### **1.0 INTRODUCTION**

Minocqua (1.339)acres) and Kawaguesaga (700 acres) Lakes are drainage lakes in Oneida County (Figure 1.0-1). Over 1,100 waterfront parcels exist on these two lakes, paying taxes on approximately 400 million dollars of property. The primary citizen-based organization leading management activities on Minocqua and Kawaguesaga Lakes is the Minocqua Kawaguesaga Lakes Protection Association (MKLPA).

#### 1.1 Historic EWM Management & Planning

Eurasian watermilfoil (EWM) was first documented in the early 2000s. The



Figure 1.0-1. Minocqua and Kawaguesaga Lakes, Oneida County

MKLPA targeted EWM populations during 2005-2015 with 2,4-D spot treatments, considered the best management practice of the time. In recent years, lake managers have sought actions that achieve multiyear EWM population suppression, such as whole-lake/basin treatments or spot treatments with chemistries theorized to require shorter exposure times. The EWM population reductions are more commensurate with the financial costs and risks of the treatment.

Following a 3-year (2014-2017) hand-harvesting program and cessation of herbicide management (ACEI-154-14), EWM populations in some areas of the chain increased to levels that impeded recreation and navigation. One area of each lake was targeted in 2019 with florpyrauxifen-benzyl (ProcellaCOR<sup>TM</sup> EC) spot treatments, a new herbicide that was first approved for use in Wisconsin in 2019. The 2019 herbicide program targeted areas with high conformance with the best characteristics for positive treatment outcomes, targeting EWM populations in contained bays with minimal herbicide dissipation potential.

After meeting management goals in 2019, the 2020 herbicide treatment program targeted additional sites, some of which contain parameters difficult to achieve multi-year control, such as narrow EWM bands in exposed locations. A robust manual removal program (includes both traditional hand-harvesting and DASH) program also occurred in 2020, aimed at preserving the gains in EWM reductions made by the previous season's herbicide treatment as well as reducing EWM in scale-appropriate situations. The 2020 control program exceeded lake mangers expectations with large EWM population reductions occurring and minimal collateral native plant impacts outside of a few sensitive species during the *year of treatment*.

The MKLPA was been awarded a set of WDNR AIS Established Population Control (EPC) Grants to assist with funding cost share for most of the 2021 and 2022 management and monitoring activities (ACEI-1249-21, ACEI-1250-21). The MKLPA developed a 2021 herbicide strategy that targeted the highest density EWM populations in the system: the southwestern bays of Kawaguesaga Lake and upstream Stacks Bay. Extensive professional hand harvesting efforts during 2021 served to preserve the gains made by the herbicide treatments. The 2021 herbicide treatments show promising results during

the *year of treatment* with reductions in EWM demonstrated through comparative mapping surveys and point-intercept sub-sampling surveys.

#### 2.0 2022 EWM CONTROL & MONITORING STRATEGY

The MKLPA decided to maintain an aggressive approach to EWM management over the upcoming years following an adaptive management framework. With minimal acreage on the system containing colonized EWM at the time of the late-summer 2021 EWM mapping survey (Map 1), no herbicide treatments were considered for 2022. The MKLPA, working with Onterra and Aquatic Plant Management, LLC, developed a prioritized hand-harvesting strategy that considered the following locations in this order:

- 2019-2021 herbicide treatment areas
- EWM mapped as polygons during the 2021 Late-Season EWM Mapping Survey
- EWM mapped as *small plant colonies* during the 2021 Late-Season EWM Mapping Survey
- Rebounding EWM that is high-density and in areas of high boat traffic
- Rebounding EWM that is low-density and in areas of low boat traffic

The manual removal strategy was designed to apply both traditional hand-harvesting and DASH techniques in situations that lend themselves best to each technique. Areas targeted with DASH efforts require WNDR permitting aspects. The overall goal of the hand-harvesting program is to keep EWM below levels that warrant herbicide treatment. As the summer progressed, some populations of EWM had progressed past levels thought to be beyond what can be reasonably managed with manual removal efforts and were withdrawn from the prioritization strategy.

#### 2.1 2022 Professional Hand-Harvesting Actions

The MKLPA contracted with Aquatic Plant Management, LLC (APM) in 2022 to provide professional hand-harvesting services. The MKLPA, in consultation with Onterra and APM, created a site prioritization methodology that considered EWM density from the 2021 Late Season EWM Mapping Survey, traffic patterns, and recent herbicide management history. Through a total of 228 dives on 17 sites around Minocqua and Kawaguesaga Lakes, approximately 2,348 cubic feet of EWM were removed by APM in 2022 (Table 2.1-1). Of this total, 1,877.5 cubic feet was harvested through the use of DASH, while another 470.5 cubic feet was harvested with traditional hand harvesting techniques. Harvesting efforts took place in all 2019-2021 herbicide management sites with the largest amount of EWM harvest coming from site B-20 in Minocqua Lake where 40 cubic feet of EWM was removed.

The largest amount of EWM biomass was harvested from the Huber Bay site in the north end of Minocqua Lake where 540 cubic feet of EWM was removed. Other sites that yielded high amounts of biomass harvest include sites SM E Shoreline, and Ruebentown in Minocqua Lake. Additional details of hand-harvesting effort and amount of EWM removed on a site-by-site basis can be found in Appendix A.

Service	Dive Location	Avg. Water Depth	# of Dives	Underwater Dive Time	AIS Removed (cubic feet
DASH	Huber Bay	10.2	13	27.7	540.0
	SM E Shoreline	8.1	23	32.2	358.0
	Reubentown	7.6	29	31.4	355.0
	SM Lakeview	8.0	22	21.9	259.5
	Camp Kawaga Bay	7.0	29	40.7	257.0
	Country Club Bay	5.0	2	6.8	68.0
	B-20	7.8	6	7.4	40.0
DASH Total		7.9	124	168.2	1877.5
нн	Huber Bay	8.6	20	25.3	223.0
	Library Landing	6.5	11	13.9	126.0
	East Fifield Island	6.8	21	27.0	64.0
	F-20	6.0	24	27.4	15.0
	K1-19	5.7	5	8.6	11.5
	K2-19	6.0	4	5.3	9.5
	Yacht Club Shoreline	10.0	3	3.9	9.5
	K3-19	6.0	2	2.6	6.0
	E-20	6.5	4	3.8	3.5
	C-20	5.9	7	6.3	1.5
	0-21	6.0	3	1.4	1.0
HH Total		6.8	104	125.5	470.5
Grand Total		7.4	228	293.7	2348.0

#### Table 2.1-1. 2022 Hand-harvest summary. Table extracted from APM 2022 EWM Removal Report

#### 3.0 2022 MONITORING RESULTS

It is important to note that two types of surveys are discussed in the subsequent materials: 1) point-intercept surveys and 2) EWM mapping surveys. The point-intercept survey provides a standardized way to gain quantitative information about a lake's aquatic plant population through visiting predetermined locations and using a rake sampler to identify all the plants at each location (Photo 3.0-1). The survey methodology allows comparisons to be made over time, as well as between lakes. It is common to see a particularly plant species, such as EWM, very near the sampling location but not yield it on the rake sampler. Particularly in low-density colonies such as those designated by Onterra as highly scattered and scattered, large gaps between EWM plants may exist resulting in EWM not being present at a particular pre-determined point-intercept sampling location in that area.



Photo 3.0-1. Point-intercept survey on a WI lake. Photo credit Onterra.

The point-intercept survey can be applied at various scales. The point-intercept survey is most often applied at the whole-lake scale. The <u>whole-lake point-intercept survey</u> was conducted on Minocqua and Kawaguesaga Lakes in 2022. These data will be analyzed and discussed within the MKLPA's updated APM plan reporting.

If a smaller area is being studied, a modified and finer-scale point-intercept sampling grid may be needed to produce a sufficient number of sampling points for comparison purposes. This <u>sub-sample point-</u>



<u>intercept survey</u> methodology is often applied over management areas such as herbicide application sites. This type of sampling has been used during this project within all treatment sites and is used within this report to evaluate the 2021 treatment sites.

While the point-intercept survey is a valuable tool to understand the overall plant population of a lake, it does not offer a full account (census) of where a particular species exists in the lake. During the EWM mapping survey, the entire littoral area of the system is surveyed through visual observations from the boat (Photo 3.0-2). Field crews supplement the visual survey by deploying a submersible camera along with periodically doing rake tows. The EWM population is mapped using sub-meter GPS technology by using either 1) point-based or 2) area-based methodologies. Large colonies >40 feet in diameter are mapped using polygons (areas) and are qualitatively attributed a density rating based upon a five-tiered scale from highly scattered to surface matting. Point-based techniques were applied to AIS locations that were considered as small plant colonies (<40 feet in diameter), clumps of plants, or single or few plants. Overall, each survey has its strengths and weaknesses, which is why both are utilized in different ways as part of this project.



Photo 3.0-2. EWM mapping survey. Photo credit Onterra.

In an effort to increase the flow of information between lake stakeholders and project planners, the MKLPA added an interactive web map application to their website, allowing users to see each year's late-season EWM mapping survey and management areas as they relate to their property or favorite recreation and fishing spots. Various layers can be turned on and off, and some layers can be selected and a pop-up window will provide additional information. This platform allows a better understanding of the EWM population dynamics and management strategies over time. A direct link to access this interactive map is below:

https://www.arcgis.com/apps/View/index.html?appid=2d571b0ab1304deebb816ed72e5cc4f6

#### 3.1 Qualitative Monitoring: Late-Summer EWM Mapping Surveys

For must lake users, investigating the EWM population before and after a treatment is best understood by comparting data from EWM mappings surveys. During this project, EWM mapping surveys occur annually during the latter part of the growing season when EWM has likely reached its peak growth stage for the year. The Late-Season EWM Mapping Survey from the year preceding the treatment is comparted to the *year of treatment* survey occurring a few months after the treatment, as well as the year *after treatment* survey which allows for the understanding if the reductions were maintained or if rapid rebound occurred. An overview of the 2022 Late-Season EWM Mapping Survey data is displayed on Map 3, followed by an 8-page map book (Maps 4-11) that investigates these results at a zoomed-in scale.

Map 2 shows the late-season EWM mapping surveys from 2020-2022 in association with the 2021 ProcellaCOR<sup>TM</sup> treatments. Almost no EWM was located during the *year of treatment*, and only a few occurrences were observed during the *year after treatment*. These data confirm that the treatment resulted in multi-year EWM control and met success expectations.



Comparing the late-summer 2021 to late-summer 2022 EWM mapping surveys in the hand harvesting sites, slight to moderate EWM population increases were observed in most of them. Because most of these sites continue to be maintained below levels that meet the trigger for considering herbicide management, the overall manual removal program is considered to be a success by the MKLPA. With the increasing EWM population in many of these sites, they are approaching levels where the amount of manual removal needed to maintain the low populations is not economically practical by the association. The updated *Aquatic Plant Management Plan* that is currently in progress will attempt to provide guidance on when varying management actions will be implemented on EWM populations within Minocqua and Kawaguesaga lakes.

#### 3.2 Quantitative Monitoring: Sub-sample point-intercept Survey

A quantitative monitoring study was designed for this project which included the collection of sub-sample point-intercept survey data *prior to treatment* and compared to post treatment assessments during the *year of treatment* and the *year after treatment*. These surveys allowed a numeric understanding of the native and nonnative aquatic plant population within the areas targeted with herbicide treatment. While sub-sample data collected during the *year of treatment* is important for understanding the initial results of the herbicide treatment, the data collected during the *year after treatment* allow un understanding if the impacts were sufficient that rebound did not occur and the treatment caused plant mortality.

When comparing aquatic plant populations over time, it is best to compare similar time periods from year to year. Often in practice, the locations of a spring herbicide treatment are not developed until after the time period to collect the late-summer pretreatment data has passed. In these instances, the early-season herbicide treatment may be delayed from roughly early-June to mid-June. This slight delay in implementation allows the pretreatment sub-sample pointintercept survey to take place after many native plants have emerged from winter dormancy. However, it is believed that some species such as wild celery begin to grow a bit later in the growing season and are under-represented in the June survey. In reference



to the 2021 treatment sites, *pretreatment* data was collected during mid-June 2021 and is compared to data collected during the late-summer of 2021 (*year of treatment*) and 2022 (*year after treatment*) (Table 3.2-1).

Table 3.2-1. Quantitative monitoring plan.Application areas and sub-PI locationsshown on Map 3.										
Treatment Post Treatment										
Site	Lake	Ν	Date	Pre	Year of	Year After				
0-21	Minoc	68	6/22/2021	6/14/2021	9/8/2021	9/9/2022				
P-21	Kawa	38	6/22/2021	6/14/2021	9/8/2021	9/9/2022				
Q-21	Kawa	33	6/22/2021	6/14/2021	9/8/2021	9/9/2022				
R-21	Kawa	34	6/22/2021	6/14/2021	9/8/2021	9/9/2022				



Figures 3.2-2 through 3.2-5 will examine site-specific changes in select aquatic plant species. These figures investigate sites treated in 2021, of particular interest are the year after treatment which was collected during the late-summer of 2022.

#### Site O-21 Minocqua

Monitoring results from site O-21 are displayed on Figure 3.2-2. These data indicate that water marigold, northern watermilfoil, white water crowfoot, variable-leaf pondweed, aquatic moss, and needle spikerush all saw statistically valid decreases in occurrence comparing the June 2021 pretreatment occurrence to the September 2022 post treatment occurrence. Water marigold and white water crowfoot were not present in either post treatment survey while northern watermilfoil, needle spikerush, and aquatic moss were present at one sampling location in the September 2022 survey (1.5%). Common waterweed exhibited a statistically valid increase in occurrence during the period of study. The occurrence of EWM was 14.7% pretreatment and initially reduced to 0% in the year of treatment, and was 1.5% in the September 2022 year after treatment survey. Several commonly encountered species in the site did not show changes in occurrence during the period of study including coontail, southern naiad, wild celery, forked duckweed, and several pondweed species.



#### Site P-21 Kawaguesaga

Monitoring conducted at site P-21 show that EWM has been reduced to 0% occurrence in the post treatment surveys. Northern watermilfoil and forked duckweed were present in low frequencies during the 2021 post treatment survey, but were not present in the 2022 *year after treatment* survey. Wild celery showed a valid increase in occurrence; however, this is believed to be largely a function of the survey timing in that the June 2021 survey likely under-represents the pretreatment occurrence of this species. Many native species present in the site showed no change in occurrence during the period of study and do not appear to have been negatively impacted by the treatment.



#### Site Q-21 Kawaguesaga

Monitoring conducted at site Q-21 indicates that the occurrence of EWM was initially reduced to 0% in the year-of-treatment and was present at one sampling location in the *year after treatment* survey (3.0%) representing a statistically valid decrease over the period of study (Figure 3.2-4). Other native species that showed valid decreases in occurrence include coontail, clasping-leaf pondweed, aquatic moss, and forked duckweed, while fern-leaf pondweed exhibited a valid increase in occurrence. Several other species commonly encountered during the surveys did not show changes in occurrence following the treatment.





#### Site R-21 Kawaguesaga

The occurrence of EWM was reduced from 38.2% in the pretreatment survey to 0% in both post treatment surveys (Figure 3.2-5). Coontail, aquatic moss, flat-stem pondweed, and forked duckweed also showed statistically valid decreases in occurrence from the pretreatment survey to the *year after treatment* survey. Several native species present in the site did not show changes in occurrence including fern-leaf pondweed, common waterweed, and southern naiad.





# 3.0 CONCLUSIONS & DISCUSSION

Quantitative and qualitative monitoring surveys completed in 2022 indicate that EWM reductions extended through the *year after treatment* for the 2021 herbicide treatment sites and met efficacy expectations. Reductions in species known to be susceptible to ProcellaCOR<sup>TM</sup>, such as northern watermilfoil and water marigold, occurred in these treatment sites, consistent with the results of other ProcellaCOR<sup>TM</sup> treatments Onterra has monitored to date.

Extended monitoring of the 2020 herbicide treatment sites showed continued low EWM populations with low density occurrences mapped in most sites two-years after treatment. Professional hand harvesting activities in the former 2020-2021 herbicide sites have aided in maintaining low EWM populations and extending the longevity of control.

The MKLPA's IPM strategy of conducting herbicide management and professional hand harvesting efforts over the past several years has aided in maintaining a low overall EWM population in the system. The late-summer 2022 EWM mapping survey indicated a few locations in the system where dense EWM colonies were present.

#### 3.1 2023 EWM Management & Monitoring Strategy Development

The MKLPA applied for and was awarded a series of WDNR AIS grants during the fall 2022 cycle that provides funding assistance to carry out the proposed 2023 EWM management and monitoring activities (ACEI-321-23 & ACEI-314-23). Consistent with the recent management strategy, the 2023 IPM strategy includes a combination of herbicide spot treatments and coordinated professional hand harvesting efforts.

#### 3.2 EWM Management Strategy

The proposed 2023 herbicide treatment strategy targets the highest EWM occurrences in high-use areas, with attention to potential basin-wide impacts from these treatments. Three sites, totaling 28.6 acres, are proposed for treatment in 2023 with ProcellaCOR (Map 12). Each site is expected to function as a spot-treatment with reductions anticipated in adjacent areas and within an Area of Potential Impact (AOPI) such as a confined bay, if applicable.

The professional hand-harvesting (includes DASH as appropriate) program devised for 2023 will be two pronged. The primary program will conduct professional-based EWM hand-harvesting on 2019-2022 treatment sites as follow-up IPM measures. A budget of 10 days per lake has been included within this grant and additional efforts will be funded by the MKLPA.

The MKLPA will also conduct professional-based EWM hand-harvesting in other areas where EWM populations are low or were impacted as a result of being adjacent to prior herbicide treatments. The MKLPA intends to fund multiple weeks of hand-harvesting in 2023 outside of grant funds.

#### 3.3 EWM Monitoring Plan

#### Pretreatment Confirmation and Refinement Survey

Onterra ecologists would conduct a *Pretreatment Confirmation and Refinement Survey* prior to the earlyseason herbicide application to verify application area extents and inspect the condition of the EWM colonies targeted for treatment through the use of a combination of surface surveys, rake tows, and submersible video monitoring. This meander-based survey would investigate for colonial expansion, reduced occurrence, growth stage of the EWM (and native plants), application area specifies (e.g. average depth & extents), and other aspects that could warrant a modification to the treatment plan. The pretreatment sub-sample point-intercept survey described below would also be conducted during this visit. This survey is planned to occur during approximately the second week of June 2023.

Following the *Pretreatment Confirmation & Refinement Survey*, an email-style report with map(s) of the survey results and finalized treatment plan would be provided to the MKLPA, WDNR, and other project partners for review prior to the treatment. Spatial data would be provided to the herbicide applicator in appropriate format. The chosen contractor, in conjunction with the MKLPA, will be responsible for completing appropriate permit-related documentation and deliverables to the WDNR.

#### Qualitative EWM Monitoring

A Late Season EWM Mapping Survey would be conducted towards the end of the growing season each year to produce the mapping data to document a census of the EWM population within the lake at the perceived peak growth stage. Comparing these data to previous surveys will help lake stakeholders



understand management outcomes and the overall state of the EWM population to direct management in subsequent years.

#### Quantitative Aquatic Plant Monitoring

Quantitative monitoring includes a sub-sample pointintercept survey which will be collected immediately prior to treatment in 2023 (i.e. mid-June) and replicated in latesummer 2023, and late-summer 2024 as a post treatment comparative survey. A proposed sub-sample monitoring plan is indicated on Figure 3.3-1 and would include sampling at pre-determined locations spaced 28 meters apart for a total of 147 sampling locations. These data would largely serve to evaluate the native aquatic plant species response to the treatment strategy within the targeted area.

#### Herbicide Concentration Monitoring

MKLPA volunteers would collect herbicide concentration monitoring during the hours/days following treatment following a sampling regime that will be created through collaborative efforts of the WDNR and Onterra. Samples would be collected at specified time intervals and locations within and outside the application areas. Sample collection would be focused on understanding the quantity and longevity of the herbicide active ingredient and the acid



metabolite. Properly preserved samples would be overnight-delivered to EPL Bio Analytical Services where the herbicide analysis is conducted.





# Sites P/Q/R-21









0

0

Small Plant Colony

🔀 Dominant

**Highly Dominant** 

Surface Matting

Onterra LLC Lake Management Planning

815 Prosper Road De Pere, WI 54115 920.338.8860 www.onterra-eco.com

ources:

Sources: Roads and Hydro: WDNR Bathymetry: WDNR,1972 - digitized by Onterra Orthophoto: NAIP, 2018 Aquatic Plants: Onterra, 2022

Map Date: Nov 9, 2022 TWH

Oneida County, Wisconsin





Surface Matting

Map Date: Nov 9, 2022 TWH





**Highly Dominant** 

Surface Matting

815 Prosper Road De Pere, WI 54115 920.338.8860 www.onterra-eco.com

Map Date: Nov 9, 2022 TWH





**Highly Dominant** 

Surface Matting

815 Prosper Road De Pere, WI 54115 920.338.8860 www.onterra-eco.com

Map Date: Nov 9, 2022 TWH



# A

# **APPENDIX A**

Minocqua Kawaguesaga Lakes 2022 EWM Manual Removal Report- APM Aquatic Plant Management LLC



# Minocqua Kawaguesaga Lakes 2022 EWM Manual Removal Report

Saturday, September 17, 2022

# Site Summary



Service	Dive Location	Avg. Water Depth	# of Dives	Underwater Dive Time	AIS Removed (cubic feet)
DASH	Huber Bay	10.2	13	27.7	540.0
	SM E Shoreline	8.1	23	32.2	358.0
	Reubentown	7.6	29	31.4	355.0
	SM Lakeview	8.0	22	21.9	259.5
	Camp Kawaga Bay	7.0	29	40.7	257.0
	Country Club Bay	5.0	2	6.8	68.0
	B-20	7.8	6	7.4	40.0
DASH Total		7.9	124	168.2	1877.5
НН	Huber Bay	8.6	20	25.3	223.0
	Library Landing	6.5	11	13.9	126.0
	East Fifield Island	6.8	21	27.0	64.0
	F-20	6.0	24	27.4	15.0
	K1-19	5.7	5	8.6	11.5
	K2-19	6.0	4	5.3	9.5
	Yacht Club Shoreline	10.0	3	3.9	9.5
	КЗ-19	6.0	2	2.6	6.0
	E-20	6.5	4	3.8	3.5
	C-20	5.9	7	6.3	1.5
	0-21	6.0	3	1.4	1.0
HH Total		6.8	104	125.5	470.5
Grand Total		7.4	228	293.7	2348.0

#### **Dive Map**

F-20 (24)

C-20 (7)

**9** B-20 (6)

💊 к1-19 (5) **E**-20 (4) **•** K2-19 (4)

O-21 (3)

💡 K3-19 (2)

Minocqua & Kawaguesaga Lakes, Oneida County







#### Dive Detail

Date	Dive Location	Latitude	Longitude	Time (hrs)	(cubic ft)	AIS Density	Depth (ft)	Native Species	Catch	Substrate Type
6/13/2022	E-20	45.86625	-89.72587	0.83	1.0	Single or Few	6.5	Grasses	0.5	Organic
6/13/2022	E-20	45.86668	-89.72360	0.83	0.5	Single or Few	6.5	Grasses	0.0	Organic
6/13/2022	E-20	45.86774	-89.72112	1.25	1.5	Clumps	6.5	Grasses	0.5	Organic
6/13/2022	East Fifield Island	45.86887	-89.72061	1.00	2.0	Single or Few	3.5	Coontail	0.0	Sand
6/13/2022	East Fifield Island	45.86893	-89.72160	0.92	2.5	Highly Scattered	4.5	Grasses	0.5	Organic/Sand
6/13/2022	E-20	45.86774	-89.72112	0.92	0.5	Single or Few	6.5	Grasses	0.0	Organic
6/14/2022	East Fifield Island	45.86872	-89.72409	1.50	1.5	Scattered	8.0	Pondweeds	0.5	Organic
6/14/2022	East Fifield Island	45.86803	-89.72402	1.33	1.5	Clumps	8.0	Elodea	0.0	Organic/Sand
6/14/2022	East Fifield Island	45.87053	-89.72347	1.17	6.0	Dominant	6.0	Pondweeds	0.5	Organic/Sand
6/14/2022	Fast Fifield Island	45.87053	-89.72347	1.58	8.5	Dominant	7.0	Pondweeds	0.5	Organic/Sand
6/14/2022	Fast Fifield Island	45 86887	-89 72531	0.92	2.5	Clumps	6.0	Northern Milfoil	0.5	Organic/Sand
6/14/2022	Reubentown	45 86656	-89 70033	1.08	10.5	Scattered	7.5	Northern Milfoil	0.5	Organic/Gravel
6/14/2022	Reubentown	45 86655	-89 70044	1.08	10.5	Dominant	5.5	Northern Milfoil	0.5	Organic
6/14/2022	Reubentown	45 86655	-89 70044	1.33	21.0	Dominant	6.5	Northern Milfoil	2.0	Organic/Gravel
6/14/2022	Reubentown	45.86655	-89 70044	1.08	15.0	Dominant	7.0	Northern Milfoil	2.0	Organic
6/14/2022	Roubentown	45.80055	-89.70044	1.08	13.0	Scottorod	7.0	Northern Milfoil	2.0	Organic
6/14/2022	Reubentown	45.80047	-89.70047	1.32	4.0	Deminent	7.0	Northern Milfeil	0.5	Organic
6/15/2022	Roubentown	45.80081	-89.70023	1.53	12.0	Dominant	7.5	Northern Milfoil	2.0	Organic
6/15/2022	Reubentown	45.80081	-89.70023	1.30	10.0	Dominant	0.5	Northern Milfoil	2.0	Organic
6/15/2022	East Eifield Island	45.80081	-85.70023	1.55	1.0	Single or Fow	6.0	None	2.5	Organic/Sand
6/15/2022	East Fifield Island	45.80911	-85.72384	1.00	1.0	Chumps	0.0	None	0.0	Organic/ Janu
6/15/2022	Edst Fillelu Isidilu	45.67005	-69.72426	1.05	0.0	Clumps	0.0	None	0.0	Organic Organic/Cand
6/15/2022	Edst Fillelu Isidilu	45.67022	-69.72490	1.07	3.5	Ciumps Cinale es Feux	7.0	None	0.0	Organic/Sand
6/15/2022	East Fifield Island	45.86857	-89.72270	1.08	0.5	Single or Few	5.0	None	0.0	Organic/Sand
6/15/2022	Reubentown	45.86730	-89.69959	1.67	11.0	Dominant	7.0	Northern Milfoil	1.0	Organic/Gravel
6/15/2022	Reubentown	45.86717	-89.69979	0.83	6.0	Dominant	7.0	Coontail	1.0	Organic/Gravel
6/15/2022	Reubentown	45.86721	-89.69980	1.25	14.0	Clumps	7.5	Coontail	1.0	Organic/Gravel
6/15/2022	Reubentown	45.86717	-89.69991	0.92	9.5	Ciumps	7.0	Coontall	0.5	Organic/Gravei
6/1//2022	Library Landing	45.86762	-89.70746	1.25	13.5	Scattered	5.5	Coontail	0.5	Organic
6/1//2022	Library Landing	45.86762	-89.70746	1.33	13.5	Scattered	5.5	Coontail	0.5	Organic
6/1//2022	Library Landing	45.86789	-89.70720	1.1/	10.5	Scattered	6.5	Coontail	0.5	Organic
6/17/2022	Library Landing	45.86819	-89.70721	1.50	16.0	Scattered	6.0	Coontail	0.5	Organic
6/17/2022	Library Landing	45.86819	-89.70721	0.50	6.0	Scattered	6.5	Coontail	0.5	Organic
6/17/2022	Library Landing	45.86819	-89.70721	1.25	7.5	Scattered	6.5	Coontail	0.5	Organic
6/17/2022	Library Landing	45.86819	-89.70721	1.00	7.5	Scattered	6.5	Coontail	0.0	Organic
6/20/2022	Reubentown	45.86692	-89.70029	1.75	21.0	Dominant	7.0	Northern Milfoil	1.0	Organic
6/20/2022	Reubentown	45.86688	-89.70041	1.00	6.0	Highly Scattered	6.0	Northern Milfoil	1.0	Organic
6/20/2022	Reubentown	45.86694	-89.70040	0.58	4.5	Scattered	7.5	Coontail	0.5	Organic
6/20/2022	Reubentown	45.86753	-89.69906	0.75	8.5	Scattered	10.0	Northern Milfoil	1.5	Organic/Sand
6/20/2022	Reubentown	45.86753	-89.69906	0.67	6.5	Scattered	10.0	Northern Milfoil	2.0	Organic/Sand
6/20/2022	Reubentown	45.86769	-89.69907	0.33	1.0	Scattered	10.0	None	0.0	Organic/Sand
6/21/2022	Reubentown	45.86755	-89.69901	1.33	22.5	Scattered	8.0	Northern Milfoil	2.5	Organic/Sand
6/21/2022	Reubentown	45.86882	-89.69871	1.17	19.5	Dominant	9.0	Northern Milfoil	3.0	Organic
6/21/2022	Reubentown	45.86882	-89.69871	1.00	9.0	Scattered	9.0	Pondweeds	2.0	Organic/Gravel
6/21/2022	Reubentown	45.86837	-89.69895	1.17	12.0	Scattered	10.0	Northern Milfoil	1.5	Organic/Gravel
6/21/2022	Reubentown	45.86848	-89.69888	0.92	12.0	Scattered	9.5	Coontail	2.0	Organic/Gravel
6/21/2022	Reubentown	45.86858	-89.69906	0.42	3.0	Dominant	8.0	None	0.0	Organic
6/29/2022	C-20	45.86972	-89.71361	1.17	0.0	None	6.0	None	0.0	Organic/Sand
6/29/2022	C-20	45.86943	-89.71299	0.92	0.0	None	6.5	None	0.0	Organic/Sand
6/29/2022	C-20	45.86893	-89.71215	0.75	0.0	None	6.0	None	0.0	Organic/Sand
6/29/2022	C-20	45.86870	-89.71150	0.75	0.0	None	6.0	None	0.0	Organic
6/29/2022	C-20	45.86776	-89.71034	1.25	0.5	Single or Few	6.0	None	0.0	Organic
6/29/2022	C-20	45 86711	-89 70995	0.75	0.5	Single or Few	5.5	None	0.0	Organic/Sand
6/29/2022	C-20	45 86586	-89 70985	0.67	0.5	Single or Few	5.5	None	0.0	Organic/Gravel
6/30/2022	Reubentown	45.86954	-89 69802	1.58	18.0	Clumps	7.0	Northern Milfoil	7.0	Organic
6/30/2022	Reubentown	45.86958	-89 69796	1.50	18.0	Clumps	7.0	Northern Milfoil	7.0	Organic
6/20/2022	Reubentown	45.80558	-89.09790	1.07	21.0	Clumps	7.0	Northern Milfoil	7.0	Organic
6/20/2022	Reubentown	45.80558	-85.05755	0.75	21.0	Clumps	7.0	Northern Milfoil	2.0	Organic
6/30/2022	Roubentown	45.80954	-89.09817	0.75	12.0	Clumps	7.0	Northern Milfoil	2.0	Organic
7/5/2022	Library Londing	45.80941	-89.09828	0.58	13.0	Contrared	7.0	Coontoil	4.0	Organic
7/5/2022	Library Landing	45.86849	-89.70710	1.42	13.0	Scattered	7.0	Coontail	1.0	Organic
7/5/2022	Library Landing	45.60650	-69.70715	1.92	12.0	Scattered	7.0	Coontail	1.0	Organic
7/5/2022	Library Landing	45.60600	-69.70735	1.67	10.5	Scattered	7.0	Coontail	2.0	Organic
7/5/2022	Library Lanuing	45.60608	-89.70741	0.92	8.0	Scattered	7.0	Coontail	1.0	Organic
7/6/2022	racht Club Shorelin	45.86483	-89.70817	1.50	5.0	Scattered	10.0	Coontail	0.5	Organic
7/6/2022	racht Club Shorelin	45.86485	-89.70732	1.58	3.0	Scattered	10.0	Coontail	0.5	Organic
7/6/2022	racht Club Shorelin	45.86485	-89.70657	0.83	1.5	Scattered	10.0	None	0.0	Organic
7/6/2022	Huber Bay	45.88469	-89.69690	1.00	3.0	Scattered	9.0	Coontail	0.5	Organic
7/6/2022	Huber Bay	45.88591	-89.69685	1.42	15.0	Clumps	9.0	Coontail	2.0	Organic
7/7/2022	Huber Bay	45.88593	-89.69672	1.33	18.0	ciumps	10.0	Coontail	3.0	Organic
7/7/2022	Huber Bay	45.88618	-89.69612	1.1/	24.0	clumps	9.0	Coontail	3.0	Organic
7/7/2022	Huber Bay	45.88625	-89.69601	1.33	21.0	Clumps	9.0	Coontail	3.0	Organic
7/7/2022	Huber Bay	45.88662	-89.69537	1.33	15.0	Clumps	9.0	Coontail	2.0	Organic
7/1/2022	nuber Bay	40.06082	-03.03201	0.92	10.0	Ciumps	9.0	Countail	3.0	Organic
//14/2022	Huber Bay	45.88677	-89.69483	1.50	7.5	Scattered	10.0	Pondweeds	1.5	Organic
//14/2022	Huber Bay	45.88676	-89.69427	1.42	3.0	Scattered	13.0	Coontail	0.5	Organic
//14/2022	Huber Bay	45.88652	-89.69352	1.58	12.0	Scattered	6.0	Coontail	1.5	Organic/Sand
//14/2022	Huber Bay	45.88647	-89.69294	1.17	8.0	Scattered	8.0	Coontail	U.5	Organic/Sand
7/14/2022	Huber Bay	45.88631	-89.69186	0.58	6.0	Scattered	8.0	Coontail	1.0	Organic/Sand
7/15/2022	SM Lakeview	45.87961	-89.70546	1.67	8.0	Clumps	6.0	None	0.0	Organic
//15/2022	SM E Shoreline	45.87777	-89.70431	0.75	4.0	Single or Few	5.0	None	0.0	Organic
7/15/2022	SM E Shoreline	45.87773	-89.70450	1.00	4.5	Small Plant Colony	7.0	None	0.0	Organic
7/15/2022	SM E Shoreline	45.87768	-89.70443	1.08	9.0	Clumps	7.0	Grasses	2.0	Organic
7/15/2022	SM E Shoreline	45.87748	-89.70464	1.42	12.0	Clumps	8.0	Grasses	2.0	Organic
7/15/2022	SM E Shoreline	45.87748	-89.70464	1.08	6.0	Clumps	8.0	Grasses	1.0	Organic
7/15/2022	Huber Bay	45.88640	-89.69208	1.33	4.5	Scattered	10.5	Northern Milfoil	0.5	Organic/Sand
7/15/2022	Huber Bay	45.88655	-89.69124	1.50	10.5	Clumps	8.0	Pondweeds	1.5	Organic
7/15/2022	Huber Bay	45.88570	-89.69095	1.42	13.5	Scattered	8.0	Pondweeds	1.0	Organic/Sand
7/15/2022	Huber Bay	45.88524	-89.69150	1.08	9.0	Clumps	6.0	Northern Milfoil	2.0	Organic/Sand
7/18/2022	Huber Bay	45.88504	-89.69175	1.42	6.0	Scattered	6.0	Coontail	1.0	Organic/Sand
7/18/2022	Huber Bay	45.88493	-89.69264	1.67	6.0	Scattered	9.0	Elodea	0.5	Organic/Sand
7/18/2022	Huber Bay	45.88458	-89.69337	1.42	15.0	Scattered	9.0	Coontail	1.5	Organic/Sand
7/18/2022	Huber Bay	45.88311	-89.69394	0.67	8.0	Dominant	7.0	Coontail	0.0	Organic
7/19/2022	0-21	45.86876	-89.67343	0.50	0.5	Single or Few	6.0	None	0.0	Organic/Sand
7/19/2022	0-21	45.86881	-89.67525	0.50	0.5	Single or Few	6.0	None	0.0	Organic/Sand
7/19/2022	0-21	45.86871	-89.67693	0.42	0.0	None	6.0	None	0.0	Organic/Sand
7/19/2022	F-20	45.86900	-89.74844	1.17	3.0	Scattered	6.5	None	0.5	Organic/Sand
7/19/2022	F-20	45.86993	-89.74834	0.67	0.5	Single or Few	5.0	None	0.0	Organic/Sand
7/10/2022	F 20	45.97000	90 74903	0.00	0.5	under Contract	6.5		0.0	Oran in (Cound



#### Dive Detail

Date	Dive Location	Latitude	Longitude	Time (hrs)	(cubic ft)	AIS Density	Depth (ft)	Native Species	Catch	Substrate Type
7/19/2022	F-20	45.87200	-89.74758	0.67	0.5	Single or Few	6.0	None	0.0	Organic/Sand
7/19/2022	F-20	45.87319	-89.74711	1.17	0.5	Highly Scattered	6.5	None	0.0	Organic/Sand
7/20/2022	F-20	45.87405	-89.74668	0.67	0.5	Single or Few	7.0	None	0.0	Organic/Sand
7/20/2022	F-20	45.87511	-89.74615	0.67	0.5	Single or Few	6.5	None	0.0	Organic/Sand
7/20/2022	F-20	45.87608	-89.74538	1.00	0.5	Highly Scattered	7.5	None	0.0	Organic/Sand
7/20/2022	F-20	45.87695	-89.74447	1.33	1.0	Scattered	7.5	None	0.0	Organic/Sand
7/20/2022	F-20	45.87786	-89.74355	1.17	1.0	Scattered	6.0	None	0.0	Organic/Sand
7/20/2022	K2-19	45.87665	-89.72592	1.00	1.0	Scattered	6.0	None	0.0	Organic/Sand
7/20/2022	K2-19	45.87656	-89.72491	0.25	0.5	Scattered	6.0	None	0.0	Organic/Sand
7/20/2022	SM E Shoreline	45.87779	-89.70413	0.92	1.0	Scattered	5.0	Pondweeds	0.5	Organic/Sand
7/20/2022	SM E Shoreline	45.87746	-89./0436	1.25	14.0	Clumps	6.0	Pondweeds	6.0	Organic/Sand
7/20/2022	SIVI E Shoreline	45.87769	-89.70426	1.00	3.0	Scattered	6.0	Pondweeds	0.5	Organic/Sand
7/20/2022	SM E Shoreline	45.87733	-89.70447	3.23	21.0	Dominant	9.0	Pondwoods	5.0	Organic/Sand
7/22/2022	SM E Shoreline	45.87730	-89.70455	3.17	24.0	Dominant	8.0	Pondweeds	3.0	Organic/Sand
7/27/2022	F-20	45.86850	-89.74725	1.92	1.0	Single or Few	6.0	None	0.0	Organic/Sand
7/27/2022	F-20	45.86861	-89.74777	1.42	2.0	Single or Few	6.0	None	0.0	Organic/Sand
7/27/2022	F-20	45.86892	-89,74842	1.25	1.0	Single or Few	6.0	None	0.0	Organic/Sand
7/27/2022	F-20	45.86982	-89,74850	1.17	0.5	Single or Few	5.5	None	0.0	Organic/Sand
7/27/2022	F-20	45.87090	-89.74831	1.25	0.5	Single or Few	6.0	None	0.0	Organic
7/28/2022	SM E Shoreline	45.87715	-89.70465	0.58	4.5	Clumps	10.5	Pondweeds	1.0	Organic/Sand
7/28/2022	SM E Shoreline	45.87710	-89.70472	1.67	15.0	Dominant	10.5	Pondweeds	0.5	Organic/Sand
7/28/2022	SM E Shoreline	45.87702	-89.70477	1.58	16.5	Dominant	10.5	Pondweeds	0.5	Organic/Sand
7/28/2022	SM E Shoreline	45.87687	-89.70480	2.00	24.0	Dominant	10.5	Pondweeds	4.0	Organic/Sand
7/28/2022	F-20	45.87146	-89.74770	1.08	0.0	Highly Scattered	6.0	Grasses	0.0	Organic
7/28/2022	F-20	45.87214	-89.74758	1.17	0.0	Highly Scattered	6.0	None	0.0	Organic
7/28/2022	F-20	45.87316	-89.74726	1.17	0.5	Highly Scattered	5.0	None	0.0	Organic
7/28/2022	F-20	45.87401	-89.74667	0.83	0.0	Highly Scattered	5.0	None	0.0	Organic
7/28/2022	F-20	45.87455	-89.74658	0.75	0.0	None	5.0	None	0.0	Organic
7/28/2022	F-20	45.87524	-89.74614	1.42	0.0	Highly Scattered	5.0	None	0.0	Organic
7/29/2022	SM E Shoreline	45.87622	-89.70577	0.75	12.0	Scattered	7.0	Grasses	5.0	Organic
7/29/2022	SM E Shoreline	45.87640	-89.70553	1.17	30.0	Clumps	7.0	Grasses	5.0	Organic
7/29/2022	SM E Shoreline	45.87650	-89.70538	1.33	36.0	Clumps	7.0	Grasses	0.0	Organic
7/29/2022	SM E Shoreline	45.87674	-89.70512	1.08	14.0	Clumps	7.0	Grasses	4.0	Organic/Sand
7/29/2022	SM E Shoreline	45.87652	-89.70539	0.25	3.0	Clumps	7.0	Grasses	1.0	Organic/Sand
7/29/2022	SM Lakeview	45.87906	-89.70516	0.75	9.0	Clumps	7.0	Grasses	2.0	Organic/Sand
7/29/2022	F-20	45.87641	-89.74481	2.00	0.5	Scattered	6.0	None	0.0	Organic
7/29/2022	F-20	45.87754	-89.74390	1.75	0.0	Highly Scattered	6.0	None	0.0	Organic
7/29/2022	F-20	45.87804	-89.74272	0.75	0.5	Highly Scattered	5.0	None	0.0	Organic/Sand
7/29/2022	SM E Shorolino	45.67505	-69.72504	1.92	2.5	Dominant	5.0	Rondwoods	0.0	Organic/Sand
7/29/2022	SIVI E SHOREIINE	45.67067	-89.70490	1.55	22.0	Dominant	10.5	Pondweeds	1.0	Organic/Sand
7/29/2022	SIVI E Shoreline	45.67061	-69.70502	1.25	15.5	Dominant	10.5	Pondweeds	1.5	Organic/Sand
8/1/2022	K1_10	45.87531	-89.70500	1.50	1.5	Highly Scattered	6.0	Grasses	1.0	Organic/Sand
8/1/2022	K1-10	45.87540	-89 72662	1.50	1.5	Highly Scattered	6.0	Grasses	0.0	Organic/Sand
8/1/2022	K1-19	45.87559	-89 72687	1 33	2.0	Highly Scattered	6.0	Flodea	0.0	Organic/Sand
8/1/2022	K1-19	45.87576	-89.72704	1.92	4.0	Highly Scattered	5.5	Flodea	0.0	Organic/Sand
8/2/2022	Huber Bay	45.88612	-89.69585	2.92	69.0	Dominant	7.5	Pondweeds	4.0	Organic
8/2/2022	Huber Bay	45.88621	-89.69561	2.58	50.0	Dominant	7.5	Pondweeds	3.0	Organic
8/2/2022	SM Lakeview	45.87917	-89.70525	0.83	4.5	Scattered	7.0	Elodea	0.5	Organic/Sand
8/4/2022	K2-19	45.87671	-89.72556	2.75	5.0	Scattered	6.0	Grasses	0.0	Organic/Sand
8/4/2022	K2-19	45.87630	-89.72478	1.33	3.0	Scattered	6.0	Grasses	0.0	Organic/Sand
8/4/2022	K3-19	45.87489	-89.72408	1.00	3.0	Scattered	6.0	Grasses	0.0	Organic/Sand
8/4/2022	K3-19	45.87438	-89.72399	1.58	3.0	Scattered	6.0	Grasses	0.0	Organic/Sand
8/11/2022	SM Lakeview	45.87920	-89.70521	0.92	7.0	Scattered	10.0	Charophytes	1.5	Organic/Sand
8/11/2022	SM Lakeview	45.87934	-89.70526	0.92	12.0	Scattered	10.0	Charophytes	2.0	Organic/Sand
8/11/2022	SM Lakeview	45.87947	-89.70537	1.33	32.0	Clumps	12.0	Charophytes	8.0	Organic/Sand
8/11/2022	SM Lakeview	45.87966	-89.70542	1.67	41.0	Clumps	12.0	Charophytes	9.0	Organic/Sand
8/11/2022	SM Lakeview	45.87968	-89.70557	1.17	34.0	Clumps	12.0	Charophytes	7.0	Organic/Sand
8/12/2022	Huber Bay	45.88624	-89.69566	2.67	82.0	Dominant	10.0	Pondweeds	6.0	Organic/Sand
8/12/2022	Huber Bay	45.88624	-89.69566	2.50	50.0	Scattered	10.0	Pondweeds	2.0	Organic/Sand
8/15/2022	SM Lakeview	45.87982	-89.70557	1.42	9.0	Scattered	9.0	Charophytes	3.0	Organic/Sand
8/15/2022	SM Lakeview	45.87989	-89.70564	1.67	20.0	Clumps	9.0	Charophytes	4.0	Organic/Sand
8/15/2022	SM Lakeview	45.87994	-89.70549	1.08	13.0	Clumps	9.0	Charophytes	2.0	Organic/Sand
8/15/2022	SM Lakeview	45.88020	-89.70537	0.92	17.0	Scattered	10.0	Charophytes	2.0	Organic/Sand
8/15/2022	SM Lakeview	45.88027	-89.70538	0.58	4.5	Scattered	10.0	Charophytes	0.5	Organic/Sand
8/15/2022	SIVI Lakeview	45.88036	-89.70509	0.42	4.5	Scattered	10.0	Charophytes	0.5	Organic/Sand
8/15/2022	Edst Filleld Island	45.60695	-69.72437	1.67	4.5	Clumps	7.5	None	0.0	Organic
8/15/2022	East Fifield Island	43.00041	-09./240/	1.50	4.5	Clumps	0.0	None	0.0	Organic
8/15/2022	East Fifield Island	45.86763	-89 72450	1.55	1.5	Clumps	9.0	None	0.0	Organic
8/15/2022	East Fifield Island	45.86711	-89,72542	0.83	1.5	Single or Few	6.5	None	0.0	Organic/Sand
8/16/2022	Fast Fifield Island	45 86714	-89 72681	1.00	0.5	Single or Few	75	None	0.0	Organic/Sand
8/16/2022	Fast Fifield Island	45.86729	-89.72771	1.00	0.5	Single or Few	8.0	None	0.0	Organic/Sand
8/16/2022	East Fifield Island	45.87002	-89.72422	1.92	6.0	Scattered	6.5	Elodea	0.5	Organic
8/16/2022	East Fifield Island	45.87002	-89.72422	1.58	3.0	Scattered	6.5	Pondweeds	0.5	Organic
8/16/2022	East Fifield Island	45.86885	-89.72521	1.08	0.5	Single or Few	6.0	None	0.0	Organic/Sand
8/16/2022	SM Lakeview	45.88038	-89.70518	0.92	3.0	Scattered	9.0	Grasses	1.0	Organic/Sand
8/16/2022	SM Lakeview	45.88030	-89.70491	0.92	6.0	Scattered	9.0	Grasses	2.0	Organic/Sand
8/16/2022	SM Lakeview	45.88021	-89.70481	0.75	4.0	Scattered	4.0	Grasses	1.0	Organic/Sand
8/16/2022	SM Lakeview	45.88016	-89.70476	0.25	0.5	Scattered	4.0	Grasses	0.0	Organic/Sand
8/16/2022	SM Lakeview	45.88018	-89.70437	1.17	7.5	Scattered	4.0	Elodea	3.0	Organic/Sand
8/16/2022	SM Lakeview	45.88019	-89.70428	1.00	3.0	Scattered	3.0	Elodea	1.0	Organic/Sand
8/16/2022	SM Lakeview	45.88041	-89.70409	0.58	6.0	Scattered	4.0	Elodea	3.0	Organic/Sand
8/16/2022	SM Lakeview	45.88061	-89.70414	1.00	14.0	Scattered	5.0	Elodea	6.0	Organic/Sand
8/16/2022	Huber Bay	45.88614	-89.69553	1.92	43.5	Dominant	13.5	Pondweeds	6.0	Organic/Sand
8/16/2022	Huber Bay	45.88598	-89.69580	1.83	50.5	Dominant	13.5	Pondweeds	3.0	Organic/Sand
8/17/2022	Camp Kawaga Bay	45.86174	-89.73582	1.25	1.0	Highly Scattered	6.0	Northern Milfoil	0.0	Organic/Sand
8/17/2022	Camp Kawaga Bay	45.86109	-89.73516	2.00	15.0	Small Plant Colony	6.0	Coontail	3.5	Organic/Sand
8/17/2022	Camp Kawaga Bay	45.86091	-89.73501	3.25	30.0	Small Plant Colony	6.0	Coontail	6.0	Organic/Sand
8/18/2022	Camp Kawaga Bay	45.86085	-89.73466	3.25	28.5	Dominant	6.5	Coontail	4.5	Organic/Sand
8/18/2022	Camp Kawaga Bay	45.86058	-89.73436	3.33	31.5	Dominant Uiablu Contract	7.0	Coontail	4.5	Organic/Sand
0/10/2022	Camp Kawaga Bay	45.60011	-09./3500	0.58	0.5	Highly Scattered	o.U	0	0.0	Organic/Sand
8/18/2022	Camp Kawaga Bay	45.65989	-09./3544	0.42	0.5	Highly Scattered	6.0	0	0.0	Organic/Sand
8/18/2022	Camp Kawaga Bay	45.85955	-89 73518	1.83	7.5	Scattered	8.0	Flodea	1.5	Organic/Sand
8/18/2022	Camp Kawaga bdy	45.85034	-89 73/00	1.03	13.0	Scattored	8.0	Elodea	5.0	Organic/Sand
0, 10, 2022	comp no waga bay	-3.53334	00.70400	0.02	10.0	Stattereu	0.0	210000	5.0	0150110/00110



#### Dive Detail

Date	Dive Location	Latitude	Longitude	Underwater Dive Time (hrs)	AIS Removed (cubic ft)	AIS Density	Avg Water Depth (ft)	Native Species	Native By- Catch	Substrate Type
8/18/2022	Camp Kawaga Bay	45.85924	-89.73467	1.00	12.5	Scattered	8.0	Elodea	5.0	Organic/Sand
8/18/2022	Camp Kawaga Bay	45.85917	-89.73457	0.58	11.0	Scattered	8.0	Elodea	5.0	Organic/Sand
8/18/2022	Camp Kawaga Bay	45.85951	-89.73183	1.00	1.5	Scattered	6.0	Pondweeds	0.0	Organic/Sand
8/18/2022	Camp Kawaga Bay	45.85924	-89.73214	0.83	2.5	Scattered	6.0	Charophytes	0.0	Organic/Sand
8/18/2022	Camp Kawaga Bay	45.85907	-89.73210	1.00	0.5	Scattered	6.0	Charophytes	0.0	Organic/Sand
8/18/2022	Camp Kawaga Bay	45.85891	-89.73239	1.17	0.5	Highly Scattered	6.0	Grasses	0.0	Organic/Sand
8/18/2022	Camp Kawaga Bay	45.85880	-89.73268	0.83	0.5	Highly Scattered	5.0	Grasses	0.0	Organic/Sand
8/18/2022	Camp Kawaga Bay	45.85900	-89.73347	0.83	4.0	Clumps	6.5	Grasses	0.5	Gravel
8/18/2022	Huber Bay	45.88600	-89.69649	1.75	16.0	Clumps	8.0	None	0.0	Organic
8/18/2022	Huber Bay	45.88643	-89.69236	2.50	36.0	Clumps	8.0	Coontail	3.0	Organic
8/19/2022	Huber Bay	45.88570	-89.69141	2.00	33.0	Scattered	12.0	Coontail	6.0	Organic/Sand
8/19/2022	Huber Bay	45.88579	-89.69117	1.08	10.0	Scattered	12.0	Coontail	2.0	Organic/Sand
8/19/2022	Huber Bay	45.88602	-89.69079	1.33	12.0	Scattered	8.0	Grasses	2.5	Organic/Sand
8/19/2022	Huber Bay	45.88602	-89.69079	1.50	13.0	Clumps	9.0	Coontail	2.5	Organic/Sand
8/19/2022	Camp Kawaga Bay	45.85931	-89.73483	1.50	1.5	Scattered	8.0	Grasses	0.5	Organic/Sand
8/19/2022	Camp Kawaga Bay	45.85919	-89.73470	1.00	1.0	Scattered	8.0	Charophytes	0.5	Organic/Sand
8/19/2022	Camp Kawaga Bay	45.85899	-89.73448	1.08	12.5	Scattered	7.0	Charophytes	3.0	Organic/Sand
8/19/2022	Camp Kawaga Bay	45.85889	-89.73426	1.17	5.0	Scattered	8.0	Charophytes	2.0	Organic/Sand
8/19/2022	Camp Kawaga Bay	45.86021	-89.73330	0.58	0.5	Highly Scattered	8.0	None	0.0	Organic/Sand
8/19/2022	Camp Kawaga Bay	45.85950	-89.73182	0.67	0.5	Highly Scattered	8.0	None	0.0	Organic/Sand
8/19/2022	Camp Kawaga Bay	45.86047	-89.73412	3.25	41.0	Dominant	7.0	Coontail	4.5	Organic/Sand
8/19/2022	Camp Kawaga Bay	45.86047	-89.73412	3.42	31.0	Dominant	7.0	Coontail	4.5	Organic/Sand
8/19/2022	B-20	45.87507	-89.70083	1.25	5.5	Clumps	6.5	Grasses	0.5	Organic/Sand
8/19/2022	B-20	45.87506	-89.70068	1.00	7.0	Clumps	6.5	Grasses	0.5	Organic/Sand
8/19/2022	B-20	45.87616	-89.70062	1.83	20.0	Clumps	7.0	Elodea	1.0	Organic/Sand
8/19/2022	B-20	45.87628	-89.70056	1.25	4.5	Highly Scattered	7.0	Elodea	0.5	Organic/Sand
8/19/2022	B-20	45.87685	-89.70049	1.08	1.5	Highly Scattered	10.0	Elodea	0.5	Organic/Sand
8/19/2022	B-20	45.87654	-89.70040	1.00	1.5	Highly Scattered	10.0	Elodea	0.5	Organic/Sand
8/22/2022	Camp Kawaga Bay	45.86030	-89.73357	0.67	0.5	Single or Few	6.0	None	0.0	Organic/Sand
8/22/2022	Camp Kawaga Bay	45.86019	-89.73293	1.33	1.5	Highly Scattered	5.0	Coontail	0.0	Organic/Sand
8/22/2022	Camp Kawaga Bay	45.85893	-89.73442	1.17	1.0	Highly Scattered	6.0	Pondweeds	0.0	Organic/Sand
8/22/2022	Huber Bay	45.88608	-89.69592	3.08	75.0	Highly Dominant	13.0	Pondweeds	9.0	Organic/Gravel
8/23/2022	Country Club Bay	45.86863	-89.68119	3.50	39.0	Small Plant Colony	5.0	Grasses	6.0	Organic/Gravel
8/23/2022	Country Club Bay	45.86863	-89.68119	3.33	29.0	Small Plant Colony	5.0	Grasses	0.0	Organic/Gravel
Total	228			293.70	2348.0				319.0	