2020 Tomahawk Lake Aquatic Plant Management Report

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Section 1 - 2020 APMR Introduction

History of EWM Controls

The Tomahawk Lake Association (TLA) has an extended history of combating the scourge of aquatic invasive species and most notably Eurasian Water Milfoil (EWM) in the Tomahawk Lake watershed. Eurasian Water Milfoil was discovered in Tomahawk Lake in 2003 and since that time TLA has made every effort to reduce the spatial coverage and plant density of EWM in the watershed. The results of these efforts very greatly, primarily due to the environmental conditions at the time of various treatments made to reduce the EWM infestation levels in our Lake.

At the end of each growing season TLA has performed an End of Year (EOY) AIS/aquatic Plant community point intercept survey to identify areas of extremely high EWM plant density. As an output of those surveys the areas of high EWM plant density have been identified and the spatial extent of these high-density areas have been mapped. Using GPS/GIS technology these high density areas have been placed into ”polygons” in a year end Tomahawk Lake Watershed Map. Again, utilizing the GIS mapping capabilities, the total area for each polygon can be identified.

From a high of 126+/- acres of heavy dense EWM at the end of the 2012 growing season, to a low of 9.38 acres at the end of 2015, the spatial coverage of high density EWM plants has changed greatly over the years. In the years 2012 to 2016, the Tomahawk Lake Association operated a two-tiered control regimen in trying to control and reduce the number of acres of heavy dense milfoil in the watershed. Those 2 separate efforts were (1) a very judicious one-time application of an aquatic herbicide in the late spring in the largest polygons and (2) the targeted use of TLA’s signature Hydraulic Conveyor System throughout the remainder of the growing season. This original regimen allowed TLA to slowly and consistently reduce the number of acres of heavy dense Eurasian Water Milfoil within the watershed

Over the course of 2016 the WDNR introduced and promoted the “no treatment” theory of EWM control, which basically states that heavy dense areas of EWM will over time recede in size and density if left completely alone. In the fall of 2016 local WDNR lake managers installed a “no chemical application permits issued” for EWM spot treatments on polygons of 5 acres or less. While the use of chemical herbicides in the control of EWM is still looked upon somewhat negatively by the WDNR, they have made some concessions in some watersheds where severe infestations exist.

Since 2016, the Tomahawk Lake Watershed has made no chemical herbicide applications to areas of high plant density, with the notable exception of 2 small segregated bays totaling 25

acres which are involved in the joint WDNR/TLA "Treat/No-Treat & Chemical Herbicide Study, where one chemical application was made in the study bays in the spring of 2019. (A "Treat/No-Treat Second Interim Study Report was written and submitted to the WDNR on December 30, 2020.)

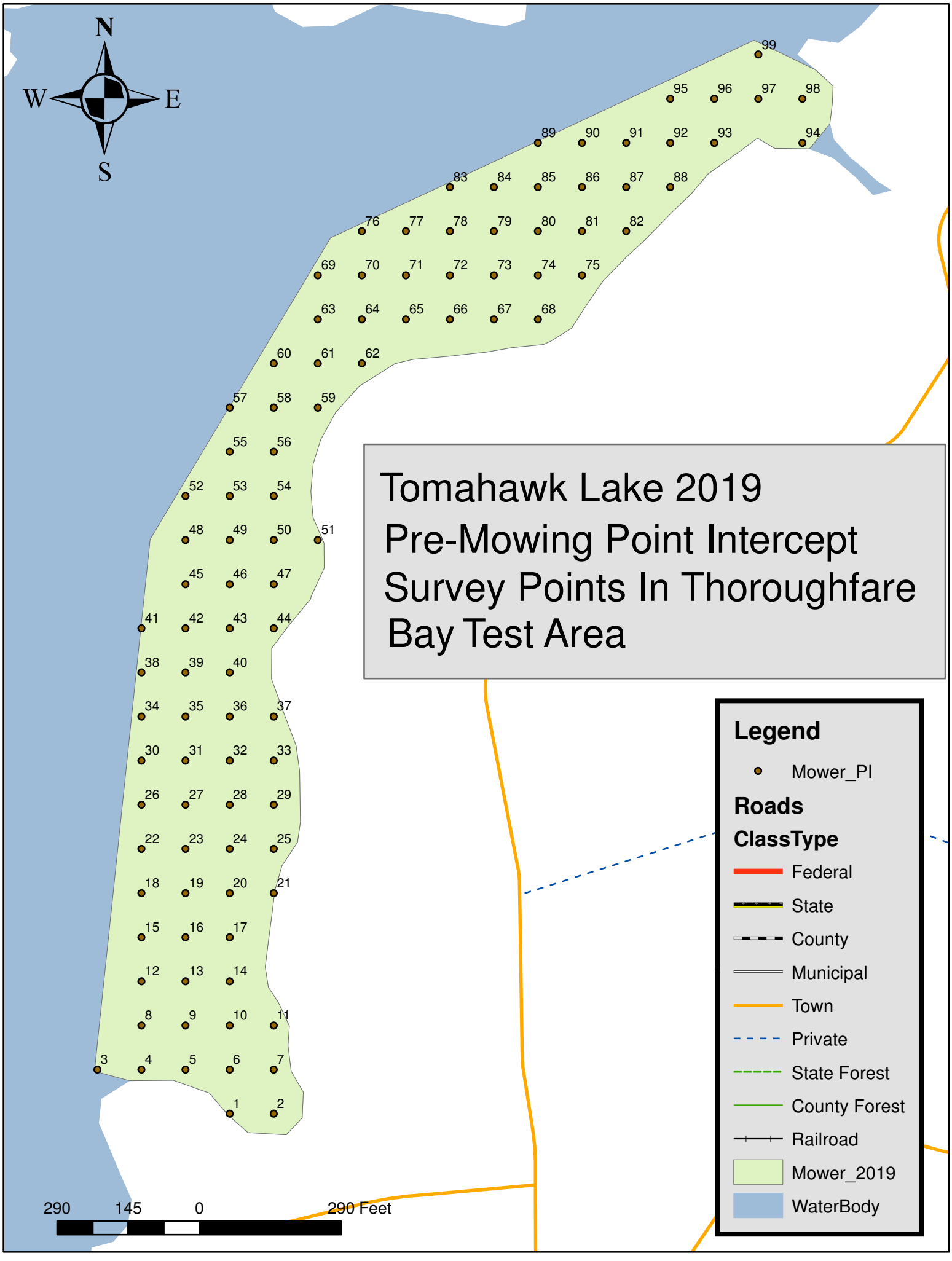
Unfortunately, since the end of the two-tiered control regimen the rate and severity in the return of heavy dense areas of EWM to the watershed has increased year after year:

E.O.Y. survey date	# of Polygons	# of acres
2015	13	9.39
2016	30	25.72
2017	38	45.68
2018	38	64.84
2019	44	71.41*
2020	68	128.04*

Notes:

1. The number of polygons and the number of acres noted above for the years 2019 in 2020 are expressed as **"adjusted"** because they do not include the polygons and acreages which are included in the Treat/No-Treat & Chemical Herbicide Study mentioned above, nor do they include the acreage within the polygon (#69) Mechanical Harvesting/Mowing Study which are included in independent 2020 reports submitted to the WDNR. These special segregated polygons and acreages have been removed from what has been typically a "whole Lake" EWM/Aquatic Plant E.O.Y. Survey, because those polygons and acreages, and the data which these studies have yielded have been affected by various treatments (both chemical and mechanical) which would artificially taint the conditions and generated data found in the remainder of the watershed. Separate Reports to the WDNR have been generated and have been or will be submitted to the WDNR:

    a. **2020 Treat/No-Treat & Chemical Herbicide Interim Report** Submitted Jan. 6th, 2021.
    b. **2020 Mechanical Harvesting Report** submitted in February, 2021.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2
Tomahawk Lake 2019
Pre-Mowing Point Intercept
Survey Points In Thoroughfare
Bay Test Area
Legend
Mower_PI
Roads
ClassType
Federal
State
County
Municipal
Town
Private
State Forest
County Forest
Railroad
Mower_2019
WaterBody
290
145
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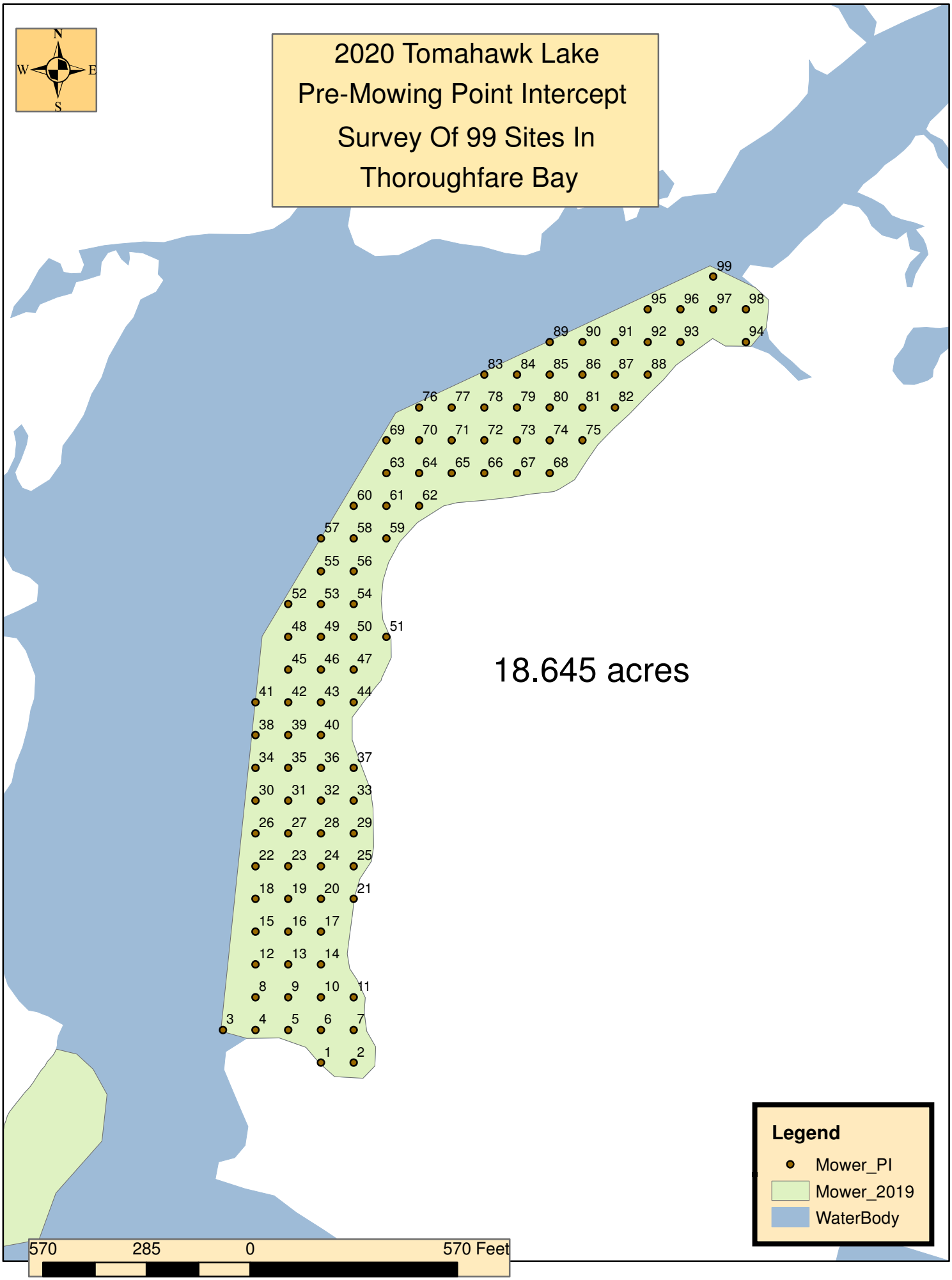
290 Feet


2020 Tomahawk Lake
Pre-Mowing Point Intercept
Survey Of 99 Sites In
Thoroughfare Bay
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41 42 43 44
38 39 40
34 35 36 37
30 31 32 33
26 27 28 29
22 23 24 25
18 19 20 21
15 16 17
12 13 14
8 9 10 11
3 4 5 6 7
1 2
18.645 acres
Legend
Mower_PI
Mower_2019
WaterBody
570 285 0 570 Feet

2020 Mechanical Harvesting (Mowing) Test

History: In the spring of 2019 the Tomahawk Lake Association(TLA) applied for a permit to test the efficacy of Mechanical Harvesting/Mowing for control of EWM floating vegetation in Thoroughfare Bay and surrounding areas in the northeast corner of Tomahawk Lake. The test called for (1) a pre-mowing point intercept survey of the study areas, (2) the mowing of approximately 23 acres within 2 polygons in early July 2019, and (3) a visual examination of the polygons at the end of August 2019. The goal was to ascertain if the mowing which was done had a long-term effect of reducing and eliminating Eurasian Water milfoil plant foliage from the surface to below 24 inches in depth. This would to a large degree eliminate mechanical fragmentation due to boat propellers chopping the canopied EWM as boats moved through the beds.. Unfortunately, during the course of treatment, the mechanical harvesting contractors mower suffered a number of mechanical failures which shed doubt on the results of the test. In the fall of 2019 the TLA Board of Directors decided to rerun the test in 2020.

2020: In the spring of 2020 TLA refined the parameters for the 2020 mechanical harvesting mowing test to include one polygon of 18.645 acres. Within the bounds of this polygon, 99 point intercept sites had been identified and surveyed in the 2019 pre-mowing P.I. survey and a second survey was done in early June of 2020 utilizing the same P.I. site locations.

The 2020 mowing was done on July 16 & 17. Mower depth was set at a maximum of 4 feet.

On September 7th, 2020 (Labor Day) the AIS Coordinator did an assessment of the conditions concerning the foliage rebound of EWM in the test polygon. During the 52 day period from July 17th through September 7th most areas of EWM plant foliage had grown back to the surface and had spread out over the surface to conditions approximating those found prior to the mowing. This was especially the case in plant beds that were closer to the shore within the polygon. Water in these areas ranged from 1 foot out to about 6.5 feet in depth.

Conclusions: The original rationale for performing a test of mechanical harvesting/mowing for the control of Eurasian Water Milfoil foliage was to ascertain the efficacy of mowing and of “holding the gains” in the reduction of the foliage for an extended period of time. It was hoped that the grow back period for the plant foliage would be long enough to eliminate the mechanical fragmentation from boat propellers during the heaviest use periods of recreational boating during the summer season.

By cutting the heavy dense areas of EWM foliage to below 4 feet in depth it was hoped that mowing might eliminate this mechanical fragmentation and thus eliminate the spatial spread and increased density of EWM plants in these high traffic areas.

Additionally, it was hoped that by removing canopied EWM plant material from the surface of high use areas it would increase the amount of spatial area within the bay that would be accessible to recreational boaters, without the impediment of heavy weed growth on the surface of the water.

Finally, it was hoped that the reduction in plant material on the surface of the water would keep traffic lanes open in areas typically used in navigation into and out of the lake. This is especially true in the northern end of the polygon near the mouth of the Minocqua thoroughfare.

In the final analysis there was literally no sites examined where the milfoil had not returned to within a few inches of the surface. Within the 52 day window from the mowing date to the examination date, virtually all of the locations examined had grown back to the surface. So while the initial mowing may have reduced the water depth of the EWM plants down to the 4 foot level below the surface, at some point during the 52 day window the tops of those plants had grown back into the zone where propeller fragmentation takes place. A test for efficacy asks the question “given the results of the action, was the expense incurred worth the effort?” Based upon the results of TLA’s 2020 mechanical harvesting mowing test the writer would be hard-pressed to say that the ends justified the cost, as the tops of Eurasian water milfoil plants which had been mowed in July were well into the 20 inch propeller zone in mid to late August.

In preparation for the 2021 fiscal budget the TLA Board of Directors approved an expenditure of up to $48,000 for mechanical harvesting/mowing in 2021. At a cost of $2,000/day (estimated) the board is planning on up to 24 days of harvesting at 6 acres per day. The yield of this effort is estimated to be approximately 140 acres of heavy dense milfoil acres which could be mowed over the 24-day operating life of this expenditure. The 140 acres noted above is in excess of the 129 acres of heavy dense milfoil surveyed in the lake in the fall of 2020. The mowing is scheduled to be begun in mid-July and be completed by mid-August.

Notes: Included in this report is the 2019 – 2020 mechanical harvesting mowing test chai square analysis. This chart includes the pre-mowing point intercept surveys from July 2019 and July 2020. Only 3 species included in this analysis demonstrated any significant changes year-to-year. Vallisneria americana showed a slightly significant change, and the 2 Najas species showed significant

changes which were due to mis-identification of Najas flexilis has Najas guadalupensis in 2019. For all intents and purposes there were no significant changes in the study area species between 2019 in 2020. I have included the 2019 end of the 2020 mowing test pre-mowing point intercept surveys on the data disk provided in the APMR.

Section # 2 - Adjusted Whole Lake Discussion

The Remaining "Adjusted" Whole Lake Surveys which are included in this 2020 Tomahawk Lake Aquatic Plant Management Report are noted below". The 2019 / 2020 Data set comparisons & analysis includes three survey data set comparisons: (See Section #5)

Survey #1 -2019 Adjusted Whole Lake Sites (44 polygons)
Survey #2 - 2020 Adjusted Whole Lake - Same Sites (44 polygons)
Survey #3 - 2020 Adjusted Whole Lake - All Sites (68 polygons)

Because of the relatively large increase in the number of polygons and the number of acres of heavy dense Eurasian Water Milfoil within the watershed between 2019 and 2020, the writer has chosen to examine the dynamics of the EWM growth in 2 ways, including the differences in the 2019 E.O.Y. polygons versus the same polygons from the E.O.Y. 2020 survey (same sites) and additionally the differences in the 2019 E.O.Y. polygons versus all polygons identified in the E.O.Y. 2020 survey.

Eurasian Water Milfoil Changes (EWM)

Frequency of Occurrence:
Noted below are the EWM Frequency of Occurrence statistics for surveyed point intercept sites shallower than the maximum depth of plants for the 3 surveys noted above:

2019 Adjusted Whole Lake EOY Survey (44 polygons)	84.62 FOO
121 of 142 point intercept sites	
2020 Adjusted Whole Lake EOY same sites (44 polygons)	88.59 FOO
132 of 149 point intercept sites	
2020 Adjusted Whole Lake EOY All sites (68 polygons)	91.15 FOO
237 of 256 point intercept sites	

While these Frequency of Occurrence levels seem relatively high, one should remember that these surveys focused on polygons which contained heavy, dense EWM plant infestations, and which have been allowed to grow unaffected by any control measures taken for a number of years.

Over the course of the 2020 growing season the trend in frequency of occurrence would indicate that the environmental factors within the sites surveyed favored plant growth over the prior year. While the 2019 year-to-year comparison of frequency of occurrence within the 105 new point intercept sites identified in the 2020 adjusted whole Lake

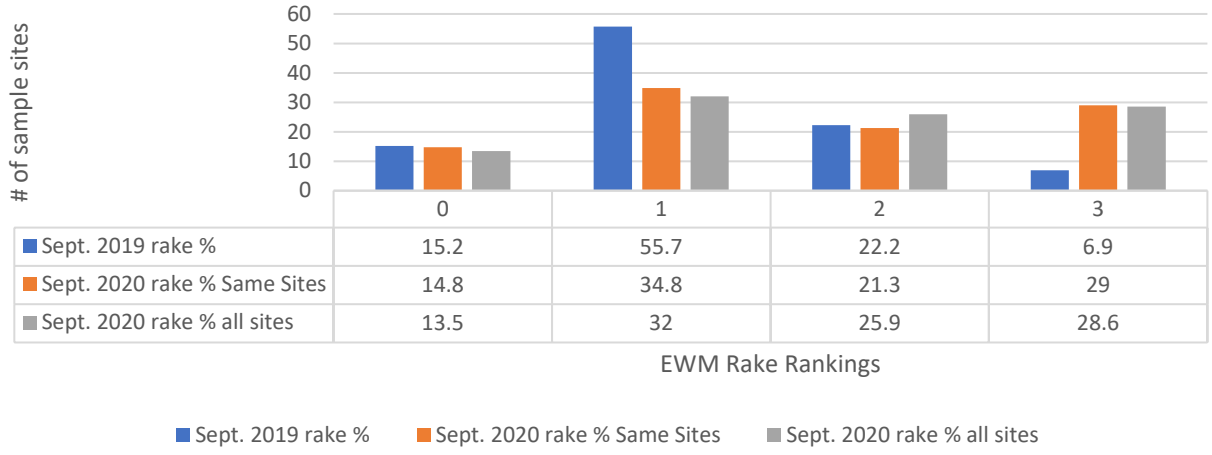
survey is not available to us, the increased overall frequency of occurrence at all sites versus the frequency of occurrence at the same sites as 2019 would support the hypothesis that the 2020 growing conditions favored the heavy growth of EWM.

EWM Rake Fullness:

Changes in EWM Plant Density can be demonstrated by comparing the EWM rake ranking levels from year-to-year. As plant density changes the rake ranking % levels are affected. Over the course of the 2020 growing season EWM plant density increased at the surveyed point intercept sites. Chart #1 indicates that the percentage of the point intercepts surveyed as having no EWM in both the 2019 End Of Year in the 2020 End Of Year surveys remained consistent at between 13% and 15%. Those point intercepts ranked as # 1 Rakes in the 2019 survey showed a marked decrease as a percentage in both of the 2020 end of your surveys. Those rakes ranked as #2 Rakes in the 2019 end of year survey and in the 2020 surveys showed a consistent 22 to 25% of total rakes, but the most significant change in the percent of total rakes were in the #3 rake ranking with the percent of total rakes increasing from 6.9% to between 28% and 29%. These changes in rake ranking indicates that the increase in the percent of total rake rankings in the end of year 2020 surveys demonstrate a significant increase in plant densities as indicated by the heavy increase of number 3 rakes percentages in the 2020 surveys.

This increase in plant density, coupled with the increase in frequency of occurrence within the same site polygons surveyed for heavy dense Eurasian Water Milfoil, along with the spatial increase in EWM as demonstrated by the number of new heavy dense EWM polygons discovered and mapped at the end of 2020 all indicate a rapid increase in infestations within the Tomahawk Lake watershed.

Chart #1 : Changes in EWM Rake Rankings Percentages In 2019 Whole Lake (adjusted) P.I. Sites, 2020 Whole lake (adjusted) Same Site P.I. Sites and 2020 Whole Lake (adjusted) All P.I. Sites



	0	1	2	3
Sept. 2019 rake %	15.2	55.7	22.2	6.9
Sept. 2020 rake % Same Sites	14.8	34.8	21.3	29
Sept. 2020 rake % all sites	13.5	32	25.9	28.6

(Chart available in section #5)

Individual Polygon Maps with 2019 vs 2020 Site Rake Rankings are included in Section #6 of this report.

Native Plant Community Changes:

Because no chemical herbicide applications or mechanical harvesting took place within the adjusted whole Lake EOY survey areas in either 2019 or 2020, the effects of such applications were not felt by the native plant community. Therefore, the data recorded in the fall of 2019 and in the fall of 2020 would not form a "before and after" picture of the effects of any control treatments. The data sets recorded however do provide a picture of how the overall plant community developed during the over winter and summer growth periods (one full year). The following statistical observations can be obtained by applying the statistical analytics which are resident within the UW – Extension Lakes Aquatic Plant Management Guide protocols.

On a comparative basis there are only relatively small changes within the aggregate of the native plant community from EOY 2019 to EOY 2020. (same sites or all Sites).

(Chart available in Section #5)

Chart #2 - 2019 Sites / 2020 Same Sites / 2020 All Sites
Statistical Analytics Comparisons
All Species

Analytic	Survey #1 2019 sites	Survey #2 2020 same sites	Survey #3 2020 All Sites
Number of Sites w/ Vegetation	142.00	149.00	256.00
Frequency of Occurrence	99.30	100.00	98.46
Simpson Diversity Index	0.91	0.91	0.90
Maximum Depth of Plants (ft)	16.00	11.50	14.00
# All Species /Site (veg. sites only)	5.66	5.19	4.63
# Native Species (veg. sites only)	4.90	4.85	4.29
Species Richness	26.00	26.00	28.00
Floristic Quality Index	33.20	32.20	32.94

Chi Square Analysis of Plant Community:

From an individual species basis, some highly significant changes were recorded between 2019 and 2020 End of Year surveys. These changes are identified in **Charts 3 and 4** – see highlighted cells . (Charts available in Section #5).

On both of these charts, two of the highly significant changes pertained to Najas flexilis and Najas guadalupensis. In survey #1 in 2019 some Najas flexilis plants were mistakenly identified as Najas guadalupensis which casts a shadow over the chi square analysis for those plants in both charts 3 & 4. Absent of these, highly significant changes were noted on three species:

In Chart #3, Elodea canadensis and Myriophyllum sibiricum decreased highly significantly, and in Chart #4, Elodea canadensis, Myriophyllum sibiricum and Potamogeton robbinsii decreased highly significantly.

As the polygons included in these End of Year surveys have been identified as areas of "Heavy, Dense" EWM, the following explanation may have merit: The relationship of these three species to Eurasian Water Milfoil (Myriophyllum spicatum) is one of competitor. In the cases of Elodea canadensis and Potamogeton robbinsii, these two plants typically inhabit the bottom of the water column. Eurasian Water Milfoil grows upward to the surface and then spreads out (canopies). With the increase in EWM plant density, the EWM foliage shades bottom dwelling plants, and the lack of sunlight retards their growth, both in terms of density and spread.

Myriophyllum sibiricum not only competes for nutrients with EWM, but also for stem space. When EWM increases in plant density, it's number of stems per square foot increases, as well as the amount of foliage which grows within the water column. When heavy dense EWM has overtaken the water column, it has the tendency to "choke out" other plant species. Another species which may have been negatively affected in this manner is Ceratophyllum demersum (Coontail) which showed an overall reduction in both Charts 3 & 4, although not as significantly.

With the Frequency of Occurrence of Eurasian Water Milfoil at very high levels and increasing, and the EWM plant density increasing as well, one might expect to see an overall reduction in the health and diversity of the plant community. With reference to Chart #2, the following indicators would seem to bear that out:

Indicator	2019 EOY	2020 EOY (all sites)
Frequency of Occurrence	99.30	98.46
Simpson Diversity Index	0.91	0.90
# of all species/site	5.66	4.63
# of Native Species/site	4.90	4.29
Floristic Quality Index	33.20	32.94

(See Tables 1-3 in Section #5)

Keeping in mind that the data collected in Surveys 1,2, &3 are from areas where EWM is already the dominant plant species, one might reasonably expect to witness the same dynamics taking place in areas where EWM has yet to become the dominant plant species. (non-surveyed areas)

Section #2 – Adjusted Whole Lake Aquatic Plant Discussion

Adjusted Whole Lake Assessments
EWM Changes
Native Plant Community Changes
Chi Square Analysis

Section 3 – Additional TLA 2020 Monitoring Initiatives

In 2023 additional monitoring initiatives were completed. Each of these programs were adversely affected by Covid 19 concerns, causing a reduction in the scope of the programs due to a lack of people to do the work. In all 3 cases however we were able to accomplish the majority of the tasks that were called for.

These initiatives are:

Sentinels Volunteer AIS Monitoring:

We were able to field 13 of 16 sector teams.

We were able to complete only one of the 2 surveys originally planned.

Purple Loosestrife Mapping and Control (bag and clip):

We were able to map P.L.S. infestations throughout the watershed.

We were able to bag and clip harvest at only one site.

Clean Boats Clean Waters Ramp Inspections / Education:

We were able to field inspectors at our 2 ramps, but were late in getting started at our Indian Mounds ramp due to quarantining.

While we inspected boats, our educational effort was hampered due to being unable to hand out printed materials, and complying with social distancing requirements.

Tomahawk Lake Watershed

2020 Purple Loosestrife Control

In the 2019 Tomahawk Lake Watershed Aquatic Plant Management Report, TLA made the following recommendations to the WDNR for the control of Purple Loosestrife (P.L.S.) in the watershed

"TLA will continue to control Purple Loosestrife through the "bag and clip" initiative which was tabled in 2019. TLA will re-map Purple Loosestrife infestation sites in 2020 and TLA teams, partnering with Oneida County Land and Water interns will remove Purple Loosestrife plants at the P.L.S. sites identified."

In 2020 TLA initiated the recommendation, but was only partially successful in completing the work outlined in the initiative. As with other TLA initiatives which are dependent largely upon volunteers, the Covid 19 pandemic limited the number of volunteers available to perform tasks in in these initiatives.

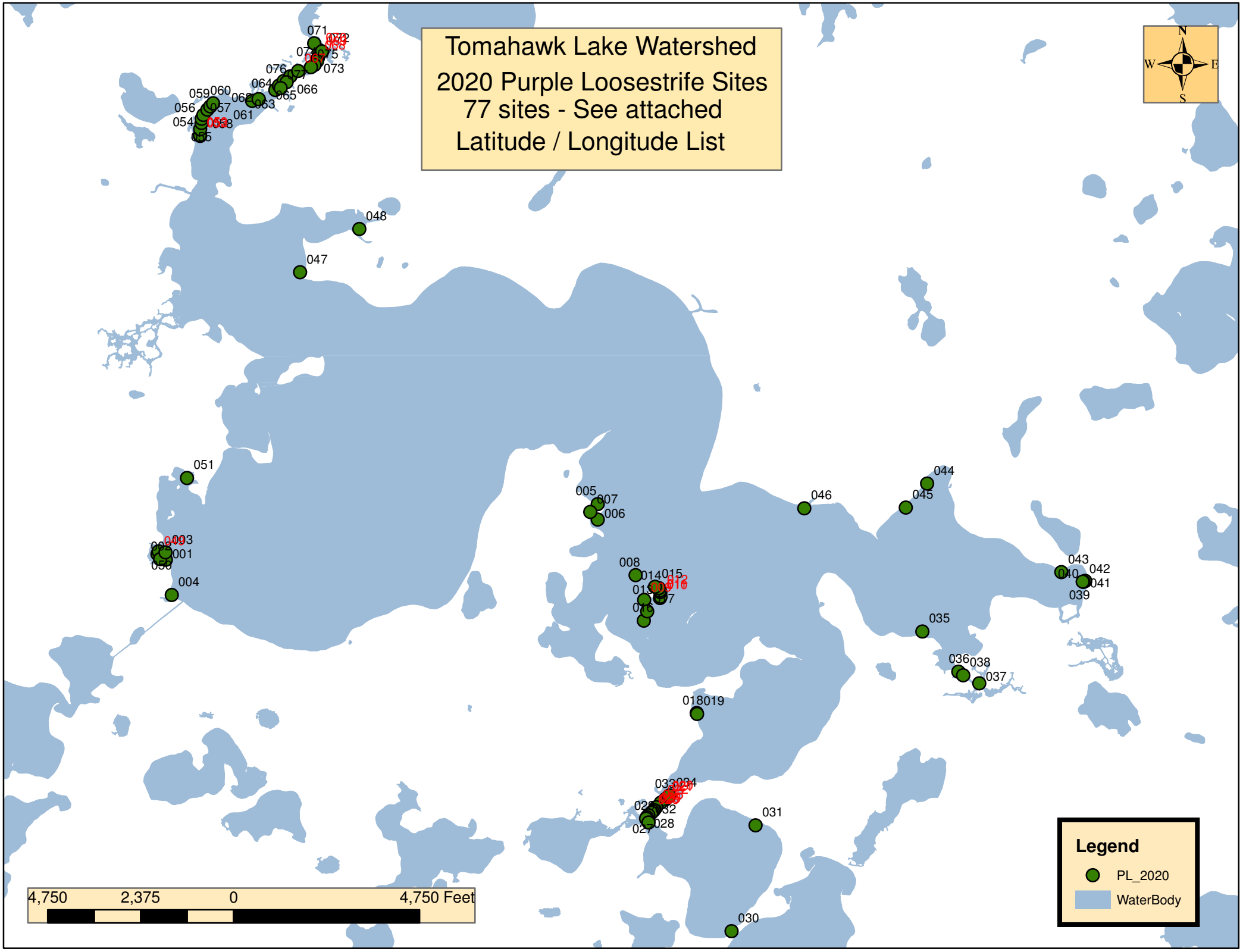
Within the scope of the TLA recommendation, the Association was able to complete the mapping of purple loosestrife sites within the watershed over the course of 3 days in late July and early August. Site data was gathered and recorded through the use of a GPS/GIS data collector operated by the TLA AIS Coordinator.

Site locations were identified and recorded utilizing a "drive-by" procedure, where the sites were identified and a waypoint established as the survey boat traveled closely along all accessible shorelines within the watershed. At each site location the waypoints were recorded at positions at a 90° angle to the Purple Loosestrife point locations on the shoreline. At the completion of the P.L.S. mapping survey the waypoints were uploaded from the data collector into the TLA GIS mapping program.

In the 2020 mapping effort a total of 77 locations were found in the watershed that contained purple loosestrife plants in densities varying from single plants and small groups of plants, to large beds of Purple Loosestrife, primarily in mixed plant wetlands.

The 2019 A.P.M.R. also called for a ”bag and clip” P.L.S. removal effort following the completion of the mapping initiative. Unfortunately the lack of volunteers available, due primarily to Covid 19 pandemic concerns led to a less than effective effort. Purple loosestrife plants were clipped and removed at site number 4 in blueberry Bay in the Far West basin of Tomahawk Lake. This was the only location processed in this effort.

Attached is a map of the Tomahawk Lake watershed noting the areas where purple loosestrife plants were identified within the mapping survey. Also attached is a chart noting the sites, GPS coordinates, and the dates the sites were mapped.


Tomahawk Lake Watershed
2020 Purple Loosestrife Sites
77 sites - See attached
Latitude / Longitude List
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037
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028
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Legend
PL_2020
WaterBody
4,750
2,375
0
4,750 Feet

Section #4 – Conclusions & Recommendations

The observed changes within the 142 sites surveyed in the Adjusted Whole Lake Aquatic Plant Point Intercept Survey in September2019 and the Adjusted Whole Lake Aquatic Plant Point Intercept Survey (same sites) in September 2020 were relatively small and of relatively minor significance. The "elephant in the room" however is the discovery of an additional 24 polygons of EWM within the watershed. Considering that the original 44 polygons in the 2019 and 2020 "Same Sites" polygons contained EWM Frequency of Occurrence levels ay very high levels, and that the inclusion of the new polygons only increased the EWM FOO, one is led to the conclusion that the advancement of EWM infestation levels, both spatially and in density is of great concern.

With no artificial catalyst (i.e. herbicide treatment) to trigger any changes in either the aquatic plants themselves, or the plant community environment, the natural progression of plant development within the plant community was affected by only the natural changes in environment which take place as the growing season progresses. Among these are the progression of time, the warming of water temperature, the periodic transmission of sunlight, and variation in the amount of nutrients available. While these are major elements, there are any number of factors which effect the growing environment over a typical growing season.

Within this growing environment, where no artificial controls are present, Eurasian Water Milfoil seems to have a distinct competitive advantage over the other natural members of the aquatic plant community, and left alone will take over large areas of acreage with bottom characteristics and water conditions that it thrives in. In the Tomahawk Lake Watershed, it appears that EWM is on it's way to markedly increasing it's foot print in the foreseeable future. With all of this being said, noted below are the recommendations which the Tomahawk Lake Association is making for the 2021 season.

AIS Management Recommendations:

1. **AIS / Aquatic Plant Community Monitoring**

   TLA will continue to monitor the Tomahawk Lake Watershed for Aquatic Invasive Species aggressively in 2021, and in the future. The monitoring process will be accomplished by TLA's new contractor – Onterra. It is undecided at the present time whether the Sentinels Volunteer Monitoring Group will continue its EWM monitoring efforts.

2. **Eurasian Water Milfoil Chemical Herbicide Study**

   The WDNR approved the three year "Treat / No-Treat " trial study of "contact herbicides" within two small bays within the Tomahawk Lake Watershed (plus 3 control bays). The initial study point intercept surveys establishing baselines for the study were done in September of 2018. Consideration of the use of the contact herbicides as a control agent for Eurasian Water Milfoil should not be considered in "Spot Treatment" situations without completion of the study being done to test its efficacy as a control agent, and an assessment of its ability to do so without negatively effecting the aquatic environment. The spring of 2019 was the "Application Year" of the study, and the first growing season Interim Report was submitted in the late fall of 2019.

The second growing season Interim Report was submitted at the end of the 2020 growing season. The third and final Report of the Treat / No-Treat & Chemical Herbicide study will be due at the end of 2021.

3. EWM Mowing/Harvesting

With the exception of the two segregated bays involved in the Treat / No-Treat & Chemical Herbicide Study in the spring of 2019, the remainder of the Tomahawk Lake Watershed has experienced no applications of aquatic plant chemical controls in the last four years. The TLA board of directors is again recommending that no Herbicides be applied in 2021.

TLA is proposing to remove aquatic plant material in a number of areas that have become heavy and dense and has "canopied" in July, August and September in recent years. These areas are in high traffic zones which are susceptible to heavy fragmentation due to boat traffic. In 2021 we anticipate removing in excess of 100 acres of heavy dense Eurasian Water Milfoil utilizing Mechanical Harvesting equipment.

4. Hydraulic Conveyor System (HCS)

TLA will continue to utilize its Hydraulic Conveyor System (DASH unit) to harvest EWM in designated areas of "High Risk" of EWM infestation, new growth, and high traffic areas.

The use of the HCS (DASH boat) constitutes an effective tool for the removal of relatively small sites of EWM, but is ill prepared to remove large numbers of acres of heavy dense EWM from the watershed. In 2021, the HCS will act in tandem with the Mechanical Harvesting Team to remove EWM in areas where the mowers are not efficient. These areas include around dock, in and about Boat houses, and small areas identified as heavily involved but too small to harvest with a mower. Due to budget concerns, TLA will operate just one HCS unit.

5. Purple Loosestrife Control

TLA will continue to control Purple Loosestrife through the "Bag and Clip" initiative which was adversely affected by the Covid 19 pandemic in 2020. Armed with the new PLS. map drawn in 2020, TLA volunteers will team with Oneida County Land & Water interns. will remove P.L.S. plants at the P.L.S. sites identified.

6. T.L.A./ WDNR Partnership

TLA will continue to partner with the WDNR to review, plan and implement Shoreland "Best Practice" projects and demonstration strategies, supported by cost sharing grants.