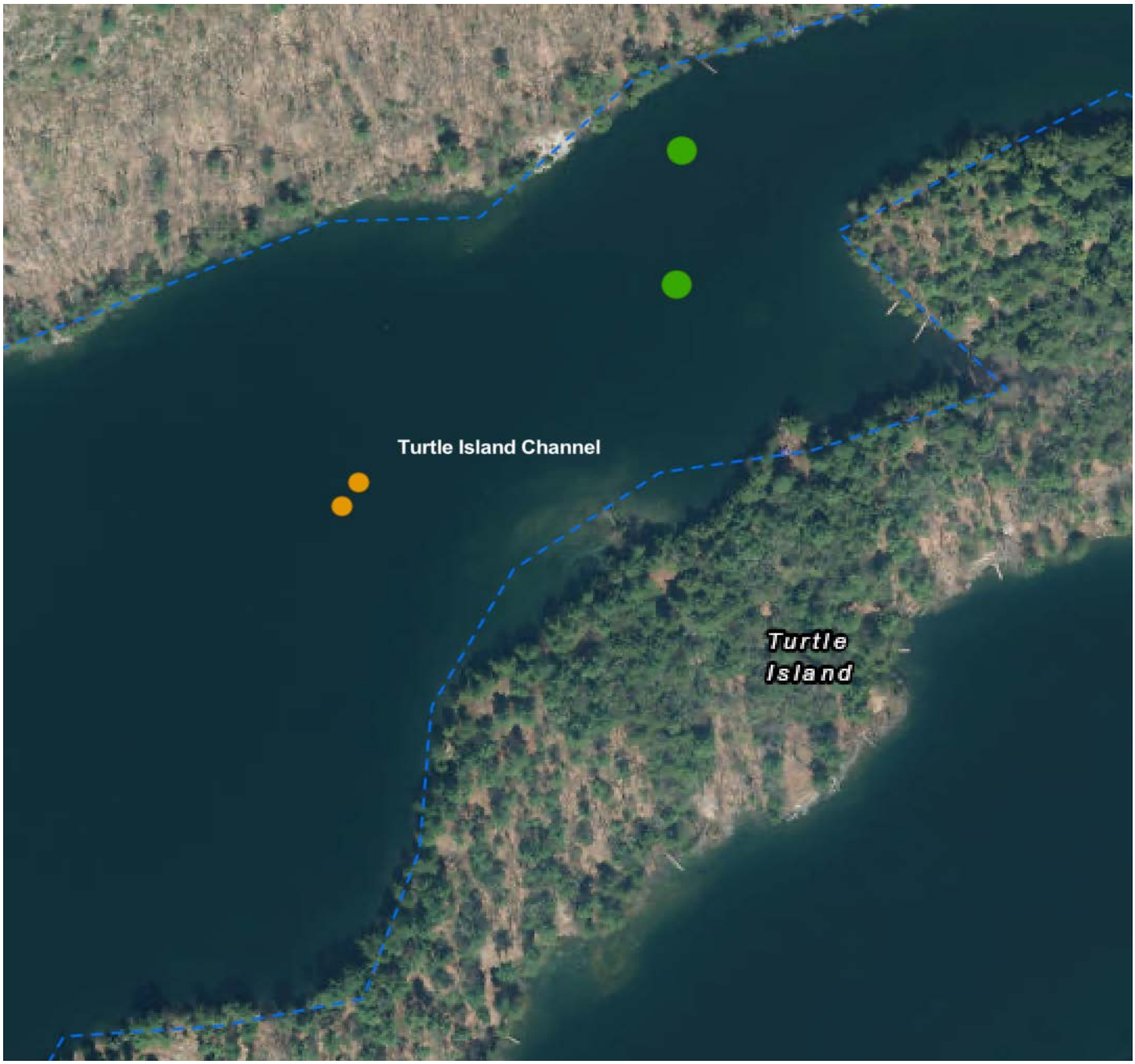
Summary:

The Tea Island Bay site was not worked in 2021. The site continues to be a work in progress. A few, small, dense, beds of Eurasian Watermilfoil were in the center of the bay and were easily cleaned up. These beds were found around barren lake bottom where the bottom barriers were removed in 2020. These areas are slowly filling in with native plant growth, but some Eurasian Watermilfoil remains. Most of the material removed was located in the shallower areas around the docks in the bay. This area is challenging to work because of the depth of the water, boating activity, and the abundance of native plant life. The total removed from this site includes a considerable amount of unintended native bycatch.

Recommendations:

This area should be checked again in 2023. However, we feel it should be done early in the season if possible to avoid the boat traffic and reduce fragmentation.

28. Turtle Island Channel:



Days Allotted in 2022: 2
Total Pounds Harvested: 280

Summary:

The Turtle Island Channel site again showed a decrease in EWM harvested.

Recommendations:

This site should be checked for regrowth in 2023, keeping in mind the historic locations of growth at this site.

29. Warner Bay:

Days Allotted in 2022: 13
Total Pounds Harvested: 7,770

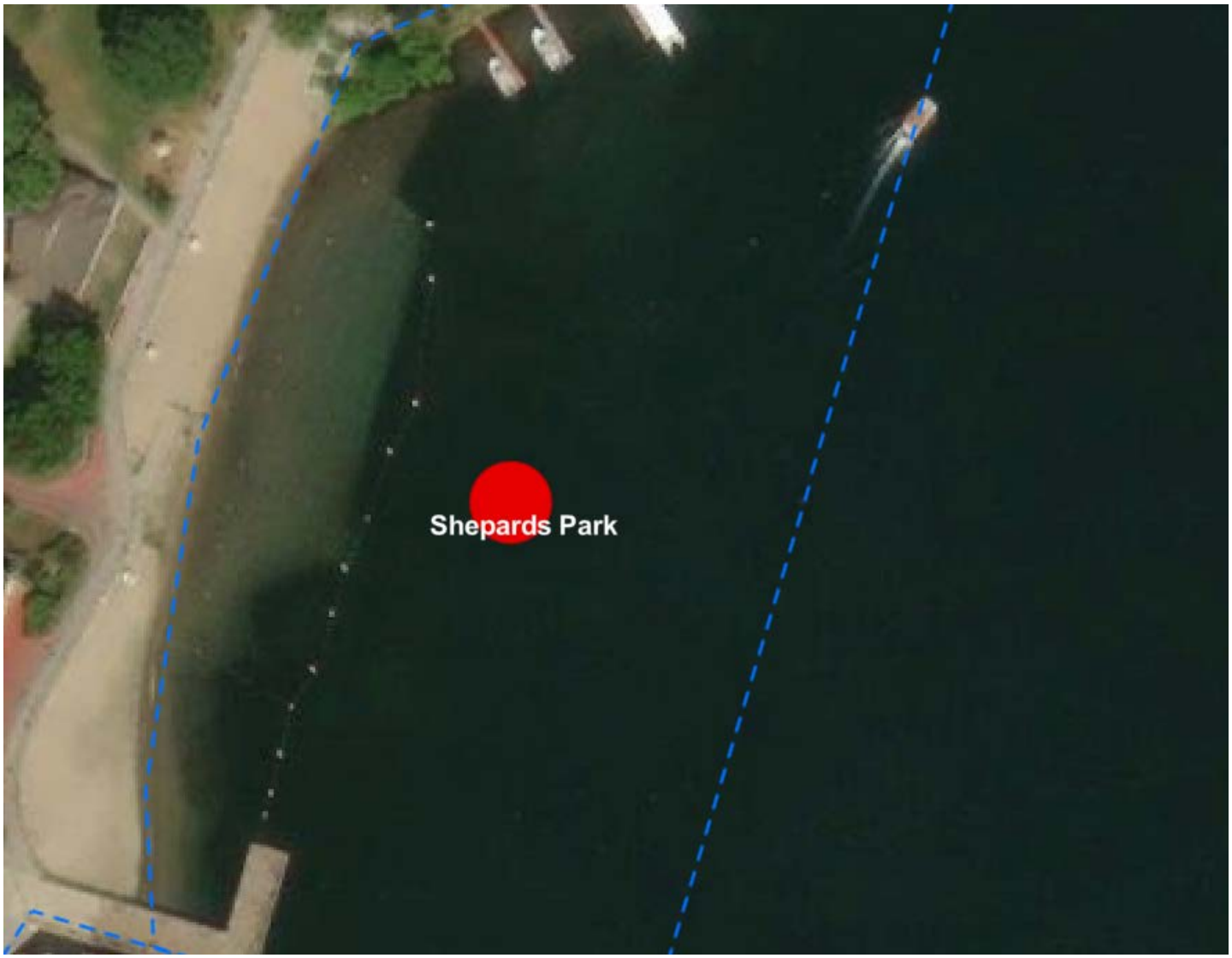
Summary:

Warner Bay has made progress over the last few seasons. The site is very large, shallow, and thick with native plant life. The bay had a few moderate/sporadic Eurasian Watermilfoil growth areas that were generally in the same locations as past seasons and were probably regrowth. Removing the target plants without removing the abundant native plant life has proven to be challenging and time consuming over the years. A certain amount of unintended native bycatch should be calculated into the site numbers each season.

Recommendations:

A site survey is recommended each season to determine the extent of the regrowth. Fragments have been observed floating into the bay, possibly from sites north of Warner Bay. These sites should be surveyed also to slow the fragmentation.

30. Shepards Park:



Days Allotted in 2022: 8
Total Pounds Harvested: 16,310

Summary:

This is a new site for AE Commercial Diving Services. We have worked sites south of this location but not at Shepards Park. The dive crew was initially sent to the site remove bottom barriers. The divers quickly noticed a large bed of Eurasian Watermilfoil growing on top of the barriers. After consultation with the LGPC it was determined that the best course of action was to remove the bed of Eurasian Watermilfoil at the site. The bed was removed over the next two weeks.

Recommendations:

This site should be monitored every year to locate and remove any regrowth. It's a very active site so this should be done before or after the summer tourist season.

(END OF REPORT)