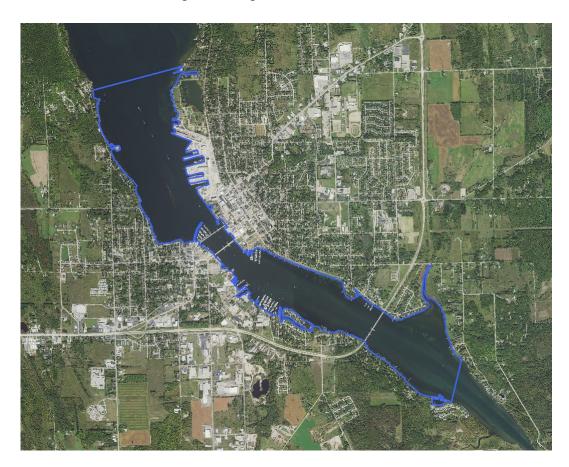
Sturgeon Bay Door County, Wisconsin

Aquatic Plant Management Plan

December 2019

Updated Maps 4-6: March 31, 2021



Sponsored by:

City of Sturgeon Bay



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Onterra, LLC De Pere, WI

Funded by: City of Sturgeon Bay

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INTRODUCTION

Sturgeon Bay is an approximate 4,945-acre bay of Green Bay which cuts across the Door County peninsula and is artificially connected to Lake Michigan proper by the Sturgeon Bay Ship Canal (Figure 1). Sturgeon Bay is home shipyards and many marinas and sees a high volume of both commercial and recreational watercraft traffic on an annual basis.

Since the mid-1980s, the City of Sturgeon Bay and private citizens have been working to manage nuisance levels of aquatic plant growth within the bay using a combination of mechanical harvesting and herbicide applications to maintain ease of navigation. The City of Sturgeon Bay now owns and operates three of its own mechanical harvesters which work to maintain open areas for navigation. Herbicide

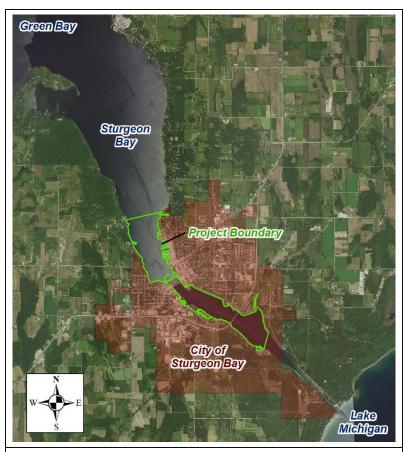


Figure 1. Project boundaries within Sturgeon Bay, Door County, Wisconsin.

applications are also employed to control nuisance-level plant growth within and around the docking slips at marinas.

Having an aquatic plant management plan that was over 10 years old, the City of Sturgeon Bay contracted with Northern Environmental Technologies (NET) in 2003 to develop an updated aquatic management plan for Sturgeon Bay. During their surveys, NET ecologists noted that the native aquatic plant common waterweed (*Elodea canadensis*), and the non-native, invasive plants Eurasian watermilfoil (*Myriophyllum spicatum*; EWM) and curly-leaf pondweed (*Potamogeton crispus*; CLP), were the primary aquatic plant species creating nuisance-level conditions and hindering navigation within the bay. Northern Environmental Technologies concluded that a combination of mechanical harvesting within the bay and herbicide applications within the marinas should continue to alleviate problematic aquatic plant growth.

In 2016, the City of Sturgeon Bay contracted with Onterra, LLC to assist them in updating their existing aquatic plant management plan, including revisions that were made to the plan in 2007. This project was originally designed to be completed over two years, with aquatic plant studies being conducted in 2016 and a stakeholder participation component being completed in 2017. In 2016, Onterra ecologists completed three aquatic plant studies within the project boundaries illustrated in Figure 1 to assess the aquatic plant community within this area. Following

discussions in early 2017, additional aquatic plant monitoring surveys and field visits were added to the project for 2017 and 2018. The intent of extending the project was two-fold; 1) to monitor the effectiveness of new aquatic plant management options on the bay, including updated herbicide treatment areas and dosing strategies and reconfigured harvesting areas; and 2) to provide further training to City of Sturgeon Bay staff on monitoring and implementing the updated aquatic plant management plan.

Surveys completed by Onterra staff with city staff during 2017 and 2018 indicated that the new herbicide treatment areas and dosing were meeting expectations by reducing nuisance conditions throughout the summer boating season. The additional site visits also allowed for city staff to be familiarized with the use of a Garmin GPS unit that had been preloaded by Onterra with a map showing all possible treatment areas and harvest areas contained in the updated aquatic plant management plan.

This document is broken into three primary sections detailing the full results of the multiple aquatic plant surveys conducted by Onterra ecologists in 2016, a summery of the three stakeholder surveys that were completed as a part of the project, and finally, the updated aquatic plant management plan approved by the Wisconsin DNR in April 2018 and first implemented by the City of Sturgeon Bay that summer.



AQUATIC PLANTS

Importance in the Aquatic Community

Although the occasional lake user considers aquatic plants (macrophytes) to be weeds and are often considered as a nuisance to the recreational use of the lake, these plants are an essential element in a healthy and functioning lake ecosystem (Photo 1). It is very important that lake stakeholders understand the importance of lake plants and the many functions they serve in maintaining and protecting a lake ecosystem. With increased understanding and awareness, most lake users will recognize the importance of the aquatic plant community and their potential negative effects on it.

Diverse aquatic vegetation provides habitat and food for many kinds of aquatic life, including fish, insects, amphibians, waterfowl, and even terrestrial wildlife. For instance, wild celery (*Vallisneria americana*) and sago pondweed (*Stuckenia pectinata*) both serve as excellent food sources for ducks and geese. Emergent stands of vegetation provide necessary spawning habitat for fish such as northern pike (*Esox lucius*) and yellow perch (*Perca flavescens*). In addition, many of



Photo 1. The native aquatic plant water stargrass found in Sturgeon Bay. Photo credit Onterra.

the insects that are eaten by young fish rely heavily on aquatic plants and the periphyton attached to them as their primary food source.

Aquatic plants also provide cover for feeder fish and zooplankton, stabilizing the predator-prey relationships within the system. Furthermore, rooted aquatic plants prevent shoreland erosion and the resuspension of bottom sediments and nutrients by absorbing wave energy and locking sediments within their root masses. In areas where plants do not exist, waves can resuspend bottom sediments decreasing water clarity and increasing nutrient levels that may lead to phytoplankton blooms. Lake plants also produce oxygen through photosynthesis and use nutrients that may otherwise be used by phytoplankton, which helps to minimize nuisance phytoplankton blooms.

Because most aquatic plants are rooted in place and are unable to relocate in the wake of environmental change, they are often the first aquatic community to indicate that changes may be occurring within the system. For this reason, aquatic plants are used as indicators of environmental health. Aquatic plant communities can respond in variety of ways; there may be increases or reductions in the occurrence of sensitive species, or a complete loss. Or, certain growth forms, such as emergent and floating-leaf communities may disappear from certain areas of the waterbody. With periodic monitoring and proper analysis, these changes are relatively easy to detect and provide relevant information for making management decisions.

Under certain conditions, a few species may grow to levels which can interfere with the use of the lake. Excessive plant growth can limit recreational use by deterring navigation, swimming, and fishing activities. It can also lead to changes in fish population structure by providing too much



cover for feeder fish resulting in reduced predation by predator fish, which could result in a stunted pan-fish population. Exotic plant species, such as EWM and CLP can also upset the delicate balance of a lake ecosystem by out competing native plants and reducing species diversity. These invasive plant species can form dense stands that are a nuisance to humans and provide low-value habitat for fish and other wildlife.

When plant abundance negatively affects the lake ecosystem and limits the use of the resource, plant management and control may be necessary. The management goals should always include the control of invasive species and restoration of native communities through environmentally sensitive and economically feasible methods. No aquatic plant management plan should only contain methods to control plants, they should also contain methods on how to protect and possibly enhance the important plant communities within the lake. Unfortunately, the latter is often neglected and the ecosystem suffers as a result.

Aquatic Plant Survey Methods

Three aquatic plant surveys were completed by Onterra ecologists in Sturgeon Bay in 2016: two whole-lake aquatic plant point-intercept surveys (June and August) and an emergent and floating-leaf aquatic plant community mapping survey (August). All aquatic plant species located during the 2016 surveys were collected, pressed, and sent to the University of Wisconsin-Stevens Point

herbarium for confirmation of correct identification. The aquatic plant point-intercept survey method as developed by the Wisconsin Department of Natural Resources (WDNR) Bureau of Science Services (Hauxwell et al. 2010) was used in Sturgeon Bay in 2016. Based upon guidance from the WDNR, sampling locations were spaced 73 meters apart resulting in a total of 772 sampling locations (Map 1).

The **Littoral Zone** is the area of the lake where sunlight is able to penetrate to the sediment providing aquatic plants with sufficient light to carry out photosynthesis.

At each point-intercept location within the *littoral zone*, information regarding the depth, substrate type (soft sediments, sand, or rock/gravel), and the plant species sampled along with their relative abundance on the sampling rake was recorded (Figure 2). A pole-mounted rake was used to collect the plant samples, depth, and sediment information at point locations of 15 feet or less. A rake head tied to a rope (rope rake) was used at sites greater than 15 feet. Depth information was collected using graduated marks on the pole of the rake or using an onboard sonar unit at depths greater than 15 feet. Also, when a rope rake was used, information regarding substrate type was not collected due to the inability of the sampler to accurately feel the bottom with this sampling device. The point-intercept survey produces a great deal of information about a lake's aquatic vegetation and overall health. These data are analyzed and presented in numerous ways; each is discussed in more detail the following section.

A key component of any aquatic plant community assessment is the delineation of the emergent and floating-leaf aquatic plant communities within each lake as these plants are often underrepresented during the point-intercept survey. This survey creates a snapshot of these important communities within each lake as they existed during the survey and is valuable in the development of the management plan and in comparisons with future surveys. Examples of emergent plants include cattails, rushes, sedges, grasses, bur-reeds, and arrowheads, while examples of floating-leaf species include the water lilies. The emergent and floating-leaf aquatic



plant communities in Sturgeon Bay were mapped using a Trimble Global Positioning System (GPS) with sub-meter accuracy.

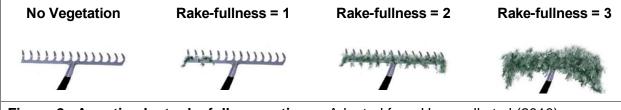


Figure 2. Aquatic plant rake fullness ratings. Adapted from Hauxwell et al (2010).

Data Interpretation

Species List

The species list is simply a list of all of the aquatic plant species, both native and non-native, that were located during the surveys completed in Sturgeon Bay in 2016. The list also contains the growth-form of each plant found (e.g. submergent, emergent, etc.), its scientific name, common name, and its coefficient of conservatism. The latter is discussed in more detail below. Changes in this list over time, whether it is differences in total species present, gains and losses of individual species, or changes in growth forms that are present, can be an early indicator of changes in the ecosystem.

Frequency of Occurrence

Frequency of occurrence describes how often a certain aquatic plant species is found within a lake. Obviously, all of the plants cannot be counted in a lake, so samples are collected from predetermined areas. In the case of the whole-lake point-intercept survey completed on Sturgeon Bay, plant samples were collected from plots laid out on a grid that covered the lake. Using the data collected from these plots, an estimate of occurrence of each plant species can be determined. The occurrence of aquatic plant species is displayed as the *littoral frequency of occurrence*. Littoral frequency of occurrence is used to describe how often each species occurred in the plots that are within the maximum depth of plant growth (littoral zone), and is displayed as a percentage.

Floristic Quality Assessment

The floristic quality of a lake's aquatic plant community is calculated using its native *species richness* and their *average conservatism*. Species richness is the number of native aquatic plant species that were physically encountered on the rake during the point-intercept survey. Average conservatism is calculated by taking the sum of the coefficients of conservatism (C-values) of the native species located and dividing it by species richness. Every plant in Wisconsin has been assigned a coefficient of conservatism, ranging from 1-10, which describes the likelihood of that species being found in an undisturbed environment. Species which are more specialized and require undisturbed habitat are given higher coefficients, while species which are more tolerant of environmental disturbance have lower coefficients.

For example, algal-leaf pondweed (*Potamogeton confervoides*) is only found in nutrient-poor, acid lakes in northern Wisconsin and is prone to decline if degradation of these lakes occurs. Because of algal-leaf pondweed's special requirements and sensitivity to disturbance, it has a C-value of 10. In contrast, sago pondweed (*Stuckenia pectinata*) with a C-value of 3, is tolerant of disturbance



and is often found in greater abundance in degraded lakes that have higher nutrient concentrations and low water clarity. Higher average conservatism values generally indicate a healthier lake as it is able to support a greater number of environmentally-sensitive aquatic plant species. Low average conservatism values indicate a degraded environment, one that is only able to support disturbance-tolerant species.

On their own, the species richness and average conservatism values for a lake are useful in assessing a lake's plant community; however, the best assessment of the lake's plant community health is determined when the two values are used to calculate the lake's floristic quality. The floristic quality is calculated using the species richness and average conservatism value of the aquatic plant species that were solely encountered on the rake during the point-intercept surveys (equation shown below). This assessment allows the aquatic plant community of Sturgeon Bay to be compared to other lakes within the region and state.

FQI = Average Coefficient of Conservatism * $\sqrt{\text{Number of Native Species}}$

Species Diversity

Species diversity is often confused with species richness. As defined previously, species richness is simply the number of species found within a given community. While species diversity utilizes species richness, it also takes into account evenness or the variation in abundance of the individual species within the community. For example, a lake with 10 aquatic plant species that had relatively similar abundances within the community would be more diverse than another lake with 10 aquatic plant species were 50% of the community was comprised of just one or two species.

An aquatic system with high species diversity is more stable than a system with a low diversity. This is analogous to a diverse financial portfolio in that a diverse aquatic plant community can withstand environmental fluctuations much like a diverse portfolio can handle economic fluctuations. A lake with a diverse plant community is also better suited to compete against exotic infestations than a lake with a lower diversity. The diversity of a lake's aquatic plant community is determined using the Simpson's Diversity Index (1-D):

$$D = \sum (n/N)^2$$

where:

n =the total number of instances of a particular species

N = the total number of instances of all species and

D is a value between 0 and 1

If a lake has a diversity index value of 0.90, it means that if two plants were randomly sampled from the lake there is a 90% probability that the two individuals would be of a different species. The Simpson's Diversity Index value from Sturgeon Bay is compared to data collected by Onterra and the WDNR Science Services on 77 lakes within the Southeast Wisconsin Till Plain ecoregion and on 392 lakes throughout Wisconsin.



Aquatic Plant Survey Results

During the three aquatic plant surveys completed by Onterra ecologists in Sturgeon Bay in 2016, a total of 36 aquatic plant species were located, five of which are considered to be non-native, invasive species: Eurasian watermilfoil, curly-leaf pondweed, starry stonewort, purple loosestrife, and giant reed (Table 1). Because of their importance, these invasive species will be discussed in the subsequent Non-Native Aquatic Plants Section.

Table 1. Aquatic plant species located in Sturgeon Bay during the 2016 aquatic plant surveys.

Growth Form	Scientific Name	Common Name	Coefficient of Conservatism	2016 Onterra
	Bolboschoenus fluviatilis	River bulrush	5	I
	Calla palustris	Water arum	9	I
	Juncus arcticus	Arctic rush	5	I
	Lythrum salicaria	Purple loosestrife	Exotic	ı
ш	Phragmites australis subsp. australis	Giant reed	Exotic	I
	Sagittaria latifolia	Common arrowhead	3	I
	Schoenoplectus acutus	Hardstem bulrush	5	I
	Sparganium acaule	Short-stemmed bur-reed	8	I
	Sparganium eurycarpum	Common bur-reed	5	1
	Nuphar variegata	Spatterdock	6	ı
교	Nymphaea odorata	White water lily	6	I
	Persicaria amphibia	Water smartweed	5	1
	Ceratophyllum demersum	Coontail	3	Х
	Chara spp.	Muskgrasses	7	X
	Elodea canadensis	Common waterweed	3	X
	Elodea nuttallii	Slender waterweed	7	I
	Heteranthera dubia	Water stargrass	6	Χ
	Myriophyllum sibiricum	Northern water milfoil	7	I
	Myriophyllum spicatum	Eurasian water milfoil	Exotic	X
	Najas flexilis	Slender naiad	6	Х
	Najas guadalupensis	Southern naiad	7	X
Submergent	Nitellopsis obtusa	Starry stonewort	Exotic	X
erg	Potamogeton crispus	Curly-leaf pondweed	Exotic	X
Ü.	Potamogeton foliosus	Leafy pondweed	6	I
Sul	Potamogeton friesii	Fries' pondweed	8	X
	Potamogeton gramineus	Variable-leaf pondweed	7	X
	Potamogeton praelongus	White-stem pondweed	8	X
	Potamogeton richardsonii	Clasping-leaf pondweed	5	Х
	Potamogeton zosteriformis	Flat-stem pondweed	6	X
	Ranunculus aquatilis	White water crowfoot	8	Χ
	Stuck enia pectinata	Sago pondweed	3	X
i	Utricularia vulgaris	Common bladderwort	7	Χ
	Vallisneria americana	Wild celery	6	X
	Zannichellia palustris	Horned pondweed	7	Х
S/E	Sagittaria cuneata	Arum-leaved arrowhead	7	Х
Ħ	Spirodela polyrhiza	Greater duckweed	5	I

FL = Floating-leaf; FL/E = Floating-leaf/Emergent; S/E = Submergent/Emergent; FF = Free-floating X = Located on rake during August point-intercept survey; <math>I = Incidentally located species

Lakes in Wisconsin vary in their morphology, water chemistry, substrate composition, and recreational use, and all of these factors influence aquatic plant community composition. Like terrestrial plants, different aquatic plant species are adapted to grow in certain substrate types; some species are only found growing in soft substrates, others only in sandy/rocky areas, and some



can be found growing in either. The combination of both soft sediments and areas of harder substrates creates different habitat types for aquatic plants, and generally leads to a higher number of aquatic species within the lake. During the August 2016, whole-lake point-intercept survey, information regarding substrate type was collected at locations sampled with a polemounted rake (less than 15 feet). These data indicate that the majority (84%) of the point-intercept locations less than 15 feet deep contained soft sediments, 11% contained sand, and 4% were found to contain rock (Figure 3). Areas with harder substrates were primarily located near shore or

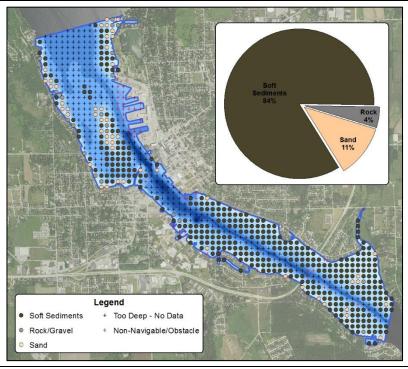


Figure 3. Sturgeon Bay distribution and proportion of substrate types. Created using data from August 2016 pointintercept survey.

in northcentral area of the study area.

During the August 2016 point-intercept survey, aquatic plants were found growing to a maximum depth of 20 feet, a testament to the higher water clarity within the bay. Of the 608 point-intercept locations that fell within the maximum depth of plant growth, or within the littoral zone, approximately 64% contained aquatic vegetation. Approximately 73% of the point-intercept sampling locations that contained vegetation were within 5.0 to 12.0 feet of water. Figure 4 displays the distribution of aquatic vegetation in Sturgeon Bay as determined from the August 2016 point-intercept survey. Approximately 23% of the littoral point-intercept locations contained aquatic vegetation with a rake fullness rating of 1, 12% contained a rake fullness rating of 2, and 29% contained a rake fullness rating of 3. The higher proportion of sampling locations with a total rake fullness ratings of 2 and 3 indicates that where vegetation is present, it is relatively dense.

Of the 36 aquatic plant species located during the 2016 surveys, 20 species were physically sampled on the rake during the August point-intercept survey and the remaining 15 species were located incidentally. An incidentally-located species means the plant was not directly sampled on the rake during the point-intercept survey but was observed in the lake by Onterra ecologists and was recorded/collected. The majority of incidentally-located plants typically include emergent species growing along the lake's margins and submersed species that are relatively rare within the lake's plant community. Of the 20 species encountered on the rake in August 2016, common waterweed, muskgrasses, wild celery, and coontail were the four-most frequently encountered (Figure 5). Common waterweed, the most frequently encountered aquatic plant, with a littoral frequency of occurrence of approximately 30%, is found throughout lakes in Wisconsin and North America. It prefers growing in soft sediments and can often grow in dense beds that mat on the surface. In Sturgeon Bay, it was most abundant between 4.0 and 15.0 feet of water. Its dense

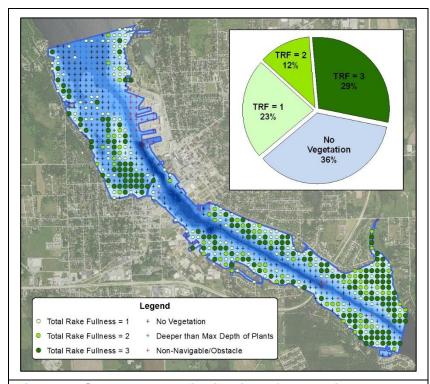


Figure 4. Sturgeon Bay distribution of vegetation and total rake fullness ratings (TRF). Created using data from August 2016 point-intercept survey.

foliage provides valuable aquatic habitat while its ability to derive nutrients directly from the water improves water quality.

Muskgrasses, the second most frequently encountered aquatic plants in Sturgeon Bay had a littoral frequency of occurrence of approximately 29% (Figure 5) and were abundant between 5.0 and 10.0 feet of water. A genus of macroalgae, muskgrasses are not true vascular plants, and often abundant waterbodies that are clear with higher alkalinity. While species several of muskgrasses occur in Wisconsin, the muskgrasses in Sturgeon Bay were not identified to the species level.

Often growing in dense beds, muskgrasses stabilize bottom sediments, provide excellent structural habitat for aquatic organisms, and are sources of food for fish, waterfowl, and other wildlife (Borman et al. 2007).

With a littoral frequency of occurrence of approximately 19%, wild celery was the third-most frequently encountered aquatic plant in Sturgeon Bay in 2016 (Figure 5). The long, tapering leaves of wild celery provide excellent structural habitat for numerous aquatic organisms while its extensive root systems stabilize bottom sediments. Additionally, the leaves, fruit, tubers, and winter buds are food sources for numerous species of waterfowl and other wildlife.

Coontail, arguably the most abundant aquatic plant in Wisconsin, was the fourth-most frequently encountered aquatic plant in Sturgeon Bay with a littoral frequency of occurrence of approximately 17% (Figure 5). Unlike most of the submersed plants found in Wisconsin, coontail does not produce true roots and is often found growing entangled amongst other aquatic plants. Because it lacks true roots, coontail derives most of its nutrients directly from the water (Gross et al. 2013). This ability in combination with a tolerance for low-light conditions allows coontail to become more abundant in waterbodies with higher nutrients. While coontail has the capacity to form dense beds which mat on the surface and can hinder recreation, the majority of the coontail located in Sturgeon Bay was found growing in 10.0 to 15.0 feet of water.

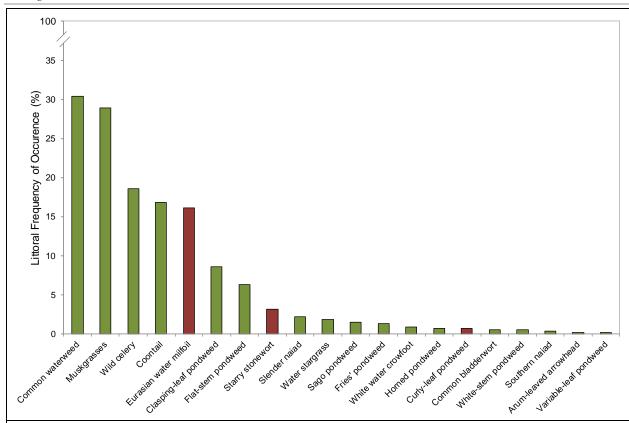


Figure 5. Littoral frequency of occurrence of aquatic plant species in Sturgeon Bay in August 2016. Exotic species indicated with red. Created using data from Onterra August 2016 point-intercept survey.

As discussed in the primer section, the calculations used to create the Floristic Quality Index (FQI) for a lake's aquatic plant community are based on the aquatic plant species that were encountered on the rake during the point-intercept survey and does not include incidentally located species. The native species encountered on the rake during the August 2016 point-intercept survey and their conservatism values were used to calculate the FQI of Sturgeon Bay's aquatic plant community.

Figure 6 compares the FQI components of Sturgeon Bay to median values of lakes within the Southeastern Wisconsin Till Plains (SWTP) ecoregion and to lakes throughout Wisconsin. The number of native aquatic plant species sampled on the rake was 17, which exceeds the median value for lakes in the SWTP ecoregion (15) but is slightly lower than the median for lakes statewide (19). Similarly, Sturgeon Bay's average conservatism value of 6.1 exceeds the SWTP ecoregion median value of 5.4 but falls slightly below the state median value of 6.3. Sturgeon Bay's average conservatism value indicates that when compared to other lakes within the ecoregion, it contains a larger number of aquatic plant species with higher coefficients of conservatism.

Using Sturgeon Bay's native species richness and average conservatism, its FQI was calculated to be 25.2 (Figure 6). This FQI value is higher the median value for lakes within the SWTP ecoregion (25.5) and slightly lower than the median value for lakes throughout Wisconsin (27.2). This analysis indicates that Sturgeon Bay's aquatic plant community is of higher quality than the

majority of waterbodies within the SWTP ecoregion in terms of native aquatic plant species composition. However, its aquatic plant community is of slightly lower quality when compared against waterbodies throughout Wisconsin.

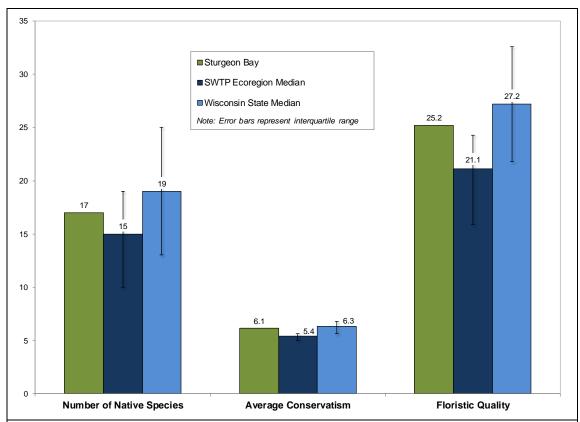


Figure 6. Sturgeon Bay Floristic Quality Assessment. Created using data from Onterra August 2016 point-intercept survey. Analysis follows Nichols (1999).

While a method for characterizing diversity values of fair, poor, etc. does not exist, lakes within the same ecoregion may be compared to provide an idea of how Sturgeon Bay's diversity value ranks. Using data collected by Onterra and WDNR Science Services, quartiles were calculated for 77 lakes within the SWTP Ecoregion (Figure 7). Using the data collected from the August 2016 point-intercept survey, Sturgeon Bay's aquatic plant community was found to have a Simpson's Diversity Index value of 0.86. In other words, if two individual aquatic plants were randomly sampled from Sturgeon Bay in 2016, there would be an 86% probability that they would be different species. Sturgeon Bay's species diversity value exceeds the median value for lakes within the SWTP ecoregion and is even with the median diversity value for lakes throughout Wisconsin.

As explained earlier, the littoral frequency of occurrence analysis allows for an understanding of how often each of the plants is located during the point-intercept survey. Because each sampling location may contain numerous plant species, relative frequency of occurrence is one tool to evaluate how often each plant species is found in relation to all other species found (composition of population). For instance, while common waterweed was found at 30% of the littoral sampling locations in Sturgeon Bay, its relative frequency of occurrence was 22% (Figure 8). Explained another way, if 100 plants were randomly sampled from Sturgeon Bay, 22 would be common

waterweed, 21 would be muskgrasses, 13 would be wild celery, etc. As illustrated in Figure 8, approximately 80% of Sturgeon Bay's aquatic plant community is comprised of five species.

The emergent and floating-leaf aquatic plant community mapping survey was completed by Onterra ecologists on August 22, 2016. This survey indicates that approximately 1.4 acres of the project area contain floating-leaf and emergent aquatic plant communities (Table 2 and Map 2). Thirteen emergent and floating-leaf aquatic plant species were located in 2016 (Table 1). These plant communities provide valuable fish and wildlife habitat important to the ecosystem of the lake. The low occurrence of emergent and floating-leaf aquatic plant communities in this area of the bay is likely due to the high degree of shoreland development and high volume of watercraft traffic.

Emergent and floating-leaf aquatic plant communities are an important component of the lake ecosystem as the provide valuable structural habitat, reduce sediment resuspension, and reduce shoreline erosion. Continuing the analogy that the community map represents a 'snapshot' of the important emergent and

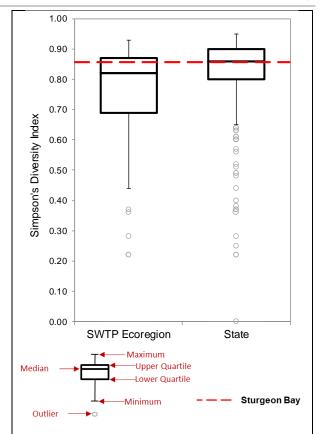


Figure 7. Sturgeon Bay aquatic plant community Simpson's Diversity Index. SWTP = Southeastern Wisconsin Till Plain. Created using data from Onterra August 2016 point-intercept survey.

floating-leaf plant communities, a replication of this survey in the future will provide a valuable understanding of the dynamics of these communities within this area of Sturgeon Bay. This is important, because these communities are often negatively affected by recreational use and shoreland development. Radomski and Goeman (2001) found a 66% reduction in vegetation coverage on developed shorelines when compared to undeveloped shorelines in Minnesota Lakes. Furthermore, they also found a significant reduction in abundance and size of northern pike (*Esox lucius*), bluegill (*Lepomis macrochirus*), and pumpkinseed (*Lepomis gibbosus*) associated with these developed shorelines.

Table 2. Acres of emergent and floating-leaf aquatic plant communities in Sturgeon Bay in 2016. Created using data from Onterra August 2016 community mapping survey.

Plant Community	2016 Acres
Emergent	1.3
Floating-leaf	0.0
Mixed Emergent & Floating-leaf	0.1
Total	1.4



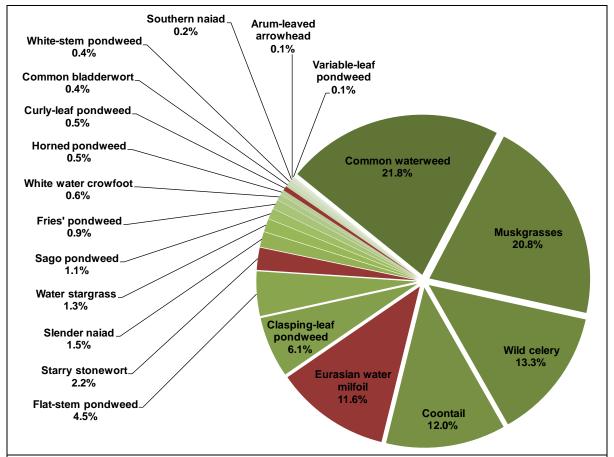


Figure 8. Relative frequency of occurrence of aquatic plants in Sturgeon Bay. Created using data from Onterra August 2016 point-intercept survey.

Non-Native Aquatic Plants in Sturgeon Bay Curly-leaf pondweed

Curly-leaf pondweed (Photo 2) is a European exotic first discovered in Wisconsin in the early 1900's that has an unconventional lifecycle giving it a competitive advantage over our native plants. Curly —leaf pondweed begins growing almost immediately after ice-out and by mid-June is at peak biomass. While it is growing, each plant produces many turions (asexual reproductive shoots) along its stem. By mid-July most of the plants have senesced, or died-back, leaving the turions in the sediment.

The turions lie dormant until fall when they germinate to produce winter foliage, which thrives under the winter snow and ice. It remains in this state until spring foliage is produced in early May, giving the plant a significant jump on native vegetation. Like other invasive plants, curly-leaf pondweed can become so abundant that it hampers recreational activities within the lake. Furthermore, its mid-summer die back can cause algal blooms spurred from the nutrients released during the plant's decomposition.



Photo 2. Curly-leaf pondweed, a non-native, invasive aquatic plant. Photo credit Onterra.

Because of its odd life-cycle, a point-intercept survey was conducted early in the growing season on June 20, 2016 to gain an understanding of the distribution of curly-leaf pondweed within the study area of Sturgeon Bay when it was at its peak growth. Curly-leaf pondweed was the second-most frequently encountered aquatic plant during the June point-intercept survey with a littoral frequency of occurrence of approximately 25%. Figure 9 illustrates the distribution of CLP in Sturgeon Bay as determined from the point-intercept survey. This plant is widespread and abundant throughout most of the study area, with the exception of deeper areas and the northeastern portion of the study area. It was most abundant between 6.0 and 17.0 feet of water, but was also observed growing in some of the marinas. While CLP is widespread, the majority (78%) of the point-intercept locations containing CLP had a CLP rake fullness rating of 1, indicating that in most areas it is not overly dense. During the August point-intercept survey, CLP had a littoral frequency of occurrence of <1%, indicating that the majority of the population had died back by this time.

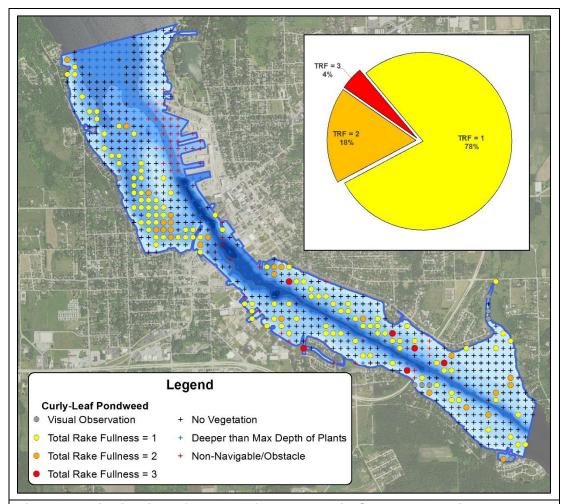


Figure 9. Distribution of curly-leaf pondweed in Sturgeon Bay in June 2016. Created using data from Onterra June 2016 point-intercept survey.

Eurasian watermilfoil

Eurasian watermilfoil (Photo 3) is an invasive species, native to Europe, Asia and North Africa, that has spread to most Wisconsin counties. Eurasian watermilfoil (EWM) is unique in that its primary mode of propagation is not by seed. It actually spreads by shoot fragmentation, which has supported its transport between lakes via boats and other equipment. In addition to its propagation method, EWM has two other competitive advantages over native aquatic plants: 1) it starts growing very early in the spring when water temperatures are too cold for most native plants to grow, and 2) once its stems reach the water surface, it does not stop growing like most native plants, instead it continues to grow along the surface creating a canopy that blocks light from reaching native plants. Eurasian water-milfoil can create dense stands and dominate submergent communities, reducing important natural habitat for fish and other wildlife, and impeding recreational activities such as swimming, fishing, and boating.

Unlike CLP, EWM reaches its peak growth in mid- to late-summer, and assessments are usually completed in July through September to capture populations at their peak. Figure 10 illustrates the distribution of EWM in the study area of Sturgeon Bay as determined from the point-intercept

survey completed by Onterra. During this survey, EWM had a littoral frequency of occurrence approximately 16%, making it the fifthmost frequently encountered aquatic plant. It was most abundant between 4.0 and 14.0 feet of water. Total rake fullness data indicate that approximately 84% of the point-intercept sampling locations that contained EWM had an EWM total rake fullness rating of 1. Like CLP, while EWM is widespread throughout the study area, in most locations it is not overly dense. Onterra ecologists did note EWM growing within some of the marinas.



Photo 3. Eurasian watermilfoil, a non-native, invasive aquatic plant. Photo credit Onterra.

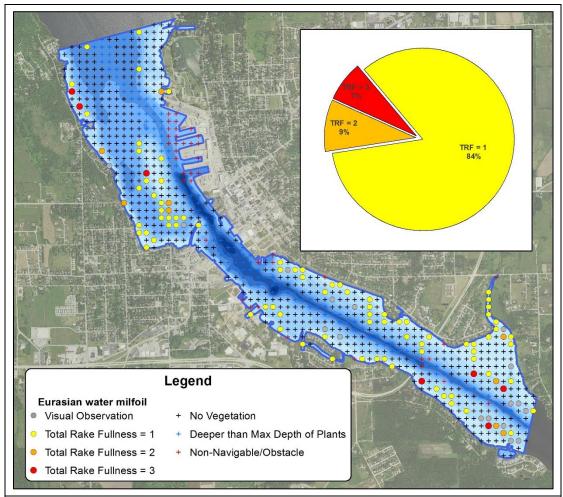


Figure 10. Distribution of Eurasian watermilfoil in Sturgeon Bay in August 2016. Created using data from Onterra August 2016 point-intercept survey.

Starry stonewort

Starry stonewort (*Nitellopsis obtusa*; SSW; Photo 4) is a non-native, invasive macrolagae that was first observed in the United States in 1978 within the St. Lawrence River. It was recently discovered in a southeastern Wisconsin lake in 2014, and has since spread to six lakes within three counties in southeastern Wisconsin. The discovery of starry stonewort in Sturgeon Bay in 2016 marks the first record of its occurrence in Lake Michigan.

Like other invasive species, starry stonewort has been shown to quickly dominate aquatic plant communities, in some cases growing to nuisance levels and hindering recreation. During the August 2016 point-intercept survey on Sturgeon Bay, SSW had a relatively low littoral frequency of occurrence of approximately 3%. Figure 11 illustrates that SSW is widespread within the study area,



Photo 4. Starry stonewort, a nonnative, invasive macroalgae. Photo credit Onterra.

but it was most frequently encountered within the southern portion of the study area. Starry stonewort was most abundant between 6.0 and 10.0 feet in Sturgeon Bay. Since its discovery in Sturgeon Bay, the WDNR has verified the presence of Starry Stonewort in Green Bay near Brussels, Fish Creek, and Little Sturgeon Bay.

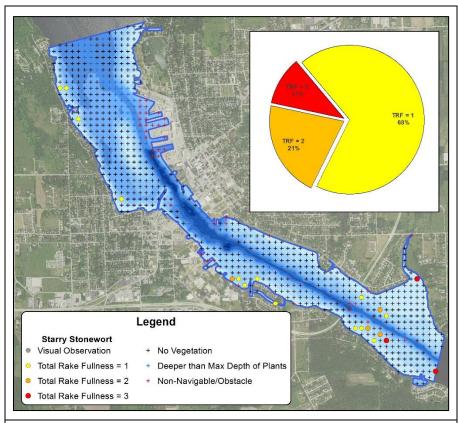


Figure 11. Distribution of starry stonewort in Sturgeon Bay in August 2016. Created using data from Onterra August 2016 point-intercept survey.



Purple loosestrife

Purple loosestrife (Photo 5) is a perennial herbaceous plant native to Europe and was likely brought over to North America as a garden ornamental. This plant escaped from its garden landscape into wetland environments where it is able to out-compete our native plants for space and resources. First detected in Wisconsin in the 1930's, it has now spread to 70 of the state's 72 counties. Purple loosestrife largely spreads by seed, but also can vegetatively spread from root or stem fragments.

Numerous purple loosestrife occurrences were located growing along portions of Sturgeon Bay's shoreline (Map 2). All of these occurrences were comprised of a single or few plants, and no large monotypic colonies were observed. There are a number of effective control strategies for combating this aggressive plant, including herbicide application, biological control by native beetles, and manual hand removal.



Photo 5. Purple loosestrife, a nonnative, invasive wetland plant. Photo credit Onterra.

Giant Reed (aka Phragmites)

Giant reed (*Phragmites australis* subsp. *australis*) is a tall, perennial grass that was introduced to the United States from Europe. While a native strain (*P. australis* subsp. *americanus*) of this species exists in Wisconsin, the plants located along the shorelines and in shallow water in Sturgeon Bay are the non-native, invasive strain. Giant reed forms towering, dense colonies that overtake native vegetation and replace it with a monoculture that provides inadequate sources of food and habitat for wildlife.

Giant reed was found growing in multiple locations in Sturgeon Bay in 2016 (Map 2). Because this species has the capacity to displace the valuable wetland plants along the exposed shorelines, it is recommended that these plants be removed by cutting and bagging the seed heads and applying herbicide to the cut ends. This management strategy is most effective when completed in late summer or early fall when the plant is actively storing sugars and carbohydrates in its root system in preparation for over-wintering. A permit issued by the WDNR will likely be needed to place herbicide on plants that are located within the water.

Summary and Conclusions

The goal of the 2016 aquatic plant studies on Sturgeon Bay were designed to assess the study area's aquatic plant community, both in terms of its native and non-native populations. These surveys revealed that Sturgeon Bay harbors a higher number of native aquatic plant species when compared to Wisconsin's inland lakes within the Southeastern Wisconsin Till Plains ecoregion. In addition, the surveys indicate that Sturgeon Bay's aquatic plant community has higher floristic quality when compared to inland lakes within the ecoregion. However, disturbance to the plant community is evident through the presence of five non-native species and a low occurrence of emergent and floating-leaf plant communities.

Curly-leaf pondweed and Eurasian watermilfoil were found to be widespread throughout the study area, but in most places where they occur, they were not overly dense. The discovery of starry stonewort in Sturgeon Bay represented the first documented occurrence of this plant in Lake Michigan, and given its widespread nature within the study area (and subsequently in Green Bay) indicates that this plant has likely been present for some time eluding detection. Purple loosestrife and giant reed were also found to be widespread along the shorelines of the study area.

In 2017, information pertaining to stakeholder use, perceptions, and concerns will be gathered to further aid in the development of an updated management plan for the City of Sturgeon Bay. Following the collection of this information, Onterra ecologists will work with the city to develop realistic and implementable management goals that will focus on aquatic plant protection, restoration, monitoring and nuisance growth management.



STAKEHOLDER SURVEY RESULTS

As a part of this project, the city and WDNR identified three stakeholder groups that are important in the development of an aquatic plant management plan. A stakeholder survey was distributed to private riparian property owners, marine owners/managers, and recreational boaters utilizing the bay through public landings around Sturgeon Bay. Each stakeholder group received a survey specifically designed to most efficiently and effectively reach that group. The surveys were designed by Onterra staff and reviewed by a WDNR social scientist. During March 2017, these surveys were distributed and conducted through Survey Monkey, written form, and an in-person questionnaire for stakeholders.

Of the 199 resident stakeholders who had the opportunity to complete the online survey, 27% were completed. Two written boat landing surveys were collected and 67% of the Marina interviews were conducted. Please note that a benchmark of a 60% response rate is required to portray population projections accurately, and make conclusions with statistical validity. The data were analyzed and summarized by Onterra staff for use at the planning meetings and within the management plan. All surveys and results can be found in Appendices B, C and D while discussion of those results is provided in a general summary below.

Residence Stakeholder Survey

It is important to note, based on the survey results described above, the results of residence Stakeholder Survey, cannot be used to portray population projections accurately as the response rate was below 60%. However, a summary of the data received from the 53 online survey responses is provided below.

A distribution list of the qualified stakeholders was compiled by the city. During the five-week survey availability three reminder postcards were sent to residents with instructions on how to access the online survey. Figures 12 and 13 highlight questions within this survey particular to Sturgeon Bay utilization, aquatic plant management, and fisheries. Based upon the results of the online Stakeholder Survey, much was learned about the people who use and care for Sturgeon Bay.

The majority of respondents (64%) live on the bay year-round while 15% have a seasonal residence property, 14% visit on weekends throughout the year, and 2% have undeveloped property. Almost half of survey respondents indicate that they use either a runaround boat, canoe/kayak/stand-up paddleboard, or a combination of these vessels on Sturgeon Bay (Question 7). Sailboats, cabin cruisers and pontoon boats were the next most popular options. On a highly utilized area such as Sturgeon Bay, the importance of responsible boating activities is increased. The need for responsible boating especially increases during weekends, holidays, and during times of nice weather or good fishing conditions as well, due to increased traffic on the lake. As seen on Question 3, some of the top recreational activities on Sturgeon Bay involve boat use.

As shown in Question 3, fishing – open water was the third most important reason for stakeholders to own property on Sturgeon Bay. Based on the respondents who have personally fished Sturgeon Bay in the past three years, yellow perch, smallmouth bass, northern pike and walleye were the most popular fish species to catch (Question 6). The majority, 65%, of residential stakeholders who responded to the survey believe aquatic plant management is needed in Sturgeon Bay



(Question 11). Stakeholders also showed a strong support for mechanical harvesting and/or herbicide control versus doing nothing to manage the aquatic plants (Question 12).

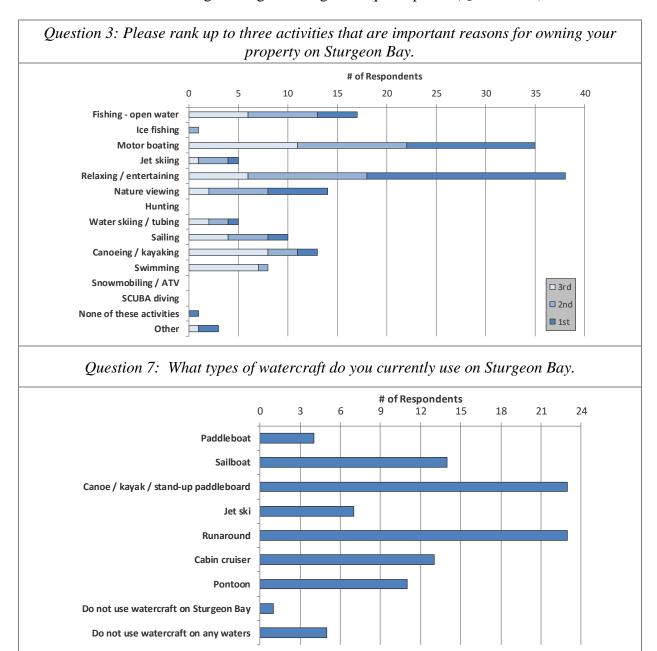


Figure 12. Select survey responses from the Sturgeon Bay Stakeholder Survey. Additional questions and response charts may be found in Appendix B.



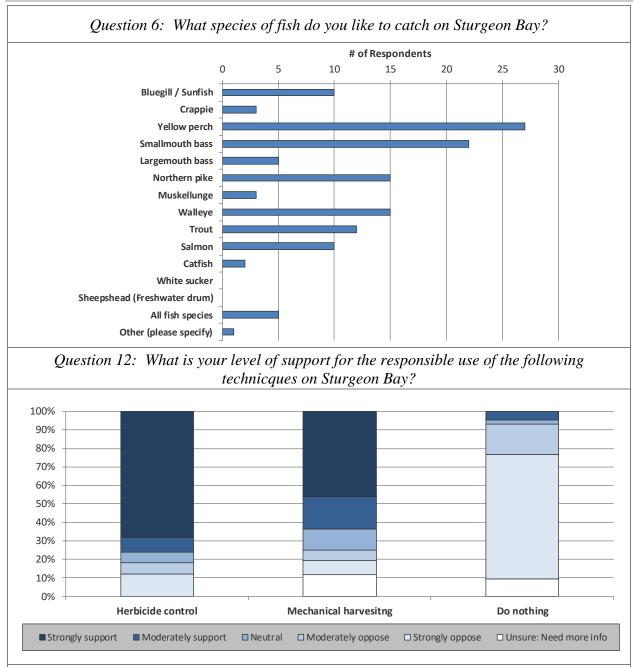


Figure 13. Select survey responses from the Sturgeon Bay Stakeholder Survey, continued. Additional questions and response charts may be found in Appendix B.

Marina Stakeholder Survey

Onterra staff contacted city officials to find interviewee contact information. Effort was made to ensure the interviewee was specifically a marine owner or boat slip manager of operations. This particular survey was designed to target the marinas not recreational boaters who use the marinas, their opportunity to take the survey were at boat landings described in the next section. Marina owners/managers were interviewed by phone or in-person by Onterra staff members.

Majority, five of the six marina owners/managers interviewed, said there are no current aquatic plant issues due to the herbicide and mechanical harvesting plan in place. These owners also feel overall if management of the aquatic plants ceased the marinas would have navigational issues. One marina said the current plan in place is not working and has a fragment problem in their marina. The majority, 65%, of residential stakeholders believe aquatic plant management is needed on Sturgeon Bay while the majority of marina owner/managers had very few if any aquatic plan concerns. This is likely due to recreational users considering the portion or portions of the canal they utilize and marina owners considering only the marinas they own/manage. Marina surveys are displayed in Appendix C.

Boat Landing Stakeholder Survey

Sunset Park and Sawyer Park boat landings are the two primary access points for recreational users to access the bay. A city staff member located at these locations asked recreational stakeholders using the boat landings to complete a written survey. Originally this survey was proposed to be an interview following a predetermined script; however, it was decided an offered written survey would reach more stakeholders. City staff were stationed at the landings May through August in 2017, one weekday every two weeks and one weekend day each month. During the aforementioned timeframe two surveys were completed both at the Sawyer Park boat landing. The low response rate may be due to how busy the boat landings can be during the summer months. Survey results showed they were fishing for yellow perch and walleye. Both stakeholders were also negatively impacted by plants in the Sturgeon Bay. Surveys are displayed in Appendix D.



AQUATIC PLANT MANAGEMENT PLAN

As a part of this project, the City of Sturgeon Bay and the WDNR requested that the updated management plan be shorter and easier to use than the previous plan created in the early 2000s, which was hundreds of pages long. To meet that request, Onterra presented the aquatic plant management plan in a simple, outlined form. Only two maps were recreated, one showing the mechanical harvesting areas and the other showing the potential herbicide treatment areas. Both of these maps are completely updated compared to earlier versions with the most recent bathymetry and accurate acreages and volumes. These maps were loaded on to a Garmin GPSMap 78 for use by city staff for setting up and monitoring the aquatic plant control strategy each year.

Four versions of the aquatic plant management plan, including maps, were created during the process of gaining approval from both the WDNR and City of Sturgeon Bay. Version 4 was approved by WDNR fisheries and lake staff in April 2018 and first implemented by the city that summer.

Mechanical Harvesting (Map 3)

Harvest Areas

- Cut to half the water depth or 4', whichever is shallower
- All harvest areas end at the pier face and no cutting can be completed between piers or within the City of Sturgeon Bay Pierhead Line, with the exception of the access lanes harvested in Purves and Ashers Lagoon
- All gamefish and yellow perch should be returned to the water immediately.
- If moderate numbers of gamefish or young-of-year perch are encountered while harvesting, harvest operations in that area will cease for at least 24 hours. After 24 hours, the area will be checked for presence of fish before harvesting resumes.
- Purves and Ashers Lagoons will be cut to create a 20' wide lane, if needed for navigation.

Mooring Areas

These areas will be harvested following the same guidelines as above

Access Lanes

- 30' wide access lanes will be maintained following the same harvesting guidelines as above
- The access lanes may not be needed in all years

Floater Harvesting

- Floaters can be harvested in all areas of the bay, including marinas, public boat launches, Purves Lagoon, and Ashers Lagoon
- Floaters cannot be harvested in No Harvest Areas or within the City of Sturgeon Bay Pierhead Line, except for the areas designated above.
- During floater harvesting, the cutter head will not be lower than 2' below the surface



Business and Residential Dockside Pick Up

 Harvesting crews will pick up aquatic plants harvested by business and private pier owners

 Harvested plants should be placed on dock furthest away from shore to allow easiest access for harvesting crew

No Harvest Area

This area would not be harvested without permission from the WDNR

Herbicide Control in Marina Areas (Map 4, insets on Map 5 & Map 6) Herbicide Treatment Areas & Timing

- Marina treatment areas extend from shore to approximately 10' of water depth
- Prior to each herbicide treatment, the city will inspect the treatment areas to determine if a treatment is warranted depending on the abundance of target species present
 - The surveyor would use a GPS loaded with a basemap that delineates the extents of the blocks available for treatment.
 - The surveyor would indicate if the average condition of the block is a 1)
 current nuisance, 2) anticipated nuisance, or 3) not current issue. The first
 two categories would be slated for treatment
- The treatment areas are small; therefore, to assure the best opportunity to obtain necessary concentration and exposure times, either the entirety of the area will be treated or it will not be treated at all. There would NOT be an option to only treat part of the site block.
- Treatments will occur when wind speeds at the Door County/Cherryland Airport are 10 mph or less
- A single herbicide treatment would occur each growing season

Mid-Season Herbicide Treatment

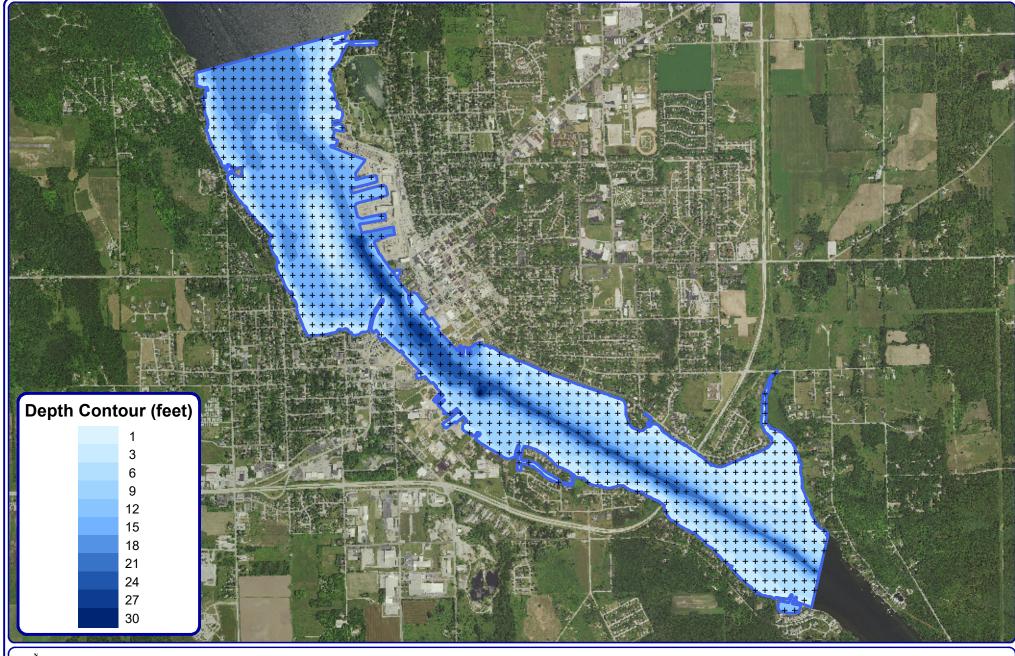
- Herbicides requiring short exposure times would be used to target Eurasian watermilfoil, curly-leaf pondweed, and nuisance natives
 - o Diquat, copper, flumioxazin, etc.
- If starry stonewort is found to be a current nuisance or an anticipated nuisance, the treatment strategy would also integrate best management practices for this non-native macro-algae (currently involving the use of copper herbicide/algaecide)
- Treatment would occur in late June to early July



LITERATURE CITED

- Borman, S.C. 2007. Aquatic Plant Communities and Lakeshore Land Use: Changes Over 70 Years in Northern Wisconsin Lakes. Ph.D. Dissertation. University of Minnesota, St. Paul, Minnesota.
- Gross, E.M., D. Erhard, and E. Iványi. 2003. Allelopathic activity of *Ceratophyllum demersum* L. and *Najas marina* spp. *intermedia* (Wolfgang) Casper. Hydrobiologia. 506:583.
- Hauxwell, J., S. Knight, K.I. Wagner, A. Mikulyuk, M.E. Nault, M. Porzky and S. Chase. 2010. Recommended Baseline Monitoring of Aquatic Plants in Wisconsin: Sampling Design, Field and Laboratory Procedures, Data entry and Analysis, and Applications. WDNR, Madison, WI. PUB-SS-1068 2010.
- Nichols, S.A. 1999. Floristic quality assessment of Wisconsin lake plant communities with example applications. Journal of Lake and Reservoir Management 15(2): 133-141
- Radomski P. and T.J. Goeman. 2001. Consequences of Human Lakeshore Development on Emergent and Floating-leaf Vegetation Abundance. North American Journal of Fisheries Management. 21:46–61.







2,300

Feet

Onterra, LLC Lake Management Planning 815 Prosper Road De Pere, WI 54115 920.338.8860 www.onterra-eco.com

Orthophotography: NAIP, 2015
Bathymetry: Onterra, 2016
Map Date: November 30, 2016
Filename: Map1_SturgeonBay_Location.mxd



Project Boundary (~1,013 acres)
Max Depth: 34 feet
Calculated Volume: ~12,800 acre-feet

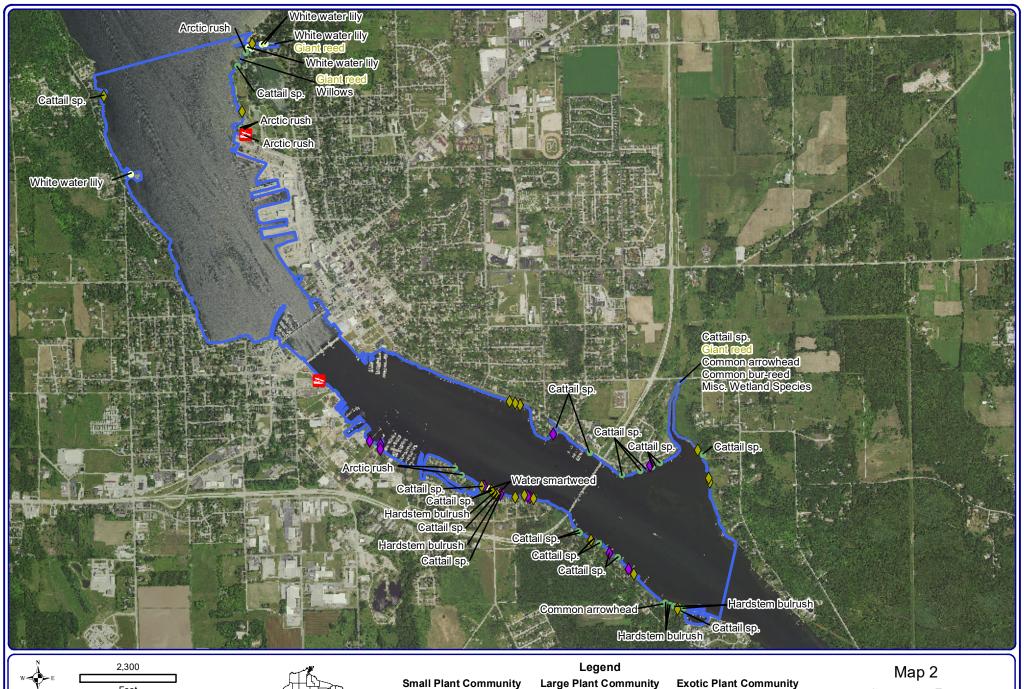
Point-Intercept Survey Location 73 meter spacing; 772 total points

Legend

Map 1

Sturgeon Bay Door County, Wisconsin

Project Location & Boundaries





Roads and Hydro: WDNR Map Date: October 24, 2016

Filename: Sturge on Bay_Comm_Summer16.mxd



Small Plant Community

- Emergent
- Floating-Leaf
- Mixed Emergent & Floating-Leaf



Floating-Leaf



Mixed Emergent & Floating-Leaf

Exotic Plant Community

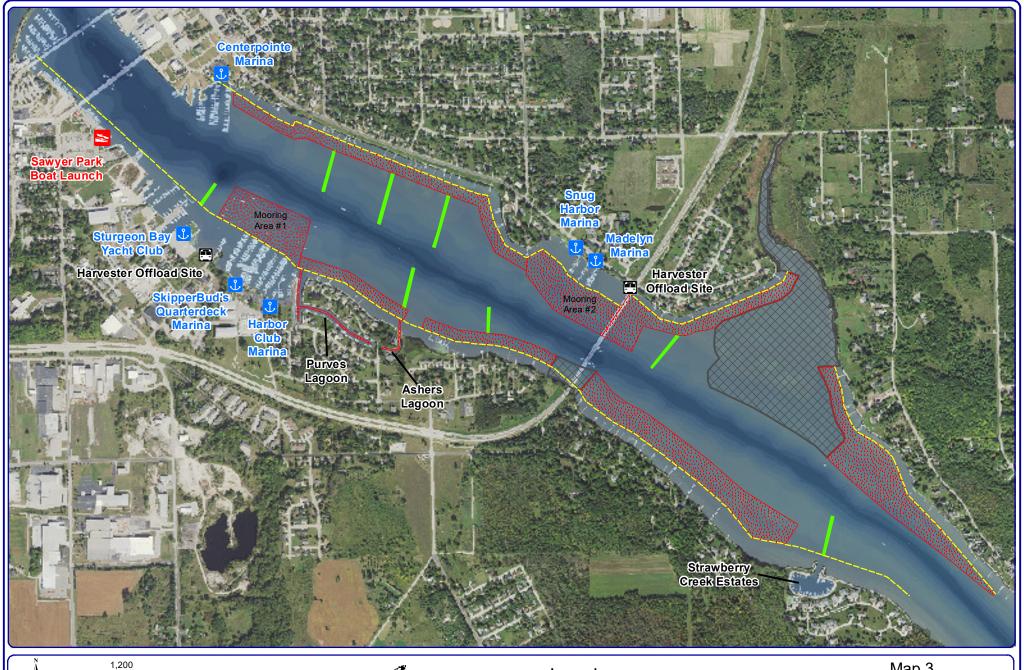
Purple Loosestrife

♦ Giant Reed

Sturgeon Bay

Door County, Wisconsin

Emergent & Floating-Leaf Aquatic Plant Communities





Feet

Onterra LLC
Lake Management Planning 815 Prosper Road De Pere, W1 54115 920.338.8860 www.onterra-eco.com

Sources: Hydro and Roads: WDNR Orthophotography: NAIP, 2017 Bathymetry: Modeled by Onterra, 2016 Pierhead Line: City of Sturgeon Bay Map Date: June 13, 2018 - EJH Filename: SturgeonBay_HarvestingLocations_Modified.mxd



Legend



Harvest Area (~116 Acres)

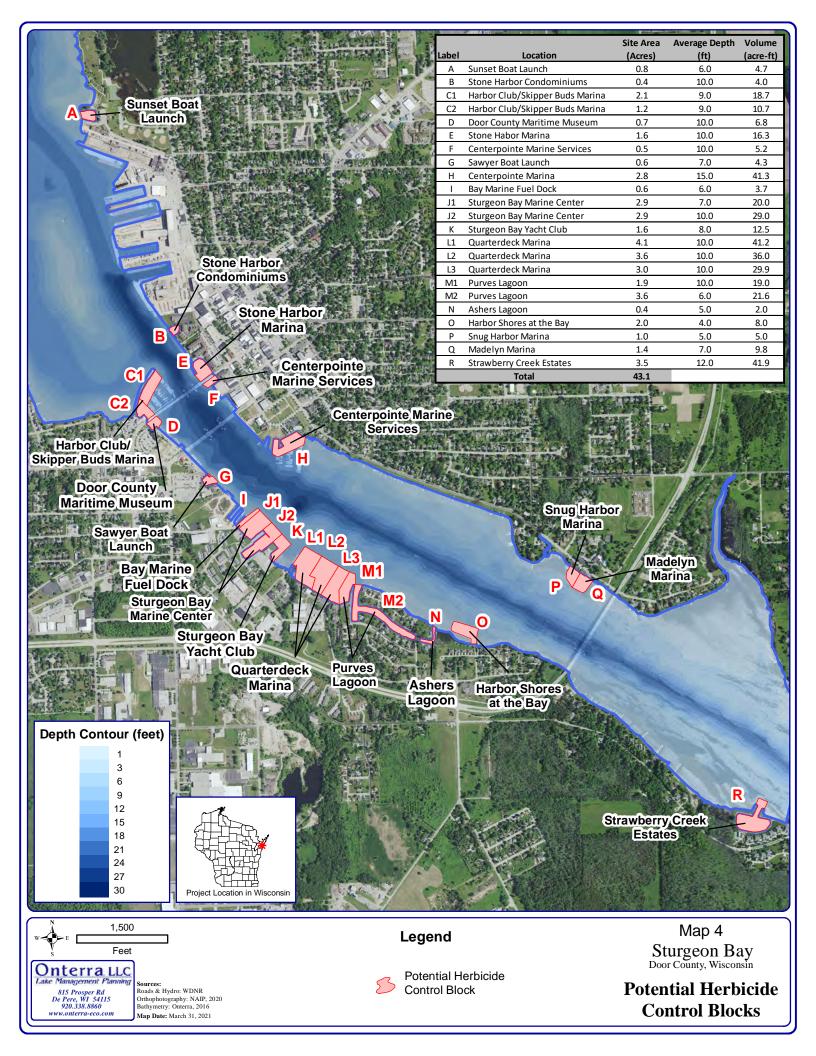
Access Lane (30 ft wide, ~3 Acres)

No Harvest Area (~64 Acres)

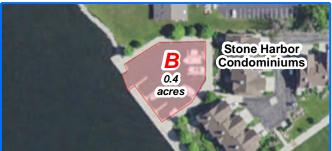
Map 3

Sturgeon Bay Door County, Wisconsin

Mechanical Harvesting Strategy



















Sources: Hydro and Roads: WDNR Orthophotograph: NAIP, 2020 Map Date: March 31, 2021



Legend

Potential Herbicide Control Block Map 5

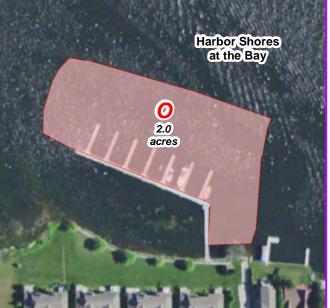
Sturgeon Bay Door County, Wisconsin

Potential Herbicide Control Blocks - Detailed View















S
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De Pere, WI 54115
920.338.8860
www.onterra-eco.com

Sources: Hydro and Roads: WDNR Orthophotograph: NAIP, 2020 Map Date: March 31, 2021



Legend

Potential Herbicide
Control Block

Map 6

Sturgeon Bay Door County, Wisconsin

Potential Herbicide Control Blocks - Detailed View



APPENDIX A

2016 Aquatic Plant Survey Data

ıber				ME			tew			-	PE	2		E		Myrio phyllum spicatum	Potamogeton crispus Calla palustris	Ceratophyllum demersum	ď	nadensis	Elodea nuttallii Heteranthera dubia	Myriophyllum sibiricum	Najas guadalupensis	ν.	ıriegata	Potamogeton foliosus	Potamogeton friesii	Potamogeton praelongus Potamogeton richardsonii	Potamogeton zosteriformis	Ranunculus aquatilis	Stuckenia pectinata	vulgaris	Vallisneria americana Filamentous algae	Zannichellia palustris
Point Number	Latitude	Longitude	2	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	нтчэо	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyl	Potamogeton e	Ceratophy	Chara spp.	Elodea canadensis	Elodea nuttallii Heteranthera d	Myriophyl	Najas gua	Nitella spp.	Nuphar variegata	Potamoge	Potamoge	Potamoge	Potamoge	Ranuncul	Stuckenia	Utricularia vulgaris	Vallisneria america Filamentous algae	Zannichel
1	-87.387779	44.850792		Sturgeon Bay	Door	6/20/2016	EEH & CMB	1	10	Rock	Pole	SAMPLED			1				1														l	
2	-87.386856	44.850771	_	Sturgeon Bay	Door	6/20/2016	EEH & CMB	2	6	Rock	Pole	SAMPLED			0																	4	+	\perp
3	-87.385934	44.850750		Sturgeon Bay	Door	6/20/2016	EEH & CMB	3	3	Sand	Pole	SAMPLED			0																		+	+
- 4	-87.390578 -87.389655	44.850199 44.850178		Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	5	19	Sand	Rope	SAMPLED			0	1																1	\top	\dagger
6	-87.388732	44.850157		Sturgeon Bay	Door	6/20/2016	EEH & CMB	6	11	Sand	Pole	SAMPLED			0																			
7	-87.387809	44.850136		Sturgeon Bay	Door	6/20/2016	EEH & CMB	7	8	Sand	Pole	SAMPLED			1				1														4	
8	-87.386886	44.850115		Sturgeon Bay	Door	6/20/2016	EEH & CMB	8	4	Rock	Pole	SAMPLED			0	4																\perp	+	+
9	-87.385963	44.850094	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	9	4	Sand	Pole	SAMPLED			0	1																	+	+
10	-87.394299 -87.393376	44.849627 44.849606	Т	Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	10	21			DEEP																					T	\dagger
12	-87.392453	44.849585		Sturgeon Bay	Door	6/20/2016	EEH & CMB	12	0			DEEP																					I	
13	-87.391530	44.849564	1	Sturgeon Bay	Door	6/20/2016	EEH & CMB	13	0			DEEP																				_	4	\bot
14	-87.390607	44.849543		Sturgeon Bay	Door	6/20/2016	EEH & CMB	14	19		Rope	SAMPLED			0	+												+				+	+	+
15	-87.389684 -87.388762	44.849522 44.849501	Т	Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	15	17	Sand	Rope	SAMPLED			0													+	+			1	+	+
17	-87.388762 -87.387839	44.849479	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	16	7	Rock	Pole	SAMPLED			0			İ				L	L					1	İ	L			T	
18	-87.386916	44.849458	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	18	3	Rock	Pole	SAMPLED			0	1	I				I					I		Ţ	I			1	I	
19	-87.398020	44.849055	1	Sturgeon Bay	Door	6/20/2016	EEH & CMB	19	19		Rope	SAMPLED			0																	_	4	\bot
20	-87.397097	44.849034		Sturgeon Bay	Door	6/20/2016	EEH & CMB	20	0			DEEP				-													+			-	+	+
21	-87.396174 -87.395251	44.849013 44.848992	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	21	0			DEEP																					+	+
23	-87.394328	44.848971		Sturgeon Bay	Door	6/20/2016	EEH & CMB	23	0			DEEP																					T	
24	-87.393405	44.848950		Sturgeon Bay	Door	6/20/2016	EEH & CMB	24	0			DEEP																					Ţ	
25	-87.392483	44.848928	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	25	0			DEEP																-				4	+	\perp
26	-87.391560	44.848907		Sturgeon Bay	Door	6/20/2016	EEH & CMB	26	20			DEEP																+				+	+	+
27	-87.390637 -87.389714	44.84886 44.848865		Sturgeon Bay	Door	6/20/2016	EEH & CMB	27	19		Rope	SAMPLED			0																		+	+
29	-87.388791	44.848844		Sturgeon Bay	Door	6/20/2016	EEH & CMB	29	9	Sand	Pole	SAMPLED			0																			
30	-87.387868	44.848823		Sturgeon Bay	Door	6/20/2016	EEH & CMB	30	6	Sand	Pole	SAMPLED			0																		4	
31	-87.386946	44.848802	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	31	4	Sand	Pole	SAMPLED			0	-													+			-	+	+
32	-87.398972	44.848419	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	32	15	Sand	Pole	SAMPLED			2	1	2	1								1							+	+
33	-87.398049 -87.397126	44.848398	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	33	0		Rope	SAMPLED			U																	T	T	
35	-87.396204	44.848356	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	35	0			DEEP																					l	
36	-87.395281	44.848335	_	Sturgeon Bay	Door	6/20/2016	EEH & CMB	36	0			DEEP																				4	4	\perp
37	-87.394358	44.848314		Sturgeon Bay	Door	6/20/2016	EEH & CMB	37	0			DEEP																					+	+
38	-87.393435	44.848293		Sturgeon Bay	Door	6/20/2016	EEH & CMB	38	0		Dono	DEEP			0																	$^{+}$	+	+
40		44.848272					EEH & CMB	40	0		Rope	SAMPLED			U																		T	\top
41		44.848230			Door		EEH & CMB	41	19		Rope	SAMPLED			0																		I	
42	-87.389744	44.848209		Sturgeon Bay	Door	6/20/2016	EEH & CMB	42	19		Rope	SAMPLED			0	4																_	4	\perp
43	-87.388821	44.848188		Sturgeon Bay		6/20/2016		43	9	Sand	Pole	SAMPLED			0																		+	+
44	-87.387898 -87.398079	44.848166 44.847742		Sturgeon Bay Sturgeon Bay	Door		EEH & CMB	44	17	Sand	Pole	SAMPLED			1	1	1															$^{+}$	1	+
46	-87.397156	44.847721			Door		EEH & CMB	46	19		Rope	SAMPLED			0																		T	
47	-87.396233	44.847700					EEH & CMB		0			DEEP																					Ţ	
48	-87.395310	44.847679	4	Sturgeon Bay	Door		EEH & CMB	48	0			DEEP			4	4		-								4	-	+	+	-	Н	1	+	\dashv
49		44.847658					EEH & CMB		0			DEEP			\dashv	+	+	+			+					-	-	+	-		H	+	+	+
50	-87.393465 -87.392542	44.847637 44.847615		Sturgeon Bay	Door	6/20/2016	EEH & CMB	50	0			DEEP			\dashv	+	+				+					1	1	+	-		H	+	+	+
52	-87.392542 -87.391619		Т		Door		EEH & CMB	52	19		Rope	SAMPLED			0	╛		L				L						╧	İ	L		╛	I	1
53	-87.390696			Sturgeon Bay			EEH & CMB	53	19		Rope	SAMPLED			0	1	I				1					I		Ţ	I			1	I	
54	-87.389773	44.847552	4	Sturgeon Bay	Door	6/20/2016	EEH & CMB	54	17		Rope	SAMPLED			1	4		-			1					4	-	+	+	-	Н	1	+	\downarrow
55	-87.388851				Door		EEH & CMB		8	Sand		SAMPLED			0	+	+	+			+					-	-	+	-		H	+	+	+
56 57	-87.387928 -87.399031	44.847510 44.847106		Sturgeon Bay Sturgeon Bay		6/20/2016	EEH & CMB	56 57	7	Sand		SAMPLED			0	1	1	1			3	1					1	+	+		H	1	+	$\dagger \dagger$
58		44.847106					EEH & CMB		15	mutk	Rope	SAMPLED			1	╛	1	1			1	L	L					╧	İ	L		╛	I	1
59		44.847064			Door		EEH & CMB	59	18		Rope	SAMPLED			0	$oxed{I}$								Щ		J			Ī				#	$oldsymbol{ol}}}}}}}}}}}}}}}}}}}}}$
60	-87.396263	44.847043	4	Sturgeon Bay	Door	6/20/2016	EEH & CMB	60	19		Rope	SAMPLED			0	4		-								4	-	+	+	-	Н	1	+	\downarrow
61	-87.395340	44.847022			Door	6/20/2016		61	0			DEEP			\dashv	-	+				+			H		\dashv	-	+	+	-	H	-	+	+
62	-87.394417	44.847001	⊥	Sturgeon Bay	Door	6/20/2016	EEH & CMB	62	0	L	<u> </u>	DEEP	ı		L				Щ.	Ш	L_	1	Щ.	Ш		_1	L				ш			لــــــــــــــــــــــــــــــــــــــ

Point Number	91	pn		LAKE_NAME	È		FIELD_CREW	MUM	_	ENT	ROPE	ENTS	10	NCE		Myriophyllum spicatum	Potamogeton crispus	Ceratophyllum demersum	spp.	Elodea canadensis	Elodea nuttallii	Myriophyllum sibidcum	Naias quadalupensis	spp.	Nupharvariegata	Potamogeton foliosus	Potamogeton friesii	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton zosteriformis	Kanunculus aquatilis	Stuckenia pectinata	Vallisneria americana	Filamentous algae	Zannichellia palustris
Point P	Latitude	Longitude	2	LAKE	COUNTY	DATE_	FIELD	PNT_NUM	рертн	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriop	Potam	Cerato	Chara spp.	Elodea	Elodea	Myrion	Najas	Nitella spp.	Nupha	Potam	Potam	Potam	Potam	Potam	Kanun	Stucke	Vallisn	Filame	Zannic
63	-87.393494	44.846980		Sturgeon Bay	Door	6/20/2016	EEH & CMB	63	0			DEEP																				4	L	Ļ	Ш
64	-87.392571	44.846959		Sturgeon Bay	Door	6/20/2016	EEH & CMB	64	0			DEEP																				+	-	+	H
65 66	-87.391649 -87.390726	44.846938 44.846917	1	Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	65 66	19		Rope	SAMPLED			0							+		+						+		\dagger	+	T	H
67	-87.389803	44.846896		Sturgeon Bay	Door	6/20/2016	EEH & CMB	67	18		Rope	SAMPLED			0																	I		I	
68	-87.388880	44.846875		Sturgeon Bay	Door	6/20/2016	EEH & CMB	68	9	Sand	Pole	SAMPLED			0																	4	Ļ	Ļ	Ш
69	-87.387957	44.846853	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	69	9	Sand	Pole	SAMPLED			0			+	-			+		-						+	-	+	-	╁	Н
70	-87.387035 -87.399061	44.846832 44.846450		Sturgeon Bay	Door	6/20/2016	EEH & CMB	70	7	Sand	Pole	SAMPLED			0			+	<u> </u>													+	1	+	H
71	-87.399061 -87.398138	44.846429	Т	Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	71	13	Rock	Pole	SAMPLED			3			1	3	1	1						1					T	1	t	П
73	-87.397215	44.846408	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	73	18		Rope	SAMPLED			1						1														
74	-87.396292	44.846387		Sturgeon Bay	Door	6/20/2016	EEH & CMB	74	19		Rope	SAMPLED			0			-				-		-						_	-	4	_	1	Щ
75	-87.395370	44.846366		Sturgeon Bay	Door	6/20/2016	EEH & CMB	75	19		Rope	SAMPLED			0			+				+		+		+				+		+	+	╁	H
76 77	-87.394447 -87.393524	44.846345 44.846324		Sturgeon Bay	Door	6/20/2016	EEH & CMB	76 77	18		Rope	SAMPLED			0							+		+						+		\dagger	+	T	H
78	-87.393524 -87.392601	44.846324	Т	Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	78	19		Rope	DEEP			U	_		1	İ	L		İ	İ	İ	İ	İ	L			_		\pm	1	T	Г
79	-87.391678	44.846281	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	79	19		Rope	SAMPLED			0							I								Ţ	1	Ţ	I	$oxed{\Box}$	
80	-87.390756	44.846260	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	80	18		Rope	SAMPLED		4	0			-	-		_	-	-		-					\downarrow		+	\bot	\perp	Ш
81	-87.389833	44.846239	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	81	17		Rope	SAMPLED			0			+				+		+		+				+		+	+	╁	H
82	-87.388910 -87.387987	44.846218 44.846197		Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	82	8	Sand	Pole	SAMPLED			0							+	t	+						+		\dagger	+	t	H
84	-87.387064	44.846176		Sturgeon Bay	Door	6/20/2016	EEH & CMB	84	7	Sand	Pole	SAMPLED			0																	1			
85	-87.398167	44.845772		Sturgeon Bay	Door	6/20/2016	EEH & CMB	85	10	Sand	Pole	SAMPLED			2	1				1	1					1						1	L	L	Ш
86	-87.397245	44.845751	-	Sturgeon Bay	Door	6/20/2016	EEH & CMB	86	17		Rope	SAMPLED			1			-				-		-		-				1		4	-	1	Ш
87	-87.396322	44.845730		Sturgeon Bay	Door	6/20/2016	EEH & CMB	87	18		Rope	SAMPLED			0			+														+	+	+	H
88	-87.395399 -87.394476	44.845709 44.845688		Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	88	19		Rope	SAMPLED			0							+	t	+						+		\dagger	+	t	H
90	-87.393554	44.845667		Sturgeon Bay	Door	6/20/2016	EEH & CMB	90	17		Rope	SAMPLED			0			Ī														I	I	I	
91	-87.392631	44.845646		Sturgeon Bay	Door	6/20/2016	EEH & CMB	91	0			DEEP																				4	_	Ļ	Ш
92	-87.391708	44.845625	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	92	0			DEEP						+	-			+		-						+	-	+	-	╁	Н
93	-87.390785	44.845604	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	93	19		Rope	SAMPLED			0							+		+						+		+	+	+	H
94	-87.389862 -87.388940	44.845583 44.845562	Т	Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	94	6	Sand	Rope	SAMPLED			0																	T	\dagger	t	
96	-87.388017	44.845541		Sturgeon Bay	Door	6/20/2016	EEH & CMB	96	6	Sand	Pole	SAMPLED			0																	I		I	
97	-87.387094	44.845519	-	Sturgeon Bay	Door	6/20/2016	EEH & CMB	97	0			OTHER	Cargo Ships																			\perp		-	Ш
98	-87.398197	44.845116	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	98	6	Sand	Pole	SAMPLED			1	1		+				+		+		+				+		+	+	╁	H
99	-87.397274 -87.396351	44.845095 44.845074		Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	99	16		Rope	SAMPLED			1		1				1					t						\dagger	+	t	H
		44.845053									Rope				0																	1	I	İ	
102	-87.394506	44.845032		Sturgeon Bay	Door	6/20/2016	EEH & CMB	102	18		Rope	SAMPLED			0																	_	L	L	Ш
103	-87.393583	44.845011	1	Sturgeon Bay	Door	6/20/2016	EEH & CMB	103	17		Rope	SAMPLED			0			\perp	-			-	-	-						-	-	#	-	\vdash	Ы
104				Sturgeon Bay			EEH & CMB		0			DEEP		+	-	-		+			-	+	+		+				-	+	\parallel	+	+	+	H
105	-87.391738 -87.390815	44.844968			Door	6/20/2016	EEH & CMB		0			DEEP		1				+				\dagger	t	ŀ	t	H		H		\dagger	+	+	+	T	П
107	-87.389892	44.844926			Door	6/20/2016	EEH & CMB		17		Rope	SAMPLED			0								İ	t	İ						1	1	l	L	
108	-87.388969	44.844905			Door	6/20/2016	EEH & CMB	108	14	Sand	Pole	SAMPLED		_	0															4		4	╄	1	Ш
109	-87.388047	44.844884	Т		Door		EEH & CMB			Sand	Pole	SAMPLED		\dashv	1		-	+	\vdash		\dashv	+	+	+	+	-			1	+	+	+	+	+	H
110	-87.387124 -87.386201	44.844863 44.844842			Door		EEH & CMB		7	Sand		SAMPLED		+	1	1	1	+			\dashv	+	+	t	+	-			1	+	+	+	+	+	H
111	-87.386201 -87.398227	44.844842		Sturgeon Bay Sturgeon Bay	Door		EEH & CMB			Sand		SAMPLED			1	1		\dagger	1		1	t	t	t	T	Ì			1	\dagger	1	\dagger	1	T	П
113	-87.397304	44.844438			Door	6/20/2016	EEH & CMB		11	Sand	Pole	SAMPLED			1				1				1	L								I	I	I	
114	-87.396381	44.844417	1	Sturgeon Bay	Door	6/20/2016	EEH & CMB	114	17		Rope	SAMPLED		4	0			1				+	1	+	-	-			1	4	4	4	+	\perp	Ц
115	-87.395458		+		Door		EEH & CMB		18		Rope	SAMPLED		+	0	-					-	+	-		+			H		+	-	+	+	+	Н
116	-87.394536 87.303613	44.844375		Sturgeon Bay	Door	6/20/2016	EEH & CMB	116	18		Rope	SAMPLED			0	1	+	+	\perp		=	\dagger	\dagger	+	\dagger	H			+	+	+	+	+	+	H
117	-87.393613 -87.392690	44.844333		Sturgeon Bay Sturgeon Bay	Door		EEH & CMB		17		Rope				0				İ	İ						Ì	İ			_		_	t	T	П
119	-87.391767	44.844312			Door	6/20/2016	EEH & CMB		19		Rope	SAMPLED		I	0							I	I	I	I					I	1	I	L		
120	-87.390845	44.844291	\downarrow	Sturgeon Bay	Door	6/20/2016	EEH & CMB	120	0			DEEP		4	-	-		-	-		_	+	+	-	-				-	4	4	4	+	\perp	\sqcup
121	-87.389922	44.844270			Door	6/20/2016			0		-	DEEP		+	-	-					-	+	-		+			H		+	-	+	+	+	Н
122	-87.388999 -87.388076	44.844249			Door	6/20/2016	EEH & CMB	122	0			OTHER	Cargo Ships Cargo Ships	\dashv	1	1		+	H		+	\dagger	\dagger		H				1	+	1	+	+	T	П
124	-87.387153	44.844206			Door	6/20/2016	EEH & CMB	124	0			OTHER	Cargo Ships		İ	İ						İ	T	t								1	I	T	

-							W									n spicatum	n crispus	Cara parustris Ceratophyllum demersum		densis	III 6	n sibircum	lupensis		egata	n foliosus	n friesii	Potamogeton praelongus Potamogeton richardsonii	Potamogeton zosteriformis	aquatilis	ectinata	ulgaris	mericana	palustris
Point Number	Latitude	Longitude	2	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEРТН	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyllum spicatum	Potamogeton crispus	Carla parustris Ceratophyllun	Chara spp.	Elodea canadensis	Elodea nuttallii	Myriophyllum sibiricum	Najas guadalupensis	Nitella spp.	Nuphar variegata	Potamogeton foliosus	Potamogeton friesii	Potamogeto Potamogeto	Potamogeto	Ranunculus aquatilis	Stuckenia pectinata	Utricularia vulgaris	Vallisneria america Filamentous algae	Zannichellia palustris
125	-87.398256	44.843803	1	Sturgeon Bay	Door	6/20/2016	EEH & CMB	125	7	Sand	Pole	SAMPLED			1	1																	_	_
126	-87.397333	44.843782	-	Sturgeon Bay	Door	6/20/2016	EEH & CMB	126	7	Sand	Pole	SAMPLED			1	1																_	+	\vdash
127	-87.396411	44.843761	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	127	16		Rope	SAMPLED			1		1										_					+	+	+
128	-87.395488 -87.394565	44.843740 44.843719	Ť	Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	128	18		Rope	SAMPLED			0		1											t				Ť	t	
130	-87.393642	44.843698		Sturgeon Bay	Door	6/20/2016	EEH & CMB	130	17		Rope	SAMPLED			1						1													
131	-87.392720	44.843677		Sturgeon Bay	Door	6/20/2016	EEH & CMB	131	16		Rope	SAMPLED			1						1												\downarrow	
132	-87.391797	44.843656	1	Sturgeon Bay	Door	6/20/2016	EEH & CMB	132	17		Rope	SAMPLED			0																	_	_	\perp
133	-87.390874	44.843634	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	133	0			DEEP					-										_	+				+	+	+
134	-87.389951	44.843613	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	134	0			DEEP															+	+				+	+	+-
135	-87.389029 -87.388106	44.843592 44.843571	t	Sturgeon Bay	Door	6/20/2016	EEH & CMB	135	0			DEEP OTHER	Cargo Ships																			+	+	+
137	-87.397363	44.843125	Ì	Sturgeon Bay	Door	6/20/2016	EEH & CMB	137	8	Sand	Pole	SAMPLED	Cargo Snips		1				1								T					T	T	
138	-87.396440	44.843104		Sturgeon Bay	Door	6/20/2016	EEH & CMB	138	10	Sand	Pole	SAMPLED			1	1											1							
139	-87.395518	44.843083		Sturgeon Bay	Door	6/20/2016	EEH & CMB	139	17		Rope	SAMPLED			1		1																_	
140	-87.394595	44.843062	1	Sturgeon Bay	Door	6/20/2016	EEH & CMB	140	18		Rope	SAMPLED			0																		_	_
141	-87.393672	44.843041	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	141	18		Rope	SAMPLED			0		+	+	-		+	+			-	-	+	+	-	\vdash	H	+	+	+
142	-87.392749	44.843020	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	142	16		Rope	SAMPLED			0		+	+	-	H	+	+			+	\dashv	\dashv	+	-	\vdash	H	+	+	+
143	-87.391827 -87.390904	44.842999	t	Sturgeon Bay	Door	6/20/2016	EEH & CMB	143	16	Muck	Pole	SAMPLED			0																	+	+	+
145	-87.389981	44.842978		Sturgeon Bay	Door	6/20/2016	EEH & CMB	145	0		Rope	DEEP			U																		T	\top
146	-87.389058	44.842936		Sturgeon Bay	Door	6/20/2016	EEH & CMB	146	0			OTHER	Cargo Ships																					
147	-87.388136	44.8429146		Sturgeon Bay	Door	6/20/2016	EEH & CMB	147	0			OTHER	Cargo Ships																				\perp	
148	-87.387213	44.8428935	1	Sturgeon Bay	Door	6/20/2016	EEH & CMB	148	0			OTHER	Cargo Ships														_					_	4	
149	-87.38629	44.8428724	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	149	0			OTHER	Cargo Ships																			_	+	\vdash
150	-87.385367	44.8428513		Sturgeon Bay	Door	6/20/2016	EEH & CMB	150	0			OTHER	Cargo Ships						-								-	+				+	+	+
151	-87.396470 -87.395547	44.842448	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	151	7	Sand	Pole	SAMPLED			1	1				1							_					+	+	+
152	-87.395547	44.842426		Sturgeon Bay	Door	6/20/2016	EEH & CMB	153	18		Rope	SAMPLED			0																		T	\top
154	-87.393702	44.842385		Sturgeon Bay	Door	6/20/2016	EEH & CMB	154	18		Rope	SAMPLED			0																			
155	-87.392779	44.842364		Sturgeon Bay	Door	6/20/2016	EEH & CMB	155	14	Sand	Pole	SAMPLED			1		1				1						1						_	
156	-87.391856	44.842343	1	Sturgeon Bay	Door	6/20/2016	EEH & CMB	156	15	Muck	Pole	SAMPLED			2		2																_	_
157	-87.390933	44.842321	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	157	15	Muck	Pole	SAMPLED			0												_					+	+	+
158	-87.390011	44.842300	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	158	17		Rope	SAMPLED			0												+	+				+	+	+-
159	-87.389088 -87.388165	44.842279 44.842258	Т	Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	159	0			DEEP																				+	\dagger	+
161	-87.387243	44.842237	Ì	Sturgeon Bay	Door	6/20/2016	EEH & CMB	161	0			OTHER	Cargo Ships														T					T	T	
162	-87.38632	44.8422159		Sturgeon Bay	Door	6/20/2016	EEH & CMB	162	0			OTHER	Cargo Ships																					
163	-87.385397	44.8421948	1	Sturgeon Bay	Door	6/20/2016	EEH & CMB	163	0			OTHER	Cargo Ships																			4	4	
164	-87.396499	44.841791	-	Sturgeon Bay	Door	6/20/2016	EEH & CMB	164	6	Muck	Pole	SAMPLED			3	1				3								-		1		_	+	+
165		44.841770	Т		Door		EEH & CMB			Rock	Pole	SAMPLED			0																	_	+	+
166		44.841749		Sturgeon Bay			EEH & CMB				Rope	SAMPLED		-	1		1	+		H	+	+			+	-	\dashv	+			H	+	+	+
167	-87.393731 -87.392809	44.841728 44.841707			Door	6/20/2016	EEH & CMB	167	17		Rope	SAMPLED			0		\dashv		t	H				H	1	1	1	+			H	+	+	\forall
169		44.841686			Door	6/20/2016			16		Rope	SAMPLED			0			╛					İ				J		1	İ		_	_	Ħ
170	-87.390963	44.841665			Door		EEH & CMB	170	15	Muck	Pole	SAMPLED			1		1	I									I	Ţ				I	I	
171	-87.390040	44.841644	1	Sturgeon Bay	Door	6/20/2016	EEH & CMB	171	16	Muck	Pole	SAMPLED			0												4	\perp				4	4	
172	-87.389118	44.841623	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	172	19		Rope	SAMPLED			0		\downarrow	+	-	H	4	+			4	_	4	+		-	Н	+	+	\dashv
173		44.841602					EEH & CMB		0			DEEP					+	+	+	H	+	+		Н	-	-	+	+	-		Н	+	+	+
174	-87.387272			Sturgeon Bay			EEH & CMB		0			OTHER	Cargo Ships				+	+		H	-			Н	-	-	\dashv	+		-	H	+	+	+
175 176	-87.38635 -87.385427	44.8415594 44.8415383		Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	175 176	0			OTHER	Cargo Ships				+	+		H	\dashv	+		H	+	1	1	+			H	+	+	\dagger
176		44.8415383			Door		EEH & CMB	176	0			OTHER	Cargo Ships Cargo Ships				\top		T	П					1	1	1	\dagger		T	H	T	\dagger	Ħ
178	-87.396529	44.841135		Sturgeon Bay	Door	6/20/2016	EEH & CMB	178	6	Muck	Pole	SAMPLED			3				3													I	I	
179	-87.395606				Door		EEH & CMB		7	Sand		SAMPLED			1		$oxed{\Box}$		1	Щ					J	I	Ţ				Ш	_[┰	Ц
180	-87.394684	44.841093	1	Sturgeon Bay	Door	6/20/2016	EEH & CMB	180	16		Rope	SAMPLED			0		_			\sqcup								1				4	4	\perp
181	-87.393761	44.841072	+	Sturgeon Bay	Door	6/20/2016	EEH & CMB	181	17		Rope	SAMPLED		4	1		+	+	-		+	-			-	4	+	+	1		Н	+	+	+
182	-87.392838	44.841051			Door		EEH & CMB		17		Rope	SAMPLED			0		+	-	+	H				H	+	-	\dashv	+			Н	+	+	+
183	-87.391915				Door	6/20/2016			17		Rope	SAMPLED			0		+	+	-	H	+	+		H	+	\dashv	+	+	-	\vdash	H	+	+	+
184	-87.390993 -87.390070	44.841009 44.840987		Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	184	15	Sand	Rope	SAMPLED			2	1	+	2		H	1	+		H	+	1	1	+	1		H	+	+	\dagger
186	-87.389147	44.840987		Sturgeon Bay	Door	6/20/2016	EEH & CMB	186	14	Sand	Pole	SAMPLED			0			_					İ				J			İ		_†	_	Ħ
				goon bay											-	_			-				_			_								

nber				ME			REW	_		-	PE	ø		ш		Myriophyllum spicatum	Potamogeton crispus	Ceratophyllum demersum		nadensis	rttallii era dubia	Myriophyllum sibiricum	Najas guadalupensis	Ġ	ariegata	Potamogeton foliosus	Potamogeton friesii	Potamogeton richardsonii	Potamogeton zosteriformis	Ranunculus aquatilis	Stuckenia pectinata	Utriculana Vulgaris Vallisneria americana	us algae	Zannichellia palustris
Point Number	Latitude	Longitude	2	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyl	Potamogeton Calla paluetrie	Ceratophy	Chara spp.	Elodea canadensis	Elodea nuttallii Heteranthera dubia	Myriophyl	Najas gua	Nitella spp.	Nuphar variegata	Potamoge	Potamoge	Potamoge	Potamoge	Ranuncul	Stuckenia	Utriculana vulgaris Vallisneria americar	Filamentous algae	Zannichel
187	-87.388225	44.840945	s	Sturgeon Bay	Door	6/20/2016	EEH & CMB	187	0			DEEP																						
188	-87.387302	44.840924	s	Sturgeon Bay	Door	6/20/2016	EEH & CMB	188	0			DEEP																					╄	\blacksquare
189	-87.386379	44.840903	s	Sturgeon Bay	Door	6/20/2016	EEH & CMB	189	0			OTHER	Cargo Ships														+						┾	\vdash
190	-87.385457	44.8408818		Sturgeon Bay	Door	6/20/2016	EEH & CMB	190	0			OTHER	Cargo Ships																				+	
191	-87.382688 -87.395636	44.8408184 44.840457		Sturgeon Bay Sturgeon Bay	Door	6/20/2016	EEH & CMB	191	5	Rock	Pole	OTHER SAMPLED	Cargo Ships		1	1			1								T						+	H
193	-87.394713	44.840436	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	193	13	Rock	Pole	SAMPLED			2	İ	1	1	Ċ		1													
194	-87.393791	44.840415	s	Sturgeon Bay	Door	6/20/2016	EEH & CMB	194	17		Rope	SAMPLED			0																			
195	-87.392868	44.840394	s	Sturgeon Bay	Door	6/20/2016	EEH & CMB	195	16		Rope	SAMPLED			0												4						╄	
196	-87.391945	44.840373	St	turgeon Bay	Door	6/20/2016	EEH & CMB	196	18		Rope	SAMPLED			0			-									\perp						┾	
197	-87.391022	44.840352	Т		Door	6/20/2016	EEH & CMB	197	16		Rope	SAMPLED			0	_		-									-						+	H
198	-87.390100 -87.389177	44.840331 44.840310	Т	turgeon Bay turgeon Bay	Door	6/20/2016	EEH & CMB	198	14	Sand	Pole	SAMPLED			1	1													1				+	H
200	-87.388254	44.840289	Т		Door	6/20/2016	EEH & CMB	200	0	Saliu	Pole	OTHER	Cargo Ships		1	1													1					
201	-87.387332	44.8402676		Sturgeon Bay	Door	6/20/2016	EEH & CMB	201	0			OTHER	Cargo Ships																					
202	-87.386409	44.8402465	s	Sturgeon Bay	Door	6/20/2016	EEH & CMB	202	0			OTHER	Cargo Ships																				L	
203	-87.385486	44.8402254	s	Sturgeon Bay	Door	6/20/2016	EEH & CMB	203	0			OTHER	Cargo Ships	Н			1	-	H		\perp	-		Н	4	4	_	\bot				+	+	\vdash
204	-87.384564	44.8402042	Т	Sturgeon Bay	Door	6/20/2016	EEH & CMB	204	0			OTHER	Cargo Ships					-									\perp						┾	
205	-87.383641	44.8401831		Sturgeon Bay	Door	6/20/2016	EEH & CMB	205	0			OTHER	Cargo Ships													+	+						+	
206	-87.382718 -87.394743	44.8401619 44.839780		Sturgeon Bay turgeon Bay	Door	6/20/2016	EEH & CMB	206	5	Rock	Pole	OTHER SAMPLED	Cargo Ships		1	1											T						+	
208	-87.393820	44.839759	Т	turgeon Bay	Door	6/20/2016	EEH & CMB	208	16	NOCK	Rope	SAMPLED			1	_	1																T	
209	-87.392897	44.839738		turgeon Bay	Door	6/20/2016	EEH & CMB	209	17		Rope	SAMPLED			1		1																	
210	-87.391975	44.839717	St	turgeon Bay	Door	6/20/2016	EEH & CMB	210	18		Rope	SAMPLED			1			1															L	
211	-87.391052	44.839696	St	turgeon Bay	Door	6/20/2016	EEH & CMB	211	17		Rope	SAMPLED			0																		╄	
212	-87.390129	44.839674	St	turgeon Bay	Door	6/20/2016	EEH & CMB	212	11	Sand	Pole	SAMPLED			1	1		-									1						┾	
213	-87.389207	44.839653	Т	turgeon Bay	Door	6/20/2016	EEH & CMB	213	5	Rock	Pole	SAMPLED			0	_		-	H								-						+	Н
214	-87.388284 -87.387361	44.839632 44.839611	Т	turgeon Bay turgeon Bay	Door	6/20/2016	EEH & CMB	214	8	Sand	Pole	SAMPLED			2				1	1	1						T				2		+	H
216	-87.386439	44.839590	Т	turgeon Bay	Door	6/20/2016	EEH & CMB	216	0			OTHER	Cargo Ships														T							
217	-87.385516	44.8395689			Door	6/20/2016	EEH & CMB	217	0			OTHER	Cargo Ships																					
218	-87.394772	44.839123	St	turgeon Bay	Door	6/20/2016	EEH & CMB	218	5	Sand	Pole	SAMPLED			0																		L	
219	-87.393850	44.839102	St	turgeon Bay	Door	6/20/2016	EEH & CMB	219	12	Sand	Pole	SAMPLED			2	1			2		1							1				1	_	\blacksquare
220	-87.392927	44.839081	St	turgeon Bay	Door	6/20/2016	EEH & CMB	220	16		Rope	SAMPLED			1		1				+												+	H
221	-87.392004	44.839060			Door	6/20/2016	EEH & CMB	221	18		Rope	SAMPLED			0																		+	
222	-87.391082 -87.390159	44.839039 44.839018	Т	turgeon Bay	Door	6/20/2016	EEH & CMB	222	17	Muck	Rope	SAMPLED			2		1				1								2				+	Ħ
224	-87.389236	44.838997	Ť	turgeon Bay	Door	6/20/2016	EEH & CMB	224	5	Sand	Pole	SAMPLED			0		-																	
225	-87.388314	44.838976	St	turgeon Bay	Door	6/20/2016	EEH & CMB	225	6	Sand	Pole	SAMPLED			1												1							
226	-87.387391	44.838955	St	turgeon Bay	Door	6/20/2016	EEH & CMB	226	0			OTHER	Cargo Ships																				L	
227	-87.386468	44.8389335	s	Sturgeon Bay	Door	6/20/2016	EEH & CMB	227	0			OTHER	Cargo Ships														-						╄	
228		44.8389124			Door		EEH & CMB		0			OTHER	Cargo Ships		\dashv		-	+			+	-			+	\dashv	+				-	+	+	\vdash
229	-87.382778 -87.393879	44.838849 44.838446	Т		Door	6/20/2016	EEH & CMB		0	Rock	Pole	OTHER SAMPLED	Cargo Ships	H	0			+	H					H	\dashv	+	+			Н	+	+	+	\vdash
230		44.838445			Door		EEH & CMB		17	NUCK	Rope	SAMPLED			0	1	l	\dagger	H	Ħ						1	\dagger					t	+	H
232	-87.392034	44.838404			Door	6/20/2016		232	18		Rope	SAMPLED			0																		L	
233	-87.391111	44.838383			Door	6/20/2016	EEH & CMB	233	17		Rope	SAMPLED			0																	Ĺ	L	Ш
234	-87.390189	44.8383615	s	Sturgeon Bay	Door	6/20/2016	EEH & CMB	234	15	Sand	Pole	SAMPLED		Н	1		1	1	H		\perp	-		Н	4	4	_	\bot	1			+	+	\vdash
235		44.8383404	Т		Door		EEH & CMB		9	Sand		SAMPLED			1	-	-	+	H		+	1		1	-	\dashv	+	-		Н	-	+	+	\dashv
236		44.8383193		Sturgeon Bay			EEH & CMB		4	Rock		SAMPLED		H	0		+	+	H		+	-		H	+	\dashv	+	+		H	\dashv	+	+	H
237		44.8382982 44.8382771			Door	6/20/2016	EEH & CMB	237	7	Sand	Pole	SAMPLED	Como Shi	H	1	1	+	+	H		+	1		H	+	+	+	+	1	H	1	+	+	\vdash
238		44.8382771			Door		EEH & CMB	238	0			OTHER	Cargo Ships Cargo Ships					T	Ħ					H		1	\dagger				1		t	П
240		44.8377683			Door	6/21/2016	JLW & CMB		10	Rock	Pole	SAMPLED			0		v																L	
241		44.8377472			Door	6/21/2016	JLW & CMB		19		Rope	SAMPLED		Ц	0				Ш		1			Ш			1						L	Ш
242	-87.391141	44.8377261	s	Sturgeon Bay	Door	6/21/2016	JLW & CMB	242	19		Rope	SAMPLED			1	_	1	-			1	1				4	- -	-			4	\perp	╄	
243	-87.390218	44.837705			Door	6/21/2016	JLW & CMB		17		Rope	SAMPLED		H	1		1	-	\vdash		1	-		H	\dashv	1	+	+		Н	+	+	+	\vdash
244		44.8376839			Door	6/21/2016	JLW & CMB			Sand		SAMPLED			1	1		+	H	H					-	1	+			H			+	\vdash
245		44.8376628			Door	6/21/2016	JLW & CMB		7	Rock	Pole	SAMPLED			0		1	+			-	1			+	\dashv	\dashv	+		H	+	1.	+	H
246		44.8376417 44.8376206	Т		Door	6/21/2016	JLW & CMB		7	Sand	Pole Pole	SAMPLED			0	1				H						1	\dagger			П		1	+	H
248	-87.385605	44.8375995			Door	6/21/2016	JLW & CMB	248	26			DEEP					1				1						1	l				İ	I	
							- 2				_			_								-								_				$\overline{}$

oer.			¥			EW				ř	ø			TRF Murjophyllum enicatum		on crispus tris	Ceratophyllum demersum		adensis	tallii ra dubia	Myriophyllum sibiricum	lalupensis		iegata	on rollosus	Potamogeton mesii	Potamogeton richardsonii	Potamogeton zosteriformis	s aquatilis	vulgaris	americana	s algae a palustris
Point Number	Latitude	Longitude	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	рертн	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	any indentym	Potamogeton crispus Calla palustris	Ceratophyl	Chara spp.	Elodea canadensis	Elodea nuttallii Heteranthera dubia	Myriophyllu	Najas guadalupensis	Nitella spp.	Nuphar variegata	Potamogeton rollosus	Potamogeton rnesiii Potamogeton praeic	Potamoget	Potamoget	Kanunculus aquatilis	Otricularia vulgaris	Vallisneria americana	Filamentous algae Zannichellia palustris
249	-87.384682	44.8375783	Sturgeon Bay	Door	6/21/2016	JLW & CMB	249	28			DEEP																				Ш	
250	-87.38376	44.8375572	Sturgeon Bay	Door	6/21/2016	JLW & CMB	250	23			DEEP			_	1																Ш	_
251	-87.382837	44.837536	Sturgeon Bay	Door	6/21/2016	JLW & CMB	251	23			DEEP	port for cargo ships			-									_	_		+			_	₽	+
252	-87.393016	44.8371118	Sturgeon Bay	Door	6/21/2016	JLW & CMB	252	8	Sand	Pole	SAMPLED			1 1	1		-		-	+			-	+			1	-	-	+	₩	+
253	-87.392093	44.8370908	Sturgeon Bay		6/21/2016	JLW & CMB	253	18		Rope	SAMPLED			0	+										+		+				+	+
254 255	-87.391171 -87.390248	44.8370697 44.8370486	Sturgeon Bay		6/21/2016	JLW & CMB	254 255	18		Rope	SAMPLED			0	Ť	1		1	_	1				+	t			1			+	+
256	-87.389325	44.8370486	Sturgeon Bay		6/21/2016	JLW & CMB	256	10	Sand	Rope	SAMPLED			1	T			1						1						T	\top	\top
257	-87.388403	44.8370064	Sturgeon Bay		6/21/2016	JLW & CMB	257	5	Rock	Pole	SAMPLED			1	T			Ė										1				
258	-87.38748	44.8369852	Sturgeon Bay	Door	6/21/2016	JLW & CMB	258	5	Sand	Pole	SAMPLED			0																		
259	-87.386557	44.8369641	Sturgeon Bay	Door	6/21/2016	JLW & CMB	259	9	Sand	Pole	SAMPLED			0																		
260	-87.385635	44.836943	Sturgeon Bay	Door	6/21/2016	JLW & CMB	260	20		Rope	SAMPLED			0	_																Ш	_
261	-87.384712	44.8369218	Sturgeon Bay	Door	6/21/2016	JLW & CMB	261	28			DEEP				-									_	_		+			_	₽	+
262	-87.38379	44.8369007	Sturgeon Bay	Door	6/21/2016	JLW & CMB	262	13	Muck	Pole	SAMPLED			1	+		1			1					+		\vdash				+	+
263	-87.392123	44.8364343	Sturgeon Bay		6/21/2016	JLW & CMB	263	17		Rope	SAMPLED		H	0	+	+	+	H	\dashv	+	\vdash	H	\dashv	+	+	+	\forall	+	+	+	+	+
264	-87.3912	44.8364132	Sturgeon Bay		6/21/2016	JLW & CMB	264	19		Rope	SAMPLED			1	+	1	+	H	\dashv	1	-	H		+	+		H		+	+	H	+
265	-87.390278 -87.389355	44.8363921 44.836371	Sturgeon Bay		6/21/2016	JLW & CMB	265 266	17	Sand	Rope	SAMPLED			2	†	2	2	H	1	1		H	1	\dashv	\dagger	+	H	1	\dagger	\dagger	\forall	+
267	-87.388432	44.8363499	Sturgeon Bay		6/21/2016	JLW & CMB	267	7	Sand	Pole	SAMPLED		П	1	Ť	_	-	1	7	1				7	1	t		Ť	†	T	T	\top
268	-87.38751	44.8363288	Sturgeon Bay		6/21/2016	JLW & CMB	268	3	Rock	Pole	SAMPLED			0																		
269	-87.386587	44.8363076	Sturgeon Bay	Door	6/21/2016	JLW & CMB	269	10	Muck	Pole	SAMPLED			1		1									1							
270	-87.385664	44.8362865	Sturgeon Bay	Door	6/21/2016	JLW & CMB	270	17		Rope	SAMPLED			0	1																	_
271	-87.384742	44.8362654	Sturgeon Bay	Door	6/21/2016	JLW & CMB	271	25			DEEP			_	4										_		\blacksquare				\perp	_
272	-87.383819	44.8362442	Sturgeon Bay	Door	6/21/2016	JLW & CMB	272	25			DEEP			_	+				_					_	+				4		\sqcup	_
273	-87.392153	44.8357778	Sturgeon Bay	Door	6/21/2016	JLW & CMB	273	16		Rope	SAMPLED			1	+										+		\vdash	1			+	+
274	-87.39123	44.8357567	Sturgeon Bay		6/21/2016	JLW & CMB	274	17		Rope	SAMPLED		H	1	+									_	+		+	1			+	+
275	-87.390307	44.8357356 44.8357145	Sturgeon Bay		6/21/2016	JLW & CMB	275	16		Rope	SAMPLED			1	+	1									+			1			+	+
277	-87.389385 -87.388462	44.835/145	Sturgeon Bay	Door	6/21/2016	JLW & CMB	277	14	Muck	Rope	SAMPLED			1	T	1				1					1						Ħ	
278	-87.387539	44.8356723	Sturgeon Bay		6/21/2016	JLW & CMB	278	5	Rock	Pole	SAMPLED			1											1						Ħ	
279		44.8356512	Sturgeon Bay		6/21/2016	JLW & CMB	279	9	Muck	Pole	SAMPLED			0																		
280	-87.385694	44.83563	Sturgeon Bay	Door	6/21/2016	JLW & CMB	280	11	Muck	Pole	SAMPLED			0																		
281	-87.384772	44.8356089	Sturgeon Bay	Door	6/21/2016	JLW & CMB	281	19		Rope	SAMPLED			0										_						_	Ш	4
282	-87.383849	44.8355878	Sturgeon Bay	Door	6/21/2016	JLW & CMB	282	27			DEEP				_				_					_						_	\perp	4
283	-87.382926	44.8355666	Sturgeon Bay	Door	6/21/2016	JLW & CMB	283	24			DEEP				+										+		\vdash				+	+
284	-87.392182	44.8351213	Sturgeon Bay		6/21/2016	JLW & CMB	284	7	Rock	Pole	SAMPLED			1 1	1		+			1					+		+				+	+
285	-87.39126 -87.390337	44.8351002 44.8350791	Sturgeon Bay		6/21/2016	JLW & CMB	285	16		Rope	SAMPLED		П	2	Ť	1	1		7					1	T			2		t	†	+
		44.8350791	Sturgeon Bay							Rope				1	T	1															Ħ	
288		44.8350369	Sturgeon Bay			JLW & CMB			Muck		SAMPLED			1		1															Ħ	
289		44.8350158	Sturgeon Bay		6/21/2016			12	Muck		SAMPLED			1		1																
290	-87.386647	44.8349947	Sturgeon Bay	Door	6/21/2016	JLW & CMB	290	8	Sand	Pole	SAMPLED			1						1											Ш	
291	-87.385724	44.8349736	Sturgeon Bay	Door	6/21/2016	JLW & CMB	291	11	Muck	Pole	SAMPLED			0	1		-	Ц	4	-	-			4	-	-	\sqcup		4	-	\perp	\bot
292	-87.384801	44.8349524	Sturgeon Bay	Door				13	Muck	Pole	SAMPLED			0	+		-			+	-			4	-		H		+	-	+	+
293		44.8349313	Sturgeon Bay		6/21/2016	JLW & CMB		23			DEEP		H	+	+	+	+	H	\dashv	+	-	H	-	\dashv	+	+	Н	+	+	+	+	+
294	-87.382956	44.8349101	Sturgeon Bay		6/21/2016	JLW & CMB		28		Da	DEEP		H		\dagger	+	+		+	+	\vdash		1	\dashv	+	t	+	+	\dagger	+	+	+
295	-87.382033 -87.391289	44.834889	Sturgeon Bay Sturgeon Bay		6/21/2016				Sand	Rope	SAMPLED		Ħ	0	t	\dagger	+		7	\dagger	L	H	1	\dagger	t	\dagger	H	\dashv	\dagger	\dagger	\dagger	+
297		44.8344227	Sturgeon Bay		6/21/2016			17	Jailu	Rope	SAMPLED		П	0	T	t			7			П		1	l	t	Ħ		1	T	Ħ	\top
298		44.8344016	Sturgeon Bay			JLW & CMB				Rope	SAMPLED			2	I	1				1						Τ		1	I	Τ		
299		44.8343805	Sturgeon Bay		6/21/2016			16		Rope	SAMPLED		Ш	2	Ţ	1	2	Ш	Ţ	1		Ц	_[Ţ				1	\int		╽	\bot
300	-87.387599	44.8343593	Sturgeon Bay	Door	6/21/2016	JLW & CMB	300	14	Muck	Pole	SAMPLED			1	1	1	1		_	1			_	4	1	1	Н	\downarrow	4	\downarrow	$oxed{oxed}$	\perp
301	-87.386676	44.8343382	Sturgeon Bay	Door	6/21/2016	JLW & CMB	301	12	Muck	Pole	SAMPLED		\Box	2 1	4	2	1	H	4	-	-			4	-	\perp	\mathbb{H}	-	+	+	\vdash	+
302	-87.385754	44.8343171	Sturgeon Bay	Door	6/21/2016	JLW & CMB		12	Muck	Pole	SAMPLED		Н	1	+		1		+	1	-		-	\dashv	+	+	H	+	+	+	+	+
303	-87.384831		Sturgeon Bay		6/21/2016				Muck		SAMPLED		H	1	+	+	+	H	\dashv	1	-	H	-	\dashv	+	+	Н		+	+	+	+
304		44.8342748	Sturgeon Bay			JLW & CMB			Muck	Pole	SAMPLED		H	1	+	+	+	H	\dashv	+	\vdash	H	-	\dashv	+	+	\forall	1	+	+	+	+
305		44.8342537 44.8342325	Sturgeon Bay Sturgeon Bay		6/21/2016	JLW & CMB					DEEP		H	\dagger	\dagger	\dagger	t		7		1		1	\dagger	t	t	H	\dashv	\dagger	\dagger	H	+
306		44.8342325	Sturgeon Bay		6/21/2016	JMB & EJH			Muck	Pole	SAMPLED		П	3	t	1			3	\dagger			1	7	t	1	Ħ	1	\dagger	\dagger	Ħ	\top
308			Sturgeon Bay		6/21/2016	JMB & EJH	308	7	Sand	Pole	SAMPLED			1	j		İ		1		L					ľ					T	
309			Sturgeon Bay		6/21/2016	JMB & EJH		17		Rope	SAMPLED			1	I	1									I				Ţ			
310	-87.389474	44.8337451	Sturgeon Bay	Door	6/21/2016	JMB & EJH	310	17		Rope	SAMPLED			1		1												1			\perp	\perp

ber			ME			EW				je.	ø				Myriophyllum spicatum	on crispus	Ceratophyllum demersum		adensis	tallii ra dubia	Myriophyllum sibiricum	dalupensis		riegata	Potamogeton foliosus	Potamogeton friesii	Potamogeton richardsonii	Potamogeton zosteriformis	saquatilis	pectinata	vulgaris	is algae	a palustris
Point Number	Latitude	Longitude	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	рертн	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyll	Potamogeton crispus	Calla palustris Ceratophyllun	Chara spp.	Elodea canadensis	Elodea nuttallii Heteranthera dubia	Myriophyll	Najas guadalupensis	Nitella spp.	Nuphar variegata	Potamoget	Potamogeton friesii	Potamoget	Potamoget	Ranunculus aquatilis	Stuckenia pectinata	Utricularia vulgaris Vallisneria americana	Filamentous algae	Zannichellia palustris
311	-87.388551	44.833724	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	311	16	Muck	Pole	SAMPLED			1		1												1		4	4	\bot	\sqcup
312	-87.387628	44.8337029	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	312	15	Muck	Pole	SAMPLED			3		2	1		1		-						-	1			+	+	H
313	-87.386706	44.8336817	Sturgeon Ba		6/21/2016	JMB & EJH	313	13	Muck	Pole	SAMPLED			3	1	2	1		1											\dashv	+	+	H
314	-87.385783 -87.384861	44.8336606 44.8336395	Sturgeon B		6/21/2016	JMB & EJH	314	13	Muck	Pole	SAMPLED			1			2			2								1		\exists	\dagger	\dagger	H
316	-87.383938	44.8336183	Sturgeon Ba		6/21/2016	JMB & EJH	316	16	WILLY	Rope	SAMPLED			0						3										T	T	T	Ħ
317	-87.383016	44.8335972	Sturgeon Ba		6/21/2016	JMB & EJH	317	18		Rope	SAMPLED			0																			
318	-87.382093	44.833576	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	318	29			DEEP																				\perp		
319	-87.38117	44.8335549	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	319	28			DEEP																			4	4	-	
320	-87.380248	44.8335337	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	320	0			DOCK																				+	+	\vdash
321	-87.390426	44.8331097	Sturgeon Ba		6/21/2016	JMB & EJH	321	11	Rock	Pole	SAMPLED			1	1		1	2		1										\dashv	+	+	H
322	-87.389503 -87.388581	44.8330886 44.8330675	Sturgeon Ba		6/21/2016	JMB & EJH	322	15		Rope	SAMPLED			1	1	1	1		1						1			1		\exists	+	+	Н
323	-87.388581 -87.387658	44.8330675	Sturgeon Ba		6/21/2016	JMB & EJH	323	16	Muck	Rope	SAMPLED		П	2		2												1		T	\dagger	t	Ħ
325	-87.386736	44.8330253	Sturgeon Ba		6/21/2016	JMB & EJH	325	14	Muck	Pole	SAMPLED			3	1	2	1											1		T	T	T	1
326	-87.385813	44.8330041	Sturgeon Ba		6/21/2016	JMB & EJH	326	13	Muck	Pole	SAMPLED			2	1		1		1	Ţ										I	$oxed{\bot}$		
327	-87.38489	44.832983	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	327	16	Muck	Pole	SAMPLED		Щ	2	4	1	-		2	1	1				_		_	1		4	\perp	1	Ш
328	-87.383968	44.8329619	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	328	17		Rope	SAMPLED			1	4	1	-	-		\perp	1				4	-	+			\dashv	4	4	Ш
329	-87.383045	44.8329407	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	329	6	Muck	Pole	SAMPLED			1	_				1						_					\perp	+	+	\vdash
330	-87.382123	44.8329196	Sturgeon Ba	y Door		JMB & EJH	330	17		Rope	SAMPLED			0	-															\dashv	+	+	H
331	-87.3812	44.8328984	Sturgeon Ba		6/21/2016	JMB & EJH	331	29			DEEP																			\dashv	+	+	Н
332	-87.380278 -87.390456	44.8328772 44.8324532	Sturgeon Ba			JMB & EJH	332	12	Muck	Pole	SAMPLED			3	1	1		١.	3						1					\dashv	+	+	H
334	-87.389533	44.8324321	Sturgeon Ba		6/21/2016	JMB & EJH	334	10	Sand	Pole	SAMPLED			1			T	1	1											T	t	t	Ħ
335	-87.38861	44.832411	Sturgeon Ba		6/21/2016	JMB & EJH	335	15	Muck	Pole	SAMPLED			3		1	2	Ė	2									1		T	T	T	П
336	-87.387688	44.8323899	Sturgeon Ba		6/21/2016	JMB & EJH	336	14	Muck	Pole	SAMPLED			3		1	1											2					
337	-87.386765	44.8323688	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	337	15	Muck	Pole	SAMPLED			2		2	1		1									1			\perp		
338	-87.385843	44.8323477	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	338	15	Muck	Pole	SAMPLED			3		1	2		1									1			4	_	\sqcup
339	-87.38492	44.8323265	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	339	15	Muck	Pole	SAMPLED			2		1												1			+	+	\vdash
340	-87.383998	44.8323054	Sturgeon Ba		6/21/2016	JMB & EJH	340	15	Muck	Pole	SAMPLED			1	-	1												1		\dashv	+	+	H
341	-87.383075	44.8322842	Sturgeon Ba			JMB & EJH	341	14	Muck	Pole	SAMPLED			1		1									+					\pm	+	+	H
342	-87.382152 -87.38123	44.8322631 44.8322419	Sturgeon Ba		6/21/2016	JMB & EJH	342	14	Muck	Pole	SAMPLED		П	2	1	2	t				t						t			\exists	\dagger	\dagger	Ħ
344	-87.380307	44.8322207	Sturgeon Ba			JMB & EJH	344	0			OTHER	Bridge																		T	T	T	Ħ
345	-87.379385	44.8321996	Sturgeon Ba		6/20/2016	JMB & EJH	345	16		Rope	SAMPLED	Ĭ.		0		0			0														
346	-87.389563	44.8317757	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	346	6	Sand	Pole	SAMPLED			0																	\perp		
347	-87.38864	44.8317546	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	347	9	Muck	Pole	SAMPLED			2	1	1			1										1	4	4	-	
348	-87.387718	44.8317334	Sturgeon Ba	y Door	6/21/2016	JMB & EJH	348	11	Muck	Pole	SAMPLED			3	1		1		3						_					\perp	+	+	\vdash
		44.8317123												1	1															\dashv	+	+	H
350	-87.385872	44.8316912	Sturgeon Ba					6	Sand		SAMPLED			0																\dashv	+	+	Н
351 352		44.8316701 44.8316278	Sturgeon Ba						Muck		SAMPLED		H	2	+	2	+	1	3	1	+				1	1	+		1	\exists	+	+	\forall
352		44.8316278	Sturgeon Ba			JMB & EJH		13	wuck	Rope	SAMPLED		П	0	1	-	\dagger	T	П		T		Ħ	1	1	\dagger	\dagger			T	\dagger	T	П
354		44.8315854	Sturgeon Ba							Rope	SAMPLED			0		0			0	1						1				J	I	I	
355		44.8315643	Sturgeon Ba			JMB & EJH		30			OTHER				1	1				1			Ш		J					J	$oldsymbol{\perp}$	Ţ	Д
356	-87.379415	44.8315431	Sturgeon Ba	y Door	6/20/2016	JMB & EJH	356	26			DEEP		Ц	4	4	4	\downarrow			\perp	-	_		_	4	-	\bot		Ц	4	4	4	Ш
357	-87.378492	44.8315219	Sturgeon Ba	y Door		JMB & EJH	357	18		Rope	SAMPLED		\Box	0	4	0	\perp	-	0	+	+				4	-	+			\dashv	+	+	\vdash
358		44.8311192	Sturgeon Ba			JMB & EJH			Sand		SAMPLED		Н	0	+	+	+		Н	+	-		Н	+	-	+	+		H	+	+	+	Н
359		44.8310981	Sturgeon Ba						Sand		SAMPLED		H	0	1	+	+			+	1		H	1	-	+	+			\dashv	+	+	\forall
360	-87.383134 -87.382212	44.8309713 44.8309501	Sturgeon B			JMB & EJH			Muck Muck		SAMPLED		H	3	+	1		+	3	+	+				1	1	+			\exists	+	+	\forall
361	-87.382212 -87.381289		Sturgeon Ba			JMB & EJH		18	IVIUCK	Rope	SAMPLED		Ħ	0	1	0	\dagger	t	n	\dagger					1	1	\dagger		H	\top	\dagger	\dagger	\forall
363		44.8309078	Sturgeon Ba			JMB & EJH		23		نم ـ	DEEP						İ			1						1	l			J	1	I	
364	-87.379444	44.8308866	Sturgeon Ba			JMB & EJH	364	30			DEEP		П	I	J	T														J	┰	L	
365	-87.378522	44.8308654	Sturgeon Ba			JMB & EJH	365	26			DEEP		Щ		4	4	-		Ш	\perp			Ш		_	-	_			4	\perp	1	Ц
366	-87.377599	44.8308442	Sturgeon Ba	y Door	6/20/2016	JMB & EJH	366	21			DEEP			_	4	4	\perp	-	Н	-	-		Ш	_	-	-	+			\dashv	+	+	Н
367	-87.381319	44.8302725	Sturgeon Ba			JMB & EJH				Rope	SAMPLED		H	0	4	0	+	\vdash	0	+	+	-		_	\dashv	+	+			\dashv	+	+	\dashv
368		44.8302513	Sturgeon Ba								DEEP		H	\dashv	\dashv	\dashv	+	-	H	+	1			\dashv	\dashv	+	+		H	\dashv	+	+	Н
369		44.8302301	Sturgeon Ba			JMB & EJH		0		Rope	other	bridge		0	+	0	+	1	0	+	+	-	H	1	1	+	+		H	\exists	+	+	\forall
370 371	-87.378552 -87.377629	44.830209 44.8301878	Sturgeon Ba			JMB & EJH	370	26			DEEP		Ħ	1	1	\dagger	\dagger	t	H	\dagger	t				1	t	\dagger			\top	\dagger	\dagger	Ħ
372	-87.376707	44.8301666	Sturgeon Ba			JMB & EJH		23			DEEP			İ	1	T				1					T	t				T	\top	T	П
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1.00	Point Number	Latitude	Longitude	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyllum spicatum	Potamogeton crispus	Calla palustris Ceratophyllum demersum	Chara spp.	Elodea canadensis	Elodeanuttallii	Heteranthera dubia	Myrio phyllum sibiricum	Najas guadalupensis	Nitella spp.	Nuphar variegata	Potamogeton foliosus	Potamogeton friesii	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton zosteniomis Ranunculus aquatilis	Stuckenia pectinata	Utricularia vulgaris	Vallisneria americana	Filamento us algae	Zannichellia palustris
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1968 1978	374	-87.380426	44.8295948	Sturgeon E	ay Do		JMB & EJH	374			Rope				0		0			0											+	-	\vdash	$\overline{}$	4	4
17. 17. 17. 17. 17. 18. 17. 18.											Rope		bridge		0		0			0											+	+	H		_	٦
10. 1. 1. 1. 1. 1. 1. 1.																															I					
100 1.57720 1.67500 1.57500	378	-87.376736	44.8295101	Sturgeon E	ay Do	or 6/20/2016	JMB & EJH	378	23			DEEP																			4	_	\sqcup		4	_
March Marc													bridge		0		0	\perp		0										+	+	+	H	\dashv	+	\dashv
10. 1.575006 ALESTON Companies for C										Muck					2		2														+	+	Ħ		1	٦
15. 1.27 1										Muck					2	2	2		1			1									I					
150 42 43 43 43 43 43 43 43	383	-87.372124	44.829404	Sturgeon E	ay Do	or 6/20/2016	JMB & EJH	383	6	Muck	Pole	SAMPLED			2		1		2											_	+	+	\vdash		\dashv	_
100 100																															+	+	H		\dashv	٦
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190 4757900 4420970 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 500000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 5000000 500000 500000 500000 500000 500000 500000 50000	387	-87.376766	44.8288536	Sturgeon E			JMB & EJH	387	27																						l	L				
100 4757000 4450000 10																	-	\perp	\perp	-								\dashv	-	+	+	+	\dashv	\dashv	\dashv	4
130													bridge		1			+	+	+	1	H		-	H			\dashv	1	+	+	+	\forall	\dashv	+	\dashv
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195 47 27955 48 52050 Despensible Cont. \$0.0000 \$1.0000 \$1.0000 \$1.0000 \$1.0000 \$1.0000 \$1.0000 \$1.0000 \$1.0000 \$1.0000 \$1.0	393	-87.371231	44.8287263	Sturgeon E	ay Do	or 6/20/2016	JMB & EJH	393	6	Muck	Pole	SAMPLED			2	1		2	4	1										1	1	+	Ш	4	4	4
1975 47 27981 48 263296 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0									Ė	Muck	Pole				1					1										1	+	+	Н	_	1	4
197 197											B		121		•		•		+	_										+	-	+	H		+	\dashv
250 47 37078 44 820171 Surgeon Bay Don 5002018 Mile & Ext. 308 23 DEEP Don 27 37051 44 820173 Surgeon Bay Don 5002018 Mile & Ext. 301 22 DEEP Don 27 37051 44 820173 Surgeon Bay Don 5002018 Mile & Ext. 301 23 DEEP Don 3002018 Mile & Ext. 301 23 DEEP Don 3002018 Mile & Ext. 301 3											коре		bnage		U		U			0											+	\top	Ħ			٦
ACC ST 278901 A5 501541 Streem Rev. DOC A502015 AMB A.E.H. 401 22 DEEP																															I	I				
ACT AT 271400 AL 281135 Blussen Rev. Doc. G50215 AMB & EAH AT 23 Mark Pol. DARRY	399	-87.375873	44.8281759	Sturgeon E	ay Do	or 6/20/2016	JMB & EJH	399	25			DEEP							-											_	4	+	Ш	4	4	4
### ALTON STATUS ### ALTON SUMPLE BUT DOWN \$6000016 AMB & EAR 400 11 Mars Pres SAMPLED 2 3 3 4 4 4 4 4 4 4 4																															+	+	H	_	-	\dashv
400 87 377181 44 5289051 Sturgens Bay Doos 6000016 AMB 6 EAH 405 1 Nova Pole SAMPLED 2 1 1 2 2 1 1 2 2 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1 1 1 2 2 1										Muck	Pole				1					t	1										+	t	Ħ		_	٦
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A77-269416	404	-87.371261	44.8280698	Sturgeon E	ay Do	or 6/20/2016	JMB & EJH	404	15		Rope	SAMPLED			2		1			2											_	_				_
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1	Point Number	Latitude	Longitude	1	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEРТН	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyllum spic	Potamogeton crisp	Cana parusurs Ceratophyllum der	Chara spp.	Elodea canadensis	Elodea nuttallii	Heteranthera dubia	Myriopnyilum sibir	Najas guadalupen	Nicelia Spp.	Potamogeton folio	Potamogeton fries	Potamogeton prae	Potamogeton richa	Potamogeton zost	Kanunculus aquat	Stuckenia pectinat	Vallisneria america	Filamentous algae	Zannichellia palust
	435	-87.367631	44.8266718	Stur	rgeon Bay	Door	6/20/2016	JMB & EJH	435			Pole	SAMPLED					1			1														1	
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Column C	440	-87.363019	44.8265653	Stur	rgeon Bay	Door	6/21/2016	JMB & EJH	440	4	Sand	Pole	SAMPLED			1				1				_	1										1	H
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67 4 37-3000 48-3000 10 Support by On 50000 MARIAN 60 14 10 No. 76 10 10 No. 76 10 No.	449	-87.371351	44.8261004	Stur	rgeon Bay	Door	6/20/2016	JMB & EJH	449	21		Rope	SAMPLED			0								_											_	
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## 475000 445000 Angele Region Dec. # 20000 Anni AEE 400 S. See No. SAMPLE Anni P. SAMPLE Anni	455	-87.365816	44.8259728	Stur	rgeon Bay	Door	6/20/2016	JMB & EJH	455	11	Muck	Pole	SAMPLED			2	1																		╄	2
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40	460	-87.361204	44.8258662	Stur	rgeon Bay	Door	6/21/2016	JMB & EJH	460	4	Muck	Pole	SAMPLED			0								_											_	
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475 47 365766 44 8253376 Sturgeon Bay Door 6202016 JMB & EH 476 12 Mock Pole SAMPLED 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	471	-87.368613	44.8253802	Stur	rgeon Bay	Door	6/20/2016	JMB & EJH	471	25			DEEP																						╄	H
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477 - 87-363078																3		1				3										1				
476 - 87.362166	476	-87.364001	44.8252737	Stur	rgeon Bay	Door	6/20/2016	JMB & EJH	476	9	Muck	Pole	SAMPLED			2	1				2			_								1			_	
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480 87.347397 44.824889 Sturgeon Bay Door 6/20/2016 JLW 8 NLS 480 4 Sand Pole SAMPLED 2 1 V 1 1 1 1 1 1 1 1 2 1 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4 8 4																1						2		+										1	1	
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483 -87.374178 44.8248512 Sturgeon Bay Door 6/20/2016 JMB & E.JH 483 10 Muck Pole SAMPLED 3 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	481	-87.376945	44.8249148			Door	6/20/2016	JMB & EJH	481	11	Muck	Pole	SAMPLED			2	1	1	1	ı	1															
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489 -87.368643 44.8247237 Sturgeon Bay Door 6/20/2016 JMB & EJH 489 13 Muck Pole SAMPLED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	487					Door					Muck	Pole			-	2	1		1	-	2		-	+	+	+	+				+	\parallel	\perp	+	+	H
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493 -87.364953 44.8246386 Sturgeon Bay Door 6/20/2016 JMB & EJH 493 15 Rope SAMPLED 0 0 1<												سر۔								I							I								I	
494 -87.364031 44.8246172 Sturgeon Bay Door 6/20/2016 JMB & EJH 494 13 Muck Pole SAMPLED 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	492	-87.365876	44.8246598	Stur	rgeon Bay	Door	6/20/2016	JMB & EJH	492	19		Rope	DEEP		4	0	4		1	1			4	-	1	1	+				4	4	1	+	Ļ	Ц
495 -97.363108 44.8245959 Sturgeon Bay Door 6/21/2016 JMB & EJH 495 13 Muck Pole SAMPLED 2 2 2															+	0	1	1	+	+		Н	+	+	+	+	+	+		-	+	+	+	+	+	H
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Point Number	Latitude	Longitude		LAKE_NAME	COUNT	DATE_	FIELD_CREW	PNT_NUM	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	wyriopii	Potamogeton	Ceratop	Chara spp.	Elodeac	Elodea nuttallii Heteranthera d	Myrioph	Najas gu	Nitella spp.	Nuphar	Potamo	Potamo	Potamo	Potamo	Ranunc	Stucken	Vallisne	Filament	Zannich
497	-87.361264	44.8245533	Stu	turgeon Bay	Door	6/21/2016	JMB & EJH	497	9	Muck	Pole	SAMPLED			3		1	1		1	1											Ī		
498	-87.360341	44.824532			Door	6/21/2016	JMB & EJH	498	7	Sand	Pole	SAMPLED			3	1				3							1					+	Н	Н
499 500	-87.347427 -87.37513	44.8242325 44.8242159		turgeon Bay turgeon Bay	Door	6/20/2016	JLW & NLS	499 500	4	Sand	Pole	SAMPLED	harvester offload location near this point		3 :	2	1		1	2											1	1 1	Ħ	Н
501	-87.373285	44.8241735			Door	6/20/2016	JMB & EJH	501	11	Rock	Pole	SAMPLED			1		1				1											Ţ		
502	-87.372363	44.8241522	Stu	turgeon Bay	Door	6/20/2016	JMB & EJH	502	11	Muck	Pole	SAMPLED			2			1		2												+	\vdash	Н
503	-87.37144 -87.370518	44.824131 44.8241097			Door	6/20/2016	JMB & EJH	503	11	Muck Muck	Pole	SAMPLED			0										10	1			1			+	H	H
505	-87.369595	44.8240885			Door	6/20/2016	JMB & EJH	505	11	Muck	Pole	SAMPLED			1					1					10							T		
506	-87.368673	44.8240672	Stu	turgeon Bay	Door	6/20/2016	JMB & EJH	506	14	Muck	Pole	SAMPLED			0																	\downarrow	\perp	Ш
507	-87.36775	44.8240459			Door	6/20/2016	JMB & EJH	507	12	Muck	Pole	SAMPLED			1		1															+	\forall	Н
508	-87.366828 -87.365906	44.8240247 44.8240034		turgeon Bay turgeon Bay	Door	6/20/2016	JMB & EJH	508	13	Muck	Pole	SAMPLED			0																	\dagger	Ħ	П
510	-87.364983	44.8239821			Door	6/20/2016	JMB & EJH	510	25			DEEP																				I		
511	-87.364061	44.8239608			Door	6/20/2016	JMB & EJH	511	22			DEEP				+										-						+	\vdash	Н
512	-87.363138 -87.362216	44.8239395 44.8239182			Door	6/21/2016	JMB & EJH	512 513	13	Muck Muck	Pole	SAMPLED			1	\dagger	1	-		1	1	+		1	1	\dashv	\dagger				\dashv	+	\forall	H
514	-87.361294	44.8238968		turgeon Bay	Door	6/21/2016	JMB & EJH	514	13	Muck	Pole	SAMPLED			1		1				1													
515	-87.360371	44.8238755	Stu	turgeon Bay	Door	6/21/2016	JMB & EJH	515	8	Sand	Pole	SAMPLED			0																	4	Н	\vdash
516	-87.359449	44.8238542			Door	6/21/2016	JMB & EJH	516	5	Sand	Pole	SAMPLED		H	1	1			1													+	\forall	H
517 518	-87.358526 -87.357604	44.8238328 44.8238115		turgeon Bay turgeon Bay	Door	6/21/2016	JMB & EJH	517	5	Sand	Pole	SAMPLED			2	1	1		1	1												1		
519	-87.346535	44.8235546			Door	6/20/2016	JLW & NLS	519	3	Muck	Pole	SAMPLED			1	1			1		1											1		
520	-87.373315	44.823517			Door	6/20/2016	JMB & EJH	520	0			DOCK				+										-						+	\vdash	
521 522	-87.372392 -87.37147	44.8234958 44.8234745			Door	6/20/2016	JMB & EJH	521 522	11	Muck	Pole	SAMPLED		H	1		1			2									1			+	\forall	H
523	-87.370548	44.8234533			Door	6/20/2016	JMB & EJH	523	8	Muck	Pole	SAMPLED			2					2												I		
524	-87.369625	44.823432	Stu	turgeon Bay	Door	6/20/2016	JMB & EJH	524	5	Sand	Pole	SAMPLED			0																	4	Н	\vdash
525	-87.368703	44.8234107		turgeon Bay	Door	6/20/2016	JMB & EJH	525	8	Muck	Pole	SAMPLED			1						1											+	Н	H
526 527	-87.36778 -87.366858	44.8233895 44.8233682			Door	6/20/2016	JMB & EJH	526 527	10	Muck	Pole	SAMPLED			1		1										1					T	Ħ	П
528	-87.365936	44.8233469			Door	6/20/2016	JMB & EJH	528	11	Muck	Pole	SAMPLED			2		1			1							2					I		
529	-87.365013	44.8233256			Door	6/20/2016	JMB & EJH	529	17		Rope	SAMPLED			0																	+	\vdash	Н
530	-87.364091 -87.363168	44.8233043 44.823283			Door	6/20/2016	JMB & EJH	530	25 23			DEEP		H																		+	\forall	H
532	-87.362246	44.8232617			Door	6/21/2016	JMB & EJH	532	17		Rope	SAMPLED			0																	I		
533	-87.361323	44.8232404	Stu	turgeon Bay	Door	6/21/2016	JMB & EJH	533	12	Muck	Pole	SAMPLED			1		1															4	Н	Н
534	-87.360401	44.823219		turgeon Bay	Door	6/21/2016	JMB & EJH	534	12	Muck	Pole	SAMPLED			1		1															+	\forall	Н
535		44.8231977 44.8231764			Door	6/21/2016	JMB & EJH	535	9	Muck		SAMPLED			3	1	3			3										1		\dagger	Ħ	П
537	-87.357634	44.823155			Door	6/21/2016	JMB & EJH		7	Sand		SAMPLED			3				3													Ţ		
538		44.8231336		turgeon Bay		6/21/2016	JMB & EJH			Muck		SAMPLED			3	+	+	-		3	-	\vdash				+	+				-	1	\dashv	Н
539 540		44.8231123 44.8228982			Door	6/21/2016	JMB & EJH	539 540	8	Muck Sand		SAMPLED			1	+	+	1	1	2	+	H		1	1	1	+	t	1		+	1	\forall	Н
541		44.8228767			Door	6/20/2016	JLW & NLS	541	4	Sand		SAMPLED			2 1	/	1			2						İ						ľ		П
542	-87.372422	44.8228393	Stu	turgeon Bay	Door	6/20/2016	JMB & EJH	542	0			DOCK																				+	\vdash	
543	-87.3715	44.822818			Door	6/20/2016	JMB & EJH			Muck		SAMPLED			3	+	+	+		3	+	+		1	1	\dashv	+	+			+	+	\forall	Н
544	-87.370577 -87.36781	44.8227968			Door	6/20/2016	JMB & EJH			Muck		SAMPLED			1	1		1	1	٥	1	Ħ				_	1	İ				T	Ħ	
546		44.8227117		turgeon Bay		6/20/2016				Muck		SAMPLED			1	_		1		1		$oxed{\Box}$		J	J	Ţ	1					\downarrow	\Box	Ц
547		44.8226904			Door	6/20/2016	JMB & EJH	547		Muck	Pole	SAMPLED			1	+	+	-		-	+	\vdash	H		-	+	1	-			-	+	\dashv	Н
548 549		44.8226692 44.8226479			Door	6/20/2016	JMB & EJH	548 549	11	Muck		SAMPLED			1	\dagger	1	1		1	+					1	+					+	\forall	Н
550		44.8226265			Door	6/21/2016	JMB & EJH	550	18	01	Rope	SAMPLED			0																	I	П	
551		44.8226052			Door	6/21/2016	JMB & EJH		24			DEEP			-	+	+	-		-						\dashv	+	-			\perp	+	\vdash	H
552		44.8225839		turgeon Bay			JMB & EJH		24 15		Dar	DEEP			0	+	+	+		-	+	\vdash		1	-	+	+	-			+	+	\forall	H
553 554		44.8225626 44.8225412			Door	6/21/2016	JMB & EJH	553 554		Muck	Rope	SAMPLED			1		1	L			1						1					1		
555		44.8225199			Door	6/21/2016	JMB & EJH			Muck		SAMPLED			2	4	1				1					4	1	_			_	\bot	\coprod	Ц
556		44.8224985			Door	6/21/2016	JMB & EJH	556		Muck		SAMPLED			0	+	+	1		-	+	\vdash		-	-	\dashv	+				+	+	+	H
557 558		44.8224772 44.8224558			Door	6/21/2016	JMB & EJH	557 558	6	Muck	Pole	SAMPLED			1	#	1		_1	1	1					_	1	1				†	1	

																picatum	rispus	demersum		sis	i	biricum	ensis		ta	oliosus	iesii	raelongus	steriformis	natilis	nata	aris	lcana lae	ustris
Point Number	Latitude	Longitude	2	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEРТН	SEDIMENT	POLE_ROPE	COMMENTS		NUSIANCE	TRF	Myrio phyllum spicatum	Potamogeton crispus	Ceratophyllum demersum	Chara spp.	Elodea canadensis	Elodea nuttallii	Myriophyllum sibiricum	Najas guadalupensis	Nitella spp.	Nuphar variegata	Potamogeton foliosus	Potamogeton friesii	Potamogeton praelongus	Potamogeton zosteriformi	Ranunculus aquatilis	Stuckenia pectinata	Utricularia vulgaris	Vallisneria americana Filamentous algae	Zannichellia palustris
559	-87.354897	44.8224344			Door	6/21/2016	JLW & CMB	559	0			OTHER	marked off with buoys. Construction barges and					+				-	+									4	+	+
560	-87.347518	44.8222632			Door	6/20/2016	JLW & NLS	560	4	Muck	Pole	SAMPLED			2	2			ļ.	1											2		+	+
561 562	-87.346595 -87.345673	44.8222417		turgeon Bay	Door	6/20/2016	JLW & NLS	562	4	Muck	Pole	SAMPLED			2	2			1	1	1										1		+	Т
563	-87.344751	44.8221988		turgeon Bay	Door	6/20/2016	JLW & NLS	563	4	Sand	Pole	SAMPLED			3	1	1			3													Ţ	
564	-87.370607	44.8221403	s	turgeon Bay	Door	6/20/2016	JMB & EJH	564	6	Muck	Pole	SAMPLED			3	V	3						-									_	+	\perp
565	-87.369685	44.8221191		turgeon Bay	Door	6/20/2016	JMB & EJH	565	7	Muck	Pole	SAMPLED			2			+		1		+	-	1								+	+	+
566 567	-87.366918 -87.365995	44.8220553 44.822034		turgeon Bay turgeon Bay	Door	6/20/2016	JMB & EJH	566 567	5	Muck	Pole	SAMPLED			0			\dagger										1				+	1	Ħ
568	-87.365073	44.8220127			Door	6/20/2016	JMB & EJH	568	6	Muck	Pole	SAMPLED			1				1					1				Ì					ľ	
569	-87.364151	44.8219914	s	turgeon Bay	Door	6/20/2016	JMB & EJH	569	9	Muck	Pole	SAMPLED			3					3													l	
570	-87.363228	44.8219701	s	turgeon Bay	Door	6/21/2016	JMB & EJH	570	11	Muck	Pole	SAMPLED			0			+				\perp	+									\dashv	+	+
571	-87.362306	44.8219488			Door	6/21/2016	JMB & EJH	571	11	Muck	Pole	SAMPLED			0																		+	+
572 573	-87.361383 -87.360461	44.8219274 44.8219061		turgeon Bay turgeon Bay	Door	6/21/2016	JMB & EJH	572 573	17		Rope	SAMPLED			0																		$^{+}$	+
574	-87.359539	44.8218848			Door	6/21/2016	JMB & EJH	574	24			DEEP																					T	\Box
575	-87.358616	44.8218634	s		Door	6/21/2016	JMB & EJH	575	14	Muck	Pole	SAMPLED			1		1																	
576	-87.357694	44.8218421	s	turgeon Bay	Door	6/21/2016	JMB & EJH	576	12	Muck	Pole	SAMPLED			0																		4	
577	-87.356772	44.8218207	s	turgeon Bay	Door	6/21/2016	JMB & EJH	577	11	Muck	Pole	SAMPLED			3		3		-		_											_	+	+
578	-87.355849	44.8217994		turgeon Bay	Door	6/21/2016	JMB & EJH	578	9	Muck	Pole	SAMPLED	Construction occuring, no		1			+				+						1				-	+	+
579 580	-87.354927 -87.354004	44.821778 44.8217566		turgeon Bay turgeon Bay	Door	6/21/2016	JLW & CMB	579	5	Muck	Pole	OTHER	boats allowed		3	1			3		1								1				$^{+}$	+
581	-87.353082	44.8217352		turgeon Bay	Door	6/21/2016	JLW & CMB	581	5	Sand	Pole	SAMPLED			1				1										Ť				1	П
582	-87.350315	44.821671	s	turgeon Bay	Door	6/20/2016	JLW & NLS	582	4	Sand	Pole	SAMPLED			3	1	1			2											1			
583	-87.349393	44.8216496	s	turgeon Bay	Door	6/20/2016	JLW & NLS	583	5	Sand	Pole	SAMPLED			1			-	1			1										4	4	\perp
584	-87.34847	44.8216282	s	turgeon Bay	Door	6/20/2016	JLW & NLS	584	5	Sand	Pole	SAMPLED			1			+	1	1		+	+					-				-	1	+
585	-87.347548	44.8216067		turgeon Bay	Door	6/20/2016	JLW & NLS	585	5	Sand	Pole	SAMPLED			1			+	1			+								١.	1	+	+	+
586 587	-87.346625 -87.345703	44.8215853 44.8215638		turgeon Bay	Door	6/20/2016	JLW & NLS	586 587	5	Muck	Pole	SAMPLED			2	1	1		2	1			t							1			1	
588	-87.344781	44.8215424		turgeon Bay	Door	6/20/2016	JLW & NLS	588	4	Sand	Pole	SAMPLED			1				Ĺ	1											1		1	
589	-87.365103	44.8213562		turgeon Bay	Door	6/20/2016	JMB & EJH	589	5	Muck	Pole	SAMPLED			3				3														1	
590	-87.36418	44.8213349	s	turgeon Bay	Door	6/20/2016	JMB & EJH	590	5	Muck	Pole	SAMPLED			1				1	1		-										4	+	+
591	-87.363258	44.8213136			Door	6/21/2016	JMB & EJH	591	10	Muck	Pole	SAMPLED			1		1	+	-		-	+					-					+	+	+
592	-87.362336 -87.361413	44.8212923		turgeon Bay	Door	6/21/2016	JMB & EJH	592	9	Sand	Pole	SAMPLED			1		1						t									+	+	+
593 594	-87.360491	44.821271 44.8212497		turgeon Bay	Door	6/21/2016	JMB & EJH	593 594	11	Muck	Pole	SAMPLED			1			T				t						1				1	T	\top
595	-87.359569	44.8212283		turgeon Bay	Door	6/21/2016	JMB & EJH	595	21			DEEP																						
596	-87.358646	44.821207	s	turgeon Bay	Door	6/21/2016	JMB & EJH	596	27			DEEP						-				1										4	4	\perp
597	-87.357724	44.8211856	s	turgeon Bay	Door	6/21/2016	JMB & EJH	597	21			DEEP					-	+				+					-					+	+	+
598		44.8211643			Door	6/21/2016	JMB & EJH		16		Rope	SAMPLED			0			+				+										+	+	+
599 600		44.8211429 44.8211215			Door	6/21/2016	JLW & CMB		0			DEEP OTHER	construction occuring, no boats alloweed										t										\top	
601		44.8211001		-	Door	6/21/2016	JLW & CMB		8	Muck	Pole	SAMPLED			3				3	1										1				
602	-87.353112	44.8210788	s	turgeon Bay	Door	6/21/2016	JLW & CMB	602	6	Muck	Pole	SAMPLED			2				2	1													1	
603	-87.35219	44.8210574	s	turgeon Bay	Door	6/20/2016	JLW & NLS	603	6	Sand	Pole	SAMPLED			3		2	+		3		\perp	+							1		\dashv	+	+
604	-87.351267	44.821036			Door	6/20/2016	JLW & NLS		5	Sand		SAMPLED			1			+	1			+	+									-	+	+
605	-87.350345 -87.349423	44.8210145 44.8209931			Door	6/20/2016	JLW & NLS		5	Muck	Pole	SAMPLED			1	+	+	\dagger	1		\dashv	+	t			H	+	+			1	+	+	\dagger
607	-87.349423	44.8209931			Door	6/20/2016	JLW & NLS			Sand		SAMPLED			1				1	1		_	İ	İ						İ	Ħ		_	Ħ
608	-87.347578	44.8209503			Door	6/20/2016			5	Sand	Pole	SAMPLED			1			Ţ	1														Ţ	
609	-87.346656	44.8209288	s	turgeon Bay	Door	6/20/2016	JLW & NLS	609	5	Sand	Pole	SAMPLED			1	_	_	1	1	Щ		1					_	1				1	4	$\downarrow \downarrow$
610		44.8209074			Door	6/20/2016	JLW & NLS		5	Muck		SAMPLED			2	\dashv	\dashv	+	2	H	\dashv	+	+	\vdash		H	\dashv	+	\perp	H	H	+	1	+
611		44.8208859			Door	6/20/2016	JLW & NLS	611	4	Sand	Pole	SAMPLED			2	\dashv	+	+	2	1	=	+	+		-	H	+	+			H	+	1	H
612	-87.366978 -87.36421	44.8207423 44.8206785			Door	6/20/2016	JMB & EJH	612	0			didn't go there SWIM AREA			1	+	\dashv	t		Н	=	\dagger	t				\dashv	\dagger				\dashv	\dagger	Ħ
614		44.8206785			Door	6/20/2016	EEH & CMB		0			DEEP						1	I			Ī	Ī						l				Ī	I
615		44.8206358		turgeon Bay		6/21/2016	JMB & EJH		6	Muck	Pole	SAMPLED			3	1	Ţ		3	Ш	\prod						Ţ			L		_[1	Щ
616	-87.361443	44.8206145	s	turgeon Bay	Door	6/21/2016	JMB & EJH	616	7	Sand	Pole	SAMPLED			1	4	4	1		\vdash	-	1	-	-			4	1	1			_	+	+
617	-87.360521	44.8205932			Door	6/21/2016	JMB & EJH		8	Muck		SAMPLED			3	-	+	1		3	1	+	+	-		\exists	+	+	+	H	\exists	+	+	+
618		44.8205719			Door	6/21/2016	JMB & EJH			Muck		SAMPLED			1	\dashv	1	+		H		1	+	-	-	\exists	+	+			\exists	+	+	\forall
619	-87.358676 -87.357754	44.8205505 44.8205292			Door	6/21/2016	JMB & EJH	619	11 22	Muck	Pole	SAMPLED			U	1	\dagger	\dagger	t	Ħ		T	t			H	\dagger	\top		r	H	\dagger	\dagger	П
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Point Number	Latitude	Longitude	2	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	MUN_TN9	рертн	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyllum spicatum	Potamogeton crispus	Calla palustris Ceratophyllum demersum	Chara spp.	Elodea canadensis	Elo dea nuttallii	Heteranthera dubia	siste diagraphic seis N	Nitella spp.	Nupharvariegata	Potamogeton foliosus	Potamogeton friesii	Potamogeton praelongus	Potamogeton richardsoni	Potamogeton zosteriformi	Kanunculus aquatilis	Stuckenia pectinata	Vallisheria americana	Filamentous algae	Zannichellia palustris
621	-87.356832	44.8205078	٤	Sturgeon Bay	Door	6/21/2016	JMB & EJH	621	25			DEEP																						-	\perp
622	-87.355909	44.8204864		Sturgeon Bay	Door	6/21/2016	JLW & CMB	622	0			DEEP					_					+								_	-		+	-	+
623	-87.354987 -87.354065	44.8204651 44.8204437		Sturgeon Bay Sturgeon Bay	Door	6/21/2016	JLW & CMB	623	15	Muck	Pole	SAMPLED			0	1	1				1			t						1	t			+	Ħ
625	-87.353142	44.8204223		Sturgeon Bay	Door	6/21/2016	JLW & CMB	625	10	Muck	Pole	SAMPLED			3		3																		Ī
626	-87.35222	44.8204009	5	Sturgeon Bay	Door	6/20/2016	JLW & NLS	626	7	Muck	Pole	SAMPLED			3					3														_	
627	-87.351297	44.8203795	٤	Sturgeon Bay	Door	6/20/2016	JLW & NLS	627	6	Muck	Pole	SAMPLED			1				1					-		-				-	-			-	\perp
628	-87.350375	44.8203581		Sturgeon Bay	Door	6/20/2016	JLW & NLS	628	5	Sand	Pole	SAMPLED			1				1					+		+				+				+	+
629	-87.349453 -87.34853	44.8203367 44.8203152		Sturgeon Bay Sturgeon Bay	Door	6/20/2016	JLW & NLS	629	5	Muck	Pole	SAMPLED			1				1	1														+	+
631	-87.347608	44.8202938		Sturgeon Bay	Door	6/20/2016	JLW & NLS	631	5	Sand	Pole	SAMPLED			1				1																Ī
632	-87.346686	44.8202724	٤	Sturgeon Bay	Door	6/20/2016	JLW & NLS	632	5	Sand	Pole	SAMPLED			1				1															_	
633	-87.345763	44.8202509	5	Sturgeon Bay	Door	6/20/2016	JLW & NLS	633	5	Sand	Pole	SAMPLED			2				2					+		-				+	-			+	+
634	-87.344841	44.8202295		Sturgeon Bay	Door	6/20/2016	JLW & NLS	634	6	Sand	Pole	SAMPLED			2		1		2															+.	+
635	-87.359629 -87.358706	44.8199154		Sturgeon Bay Sturgeon Bay	Door	6/21/2016	JMB & EJH	635	5	Rock	Pole	SAMPLED			3				3	1														+1	
637	-87.357784	44.8198727	Т	Sturgeon Bay	Door	6/21/2016	JMB & EJH	637	9	Muck	Pole	SAMPLED			3		3																		
638	-87.356862	44.8198513	S	Sturgeon Bay	Door	6/21/2016	JLW & CMB	638	0			OTHER	Construction occuring, no boats allowed																						
639	-87.355939	44.81983	5	Sturgeon Bay	Door	6/21/2016	JLW & CMB	639	24			DEEP							-															_	\perp
640	-87.355017	44.8198086		Sturgeon Bay	Door	6/21/2016	JLW & CMB	640	23			DEEP					-		+			+								-	-		+	+	+
641	-87.354095 -87.353172	44.8197872 44.8197658		Sturgeon Bay	Door	6/21/2016	JLW & CMB	641	12	Muck	Pole	DEEP			_		_									+				+				+	+
642	-87.35225	44.8197658		Sturgeon Bay Sturgeon Bay	Door	6/20/2016	JLW & NLS	643	9	Muck	Pole	SAMPLED			2		1				2													\dagger	\top
644	-87.351328	44.819723		Sturgeon Bay	Door	6/20/2016	JLW & NLS	644	9	Muck	Pole	SAMPLED			3						3														
645	-87.350405	44.8197016	5	Sturgeon Bay	Door	6/20/2016	JLW & NLS	645	7	Sand	Pole	SAMPLED			1				1															\perp	
646	-87.349483	44.8196802	5	Sturgeon Bay	Door	6/20/2016	JLW & NLS	646	5	Sand	Pole	SAMPLED			1				1			-		-									-	+	+
647	-87.348561	44.8196588		Sturgeon Bay	Door	6/20/2016	JLW & NLS	647	6	Sand	Pole	SAMPLED			1		-		1			+								-	-		+	+	+
648	-87.347638	44.8196374		Sturgeon Bay	Door	6/20/2016	JLW & NLS	648	5	Sand	Pole	SAMPLED			0				2							+				+				+	\forall
649 650	-87.346716 -87.345794	44.8196159 44.8195945		Sturgeon Bay Sturgeon Bay	Door	6/20/2016	JLW & NLS	649	5	Sand	Pole	SAMPLED			3				3								ľ							T	\forall
651	-87.344871	44.819573		Sturgeon Bay	Door	6/20/2016	JLW & NLS	651	6	Sand	Pole	SAMPLED			1	1			1	1							1								
652	-87.356892	44.8191949	٤	Sturgeon Bay	Door	6/21/2016	JLW & CMB	652	0			OTHER	Under bridge construction no boats allowed																					\bot	\perp
653	-87.355969	44.8191735		Sturgeon Bay	Door	6/21/2016	JLW & CMB	653	9	Muck	Pole	SAMPLED			1		1									-				_				+	+
654	-87.355047	44.8191521		Sturgeon Bay	Door	6/21/2016	JLW & CMB	654	14	Muck	Pole	SAMPLED			0							+												+	+
655 656	-87.354125 -87.353202	44.8191308 44.8191094		Sturgeon Bay Sturgeon Bay	Door	6/21/2016	JLW & CMB	655 656	20		Rope	SAMPLED			U																			\dagger	\top
657	-87.35228	44.819088	Т	Sturgeon Bay	Door	6/20/2016	JLW & NLS	657	19		Rope	SAMPLED			0																				
658	-87.351358	44.8190666	٤	Sturgeon Bay	Door	6/20/2016	JLW & NLS	658	9	Muck	Pole	SAMPLED			1						1													_	
659		44.8190452		Sturgeon Bay						Muck	Pole	SAMPLED			1		+		1	1		+		+						-	1		+	-	+
660		44.8190238		Sturgeon Bay						Sand		SAMPLED			1		1		1			+				+				+	-		+	+	+
661		44.8190023 44.8189809			Door	6/20/2016	JLW & NLS			Sand		SAMPLED			1				1	1		Ħ.												+	+
663		44.8189595				6/20/2016	JLW & NLS			Sand		SAMPLED			1				1																
664	-87.345824	44.818938	5	Sturgeon Bay	Door	6/20/2016	JLW & NLS	664	5	Sand	Pole	SAMPLED			1				1															\perp	
665	-87.344901	44.8189166	٤	Sturgeon Bay	Door	6/20/2016	JLW & NLS	665	6	Sand	Pole	SAMPLED			2		2		1	1		-						1			-		-	+	+
666		44.8188951			Door	6/20/2016	JLW & NLS		4	Sand		SAMPLED			1				1															+	+
667	-87.356922 87.355000	44.8185384 44.8185171			Door	6/21/2016	JLW & CMB		7	Sand	Pole	SAMPLED			2	V	v		2	1	1					+				+				+	\forall
669		44.8185171			Door	6/21/2016				Muck		SAMPLED			3		v		ľ	3			ľ			İ	L			_		_		1	Ħ
670		44.8184743			Door	6/21/2016	JLW & CMB		9	Muck	Pole	SAMPLED			1		1	I	1			I	I						1	Ţ	1	Ţ	I	Ţ	П
671	-87.353232	44.8184529	5	Sturgeon Bay	Door	6/21/2016	JLW & CMB	671	12	Muck	Pole	SAMPLED			0	4		-				-	-	-	-					4	-	\downarrow	+	4	Н
672	-87.35231	44.8184315			Door	6/20/2016	JLW & NLS	672	23			DEEP			-	\dashv	\dashv	+	-			+	+	+	+	-			-	+	+	+	+	+	+
673		44.8184101			Door	6/20/2016	JLW & NLS	673	23 16		Da	DEEP			_	\dashv	+	+				+	+	\dagger	+	H		H	+	+	+	\dagger	\dagger	\dagger	\dagger
674	-87.350465 -87.349543	44.8183887 44.8183673			Door	6/20/2016	JLW & NLS	674	16	Muck	Rope	SAMPLED			1		1	T	1	1	Ħ	t	t	t	t				1	\dagger	1	\dagger	t	\dagger	Ħ
676		44.8183459				6/20/2016	JLW & NLS			Muck		SAMPLED			1				1								1							l	
677	-87.347698	44.8183244		Sturgeon Bay		6/20/2016	JLW & NLS	677	7	Muck	Pole	SAMPLED			1	_			1	1											1	_	1	1	Щ
678	-87.346776	44.818303			Door	6/20/2016	JLW & NLS	678	7	Muck	Pole	SAMPLED			2	-		+	2		1	-	-	+			1		-	+		-	-	+	+
679	-87.345854				Door	6/20/2016	JLW & NLS	679	6	Muck		SAMPLED			2	1	+	+	2			+	+	+	-			Н	-	+	\parallel	+		+	H
680	-87.344931 -87.344009	44.8182601 44.8182386			Door	6/20/2016	JLW & NLS	680	6	Sand	Pole	SAMPLED			2	1	2	+	1		1			+				H	1	+		+		+	Ħ
682		44.8182386				6/21/2016			4	Sand	Pole	SAMPLED			1				1	L						İ	L			_		1		╛	Ħ
			_									•			_	_			_						_			_	_					_	

Jer.			¥			M.				ш	ø			TRF	abraum.	on crispus tris	Ceratophyllum demersum		adensis	tallii ra dubia	Myriophyllum sibiricum	alupensis		iegata	on friesii	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton zosteriformis	s aquatilis	vulgaris	americana	s algae a palustris
Point Number	Latitude	Longitude	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	my ropinym	Potamogeton crispus Calla palustris	Ceratophyl	Chara spp.	Elodea canadensis	Elodea nuttallii Heteranthera dubia	Myriophyllu	Najas guadalupensis	Nitella spp.	Nuphar variegata	Potamogeton friesii	Potamoget	Potamoget	Potamoget	Ranunculus aquatilis Strokonia poetinata	Utricularia vulgaris	Vallisneria americana	Filamentous algae Zannichellia palustris
683	-87.355107	44.8178392	Sturgeon Bay	Door	6/21/2016	JLW & CMB	683	6	Sand	Pole	SAMPLED			2		2		2	1												Ш	\perp
684	-87.354185	44.8178178	Sturgeon Bay	Door	6/21/2016	JLW & CMB	684	7	Muck	Pole	SAMPLED			1				1	1								Н				H	
685	-87.353262	44.8177965	Sturgeon Bay	Door	6/21/2016	JLW & CMB	685	8	Muck	Pole	SAMPLED			1 .	1			1	1									1	1		Н	
686	-87.35234	44.8177751	Sturgeon Bay	Door	6/20/2016	JLW & NLS	686	8	Muck	Pole	SAMPLED			1		1			1												\forall	_
687	-87.351418 -87.350495	44.8177537 44.8177323	Sturgeon Bay Sturgeon Bay		6/20/2016	JLW & NLS	687	15		Rope	SAMPLED			0													П				Ħ	
689	-87.349573	44.8177108	Sturgeon Bay		6/20/2016	JLW & NLS	689	22			DEEP																				П	
690	-87.348651	44.8176894	Sturgeon Bay	Door	6/20/2016	JLW & NLS	690	11	Muck	Pole	SAMPLED			0																		
691	-87.347729	44.817668	Sturgeon Bay	Door	6/20/2016	JLW & NLS	691	8	Sand	Pole	SAMPLED			1				1		1											Ш	
692	-87.346806	44.8176465	Sturgeon Bay	Door	6/20/2016	JLW & NLS	692	7	Muck	Pole	SAMPLED			2		2			1												Н	
693	-87.345884	44.8176251	Sturgeon Bay	Door	6/20/2016	JLW & NLS	693	7	Muck	Pole	SAMPLED			2 .	1			2		1											Н	_
694	-87.344962	44.8176036	Sturgeon Bay		6/20/2016	JLW & NLS	694	6	Sand	Pole	SAMPLED			3				3	1												\forall	
695 696	-87.344039 -87.343117	44.8175822 44.8175607	Sturgeon Bay Sturgeon Bay		6/20/2016	JLW & NLS	695 696	3	Sand	Pole	SAMPLED			1				3	1												Ħ	
697	-87.354215	44.8171614	Sturgeon Bay		6/21/2016	JLW & CMB	697	5	Sand	Pole	SAMPLED			1				1	İ												Ħ	
698	-87.353292	44.81714	Sturgeon Bay		6/21/2016	JLW & CMB	698	6	Muck	Pole	SAMPLED			2				2							I							
699	-87.35237	44.8171186	Sturgeon Bay		6/20/2016	JLW & NLS	699	6	Muck	Pole	SAMPLED			1	I	1		1	1						I				I		П	I
700	-87.351448	44.8170972	Sturgeon Bay	Door	6/20/2016	JLW & NLS	700	8	Muck	Pole	SAMPLED			1	1	1			1			Ц			-	\perp	Ш	4	1	\perp	Ш	\perp
701	-87.350526	44.8170758	Sturgeon Bay	Door	6/20/2016	JLW & NLS	701	9	Muck	Pole	SAMPLED			0	1	\perp			4	\perp		Ц		-	-			4			\sqcup	\perp
702	-87.349603	44.8170544	Sturgeon Bay	Door	6/20/2016	JLW & NLS	702	18		Rope	SAMPLED			0					-									-			\dashv	
703	-87.348681	44.817033	Sturgeon Bay		6/20/2016	JLW & NLS	703	23			DEEP					+			-	-							H				H	
704	-87.347759	44.8170115	Sturgeon Bay		6/20/2016	JLW & NLS	704	20		Rope	SAMPLED			0																	\forall	
705 706	-87.346836 -87.345914	44.8169901 44.8169686	Sturgeon Bay Sturgeon Bay		6/20/2016	JLW & NLS	705	9	Muck	Pole	SAMPLED			1		1									+						H	
707	-87.345914	44.8169472	Sturgeon Bay		6/20/2016	JLW & NLS	707	6	Muck	Pole	SAMPLED			2 .				2	1	1					ľ						Ħ	
708	-87.344069	44.8169257	Sturgeon Bay		6/20/2016	JLW & NLS	708	6	Sand	Pole	SAMPLED			1				1	İ	İ					1	1 1					П	
709	-87.343147	44.8169043	Sturgeon Bay		6/20/2016	JLW & NLS	709	4	Sand	Pole	SAMPLED			1 .	1			1														
710	-87.342225	44.8168828	Sturgeon Bay	Door	6/20/2016	JLW & NLS	710	2	Sand	Pole	SAMPLED			1				1													Ш	
711	-87.353322	44.8164835	Sturgeon Bay	Door	6/21/2016	JLW & CMB	711	4	Sand	Pole	SAMPLED			1				1		-											Щ	
712	-87.3524	44.8164621	Sturgeon Bay	Door	6/20/2016	JLW & NLS	712	6	Sand	Pole	SAMPLED			1				1		-											H	1
713	-87.351478	44.8164407	Sturgeon Bay		6/20/2016	JLW & NLS	713	7	Muck	Pole	SAMPLED			1				1	1												Н	
714	-87.350556	44.8164193	Sturgeon Bay		6/20/2016	JLW & NLS	714	7	Muck	Pole	SAMPLED			2		2															\forall	
715	-87.349633 -87.348711	44.8163979 44.8163765	Sturgeon Bay Sturgeon Bay		6/20/2016	JLW & NLS	715	8	Muck	Pole	SAMPLED			0													П		١.		Ħ	
717	-87.347789	44.8163551	Sturgeon Bay		6/20/2016	JLW & NLS	717	18	WILLER	Rope	SAMPLED			0																	Ħ	
718	-87.346866	44.8163336	Sturgeon Bay		6/20/2016	JLW & NLS	718	23			DEEP																					
719	-87.345944	44.8163122	Sturgeon Bay		6/20/2016	JLW & NLS	719	19		Rope	SAMPLED			0																		
720	-87.345022	44.8162907	Sturgeon Bay	Door	6/20/2016	JLW & NLS	720	7	Sand	Pole	SAMPLED			1				1		1											Ш	
721	-87.3441	44.8162693	Sturgeon Bay	Door	6/20/2016	JLW & NLS	721	6	Sand	Pole	SAMPLED			1				1													\sqcup	
722		44.8162478	Sturgeon Bay	Door	6/20/2016	JLW & NLS	722	6	Sand	Pole	SAMPLED			1 '	1			1	-									-			\dashv	
723		44.8162263	Sturgeon Bay		6/20/2016	JLW & NLS			Sand		SAMPLED			1				1													Н	
724		44.8158057 44.8157843	Sturgeon Bay		6/20/2016	JLW & NLS			Sand		SAMPLED			1	+	+	H	2	+	+	H			+	+			\dagger	+		\forall	+
725 726	-87.351508 -87.350586	44.8157843 44.8157629	Sturgeon Bay		6/20/2016	JLW & NLS		6	Muck Muck		SAMPLED		1	3	t	\dagger	Ħ	2	2	\dagger	H		\dashv	+	t	\dagger	Ħ	\dagger	t	\dagger	\forall	+
727		44.8157629	Sturgeon Bay		6/20/2016	JLW & NLS		6	Sand		SAMPLED			1				1	İ	1						╛			T	╛	Ħ	丁
728	-87.348741	44.81572	Sturgeon Bay		6/20/2016	JLW & NLS	728	7	Muck	Pole	SAMPLED			2				1	1	1												
729		44.8156986	Sturgeon Bay		6/20/2016			7	Sand	Pole	SAMPLED			2	1	2		1		1	Ш					L	Ш	4		L	$oxed{oxed}$	\perp
730	-87.346897	44.8156772	Sturgeon Bay	Door	6/20/2016	JLW & NLS	730	11	Muck	Pole	SAMPLED			0	-	\perp			4	\perp		Ц	_	4	-	1	Ш	4	1	1	\sqcup	\perp
731	-87.345974	44.8156557	Sturgeon Bay	Door	6/20/2016	JLW & NLS	731	22			DEEP			-	\downarrow	+		_	4	+		H		-	-	-		-		-	\sqcup	-
732		44.8156343	Sturgeon Bay		6/20/2016						DEEP		-	+	+	+			+	+			-	+	+	+	H	+	+	+	\dashv	+
733	-87.34413	44.8156128	Sturgeon Bay		6/20/2016	JLW & NLS	733	9	Sand		SAMPLED		-	1	+	1	H		\dashv	+	H	H	\dashv	+	+	+	H	+	+	+	Н	+
734		44.8155914	Sturgeon Bay		6/20/2016	JLW & NLS			Sand		SAMPLED			1	1	+	H	1	+	+	H			+	1	-		\dagger	+		\forall	+
735 736		44.8155699 44.8151278	Sturgeon Bay		6/20/2016	JLW & NLS	735	6	Sand	Pole	SAMPLED			1			H	1	1		П			1	t		\dagger	1	T		Ħ	+
737		44.8151278	Sturgeon Bay		6/20/2016	JLW & NLS			Sand		SAMPLED			1				1			Ħ				j						Ħ	
738		44.815085	Sturgeon Bay			JLW & NLS			Sand		SAMPLED			1	I			1														
739		44.8150636	Sturgeon Bay		6/20/2016	JLW & NLS	739	6	Muck	Pole	SAMPLED			3 .	1			3			Щ						Ш				\coprod	
740	-87.347849	44.8150422	Sturgeon Bay	Door	6/20/2016	JLW & NLS	740	7	Muck	Pole	SAMPLED			2	-	\perp		2	4	1		Ц	_	4	-	1	Ш	1	1	1	\sqcup	\perp
741	-87.346927	44.8150207	Sturgeon Bay	Door	6/20/2016	JLW & NLS	741	8	Muck	Pole	SAMPLED		-	1	1	+		1	4	+		H	4	-	-	-	H	-	-	-	u	-
742		44.8149993	Sturgeon Bay		6/20/2016	JLW & NLS	742	7	Sand	Pole	SAMPLED			0	+	+			+					+	+	+	\mathbb{H}	+	\parallel	+	H	+
743		44.8149778	Sturgeon Bay		6/20/2016	JLW & NLS	743	18		Rope	SAMPLED		-	0	+	+	H		\dashv	+	H	H	\dashv	+	+	+	H	+	+	+	Н	+
744	-87.34416	44.8149564	Sturgeon Bay	Door	6/20/2016	JLW & NLS	744	23		<u> </u>	DEEP			L_							Ш	Ш			_L		Ш		_L		Ш	\perp

June 2016 Aquatic Plant Data Appendix A

Point Number	Latitude	Longitude	ID LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEРТН	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyllum spicatum	Potamogeton crispus	Calla palustris	Chara spp.	Elo dea canadensis	Elodea nuttallii	Heteranthera dubia Myriophyllum sibiricum	Najas guadalupensis	Nitella spp.	Nuphar variegata Potamogeton foliosus	Potamogeton friesii	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton zosteriformis	Stuckenia pectinata	Utricularia vulgaris	Vallisneria americana	Zannichellia palustris
745	-87.343238	44.8149349	Sturgeon Bay	Door	6/20/2016	JLW & NLS	745	10	Muck	Pole	SAMPLED			0																		
746	-87.350646	44.81445	Sturgeon Bay	Door	6/20/2016	JLW & NLS	746	3	Sand	Pole	SAMPLED			1				1														
747	-87.349724	44.8144286	Sturgeon Bay	Door	6/20/2016	JLW & NLS	747	5	Sand	Pole	SAMPLED			2				2									1					
748	-87.348801	44.8144071	Sturgeon Bay	Door	6/20/2016	JLW & NLS	748	6	Muck	Pole	SAMPLED			2				2														
749	-87.347879	44.8143857	Sturgeon Bay	Door	6/20/2016	JLW & NLS	749	6	Muck	Pole	SAMPLED			3		1		3														
750	-87.346957	44.8143643	Sturgeon Bay	Door	6/20/2016	JLW & NLS	750	7	Muck	Pole	SAMPLED			2				2	2													
751	-87.346035	44.8143428	Sturgeon Bay	Door	6/20/2016	JLW & NLS	751	7	Muck	Pole	SAMPLED			2				2		1												
752	-87.345112	44.8143214	Sturgeon Bay	Door	6/20/2016	JLW & NLS	752	7	Muck	Pole	SAMPLED			1				1														
753	-87.34419	44.8142999	Sturgeon Bay	Door	6/20/2016	JLW & NLS	753	16		Rope	SAMPLED			0																		
754	-87.343268	44.8142784	Sturgeon Bay	Door	6/20/2016	JLW & NLS	754	23			DEEP																					
755	-87.349754	44.8137721	Sturgeon Bay	Door	6/20/2016	JLW & NLS	755	3	Sand	Pole	SAMPLED			1				1														
756	-87.348831	44.8137507	Sturgeon Bay	Door	6/20/2016	JLW & NLS	756	5	Sand	Pole	SAMPLED			1				1							1							
757	-87.347909	44.8137292	Sturgeon Bay	Door	6/20/2016	JLW & NLS	757	6	Muck	Pole	SAMPLED			3	1			3														
758	-87.346987	44.8137078	Sturgeon Bay	Door	6/20/2016	JLW & NLS	758	6	Muck	Pole	SAMPLED			3				3														
759	-87.346065	44.8136864	Sturgeon Bay	Door	6/20/2016	JLW & NLS	759	7	Muck	Pole	SAMPLED			3	2			2	1													
760	-87.345142	44.8136649	Sturgeon Bay	Door	6/20/2016	JLW & NLS	760	7	Muck	Pole	SAMPLED			3	1	1		3														
761	-87.34422	44.8136435	Sturgeon Bay	Door	6/20/2016	JLW & NLS	761	8	Sand	Pole	SAMPLED			0																		
762	-87.343298	44.813622	Sturgeon Bay	Door	6/20/2016	JLW & NLS	762	10	Muck	Pole	SAMPLED			0																		
763	-87.348862	44.8130942	Sturgeon Bay	Door	6/20/2016	JLW & NLS	763	3	Sand	Pole	SAMPLED			1				1	1													
764	-87.347939	44.8130728	Sturgeon Bay	Door	6/20/2016	JLW & NLS	764	4	Sand	Pole	SAMPLED			1				1														
765	-87.347017	44.8130514	Sturgeon Bay	Door	6/20/2016	JLW & NLS	765	4	Sand	Pole	SAMPLED			1				1														
766	-87.346095	44.8130299	Sturgeon Bay	Door	6/20/2016	JLW & NLS	766	6	Sand	Pole	SAMPLED			3				3			2							1		Ц	\perp	
767	-87.345173	44.8130085	Sturgeon Bay	Door	6/20/2016	JLW & NLS	767	7	Sand	Pole	SAMPLED			3					3									1				
768	-87.34425	44.812987	Sturgeon Bay	Door	6/20/2016	JLW & NLS	768	7	Sand	Pole	SAMPLED			2		1		2														
769	-87.343328	44.8129655	Sturgeon Bay	Door	6/20/2016	JLW & NLS	769	8	Muck	Pole	SAMPLED			2		1		2														
770	-87.344281	44.8123305	Sturgeon Bay	Door	6/20/2016	JLW & NLS	770	5	Sand	Pole	SAMPLED			1				1												Ш		
771	-87.346155	44.811717	Sturgeon Bay	Door	6/20/2016	JLW & NLS	771	12	Muck	Pole	SAMPLED			2	1	2				1										Ш		
772	-87.345233	44.8116956	Sturgeon Bay	Door	6/20/2016	JLW & NLS	772	14	Muck	Pole	SAMPLED			1		v				1										Ш		

Point Number	de	itude		LAKE_NAME	ŢŢ		FIELD_CREW	MUM	Ŧ	MENT	POLE_ROPE	COMMENTS	S	NUSIANCE		Myriophyllum spicatum	Potamogeton crispus	Ceratophyllum demersum	Chara spp.	Elodea canadensis	Heteranthera dubia	Najas guadalupensis	Potamogeton friesii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton zosteriformis	Ran unculus aquatilis	Stuckenia pectinata	Utricularia vulgaris	Vallisneria americana	Sagittaria cuneata	Aquatic Moss	Freshwater sponge	Filamentous algae	Zannichellia palustris
Point	Latitude	Longitude	QI	LAKE	COUNT	DATE_	FIEL	PNT_NUN	DEPTH	SEDIMENT	POLE	сом	NOTES	NUSI	TRF	Myrio	Potar	Cerat	Char	Elode	Heter Naise	Najas	Potar	Potar	Potar	Potar	Potar	Rann	Stuck	Utric	Vallis	Sagit	Aqua	ries:	Nito II	Zann
1	44.850792	-87.387779	1	Sturgeon Bay	Door	8/22/2016	EEH & CJF	1	9	Sand	Pole	SAMPLED			1				1												_		_	+	_	_
2	44.850771	-87.386856	2	Sturgeon Bay	Door	8/22/2016	EEH & CJF	2	4	Rock	Pole	SAMPLED			1				1												_			+	+	+
3	44.850750	-87.385934	3	Sturgeon Bay		8/22/2016	EEH & CJF	3	3	Sand	Pole	SAMPLED			1				1												+			+	+	+
5	44.850199 44.850178	-87.390578 -87.389655	5	Sturgeon Bay Sturgeon Bay		8/22/2016	EEH & CJF	5	19	Muck	Rope	SAMPLED			2	1															2		\dagger	+	+	+
6	44.850178	-87.388732	6	Sturgeon Bay		8/22/2016	EEH & CJF	6	11	Sand	Pole	SAMPLED			1					1			1								1		T		T	+
7	44.850136	-87.387809	7	Sturgeon Bay	Door	8/22/2016	EEH & CJF	7	8	Sand	Pole	SAMPLED			1				1		1										İ				T	T
8	44.850115	-87.386886	8	Sturgeon Bay	Door	8/22/2016	EEH & CJF	8	3	Rock	Pole	SAMPLED			1				1																	
9	44.850094	-87.385963	9	Sturgeon Bay	Door	8/22/2016	EEH & CJF	9	3	Rock	Pole	SAMPLED			1				1		1										_		1	\perp	_	┸
10	44.849627	-87.394299	19	Sturgeon Bay	Door	8/22/2016	EEH & CJF	10	0			DEEP																			_			_	_	\perp
1	44.849606	-87.393376	18	Sturgeon Bay	Door	8/22/2016	EEH & CJF	11	20		Rope	SAMPLED			1	_															_	_	4	+	_	+
13	44.849585	-87.392453	17	Sturgeon Bay	Door	8/22/2016	EEH & CJF	12	18		Rope	SAMPLED			1	+			_	1									_		_	-	+	+	+	+
13		-87.391530	16	Sturgeon Bay	Door	8/22/2016	EEH & CJF	13	0			DEEP																			_			+	+	+
14		-87.390607	15	Sturgeon Bay	Door	8/22/2016	EEH & CJF	14	19		Rope	SAMPLED			1								1								+		+	+	+	+
15		-87.389684	14	Sturgeon Bay	Door	8/22/2016	EEH & CJF	15	16		Rope	SAMPLED			1				1												+		+	-	+	+
10		-87.388762 -87.387839	13	Sturgeon Bay Sturgeon Bay		8/22/2016	EEH & CJF	16	9	Muck	Pole	SAMPLED			3				3		1										7			1	+	+
18		-87.386916	10	Sturgeon Bay		8/22/2016	EEH & CJF	18	2	Sand	Pole	SAMPLED			1				1										1		1		T	T	T	+
19		-87.398020	20	Sturgeon Bay	Door	8/22/2016	EEH & CJF	19	19	Curio	Rope	SAMPLED			0																				T	T
20		-87.397097	21	Sturgeon Bay	Door	8/22/2016	EEH & CJF	20	20		Rope	SAMPLED			0																					
2	44.849013	-87.396174	22	Sturgeon Bay		8/22/2016	EEH & CJF	21	20		Rope	SAMPLED			1	1																				
22	44.848992	-87.395251	23	Sturgeon Bay	Door	8/22/2016	EEH & CJF	22	0			DEEP																						_		╄
23	44.848971	-87.394328	198	Sturgeon Bay	Door	8/22/2016	EEH & CJF	23	0			DEEP																			_			_	_	\perp
24	44.848950	-87.393405	25	Sturgeon Bay	Door	8/22/2016	EEH & CJF	24	0			DEEP				4															_	_	4	+	+	-
2	44.848928	-87.392483	24	Sturgeon Bay	Door	8/22/2016	EEH & CJF	25	19		Rope	SAMPLED			0	_															+		+	+	+	-
26		-87.391560	26	Sturgeon Bay	Door	8/22/2016	EEH & CJF	26	20		Rope	SAMPLED			0																_			+	+	+
27		-87.390637	27	Sturgeon Bay		8/22/2016	EEH & CJF	27	19		Rope	SAMPLED			0																+		+	-	+	+
28		-87.389714 -87.388791	28	Sturgeon Bay Sturgeon Bay		8/22/2016	EEH & CJF	28	18	Muck	Rope	SAMPLED			0				1		1										+		\top	+	$^+$	+-
30		-87.387868	30			8/22/2016	EEH & CJF	30	6	Sand	Pole	SAMPLED			1				1		ľ										1		T	T	T	+
3.	44.848802	-87.386946	11	Sturgeon Bay		8/22/2016	EEH & CJF	31	3	Sand	Pole	SAMPLED			1				1																T	
32	44.848419	-87.398972	43	Sturgeon Bay	Door	8/22/2016	EEH & CJF	32	15	Muck	Pole	SAMPLED			3			3		2							1				1					
33	44.848398	-87.398049	42	Sturgeon Bay	Door	8/22/2016	EEH & CJF	33	18		Rope	SAMPLED			0																			_		╄
34	44.848377	-87.397126	41	Sturgeon Bay	Door	8/22/2016	EEH & CJF	34	20		Rope	SAMPLED			0																_			_	_	\perp
35	44.848356	-87.396204	40	Sturgeon Bay	Door	8/22/2016	EEH & CJF	35	20		Rope	SAMPLED			0	_															_	_	4	+	_	\perp
36	44.848335	-87.395281	38	Sturgeon Bay	Door	8/22/2016	EEH & CJF	36	20		Rope	SAMPLED			0	+															_	-	+	+	+	+
37		-87.394358		Sturgeon Bay				37	0			DEEP				\dashv	-	\dashv	+		-	+							+	-	+		+	+	+	+
38		-87.393435		Sturgeon Bay			EEH & CJF	38	0			DEEP				+	1	1	1		+	\dagger							1		+		+	+	+	+
39		-87.392512 -87.391589		Sturgeon Bay Sturgeon Bay			EEH & CJF	39 40	20		Rope	SAMPLED			0	\dashv	1			1		\dagger									\dashv	1	+	\dagger	\dagger	+
4		-87.391589 -87.390667		Sturgeon Bay				41	20		Rope	SAMPLED			0	1	1	1			\dagger	T									1	1	\top	\dagger	\dagger	\dagger
42		-87.389744		Sturgeon Bay				42	18		Rope	SAMPLED			0	Ī															_		_		Ţ	
43		-87.388821		Sturgeon Bay				43	9	Muck	Pole	SAMPLED			1	1			1															\perp	I	
44	44.848166	-87.387898		Sturgeon Bay			EEH & CJF	44	7	Muck	Pole	SAMPLED			3				1	1						1			1		3			╝	\perp	L
4	44.847742	-87.398079	44	Sturgeon Bay	Door	8/22/2016	EEH & CJF	45	18		Rope	SAMPLED			1	4						-					1				4		4	\downarrow	4	╄
46	44.847721	-87.397156	45	Sturgeon Bay	Door	8/22/2016	EEH & CJF	46	19		Rope	SAMPLED			0	4	-	-	-	-	\perp	+							-		4	-	\perp	+	+	_
47		-87.396233		Sturgeon Bay				47	20		Rope	SAMPLED			0	+		-	-		\parallel	+	-						-		\dashv	-	+	+	+	+
48		-87.395310		Sturgeon Bay				48	20		Rope	SAMPLED			1	+	-	+	1	1	+	+	-						+		+		+	+	+	+
49		-87.394387		Sturgeon Bay				49	0			DEEP				\dashv	1	\dashv	\dashv			+							\dashv		+		+	+	+	+
50		-87.393465 -87.393542		Sturgeon Bay Sturgeon Bay			EEH & C JF	50	20		Por-	DEEP SAMPLED			0	+	1	+	1			\dagger	H						1		\dashv		+	\dagger	\dagger	+
5		-87.392542 -87.391619		Sturgeon Bay		8/22/2016	EEH & CJF	51	20		Rope	SAMPLED			0	1					1	\dagger	T								\dashv		\dagger	\dagger	\dagger	†
53		-87.390696		Sturgeon Bay				53	19		Rope	SAMPLED			0	Ī															_		_	_	Ţ	I
54				Sturgeon Bay				54	19		Rope	SAMPLED			0		Ī	Ī	Ī																	L

er				ш			*				ш					Myriophyllum spicatum	Potamogeton crispus	Ceratophyllum demersum		densis	a dubia	Najas guadalupensis	n friesii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton zosteriformis	Kanunculus aquatilis	ecunata	Vallisneria americana	uneata	SS	sponge	s algae	obtusa	Zannichellia palustris
Point Number	Latitude	Longitude		LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	L	riophyllu	tamogeto	ratophylli	Chara spp.	Elodea canadensis	Heteranmera dubia Najas flexilis	as guada	Potamogeton friesii	tamogeto	tamogeto	tamogeto	tamogeto	nunculus	Stuckelina pectinata	Ilsneria a	Sagittaria cuneata	Aquatic Moss	Freshwater sponge	Filamentous algae	Nitellopsis obtusa	nnichellia
			₽										ž	Z		Ę	Ъ	రి	ភ	<u>й</u> :	S S	R	8	Ъ	8	2	8 1	2 4	š ±	, s	Sa	Ā	Fr	Ē	ž	Za
55	44.847531	-87.388851	54	Sturgeon Bay	Door	8/22/2016	EEH & CJF	55	8	Muck	Pole	SAMPLED			0					+							+			-				=		-
56	44.847510	-87.387928	55	Sturgeon Bay		8/22/2016	EEH & CJF	56	8	Sand	Pole	SAMPLED			1					1							$^{+}$			+				+	+	-
57	44.847106 44.847085	-87.399031	69	Sturgeon Bay Sturgeon Bay	Door	8/22/2016 8/22/2016	EEH & CJF	57 58	7	Muck	Pole	SAMPLED			1			1		1										+						-
58 59	44.847064	-87.398108 -87.397186	68	Sturgeon Bay	Door	8/22/2016	EEH & CJF	59	19		Rope	SAMPLED			0			-												+			П		_	-
60	44.847043	-87.396263	66	Sturgeon Bay		8/22/2016	EEH & CJF	60	20		Rope	SAMPLED			0															\top				\exists	\forall	┪
61	44.847022	-87.395340	65	Sturgeon Bay		8/22/2016	EEH & CJF	61	20		Rope	SAMPLED			0															T					T	٦
62	44.847001	-87.394417	64	Sturgeon Bay	Door	8/22/2016	EEH & CJF	62	19		Rope	SAMPLED			0															Ť			П		T	٦
63	44.846980	-87.393494	63	Sturgeon Bay	Door	8/22/2016	EEH & CJF	63	0			DEEP																								٦
64	44.846959	-87.392571	62	Sturgeon Bay	Door	8/22/2016	EEH & CJF	64	0			DEEP																								
65	44.846938	-87.391649	61	Sturgeon Bay	Door	8/22/2016	EEH & CJF	65	19		Rope	SAMPLED			0																					
66	44.846917	-87.390726	60	Sturgeon Bay	Door	8/22/2016	EEH & CJF	66	19		Rope	SAMPLED			0																					
67	44.846896	-87.389803	59	Sturgeon Bay	Door	8/22/2016	EEH & CJF	67	19		Rope	SAMPLED			2	1		1		1	1		1			1										
68	44.846875	-87.388880	58	Sturgeon Bay	Door	8/22/2016	EEH & CJF	68	9	Muck	Pole	SAMPLED			0																					
69	44.846853	-87.387957	57	Sturgeon Bay	Door	8/22/2016	EEH & CJF	69	8	Muck	Pole	SAMPLED			0																					
70	44.846832	-87.387035	56	Sturgeon Bay	Door	8/22/2016	EEH & CJF	70	6	Rock	Pole	SAMPLED			0															4						
71	44.846450	-87.399061	70	Sturgeon Bay	Door	8/22/2016	EEH & CJF	71	5	Rock	Pole	SAMPLED			1					1			1							1						
72	44.846429	-87.398138	71	Sturgeon Bay	Door	8/22/2016	EEH & CJF	72	15	Muck	Pole	SAMPLED			3			2		3										\perp				_	4	4
73	44.846408	-87.397215	72	Sturgeon Bay	Door	8/22/2016	EEH & CJF	73	18		Rope	SAMPLED			0															\perp				_	4	4
74	44.846387	-87.396292	73	Sturgeon Bay	Door	8/22/2016	EEH & CJF	74	19		Rope	SAMPLED			0					_							_			\bot				_	4	4
75	44.846366	-87.395370	74	Sturgeon Bay	Door	8/22/2016	EEH & CJF	75	20		Rope	SAMPLED			0					_							_			\bot				_	4	4
76	44.846345	-87.394447	75	Sturgeon Bay	Door	8/22/2016	EEH & CJF	76	19		Rope	SAMPLED			0															+				4	4	4
77	44.846324	-87.393524	76	Sturgeon Bay	Door	8/22/2016	EEH & CJF	77	20		Rope	SAMPLED			0					+							+			+				4	4	4
78	44.846303	-87.392601	77	Sturgeon Bay	Door	8/22/2016	EEH & CJF	78	0			DEEP			H					+						-	+			+				+	-	4
79	44.846281	-87.391678	78	Sturgeon Bay	Door	8/22/2016	EEH & CJF	79	20		Rope	SAMPLED			0					+							+			+	-		H	+	+	_
80	44.846260	-87.390756	79	Sturgeon Bay			EEH & CJF	80	18		Rope	SAMPLED			0															+			H	-	+	_
81	44.846239	-87.389833	80	Sturgeon Bay		8/22/2016	EEH & CJF	81	17		Rope	SAMPLED			0															+			H	+	+	
82	44.846218	-87.388910	81	Sturgeon Bay	Door	8/22/2016	EEH & CJF	82	7	Muck	Pole	SAMPLED			1					1							$^{+}$			+				+	+	-
83	44.846197	-87.387987	82	Sturgeon Bay	Door	8/22/2016	EEH & CJF	83	6	Muck	Pole	SAMPLED			2				2											1			H	-	\dashv	-
84	44.846176 44.845772	-87.387064 -87.398167	96	Sturgeon Bay Sturgeon Bay	Door	8/22/2016	EEH & CJF	84	8	Muck	Pole	SAMPLED			1	_			1	1																-
85 86	44.845751	-87.397245	95			8/22/2016	EEH & CJF	86	17	IVIUCK	Rope	SAMPLED			1					1							1			\top				\exists	\forall	
87	44.845730	-87.396322	94	Sturgeon Bay	Door	8/22/2016	EEH & CJF	87	19		Rope	SAMPLED			0												Ť			T					T	
88	44.845709			Sturgeon Bay				88	19		Rope	SAMPLED			0															Ť			П		T	٦
89	44.845688	-87.394476		Sturgeon Bay			EEH & CJF	89	19		Rope	SAMPLED			0																					
90	44.845667	-87.393554		Sturgeon Bay				90	18		Rope	SAMPLED			0																					
91	44.845646	-87.392631		Sturgeon Bay				91	0			DEEP																1		I						
92	44.845625	-87.391708	89	Sturgeon Bay	Door	8/22/2016	EEH & CJF	92	0			DEEP																								
93	44.845604	-87.390785	88	Sturgeon Bay	Door	8/22/2016	EEH & CJF	93	19		Rope	SAMPLED			0															\perp			Ш		\perp	
94	44.845583	-87.389862	87	Sturgeon Bay	Door	8/22/2016	EEH & CJF	94	17		Rope	SAMPLED			0																					
95	44.845562	-87.388940	86	Sturgeon Bay	Door	8/22/2016	EEH & CJF	95	5	Muck	Pole	SAMPLED			1				1		1					1				1						
96	44.845541	-87.388017	85	Sturgeon Bay	Door	8/22/2016	EEH & CJF	96	6	Muck	Pole	SAMPLED			1				1	1	-	1				_	4			\downarrow			\sqcup	\dashv	4	4
97	44.845519	-87.387094	84	Sturgeon Bay	Door	8/22/2016	EEH & CJF	97	7	Sand	Pole	SAMPLED			1			4	1	1	+					4	4	-	1	1	-		\sqcup	4	4	4
98	44.845116	-87.398197	97	Sturgeon Bay	Door	8/22/2016	EEH & CJF	98	4	Sand	Pole	SAMPLED			3	3				4						_	4	-		\downarrow	-		\sqcup	\dashv	4	4
99	44.845095	-87.397274	98	Sturgeon Bay	Door	8/22/2016	EEH & CJF	99	16		Rope	SAMPLED			0			\dashv		+	-	-				-	+	+	-	+	+		\vdash	\dashv	\dashv	4
100	44.845074	-87.396351	99	Sturgeon Bay	Door	8/22/2016	EEH & CJF	100	18		Rope	SAMPLED			0				_	+	-			H		4	+	-		+	-	-	\vdash	\dashv	+	_
101	44.845053	-87.395429	100	Sturgeon Bay	Door	8/22/2016		101	19		Rope	SAMPLED			0			-		+	-	-				\dashv	+	+	-	+	-	-	\vdash	\dashv	\dashv	\dashv
102	44.845032	-87.394506		Sturgeon Bay			EEH & CJF	102	19		Rope	SAMPLED			0					+	+					\dashv	+	+	+	+	-		\vdash	\dashv	+	\dashv
103	44.845011	-87.393583		Sturgeon Bay			EEH & CJF	103			Rope	SAMPLED			0			\dashv	-	+	+	1				+	+	+	+	+	+		\vdash	\dashv	+	\dashv
104				Sturgeon Bay				104			Rope	SAMPLED			0			-		+	+			H		+	+		+	+	+	\vdash	H	\dashv	+	-
105	44.844968	-87.391738		Sturgeon Bay				105	0			DEEP			H			-		+	+	1					+	-	+	+	+	\vdash	H	\dashv	\dashv	\dashv
106				Sturgeon Bay				106	0			DEEP			H			\dashv		+	+	1					+	+	+	+	+	\vdash	H	\dashv	+	\dashv
107	44.844926	-87.389892		Sturgeon Bay				107	0		D	DEEP						-		\dashv	+	1				+	\dashv	+		+	+		\vdash	\dashv	+	\dashv
108	44.844905	-87.388969	107	Sturgeon Bay	Door	8/22/2016	EEH & CJF	108	16	1	Rope	SAMPLED			0								1	ш				L_	_ _	Щ		1	ш		L	

																picatum	usbus	demersum	-	lsis		ensis	iesii	ramineus	raelongus	chardsonii	osteriformis	uatilis	nata	aris	ricana	ata		agu	and and and and and and and and and and	lustris
Point Number	Latitude	Longitude	QI	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	рертн	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyllum spicatum	Potamogeton crispus	Ceratophyllum demersum	Chara spp.	Erouea canauerisis Heteranthera dubia	Najas flexilis	Najas guadalupensis	Potamogeton friesii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton zosteriformis	Ranunculus aquatilis	Stuckenia pectinata	Utricularia vulgaris	Vallisneria americana	Sagittaria cuneata	Aquatic Moss	Freshwater sponge	Nitellopsis obtusa	Zannichellia palustris
109	44.844884	-87.388047	108	Sturgeon Bay	Door	8/22/2016	EEH & CJF	109	5	Muck	Pole	SAMPLED			2				1					1							1					
110	44.844863	-87.387124	109	Sturgeon Bay	Door	8/22/2016	EEH & CJF	110	7	Muck	Pole	SAMPLED			3	2				1											3		_	1	\downarrow	
111	44.844842	-87.386201	110	Sturgeon Bay	Door	8/22/2016	EEH & CJF	111	6	Muck	Pole	SAMPLED			3	1				3											1		4	4	4	\perp
112	44.844459	-87.398227	123	Sturgeon Bay	Door	8/22/2016	EEH & CJF	112	6	Muck	Pole	SAMPLED			1	_			1	1													+	+	1	+
113	44.844438	-87.397304	122	Sturgeon Bay	Door	8/22/2016	EEH & CJF	113	10	Muck	Pole	SAMPLED			3				1		1												+	+	1	+
114	44.844417	-87.396381		Sturgeon Bay	Door	8/22/2016	EEH & CJF	114	17		Rope	SAMPLED			0	+																	+	+	+	+
115	44.844396	-87.395458	120	Sturgeon Bay	Door	8/22/2016	EEH & CJF	115	18		Rope	SAMPLED			0	+																	+	+	+	+1
116	44.844375	-87.394536	119	Sturgeon Bay	Door	8/22/2016	EEH & CJF	116	19		Rope	SAMPLED			0																		+	+	+	\forall
117	44.844354			Sturgeon Bay				117	17		Rope	SAMPLED			0																		$^{+}$	$^{+}$	t	\forall
118	44.844333	-87.392690 -87.391767		Sturgeon Bay Sturgeon Bay			EEH & CJF	118	20		Rope	SAMPLED			0																		T	T	T	П
120	44.844291	-87.390845	115		Door	8/22/2016	EEH & CJF	120	0		Kope	DEEP																					T	T	T	\Box
121	44.844270	-87.389922	114	Sturgeon Bay	Door	8/22/2016	EEH & CJF	121	0			DEEP																					T	T	T	П
122	44.844249	-87.388999	113	Sturgeon Bay	Door	8/22/2016	EEH & CJF	122	0			DEEP																								
123	44.844228	-87.388076	112	Sturgeon Bay	Door	8/22/2016	EEH & CJF	123	0			DEEP																								
124	44.844206	-87.387153	111	Sturgeon Bay	Door	8/22/2016	EEH & CJF	124	13	Rock	Pole	SAMPLED			0																		┙	╧	╽	
125	44.843803	-87.398256	124	Sturgeon Bay	Door	8/22/2016	EEH & CJF	125	6	Sand	Pole	SAMPLED			1					1											1		_	1	\perp	Ш
126	44.843782	-87.397333	125	Sturgeon Bay	Door	8/22/2016	EEH & CJF	126	8	Sand	Pole	SAMPLED			3	3				1													_	4	1	
127	44.843761	-87.396411	126	Sturgeon Bay	Door	8/22/2016	EEH & CJF	127	16	Muck	Pole	SAMPLED			3	_		2		3													4	4	4	\perp
128	44.843740	-87.395488	127	Sturgeon Bay	Door	8/22/2016	EEH & CJF	128	19		Rope	SAMPLED			0	-																	+	+	+	+
129	44.843719	-87.394565	128	Sturgeon Bay	Door	8/22/2016	EEH & CJF	129	19		Rope	SAMPLED			0	-																	+	+	+	Н
130	44.843698	-87.393642		Sturgeon Bay			EEH & CJF	130	18		Rope	SAMPLED			0																		+	+	+	Н
131	44.843677	-87.392720		Sturgeon Bay		8/22/2016	EEH & CJF	131	17		Rope	SAMPLED			0	+																	+	+	+	+
132	44.843656	-87.391797	131			8/22/2016	EEH & CJF	132	17		Rope	SAMPLED			0																		+	+	+	+
133	44.843634	-87.390874	132	Sturgeon Bay		8/22/2016	EEH & CJF	133	21		Rope	SAMPLED			0	+																	+	+	$^{+}$	H
134	44.843613 44.843592	-87.389951 -87.389029	133	Sturgeon Bay Sturgeon Bay	Door	8/22/2016	EEH & CJF	134	0			DEEP																					$^{+}$	$^{+}$	t	\forall
136	44.843571	-87.388106		Sturgeon Bay			EEH & CJF	136	0			DEEP																					T	T	T	Ħ
137	44.843125	-87.397363		Sturgeon Bay		8/22/2016	EEH & CJF	137	8	Sand	Pole	SAMPLED			1				1												1		T	T	T	П
138	44.843104	-87.396440	148			8/22/2016	EEH & CJF	138	9	Sand	Pole	SAMPLED			3	1				1 3											1					П
139	44.843083	-87.395518	147	Sturgeon Bay		8/22/2016	EEH & CJF	139	18		Rope	SAMPLED			0																					
140	44.843062	-87.394595	146	Sturgeon Bay	Door	8/22/2016	EEH & CJF	140	19		Rope	SAMPLED			0																				\perp	
141	44.843041	-87.393672	145	Sturgeon Bay	Door	8/22/2016	EEH & CJF	141	18		Rope	SAMPLED			0																		┙	╧	╽	
142	44.843020	-87.392749	144	Sturgeon Bay	Door	8/22/2016	EEH & CJF	142	16		Rope	SAMPLED			1					1													_	4	1	
143	44.842999	-87.391827	143	Sturgeon Bay	Door	8/22/2016	EEH & CJF	143	17	Muck	Pole	SAMPLED			1	_				1													4	4	4	\perp
144	44.842978	-87.390904	142	Sturgeon Bay	Door	8/22/2016	EEH & CJF	144	17		Rope	SAMPLED			0																		+	+	+	Н
145	44.842957	-87.389981	141	Sturgeon Bay	Door	8/22/2016	EEH & CJF	145	0			DEEP																					+	+	+	+
146	44.842936		140	Sturgeon Bay	Door	8/22/2016	EEH & CJF	146	0			DEEP				+			+														+	+	+	+
147	44.842915			Sturgeon Bay				147	0			DEEP				-										-							+	+	+	Н
148	44.842894			Sturgeon Bay					0			DEEP				+																	+	+	+	+
149				Sturgeon Bay				149	0			OTHER																					+	+	+	+
150				Sturgeon Bay					0			OTHER			0	+																	+	+	\dagger	H
151	44.842448			Sturgeon Bay Sturgeon Bay				151	18	Rock	Pole	SAMPLED			0																		$^{+}$	$^{+}$	t	\forall
153	44.842406	-87.394624		Sturgeon Bay				153	19		Rope	SAMPLED			1	\dagger	\dagger	1		1						1			1	1		1	\dagger	\dagger	\dagger	\Box
154	44.842385			Sturgeon Bay				154	19		Rope	SAMPLED			0	1		1		t											1	1	T	T	1	П
155				Sturgeon Bay				155	16		Rope	SAMPLED			1					1							1					Ī	T		J	П
156				Sturgeon Bay				156		Muck		SAMPLED			3	I		3	1	I							1				1		I	I	I	
157	44.842321			Sturgeon Bay				157		Muck		SAMPLED			0											Ī							\bot	╧	Ţ	Ш
158	44.842300	-87.390011	157	Sturgeon Bay	Door	8/22/2016	EEH & CJF	158	17		Rope	SAMPLED			0	1	1		1	┸									4	4		1	1	\perp	\perp	Ш
159	44.842279	-87.389088	158	Sturgeon Bay	Door	8/22/2016	EEH & CJF	159	0			DEEP				4	1	_	_	\perp													\downarrow	4	\perp	\perp
160	44.842258	-87.388165	159	Sturgeon Bay	Door	8/22/2016	EEH & CJF	160	0			DEEP				4	-									_			_	_			4	4	4	Щ
161	44.842237	-87.387243	160	Sturgeon Bay	Door	8/22/2016	EEH & CJF	161	0			DEEP				4	-		-	-	-					-			4	4		-	+	+	\bot	+
162	44.842216	-87.386320	161	Sturgeon Bay	Door	8/22/2016	EEH & CJF	162	0			OTHER																						l	\perp	Ш

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March Marc	oint Number	atitude	ongitude	a	AKE_NAME	YTNUO	DATE_	"IELD_CREW	MUN_TNº	ЭЕРТН	SEDIMENT	OLE_ROPE	COMMENTS	OTES	USIANCE	IRF	Ayriophyllum sp	orallogeton cri	Chara spp.	lodea canadens	leteranthera dul	Vajas flexilis	vajas guadalupe	otamodeton dr	otamodeton pra	otamogeton ric	otamogeton zo	Ran unculus aqua	stuckenia pectin	Jtricularia vulga	/allisneria ameri	sagittaria cuneal	Aquatic Moss	reshwater spon	lamentous arga	diteliopsis optus	Zannichellia palustris
MARCHET CHAMBER 17. Support No. 100. March 100.					_						0,			_	_											Ť	_		0,	_	_	0,			Ť		۷_
Mathematical Math		44.841791	-87.396499			Door				6	Muck	Pole	SAMPLED			0																			I		
Section Company Comp	165	44.841770	-87.395577	174	Sturgeon Bay	Door	8/22/2016	EEH & CJF	165	5	Rock	Pole	SAMPLED			0																					
100 A4A-070	166	44.841749	-87.394654	173	Sturgeon Bay	Door	8/22/2016	EEH & CJF	166	18		Rope	SAMPLED			0																			_		_
Second Column C	167	44.841728	-87.393731	172	Sturgeon Bay	Door	8/22/2016	EEH & CJF	167	18		Rope	SAMPLED			1				1			#				1								_	4	_
170 Ad-Art Color 200 A	168	44.841707	-87.392809	171	Sturgeon Bay	Door	8/22/2016	EEH & CJF	168	18		Rope	SAMPLED			0																			_	4	_
171 Add Article All Statistics A	169	44.841686	-87.391886	170	Sturgeon Bay	Door	8/22/2016	EEH & CJF	169	16		Rope	SAMPLED			1				1			+				1								+	+	_
172 44.8402 47.38105 100 Elegen By Our 92000 Elef ACF 07 0 0 0 0000											Muck																								+	+	+
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177 4-84-108 47-38585 197 Sungeon Ray Door 920200 ERH & CD 177 0 - OTHER 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																																					
130	177	44.841496	-87.383581	197		Door	8/22/2016	EEH & CJF	177	0			OTHER																								
150 44.641006 47.360264 170 Suspens Bay Core 82022015 EEPA A.C.IF 181 151	178	44.841135	-87.396529	176	Sturgeon Bay	Door	8/22/2016	EEH & CJF	178	6	Muck	Pole	SAMPLED			3			3	1											1						
151 44 841072 67 507081 170 Strapen Reg Door 8222016 EEH A CIF 181 18 Rope SAMPLED 0 0 0 0 0 0 0 0 0	179	44.841114	-87.395606	177	Sturgeon Bay	Door	8/22/2016	EEH & CJF	179	7	Sand	Pole	SAMPLED			1			1																_	1	_
150 44-84105 47-39058 150 Surgeon Bay Door 8222015 EEPA C.F. 150 15 Rogo SAMPLED 0 0 0 0 0 0 0 0 0	180	44.841093	-87.394684	178	Sturgeon Bay	Door	8/22/2016	EEH & CJF	180	16		Rope	SAMPLED			0							\parallel												_	4	_
186	181	44.841072	-87.393761	179	Sturgeon Bay	Door	8/22/2016	EEH & CJF	181	18		Rope	SAMPLED			0										_									4	+	_
156 44 84/1000 47 380000 183 Surgeon Bay Doe 8222076 ERH & CEF 156 15 Sept SAMPLED 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	182	44.841051	-87.392838	180	Sturgeon Bay	Door	8/22/2016	EEH & CJF	182	18		Rope	SAMPLED			0							\perp												_	+	_
156 A4.40099 A7.39070 180 Surgeon Bay Door A7270705 ETH A CIF 180 15 Roge SAMPHID 0 0 0 0 0 0 0 0 0	183			181	Sturgeon Bay	Door			183			Rope											+				<u> </u>								+	+	-
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195 44 840818 87 387688 193 Sturgeon Bay Door 8/22/2016 EEH 8 CJF 193 12 Sand Pole SAMPLED 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																																					
192 44.840457 87.395636 206 Sturgeon Bay Door 8/22/2016 EEH 8 CJF 192 12 Sand Pole SAMPHED 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	190	44.840882	-87.385457	188	Sturgeon Bay	Door	8/22/2016	EEH & CJF	190	0			OTHER																								
199	191	44.840818	-87.382688	193	Sturgeon Bay	Door	8/22/2016	EEH & CJF	191	0			OTHER																								
196	192	44.840457	-87.395636	206	Sturgeon Bay	Door	8/22/2016	EEH & CJF	192	5	Sand	Pole	SAMPLED			1			1	1													3		_		_
195 44,84034 87,392868 203 Sturgeon Bay Door 8/22/2016 EEH & CIF 195 18 Rope SAMPLED 1 1 1 1 1 1 1 1 1	193	44.840436	-87.394713	205	Sturgeon Bay	Door	8/22/2016	EEH & CJF	193	12	Sand	Pole	SAMPLED			3		3	3	3	1					_					1				4	+	_
196 44 840373 87.391945 202 Sturgeon Bay Door 8/22/2016 EEH & CIF 196 18 Rope SAMPLED 0 0 0 0 0 0 0 0 0	194	44.840415	-87.393791	204	Sturgeon Bay	Door	8/22/2016	EEH & CJF	194	18		Rope	SAMPLED			1				1			-				1								_	+	_
197 44.840352 87.391022 201 Sturgeon Bay Door 8/22/2016 EEH & CJF 197 17 Rope SAMPLED 3 3 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	195	44.840394	-87.392868	203	Sturgeon Bay	Door	8/22/2016	EEH & CJF	195	18		Rope	SAMPLED			1		1	1				\perp												_	+	_
198 44.840331 87.390100 200 Sturgeon Bay Door 8/22/2016 EEH & CIF 198 13 Sand Pole SAMPLED 3 1 2 1 1 1 1 1 1 1 1																																			+	+	+
199 44.840310 -87.389177 199 Sturgeon Bay Door 8/22/2016 EEH & CJF 199 9 Sand Pole SAMPLED 1 1 1 1 1 1 1 1 1																											1								+	+	1
200 44.840289 -87.388254 192 Sturgeon Bay Door 8/22/2016 EEH 8.CIF 200 16 Rope SAMPLED 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																3	1	2	4	1	H	1	+	t	+		H				4				+	+	1
201 44.840268 -87.387332 191 Sturgeon Bay Door 8/22/2016 EEH & CJF 201 0 DEEP 202 44.840246 -87.386409 189 Sturgeon Bay Door 8/22/2016 EEH & CJF 202 0 OTHER 203 44.840225 -87.385486 190 Sturgeon Bay Door 8/22/2016 EEH & CJF 203 0 OTHER 204 48.840204 -87.385486 196 Sturgeon Bay Door 8/22/2016 EEH & CJF 204 0 OTHER 205 44.840183 -87.383641 195 Sturgeon Bay Door 8/22/2016 EEH & CJF 205 0 OTHER 206 44.840162 -87.38718 194 Sturgeon Bay Door 8/22/2016 EEH & CJF 206 0 OTHER 207 44.839780 -87.394743 207 Sturgeon Bay Door 8/22/2016 EEH & CJF 207 7 Sand Pole SAMPLED 208 44.839799 -87.393820 208 Sturgeon Bay Door 8/22/2016 EEH & CJF 208 17 Rope SAMPLED 209 44.839797 -87.393979 209 Sturgeon Bay Door 8/22/2016 EEH & CJF 209 18 Rope SAMPLED 210 44.839674 -87.391052 211 Sturgeon Bay Door 8/22/2016 EEH & CJF 211 18 Rope SAMPLED 211 44.839674 -87.391052 212 Sturgeon Bay Door 8/22/2016 EEH & CJF 212 11 Sand Pole SAMPLED 212 44.839674 -87.391059 213 Sturgeon Bay Door 8/22/2016 EEH & CJF 212 11 Sand Pole SAMPLED 213 44.839664 -87.390129 212 Sturgeon Bay Door 8/22/2016 EEH & CJF 212 11 Sand Pole SAMPLED 214 44.839664 -87.390129 212 Sturgeon Bay Door 8/22/2016 EEH & CJF 212 11 Sand Pole SAMPLED 215 A4.839664 -87.390129 212 Sturgeon Bay Door 8/22/2016 EEH & CJF 212 11 Sand Pole SAMPLED 216 SAMPLED 217 SAMPLED 218 SAMPLED 219 SAMPLED 219 SAMPLED 210 SAMPLED 210 SAMPLED 210 SAMPLED 211 SAMPLED 212 STURGEON BAY DOOR 8/22/2016 EEH & CJF 212 11 Sand Pole SAMPLED 213 SAMPLED 214 SAMPLED 215 SAMPLED 216 SAMPLED 217 SAMPLED 218 SAMPLED 219 SAMPLED 210 SAMPLED 210 SAMPLED 211 SAMPLED 212 STURGEON BAY DOOR 8/22/2016 EEH & CJF 212 11 Sand Pole SAMPLED 213 SAMPLED 214 SAMPLED 215 SAMPLED 216 SAMPLED 217 SAMPLED 218 SAMPLED 219 SAMPLED 210 SAMPLED 210 SAMPLED 210 SAMPLED 211 SAMPLED 212 STURGEON BAY DOOR 8/22/2016 EEH & CJF 212 11 SAMPLED 213 SAMPLED 214 SAMPLED 215 SAMPLED 216 SAMPLED 217 SAMPLED 218 SAMPLED 219 SAMPLED 210 SAMPLED 210 SAMPLED 211 SAMPLED 211 SAMPLED 212 STURGEON SAMPLED											Dana				П	1		T	\dagger	1	H	1	\dagger		t	t	T				1				\dagger	\dagger	٦
202 44.840246 87.386409 189 Sturgeon Bay Door 8/22/2016 EEH & CJF 202 0 OTHER																	T	T		1			T	Ì			T								\dagger	\dagger	٦
203 44.840225 87.385486 190 Sturgeon Bay Door 8/22/2016 EEH & CJF 203 0 OTHER																																			T		
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206 44.840162 -87.382718 194 Sturgeon Bay Door 8/22/2016 EEH & CJF 206 0 OTHER 207 44.839780 -87.394743 207 Sturgeon Bay Door 8/22/2016 EEH & CJF 207 7 Sand Pole SAMPLED 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	204	44.840204	-87.384564	196	Sturgeon Bay	Door	8/22/2016	EEH & CJF	204	0			OTHER																						\perp	1	
207 44.839780 87.394743 207 Sturgeon Bay Door 8/22/2016 EEH & CJF 207 7 Sand Pole SAMPLED 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	205	44.840183	-87.383641	195	Sturgeon Bay	Door	8/22/2016	EEH & CJF	205	0			OTHER				-	1	1		Ш	_	1	1	_										4	1	4
208 44.839759 -87.393820 208 Sturgeon Bay Door 8/22/2016 EEH & CJF 208 17 Rope SAMPLED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	206	44.840162	-87.382718	194	Sturgeon Bay	Door	8/22/2016	EEH & CJF	206	0			OTHER			\sqcup		-	-	-		4	1	-	\bot	-									4	4	4
209 44.839738 -87.392897 209 Sturgeon Bay Door 8/22/2016 EEH & CJF 209 18 Rope SAMPLED 0 0 210 44.839717 -87.391975 210 Sturgeon Bay Door 8/22/2016 EEH & CJF 210 18 Rope SAMPLED 0 0 211 44.839696 -87.391052 211 Sturgeon Bay Door 8/22/2016 EEH & CJF 211 18 Rope SAMPLED 0 0 212 44.839674 -87.391079 212 Sturgeon Bay Door 8/22/2016 EEH & CJF 211 18 Rope SAMPLED 0 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1	207	44.839780	-87.394743	207	Sturgeon Bay	Door	8/22/2016	EEH & CJF	207	7	Sand	Pole	SAMPLED			3	2	+	-	-			+		\bot	-					2				+	+	4
210 44.839717 -87.391975 210 Sturgeon Bay Door 8/22/2016 EEH & CJF 210 18 Rope SAMPLED 0 0 0 0 0 0 0 0 0	208	44.839759	-87.393820	208	Sturgeon Bay	Door	8/22/2016	EEH & CJF	208	17		Rope	SAMPLED			0		-	+	-	H	-	+	-	+								\dashv		+	+	4
211 44.839696 -87.391052 211 Sturgeon Bay Door 8/22/2016 EEH & CJF 211 18 Rope SAMPLED 0 0 1 1 2 1 2 1	209											Rope			H		-	+	-	-	H	-	+		-	+							\dashv		+	+	\dashv
212 44.839674 -87.390129 212 Sturgeon Bay Door 8/22/2016 EEH & CJF 212 11 Sand Pole SAMPLED 3 1 1 2 1 1 2 1 1 1 2 2 1 1 1 2 2 1 1 2 2 1 1 2 2 1 3 44.8396534 -87.3892067 213 Sturgeon Bay Door 8/22/2016 EEH & CJF 213 5 Rock Pole SAMPLED 0 0 1 1 2 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1 1 1 1 2 1 1 1 1 1 2 1																		+	+		H	-	+	-	+		-								+	+	\dashv
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214 44.6396323 -07.306264 214 Surgeon Bay Door 8/22/2016 EEH & CJF 214 9 Muuk Pole 3/4MPLED 3 3 3 3 1 1 215 Sturgeon Bay Door 8/22/2016 EEH & CJF 215 0 DEEP											white	, old					T	T	T	J		1	T	t	T		T								\dagger	\top	٦
216 44.83959 -87.3864386 216 Sturgeon Bay Door 8/22/2016 EEH & CJF 216 0 DEEP																																					

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Point Number	Latitude	Longitude	Ω	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEРТН	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyllum spicatum	Potamogeton crispus	Ceratophyllum demersum	Chara spp.	Heteranthera dubia	Najas flexilis	Najas guadalupensis	Potamogeton friesii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton zosteriformis	Ranunculus aquatilis	Stuckenia pectinata	Utricularia vulgaris	Vallisneria americana	Sagittaria cuneata	Aquatic Moss Freshwater sponge	Filamentous algae	Nite llopsis obtusa	Zannichellia palustris
217	44.8395689	-87.385516		_	Door	8/22/2016	EEH & CJF	217	0	0,		OTHER	_	_				,			Ī	_	_	_	_	_	_	_	0,	- ·	,	0,		Ť	Ť	N
218	44.8391234	-87.3947724			Door	8/22/2016	EEH & CJF	218	5	Rock	Pole	SAMPLED			1				1				1													
219	44.8391023	-87.3938497	228	Sturgeon Bay	Door	8/22/2016	EEH & CJF	219	11	Muck	Pole	SAMPLED			3					1		3									1					
220	44.8390813	-87.3929271	227	Sturgeon Bay	Door	8/22/2016	EEH & CJF	220	18		Rope	SAMPLED			0																			_	lacksquare	Ш
221	44.8390602	-87.3920044	226	Sturgeon Bay	Door	8/22/2016	EEH & CJF	221	19		Rope	SAMPLED			0				#								4							+	\downarrow	
222	44.8390391	-87.3910817	225	Sturgeon Bay	Door	8/22/2016	EEH & CJF	222	18		Rope	SAMPLED			0				-								_	-						+	+	\vdash
223	44.839018	-87.390159	224	Sturgeon Bay	Door	8/22/2016	EEH & CJF	223	16		Rope	SAMPLED			3	-			+	1							3							+	+	\vdash
224	44.8389969	-87.3892364			Door	8/22/2016	EEH & CJF	224	5	Sand	Pole	SAMPLED			0	+																		+	+	\vdash
225	44.8389758			Sturgeon Bay			EEH & CJF	225	6	Sand		SAMPLED			2	.			1	1											1			-	+	$\overline{}$
226	44.8389547	-87.387391	220				EEH & CJF	226	12	Muck	Pole	SAMPLED			1	1			T															+	+	$\overline{}$
227	44.8389335 44.8389124	-87.3855457	218	Sturgeon Bay Sturgeon Bay	Door	8/22/2016	EEH & CJF	228	0			OTHER																						+	1	\Box
229	44.838849	-87.3827777	222	Sturgeon Bay	Door	8/22/2016	EEH & CJF	229	0			OTHER																							T	П
230	44.8384459	-87.3938793	230	Sturgeon Bay	Door	8/22/2016	EEH & CJF	230	4	Rock	Pole	SAMPLED			0 '	v																				
231	44.8384248	-87.3929567	231	Sturgeon Bay	Door	8/22/2016	EEH & CJF	231	16		Rope	SAMPLED			0																					
232	44.8384037	-87.392034	232	Sturgeon Bay	Door	8/22/2016	EEH & CJF	232	18		Rope	SAMPLED			0																				<u> </u>	
233	44.8383826	-87.3911113	233	Sturgeon Bay	Door	8/22/2016	EEH & CJF	233	19		Rope	SAMPLED			0																			_	lacksquare	Ш
234	44.8383615	-87.3901887	234	Sturgeon Bay	Door	8/22/2016	EEH & CJF	234	16		Rope	SAMPLED			2			1		1							2							\downarrow	Ļ	Ш
235	44.8383404	-87.389266	235	Sturgeon Bay	Door	8/22/2016	EEH & CJF	235	9	Muck	Pole	SAMPLED			2				1												2			_	╄	
236	44.8383193	-87.3883434	236	Sturgeon Bay	Door	8/22/2016	EEH & CJF	236	4	Rock	Pole	SAMPLED			1				1												1			+	+	\blacksquare
237	44.8382982	-87.3874207	237	Sturgeon Bay	Door	8/22/2016	EEH & CJF	237	9	Muck	Pole	SAMPLED			3	-			- ;	3							-				1			+	+	\vdash
238	44.8382771			Sturgeon Bay			EEH & CJF	238	19		Rope	SAMPLED			0	-			+								-							+	+	H
239	44.8382559			Sturgeon Bay			EEH & CJF	239	0			DEEP							+									1						+	+	H
240	44.8377683	-87.3929863				8/22/2016	EEH & CJF	240	15	Muck	Pole	SAMPLED			3			1	- 1	3														+	+	Н
241	44.8377472	-87.3920636 -87.391141	256 253	Sturgeon Bay Sturgeon Bay	Door	8/22/2016	EEH & CJF	241	18		Rope	SAMPLED			0																			T	T	П
243	44.837705	-87.3902183				8/22/2016	EEH & CJF	243	16		Rope	SAMPLED			3			1		1							3							T	T	
244	44.8376839			Sturgeon Bay			EEH & CJF	244	8	Sand	Pole	SAMPLED			3 :	3				1											1					
245	44.8376628	-87.388373	248	Sturgeon Bay	Door	8/22/2016	EEH & CJF	245	3	Rock	Pole	SAMPLED			0																					
246	44.8376417	-87.3874504	245	Sturgeon Bay	Door	8/22/2016	EEH & CJF	246	7	Muck	Pole	SAMPLED			3																3					
247	44.8376206	-87.3865277	244	Sturgeon Bay	Door	8/22/2016	EEH & CJF	247	15	Muck	Pole	SAMPLED			0																			_	lacksquare	Ш
248	44.8375995	-87.3856051	242	Sturgeon Bay	Door	8/22/2016	EEH & CJF	248	0			DEEP							4								4							+	\downarrow	
249	44.8375783	-87.3846824	243	Sturgeon Bay	Door	8/22/2016	EEH & CJF	249	0			OTHER				-											4							-	$igl\downarrow$	Н
250	44.8375572	-87.3837598	241	Sturgeon Bay	Door	8/22/2016	EEH & CJF	250	0			OTHER				-			+								-							+	+	\vdash
251				Sturgeon Bay					0			OTHER				-			+								-							+	+	H
				Sturgeon Bay				252		Muck		SAMPLED			3			1	+	3								1			1			+	+	H
253				Sturgeon Bay				253	18		Rope	SAMPLED			0	+			1								1							+	+	H
254	44.8370697 44.8370486			Sturgeon Bay Sturgeon Bay			EEH & CJF	254	18		Rope	SAMPLED			1	1	\dagger	\dagger		1							1	+	1	\dagger	\dagger	\dagger	\top	+	\dagger	Н
256				Sturgeon Bay						Muck		SAMPLED				1		1		3	l							1	1	1	1		T	T	T	П
				Sturgeon Bay					5	Sand		SAMPLED			2	Ť	1	1	T.									Ì	1	1	2	1		1	1	П
258				Sturgeon Bay					5	Sand	Pole	SAMPLED			1	1				1														Ι	I	
				Sturgeon Bay					8	Sand	Pole	SAMPLED			0													I	J							
260	44.836943	-87.3856348	267	Sturgeon Bay	Door	8/22/2016	EEH & CJF	260	0			DEEP				1		1	1										4	1	1			\perp	\perp	Ш
261	44.8369218	-87.3847122	268	Sturgeon Bay	Door	8/22/2016	EEH & CJF	261	0			OTHER				1	4	4	1	_								4	4	4	4		\perp	1	\downarrow	\sqcup
262	44.8369007	-87.3837895	269	Sturgeon Bay	Door	8/22/2016	EEH & CJF	262	0			OTHER				1	4	1	\perp	+				4			4	4	4	1	1	1	\perp	4	\perp	\sqcup
263	44.8364343	-87.3921229	259	Sturgeon Bay	Door	8/22/2016	EEH & CJF	263	17		Rope	SAMPLED			0		+	+	+	-							4	4	-	+	+	4	+	+	\bot	\sqcup
264	44.8364132	-87.3912003	260	Sturgeon Bay	Door	8/22/2016	EEH & CJF	264	18		Rope	SAMPLED			0	+	+	+	+	\perp	-						-	-	+	+	+	+	+	+	+	\dashv
				Sturgeon Bay				265	17		Rope	SAMPLED			1	1	+	+	+	+							+	\dashv	\dashv	+	+	-	\perp	+	+	Н
266	44.836371			Sturgeon Bay				266	13		Pole	SAMPLED			3	+		3	+					-			+	\dashv	\dashv	+	+	+	+	+	+	\forall
267				Sturgeon Bay			EEH & CJF	267	7	Sand	Pole	SAMPLED			2	+	+	2		1			H	-		1	+	+	+	+	1	+	+	+	+	\forall
				Sturgeon Bay Sturgeon Bay				268	9	Sand		SAMPLED			1		\dagger	\dagger	1	,	1						1	\dashv	1	\dagger	\dagger	1	\dagger	+	\dagger	H
				Sturgeon Bay						Muck		SAMPLED			0			1	T		İ								1	1	1		T	+	T	П
210		JJUJJU45	-10	Stangeon Day	2001	J-212010	000	-10	, 13	WINDE	. OIE	S, SYII LED	1		-																					

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The Content of the	oint Number	atitude	ongitude		AKE_NAME	OUNTY	ATE_	IELD_CREW	MUN_TN	ЕРТН	EDIMENT	OLE_ROPE	OMMENTS	отеѕ	USIANCE	RF	iynopniynum spi	eratophyllum de	hara spp.	lodea canadens	eteranthera dub	ajas flexilis	ajas guadanuper otamodeton frie	otamogeton gra	otamogeton pra	otamogeton ricl	otamogeton zos	an unculus aqua	tuckenia pectina	tricularia vulgar	allisneria ameri	agittaria cuneat	quatic Moss	resnwater spon	itellopsis obtus	annichellia palu
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Market M																																				
20	273	44.8357778	-87.3921525	289	Sturgeon Bay	Door	8/23/2016	EJH & JMB	273	16		Rope	SAMPLED			0																				
200. 64030746 (7700000) 20 20 2000000 (7400000) 20 200000 (7400000) 20 200000 (7400000) 20 200000 (7400000) 20 2000000 (7400000) 20 2000000 (7400000) 20 2000000 (7400000) 20 2000000 (7400000) 20 2000000 (7400000) 20 20000000 (7400000) 20 20000000 (74000000) 20 20000000 (7400000) 20 200000000 (74000000) 20 200000000 (74000000) 20 200000000000 (74000000) 20 2000000000000000000000000000	274	44.8357567	-87.3912299	290	Sturgeon Bay	Door	8/23/2016	EJH & JMB	274	18		Rope	SAMPLED			0															4				_	\perp
177 MASSESSE 47 180	275	44.8357356	-87.3903073	291	Sturgeon Bay	Door	8/23/2016	EJH & JMB	275	17		Rope	SAMPLED			1		1	ı	1														_	_	\blacksquare
272 ALESSEED 27 METER 28 SOUTH STATE 28 SOUTH STATE 27 SOUTH STATE 28	276	44.8357145	-87.3893847	292		Door	8/23/2016	EJH & JMB	276		Muck	Pole						1		1							2								-	+
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286 44.85 002 47.07300 28 00 Bugger Bg	283	44.8355666	-87.3829264	299	Sturgeon Bay	Door	8/23/2016	EJH & JMB	283	24			DEEP										1										4		╄	Ш
ALBESTER ALBESTER 200 September Do. Doc. 200 2010 E.P. A. A.M. 200 17 Page SAMPLED D	284	44.8351213	-87.3921822	288	Sturgeon Bay	Door	8/23/2016	EJH & JMB	284	6	Rock	Pole	SAMPLED			2	2	-					-	-	-						1		4	-	+	\sqcup
287 M. 185000 187-209412 250 Degree Day Doc 202201 Elifa And 287 15 May Page SAMPLED 2 2 2 3 1 1 1 1 1 1 1 1 1	285	44.8351002	-87.3912596	287	Sturgeon Bay	Door	8/23/2016	EJH & JMB	285	17		Rope	SAMPLED			0																			_	\perp
200 ALSSONIGE AT SONIGED 201 Bulgaco Rey Dev ACCIONA End A. AND 201 13 Max Post ALBAPETO 3 1 3 1 1 1 1 1 1 1	286	44.8350791	-87.3903369	286	Sturgeon Bay	Door	8/23/2016	EJH & JMB	286	17		Rope	SAMPLED			0															-			+	+	\vdash
250 44,550016 27,550010 283 Surgeon Bay Dee 52,20016 CAPA AND 280 8.0 Mor. Proc. SAMPLED 3 1 3 1 1 1 1 1 1 1	287	44.835058	-87.3894143	285	Sturgeon Bay	Door	8/23/2016		287			Rope	SAMPLED					1		Ť							1								+	+
201 4454007 47360720 201 Bulgeon Bay Door 8222016 EAH A.MR 202 11 Mod. Pace SAMPLED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0																		T									1				+				+	+1
251 44-584973 47-385720 281 Burgene Bay Doe 8232015 EAR ARM 251 11 Made Pale SAMPLED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0																	1	3	3	Ť															+	+
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206 44 SAMPOLD 37 SAMPOLD 279 Stargeon Bay Dow 8 202016 E.P.H. A.MB 206 12 No. DEEP																																			T	\Box
206 44.83460 47.391035 27.7 Sturgeon Bay Door 87.2010 EAH & JAM 20 15 Mosk Pole SAMPLED 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																																				
206. 44.634438 67.3912802 26 Suppos Bay Door 8232016 EH4 6.1MB 205 15 Mask Pob SAMPLED 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	294	44.8349101	-87.3829561	278	Sturgeon Bay	Door	8/23/2016	EJH & JMB	294	28			DEEP																							
207 44.834027 47.3603608 266 Sharpen Bay Door 8232016 EAH A.JMB 209 17 Reper SAMPLED 0 0 1 1 3 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	295	44.834889	-87.3820335	277	Sturgeon Bay	Door	8/23/2016	EJH & JMB	295	18		Rope	SAMPLED			0																			L	
206 44.8343015 47.3865214 286 Sturgeon Bay Door 82/3/2016 EH 8,JMS 208 17 Regin SAMPLED 3 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	296	44.8344438	-87.3912892	265	Sturgeon Bay	Door	8/23/2016	EJH & JMB	296	15	Muck	Pole	SAMPLED			1		1	ı												1				_	\perp
200 44.8543605 67.3865214 286 Sungeon Bay Door 8/23/2016 E.H. 6.JMB 200 14 Muck Pole SAMPLED 3 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	297	44.8344227	-87.3903666	266	Sturgeon Bay	Door	8/23/2016	EJH & JMB	297	16		Rope	SAMPLED			0															-			+	+	\vdash
300 44.894396 47.387598 270 Sturgeon Bay Door 8/23/2016 EJH & JMB 301 12 Musk Pole SAMPLED 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																	+	1	_								1				+		+	+	+	+
301 44.834382																		1																	+	+
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300 44 834296 47 384831 272 Sturgeon Bay Door 823/2016 EJH 8 JMB 303 13 Muck Pole SAMPLED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0																1	2	1		ľ							1								T	\Box
306 44.8342748 -87.3859084 273 Sturgeon Bay Door 8/23/2016 EJH & JMB 304 16 Rope SAMPLED 0 0 DEEP 305 44.834271 -87.3859686 274 Sturgeon Bay Door 8/23/2016 EJH & JMB 305 28 DEEP 307 44.8342713 -87.3811406 276 Sturgeon Bay Door 8/23/2016 EJH & JMB 306 26 DEEP 307 44.8337473 -87.3811406 276 Sturgeon Bay Door 8/23/2016 EJH & JMB 307 12 Muck Pole SAMPLED 1 1 1 1 3 3 1 1 1 3 3 1 1 1 3 3 1																0											Ċ									П
306 44 8342325 87.3820632 275 Sturgeon Bay Door 8723/2016 EJH & JMB 306 28 DEEP 1 1 1 1 1 1 1 3 3 1 1 1 1 1 1 1 1 1 1	304	44.8342748	-87.3839084	273	Sturgeon Bay	Door	8/23/2016	EJH & JMB	304	16		Rope	SAMPLED			0																				
307 44.834213 -87.3811406 276 Sturgeon Bay Door 8/23/2016 EJH & JMB 307 12 Muck Pole SAMPLED 1 1 1 1 1 3 3 1 1 1 3 3 1 1 1 3 3 1 1 1 3 3 1 1 1 3 3 1 1 1 1 3 3 1	305	44.8342537	-87.3829858	274	Sturgeon Bay	Door	8/23/2016	EJH & JMB	305	28			DEEP																							
308 44.8337673 -87.3913188 2e4 Sturgeon Bay Door 8/23/2016 EJH 8 JMB 308 6 Sand Pole SAMPLED 3 1 1 1 3 3 1 1 1 3 3 1 1 1 3 3 1 1 1 3 3 1 1 1 1 3 3 1 1 1 1 3 3 1	306	44.8342325	-87.3820632	275	Sturgeon Bay	Door	8/23/2016	EJH & JMB	306	26			DEEP																						_	
309 44.8337662 -87.3903962 263 Sturgeon Bay Door 8/23/2016 EJH & JMB 309 16 Rope SAMPLED 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	307	44.8342113	-87.3811406	276	Sturgeon Bay	Door	8/23/2016	EJH & JMB	307	12	Muck	Pole	SAMPLED			1	+	-		1	\vdash	\perp	-	\vdash	\vdash	-						-		+	\perp	\dashv
310 44.8337451 -87.3894737 262 Sturgeon Bay Door 8/23/2016 EJH & JMB 310 17 Rope SAMPLED 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1											Sand						+	+	-	1	H	+	+							1	3	-	+	+	+	\forall
311 44.833724 -87.3885511 261 Sturgeon Bay Door 8/23/2016 EJH & JMB 311 16 Muck Pole SAMPLED 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																	+	-			H											\dashv		+	+	\forall
312 44.8337029 -87.3876285 260 Sturgeon Bay Door 8/23/2016 EJH & JMB 312 14 Muck Pole SAMPLED 3 1 1 3 1 1 3 1 1 1 3 1 1 1 3 1 1 1 3 1											Must						\dagger	١,		-	H	†	\dagger	t	t				1		+	+	1	\dagger	+	\forall
313 44.8336817 -87.3867059 259 Sturgeon Bay Door 8/23/2016 EJH & JMB 313 13 Muck Pole SAMPLED 3 1 1 2 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																	1				Ħ	1	\top									1		\dagger	\dagger	$\dagger \dagger$
314 44.833666 87.3857833 258 Sturgeon Bay Door 8/23/2016 EJH & JMB 314 12 Muck Pole SAMPLED 3 1 1 3 1 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1																	1	T					T				Ė							T	T	П
316 44.8336183 -87.8899381 256 Sturgeon Bay Door 8/23/2016 EJH & JMB 316 15 Rope SAMPLED 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																3	1																			
317 44.8335972 -87.3830156 255 Sturgeon Bay Door 8/23/2016 EJH & JMB 317 18 Rope SAMPLED 0 DEEP DEEP DEEP DOOR 8/23/2016 EJH & JMB 318 30 DEEP DEEP DEEP DEEP DEEP DEEP DEEP DEE	315	44.8336395	-87.3848607	257	Sturgeon Bay	Door	8/23/2016	EJH & JMB	315	12	Muck	Pole	SAMPLED			3	1			0															L	
318 44.833576 -87.382093 254 Sturgeon Bay Door 8/23/2016 EJH & JMB 318 30 DEEP DEEP DEEP DEEP DEEP DEEP DEEP DEE	316	44.8336183	-87.3839381	256	Sturgeon Bay	Door	8/23/2016	EJH & JMB	316	15		Rope	SAMPLED			1	1	-		1		1	_				1			_				-	\perp	$\downarrow \downarrow$
319 44.8335549 -87.3811704 253 Sturgeon Bay Door 8/23/2016 EJH & JMB 319 28 DEEP 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	317	44.8335972	-87.3830156	255	Sturgeon Bay	Door	8/23/2016	EJH & JMB	317	18		Rope	SAMPLED			0	+	-				1	_									-		+	_	\dashv
320 44.8335337 -87.3802478 245 Sturgeon Bay Door 8/23/2016 EJH & JMB 320 9 Muck Pole SAMPLED 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	318	44.833576	-87.382093	254	Sturgeon Bay	Door	8/23/2016	EJH & JMB	318	30			DEEP				+	+			\vdash	-	+	-	-						-	-	-	+	+	+
321 44.8330876 -87.3904259 307 Sturgeon Bay Door 8/23/2016 EJH & JMB 321 10 Muck Pole SAMPLED 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																	+	+	-	-	H	+	+							1	+	-	+	+	+	\forall
322 44.8330886 -87.3895033 306 Sturgeon Bay Door 8/23/2016 EJH & JMB 322 16 Rope SAMPLED 0																1	+	+			H		+	\vdash	\vdash	1						+	\perp	+	+	H
323 44.8330675 -87.3885807 305 Sturgeon Bay Door 8/23/2016 EJH & JMB 323 16 Rope SAMPLED 0											Muck						1	1		1	1	1	+								1	\dashv	\dashv	+	+	Ħ
																	\dagger	1			Ħ	1	\top									1		\dagger	\dagger	$\dagger \dagger$
324 44.8330464 87.3876582 304 Sturgeon Bay Door 8/23/2016 EJH & JMB 324 15 Muck Pole SAMPLED 3 2 1 1 1 1											Muck		SAMPLED					2	2	1						1	1								J	П

							_									spicatum	crispus	Ceratophyllum demersum	sisue	dubia		npensis	friesii	gramineus	Potamogeton praelongus	incinal decimi	Ranunculus aquatilis	ctinata	Igaris	nericana	neata	-	ponge	riyac	oalustris
Point Number	Latitude	Longitude		LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	рертн	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyllum spicatum	Potamogeton crispus	sratophyllur	Chara spp.	Heteranthera dubia	Najas flexilis	Najas guadalupensis	Potamogeton friesii	Potamogeton gramineus	otamogeton		Potamogeton zosten Ranunculus aquatilis	Stuckenia pectinata	Utricularia vulgaris	Vallisneria americana	Sagittaria cuneata	Aquatic Moss	rresnwater sponge	Nitellopsis obtusa	Zannichellia palustris
			202									SAMPLED	ž	Ž	3	1		1	3		Ž	Ž	ď	ď	ăă			20	5	>	ŭ	ě ú	: 12	Ž	Ž
325	44.8330253 44.8330041	-87.385813	303	Sturgeon Bay Sturgeon Bay	Door	8/23/2016 8/23/2016	EJH & JMB	325	13	Muck	Pole	SAMPLED			3	1	T	3	1							Ť.	1			7	\exists			T	+1
327	44.832983		301	Sturgeon Bay	Door	8/23/2016	EJH & JMB	327	13	Muck	Pole	SAMPLED				v		1	3							ı,	1				T			T	П
328	44.8329619	-87.3839679	300	Sturgeon Bay	Door	8/23/2016	EJH & JMB	328	16	Muck	Pole	SAMPLED			0																				
329	44.8329407	-87.3830453	248	Sturgeon Bay	Door	8/23/2016	EJH & JMB	329	9	Sand	Pole	SAMPLED			3	1		1																	3
330	44.8329196	-87.3821227	247	Sturgeon Bay	Door	8/23/2016	EJH & JMB	330	21			DEEP																		_	4		L	\downarrow	
331	44.8328984	-87.3812001	252	Sturgeon Bay	Door	8/23/2016	EJH & JMB	332	26			DEEP				4														4	4	_	1	+	Ш
332	44.8328772	-87.3802776	244	Sturgeon Bay	Door	8/23/2016	EJH & JMB	332	12	Sand	Pole	SAMPLED			2	_			2						1					_	4	_	_	+	\perp
333	44.8324532	-87.3904555	308	Sturgeon Bay	Door	8/23/2016	EJH & JMB	333	5	Rock	Pole	SAMPLED			1	1			1											1	\dashv	_	+	+	+1
334	44.8324321	-87.389533	309	Sturgeon Bay	Door	8/23/2016	EJH & JMB	334	10	Muck	Pole	SAMPLED			3	1			2						1	1				1	-		-	1	+
335	44.832411	-87.3886104	310	Sturgeon Bay	Door	8/23/2016	EJH & JMB	335	14	Muck		SAMPLED			3			1	2											-	+		-	+	H
336	44.8323899		311	Sturgeon Bay	Door	8/23/2016	EJH & JMB	336	14	Muck		SAMPLED			3			2	1							T	2			-	+			\dagger	+1
337	44.8323688	-87.3867653 -87.3858427	312	Sturgeon Bay Sturgeon Bay		8/23/2016 8/23/2016	EJH & JMB	337	14	Muck		SAMPLED			3			1	2								2			7	T		+	T	П
339	44.8323265	-87.3849201	314	Sturgeon Bay	Door	8/23/2016	EJH & JMB	339	14	Muck	Pole	SAMPLED			3			1	1							Т	3				T			T	П
340	44.8323054	-87.3839976	315	Sturgeon Bay	Door	8/23/2016	EJH & JMB	314	14	Muck	Pole	SAMPLED			3			3	1																
341	44.8322842	-87.383075	250	Sturgeon Bay	Door	8/23/2016	EJH & JMB	341	14	Muck	Pole	SAMPLED			0																			\perp	
342	44.8322631	-87.3821525	249	Sturgeon Bay	Door	8/23/2016	EJH & JMB	342	14	Muck	Pole	SAMPLED			1			1	1											1				\perp	
343	44.8322419	-87.3812299	246	Sturgeon Bay	Door	8/23/2016	EJH & JMB	343	22			DEEP																		_	_			1	
344	44.8322207	-87.3803073	242	Sturgeon Bay	Door	8/23/2016	EJH & JMB	344	25			DEEP																		_	4	_	_	+	\perp
345	44.8321996	-87.3793848	243	Sturgeon Bay	Door	8/23/2016	EJH & JMB	345	16		Rope	SAMPLED			0	_										-				_	_	_	+	+	\vdash
346	44.8317757	-87.3895626	321	Sturgeon Bay	Door	8/23/2016	EJH & JMB	346	6	Rock	Pole	SAMPLED			1	-			1											_	+	_	+	+	+
347	44.8317546	-87.3886401	320	Sturgeon Bay	Door	8/23/2016	EJH & JMB	347	9	Muck	Pole	SAMPLED			2	1			1											1	+	_	-	+	\vdash
348	44.8317334	-87.3877175		Sturgeon Bay	Door	8/23/2016	EJH & JMB	348	9	Muck		SAMPLED			3			1	1											2	\dashv		+	+	+
349	44.8317123 44.8316912			Sturgeon Bay Sturgeon Bay			EJH & JMB	349	6	Sand		SAMPLED			0	1			1												\exists		+	T	
351	44.8316701	-87.3849498		Sturgeon Bay		8/23/2016	EJH & JMB	351	8	Muck		SAMPLED			3				1 2			1				T.	1				T			T	\Box
352	44.8316278		251	Sturgeon Bay		8/23/2016	EJH & JMB	352	13	Muck		SAMPLED			1				1	1										1					
353	44.8316066	-87.3821822	241	Sturgeon Bay	Door	8/23/2016	EJH & JMB	353	0			DOCK																							
354	44.8315854	-87.3812596	240	Sturgeon Bay	Door	8/23/2016	EJH & JMB	354	23			DEEP																				_	┸	1	
355	44.8315643	-87.3803371	239	Sturgeon Bay	Door	8/23/2016	EJH & JMB	355	27			DEEP				_														4	4	_	4	4	\blacksquare
356	44.8315431	-87.3794145	238	Sturgeon Bay	Door	8/23/2016	EJH & JMB	356	28			DEEP				_			\perp											4	4	_	+	+	\vdash
357	44.8315219	-87.378492	237	Sturgeon Bay	Door	8/23/2016	EJH & JMB	357	16		Rope	SAMPLED				+			-											4	\dashv	_	+	+	+
				Sturgeon Bay					3	Sand		SAMPLED			1	1			1											-	-		-	+	1
				Sturgeon Bay				359	5	Sand		SAMPLED			0															-	+		-	+	H
				Sturgeon Bay				360	8	Muck		SAMPLED			1	1										ľ	1			+	\forall			t	\forall
361				Sturgeon Bay Sturgeon Bay				361	18		Rope	SAMPLED			0	1	t	\dagger	\dagger					1		t	\dagger			\dashv	\forall	\top	\dagger	\dagger	$\dagger \dagger$
				Sturgeon Bay					23		. wpe	DEEP				t		1						1		t				\exists	7	\top	\top	T	\sqcap
364				Sturgeon Bay				364	31			DEEP								1						j							J]	П
365	44.8308654	-87.3785218	236	Sturgeon Bay	Door	8/23/2016	EJH & JMB	365	25			DEEP																							
366	44.8308442	-87.3775992	226	Sturgeon Bay	Door	8/22/2016	EJH & JMB	366	21			DEEP			Ш			4							1					\perp	4	_	\perp	\perp	Ш
367	44.8302725	-87.3813191	230	Sturgeon Bay	Door	8/23/2016	EJH & JMB	367	19		Rope	SAMPLED			0	-		4	_						1	1	\perp			\dashv	4	\downarrow	4	4	$\downarrow \downarrow$
368	44.8302513	-87.3803966	229	Sturgeon Bay	Door	8/23/2016	EJH & JMB	368	20			DEEP				1	4	1	\perp						\perp	1				\dashv	4	\downarrow	+	4	\sqcup
369	44.8302301	-87.3794741	228	Sturgeon Bay	Door	8/23/2016	EJH & JMB	369	23			DEEP			H	-	\downarrow	+	+					-		+				\dashv	\dashv	+	+	+	\dashv
370				Sturgeon Bay					26			DEEP			H	+	-	+	+							+	+			\dashv	\dashv	+	+	+	\dashv
371	44.8301878			Sturgeon Bay					23			DEEP			H	+	+	+	+		\vdash					+	+			\dashv	+	+	+	+	+
				Sturgeon Bay				372	24			DEEP			\forall	+	+	+	+	-				1	+	+	+			\dashv	+	+	+	+	\forall
373				Sturgeon Bay				373	0	M 2	D.	DOCK				1	+	\dagger	+							\dagger				\dashv	\dashv	-	+	+	\forall
				Sturgeon Bay Sturgeon Bay				374	20	Muck	rkope	SAMPLED DEEP			0	1	\dagger	\dagger	\dagger						\top	\dagger				\exists	\forall	\dagger	\dagger	\dagger	\forall
				Sturgeon Bay				376	28			DEEP			П	T	1	1						1		t				7	7	\top	\top	T	Ħ
				Sturgeon Bay					26			DEEP																					I	I	
378	44.8295101	-87.3767363	212	Sturgeon Bay	Door	8/22/2016	EJH & JMB	378	23			DEEP																					\perp	\perp	

																picatum	sndsı	demersum	is	bia		ensis	iesii	ramineus	raelongus	chardsonii	steriformis	latilis	aris	icana	ıta		nge	ae	Sa	nstris
Point Number	Latitude	Longitude	QI	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEРТН	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyllum spicatum	Potamogeton crispus	Ceratophyllum demersum	Chara spp.	Heteranthera dubia	Najas flexilis	Najas guadalupensis	Potamogeton friesii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton zosteriformis	Kanunculus aquatilis	Utricularia vulgaris	Vallisneria americana	Sagittaria cuneata	Aquatic Moss	Freshwater sponge	Filamentous algae	Nitellopsis obtusa	Zannichellia palustris
379	44.8294889	-87.3758138		Sturgeon Bay	Door	8/22/2016	EJH & JMB	370	0			DOCK																								Ī
380	44.8294677	-87.3748913			Door	8/22/2016	EJH & JMB	380	16	Muck	Pole	SAMPLED			0																					
381	44.8294464	-87.3739688	182	Sturgeon Bay	Door	8/22/2016	EJH & JMB	381	0			DOCK																								
382	44.8294252	-87.3730463	158	Sturgeon Bay	Door	8/22/2016	EJH & JMB	382	7	Muck	Pole	SAMPLED			2	1														2					\downarrow	_
383	44.829404	-87.3721238	157	Sturgeon Bay	Door	8/22/2016	EJH & JMB	383	5	Sand	Pole	SAMPLED			1				1 1	ı										1					4	_
384	44.8289172	-87.3795336	218	Sturgeon Bay	Door	8/22/2016	EJH & JMB	384	22			DEEP				4													1	-				4	4	_
385	44.828896	-87.3786111	219	Sturgeon Bay	Door	8/22/2016	EJH & JMB	385	21			DEEP				4	_	-											-	-	-			4	4	4
386	44.8288748	-87.3776886	224	Sturgeon Bay	Door	8/22/2016	EJH & JMB	386	25			DEEP																						_	+	4
387	44.8288536	-87.3767661	213	Sturgeon Bay	Door	8/22/2016	EJH & JMB	387	27			DEEP				-													-	-				4	+	4
388	44.8288324	-87.3758436	209	Sturgeon Bay	Door	8/22/2016	EJH & JMB	388	24			DEEP				+	+	+											+	+	-			+	+	+
389	44.8288112		184	Sturgeon Bay	Door	8/22/2016	EJH & JMB	389	14	Muck	Pole	SAMPLED			0	-	-										-		+	+				\dashv	\dashv	\dashv
390	44.82879	-87.3739986	181		Door	8/22/2016	EJH & JMB	390	12	Muck	Pole	SAMPLED			2				2															-	+	\dashv
391	44.8287687	-87.3730761	159	Sturgeon Bay	Door	8/22/2016	EJH & JMB	391	9	Muck	Pole	SAMPLED			3	1			3	3							+		+	+	-			+	+	-
392	44.8287475	-87.3721536	160	Sturgeon Bay	Door	8/22/2016	EJH & JMB	392	8	Muck	Pole	SAMPLED				V .										1				+				$^{+}$	+	\dashv
393	44.8287263	-87.3712311		Sturgeon Bay	Door	8/22/2016	EJH & JMB	393	7	Muck	Pole	SAMPLED				1														3				$^{+}$	+	\dashv
394	44.828705 44.8282607	-87.3703086					EJH & JMB	394	6	Muck	Pole	SAMPLED			1	1			1															T	\forall	┪
395		-87.3795634		Sturgeon Bay			EJH & JMB	395	13	Muck	Pole	SAMPLED			0			1	1																7	٦
396	44.8282183	-87.3786409		Sturgeon Bay Sturgeon Bay	Door	8/22/2016	EJH & JMB	396	22		Rope	SAMPLED DEEP			0	T													t	t				T	\forall	┪
398	44.8281971	-87.3767959		Sturgeon Bay	Door	8/22/2016	EJH & JMB	398	25			DEEP				T													T	T				T	\forall	┪
399				Sturgeon Bay		8/22/2016	EJH & JMB	399	26			DEEP					T																	T	T	٦
400	44.8281547			Sturgeon Bay			EJH & JMB	400	25			DEEP																						T	T	٦
401	44.8281335			Sturgeon Bay			EJH & JMB	401	22			DEEP																								
402	44.8281123	-87.3731059				8/22/2016	EJH & JMB	402	12	Muck	Pole	SAMPLED			2			2								1										
403	44.828091	-87.3721835	161	Sturgeon Bay	Door	8/22/2016	EJH & JMB	403	11	Muck	Pole	SAMPLED			1				1	ı																
404	44.8280698	-87.371261	155	Sturgeon Bay	Door	8/22/2016	EJH & JMB	404	16	Muck	Pole	SAMPLED			0																					
405	44.8280485	-87.3703385	135	Sturgeon Bay	Door	8/22/2016	EJH & JMB	405	8	Muck	Pole	SAMPLED			3	1			2	2															4	
406	44.8280273	-87.369416	133	Sturgeon Bay	Door	8/22/2016	EJH & JMB	406	7	Muck	Pole	SAMPLED			2			1	1											1				_	4	4
407	44.828006	-87.3684935	118	Sturgeon Bay	Door	8/22/2016	EJH & JMB	407	6	Muck	Pole	SAMPLED			3				2											2					4	_
408	44.8279847	-87.367571	117	Sturgeon Bay	Door	8/22/2016	EJH & JMB	408	0			TERRESTRIAL																	1					4	4	4
409	44.8274934	-87.3463542	78	Sturgeon Bay	Door	8/22/2016	TWH & CMB	409	0		NON	NAVIGABLE (PLA	NTS			4	4	-											-	-	-			4	4	4
410	44.8275619	-87.3777482	205	Sturgeon Bay	Door	8/22/2016	EJH & JMB	410	13	Rock	Pole	SAMPLED			0	-											_		\perp	+	-			4	+	4
411	44.8275407	-87.3768257	206	Sturgeon Bay	Door	8/22/2016	EJH & JMB	411	22			DEEP				-	-											-		-	-			\perp	+	-
				Sturgeon Bay								DEEP				+	+	+											+	+	-			+	+	+
413				Sturgeon Bay								DEEP																						-	+	-
414				Sturgeon Bay					27			DEEP			+	+	+	+	+	+				-		\dashv	+	+	+	+	+		-	+	+	\dashv
				Sturgeon Bay				415	26		D.	DEEP				\dagger	+	+		+				1			\dashv	\dagger	+	\dagger	1		-	\dashv	+	\dashv
				Sturgeon Bay				416	19	Maria	Rope				0	\dagger	\dagger	\dagger	╽.	+							1	\dagger	t	t	+	H		\dashv	\dagger	٦
				Sturgeon Bay Sturgeon Bay				417		Muck		SAMPLED SAMPLED			3	\dagger	\dagger	1	3							+	$^{+}$	\dagger	\dagger	T		H		\forall	+	+
				Sturgeon Bay						Muck		SAMPLED			3	t	\dagger	ή	3					7			1	\dagger	\dagger	t		H	7	\forall	\dagger	٦
				Sturgeon Bay					8	Muck	Pole	SAMPLED			2	Ť	\dagger	\top	3					1			1	\dagger	t	1	T		1	T	\dagger	٦
				Sturgeon Bay				421	6	Muck		SAMPLED			3	T	T		3									T	T	1				T	T	٦
422				Sturgeon Bay				422	6	Muck		SAMPLED			1	1	1		1		1						1	T		Ė				T	T	٦
	44.8272857	-87.365756		Sturgeon Bay			EJH & JMB	423	5	Muck		SAMPLED			2	1	I	I	I	I							1	I	I	1						
				Sturgeon Bay				424		Muck		SAMPLED			1			1																		
425	44.8268842	-87.3768555	203	Sturgeon Bay	Door	8/22/2016	EJH & JMB	425	11	Rock	Pole	SAMPLED			1			1	1																\perp	
426	44.826863	-87.375933	198	Sturgeon Bay	Door	8/22/2016	EJH & JMB	426	11	Muck	Pole	SAMPLED			3			1	2							1		_						_	\downarrow	
427	44.8268418	-87.3750106	197	Sturgeon Bay	Door	8/22/2016	EJH & JMB	427	16		Rope	SAMPLED			0		4	_		-							4	_						4	\downarrow	\exists
428	44.8268206	-87.3740881	189	Sturgeon Bay	Door	8/22/2016	EJH & JMB	428	23			DEEP				-	4	_	_	_								_	1	1	-	Ш		\dashv	4	4
429	44.8267993	-87.3731656	177	Sturgeon Bay	Door	8/22/2016	EJH & JMB	429	24			DEEP			4	_	4	4						-		_	4	\perp	1	1	1		-	4	\downarrow	4
430	44.8267781	-87.3722432	163	Sturgeon Bay	Door	8/22/2016	EJH & JMB	430	25			DEEP			+	+	\downarrow	+		+				\dashv		\dashv	+	+	+	+	-		\dashv	+	\dashv	\dashv
431	44.8267569	-87.3713207	153	Sturgeon Bay	Door	8/22/2016	EJH & JMB	431	22			DEEP			\perp	+	+	+	-	-				_		-	\perp	+	+	+	-		_	4	\dashv	4
432	44.8267356	-87.3703982	137	Sturgeon Bay	Door	8/22/2016	EJH & JMB	432	14	Muck	Pole	SAMPLED			0																			\perp	\perp	╝

															E C	all a	mersum		s	а		SIS	nineus	siongus	ardsonii	teriformis	tilis	ta	s	ana			• .	Ī	tris
Point Number	Latitude	Longitude		LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEРТН	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Potamodeton crispus	Ceratophyllum demersum	Chara spp.	Elodea canadensis	Heteranthera dubia	Najas flexilis	Najas guadalupensis	Potamodeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton zosteriformis	Ranunculus aquatilis	Stuckenia pectinata	Utricularia vulgaris	Vallisneria americana	Sagittaria cuneata	Aquatic Moss	Freshwater sponge	Nitellopsis obtusa	Zannichellia palustris
		-87.3694758	2 121	_			EJH & JMB					SAMPLED	ž	ž	TRF	. 4	3	5	1	ĭ	ž	žå			8	2	R	₩.	5	Š	Š	ĕ i	ĖĒ	Ž	Za
433	44.8267143 44.8266931	-87.3685533	131	Sturgeon Bay Sturgeon Bay	Door	8/22/2016 8/22/2016	EJH & JMB	433	13	Muck	Pole Pole	SAMPLED			3		1		3						1							\dagger	+	+	
435	44.8266718			Sturgeon Bay			EJH & JMB	435	10	Muck	Pole	SAMPLED			3 1		1		2	1												T			
436	44.8266505	-87.3667084	101			8/22/2016	EJH & JMB	436	7	Muck	Pole	SAMPLED			2		1	2												1		T			
437	44.8266292	-87.3657859	98	Sturgeon Bay	Door	8/22/2016	EJH & JMB	437	9	Muck	Pole	SAMPLED			2		1													2					
438	44.8266079	-87.3648635	83	Sturgeon Bay	Door	8/22/2016	EJH & JMB	438	5	Muck	Pole	SAMPLED			1 1	ı		1														╛			
439	44.8265866	-87.363941	82	Sturgeon Bay	Door	8/22/2016	EJH & JMB	439	5	Muck	Pole	SAMPLED			1			1														_			
440	44.8265653	-87.3630186	62	Sturgeon Bay	Door	8/22/2016	EJH & JMB	440	4	Muck	Pole	SAMPLED			1			1														4	4	1	
441	44.8262019	-87.347337	77	Sturgeon Bay	Door	8/22/2016	TWH & CMB	440	4	Muck	Pole	SAMPLED			2 1	1 1			1						_		1		1			\perp	+		
442	44.8262489	-87.3778077	202	Sturgeon Bay	Door	8/22/2016	EJH & JMB	442	0			DOCK																				+	_	_	_
443	44.8262277	-87.3768853	199	Sturgeon Bay	Door	8/22/2016	EJH & JMB	443	10	Muck	Pole	SAMPLED			1	+		-	1					+								\dashv	+	+	
444	44.8262065	-87.3759628	201	Sturgeon Bay	Door	8/22/2016	EJH & JMB	444	9	Muck	Pole	SAMPLED			1	+			1		-			+								+	+	+	_
445	44.8261853	-87.3750404	196	Sturgeon Bay	Door	8/22/2016	EJH & JMB	445	10	Muck	Pole	SAMPLED			3	+	3	+	2		+			+	1							+	+	+	-
446	44.8261641	-87.3741179	190	Sturgeon Bay	Door	8/22/2016	EJH & JMB	446	10	Muck	Pole	SAMPLED			3	+	1		2						1							+	+	-	
447	44.8261429			Sturgeon Bay	Door	8/22/2016	EJH & JMB	447	12	Muck	Pole	SAMPLED			3	+	1		3					+	1	1						+	+	+	
448	44.8261216 44.8261004	-87.372273 -87.3713505	164			8/22/2016	EJH & JMB	448	21	Muck	Pole	SAMPLED			0									T								1	+		
450		-87.3704281	138			8/22/2016	EJH & JMB	450	24			DEEP																				\dagger		+	
451	44.8260579	-87.3695056	130		Door	8/22/2016	EJH & JMB	451	21			DEEP																				T	T	T	
452	44.8260366	-87.3685832	121	Sturgeon Bay	Door	8/22/2016	EJH & JMB	452	14	Muck	Pole	SAMPLED			0																				
453	44.8260153			Sturgeon Bay		8/22/2016	EJH & JMB	453	12	Muck		SAMPLED			3				3																
454	44.8259941	-87.3667383	102	Sturgeon Bay	Door	8/22/2016	EJH & JMB	454	12	Muck	Pole	SAMPLED			3 \	,	1																		2
455	44.8259728	-87.3658158	97	Sturgeon Bay	Door	8/22/2016	EJH & JMB	455	10	Muck	Pole	SAMPLED			1		1		1													╛			
456	44.8259515	-87.3648934	84	Sturgeon Bay	Door	8/22/2016	EJH & JMB	456	7	Muck	Pole	SAMPLED			3			3														_	_		
457	44.8259302	-87.3639709	81	Sturgeon Bay	Door	8/22/2016	EJH & JMB	457	5	Muck	Pole	SAMPLED			1			1			1											\perp	_	_	
458	44.8259089	-87.3630485	63	Sturgeon Bay	Door	8/22/2016	EJH & JMB	458	6	Muck	Pole	SAMPLED			1			1												1		+	_	_	_
459	44.8258876	-87.3621261	61	Sturgeon Bay	Door	8/22/2016	EJH & JMB	459	6	Muck	Pole	SAMPLED			3 1			3						+								+	+	+	
460	44.8258662	-87.3612036	44	Sturgeon Bay			EJH & JMB	460	5	Muck	Pole	SAMPLED			3	+		2							1					1		+	+	-	-
461	44.8255455	-87.3473671	76	Sturgeon Bay			TWH & CMB		4	Muck	Pole	SAMPLED			3 1	1		1						t				1			2	+	+	+	-
462	44.8255713 44.8255501		193	Sturgeon Bay		8/22/2016	EJH & JMB	462	0			DOCK												t								\dagger	+		
464	44.8255288	-87.3759926 -87.3750702	193	Sturgeon Bay	Door	8/22/2016	EJH & JMB	463	9	Muck	Pole	DOCK			2 1				1					T								1	+		
465	44.8255076			Sturgeon Bay Sturgeon Bay	Door	8/22/2016	EJH & JMB	465	10	Muck		SAMPLED			1 1	T	1		-													\dagger		+	
				Sturgeon Bay						Muck		SAMPLED			3		3								1							T			
				Sturgeon Bay						Muck		SAMPLED			1				1																
				Sturgeon Bay				468		Muck	Pole	SAMPLED			1										1										
	44.8254227			Sturgeon Bay				469	14	Muck	Pole	SAMPLED			0																	\perp	╙	Ţ	Щ
470	44.8254014	-87.3695355	129	Sturgeon Bay	Door	8/22/2016	EJH & JMB	470	21			DEEP				_	_							1	_							_	4	\downarrow	Ш
471	44.8253802	-87.3686131	122	Sturgeon Bay	Door	8/22/2016	EJH & JMB	471	24			DEEP				+	+	-			\perp		1	-						4	_	4	\downarrow	+	\perp
472	44.8253589	-87.3676906	113	Sturgeon Bay	Door	8/22/2016	EJH & JMB	472	22			DEEP				+	+	-	1		4	+		-	-			H		4		+	+	+	+
473	44.8253376	-87.3667682	103	Sturgeon Bay	Door	8/22/2016	EJH & JMB	473	15	Muck	Pole	SAMPLED			0	+	+	-			-	\perp	-	+	-					-	-	+	+	+	Н
				Sturgeon Bay						Muck		SAMPLED			3	+	3	Ť	1		\dashv	+	+	+	1						-	+	+	+	+
475				Sturgeon Bay				475	12	Muck	Pole	SAMPLED			3	+	2		2	Н	\dashv	+	+	+	+			H		-		+	+	+	+
476				Sturgeon Bay			EJH & JMB	476	9	Muck	Pole	SAMPLED			2 \	/	1	1	1		\dashv	+	-	+	1				\dashv	1	-	+	+	+	Н
477	44.8252524					8/22/2016	EJH & JMB	477	6	Muck	Pole	SAMPLED			3	†	\dagger	3			1			t	١.			H		_		+	+	+	\forall
	44.8252311			Sturgeon Bay Sturgeon Bay				478 579	7	Muck		SAMPLED			3 1	+	\dagger	T	3		\dashv	+	\dagger	\dagger	1					2	1	+	\dagger	+	\forall
480				Sturgeon Bay					4	Muck		SAMPLED			3 1			3			\exists		Ì	t				1	1	2	1	\top	\dagger	\dagger	\forall
				Sturgeon Bay				481		Muck		SAMPLED				1 1	2		1		\exists	l	t	T						-	1	\top	\dagger	1	\forall
482		-87.3751		Sturgeon Bay				482	9	Muck		SAMPLED			3	ľ	3		1				j									_	_	T	П
483				Sturgeon Bay			EJH & JMB	483	9	Muck	Pole	SAMPLED			1	İ	Ĭ	I	1				I	I											I
484				Sturgeon Bay				484	10	Muck	Pole	SAMPLED			3 1		2		1		Ţ									Ī					
485	44.8248087	-87.3723327	166	Sturgeon Bay	Door	8/22/2016	EJH & JMB	485	10	Muck	Pole	SAMPLED			3	\perp	3		1						1							\perp	\perp	\perp	Ш
486	44.8247875	-87.3714103	150	Sturgeon Bay	Door	8/22/2016	EJH & JMB	486	10	Muck	Pole	SAMPLED			3		2								1					1			\perp	L	

																catum	ende		ş	ia		sis	sii	mineus	elongus	lardsonii	teriformis	ata	is	ana	а		age -		stris
Point Number	Latitude	Longitude	Q	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Mynophyllum spicatum Dotamogaton crienue	orationbyllim de	Chara spp.	Elodea canadensis	Heteranthera dubia	Najas flexilis	Najas guadalupensis	Potamogeton friesii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton zosteriformis Ranunculus aquatilis	Stuckenia pectinata	Utricularia vulgaris	Vallisneria americana	Sagittaria cuneata	Aquatic Moss	Freshwater sponge	ritamentous algae	Zannichellia palustris
487	44.8247662	-87.3704878	140	Sturgeon Bay	Door	8/22/2016	EJH & JMB	487	12	Muck	Pole	SAMPLED	2	Z	1	2 0		1	ш	_	_	2	а.			1		6	_	>	S	٩	Τ.		7
488	44.8247449		128		Door	8/22/2016	EJH & JMB	488	12	Muck	Pole	SAMPLED			0																				
489	44.8247237	-87.368643		Sturgeon Bay		8/22/2016	EJH & JMB	489	13			SAMPLED			0																				
490	44.8247024	-87.3677205	112	Sturgeon Bay	Door	8/22/2016	EJH & JMB	490	23			DEEP																							
491	44.8246811	-87.3667981	104	Sturgeon Bay	Door	8/22/2016	EJH & JMB	491	26			DEEP																					_	1	
492	44.8246598	-87.3658757	95	Sturgeon Bay	Door	8/22/2016	EJH & JMB	492	21			DEEP														4							4	4	\perp
493	44.8246386	-87.3649532	86	Sturgeon Bay	Door	8/22/2016	EJH & JMB	493	14	Muck	Pole	SAMPLED			0											4							+	+	\perp
494	44.8246172	-87.3640308	79	Sturgeon Bay	Door	8/22/2016	EJH & JMB	494	12	Muck	Pole	SAMPLED			3				3						-	1							+	+	+
495	44.8245959	-87.3631084	65	Sturgeon Bay	Door	8/22/2016	EJH & JMB	495	13	Muck	Pole	SAMPLED			0			+						-	+	+							+	+	
496	44.8245746	-87.362186	59				EJH & JMB	496	8	Muck		SAMPLED			3	1	1	1 3								+		-					+	+	+
497	44.8245533	-87.3612636	46				EJH & JMB	497	9	Muck	Pole	SAMPLED			1		1	1	1							+							+	+	+
498	44.824532	-87.3603411	43	Sturgeon Bay	Door	8/22/2016	EJH & JMB	498	7	Muck	Pole	SAMPLED			2	1	1	1	2											1		1	+	+	+
499 500	44.8242325 44.8242159	-87.3474273 -87.3751298	74 174	Sturgeon Bay	Door	8/22/2016	TWH & CMB	499 500	3	Muck	Pole	SAMPLED			2	1	١.	. '	2											1			1.		\top
501	44.8241735	-87.373285		Sturgeon Bay Sturgeon Bay	Door	8/22/2016	EJH & JMB	501	10	Muck	Pole	SAMPLED			1		Τ,	1	1														Т	Ή	\top
502	44.8241522	-87.3723625	169			8/22/2016	EJH & JMB	502	10	Muck	Pole	SAMPLED			0				Ė														T	T	
503	44.824131			Sturgeon Bay			EJH & JMB	503	10	Muck	Pole	SAMPLED			2		2	2	1							1							T		
504		-87.3705177	141			8/22/2016	EJH & JMB	504	10	Muck	Pole	SAMPLED			3		2	2	1							1									
505	44.8240885	-87.3695953	127	Sturgeon Bay	Door	8/22/2016	EJH & JMB	505	11	Muck	Pole	SAMPLED			1		1	1																	
506	44.8240672	-87.3686728	124	Sturgeon Bay	Door	8/22/2016	EJH & JMB	506	11	Muck	Pole	SAMPLED			2		2	2	1							2							┙	╧	
507	44.8240459	-87.3677504	111	Sturgeon Bay	Door	8/22/2016	EJH & JMB	507	12	Muck	Pole	SAMPLED			1											1							_	_	
508	44.8240247	-87.366828	105	Sturgeon Bay	Door	8/22/2016	EJH & JMB	508	16		Rope	SAMPLED			0											4							4	4	\perp
509	44.8240034	-87.3659056	94	Sturgeon Bay	Door	8/22/2016	EJH & JMB	509	22			DEEP														4							+	+	\perp
510	44.8239821	-87.3649832	87	Sturgeon Bay	Door	8/22/2016	EJH & JMB	510	24			DEEP														+		-					+	+	+
511	44.8239608	-87.3640608	78	Sturgeon Bay	Door	8/22/2016	EJH & JMB	511	22			DEEP						+						-	+	+							+	+	
512	44.8239395	-87.3631383	66	Sturgeon Bay	Door	8/22/2016	EJH & JMB	512	13	Muck	Pole	SAMPLED			1									-		1		-					+	+	+-
513			58	Sturgeon Bay		8/22/2016	EJH & JMB	513	12	Muck	Pole	SAMPLED			3	1	2	2	3									t					+	+	+
514	44.8238968 44.8238755	-87.3612935	47	Sturgeon Bay			EJH & JMB	514	14	Muck	Pole	SAMPLED			3				3						1					1			\dagger	T	+
515	44.8238542	-87.3603711 -87.3594487	30	Sturgeon Bay Sturgeon Bay		8/22/2016	EJH & JMB	515	5	Muck	Pole	SAMPLED			1			1												1			T	T	\top
517	44.8238328	-87.3585263	29	Sturgeon Bay		8/22/2016	EJH & JMB	517	4	Muck	Pole	SAMPLED			1	1		1												•			T	T	1
518	44.8238115	-87.3576039	16	Sturgeon Bay	Door	8/22/2016	EJH & JMB	518	5	Muck	Pole	SAMPLED			3	1		ľ								1				3			T	T	Ť
519	44.8235546		73		Door		TWH & CMB		3	Muck	Pole	SAMPLED				1		1	2									2		2			T		
520	44.823517	-87.3733148	171	Sturgeon Bay	Door	8/22/2016	EJH & JMB	520	9	Muck	Pole	SAMPLED			3	1	1	1																2	
521	44.8234958	-87.3723924	167	Sturgeon Bay	Door	8/22/2016	EJH & JMB	521	10	Sand	Pole	SAMPLED			2											1								1	
522	44.8234745	-87.37147	148	Sturgeon Bay	Door	8/22/2016	EJH & JMB	522	12	Muck	Pole	SAMPLED			1		1	1															_	1	
523	44.8234533	-87.3705475	142	Sturgeon Bay	Door	8/22/2016	EJH & JMB	523	5	Muck	Pole	SAMPLED			1		1		1						- -	1				1			4	\perp	$\perp \! \! \perp \! \! \mid$
524	44.823432	-87.3696251	126	Sturgeon Bay	Door	8/22/2016	EJH & JMB	524	5	Muck	Pole	SAMPLED			2	-	\downarrow	-	\bot	-			4	4	4	4	\perp			2		4	+	1	44
525	44.8234107	-87.3687027	125	Sturgeon Bay	Door	8/22/2016	EJH & JMB	525	5	Muck	Pole	SAMPLED			3	+	+	+					\dashv	_	+	+	\perp	-		3		\dashv	+	+	+
526				Sturgeon Bay						Muck	Pole	SAMPLED			3	V	1	1	-		Н		-	-	+	1	+	+				\dashv	+	+	+
				Sturgeon Bay								SAMPLED			0	+		+			Н		+	\dashv	+	+	+	1				\dashv	+	+	+
				Sturgeon Bay					11	Muck	Pole	SAMPLED			0	+	+	+	-				+	-	+	+	+	1				\dashv	+	+	+
				Sturgeon Bay					18		Rope	SAMPLED			0	\dagger	\dagger	+	-					\dashv	+	+	+	\dagger				\dashv	+	+	+
530	44.8233043			Sturgeon Bay Sturgeon Bay			EJH & JMB	530	23			DEEP				\dagger	\dagger	\dagger		H	H		+	\dashv	\dagger	\dagger	+	t			H	\dashv	+	+	\forall
				Sturgeon Bay					18		Rope	SAMPLED			0	\dagger	t	\dagger	\dagger				1		\dagger	+	\dagger					\dashv	\dagger	\dagger	H
				Sturgeon Bay						Muck		SAMPLED			1	\dagger	t							\exists	1	1		T				1	T	\top	$\dagger \dagger$
534		-87.3604011		Sturgeon Bay				534		Muck		SAMPLED			2		1	1	1						\dagger	T							T	T	$\dagger \dagger$
				Sturgeon Bay				535		Muck		SAMPLED			0		ľ		Ė	L						J		İ					J	I	П
		-87.3585563		Sturgeon Bay				536	7	Muck		SAMPLED			3			3								I									
537	44.823155	-87.3576339	17	Sturgeon Bay	Door	8/22/2016	EJH & JMB	537	6	Muck	Pole	SAMPLED			3			3								1							\perp	\perp	Ш
538	44.8231336	-87.3567115	15	Sturgeon Bay	Door	8/22/2016	EJH & JMB	538	5	Muck	Pole	SAMPLED			1		1	\perp								1	_			1		_	4	\perp	$\perp \! \! \perp \! \! \mid$
539	44.8231123	-87.3557891	14	Sturgeon Bay	Door	8/22/2016	EJH & JMB	539	8	Muck	Pole	SAMPLED			0	_							_			_		1				4	4	4	$\perp \!\!\! \perp \!\!\! \mid$
540	44.8228982	-87.3465652	72	Sturgeon Bay	Door	8/22/2016	TWH & CMB	540	5	Muck	Pole	SAMPLED			3	1			1									1		3	Ш		\perp	\perp	Ш

							>									r spicatum	crispus	Ceratophyllum demersum	- Pro-	Jensis		upensis	ı friesii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton zosteriformis Ranunculus aquatilis	ctinata	ılgaris	nericana	neata		ebuod	algae	palustris
Point Number	Latitude	Longitude		LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyllum spicatum	Potamogeton crispus	əratophyllu	Chara spp.	Elodea canadensis Heteranthera dubia	Najas flexilis	Najas guadalupensis	Potamogeton friesii	otamogeton	otamogeton	otamogeton	Potamogeton zosteri Ranunculus aquatilis	Stuckenia pectinata	Utricularia vulgaris	Vallisneria americana	Sagittaria cuneata	Aquatic Moss	Freshwater sponge	Filamentous algae	Zannichellia palustris
			<u>□</u>								Pole		ž	ž		S 1	ď	3		i i	ž	ž	Ğ	ď	ď	ď	<u> </u>	8	5	×	ŭ	ě.	Œ	I 2	
541	44.8228767 44.8228393	-87.3456428 -87.3724222	168		Door	8/22/2016 8/22/2016	TWH & CMB	541	0	Muck	Pole	SAMPLED			3	V			-	2													+		
543	44.822818	-87.3714998	147		Door	8/22/2016	EJH & JMB	543	10	Muck	Pole	SAMPLED			2				1	1											П		T	1.	П
544	44.8227968	-87.3705774	143	Sturgeon Bay	Door	8/22/2016	EJH & JMB	544	10	Muck	Pole	SAMPLED			3			2	Ì	1										1	П				
545	44.822733	-87.3678102	109	Sturgeon Bay	Door	8/22/2016	EJH & JMB	545	3	Muck	Pole	SAMPLED			1	1			1							1									
546	44.8227117	-87.3668878	107	Sturgeon Bay	Door	8/22/2016	EJH & JMB	546	5	Muck	Pole	SAMPLED			3				1	1										3	Ш				
547	44.8226904	-87.3659654	92	Sturgeon Bay	Door	8/22/2016	EJH & JMB	547	9	Muck	Pole	SAMPLED			2	v		2		1						1					Ш		_	1	Ш
548	44.8226692	-87.365043	89	Sturgeon Bay	Door	8/22/2016	EJH & JMB	548	10	Muck	Pole	SAMPLED			2			2		1										1	Н		4	1	44
549	44.8226479	-87.3641206	76	Sturgeon Bay	Door	8/22/2016	EJH & JMB	549	11	Muck	Pole	SAMPLED			0				_	_											\vdash		+	_	$\parallel \parallel$
550	44.8226265	-87.3631982	68	Sturgeon Bay	Door	8/22/2016	EJH & JMB	550	16		Rope	SAMPLED			0																Н		_	+	+
551	44.8226052	-87.3622758	56	Sturgeon Bay	Door	8/22/2016	EJH & JMB	551	24			DEEP					+														\vdash	-	_	+	+
552	44.8225839	-87.3613535	49	Sturgeon Bay	Door	8/22/2016	EJH & JMB	552	23			DEEP					+			+											Н		+	+	+
553	44.8225626	-87.3604311	40			8/22/2016	EJH & JMB	553	16		Rope	SAMPLED			0																	-	+	+	+
554	44.8225412		32	Sturgeon Bay			EJH & JMB	554	13	Muck	Pole	SAMPLED			0																П	+	+	+	+
555	44.8225199	-87.3585863	27	Sturgeon Bay	Door	8/22/2016	EJH & JMB	555	12	Muck	Pole	SAMPLED			2		1		1	2											П		+		+
556	44.8224985	-87.3576639 -87.3567415	7	Sturgeon Bay Sturgeon Bay	Door	8/22/2016	EJH & JMB	556	9	Muck	Pole	SAMPLED			1	1				1						1							+		+
558	44.8224558	-87.3558191	8	Sturgeon Bay	Door	8/22/2016	EJH & JMB	558	6	Muck	Pole	SAMPLED			3				3												П		T	T	\top
559	44.8224344	-87.3548967	9	Sturgeon Bay		8/22/2016	EJH & JMB	559	5	Muck	Pole	SAMPLED			3	1			3																
560	44.8222632	-87.3475177	80	Sturgeon Bay			TWH & CMB	560	4	Muck	Pole	SAMPLED			1	1														1	П				
561	44.8222417	-87.3465953	71	Sturgeon Bay		8/22/2016	TWH & CMB	561	4	Muck	Pole	SAMPLED			2					1										2					
562	44.8222203	-87.345673	41	Sturgeon Bay	Door	8/22/2016	TWH & CMB	562	4	Muck	Pole	SAMPLED			3	2			:	3 1								1		1	Ш				
563	44.8221988	-87.3447506	39	Sturgeon Bay	Door	8/22/2016	TWH & CMB	563	4	Sand	Pole	SAMPLED			1	1															Ш		_	_	Ш
564	44.8221403	-87.3706073	144	Sturgeon Bay	Door	8/22/2016	EJH & JMB	564	7	Muck	Pole	SAMPLED			2	1	_	1		1					1						\vdash	4	_	4	\perp
565	44.8221191	-87.3696849	145	Sturgeon Bay	Door	8/22/2016	EJH & JMB	565	9	Muck	Pole	SAMPLED			1		_									1					Н	-	_	+	+
566	44.8220553	-87.3669177	108	Sturgeon Bay	Door	8/22/2016	EJH & JMB	566	4	Muck	Pole	SAMPLED			1				1	1						1					Н	-	_	+	+
567	44.822034	-87.3659953	91	Sturgeon Bay		8/22/2016	EJH & JMB	567	5	Muck	Pole	SAMPLED			3											1				3		-	+	+	+
568	44.8220127	-87.3650729	90			8/22/2016	EJH & JMB	568	6	Muck	Pole	SAMPLED			2		+			+										2	П	+	+	+	+
569	44.8219914 44.8219701	-87.3641506 -87.3632282	75 69	Sturgeon Bay	Door	8/22/2016 8/22/2016	EJH & JMB	569	11	Muck	Pole	SAMPLED			1			1								1					H	1	+	+	+
570	44.8219488		55	Sturgeon Bay Sturgeon Bay			EJH & JMB	571	11	Muck	Pole	SAMPLED			0			1															+		+
572	44.8219274	-87.3613834	50	Sturgeon Bay		8/22/2016	EJH & JMB	572	18	WILLOW	Rope	DEEP			0																П		T	T	\top
573	44.8219061	-87.360461	39			8/22/2016	EJH & JMB	573	25			DEEP																			П				
574	44.8218848	-87.3595387	33	Sturgeon Bay	Door	8/22/2016	EJH & JMB	574	22			DEEP																							
575	44.8218634	-87.3586163	26	Sturgeon Bay	Door	8/22/2016	EJH & JMB	575	14	Muck	Pole	SAMPLED			0																Ш				
576	44.8218421	-87.3576939	19	Sturgeon Bay	Door	8/22/2016	EJH & JMB	576	13	Muck	Pole	SAMPLED			0																Ш				Ш
577	44.8218207	-87.3567715	6	Sturgeon Bay	Door	8/22/2016	EJH & JMB	577	12	Muck	Pole	SAMPLED			0		4	4		_						4	\perp				\dashv	4	\downarrow	4	\perp
578	44.8217994	-87.3558492	13	Sturgeon Bay	Door	8/22/2016	EJH & JMB	578	8	Muck	Pole	SAMPLED			3	1	+	2	-	3						4	-				Н	\dashv	+	+	+
579	44.821778	-87.3549268	10	Sturgeon Bay	Door	8/22/2016	EJH & JMB	579	7	Muck	Pole	SAMPLED			3		+		3	1											\vdash	-	_	+	+
580				Sturgeon Bay					6	Muck	Pole	SAMPLED			1		+		1	+			1								Н		+	+	+
581	44.8217352			Sturgeon Bay					0			DOCK			H	+	+	+	+	+	+				+	\dashv	+				\dashv	+	+	+	+
582	44.821671			Sturgeon Bay					4	Muck		SAMPLED				1	+	+		2						+		1	1		\dashv	+	+	+	+
583				Sturgeon Bay					5	Muck		SAMPLED			2	1	\dashv		2	+	1					+	+			2	\dashv	+	+	+	+
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585				Sturgeon Bay					5	Muck	Pole	SAMPLED			3		1		3	t	t					+				2	ıT	T	\dagger	\dagger	$\dagger \dagger$
587				Sturgeon Bay					5	Muck		SAMPLED			3	İ	1		3	T						1	Ť			1	\sqcap	\exists	\top	T	$\dagger \dagger$
588				Sturgeon Bay					5	Muck	Pole	SAMPLED				1				1								1		2			1		
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590				Sturgeon Bay					7	Muck		SAMPLED			3		Ţ	1								1				3	ωТ				
591	44.8213136	-87.3632581	70	Sturgeon Bay	Door	8/22/2016	EJH & JMB	591	10	Muck	Pole	SAMPLED			0																\Box				
592	44.8212923	-87.3623358	54	Sturgeon Bay	Door	8/22/2016	EJH & JMB	592	9	Muck	Pole	SAMPLED			2		1	1	4							1					Ц	4	4	1	\perp
593	44.821271	-87.3614134	51	Sturgeon Bay	Door	8/22/2016	EJH & JMB	593	11	Muck	Pole	SAMPLED			1		4	1		_						1	\perp				\dashv	4	\downarrow	4	\perp
594	44.8212497	-87.360491	38	Sturgeon Bay	Door	8/22/2016	EJH & JMB	594	10	Muck	Pole	SAMPLED			0														Ш		Ш	\perp	\perp	\perp	

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Mathematics Mathematics	602	44.8210788	-87.3531121	152	Sturgeon Bay	Door	8/22/2016	TWH & CMB	602	6	Muck	Pole	SAMPLED			3			3	2															L	
80 4 M 5010 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	603	44.8210574	-87.3521897	150	Sturgeon Bay	Door	8/22/2016	TWH & CMB	603	5	Muck	Pole	SAMPLED			3			3												1				╧	
Column C	604	44.821036	-87.3512674	132	Sturgeon Bay	Door	8/22/2016	TWH & CMB	604	6	Muck	Pole	SAMPLED			2			2						1						1				4	\perp
Column C	605	44.8210145	-87.350345	130	Sturgeon Bay	Door	8/22/2016	TWH & CMB	605	5	Muck	Pole	SAMPLED			2			1							1					2				4	\mathbf{H}
Column C	606	44.8209931	-87.3494227	108	Sturgeon Bay	Door	8/22/2016	TWH & CMB	606	5	Muck	Pole	SAMPLED			3	1		3	1											1				+	+
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001 44 5000001 AP 500000 17 Dispute No. 6020001 TOPA COM. 610 4 Mars. Pag. SAMPLED. 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	608		-87.347578	82		Door	8/22/2016	TWH & CMB	608	5	Muck	Pole	SAMPLED			1			1						+						1	-			+	Н
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615 44.000007, 47.000001 71 Surgeon Bay Doer 8222010 EM14 JMM 016 1 S Mode Pela SAMPLED 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1											MUCK	Pole					1																		+1	П
66 44.00006 97.300007 30 Suggest Bay Dov 8222016 E34.8 ABG 65 6 Max Pen SAMPLED											Muck	Pole				2	1			1						1					1				T	П
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619 44.000000 477.060770 24 Surgeon Bay Door 82720705 EAH A.WIR 619 13 March Pole SAMPLED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	617	44.8205932	-87.360521	37	Sturgeon Bay	Door	8/22/2016	EJH & JMB	617	8	Muck	Pole	SAMPLED			3	1	2	2	3						1					1					
602 44.000078 47.369578 4 \$10,0000 87.20016 EHA JAMS 600 19 Rope SAMPLED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	618	44.8205719	-87.3595986	35	Sturgeon Bay	Door	8/22/2016	EJH & JMB	618	10	Muck	Pole	SAMPLED			1				1															L	
627 44 8005097 87 3698016 4 Suggeos Bay Docs 8222015 TWH & CMB 622 0 15 Nova Price SAMPLED 0 1 1 2 Nova Price SAMPLED 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	619	44.8205505	-87.3586763	24	Sturgeon Bay	Door	8/22/2016	EJH & JMB	619	13	Muck	Pole	SAMPLED			0																			╧	Ш
622 44.8004861 47.3699092 12 Surgeon Bay Door 8222016 TWH & CAMB 632 15 Rope	620	44.8205292	-87.3577539	21	Sturgeon Bay	Door	8/22/2016	EJH & JMB	620	19		Rope	SAMPLED			0																			╀	\perp
623 44.820457 67.3540566 159 Slurgeon Bay Door 8222016 TWH & CMB 624 10 Mack Pole SAMPLED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	621	44.8205078	-87.3568316	4	Sturgeon Bay	Door	8/22/2016	EJH & JMB	621	26			DEEP						\parallel				_	-	\parallel								_		+	+
624 44.8204273 -87.3640665 165 Surgeon Bay Door 8/22/2016 TWH 8 CMB 625 19 Musk Pote SAMPLED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	622	44.8204864	-87.3559092	12	Sturgeon Bay	Door	8/22/2016	EJH & JMB	622	0			bridge						+					+	+							_			+	Н
626 44 8204029 -87 3511422 153 Sturgeon Bay Door 8222016 TWH & CMB 628 7 Musk Pole SAMPLED 0 0 1 1 2 0 1 2	623	44.8204651	-87.3549869	169	Sturgeon Bay	Door	8/22/2016	TWH & CMB	623	15		Rope					+		+		H		-	+	+										+	+
626 44.8203087 -87.5812975 133 Surgeon Bay Door 8/22/2016 TWH & CMB 626 7 Muck Pole SAMPLED 2 1 1 2 1 1 2 1 1 1 2 1 1 1 1 1 1 1 1																			+						+										+	Н
627 44.8033765 -87.3512275 133 Sturgeon Bay Door 87.272016 TWH & CMB 627 6 Musk Pole SAMPLED 2 2 2 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1																																			+	+1
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629 44 82038F 47 3494528 109 Sturgeen Bay Door 8/22/2016 TWH & CMB 630 5 Musk Pole SAMPLED 2 1 2 1																																			+	\forall
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634 44 8202295 -87.344841 36 Sturgeon Bay Door 8/22/2016 TWH & CMB 634 5 Muck Pole SAMPLED 3 3 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																3		I																		
635 44.8199154 -87.3596286 36 Sturgeon Bay Door 8/22/2016 EJH & JMB 635 4 Sand Pole SAMPLED 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	633	44.8202509	-87.3457634	43	Sturgeon Bay	Door	8/22/2016	TWH & CMB	633	5	Muck	Pole	SAMPLED			3			3		Ш													_	\perp	Ш
636 44.8198941 -87.3587063 23 Sturgeon Bay Door 8/22/2016 EJH & JMB 636 5 Muck Pole SAMPLED 3 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	634	44.8202295	-87.344841	36	Sturgeon Bay	Door	8/22/2016	TWH & CMB	634	5	Muck	Pole	SAMPLED			3			3			4		1							1				4	\perp
637 44.8198727 -87.3577839 22 Sturgeon Bay Door 8/22/2016 EJH & JMB 637 9 Muck Pole SAMPLED 0 0	635	44.8199154	-87.3596286	36	Sturgeon Bay	Door	8/22/2016	EJH & JMB	635	4	Sand	Pole	SAMPLED			1	1	1	1	1		\downarrow	\perp	1	1	-						4	\perp	+	+	\vdash
638 44.8198513 -87.3568616 3 Sturgeon Bay Door 8/22/2016 EJH & JMB 638 16 Muck Rope SAMPLED 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	636	44.8198941	-87.3587063	23	Sturgeon Bay	Door	8/22/2016	EJH & JMB	636	5	Muck	Pole	SAMPLED			3	+	1	1 2		\vdash	4	-	+	-	-	-				1	_	-	+	+	+
639 44.81983 -87.3559392 177 Sturgeon Bay Door 8/22/2016 TWH & CMB 639 19 Rope 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	637	44.8198727	-87.3577839	22	Sturgeon Bay	Door	8/22/2016	EJH & JMB	637	9	Muck	Pole	SAMPLED			0			\parallel				_	-	\parallel								_		+	+
640 44.8198086 -87.3550169 170 Sturgeon Bay Door 8/22/2016 TWH & CMB 640 24 DEEP 641 44.8197872 -87.3540946 164 Sturgeon Bay Door 8/22/2016 TWH & CMB 641 21 DEEP 642 44.8197658 -87.3531722 154 Sturgeon Bay Door 8/22/2016 TWH & CMB 642 11 Muck Pole SAMPLED 0 643 44.8197444 -87.3522499 148 Sturgeon Bay Door 8/22/2016 TWH & CMB 643 9 Muck Pole SAMPLED 0 644 44.819723 -87.3513275 134 Sturgeon Bay Door 8/22/2016 TWH & CMB 644 8 Muck Pole SAMPLED 3 3 3 1 1 2 2 645 44.8197016 -87.3504052 128 Sturgeon Bay Door 8/22/2016 TWH & CMB 645 7 Muck Pole SAMPLED 3 3 3 1 1 2 2 646 44.8196802 -87.3494829 110 Sturgeon Bay Door 8/22/2016 TWH & CMB 646 6 Muck Pole SAMPLED 2 2 2 1 1 1 1 1	638										Muck	Rope	SAMPLED				+	+	+	+	\vdash	\dashv	+	+	+	-	-	-			-	\dashv	+	+	+	\forall
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Point Number	Latitude	Longitude		LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	ц.	riophyllun	Potamogeton crispus	ratophyllu	Chara spp.	Elodea canadensis	Heteranthera dubia	Najas guadalupensis	Potamogeton friesii	tamogetor	tamogetor	tamogetor	tamogetor	Kanunculus aquatilis Strickenia pectipata	Utricularia vulgaris	Vallisneria americana	Sagittaria cuneata	Aquatic Moss	Freshwater sponge	Filamentous algae	Nitellopsis obtusa	Zannichellia palustris
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649	44.8196159 44.8195945	-87.3467159 -87.3457935	67 44				TWH & CMB	649	5	Muck	Pole	SAMPLED			3				3														\dagger	+	\dagger	1
650	44.8195945	-87.3457935 -87.3448712	35	Sturgeon Bay Sturgeon Bay			TWH & CMB	651	6	Muck	Pole	SAMPLED			3	v			3											2			\top	+	Ť	1
652	44.8191949	-87.3568916	1	Sturgeon Bay	Door	8/22/2016	EJH & JMB	652	8	Muck	Pole	SAMPLED			0	Ť			J														T		T	1
653	44.8191735	-87.3559693	176				TWH & CMB		9	Muck	Pole	SAMPLED			0																		T			
654	44.8191521	-87.3550469	171			8/22/2016	TWH & CMB	654	13	Muck	Pole	SAMPLED			0																					
655	44.8191308	-87.3541246	163	Sturgeon Bay	Door	8/22/2016	TWH & CMB	655	21			DEEP																					\perp		_	
656	44.8191094	-87.3532023	155	Sturgeon Bay	Door	8/22/2016	TWH & CMB	656	23			DEEP																					\downarrow	┙	\perp	
657	44.819088	-87.3522799	147	Sturgeon Bay	Door	8/22/2016	TWH & CMB	657	18		Rope	SAMPLED			0																		4	4	4	
658	44.8190666	-87.3513576	135	Sturgeon Bay	Door	8/22/2016	TWH & CMB	658	10	Muck	Pole	SAMPLED			0													_					\dashv		+	_
659	44.8190452	-87.3504353	127	Sturgeon Bay	Door	8/22/2016	TWH & CMB	659	8	Muck	Pole	SAMPLED			1			1		1								-			-		\dashv	_	1	_
660	44.8190238	-87.349513	111	Sturgeon Bay	Door	8/22/2016	TWH & CMB	660	12	Muck	Pole	SAMPLED			3	3															-		\dashv	_	+	_
661	44.8190023	-87.3485906	102	Sturgeon Bay	Door	8/22/2016	TWH & CMB	661	6	Sand	Pole	SAMPLED			2				2									+					\dashv	-	+	_
662	44.8189809	-87.3476683	85				TWH & CMB		6	Sand	Pole	SAMPLED			3	1			3							1				1	-		\dashv	+	+	-
663	44.8189595	-87.346746	66	Sturgeon Bay	Door		TWH & CMB	663	5	Rock	Pole	SAMPLED			1				1												t		\dashv	+	+	-
664	44.818938	-87.3458237	45	Sturgeon Bay	Door	8/22/2016	TWH & CMB	664	5	Muck	Pole	SAMPLED			2				2														\forall	+	\dagger	-
665	44.8189166 44.8188951	-87.3449013 -87.343979	16	Sturgeon Bay Sturgeon Bay	Door		TWH & CMB	665	4	Muck	Pole	SAMPLED			3				3														T		\top	
667	44.8185384	-87.3569216	2	Sturgeon Bay		8/22/2016	EJH & JMB	667	1	Sand	Pole	SAMPLED			0				J														T	T	T	
668	44.8185171	-87.3559993	175				TWH & CMB	667	6	Muck	Pole	SAMPLED			3	3			1														T		T	
669	44.8184957	-87.355077	172				TWH & CMB		8	Muck	Pole	SAMPLED			0																		T			
670	44.8184743	-87.3541546	162			8/22/2016	TWH & CMB	670	9	Muck	Pole	SAMPLED			0																					
671	44.8184529	-87.3532323	156	Sturgeon Bay	Door	8/22/2016	TWH & CMB	671	15		Rope				0																		\perp		1	
672	44.8184315	-87.35231	146	Sturgeon Bay	Door	8/22/2016	TWH & CMB	672	21			DEEP																					_		4	
673	44.8184101	-87.3513877	136	Sturgeon Bay	Door	8/22/2016	TWH & CMB	673	22			DEEP																					\dashv		+	4
674	44.8183887	-87.3504654	126	Sturgeon Bay	Door	8/22/2016	TWH & CMB	674	15		Rope	SAMPLED			0																-		\dashv	_	+	_
675	44.8183673	-87.3495431	112				TWH & CMB		9	Muck	Pole	SAMPLED			1				1									+					+	+	+	-
676	44.8183459			Sturgeon Bay			TWH & CMB		8	Muck	Pole	SAMPLED			3				3														\dashv	-	+	+
677	44.8183244	-87.3476984	86	Sturgeon Bay	Door		TWH & CMB	677	7	Muck	Pole	SAMPLED			3	•				3								+					\dashv	-	+	-
678	44.818303 44.8182816	-87.3467761 -87.3458538	65 46	Sturgeon Bay			TWH & CMB		6	Muck	Pole	SAMPLED			3	2			3														\dagger	+	\dagger	1
680	44.8182601	-87.3449315	33				TWH & CMB	680	6	Muck	Pole	SAMPLED			3	1			1						2								T		\top	
681	44.8182386		15				TWH & CMB		5	Muck	Pole	SAMPLED			3	_			3											2			T		T	٦
				Sturgeon Bay					3	Muck		SAMPLED			0																				T	
683	44.8178392			Sturgeon Bay					6	Muck	Pole	SAMPLED			2				1	2															1	
684	44.8178178	-87.3541847	161	Sturgeon Bay	Door	8/22/2016	TWH & CMB	684	7	Muck	Pole	SAMPLED			2	1				1								1							1	
685	44.8177965	-87.3532624	157	Sturgeon Bay	Door	8/22/2016	TWH & CMB	685	7	Muck	Pole	SAMPLED			2					1								1							2	
686	44.8177751	-87.3523401	145	Sturgeon Bay	Door	8/22/2016	TWH & CMB	686	9	Muck	Pole	SAMPLED			1				1												-		4	_	4	_
687	44.8177537	-87.3514178	137	Sturgeon Bay	Door	8/22/2016	TWH & CMB	687	15		Rope	SAMPLED			0													-			-		\dashv	_	+	_
688	44.8177323	-87.3504955	124	Sturgeon Bay	Door	8/22/2016	TWH & CMB	688	22			DEEP																			-		\dashv	_	+	_
689				Sturgeon Bay			TWH & CMB		22			DEEP			H					+	+	-	-		\dashv	-	+	+	+	+	+		\dashv	+	+	-
690				Sturgeon Bay						Muck		SAMPLED			0					+	+	-	-		\dashv	+	+	+	+	+	1	\vdash	+	+	+	\dashv
691				Sturgeon Bay					8	Muck		SAMPLED			1				1	+	+	+	\vdash		\dashv	+	+	+	+	+	1		\dashv	+	+	\dashv
692				Sturgeon Bay						Muck		SAMPLED			0	2			4	2	+	+			1	1	\dashv	+	\dagger	\dagger	T	\vdash	+	+	+	1
693				Sturgeon Bay Sturgeon Bay					6	Muck	Pole	SAMPLED			3	3			3	2	\dagger				\dashv	+		\dagger	t	\dagger			\dashv	+	\dagger	٦
695		-87.3449616 -87.3440393		Sturgeon Bay					6	Muck		SAMPLED			3				3	1	\dagger	t			\exists	1		t	t	1			\dashv	\forall	\dagger	٦
696	44.8175607			Sturgeon Bay					2	Muck	Pole	SAMPLED			2				2		1							T	T	Ť			\top	7	\dagger	٦
697				Sturgeon Bay					3	Sand		SAMPLED			0						JŤ	İ													J	1
698				Sturgeon Bay						Muck		SAMPLED			2	1			2														\Box			
699	44.8171186	-87.3523701	144	Sturgeon Bay	Door	8/22/2016	TWH & CMB	699	7	Muck	Pole	SAMPLED			1	1			1														\perp			
700	44.8170972	-87.3514478	138	Sturgeon Bay	Door	8/22/2016	TWH & CMB	700	8	Muck	Pole	SAMPLED			2				1	_					4	_	1						_	4	2	_
701	44.8170758	-87.3505255	125	Sturgeon Bay	Door	8/22/2016	TWH & CMB	701	9	Muck	Pole	SAMPLED			1				1	4	1	-			_	4	1	_	1	-	-		4	4	4	4
702	44.8170544	-87.3496032	114	Sturgeon Bay	Door	8/22/2016	TWH & CMB	702	17		Rope	SAMPLED			0																		\perp		\perp	

															mitero	Spils	emersum		sis	oia		nsis	isii	amineus	selongus	hardsonii	steriformis	atilis	i s	cana	E 2		ge	9		STIS
Point Number	Latitude	Longitude	Q	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	PNT_NUM	DEРТН	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	mynopriyildin spicatu Potamodeton crispus	Ceratophyllum demersum	Chara spp.	Elodea canadensis	Heteranthera dubia	Najas flexilis	Najas guadalupensis	Potamogeton friesii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton zosteriformis	Kanunculus aquatilis	Utricularia vulgaris	Vallisneria americana	Sagittaria cuneata	Aquatic Moss	Freshwater sponge	Filamentous algae	Nitellopsis obtusa	Zannichellia palustris
703	44.817033	-87.3486809	99	Sturgeon Bay	Door		TWH & CMB	703	23	0,		DEEP	2	_		- 4	. 0		, ш	Ť		_			_		- 1		,		0)	•	_	<u>- </u>		٦
704	44.8170115		88	Sturgeon Bay			TWH & CMB		21			DEEP																								
705	44.8169901	-87.3468364	63	Sturgeon Bay	Door	8/22/2016	TWH & CMB	705	10	Muck	Pole	SAMPLED			0																					
706	44.8169686	-87.3459141	48	Sturgeon Bay	Door	8/22/2016	TWH & CMB	706	7	Muck	Pole	SAMPLED			0																			_		
707	44.8169472	-87.3449918	31	Sturgeon Bay	Door	8/22/2016	TWH & CMB	707	6	Muck	Pole	SAMPLED			3			3	3														4	4	_	4
708	44.8169257	-87.3440695	18	Sturgeon Bay	Door	8/22/2016	TWH & CMB	708	6	Muck	Pole	SAMPLED			3			3	3						1		4		-	1			4	4	4	4
709	44.8169043	-87.3431472	13	Sturgeon Bay	Door	8/22/2016	TWH & CMB	709	3	Muck	Pole	SAMPLED			1			1															\perp	+	4	4
710	44.8168828	-87.3422249	11	Sturgeon Bay	Door	8/22/2016	TWH & CMB	710	2	Muck	Pole	SAMPLED			2		+	2	2 1								+		+	+			+	+	+	\dashv
711	44.8164835			Sturgeon Bay					3	Sand		SAMPLED			0			+									+		+				+	+	+	┪
712	44.8164621	-87.3524002		Sturgeon Bay					6	Muck		SAMPLED			3	1		2									1		t	t			+	+	1	1
713	44.8164407			Sturgeon Bay					6	Muck	Pole	SAMPLED			3			1	3								†			+			\dashv	+	_	1
714	44.8164193 44.8163979	-87.3505556 -87.3496333	123		Door		TWH & CMB	714	8	Muck	Pole	SAMPLED			2			2	_								1			T			\forall	Ť	3	1
716	44.8163765	-87.3487111	98	Sturgeon Bay	Door		TWH & CMB	716	9	Muck	Pole	SAMPLED			0				-														T	T	T	٦
717	44.8163551	-87.3477888	89	Sturgeon Bay			TWH & CMB		18	Muon	Rope	0, WIII EED			0																		T	T		٦
718		-87.3468665	62	Sturgeon Bay		8/22/2016	TWH & CMB		23			DEEP																								
719	44.8163122	-87.3459442	49	Sturgeon Bay	Door	8/22/2016	TWH & CMB	719	19		Rope	SAMPLED			0																					
720	44.8162907	-87.3450219	30	Sturgeon Bay	Door	8/22/2016	TWH & CMB	720	7	Muck	Pole	SAMPLED			1 1	/		1	L															\perp		
721	44.8162693	-87.3440997	19	Sturgeon Bay	Door	8/22/2016	TWH & CMB	721	6	Muck	Pole	SAMPLED			3 \	/		3	3											2			\downarrow	4	_	
722	44.8162478	-87.3431774	12	Sturgeon Bay	Door	8/22/2016	TWH & CMB	722	5	Sand	Pole	SAMPLED			2			2	2										1				4	4	4	4
723	44.8162263	-87.3422551	10	Sturgeon Bay	Door	8/22/2016	TWH & CMB	723	5	Muck	Pole	SAMPLED			3			3	3														\perp	+	_	4
724	44.8158057	-87.3524302	142	Sturgeon Bay	Door	8/22/2016	TWH & CMB	724	3	Muck	Pole	SAMPLED			2			2	2														\perp	+	4	4
725	44.8157843	-87.351508	140	Sturgeon Bay	Door	8/22/2016	TWH & CMB	725	6	Muck	Pole	SAMPLED			3			3									-		-	-			4	+	+	\dashv
726	44.8157629	-87.3505857	122	Sturgeon Bay	Door	8/22/2016	TWH & CMB	726	7	Muck	Pole	SAMPLED			3 -	1		3									+		+	+			\dashv	+	+	\dashv
727	44.8157415	-87.3496634		Sturgeon Bay			TWH & CMB	727	6	Sand	Pole	SAMPLED			2			2									+		+	+			+	+	+	+
728	44.81572	-87.3487412	97	Sturgeon Bay	Door		TWH & CMB		7	Muck	Pole	SAMPLED			1			1	3								†			+			\dashv	+	+	1
729	44.8156986 44.8156772	-87.3478189 -87.3468966		Sturgeon Bay Sturgeon Bay			TWH & CMB		7	Muck	Pole	SAMPLED			0			T												T			\forall	\dagger	1	7
731	44.8156557	-87.3459743	50				TWH & CMB		22	WILLOW	FUIE	DEEP																					T	T	T	٦
732	44.8156343	-87.3450521	29				TWH & CMB		23			DEEP																					T	T	T	٦
733	44.8156128	-87.3441298	20				TWH & CMB	733	9	Muck	Pole	SAMPLED			3			2	2 3											1					T	
734	44.8155914	-87.3432075	8	Sturgeon Bay	Door	8/22/2016	TWH & CMB	734	6	Muck	Pole	SAMPLED			3 \	/		3	3 1																	
735	44.8155699	-87.3422853	9	Sturgeon Bay	Door	8/22/2016	TWH & CMB	735	6	Muck	Pole	SAMPLED			3	1		3	3											1						
736	44.8151278	-87.351538	141	Sturgeon Bay	Door	8/22/2016	TWH & CMB	736	3	Muck	Pole	SAMPLED			1			1																_	_	
737	44.8151064	-87.3506158	121	Sturgeon Bay	Door	8/22/2016	TWH & CMB	737	6	Muck	Pole	SAMPLED			3			3	3							1				2			4	4	_	4
738	44.815085	-87.3496935	117	Sturgeon Bay	Door	8/22/2016	TWH & CMB	738	5	Sand	Pole	SAMPLED			2			2	2										1				4	4	4	4
739	44.8150636	-87.3487713	96	Sturgeon Bay	Door	8/22/2016	TWH & CMB	739	7	Muck	Pole	SAMPLED			2 \	/	+	2	2	-					-	-	+	+	+	+			\dashv	+	+	\dashv
740		-87.347849		Sturgeon Bay					7	Muck		SAMPLED			2 \	/	-	1	2	-					+	+	+	+		-		\vdash	+	+	+	\dashv
741		-87.3469267		Sturgeon Bay					7		Pole	SAMPLED			1	-	+	1	1	+							+		+	+		\vdash	+	+	+	\dashv
742				Sturgeon Bay					7	Muck		SAMPLED			0	+	+	+	+	-					+	+	+	+	+	+	-	H	+	+	+	\dashv
				Sturgeon Bay					18		Rope	SAMPLED			0	ł	+	+	+	1					+	+	\dashv	+	+	\dagger			+	+	+	\dashv
	44.8149564			Sturgeon Bay					23	Morel	Del-	DEEP			0	ŀ	-		t	t							\dagger	\dagger		T	-	H	\forall	\dagger	\dagger	\dashv
745	44.8149349			Sturgeon Bay Sturgeon Bay					3	Muck		SAMPLED			2	\dagger	\dagger	2	,		H						\dashv	\dagger	t	t			\dashv	\dagger	\dagger	٦
747				Sturgeon Bay					6	Muck	Pole	SAMPLED			3		\dagger	3		T					1	1	1		T				\forall	\dagger	\dagger	٦
				Sturgeon Bay					6	Muck		SAMPLED			1		İ	1									1						T	7	T	٦
				Sturgeon Bay					7	Muck		SAMPLED			3 3	3		3																		J
				Sturgeon Bay					7	Muck		SAMPLED			3 2	2		3																\perp	$oxed{I}$	
751	44.8143428	-87.3460346	52	Sturgeon Bay	Door	8/22/2016	TWH & CMB	751	6	Muck	Pole	SAMPLED			3 \	/		2	2 3											L			\bot	\perp	\perp	
752	44.8143214	-87.3451124	27	Sturgeon Bay	Door	8/22/2016	TWH & CMB	752	6	Muck	Pole	SAMPLED			3		-	3	3								\perp						4	4	\downarrow	4
753	44.8142999	-87.3441901	22	Sturgeon Bay	Door	8/22/2016	TWH & CMB	753	16		Rope	SAMPLED			0		-	1	╀	-							4		1	-			4	4	4	4
754	44.8142784	-87.3432679	6	Sturgeon Bay	Door	8/22/2016	TWH & CMB	754	23			DEEP					-	-	\perp	-					4	4	\downarrow	+	-	-		\sqcup	\downarrow	4	+	4
755	44.8137721	-87.3497537	119	Sturgeon Bay	Door	8/22/2016	TWH & CMB	755	3	Muck	Pole	SAMPLED			3	-	-	3	3	-							\perp		+	-	-		\dashv	+	+	4
756	44.8137507	-87.3488315	94	Sturgeon Bay	Door	8/22/2016	TWH & CMB	756	5	Muck	Pole	SAMPLED		<u> </u>	3		\perp	3	3															\perp	\perp	╝

Point Number	Latitude	Longitude	OI	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	MUN_TNUM	DEРТН	SEDIMENT	POLE_ROPE	COMMENTS	NOTES	NUSIANCE	TRF	Myriophyllum spicatum	Potamogeton crispus	Ceratophyllum demersum	Chara spp. Elodea canadensis	Heteranthera dubia	Najas flexilis	Najas guadalupensis	Potamogeton mesii	Potamodeton praelondus	Potamogeton richardsonii	Potamogeton zosteriformis	Ranunculus aquatilis	Stuckenia pectinata	Utricularia vulgaris	Vallisneria americana	Sagittaria cuneata	Aquatic Moss	Freshwater sponge	Nitellopsis obtusa	Zannichellia palustris
757	44.8137292	-87.3479092	93	Sturgeon Bay	Door	8/22/2016	TWH & CMB	757	6	Muck	Pole	SAMPLED			3				3 1																
758	44.8137078	-87.346987	58	Sturgeon Bay	Door	8/22/2016	TWH & CMB	758	6	Muck	Pole	SAMPLED			3				3																Ш
759	44.8136864	-87.3460647	53	Sturgeon Bay	Door	8/22/2016	TWH & CMB	759	7	Muck	Pole	SAMPLED			3	2		1	3																
760	44.8136649	-87.3451425	26	Sturgeon Bay	Door	8/22/2016	TWH & CMB	760	7	Muck	Pole	SAMPLED			3	1			1 3																
761	44.8136435	-87.3442203	23	Sturgeon Bay	Door	8/22/2016	TWH & CMB	761	7	Muck	Pole	SAMPLED			0																				
762	44.813622	-87.343298	5	Sturgeon Bay	Door	8/22/2016	TWH & CMB	762	12	Muck	Pole	SAMPLED			0																				
763	44.8130942	-87.3488615	56	Sturgeon Bay	Door	8/22/2016	TWH & CMB	763	3	Muck	Pole	SAMPLED			3				3		1														
764	44.8130728	-87.3479393	57	Sturgeon Bay	Door	8/22/2016	TWH & CMB	764	4	Muck	Pole	SAMPLED			3				3 1						1										
765	44.8130514	-87.3470171	55	Sturgeon Bay	Door	8/22/2016	TWH & CMB	765	4	Rock	Pole	SAMPLED			1				1																
766	44.8130299	-87.3460949	54	Sturgeon Bay	Door	8/22/2016	TWH & CMB	766	6	Muck	Pole	SAMPLED			3				3																
767	44.8130085	-87.3451726		Sturgeon Bay					7	Muck	Pole	SAMPLED			3	v			3																
768				Sturgeon Bay					7	Muck		SAMPLED			3	v			3																П
		-87.3433282		Sturgeon Bay					7	Muck		SAMPLED			3				1															0	П
		-87.3442806							5	Sand		SAMPLED			2				2															Ť	П
771		-87.3461551	2	Sturgeon Bay						Muck		SAMPLED			0																			T	П
772		-87.3452329		Sturgeon Bay						Muck		SAMPLED			0																				П

B

APPENDIX B

Riparian Property Owner Stakeholder Survey Responses

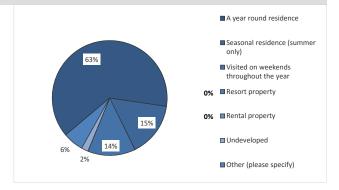
Sturgeon Bay - Anonymous Stakeholder Survey

Surveys Distributed: 199 Surveys Returned: 53 Response Rate: 27%

Recreational Activity on Sturgeon Bay

1. How is your property on the Sturgeon Bay ship canal utilized? Please select one choice.

Answer Options	Response Percent	Response Count
A year round residence	63.5%	33
Seasonal residence (summer only)	15.4%	8
Visited on weekends throughout the year	13.5%	7
Resort property	0.0%	0
Rental property	0.0%	0
Undeveloped	1.9%	1
Other (please specify)	5.8%	3
answere	ed question	52
skippe	ed question	1



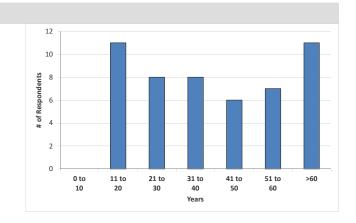
Number Other (please specify)

- 1 year round residence
- 2 It is a secondary residence that we use year round, but mostly in the summer
- 3 SIX MONTH RESIDENCE

2. How many years ago did you first visit Sturgeon Bay?

Answer Options	Response Count
	51
answered question	51
skipped question	2

Category (# years)	Responses	Re	% esponse
0 to 10		0	0%
11 to 20		11	22%
21 to 30		8	16%
31 to 40		8	16%
41 to 50		6	12%
51 to 60		7	14%
>60		11	22%
700			22/0



3. For the list below, rank your top three activities that are important reasons for owning your property on the Sturgeon Bay Ship Canal, with 1 being the most important activity.

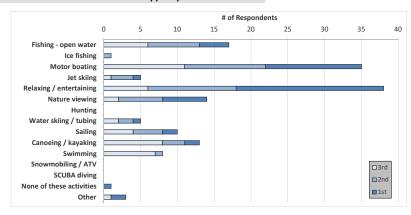
Answer Options	1st	2nd	3rd	Rating	Response
Answer Options	121	Ziiu	Siu	Average	Count
Fishing - open water	4	7	6	2.12	17
Ice fishing	0	1	0	2.00	1
Motor boating	13	11	11	1.94	35
Jet skiing	1	3	1	2.00	5
Relaxing / entertaining	20	12	6	1.63	38
Nature viewing	6	6	2	1.71	14
Hunting	0	0	0	0.00	0
Water skiing / tubing	1	2	2	2.20	5
Sailing	2	4	4	2.20	10
Canoeing / kayaking	2	3	8	2.46	13
Swimming	0	1	7	2.88	8
Snowmobiling / ATV	0	0	0	0.00	0
SCUBA diving	0	0	0	0.00	0
None of these activities are important to me	1	0	0	1.00	1
Other (please specify below)	2	0	1	1.67	3
			answei	ed question	52
			skipp	ed question	1

Number "Other" responses 1 N/A

2 rowing

3 Stand Up Paddle Boarding

- 4 living in a historic waterfront community
- 5 Residential water view with water access
- 6 rowing racing single and double sculls



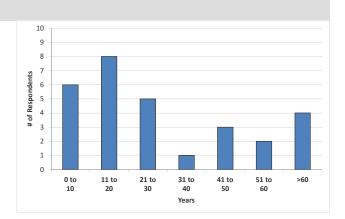
4. Have you personally fished on the Sturgeon Bay ship canal in the past three years?

Answer Options	Response	Response
Allswei Options	Percent	Count
Yes	63.5%	33
No	36.5%	19
answer	ed question	52
skippe	ed question	1

5. For how many years have you fished Sturgeon Bay?

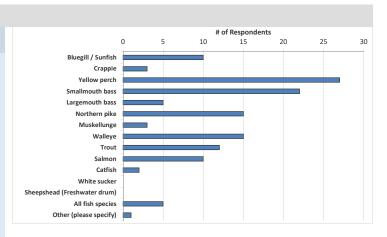
Answer Options	Response
Answer Options	Count
	29
answered question	29
skipped question	24

Category (# of years)	Responses	% Response	
0 to 10		6	21%
11 to 20		8	28%
21 to 30		5	17%
31 to 40		1	3%
41 to 50		3	10%
51 to 60		2	7%
>60		4	14%



6. What species of fish do you like to catch on Sturgeon Bay?

Answer Options	Response Percent	Response Count
Bluegill / Sunfish	30.3%	10
Crappie	9.1%	3
Yellow perch	81.8%	27
Smallmouth bass	66.7%	22
Largemouth bass	15.2%	5
Northern pike	45.5%	15
Muskellunge	9.1%	3
Walleye	45.5%	15
Trout	36.4%	12
Salmon	30.3%	10
Catfish	6.1%	2
White sucker	0.0%	0
Sheepshead (Freshwater drum)	0.0%	0
All fish species	15.2%	5
Other (please specify)	3.0%	1
ans	wered question	33
si	kipped question	20

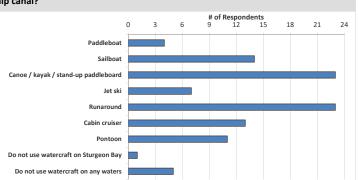


Number "Other" responses

1 carp

7. What types of watercraft do you currently use on the Sturgeon Bay ship canal?

A Ontinue	Response	Response	
Answer Options	Percent	Count	
Paddleboat	7.7%	4	
Sailboat	26.9%	14	
Canoe / kayak / stand-up paddleboard	44.2%	23	
Jet ski (personal water craft)	13.5%	7	
Runaround	44.2%	23	
Cabin cruiser	25.0%	13	
Pontoon	21.2%	11	
Do not use watercraft on Sturgeon Bay	1.9%	1	
Do not use watercraft on any waters	9.6%	5	
answered question			
skippo	ed question	1	



If you answered runaround in Question 7, please list boat type and/or motor size:

Answer Options	Response		
Allswei Options		Count	
		25	
	answered question	25	
	skipped question	28	

	Jupped question 20
Number	Response Text
	1 redundant
	2 21 foot yamaha jet boat
	3 Alumacraft 14', 30 hp
	4 18' Lund 115 hp
	5 18 foot center console 150HP
	dinghy 20hp
	6 ranger 250 hp
	deckboat 270 hp
	7 21' Inboard/outboard
	8 Fishing boat 50hp
	9 Sea Ray 19.5' , inboard/outboard 140hp
	10 sea ray 100hp
	11 Aluminum boat, 15 hp
	12 23' Cruisers open bow runabout - 5.0 liter IO
	13 Welcraft Excel 150
	14 24' Chris Craft center console; 250 hp outboard
	15 StarCraft 70 horsepower motor
	16 20 foot ski/fishing boat with 175 hp motor
	17 14 Mirro Fishing boat with a 15HP Johnson motor
	silverton 33 375hp crusier
	caddilac 14 ft 25hp runaboat
	19 We do not own any motor boats, only kayaks, however, we rent the motor boats
	20 14' Boston Whaler with 60hp Mercury
	Center Counsel - Boston Whaler 18'/150HP
	Center Counsel - Pursuit 30' "2" 225HP, Baja Islander 23' - 454
	22 bass boat 19' 115hp
	Center Console, Bost Whal, 18' 150HP
	Center Console, Pursuit, 30' (2) 225HP
	24 Center Console with twin 300HP outboards
	16 ft. Lund 35 Hp
	22 ft. Scout 200 Hp

If you answered cabin cruiser in Question 7, please list boat type and/or motor size:

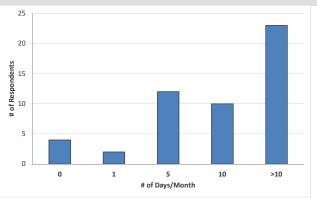
Answer Options	Count
	12
answered question	12
skipped question	41

Number	Response Text
	1 50' powerboat. 360hp Diesel engines.
	2 42' Sabre 2 550hp
	3 we boated for many years but now because of age we have sold our boat
	4 30' sport cruiser
	5 31 Tiara Open with twin 454's
	6 motoryacht diesel 900hp
	7 36 ft. w/ 400 h.p.
	silverton 33 375hp crusier caddilac 14 ft 25hp runaboat
	9 40 formula 2/425's
	10 32' inboard twin 260 hp
	11 Carver 52 Sport Coupe
	12 Nordic tug 34 / 270 Cummins Diesel

8. In a typical year, how often do you use or access the Sturgeon Bay ship canal from Memorial Day or Labor Day?

Answer Options	Response
Answer Options	Count
	51
answered question	51
skipped question	2

Category (# of days/month)	Responses	% Response	
0		4	8%
1		2	4%
5		12	24%
10		10	20%
>10		23	45%



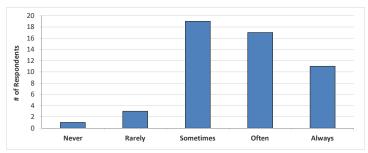
9. Do you use your watercraft on waters not directly connected to Sturgeon Bay, i.e. inland lakes in Wisconsin?

Answer Options	Response	Response
	Percent	Count
Yes	13.7%	7
No	86.3%	44
answer	answered question	
skippo	skipped question	

Sturgeon Bay Current and Historic Condition, Health and Management

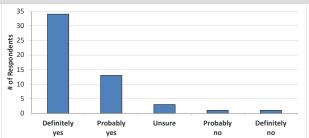
10. During open water season how often does aquatic plant growth, including algae, negatively impact your enjoyment of the Sturgeon Bay ship canal?

Answer Options	Never	Rarely	Sometimes	Often	Always	Response Count
	1	3	19	17	11	51
				answered question		51
				skipį	oed question	2



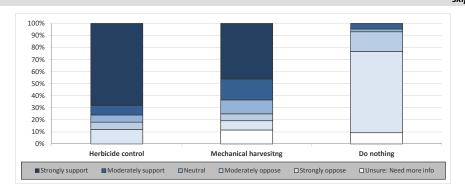
11. Considering your answer to the question above, do you believe aquatic plant control is needed on the Sturgeon Bay ship canal?

Answer Optio	ns	Definitely yes	Probably yes	Unsure	Probably no	Definitely no	Response Count
		34	13	3	1	1	52
					answei	ed question	52
					skipp	ed question	1



12. Aquatic plants can be managed using many techniques. What is your level of support for the responsible use of the following techniques on the Sturgeon Bay ship canal?

Answer Options	Strongly oppose	Moderately oppose	Neutral	Moderately support	Strongly support	Unsure: Need more info	Rating Average	Response Count
Mechanical harvesting	6	3	3	4	34	0	4.14	50
Herbicide (chemical) control	4	3	6	9	24	6	3.54	52
Do nothing (do not manage plants)	29	7	1	2	0	4	1.26	43
						answer	ed question	52
						skipp	ed question	1

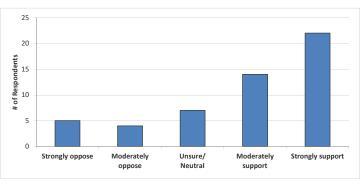


13. The City of Sturgeon Bay completed an Aquatic Plant Management Plan in 2003, with revisions in 2007, and is currently in the process of updating the plan. In implementing the plan, the city has utilized herbicide application and mechanical harvesting as aquatic plant management techniques. Prior to reading this information, did you know that aquatic herbicides were being applied in the Sturgeon Bay ship canal to help control aquatic plants?

Answer Options	Response	Response
Allswei Options	Percent	Count
Yes	45.1%	23
I think so but can't say for certain	15.7%	8
No	39.2%	20
ansv	vered question	51
ski	ipped question	2

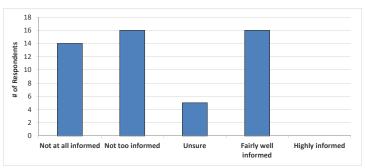
14. How do you feel about the use of herbicides to treat aquatic plants?

Answer Options	Strongly oppose	Moderately oppose	Unsure/ Neutral	Moderately support	Strongly support	Response Count
	5	4	7	14	22	52
				answere	d question	52
				skippe	d question	1



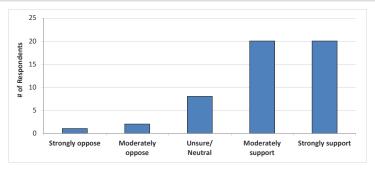
15. How informed has the City of Sturgeon Bay kept you regarding issues with the Sturgeon Bay ship canal and its management?

Answer Options	Not at all informed	Not too informed	Unsure	Fairly well informed	Highly informed	Response Count
	14	16	5	16	0	51
				answer	ed question	51
				skipp	ed question	2



16. What is your level of support or opposition for the City's current herbicide and mechanical harvesting strategy?

Answer Options	Strongly oppose	Moderately oppose	Unsure/ Neutral	Moderately support	Strongly support	Response Count
	1	2	8	20	20	51
				answere	ed question	51
				skippe	ed question	2



17. Do you believe the current herbicide and mechanical harvesting strategy is sufficiently meeting your recreational needs in the Sturgeon Bay ship canal?

Answer Options	Response	Response	
Answer Options	Percent	Count	
Yes	15.4%	8	
I think so but can't say for certain	32.7%	17	
No	51.9%	27	
answei	red question	52	
skipp	skipped question		

18. Please feel free to provide written comments concerning Sturgeon Bay, its current and/or historic condition and its management.

Count
33
33
20

	skipped question 20
er	Response Text
	1 Need to attack weeds and cut more deeply into water when the weeds explode, as they do every year. Need to start earlier than 8:00 when that happens and wo later.
	2 what are you referring to-?harvesting program? Its current program is not well organized nor implemented.
	Use herbicides!!!! Get RID of mechanical harvesters!!!! They are a joke!!!! It's too bad that Sturgeon Bay is widely known for our WEED problem!!!!!!!!! Sturgeon Bay is beautiful except for the water weeds!!!
	Due to high water conditions the environment for aquatic plant growth has been altered. With shallow conditions sunlight got to the bay bottom easier and promoted strong plant growth. Mechanically harvesting is akin to heading plants in your garden. It makes them more robust and thick. There are plenty of herbicit that are non toxic and widely used on Western rivers in the US where water is scarce and purity sacred. We ccan easily use these chemicals to effectively treat the bay without causing accompanying health concerns. The modern practice of fertilizing lawns causes a lot of this fertilizer to run off and into the bay. This also promotes very healthy weed populations which are beyond "normal" from the old days. Call me I'd love to provide information on non toxic herbicides that I know Also my sister is a limnologist in Washington State and she is a great resource of info and would be glad to provide input. Jim Michaud 920 621 0119
	The problem that we have is primarily the drift from the mechanical harvesting. The weeds collect along our shoreline and our piers and are terrible. The cutters a unable to collect the material and during late summer we have rotting weeds along the shoreline.
	6 both methods should be used but the harvesting shoud be cutting the plants much shorter
	7 I have been happy with the current mechanical weed harvesting with the weed cutters.
	The bay, lake and SB canal are Sturgeon Bay's biggest asset. SB is a "real" American city with historical significance and strong potential for growth through existing and entreprenurial investment.
	9 We need to remain aggressive with the weed control program. I believe the City has slacked off the past few years. The Bay is an important resource that needs to be maintained at the highest level possible.
	We are new residents to Sturgeon Bay ship canal area and have little to no history. We are very interested in knowing more about this issue and plan to be involved with it once we get settled.
	11 Regarding the Westside Waterfront Development. No matter what ultimately becomes of the land, please remove the unsightly dirt piles and use the area for the farmers' market which needs a larger space, even if it is just temporary.
	12 don't understand why sturgeon bay so much worst than other harbors. far too weedy.
	13 I am most concerned about the fish and other wildlife on the channel.
	Mechanical cutting leaves floating globs of weeds that are often undetectable until they are hit and cause a mess, collect garbage, dead fish, etc. when they are bloom onto shore or into marinas.
	Sturgeon Bay is the only area that has such a weed problem. Everywhere I boat, nobody else has a weed problem like us. Boaters from MI. don't like to come here because of all the weeds. The city needs to address the root cause of the weeds. Sewage run off?? The marina's. are horrible to get in and out of. My boat sucked 15 so many weeds last year, it overheated and damaged somethings along with being broke down from 4th. of July until 14th. of July. Many of the downtown waterful business suffer financially in some form, such as the marinas, fuel docks, restaurants, bars, etc. as local and out of town boaters can't or won't dock in Sturgeon Bay due to the weeds. Clean up the problem!
	16 Keep up the aquatic plant management. It is needed. The weeds around my dock can be overwhelming! It makes it harder all the time to get my boat in and out.
	17 Would support mechanical harvesting if there were a way to catch the "clippings" so they didn't end up on my dock and boat lift.
	The harvesters do a terrible job. They focus on certain areas while ignoring us (until we call to complain). We constantly have weeds floating in front of our proper and so thick most of the time, preventing us from using the waterfront. It is unsightly, smelly, and prevents water flow which causes algae and swimmers itch (which so used to be constantly have gotten when boating). I feel it decreases the value of our property, and we are tired of raking and hauling weeds to clear our beach every of weare paying high taxes for waterfront property that we can seldom use. Herbicides hopefully will be the answer because harvesting is totally inadequate for the amount of weeds in the bay and ecause of their method of operation.
	19 When using our motor boat, we have had seaweed tangled in our prop. It also grows near our dock and by then end of the summer seems to overwhelm the area Also the cut seaweed washes up on our shoreline and rots.
	20 I think the City is well run. It is becoming more of a tourist attraction and center for fishing contests.
	21 Sturgeon Bay is doing a good job
	22 SELDOM see any help East of the 57 bridge. Weed control is needed
	23 I think Sunset park and Lama Wamah Lagoon should be included in the treated area.
	24 The mechanical program is poorly managed. More needs to be done on all fronts
	25 You can't lump herbicide and mechanical harvesting in the same category. One can be opposed to herbicide treatment and in favor of harvesting.
	26 Need more herbicide and less cutting. When the weeds are cut they are not retrieved and wash up on my shore. Then I have to dispose of them!
	 27 We appreciate your willingness to continue with your efforts, please continue 28 The cost of the program should be a city wide expense since everyone in the community benefits, not just the commercial waterfront property owners. A guy who lives near the fairgrounds with a trailerable fishing boat benefits as much as a condo owner at Strawberry Creek.
	Seaweed harvesting negatively impacts the enjoyment & use of our waterfront. We are constantly cleaning up after the cutter. Our area (Utopia Circle inlet) collect glipproportionate amount of the uncollected harvesting. Last year, the harvesters did a better job of collecting near the shoreline but it still impacted us especially
	weekends when we had company. Also our immediate neighbors have invasive phragmites that are slowly invading our waterfront.

Number	Response Text
	I very much appreciate the City's efforts to make the bay usable and attractive for residents and visitors. We definitely need a strong plan to keep the weeds in check and keep the bay the attraction that it is. I wish that the weed cutters were able to capture more of the weeds they cut as some end up as floaters, but I understand
	that it is a difficult task and that we are doing the best you can with the tools at your disposal. Thank you!
5	2 Mechanical harvesting is a waste of time and manpower; does not address shore owners; no weed pickup after harvest; cutting ineffective.
3	Over the years aquatic weeds have impaired the use of our dock for most activities including sailing, power boating, and even swimming. Mechanical harvesting is very limiting as marinas are served first.



APPENDIX C

Marina Stakeholder Survey Responses

Sturgeon Bay Marina Survey

Date:	Time:	Initials:	
Marina:			
1. In total, how many yea	ars have you worked in the	e marina industry in Door County?	
2. How long have you ow	ned or operated this mari	ma?	
3. In the years you have plants have you observed		arina, what changes in water quality	or aquatic
4. How have aquatic plan	nts and the management o	f aquatic plants affected your busines	ss?
		when your renters' boats leave the wa tines you observe from your renters?	
_			

6. What concerns, if any, do you have as a marina owner or operator in regards to aquatic plant management and herbicide use in marinas?
7. Have your renters informed you that they are concerned about water quality or aquatic plants
8. (If they answer <u>yes</u> to question 7) What concerns about water quality or aquatic plants have your renters informed you about?
9. What suggestions can you offer for future aquatic plant management?

2 *March* 2017

0. Is there anything more you would like to tell us that we have not yet discussed?						
	-					
	_					

3 March 2017

<u>Sturgeon Bay – Marina Survey</u>

Interviews Requested: 9
Interviews Conducted: 6
Response Rate: 67%

Marina surveys were conducted over the phone and responses were summarized and recorded by hand by Onterra staff. Only questions answered by marina operators are displayed below.

Survey 1 Date: 3/28/2017

How have aquatic plants and the management of aquatic plants affected your business?

Not affected, aquatic plants are not a problem.

What concerns, if any, do you have as a marina owner or operator in regards to aquatic plant management and herbicide use in marinas?

No concerns, aquatic plants are not a problem for our business. Wave Pointe and Stone Harbor can be bad, you can see the plants as you come in. We only have small herbicide applications and the City decides how much is going to be treated and then we give the okay for the treatment.

Survey 2 Date: 3/28/2017

In total, how many years have you worked in the marina industry in Door County

16 years

How long have you owned or operated this marina?

16 years

In the years you have owned or operated this marina, what changes in water quality or aquatic plants have you observed?

Weed harvesting within the channel is a challenge every year.

Water levels play a role in the weed growth.

How have aquatic plants and the management of aquatic plants affected your business?

The spraying of aquatic plants is great. It works, after the spray the weeds go down.

Mechanical harvesting out in the channel is problematic. It has a learning curve. It affects navigation of all boats but it seems to affect the sailboats the worse.

What are you observing about boater behavior when your renters' boats leave the water? In other words, what are the typical boat cleaning routines you observe from your renters?

We have signs up at the boat landing.

People are well practiced in removing hitchhikers from their boats. Most of the invasive species problems come from the main boat launch.

We have transient boaters who will trailer at the launch.

What concerns, if any, do you have as a marina owner or operator in regards to aquatic plant management and herbicide use in marinas?

I have no concerns with the herbicide use.

There is a learning curve to the harvesting. The harvesters cannot cut the weeds in certain areas due to spawning fish. After spawning is done, the weeds are very overgrown. There is a lot of boat traffic in these areas which causing fragments and spreading of the aquatic plants. I have kids with pitchforks pull out the weeds that wash up after harvesting.

Have your renters informed you that they are concerned about water quality or aquatic plants?

No

What suggestions can you offer for future aquatic plant management?

Harvesting plan is not the best.

Is there anything more you would like to tell us that we have not yet discussed?

The weeds get stuck in the intake valves of boats after mechanical harvesting. It causes a lot of navigation issues for boaters. Sailboats have the hardest time because once they have plants sucked up they lose all navigation – sailboats have run into the bridges due to loss of navigation. People from Milwaukee or further south will call ahead and ask if the harvesting has happened. They will not come up until August so they can avoid the weed balls caused by harvesting.

|--|

In total, how many years have you worked in the marina industry in Door County

~6 years

How long have you owned or operated this marina?

Appendix C

~9 years

In the years you have owned or operated this marina, what changes in water quality or aquatic plants have you observed?

Not, dramatic no. It's the same herbicide plan every year and it works well, treatment in the spring and cutting through the summer.

How have aquatic plants and the management of aquatic plants affected your business?

No, not really.

What concerns, if any, do you have as a marina owner or operator in regards to aquatic plant management and herbicide use in marinas?

No concerns.

What suggestions can you offer for future aquatic plant management?

No suggestions, satisfied with the current management.

In total, how many years have you worked in the marina industry in Door County

Since 2009, coast guard before that.

In the years you have owned or operated this marina, what changes in water quality or aquatic plants have you observed?

When I started, they sprayed every year but in either 2012 or 2013 the WDNR stopped spraying. I spoke with the WDNR last year [2016] and said they needed to spray [herbicide treatment] and they did.

What concerns about water quality or aquatic plants have your renters informed you about?

Renters want the area sprayed every year. They have issues backing boats out because of the plants.

What suggestions can you offer for future aquatic plant management?

Keep spraying [herbicide treatment]. I keep in contact with the city 2 or 3 times a week. They hook up a combine to a boat and collect the weeds so that they don't get pushed out to the channel. They should spray earlier than they have been, they currently wait until the plants are fully engulfed before they spray them.

Is there anything more you would like to tell us that we have not yet discussed?

The people that worked before me pushed the weeds out to the channel. This area also pays the highest property taxes within the city.

Survey 5 Date: 5/15/2017

In total, how many years have you worked in the marina industry in Door County

12 years

How long have you owned or operated this marina?

Same, been a marine biologist for 25 years.

In the years you have owned or operated this marina, what changes in water quality or aquatic plants have you observed?

There are a lot of plants (milfoil)

What concerns, if any, do you have as a marina owner or operator in regards to aquatic plant management and herbicide use in marinas?

The treatments/cutting may not be working – we have beautiful clear water and great fish populations but we need to do something with the excess plants

The marina is deluged with so many boats during the summer and there are so many plants that the boaters take up a lot of the fragments from harvesting into their intake valves and it causes problems.

Fragments from cutting as well as plants living within the marina fill up the marina and make it extremely hard to navigate.

Used to take hundreds upon hundreds of hours to get the plant fragments/plants out of the marina. Have bubblers, devisers, machines and people with pitchforks trying to get the weeds out of the marina.

Have your renters informed you that they are concerned about water quality or aquatic plants?

Yes, to the aquatic plants

What concerns about water quality or aquatic plants have your renters informed you about?

See question 6. Customers are mad about how many weeds they have to deal with trying to leave the marina.

What suggestions can you offer for future aquatic plant management?

Find some new products that work. Don't want the herbicide treatments to stop because the fish need the weeds, it's the circle of life, but the current chemicals are not working.

The cutters (mechanical harvesters) seem to cut well but they don't collect the plant they're cutting well. All the fragments float downwind and end up in staying in places like our marina.

10. Is there anything more you would like to tell us that we have not yet discussed?

109 slip marina

He doesn't remember a day they didn't pay to be sprayed (herbicide application) and would be scared to see what the marina would look like without being sprayed.

It is a constant battle to keep the weeds out of the marina and the current program does not seem to working.

This area will lose money if they don't do something.

People are not coming up because of the amounts of weeds within portions of the ship canal.

|--|

In total, how many years have you worked in the marina industry in Door County

25 years

In the years you have owned or operated this marina, what changes in water quality or aquatic plants have you observed?

I have 100% seen changes. When I first started, you couldn't launch a canoe off the shore because of the aggressive weeds [cutting?]. After a treatment, the weeds are 100% gone, some floaters but the plants are gone.

How have aquatic plants and the management of aquatic plants affected your business?

It has positively affected the business.

What concerns, if any, do you have as a marina owner or operator in regards to aquatic plant management and herbicide use in marinas?

For the herbicide treatments, I assume someone who knows what they are doing checked this out and knows that it's okay.

For the floaters, there is a very short memory in this community and the difference is staggering. People get mad at seeing one or two floaters now but it is nothing like it used to be. I used to spend 20-30 hours a week trying to get people into our slips and you could walk on the plants close to shore. The change is a result of 20-30 years of the city managing the problem. Prior to 1992 cutting was happening and around 1993 the cutting stopped and it was impossible to navigate.

What suggestions can you offer for future aquatic plant management?

Don't stop the cutting or we will be back to where it was before if we stop. Cutting takes the veg out and prevents seedlings. I'm afraid of what will happen if they stop, it won't return to where it was in a year or two but eventually it will.

APPENDIX D

Boat Landing Stakeholder Survey Responses

Sawyer Park Boat Landing Survey

The City of Sturgeon Bay manages aquatic plants within the Sturgeon Bay ship canal. When answering the following questions, please answer in regards to the City of Sturgeon Bay Aquatic Plant Management Area located on the map.

1.	What part of the Sturgeon Bay area waters were you in or do you plan on going today? See map on back.
	Sturgeon Bay ship canal c. Green Bay – skip to Question 3 a. within city limits d. Lake Michigan – skip to Question 3
	b. Sturgeon Bay ship canal outside city limits – skip to Question 3 e. Other: - skip to Question 3
2.	What were you doing or plan on doing out on the water today in the Aquatic Plant Management Area (map) in the Sturgeon Bay ship canal? Please circle all that apply.
	Fishing – skip to Question 4 b. Recreational boating c. Sightseeing d. SCUBA diving e. Swimming Navigation to Green Bay or Lake Michigan only g. Other:
3.	Have you fished within the Aquatic Plant Management Area (map) in the Sturgeon Bay ship canal?
	a. Yes b. No – skip to Question 5
4.	What do you fish for? Please circle all that apply.
	a. Bluegill/Sunfish i. Trout
	b. Crappie j. Salmon C Yellow perch k. Catfish
	d. Smallmouth bass 1. White Sucker
	e. Largemouth bass m. Sheepshead (Freshwater drum)
	f. Northern Pike g. Muskellunge o. All fish species
	h. Walleye
5.	What types of watercraft have you used in the last year within the Aquatic Plant Management Area (map) in the Sturgeon Bay ship canal? Please circle all that apply.
	 a. Paddleboat b. Sailboat f. Cabin cruiser (please list boat type and/or motor size:)
	c. Canoe/kayak/stand-up paddleboard g. Other:
	d. Jet ski (personal water craft) Runaround (please list boat type and/or motor size: 2.5 H ? IF Teach) Do not use watercraft on the Sturgeon Bay ship canal

6.	Do you use watercraft on waters other than the Sturgeon Bay ship canal?						
	a. Yes	(b) No					
7.)	Have you heard of aquatic invasive species (A	AIS)?					
	(a.) Yes	b. No					
8.	How do you clean your boat after being on the	he water? Please circle all that apply.					
	a. Remove aquatic hitch-hikers (ex. – plant material, clams, mussels) b. Drain bilge c. Rinse boat	d. Power wash boat e. Apply bleach f. Do not clean boat g. Other (please specify):					
9,		quatic Plant Management Area (map) in the have aquatic plants negatively impacted your					
	a. Yes – skip to Question 11	(b) No					
10.	Have aquatic plants ever negatively impact Management Area (map) in the Sturgeon Bay	ted your enjoyment within the Aquatic Plant y ship canal?					
	(a.) Yes	b. No – skip to Question 14					
11.	What were you doing when the aquatic plant	s impacted you? Please circle all that apply.					
	(a.) Fishing b. Swimming	c. Boating d. Other (please specify):					
12.	How were the plants impacting your recreati	on? Please circle all that apply.					
	 General unsightliness Snagging on fishing lines Wrapping around the prop 	d. Made swimming less fun e. Other (please specify):					
13.	on back.	p canal when the plants impacted you? See map					
	a. I don't know	b. Circled on back					
14.		ance Sturgeon Bay users travel. What is the zip w many miles it is <i>one-way</i> from your primary					
	54235						
	Thank you for your time,	your input is valued.					

Survey Facilitator Use Only

Time: 8: 40 Am

Survey#:/

Draft – Recreation Survey

Date: (e-31-2017

City of Sturgeon Bay

Sawyer Park Boat Landing Survey

The City of Sturgeon Bay manages aquatic plants within the Sturgeon Bay ship canal. When answering the following questions, please answer in regards to the City of Sturgeon Bay Aquatic Plant Management Area located on the map.

1.	1. What part of the Sturgeon Bay area waters were map on back.	you in or do you plan on going today? See
6		Green Bay – skip to Question 3 Lake Michigan – skip to Question 3 Other: – skip to Question 3
2.	2. What were you doing or plan on doing out or Management Area (map) in the Sturgeon Bay shi	
	b. Recreational boatingc. Sightseeingf.	Swimming Navigation to Green Bay or Lake Michigan only Other:
3.	3. Have you fished within the Aquatic Plant Manage canal?	ment Area (<i>map</i>) in the Sturgeon Bay ship
	a. Yes b. No – skip to Questio	n 5
4.	4. What do you fish for? Please circle all that apply.	
	b. Crappie j. c. Yellow perch k. d. Smallmouth bass l.	Trout Salmon Catfish White Sucker Sheepshead (Freshwater drum) Other: All fish species
5.	6. What types of watercraft have you used in Management Area (map) in the Sturgeon Bay shi	
	a. Paddleboat b. Sailboat c. Canoe/kayak/stand-up paddleboard d. Jet ski (personal water craft) Runaround (please list boat type and/or motor size:	Do not use watercraft on the Sturgeon

City	of	Stur	<i>ง</i> ยกร	ı Bay
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Draft - Recreation Survey

6.	Do you use watercraft on waters of	urgeon Bay ship canal?			
	ay Yes	b.	No		
7.	Have you heard of aquatic invasive species (AIS)?				
	A. Yes	b.	No .		
8.	How do you clean your boat after being on the water? Please circle all that apply.				
	a. Remove aquatic hitch-hikers a. (ex. – plant material, clams, muss b. Drain bilge c. Rinse boat	els) e.	Power wash boat Apply bleach Do not clean boat Other (please specify):		
9.	• •	-	Plant Management Area (map) in the aquatic plants negatively impacted your		
(*	a. Yes – skip to Question 11	b.	No		
10.	Have aquatic plants ever negatively impacted your enjoyment within the Aquatic Plant Management Area (map) in the Sturgeon Bay ship canal?				
	a. Yes	b.	No-skip to Question 14		
11.	What were you doing when the aquatic plants impacted you? Please circle all that apply.				
	a. Fishing b. Swimming	c. d.	Boating Other (please specify):		
12.	How were the plants impacting your recreation? Please circle all that apply.				
	a. General unsightlinessb. Snagging on fishing linesc. Wrapping around the prop		Made swimming less funt Other (please specify): \\ \$\psi \psi \psi \psi \psi \psi \psi \psi		
13.	Where were you within the Sturgeon Bay ship canal when the plants impacted you? See map on back.				
i	a. I don't know	Э.	Circled on back		
14.			Sturgeon Bay users travel. What is the zip y miles it is <i>one-way</i> from your primary		

Thank you for your time, your input is valued.

Survey Facilitator Use Only			
Date: 5-1- 21)	Time: () cocham	Survey #:	