B

APPENDIX B

Stakeholder Survey Response Charts and Comments

Town of Plum Lake Ph I Lakes - Anonymous Stakeholder Survey

Surveys Distributed: 378
Surveys Returned: 140
Response Rate: 37%

Lake Property

1. Which of the Town of Plum Lake lakes do you reside on or near? Please select one choice.

Answer Options	Response Percent	Response Count
Plum Lake	65.7%	88
Star Lake	24.6%	33
Little Star Lake	9.0%	12
West Plum Lake	0.8%	1
answered question		**134**
skipped question		**6**

2. Do you rent or own your property on or near your lake? Please select one choice.

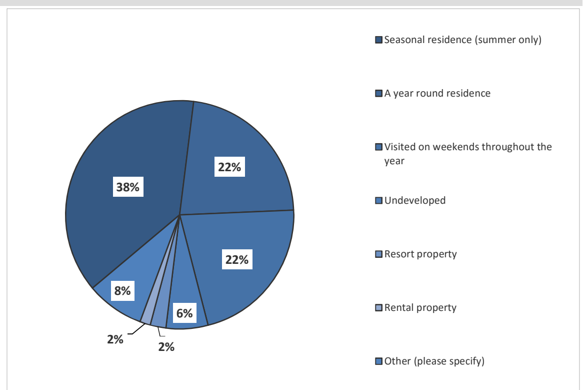
Answer Options	Response Percent	Response Count
Own	99.3%	133
Rent	0.8%	1
answered question		**134**
skipped question		**6**

3. Is your property from Question 2 on the lake or off the lake? Please select one choice.

Answer Options	Response Percent	Response Count
On the lake	74.6%	100
Off the lake	25.4%	34
answered question		**134**
skipped question		**6**

4. How is your property utilized?

Answer Options	Response Percent	Response Count
Seasonal residence (summer only)	38.1%	51
A year round residence	22.4%	30
Visited on weekends throughout the year	21.6%	29
Undeveloped	6.0%	8
Resort property	2.2%	3
Rental property	1.5%	2
Other (please specify)	8.2%	11
answered question		**134**
skipped question		**6**

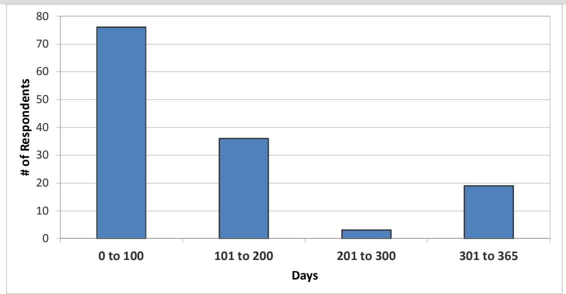


Number	Other (please specify)
1	A year round home but only used seasonally
2	Second Home Visited throughout year at any time
3	Seasonal Residence (all summer) and Visited on weekends throughout the year
4	Most weekends, all seasons, a few summer weeks
5	Second year round residence visited 50+% of year
6	Three season used periodically
7	Visited for weeks at a time throughout the year
8	We both house a year round resident and are a seasonal use facility
9	Visited for weeks and weekends throughout the year
10	Occupied 6 months per year
11	weekends throughout the year, but we are preparing to move there in retirement in a few years

5. How many days each year is your property used by you or others?

Answer Options	Response Count
	134
answered question	134
skipped question	6

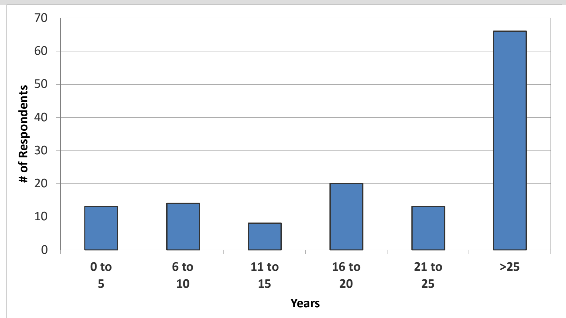
Category (# of days)	Responses	
0 to 100	76	57%
101 to 200	36	27%
201 to 300	3	2%
301 to 365	19	14%



6. How long have you owned or rented your property on or near your lake?

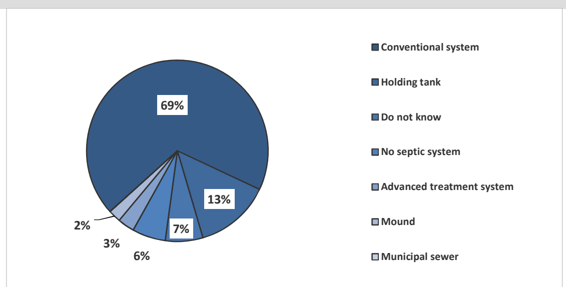
Answer Options	Response Count
	134
answered question	134
skipped question	6

Category (# of years)	Responses	% Response
0 to 5	13	10%
6 to 10	14	10%
11 to 15	8	6%
16 to 20	20	15%
21 to 25	13	10%
>25	66	49%



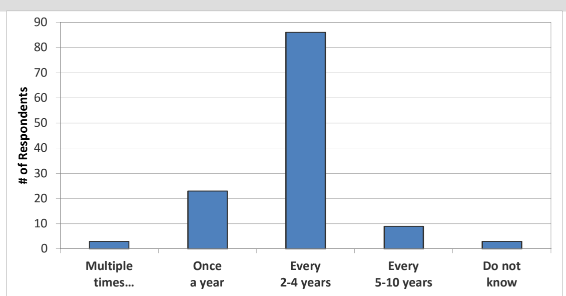
7. What type of septic system does your property utilize?

Answer Options	Response Percent	Response Count
Conventional system	68.7%	92
Holding tank	13.4%	18
Do not know	6.7%	9
No septic system	6.0%	8
Advanced treatment system	3.0%	4
Mound	2.2%	3
Municipal sewer	0.0%	0
answered question		134
skipped question		6



8. How often is the septic system on your property pumped?

Answer Options	Response Percent	Response Count
Multiple times a year	2.4%	3
Once a year	18.6%	23
Every 2-4 years	69.4%	86
Every 5-10 years	7.3%	9
Do not know	2.4%	3
answered question		124
skipped question		16

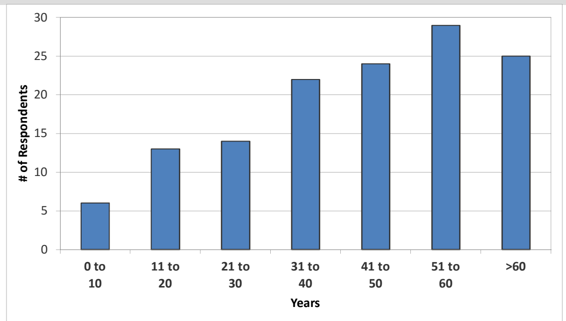


Recreational Activity on Lake

9. How many years ago did you first visit your lake?

Answer Options	Response Count
	133
answered question	**133**
skipped question	**7**

Category (# of days)	Responses	% Response
0 to 10	**6**	**5%**
11 to 20	**13**	**10%**
21 to 30	**14**	**11%**
31 to 40	**22**	**17%**
41 to 50	**24**	**18%**
51 to 60	**29**	**22%**
>60	**25**	**19%**



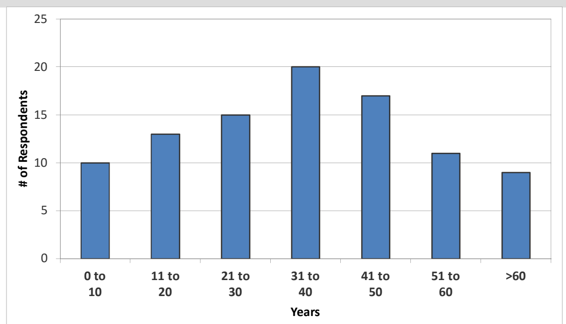
10. Have you personally fished on your lake in the past three years?

Answer Options	Response Percent	Response Count
Yes	71.8%	94
No	28.2%	37
answered question		**131**
skipped question		**9**

11. For how many years have you fished your lake?

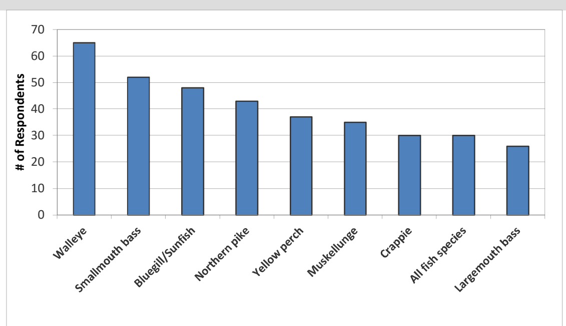
Answer Options	Response Count
	95
answered question	**95**
skipped question	**45**

Category (# of years)	Responses	% Response
0 to 10	**10**	**11%**
11 to 20	**13**	**14%**
21 to 30	**15**	**16%**
31 to 40	**20**	**21%**
41 to 50	**17**	**18%**
51 to 60	**11**	**12%**
>60	**9**	**9%**



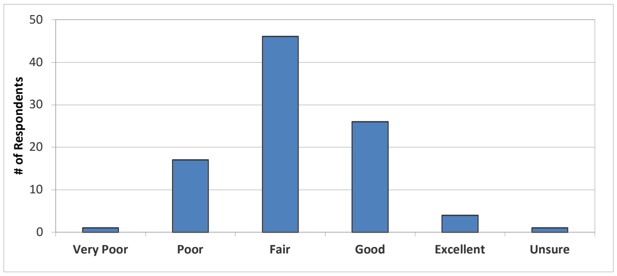
12. What species of fish do you like to catch on your lake?

Answer Options	Response Percent	Response Count
Walleye	68.4%	65
Smallmouth bass	54.7%	52
Bluegill/Sunfish	50.5%	48
Northern pike	45.3%	43
Yellow perch	39.0%	37
Muskellunge	36.8%	35
Crappie	31.6%	30
All fish species	31.6%	30
Largemouth bass	27.4%	26
Other (please specify)	0.0%	0
answered question		**95**
skipped question		**45**



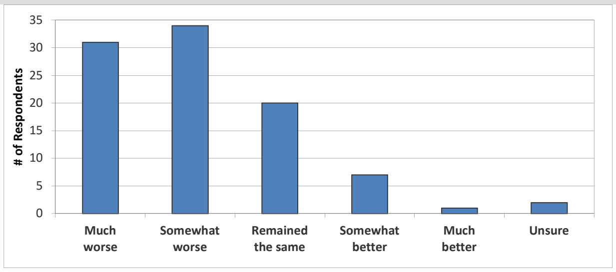
13. How would you describe the current quality of fishing on your lake?

Answer Options	Very Poor	Poor	Fair	Good	Excellent	Unsure	Response Count
	1	17	46	26	4	1	95
						answered question	95
						skipped question	45



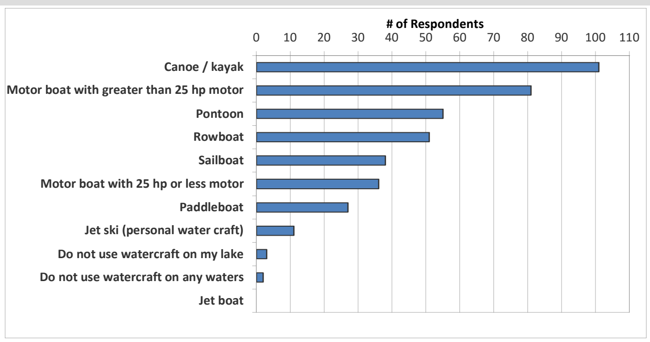
14. How has the quality of fishing changed on your lake since you have started fishing the lake?

Answer Options	Much worse	Somewhat worse	Remained the same	Somewhat better	Much better	Unsure	Response Count
	31	34	20	7	1	2	95
						answered question	95
						skipped question	45



15. What types of watercraft do you currently use on your lake?

Answer Options	Response Percent	Response Count
Canoe / kayak	76.5%	101
Motor boat with greater than 25 hp motor	61.4%	81
Pontoon	41.7%	55
Rowboat	38.6%	51
Sailboat	28.8%	38
Motor boat with 25 hp or less motor	27.3%	36
Paddleboat	20.5%	27
Jet ski (personal water craft)	8.3%	11
Do not use watercraft on my lake	2.3%	3
Do not use watercraft on any waters	1.5%	2
Jet boat	0.0%	0
	answered question	132
	skipped question	8



16. Do you use your watercraft on waters other than your lake?

Answer Options	Response Percent	Response Count
Yes	43.1%	56
No	56.9%	74
	answered question	130
	skipped question	10

17. What is your typical cleaning routine after using your watercraft on waters other than your lake?

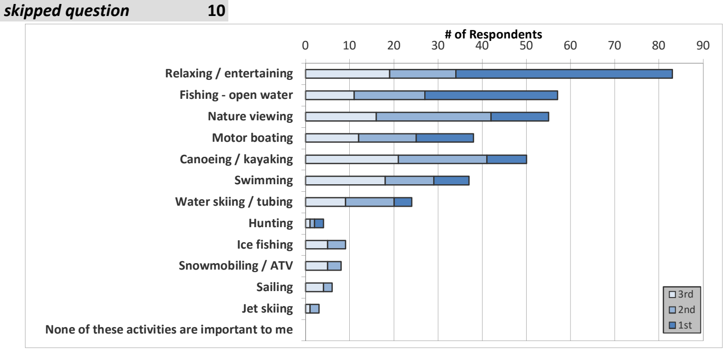
Answer Options	Response Percent	Response Count
Remove aquatic hitch-hikers (ex. - plant material, clams, mussels)	96.4%	53
Drain bilge	58.2%	32
Rinse boat	27.3%	15
Power wash boat	7.3%	4
Apply bleach	5.5%	3
Do not clean boat	1.8%	1
Other (please specify)	0.0%	11
	answered question	55
	skipped question	85

Number	Other (please specify)
1	Also very long dry-out periods often applied (months)
2	Only kayak goes on other lakes
3	Especially if I know there are invasives on the lake I visited. We don't take our deck boat to other lakes, only kayaks.
4	only fish Ballard, Irving & Star
5	wash, rinse & dry canoe..(not kept in water on lake)
6	Leave boat out of water for days to dry
7	Refers to kayak
8	Dry off boat
9	never go lake to lake there is always a dry out period between uses.
10	won't launch again for a period of time to dry out
11	No bilge in a canoe

18. For the list below, rank up to three activities that are important reasons for owning your property on or near your lake, with 1 being the most important.

Answer Options	1st	2nd	3rd	Rating Average	Response Count
Relaxing / entertaining	49	15	19	1.64	83
Fishing - open water	30	16	11	1.67	57
Nature viewing	13	26	16	2.05	55
Motor boating	13	13	12	1.97	38
Canoeing / kayaking	9	20	21	2.24	50
Swimming	8	11	18	2.27	37
Water skiing / tubing	4	11	9	2.21	24
Hunting	2	1	1	1.75	4
Ice fishing	0	4	5	2.56	9
Snowmobiling / ATV	0	3	5	2.63	8
Sailing	0	2	4	2.67	6
Jet skiing	0	2	1	2.33	3
None of these activities are important to me	0	0	0	0	0
Other (please specify below)	1	3	2	2.17	6
				answered question	130
				skipped question	10

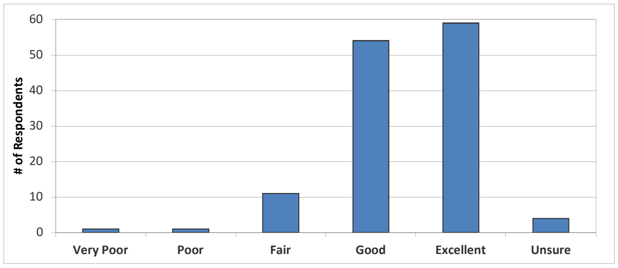
Number	"Other" responses
1	Living/residence
2	Opposed to ATVs.
3	Golf
4	also entertain friends & swim
5	Golf
6	fishing
7	Golfing
8	lake view from our cabin & deck
9	working
10	Pontooning
11	cross country skiing
12	BIKING
13	stand-up paddle boarding
14	We will be using the home in a few years as a 6 month per year residence then 6 months in the southern climate



Lake and Historic Condition, Health and Management

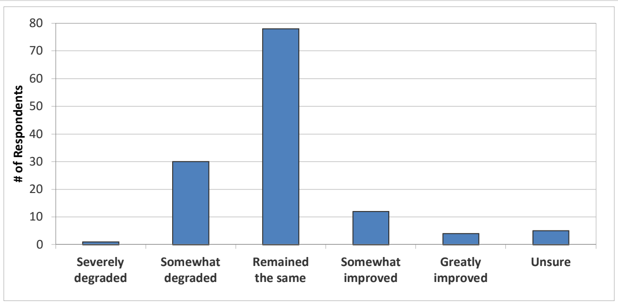
19. How would you describe the current water quality of your lake?

Answer Options	Very Poor	Poor	Fair	Good	Excellent	Unsure	Response Count
	1	1	11	54	59	4	130
						answered question	**130**
						skipped question	**10**



20. How has the current water quality changed on your lake since you first visited the lake?

Answer Options	Severely degraded	Somewhat degraded	Remained the same	Somewhat improved	Greatly improved	Unsure	Response Count
	1	30	78	12	4	5	130
						answered question	**130**
						skipped question	**10**



21. Before reading the statement above, had you ever heard of aquatic invasive species?

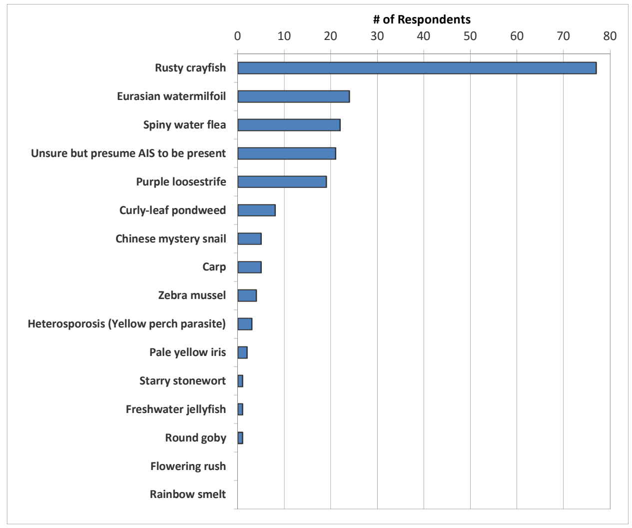
Answer Options	Response Percent	Response Count
Yes	100.0%	128
No	0.0%	0
	answered question	**128**
	skipped question	**12**

22. Do you believe aquatic invasive species are present within your lake?

Answer Options	Response Percent	Response Count
Yes	55.4%	72
I think so but am not certain	20.0%	26
No	24.6%	32
	answered question	**130**
	skipped question	**10**

23. Which aquatic invasive species do you believe are in your lake?

Answer Options	Response Percent	Response Count
Rusty crayfish	78.6%	77
Eurasian watermilfoil	24.5%	24
Spiny water flea	22.5%	22
Unsure but presume AIS to be present	21.4%	21
Purple loosestrife	19.4%	19
Curly-leaf pondweed	8.2%	8
Chinese mystery snail	5.1%	5
Carp	5.1%	5
Zebra mussel	4.1%	4
Heterosporosis (Yellow perch parasite)	3.1%	3
Pale yellow iris	2.0%	2
Starry stonewort	1.0%	1
Freshwater jellyfish	1.0%	1
Round goby	1.0%	1
Flowering rush	0.0%	0
Rainbow smelt	0.0%	0
Other (please specify)	3.1%	3
	answered question	**98**
	skipped question	**42**

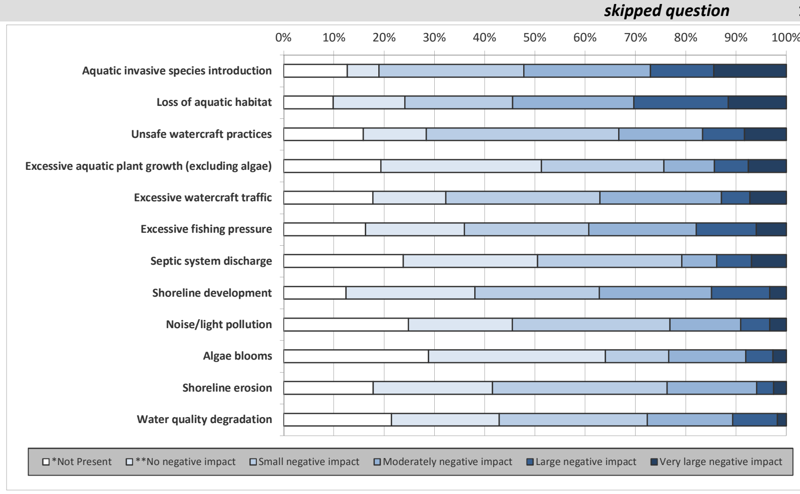


Number	"Other" responses
1	Many lakes have "invasive species" living without creating much of a problem.
2	spiny water flea in Star Lake, which I use mor than Plum
3	lg snail ?

24. To what level do you believe each of the following factors may currently be negatively impacting your lake?
*** Not Present means that you believe the issue does not exist on your lake.**
**** No Impact means that the issue may exist on your lake but it is not negatively impacting the lake.**

Answer Options	*Not Present	**No negative impact	Small negative impact	Moderately negative impact	Large negative impact	Very large negative impact	Unsure: Need more information	Rating Average	Response Count
Aquatic invasive species introduction	14	7	32	28	14	16	14	1.55	125
Loss of aquatic habitat	11	16	24	27	21	13	10	1.58	122
Unsafe watercraft practices	19	15	46	20	10	10	6	1.24	126
Excessive aquatic plant growth (excluding algae)	23	38	29	12	8	9	6	0.90	125
Excessive watercraft traffic	22	18	38	30	7	9	2	1.23	126
Excessive fishing pressure	19	23	29	25	14	7	7	1.20	124
Septic system discharge	24	27	29	7	7	7	24	0.74	125
Shoreline development	15	31	30	27	14	4	4	1.14	125
Noise/light pollution	30	25	38	17	7	4	4	0.87	125
Algae blooms	32	39	14	17	6	3	13	0.63	124
Shoreline erosion	21	28	41	21	4	3	5	0.87	123
Water quality degradation	24	24	33	19	10	2	11	0.89	123
Other (please specify)									11
								answered question	**126**
								skipped question	**14**

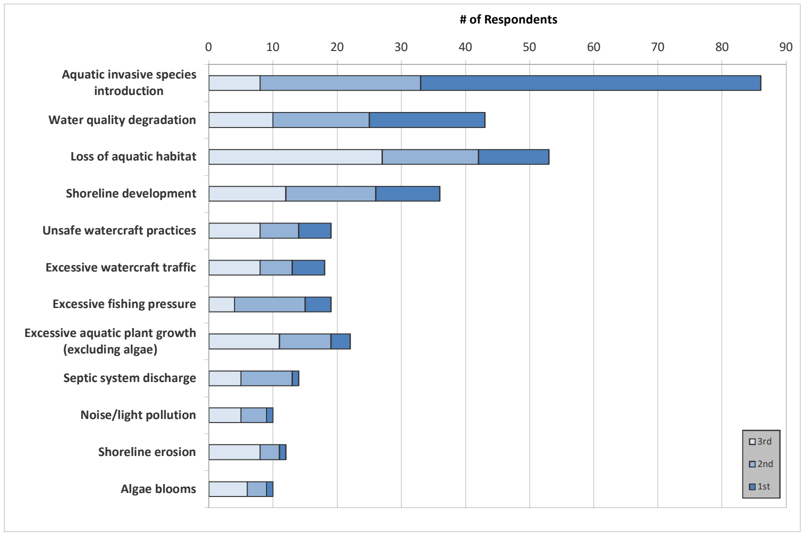
Number	Other (please specify)
1	Native American Spearing
2	walleye spearing
3	tree drops to create fish habits versus cribs, shoreline impacts due to wake boats and other ski boats operating too close to shorelines especially when water is high, logging operations on the north shore of Plum west side and further north is creating run offs,erosion, that is negatively impacting quality of water, fish spearing
4	Spearing spawning game fish-huge impact
5	Excessive jet ski speeds
6	Negative local government actions
7	people fighting about quality of the lake, (not helpful)
8	Native American spearing
9	Native American Spearing
10	There are a couple very very loud boats on the lake that really do not fit in with the quaintness of our lake and the excessive noise
11	Native American spearing



25. From the list below, please rank your top three concerns regarding your lake, with 1 being your greatest concern.

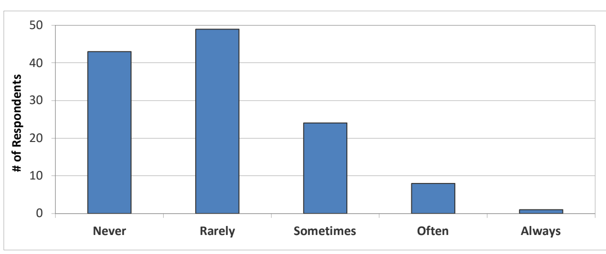
Answer Options	1st	2nd	3rd	Response Count
Aquatic invasive species introduction	53	25	8	86
Water quality degradation	18	15	10	43
Loss of aquatic habitat	11	15	27	53
Shoreline development	10	14	12	36
Unsafe watercraft practices	5	6	8	19
Excessive watercraft traffic	5	5	8	18
Excessive fishing pressure	4	11	4	19
Excessive aquatic plant growth (excluding algae)	3	8	11	22
Septic system discharge	1	8	5	14
Noise/light pollution	1	4	5	10
Shoreline erosion	1	3	8	12
Algae blooms	1	3	6	10
Other (please specify)	5	0	3	8
			answered question	120
			skipped question	20

Number	"Other" responses
1	Forcing property owners to abide by new rules and pay more taxes to help a few property owners that have "aquatic weeds" in front of their property and expect others to fix it.
2	spearing of fish in Spring
3	Native American Spearing
4	Other Land owners trying to force thier wishes on me,
5	fish spearing, operating ski boats too close to shoreline and erosion from logging operations north of Plum
6	Spearing spawning game fish
7	Lack of stocking programs
8	Regulations
9	people fighting about quality of the lake (not helpful)
10	fish spearing
11	"Native American" Spearing
12	Native American Spearing
13	Indian Spearing!!!!!!! Number ONE!!!!!!!
14	logging



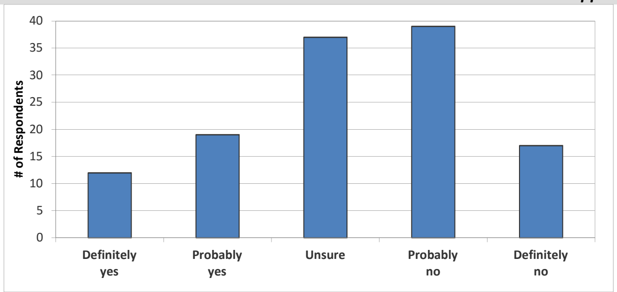
26. During open water season how often does aquatic plant growth, including algae, negatively impact your enjoyment of your lake?

Answer Options	Never	Rarely	Sometimes	Often	Always	Response Count
	43	49	24	8	1	125
					answered question	125
					skipped question	15



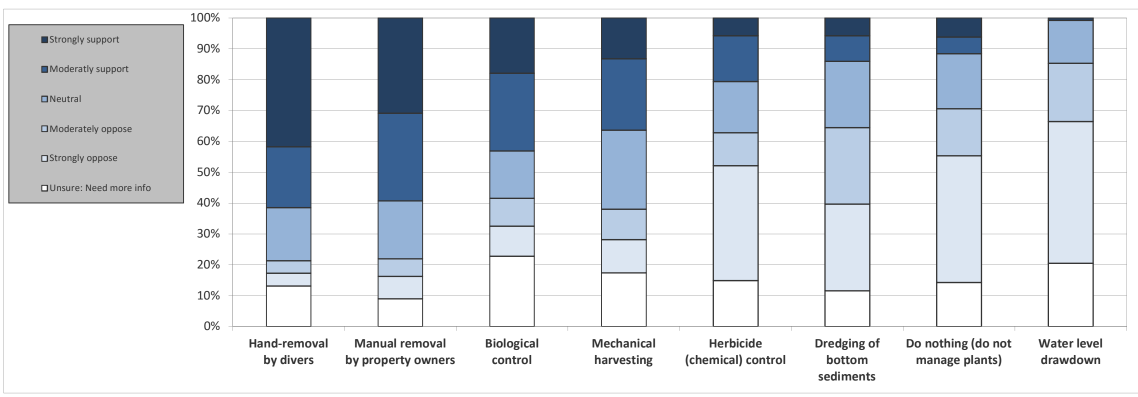
27. Considering your answer to the question above, do you believe aquatic plant control is needed on your lake?

Answer Options	Definitely yes	Probably yes	Unsure	Probably no	Definitely no	Response Count
	12	19	37	39	17	124
					answered question	124
					skipped question	16



28. Aquatic plants can be managed using many techniques. What is your level of support for the responsible use of the following techniques on your lake?

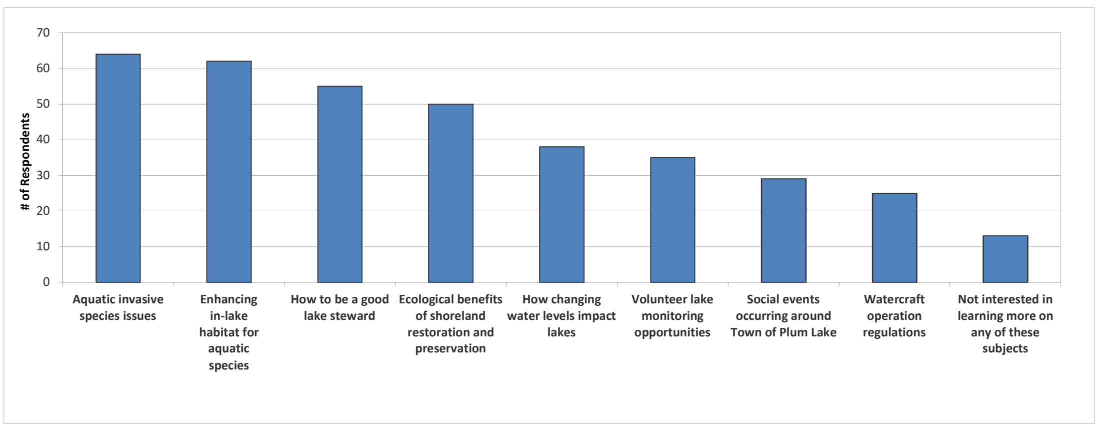
Answer Options	Strongly oppose	Moderately oppose	Neutral	Moderatly support	Strongly support	Unsure: Need more info	Rating Average	Response Count
Hand-removal by divers	5	5	21	24	51	16	3.52	122
Manual removal by property owners	9	7	23	35	38	11	3.43	123
Biological control (milfoil weevil, loosestrife beetle, etc)	12	11	19	31	22	28	2.64	123
Mechanical harvesting	13	12	31	28	16	21	2.66	121
Herbicide (chemical) control	45	13	20	18	7	18	1.97	121
Dredging of bottom sediments	34	30	26	10	7	14	2.04	121
Do nothing (do not manage plants)	46	17	20	6	7	16	1.78	112
Water level drawdown	56	23	17	0	1	25	1.3	122
							answered question	123
							skipped question	17



29. Stakeholder education is an important component of every lake management planning effort. Which of these subjects would you like to learn more about?

Answer Options	Response Percent	Response Count
Aquatic invasive species impacts, means of transport, identification, control options, etc.	52.9%	64
Enhancing in-lake habitat (not shoreland or adjacent wetlands) for aquatic species	51.2%	62
How to be a good lake steward	45.5%	55
Ecological benefits of shoreland restoration and preservation	41.3%	50
How changing water levels impact lakes	31.4%	38
Volunteer lake monitoring opportunities (Clean Boats Clean Waters, Citizens Lake Monitoring Network, Loon Watch, Town of Plum Lake programs, etc.)	28.9%	35
Social events occurring around Town of Plum Lake	24.0%	29
Watercraft operation regulations – lake specific, local and statewide	20.7%	25
Not interested in learning more on any of these subjects	10.7%	13
Some other topic (please specify)	7.4%	9
	answered question	**121**
	skipped question	**19**

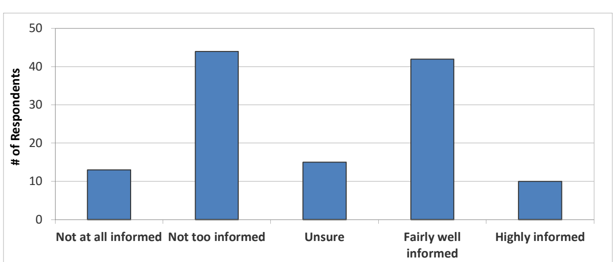
Number	Other (please specify)
1	annually marking all rock bars as was done for years. lots of destruction on plum lake for 100s of boaters
2	The towns residents that are not PLA members need to be kept informed as they are taxpayers and have a stake in the community as well as lake property owners. Business owners have a bigger investment in the community because they actually work and try to make a living here.
3	ILids as a way to encourage clean boats/clean waters.
4	Already aware of the above
5	How to stop logging in close proximity to lake shore; open spearing to everyone, then when the fish are gone sit down and renegotiate treaties.
6	Fish management
7	Very concerned about any invasive species in Plum & Star
8	working for many years on clean water clean boats, Loon Watching
9	good boat cleaning practices re: invasive species



Town of Plum Lake

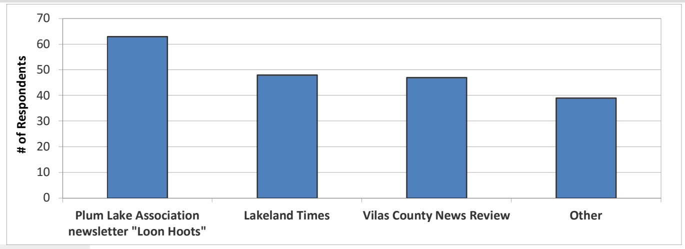
30. How informed has the Town of Plum Lake kept you regarding issues with your lake and its management?

Answer Options	Not at all informed	Not too informed	Unsure	Fairly well informed	Highly informed	Response Count
	13	44	15	42	10	124
				answered question		**124**
				skipped question		**16**



31. How do you stay informed about changes affecting your lake?

Answer Options	Response Percent	Response Count
Plum Lake Association newsletter "Loon Hoots"	52.9%	63
Lakeland Times	40.3%	48
Vilas County News Review	39.5%	47
Other	32.8%	39
answered question		119
skipped question		21



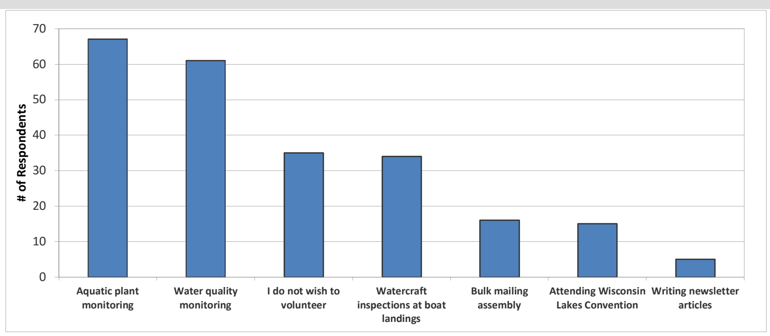
Number	"Other" responses
1	Trout Lake research station and the internet
2	emails from association members
3	Lake Assoc Members
4	Board meetings
5	The town needs to give information to Non Plum Lake Association members. People should not be forced to join a group they have nothing in common with just to get information that may change their way of life and their finances.
6	Star Lake Owners Assoc.
7	neighbors
8	Town of Plum Lake information
9	Neighbors and members of P.L. Association
10	other residents
11	retired member of the Lakes Committee of Plum Fake
12	observation, discuss w property manager
13	personal connections
14	word of mouth
15	Lake association emails
16	We get mail!
17	Reparians annual meeting as well as neighbors and social gatherings
18	Friends
19	Others on the Lake
20	Local public radio
21	The Star Lakers Club yearly picnic
22	Lake association
23	town meetings and friends
24	Town mailings, word of mouth
25	Talk to local dnr personel
26	For Your Information newspaper
27	Neighbors
28	Property Owners "Word Of Mouth"
29	town board and representatives
30	Word of mouth
31	My Uncle
32	verbal communications with neighbors, etc..
33	never heard of Loon Hoots
34	Word Of Mouth
35	lake owners association
36	From other locals
37	Plum Lake Riparian Owners emails and meetings
38	Talk with others in the area
39	Luck

32. How concerned, if at all, are you about aquatic invasive plant becoming established within your lake?

Answer Options	Response Percent	Response Count
Very concerned	62.6%	77
Fairly concerned	23.6%	29
Not too concerned	9.8%	12
Unsure - I do not know enough about aquatic invasive plants	2.4%	3
Not at all concerned	1.6%	2
answered question		123
skipped question		17

33. The effective management of your lake will require the cooperative efforts of numerous volunteers. Please circle the activities you would be willing to participate in if the Town of Plum Lake requires additional assistance.

Answer Options	Response Percent	Response Count
Aquatic plant monitoring	54.9%	67
Water quality monitoring	50.0%	61
I do not wish to volunteer	28.7%	35
Watercraft inspections at boat landings	27.9%	34
Bulk mailing assembly	13.1%	16
Attending Wisconsin Lakes Convention	12.3%	15
Writing newsletter articles	4.1%	5
answered question		122
skipped question		18



35. Please feel free to provide written comments concerning LakeName, its current and/or historic condition and its management.

Answer Options	Response Count
	47
answered question	***47***
skipped question	***93***

Number	Response Text
1	Star Lake suffers erosion along North Bound road, from waves and at the intersection with North Star Lake road, from snowmobiles climbing the bank. This erosion has created dens for water-loving snakes, which seems good, but worry about the road being undercut, and water quality from the erosion. Thanks for your survey!
2	Star Lake lost almost all of it aquatic plants to the rusty crawfish. In recent years there has been a significant recovery - not sure why
3	Plum Lake is a great resource that should be protected from invasive species. However, I don't wish to see another govt bureaucracy overburdening lake owners with more regulations and taxes! Plum Lake absolutely needs rock and sand bar markers! this is a MUST! I am tired of seeing unsuspecting boaters lose their props and lower units in front of old beer bar resort and off Morton peninsula! it's time for leadership on this issue. it's costing time and lots of money for lake owners, Plum Lake Township residents and lake visitors. I will NOT participate in any funding of lake quality and invasive species monitoring and remediation that does not include a plan to annually mark all rock bars(which was done previously for decades). thank you, proud Plum Lake lot owner
4	I am extreamly disappointed that the town of Plum Lake did not pass the lake district. Very Short Sighted
5	After living here for 41 years I believe that the lake quality has not changed other than shoreline erosion from excessive traffic especially pontoon boats and jet skis etc. We've lost approximately 3 ft. of shoreline since we've been here.
6	The water quality has remained stable throughout the years except when the rusty crayfish ate the weeds. Plum has had aquatic weeds probably forever and property owners should deal with it themselves and not force a "district" to tax and spend the hard earned money of the residents to help a few unhappy lake owners.
7	Star Lake has lost extensive weed growth . Rusty crayfish seem to be more in control . Would like to see existing rearing ponds used for walleye. Would like to see stocking of lake especially because of Indian spearing (Indians should stock from their rearing ponds !)
8	I believe that the decision not to support the development of a Lake District to fund eradication of aquatic invasive species should they be found in Plum Lake was a missed opportunity and one we may come to greatly regret.
9	Currently our land is undeveloped.
10	The PLA membership has taken on a lot of the previously mentioned volunteer activities. ILids could monitor landings 24/7. The Town of Plum Lake must continue to do more. The Lake Management Plan has been a wonderful step in the right direction. I'm concerned about local and non-local fishing guides not cleaning their boats and live wells, etc. and lake hopping. Is there a way to require mandatory training for them on the important responsibility they have to protect our lakes and their own future income as guides. We are very concerned about the milfoil found on Little Star and spiny water flea and the potential of these invasives spreading to Plum Lake. Thank you for developing this survey and for all the work that the Town Lakes Committee has done as well as the PLA.
11	We’e also concerned about the logging impact on the Ballard Lake shoreline and aesthetic look if all the hardwood is removed from the Northshore
12	Get rid of the rusty crayfish and do a better job of stocking Plum Lake.
13	We need a hot-water cleaning station at the boat landings. Star L., esp. needs protection from campers and day users (guides & locals
14	The crabs devastated the lake and plant growth. It would be nice to stop similar situations from happening but not at the cost of letting wealthy property owners controlling how this big public asset is to be used to their benefit and wishes.
15	I think Plum is pretty well managed. I would like to see the use of jet ski watercraft restricted in some way
16	It's on the edge of declining, the fishing is poor. The town has NO PLAN TO PROTECT THE LAKE
17	At the town's Millsite park on Star Lake, there should be signs by the sand at the lakes edge, where children play. The signs should say "dogs not allowed in this area." At the Star Lake campground, dogs are not allowed on the beach, so campers bring their dogs down to the town park, where they let them play in the sand and the water where there are children playing. the dogs do their peeing and pooping in the sand. There are signs like that at Hunter Lake park, restricting dogs; why can't we have signs like that at the Millsite park??
18	Since the infestation of the Rusty Crawfish ended, weed growth has returned rapidly. We do not support tree drops to improve fishing, fish cribs make more sense and we would help that effort; weeds are coming back naturally. Wake board boats and other larger watercraft are being operated too close to the shorelines. This in combination with higher water levels is impacting shorelines negatively. Lake owners and businesses should be encouraged to instruct their guests to operate boats away from shorelines. We believe fish spearing during the spawn is and has been the greatest negative impact to the fishery. The next was the rusty crawfish.
19	We are concerned of the growing threat of aquatic invasive species (AIS) in our Plum Lake.
20	Keep atv's away from the lake and its environs.
21	My family is fourth generation on Plum Lake. It's preservation through pro action is to be commended. Such efforts which include offering public awareness of issues and threats are what keeps our Plum Lake one of the few remaining pristine lakes
22	Fish habitat is starting to rebound since the virtual eradication of the rusty crayfish. More panfish in the lake
23	I love Plum Lake but feel that Plum as well as Star Lake Needs more fish stocking programs. Whatever it takes to help the lake produce more fish.
24	The relationship between year-round and seasonal residents has deteriorated into Us (town) vs. Them (lake), reflecting the current political and economic climate and paralyzing the town board. Science- and research-based lake management and long-range planning have suffered as a result, leaving our lakes vulnerable to AIS and over-development.
25	As summer progresses, Little Star Lake has an abundance of aquatic plants appearing at the surface which is very unsightly; and in the fall produces a green scum and foul smell. This is due in part to water depth. It would be appreciated by us to control the weed growth below the surface.
26	I'd like to see everyone---both year-round and summer residents--- talking politely and working together cooperatively on the quality of the lake because, actually, we're all in the same boat. We all play in the same backyard. The best thing about Plum Lake is the fact that we have always liked each other and helped each other. If we lose that nice atmosphere by fighting with each other, we will have lost the very best thing about Plum Lake. It's not invasive species that endanger Plum Lake; it's all the fighting that occurred last summer.
27	Near our boat house there were weed beds which provided cover for a variety of fish species. Those beds have disappeared over the years and I think with the loss of those beds two things have happened. 1) there are fewer fish in the area. 2) without the "goods" vegetation the water quality has deteriorated and smells rotten. Felt I could drink the water in years past but not now.
28	I was present at the public hearing for consideration of creation of a lake district for Plum Lake. I was quite dismayed with the lack of support, for both financial and scientific study (DNR), for the preservation of Plum Lake. A property tax levy, of lake residents, for funds to protect Plum Lake, is the only fair way to fund lake protection initiatives.
29	Rusty crayfish destroyed virtually all of the weedbeds in plum lake. They are just now coming back close to what they were. I do not think that they are gone, just knocked down to a low level.
30	We were strong suppporters of the Lake District, which was proposed & voted down. Very disappointed in the Town of P.L.'s failure to recognize its importance for the future of Plum Lake & the other Towns' lakes.
31	Large powerboats are a concern. Invasive species are a concern. ATV usage on township roads is a great concern
32	Not for extra taxes to combat a non-existent weed problem!!!
33	I have done AIS monitoring at the landings, participated in lake monitoring activities and been actively involved in the Plum Lake Association for many years. I intend to continue doing so as long as I can
34	We're sorry the proposed Lake District was voted down by the town.

35	On the previous #32, please note that we would be willing to contribute financially to help offset costs of hiring personnel like has been in the past. the establishment of the lake district we believe was an attempt to organize into an entity that could apply for grants SHOULD a problem arise. Also, since most people throughout the Town either directly or indirectly benefit from the draw of having these fine lakes, it only makes sense to have the Town create a reserve fund to have on hand to be ready for the inevitable AIS introduction.
36	Indian Spearing has killed the fishing on Plum Lake. It makes no sense to kill female walleys as they lay their eggs. Its crazy!!!!!
37	The quality of the fishery has significantly declined since I started fishing Plum. Walleye is my main target species. It's harder and harder to catch them. I did not catch one limit of walleye this past season. I consider myself fairly knowledgeable of Plum, having fished the lake for so many years. I'm not one of those calling it The Dead Sea. DNR Fisheries biologists say the lake is naturally reproducing, but the population is in decline as indicated by their own statistics. The lake cannot maintain a reasonable walleye fishery with the combination of spearing and angling pressure. Continual, annual removing of spawning fish is extremely detrimental. The resorts are empty in May and are never full until July 4th holiday. People don't come to Plum as a walleye fishing destination like they used to, and for good reason - they don't catch fish. If the lake is going to support the resorts, through recreational fishing, and spearing is going to continue, stocking is needed. The only way stocking is going to occur is if there is a Lake Association in place to apply for State grants. I watched the debacle of the attempt to form a Lake Association. Too much mis-information was spread around the community. Local resident don't trust the liberals who make up the current lake group and fear restrictive regulations that would limit their activities on the lake. If the idea of a formal Association is going to ever gain acceptance, people need to be assured they will continue to have the freedom to use the lake as they have in the past. Eurasian Water Milfoil is present in Little Star, which flows into Star, which flows into Plum. Spiny Water Flea is in Star. We saw what the invasion of rusty crayfish did to the lake. It's rebounded from that, but the impacts of these other invasives may catastrophic! The only way to combat the spread of these invasives financially is through State assistance only available to a formal Lake Association. One other item I would like to see addressed is the dredging of the boat landing in Sayner next to the old bait shop. From power loading, the water is too shallow behind to float my boat onto the lake, so the landing is useless to me. I'm sure others have the same problem. It would be a simple task to dredge out the berm and provide more access to boaters. The Statehouse Point landing is very good, but often also very busy, especially with ski club activities interfering with the launching of boats.
38	Plum Lake Association doesn't do a very good job with education and take any ownership of marking the lake for shallow water - I see on an average of 3-4 boats get damaged a year by the lake being unmarked. Do not recommend being a member of the association (all political and old school thinking - needs to change).
39	I would like to have more fish stocked, as well as having catch and release only for small mouth bass. The smallmouth control rusty crayfish well
40	Like the way you are handling things in a methodical, careful manner.
41	How can seasonal land owners that pay the same taxes or more than permanent residences get a voice in lake quality management
42	This survey needed an explanation of the different septic systems and an option for pumping - never or rarely. We have a holding tank with a pump that moves waste uphill and away from the lake to a drainage field far from the lake. Since we are only there in the summer, we have the septic inspected every 3 years, but have not had it pumped in many years since it was not necessary. Stand-up paddle boarding should be included on the list of water craft.
43	Probably my 2 biggest concerns are a lack of regular warden enforcement of boating regulations on the lake and the presence and non monitoring of old septic systems
44	Even though the drought is over and lake levels have returned to normal or even higher than normal on some groundwater lakes, Plum Lake seems to be about 6" lower than it used to be. There is room for another layer of stop logs at the outlet control structure. The lake elevation should be brought back to what it used to be in the 1990's and before.
45	Good to get in front of degradation before it hits.
46	our family is going on its 3rd generation of coming to Plum Lake. We consider it t be one of the pristine lakes in the area and would like to keep it that way. With the amount of state ownec lake front, I would hope that it would stay that way and not be sold off for private residences. We have loved the smaller amount of boat and recreational watercraft on the lake for many years due to the limited amount of lake property develpoment
47	thank you for addressing this critical issue of lake quality

Ballard, Irving and White Birch Lakes - Anonymous Stakeholder Survey

Surveys Distributed: 71
Surveys Returned: 38
Response Rate: 54%

Lake Property

1. Which lake of the Town of Plum Lake do you reside on or near?

Answer Options	Response	Response
Ballard Lake	73.7%	28
White Birch Lake	15.8%	6
Irving Lake	10.5%	4
answered question		38
skipped question		0

2. Do you rent or own your property on or near your lake?

Answer Options	Response	Response
Own	100.0%	38
Rent	0.0%	0
answered question		38
skipped question		0

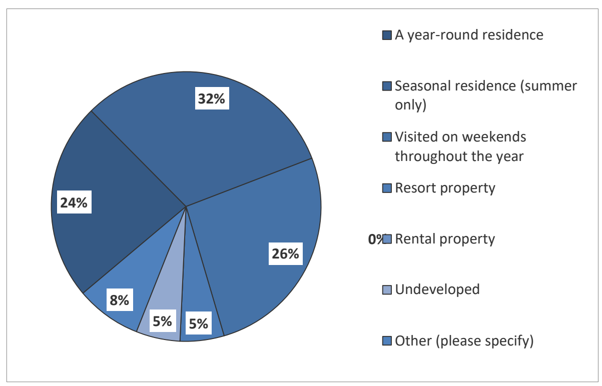
3. Is your property on the lake or off the lake?

Answer Options	Response Percent	Response Count
On the lake	76.3%	29
Off the lake	23.7%	9
answered question		38
skipped question		0

4. How is your property on your lake utilized?

Answer Options	Response Percent	Response Count
A year-round residence	23.7%	9
Seasonal residence (summer only)	31.6%	12
Visited on weekends throughout the year	26.3%	10
Resort property	5.3%	2
Rental property	0.0%	0
Undeveloped	5.3%	2
Other (please specify)	7.9%	3
answered question		38
skipped question		0

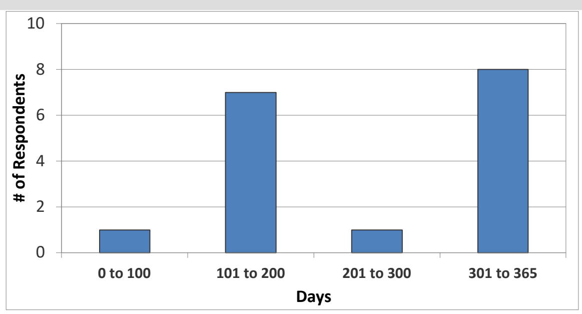
Number	Other (please specify)
1	Family vacation property used throughout the year
2	Most of the summer, as well as, extended periods (anywhere from 10-21 days) in fall, winter and spring.
3	Fully winterized and visited whenever we can, which is about 1 week per month the year around.



5. How many days each year is your property used by you or others?

Answer Options	Response Count
	38
answered question	38
skipped question	0

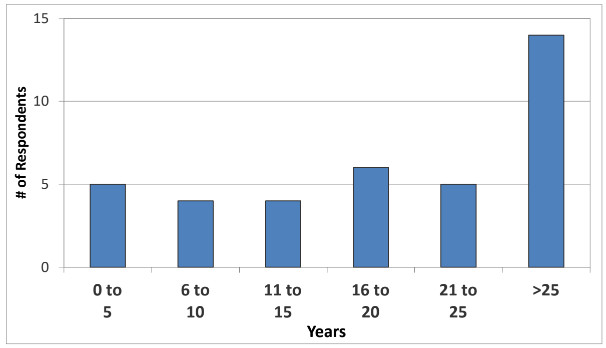
Category (# of days)	Responses	
0 to 100	1	6%
101 to 200	7	41%
201 to 300	1	6%
301 to 365	8	47%



6. How long have you owned or rented your property on or near your lake?

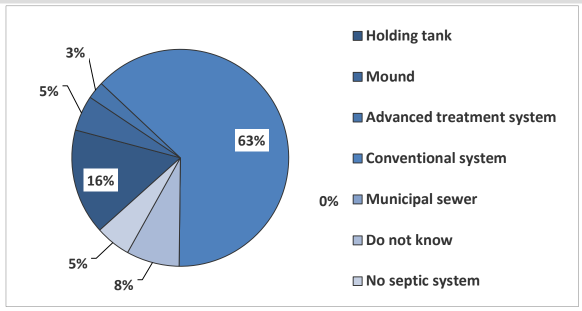
Answer Options	Response Count
	38
answered question	38
skipped question	0

Category (# of years)	Responses	% Response
0 to 5	5	13%
6 to 10	4	11%
11 to 15	4	11%
16 to 20	6	16%
21 to 25	5	13%
>25	14	37%



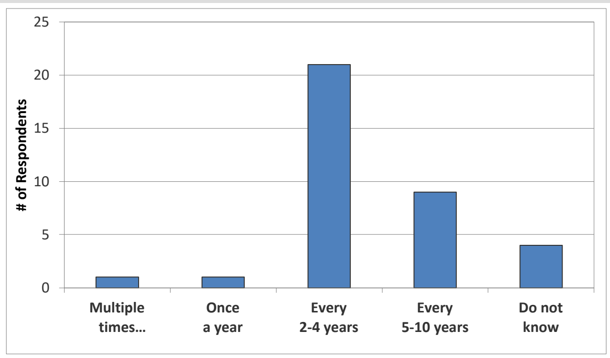
7. What type of septic system does your property utilize?

Answer Options	Response Percent	Response Count
Holding tank	15.8%	6
Mound	5.3%	2
Advanced treatment system	2.6%	1
Conventional system	63.2%	24
Municipal sewer	0.0%	0
Do not know	7.9%	3
No septic system	5.3%	2
	answered question	38
	skipped question	0



8. How often is the septic system on your property pumped?

Answer Options	Response Percent	Response Count
Multiple times a year	2.8%	1
Once a year	2.8%	1
Every 2-4 years	58.3%	21
Every 5-10 years	25.0%	9
Do not know	11.1%	4
	answered question	36
	skipped question	2

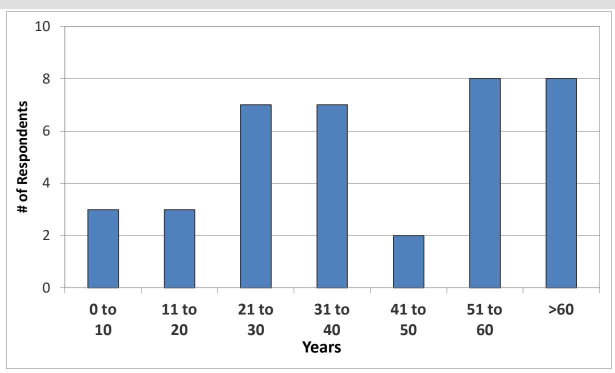


<u>Recreational Activity on the Lake</u>

9. How many years ago did you first visit your lake?

Answer Options	Response Count
	38
answered question	38
skipped question	0

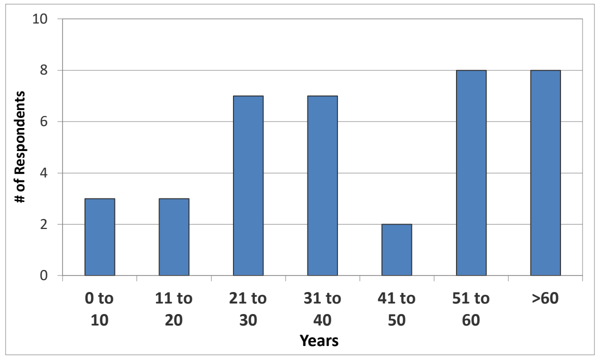
Category (# of years)	Responses	% Response
0 to 10	3	8%
11 to 20	3	8%
21 to 30	7	18%
31 to 40	7	18%
41 to 50	2	5%
51 to 60	8	21%
>60	8	21%



10. For how many years have you fished your lake?

Answer Options	Response Count
	38
answered question	38
skipped question	0

Category (# of years)	Responses	% Response
0 to 10	5	13%
11 to 20	4	11%
21 to 30	6	16%
31 to 40	5	13%
41 to 50	4	11%
51 to 60	10	26%
>60	4	11%



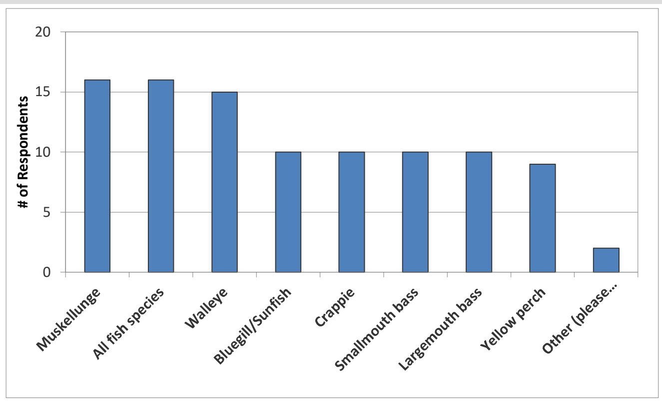
11. Have you personally fished on your lake in the past three years?

Answer Options	Response Percent	Response Count
Yes	84.2%	32
No	15.8%	6
answered question		38
skipped question		0

12. What species of fish do you like to catch on your lake?

Answer Options	Response Percent	Response Count
Muskellunge	50.0%	16
All fish species	50.0%	16
Walleye	46.9%	15
Bluegill/Sunfish	31.3%	10
Crappie	31.3%	10
Smallmouth bass	31.3%	10
Largemouth bass	31.3%	10
Yellow perch	28.1%	9
Other (please specify)	6.3%	2
answered question		32
skipped question		6

Number	Other (please specify)
1	I like yellow perch very much, but I do not fish them here
2	northern

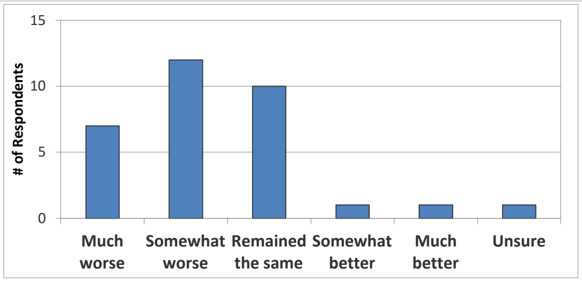


13. How would you describe the current quality of fishing on your lake?

Answer Options	Very Poor	Poor	Fair	Good	Excellent	Unsure	Response Count
	0	1	18	7	6	0	32
						answered question	32
						skipped question	6

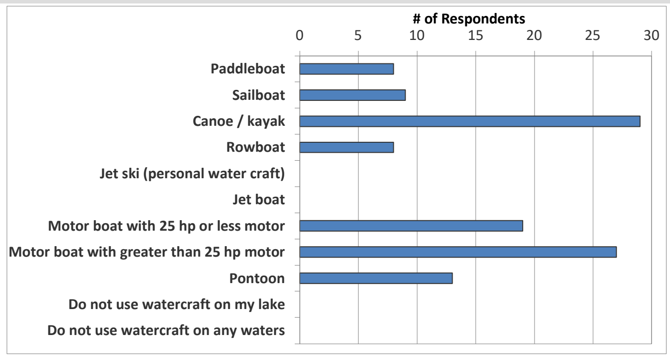
14. How has the quality of fishing changed on your lake since you have started fishing the lake?

Answer Options	Much worse	Somewhat worse	Remained the same	Somewhat better	Much better	Unsure	Response Count
	7	12	10	1	1	1	32
						answered question	**32**
						skipped question	**6**



15. What types of watercraft do you currently use on your lake?

Answer Options	Response Percent	Response Count
Paddleboat	21.1%	8
Sailboat	23.7%	9
Canoe / kayak	76.3%	29
Rowboat	21.1%	8
Jet ski (personal water craft)	0.0%	0
Jet boat	0.0%	0
Motor boat with 25 hp or less motor	50.0%	19
Motor boat with greater than 25 hp motor	71.1%	27
Pontoon	34.2%	13
Do not use watercraft on my lake	0.0%	0
Do not use watercraft on any waters	0.0%	0
	answered question	**38**
	skipped question	**0**



16. Do you use your watercraft on waters other than Ballard, Irving or White Birch Lakes?

Answer Options	Response Percent	Response Count
Yes	47.4%	18
No	52.6%	20
	answered question	**38**
	skipped question	**0**

17. What is your typical cleaning routine after using your watercraft on waters other than Ballard, Irving or White Birch Lakes?

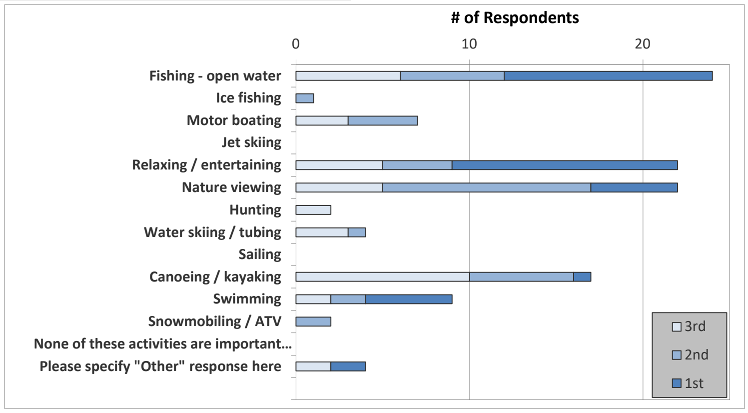
Answer Options	Response Percent	Response Count
Remove aquatic hitch-hikers (ex. - plant material, clams, mussels)	82.4%	14
Drain bilge	64.7%	11
Rinse boat	11.8%	2
Power wash boat	17.7%	3
Apply bleach	0.0%	0
Air dry boat for 5 or more days	47.1%	8
Do not clean boat	5.9%	1
Other (please specify)		3
	answered question	**17**
	skipped question	**21**

Number	Other (please specify)
1	only use canoe or kayak on other waters
2	Use exclusively on other lake.
3	Air dry boat if other lake has serious invasive species issue

18. Please rank up to three activities that are important reasons for owning or renting your property on or near your lake.

Answer Options	1st	2nd	3rd	Rating Average	Response Count
Fishing - open water	12	6	6	1.75	24
Ice fishing	0	1	0	2	1
Motor boating	0	4	3	2.43	7
Jet skiing	0	0	0	0	0
Relaxing / entertaining	13	4	5	1.64	22
Nature viewing	5	12	5	2	22
Hunting	0	0	2	3	2
Water skiing / tubing	0	1	3	2.75	4
Sailing	0	0	0	0	0
Canoeing / kayaking	1	6	10	2.53	17
Swimming	5	2	2	1.67	9
Snowmobiling / ATV	0	2	0	2	2
None of these activities are important to me	0	0	0	0	0
Other (please specify below)	2	0	2	2	4
Please specify "Other" response here					4
				answered question	38
				skipped question	0

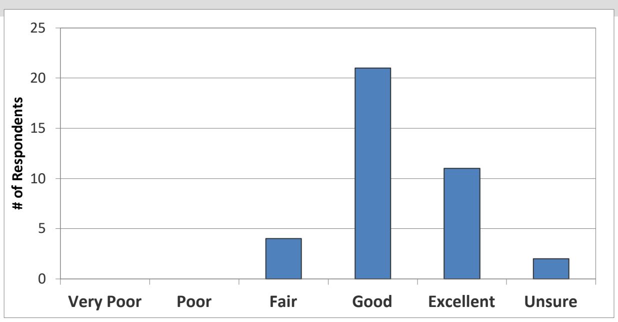
Number	"Other" responses
1	occasional snow skiing, fishing, shooting, biking and hunting
2	Enjoying peace and quiet
3	solitude
4	Hiking in the surrounding woods



Lake Current and Historic Condition, Health and Management

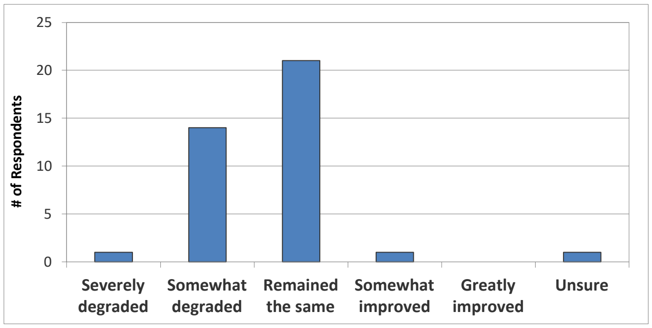
19. How would you describe the overall current water quality of your lake?

Answer Options	Very Poor	Poor	Fair	Good	Excellent	Unsure	Response Count
	0	0	4	21	11	2	38
						answered question	38
						skipped question	0



20. How has the overall water quality changed in your lake since you first visited the lake?

Answer Options	Severely degraded	Somewhat degraded	Remained the same	Somewhat improved	Greatly improved	Unsure	Response Count
	1	14	21	1	0	1	38
						answered question	38
						skipped question	0



21. Considering how you answered the questions above, what do you think of when describing water quality?

Answer Options	Response Percent	Response Count
Water clarity (clearness of water)	89.5%	34
Aquatic plant growth (not including algae blooms)	79.0%	30
Water color	31.6%	12
Algae blooms	36.8%	14
Smell	26.3%	10
Water level	52.6%	20
Fish kills	31.6%	12
Other (please specify)	15.8%	6
	answered question	38
	skipped question	0

Number	"Other" responses
1	big motors stir up stuff from bottom
2	Too many new lily pads
3	absence of invasive species, litter, pollution
4	Whether or not it has been speared
5	Rice, rice, rice, and more rice....
6	Wild rice invading Ballard

22. Based on your answer above, which of the following answers is the single most important aspect when considering water quality?

Answer Options	Response Percent	Response Count
Water clarity (clearness of water)	44.7%	17
Aquatic plant growth (not including algae blooms)	26.3%	10
Water color	0.0%	0
Algae blooms	7.9%	3
Smell	2.6%	1
Water level	5.3%	2
Fish kills	2.6%	1
Other (please specify)	10.5%	4
	answered question	38
	skipped question	0

Number	"Other" responses
1	overall health of the lake
2	absence of invasive species, litter, pollution
3	Whether or not it has been speared
4	Too much rice...it's killing Irving Lake, IMHO

23. Before having read the statement above, were you aware of the winterkill of 1996?

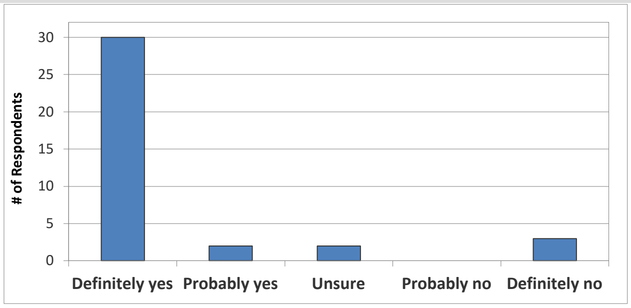
Answer Options	Response Percent	Response Count
Yes	91.9%	34
No	5.4%	2
I think so but can't say for certain	2.7%	1
	answered question	37
	skipped question	1

24. Are you aware the BIWBLA pays for their share of the costs for aerator maintenance and electricity?

Answer Options	Response Percent	Response Count
Yes	81.6%	31
No	10.5%	4
I think so but can't say for certain	7.9%	3
	answered question	38
	skipped question	0

25. Do you support the BIWBLA spending funds for the aerator?

Answer Options	Definitely yes	Probably yes	Unsure	Probably no	Definitely no	Response Count
	30	2	2	0	3	37
					answered question	37
					skipped question	1

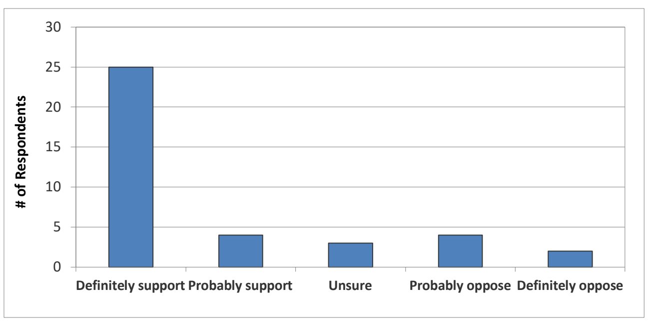


26. Before having read the statement above, were you aware of the I-LIDS camera at the Ballard landing?

Answer Options	Response Percent	Response Count
Yes	81.6%	31
No	18.4%	7
I think so but can't say for certain	0.0%	0
	answered question	37
	skipped question	1

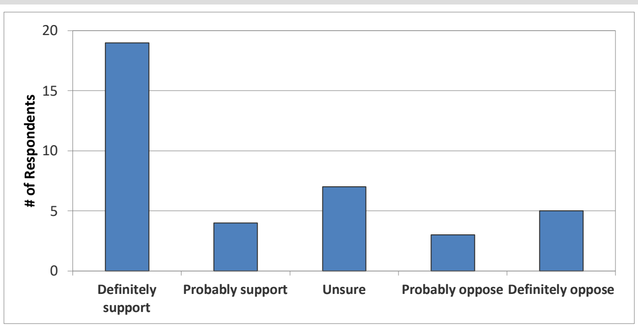
27. Do you support or oppose the use of an I-LIDS camera on the chain of lakes?

Answer Options	Definitely support	Probably support	Unsure	Probably oppose	Definitely oppose	Response Count
	25	4	3	4	2	38
					answered question	38
					skipped question	0



28. After reading the statement above do you support or oppose the BIWBLA using its own funds to purchase and provide annual maintenance/review costs for a camera at the Irving Lake boat landing?

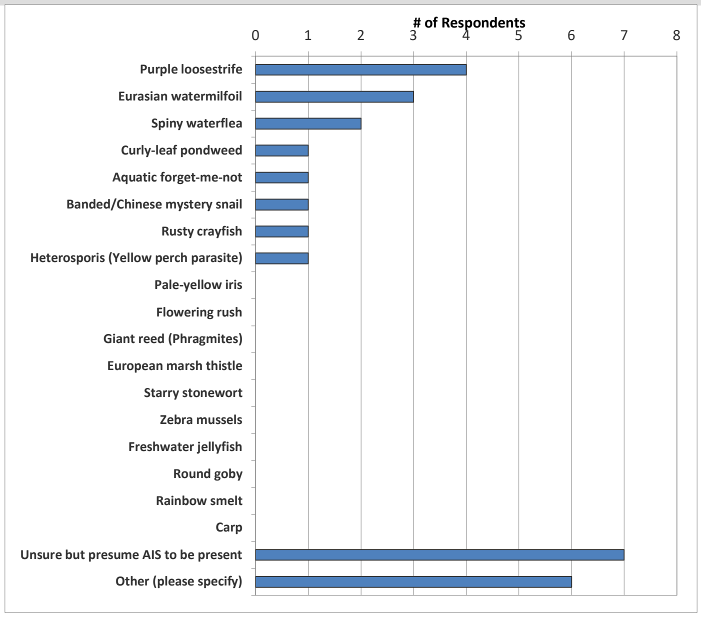
Answer Options	Definitely support	Probably support	Unsure	Probably oppose	Definitely oppose	Response Count
	19	4	7	3	5	38
					answered question	38
					skipped question	0



29. Before reading the statement above, had you ever heard of aquatic invasive species?		
Answer Options	**Response Percent**	**Response Count**
Yes	97.3%	36
No	2.7%	1
	answered question	**37**
	skipped question	**1**

30. Do you believe aquatic invasive species are present within your lake?		
Answer Options	**Response Percent**	**Response Count**
Yes	19.4%	7
I think so but am not certain	27.8%	10
No	52.8%	19
	answered question	**36**
	skipped question	**2**

31. Which aquatic invasive species do you believe are in your lake?		
Answer Options	**Response Percent**	**Response Count**
Purple loosestrife	23.5%	4
Eurasian watermilfoil	17.7%	3
Spiny waterflea	11.8%	2
Curly-leaf pondweed	5.9%	1
Aquatic forget-me-not	5.9%	1
Banded/Chinese mystery snail	5.9%	1
Rusty crayfish	5.9%	1
Heterosporis (Yellow perch parasite)	5.9%	1
Pale-yellow iris	0.0%	0
Flowering rush	0.0%	0
Giant reed (Phragmites)	0.0%	0
European marsh thistle	0.0%	0
Starry stonewort	0.0%	0
Zebra mussels	0.0%	0
Freshwater jellyfish	0.0%	0
Round goby	0.0%	0
Rainbow smelt	0.0%	0
Carp	0.0%	0
Unsure but presume AIS to be present	41.2%	7
Other (please specify)	35.3%	6
	answered question	**17**
	skipped question	**21**

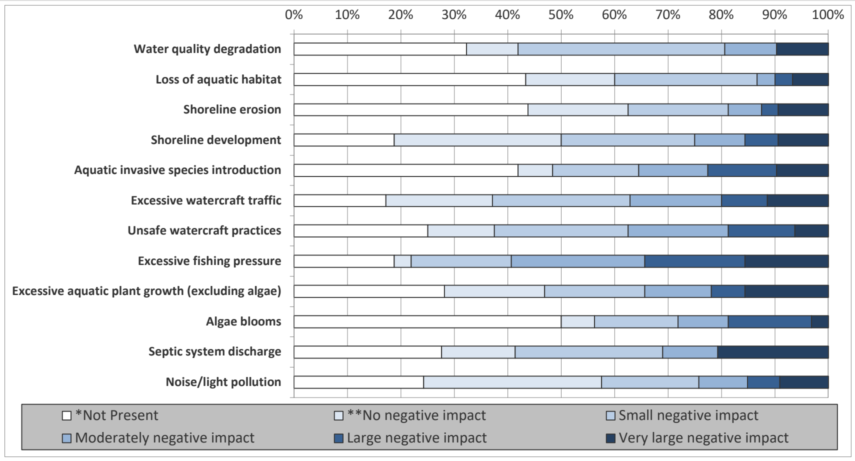


Number	"Other" responses
1	Some at White Birch
2	snails of various types
3	Northern pike should never have been introduced to our lakes in 1996-97. They were never there before.
4	rice
5	rice
6	Northern Pike

32. To what level do you believe each of the following factors may currently be negatively impacting your lake?
*** Not Present means that you believe the issue does not exist on LakeName.**
**** No Impact means that the issue may exist on LakeName but it is not negatively impacting the lake.**

Answer Options	*Not Present	**No negative impact	Small negative impact	Moderately negative impact	Large negative impact	Very large negative impact	Unsure: Need more information	Rating Average	Response Count
Water quality degradation	10	3	12	3	0	3	5	0.83	36
Loss of aquatic habitat	13	5	8	1	1	2	5	0.60	35
Shoreline erosion	14	6	6	2	1	3	3	0.71	35
Shoreline development	6	10	8	3	2	3	4	0.89	36
Aquatic invasive species introduction	13	2	5	4	4	3	6	1.00	37
Excessive watercraft traffic	6	7	9	6	3	4	1	1.28	36
Unsafe watercraft practices	8	4	8	6	4	2	4	1.11	36
Excessive fishing pressure	6	1	6	8	6	5	3	1.71	35
Excessive aquatic plant growth (excluding algae)	9	6	6	4	2	5	5	1.08	37
Algae blooms	16	2	5	3	5	1	5	0.81	37
Septic system discharge	8	4	8	3	0	6	6	1.09	35
Noise/light pollution	8	11	6	3	2	3	4	0.81	37
Other (please specify)									6
								answered question	**38**
								skipped question	**0**

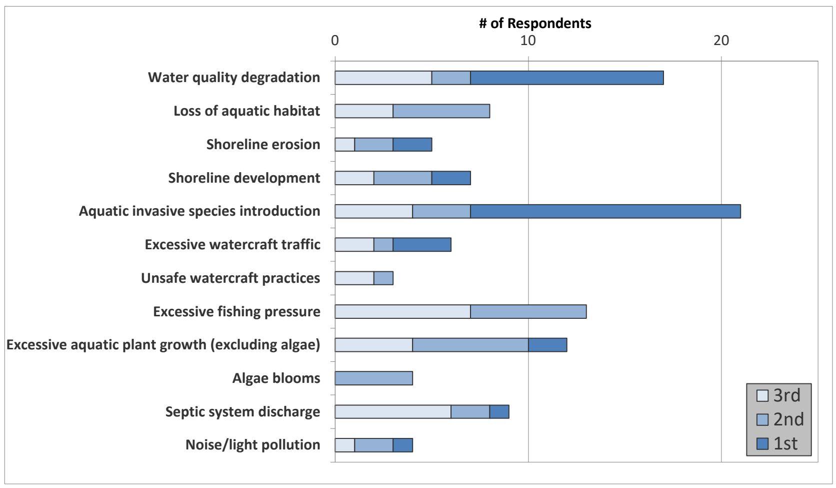
Number	Other (please specify)
1	Wilderness campsites are being abused, trashed and not policed. Getting worse.
2	Spearfishing?
3	Concerned about logging along the north shoreline and possible subsequent shoreline erosion and water quality degradation.
4	soap manufacture may still be taking place, discharging to septic system - I once saw entire southeast bay covered with 3" half-bubbles on a late fall day with no one around, was not lake foam! monitoring wells should be installed and the practice make unlawful
5	Spearing-haven't caught a walleye in years. Very large negative impact.
6	Hate to see the radio/communication tower way to the south



33. From the list below, please rank your top three concerns regarding your lake, with 1 being your greatest concern.

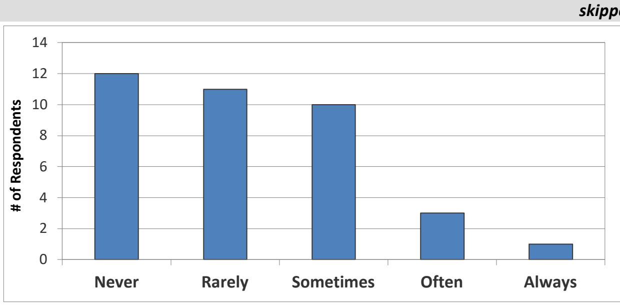
Answer Options	1st	2nd	3rd	Response Count
Water quality degradation	10	2	5	17
Loss of aquatic habitat	0	5	3	8
Shoreline erosion	2	2	1	5
Shoreline development	2	3	2	7
Aquatic invasive species introduction	14	3	4	21
Excessive watercraft traffic	3	1	2	6
Unsafe watercraft practices	0	1	2	3
Excessive fishing pressure	0	6	7	13
Excessive aquatic plant growth (excluding algae)	2	6	4	12
Algae blooms	0	4	0	4
Septic system discharge	1	2	6	9
Noise/light pollution	1	2	1	4
Other (please specify)	2	0	1	3
Please specify "Other" response here				4
			answered question	**38**
			skipped question	**0**

Number	"Other" responses
1	Wilderness campsites
2	See previous answer-re~spearing
3	maintaining water levels
4	1. DNR not stocking correcectly. 2.DNR intro of Northern Pike



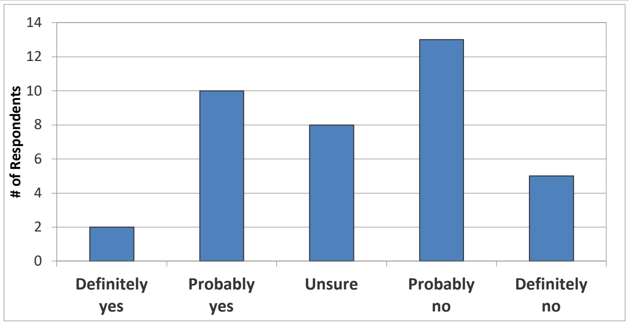
34. During open water season how often does aquatic plant growth, including algae, negatively impact your enjoyment of your lake?

Answer Options	Never	Rarely	Sometimes	Often	Always	Response Count
	12	11	10	3	1	37
					answered question	**37**
					skipped question	**1**



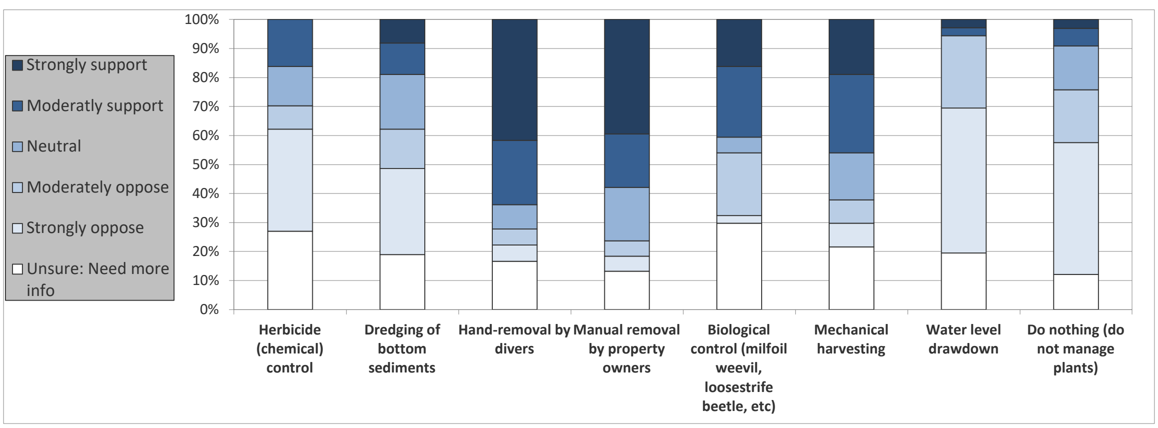
35. Considering your answer to the question above, do you believe aquatic plant control is needed on your lake?

Answer Options	Definitely yes	Probably yes	Unsure	Probably no	Definitely no	Response Count
	2	10	8	13	5	38
					answered question	**38**
					skipped question	**0**



36. Aquatic plants can be managed using many techniques. What is your level of support for the responsible use of the following techniques on your lake.

Answer Options	Strongly oppose	Moderately oppose	Neutral	Moderatly support	Strongly support	Unsure: Need more info	Rating Average	Response Count
Herbicide (chemical) control	13	3	5	6	0	10	1.57	37
Dredging of bottom sediments	11	5	7	4	3	7	1.97	37
Hand-removal by divers	2	2	3	8	15	6	3.39	36
Manual removal by property owners	2	2	7	7	15	5	3.42	38
Biological control (milfoil weevil, loosestrife beetle, etc)	1	8	2	9	6	11	2.41	37
Mechanical harvesting	3	3	6	10	7	8	2.76	37
Water level drawdown	18	9	0	1	1	7	1.25	36
Do nothing (do not manage plants)	15	6	5	2	1	4	1.67	33
							answered question	**38**
							skipped question	**0**



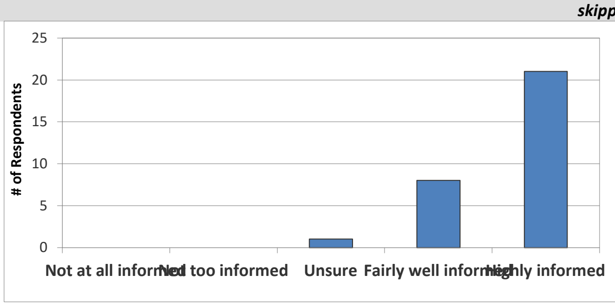
Ballard-Irving-White Birch Lakes Association (BIWBLA)

37. What is your membership status with the BIWBLA?

Answer Options	Response Percent	Response Count
Current member	73.7%	28
Former member	5.3%	2
Never been a member	21.1%	8
	answered question	**38**
	skipped question	**0**

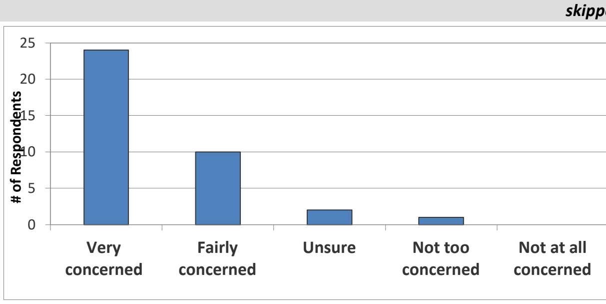
38. How informed has (or had) the BIWBLA kept you regarding issues with your lake and its management?

Answer Options	Not at all informed	Not too informed	Unsure	Fairly well informed	Highly informed	Response Count
	0	0	1	8	21	30
					answered question	**30**
					skipped question	**8**



39. The BIWBLA, to date, has helped avoid an infestation of invasive plants. How concerned, if at all, are you about aquatic invasive plants becoming established within your lake?

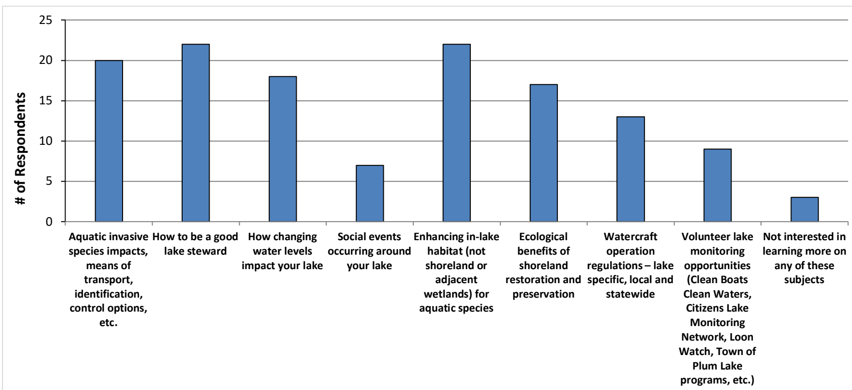
Answer Options	Very concerned	Fairly concerned	Unsure	Not too concerned	Not at all concerned	Response Count
	24	10	2	1	0	37
					answered question	**37**
					skipped question	**1**



40. Stakeholder education is an important component of every lake management planning effort. Which of these subjects would you like to learn more about?

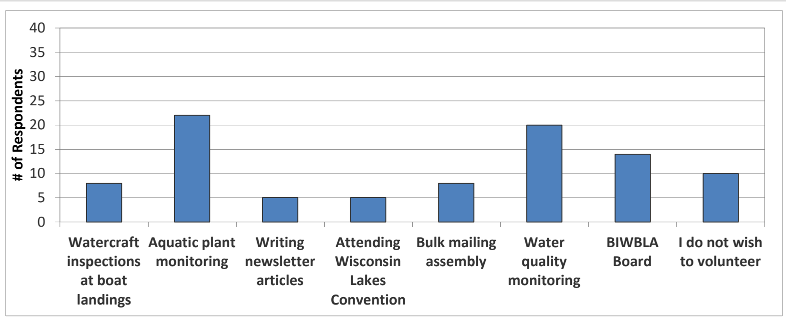
Answer Options	Response Percent	Response Count
Aquatic invasive species impacts, means of transport, identification, control options, etc.	52.6%	20
How to be a good lake steward	57.9%	22
How changing water levels impact your lake	47.4%	18
Social events occurring around your lake	18.4%	7
Enhancing in-lake habitat (not shoreland or adjacent wetlands) for aquatic species	57.9%	22
Ecological benefits of shoreland restoration and preservation	44.7%	17
Watercraft operation regulations – lake specific, local and statewide	34.2%	13
Volunteer lake monitoring opportunities (Clean Boats Clean Waters, Citizens Lake Monitoring Network, Loon Watch, Town of Plum Lake programs, e	23.7%	9
Not interested in learning more on any of these subjects	7.9%	3
Some other topic (please specify)	7.9%	3
	answered question	38
	skipped question	0

Number	Other (please specify)
1	Keep DNR off & out
2	Why lily pads are expanding so fast in the last 2 years
3	Open up spring spearing to all citizens. Eliminate all desirable species and then sit down and negotiate “common sense” fish management policies. The current ones are extremely discriminatory.



41. The effective management of your lake will require the cooperative efforts of numerous volunteers. Please circle the activities you would be willing to participate in if the Town of Plum Lake requires additional assistance.

Answer Options	Response Percent	Response Count
Watercraft inspections at boat landings	22.2%	8
Aquatic plant monitoring	61.1%	22
Writing newsletter articles	13.9%	5
Attending Wisconsin Lakes Convention	13.9%	5
Bulk mailing assembly	22.2%	8
Water quality monitoring	55.6%	20
BIWBLA Board	38.9%	14
I do not wish to volunteer	27.8%	10
answered question		36
skipped question		2



42. Please feel free to provide written comments concerning LakeName, its current and/or historic condition and its management.

Answer Options	Response Count
	17
answered question	**17**
skipped question	**21**

Number	Response Text
1	Thank you for the opportunity to comment. These lakes are a precious resource.

Ballard, Irving and White Birch Lakes Survey Addendum
12/14/18
Background
We are adding this addendum to the survey in hope that a longer-term historical perspective may bring both additional useful information to the project, as well as a better understanding for all stakeholders of the time frames that may need to be understood insofar as the results from any near-term activities become evident.
Our family has been on or around the Star Lake, and more specifically Ballard Lake, area for around 120 years. We have family history, including pictures, home movies and oral histories dating back nearly 100 years. While it would be an overstatement to suggest we completed a comprehensive look at any of this material for the purpose of the Lakes survey, nevertheless it informs us with a perspective that may be quite unique to this project. I will endeavor not to turn this into a family history, or even a comprehensive Lakes history, but rather to touch on some observations of changes we have seen over the years that may have application to the current discussion. Accordingly, I have tried to break this down into a number of categories that are highlighted in the survey.

Fishery
Since the early 20th century the fishery has changed dramatically on at least three occasions, some of those changes occurring over longer periods of time than others.
The fishery in the early 20th century was outstanding, at least in terms of a fishery that produced trophy fish. As evidence, there was hanging in the dining room of Rismons Lodge (which no longer exists) for many years a mount of a 50 inch muskellunge that was caught in Ballard Lake. If memory serves the plaque was dated 1918 or 1919. Over the ensuing years Ballard had a strong reputation as a good fishery, and many of the Lodge guests and others hired local guides to fish there. However, over time and as the population surged, particularly after WWII, the Lakes, particularly Ballard, experienced a strong surge in popularity. This was also encouraged by the State of Wisconsin, which designated it as a Class A fishing lake in its promotional material.
This increased pressure resulted in the population of trophy fish being decimated. By the 1960s and 70s it was a rare and noteworthy occurrence to catch a muskellunge of 35 inches. Ballard became widely known as an action lake, a good place to go if you wanted to catch a musky because they were fairly plentiful, but none of any size. In fact, as a teenager in the late 1960s I used to follow the annual visit of the DNR creel census survey boat around the lake to see what they found (and being no fool, where they found them), and I never saw a musky over 32 inches.
The reputation as an action lake was well deserved until 1996 and the freeze out. As is well documented, this accounted for a dramatic fish kill. The Lakes were subsequently restocked by the state (and, truth be told, by more than one fisherman who deposited fish caught in other local lakes to supplement the fingerlings), leading to the current fishery condition.
If we consider the long decline in the trophy fishery from 1918 to 1996 as one event, the second dramatic event was the freeze. It not only had an impact on the fish, but on the level of use on the lake, especially and obviously by fishermen. More on this later. The third dramatic change in the fishery has been the figurative rebirth of the fishery since 1996. Today muskies in the 45 inch range are being caught, the walleye and largemouth bass fishery has improved dramatically. Interestingly, northern pike were apparently reintroduced to the Chain. They had not been evident at all from 1960 forward. (Whether they were evident prior to that I don't know.) The panfish population appears strong. An interesting sidebar to these events was the loss of Chain fish that carried "unique" physical characteristics. Muskies from the Chain used to be beautiful fish. They were brightly barred, and had bright, blood red tails. While sport fishermen will not know what they have missed, it is disappointing that the freeze removed some of these unusual and unique genetic characteristics from the Chain fishery.
(Related sidebar, never saw a snake in Ballard Lake til the freeze. Always assumed the fish got them. When the fish left for a while the snakes returned, now we see snakes in the water pretty regularly.)

Boat Traffic
As noted above, there have been dramatic swings in the amount of boat traffic on the Chain as well. Not surprisingly, these changes have often been the result of the condition of the fishery.

Prior to the 1960s there really weren't many motorized watercraft on the chain. As a child in the 1960s I could lay in my bed in the morning and know who was out fishing by the sound of the motors, mostly because there were so few ofthem. The ones I didn't recognize I assumed were transient guests at Rismons Lodge. Some of the fishing guides who still came to Ballard still rowed their clients. This changed dramatically in the next few years as lake traffic, pushed by State promotion, fishing reputation and population growth increased the volume of watercraft, primarily motorized. By the 1970s and 80s it was not unusual on a summer afternoon to count upwards of 30 boats on the lake. I am confident in this number because every day when our water ski time rolled around we would count how many boats we would have to maneuver through to complete our circuit. And it was also not unusual to have tow vehicles and boat trailers parked from the Ballard/Irving boat launch nearly to our drive, 3/8 of a mile up the road. And, at least anecdotally, most of this traffic was on Ballard.
The freeze changed this scenario dramatically, for obvious reasons. Today boat traffic levels have increased since the fishery has returned, but are nowhere near what they were 25 years ago. And, again anecdotally, it appears the reputation for a strong fishery has shifted to include Irving. Today there are many more boats, at least as a percentage of the total, on Irving than on Ballard. Total traffic on Ballard is down, and there are fewer trailers parked at the launch, even on the best days.
With fewer boats, presumably running cleaner that they did 25 years ago, one would have to assume that the impact on the Lakes from boat traffic, whatever it is today (and I will leave that to the experts) is less than it was 25 years ago.

Shoreline/Erosion
Residents who have been on Ballard for the past 25 years or so may think it has always looked like it does today. It has not.
As we know, the area was extensively logged in the late 19th and early 20th centuries. Environmental priorities were not what they are today, and as a result the area was logged right down to the lakeshore. We have pictures from the 1920s and 30s, 30 to 40 years after the logging was finished, that show the growth of scrubby pines and softwoods that follow logging activity. There

2	the lakeshore. We have pictures from the 1920s and 30s, 30 to 40 years after the logging was finished, that show the growth of scrubby pines and softwoods that follow logging activity. There were very few trees of any size. We have movies from the tall hill on the southeast corner of the lake where Ballardwood, the family home, is located, that show sweeping vistas of the whole of Ballard Lake. Vistas that are not there today simply because the trees have grown. From the 1950s through early 70s the forest had begun to mature and consisted largely of birch trees, and they were ubiquitous. They were absolutely beautiful. There is, after all, a reason one of our lakes is named White Birch. They were stunning. Then in the late 60s and 70s the birch began to die out, replaced by hardwoods of oak and maple (whether as a result of climate change or simply the maturation of the forest I will leave to the experts, if only to avoid the politically charged nature of such conversation.) Today it is turning over again to a white pine forest. Twenty five years ago if you looked across the Lakes at the far shore the treeline was very consistent in height, all the oaks and maples were the same size. Today if you look at that same treeline you will see all the white pines starting to stick up. The point is that it has been nearly 125 years since the lumbermen completed their task on the virgin timber, 125 years to get nearly back to the condition in which they originally found it (it's still not back to that state.) Few of us alive today will see it the way we know it now once the new activity is begun. This lumbering activity must have had an impact on the lake, and we have to consider how we will maintain water quality as it moves forward. A couple of thoughts: In the 1960s there were still white pine stumps where trees had been felled 70 years earlier, right down to the shore, some up to 4 feet in diameter (big trees!) There were multiple places on the lake where there were obvious washouts as a result of the trees and undergrowth having been harvested and/or destroyed in the process. Probably the most obvious one that remains is the south facing shore of the small island at the Ballard end of the Irving to Ballard channel. This washout was far more obvious years ago, and was one of several on the lake. The good news is that the other have largely disappeared/repaired themselves. There were more on the southeast facing shore of what we know as Partridge Bay. The two takeaways from these observations relative to the survey are: 1. The lake has not always looked as it does today, and will not look that way tomorrow. So our planning should, in my opinion, not assume or promise that it will. It changes, due to forces both in and out of our control, so we need to understand this process is not about control, but of management. We need to make our decisions accordingly (ok, off my soapbox now.) 2. To the point made at the very beginning, the time frames for any activity that is undertaken may be very long in nature (no pun intended), and expectations of stakeholders need to be managed accordingly. It's been 120 years since the last round of logging was completed and the forest is still not returned to it's "original" condition. We're in this for the long haul. Industrial History and Impact As part of the logging operations there was a fair amount of industrial activity around our lakes that must have had an impact. We have maps of all the narrow gauge railroads that were built in the area to facilitate the logging activity. One of these lines ran up the east side of Irving (and on up past Jean Lake and Dorothy Dunn), another ran up what is now the Camp 2 Road. Where the boat launch is located it split, with one line continuing north and a spur turning west. Remnants of this spur can still be seen where the launch ramp meets the water on the Ballard side. Remains ofthe trestle lie in plain site, partially submerged in the opposite bank. This spur ran around the north shore of Ballard and then on to the north of White Birch. Guests who stayed at the old Ferncroft Resort on Ballard and some summer residents, including my mother and her family, used to ride the train to a stop where the current wilderness campsites are located on Partridge Bay, get picked up by boat and ferried to the other side ofthe lake. This train activity must have had some kind of impact on shoreline and potentially water quality. As further evidence of the fact that logging and train operations had in impact on the lake, in the 1960s while skin diving 200 feet or so offshore on the east side of Ballard, I located and retrieved multiple pieces of rail track debris including rail guides and spikes, which I still have. So industrial activity has been no stranger to the Chain, no doubt having some impact on water quality and aquatic vegetation, even to this day (not only am I certain there's still stuff down there, but as further evidence there is still an old abandoned caboose sitting on a short section of track, rotting away just up from the shoreline on the northwest side of White Birch Lake!) Water Levels I don't know much about the impact of water levels on aquatic vegetation. Just an interesting observation that may or may not be useful to the experts. In the 1960s and 70s a small band of Potawatomi Indians still lived up on what is now Weschler Road, entry to Partridge Lake. They still practiced some of their traditional rites. One of these was the harvest of wild rice in canoes on Irving, which they did in the fall. At the time there seemed to be more rice on Irving than there is today (and for that matter, there was more on Ballard in the Partridge Bay area where there is still some today), but I don't recall that the water levels were significantly different than they are today. I bring this up only because somebody mentioned to me that the decrease in the rice is a result of increasing water levels. I don't know this to be factual or not, but the point is that I don't recall, absent any scientific evidence whatsoever, that the water levels were any different. Water Quality Last observation .... Related impacts of water quality and shoreline development on local wildlife. We have, in my opinion, been blessed by the presence of bald eagles on the Chain for our entire memory. More amazing is that we never lost them. Through the DDT crisis we never had less than one nesting pair on one of our lakes. For many years we had them, and still do, on Ballard. For many years there was a nest on the westernmost island on Irving. To my knowledge this area has not been used for nesting since a large storm destroyed the nest and killed at least one bald eagle some 15 or 20 years ago when the tree in which it was located was toppled. The point is that I consider the presence of eagles, due to the relative peace (no significant shoreline development) and abundant food source (quality of fishery, water quality, aquatic vegetation, etc.) to be a significant marker as to the relative health of our Lakes. While there is currently no mention in the survey as to the impact of the lakes on the eagle population, or vice versa, I believe it to be a significant indicator of the general health of the Chain and would encourage it's inclusion in some fashion. Summary I trust I stuck to my original promise to not turn this into a history of the Lakes, but rather shared some observations that may have bearing and useful input to the survey and could not be gleaned from other sources. If I did not, I appreciate your patience and forebearance for sticking with this. The observations are largely mine, so when you see other members of my family you may now smile kindly at them, from a now common understanding that some of us may be operating from a slightly different point of view (or, one sandwich short of a picnic.) If there is more we/I may offer please don't hesitate to contact us/me. Anonymously yours, NAME REMOVED
3	The pump between Irving & Ballard does not help the fish in Irving.....it was the only fish loss for 56 years that we lived there on White Birch. Irving always has some freeze out. I feel the pump is a waste of money!
4	Great chain of lakes-- well managed.
5	I appreciate the care from BIWBLA
6	For the most part I feel the water quality of our chain of lakes has been pretty well maintained but I particularly worry about the logging activities along the shoreline having a negative effect on the water quality and shoreline erosion.
7	I am opposed to the concept that "management" of invasive species is a solution. Once invasive species are introduced, the battle is lost. All efforts must be made to ban transient boats, and require use of a stable of boats kept permanently at the landing. Non-riparians will complain, but the lake will benefit enormously. The fishing used be far better, then Bob Rippenhoff published an article in the Milw. Journal naming Ballard and the guide and private off-lake boats skyrocketed. I blasted him then and believe it irresponsible for journalists or others to name the water where they catch fish. Similarly, the DNR put northern in after the freeze, and that changed the panfish/gamefish mix and ruined the fishing. Of course, there is spearing, but other than a federal lawsuit, we may have to let that one go - I firmly believe unfettered spearing has no place in a lawful society.
8	Very concerned also about the devastation to shallow water weeds but unsafe boat operation of waterski boats and recent addition of jet ski use on Ballard.
9	Introduction of wild rice in past years (1950's 1960's)Replacement with larger culvert (68in to 110in)
10	Many of my neighbors feel as I do, that some of the rules that were in effect when the the asso. was started, made the Lake like "On Golden Pond". Many of us have grandchildren who have be taught to be kind to the water, not unlike some fishermen who dump beer cans in the lake. This was a great walleye lake when I was a kid. The DNR has destroyed the fishing by the introduction of Northern Pike and bad management. Olsen and Ellermann would turn over in their graves at the conditions of these lakes and the lies told by the DNR. Winter kill, check the flow of water from IRVING and then you will be on the road to discover why it happened. Volunteers, what am I paying taxes for, (some money to the DNR.) By the way, the way this survey was slanted was inappropriate. Question----How did lakes survive for years when the DNR was smaller and did not take such an active interest in MANAGEMENT. What ruined our lakes ? 1.Judge Barbara Crabb 2.Indian Spearing 3. DNR Management. Oh thanks for the survey.

11	Despite studies suggesting that rice is benign, rice was not present on Irving 70 years ago, certainly not 95 years ago, when our family first purchased the property. It's a nuisance and is layering too much organic material on the bottom, IMHO. Separately, God bless you guys! Keep pluggin'. And, thank you.
12	Feel that there needs to be a reduction in daily bag limits for panfish. Ice fishing needs to be regulated more closely as I believe to many panfish have been harvested over the years.
13	We have the best Lake Association!! Thank you for all that you do!
14	The lake was fine until 1996 when some fools restocked the lake and put Northern Pike in 3 lake that never had them.
15	In my opinion, we have a very active Board that keeps everyone informed!
16	Boat landings are over-used. Negative impact on stakeholder residents. Parking problem. Drivers going too fast. Do not expand access. Consider more limited access. Ticket illegal parking. Not enough law enforcement.
17	Would enjoy easier access to snowmobile trail systems. The lily pads on Irving Lake are overcrowded and we would be in support of some thinning of these plants.

Lake Laura - Anonymous Stakeholder Survey

Surveys Distributed: 32
Surveys Returned: 18
Response Rate: 56%

Lake Laura - Anonymous Stakeholder Survey

1. Do you rent or own your property on or near Lake Laura? If you own more than one property, please refer to the property you have owned the longest.

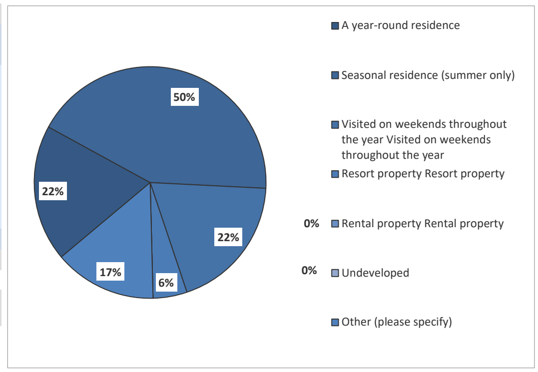
Answer Options	Response Percent	Response Count
Own	100.0%	18
Rent	0.0%	0
	answered question	**18**
	skipped question	**0**

2. Is your property on the lake or off the lake?

Answer Options	Response Percent	Response Count
On the lake	100.0%	18
Off the lake	0.0%	0
	answered question	**18**
	skipped question	**0**

3. How is your Lake Laura property utilized?

Answer Options	Response Percent	Response Count
A year-round residence	22%	4
Seasonal residence (summer only)	50%	9
Visited on weekends throughout the year	22%	4
Resort property	6%	1
Rental property	0%	0
Undeveloped	0%	0
Other (please specify)	17%	3
	answered question	**18**
	skipped question	**0**

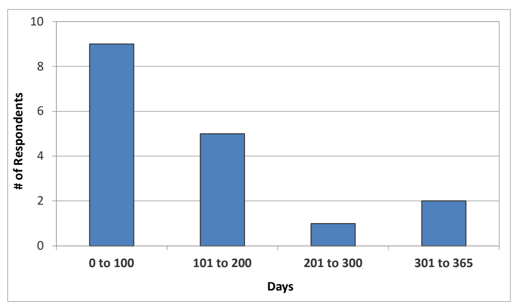


Number	Other (please specify)
1	3 seasonal,spring,summer,fall.
2	Use for weeks at a time April thru November
3	Used as much as we can get up, throughout the year.

4. How many days each year is your property used by you or others?

Answer Options	Response Count
	17
answered question	**17**
skipped question	**1**

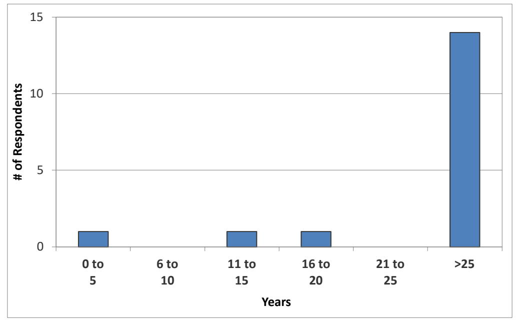
Category (# of days)	Responses	
0 to 100	**9**	**53%**
101 to 200	**5**	**29%**
201 to 300	**1**	**6%**
301 to 365	**2**	**12%**



5. How long have you owned or rented your property on or near Lake Laura?

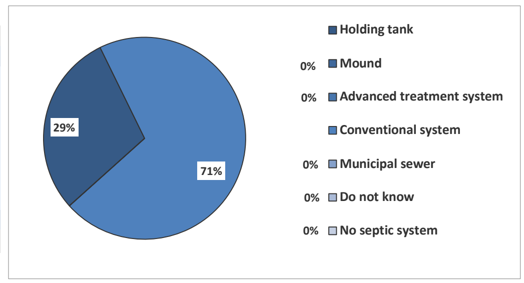
Answer Options	Response Count
	17
answered question	17
skipped question	1

Category (# of years)	Responses	% Response
0 to 5	1	6%
6 to 10	0	0%
11 to 15	1	6%
16 to 20	1	6%
21 to 25	0	0%
>25	14	82%



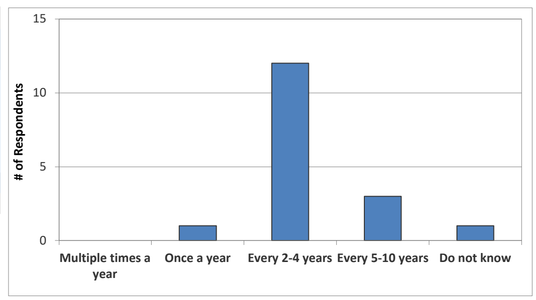
6. What type of septic system does your property utilize?

Answer Options	Response Percent	Response Count
Holding tank	29%	5
Mound	0%	0
Advanced treatment system	0%	0
Conventional system	71%	12
Municipal sewer	0%	0
Do not know	0%	0
No septic system	0%	0
answered question		17
skipped question		1



7. How often is the septic system on your property pumped?

Answer Options	Response Percent	Response Count
Multiple times a year	0%	0
Once a year	6%	1
Every 2-4 years	71%	12
Every 5-10 years	18%	3
Do not know	6%	1
answered question		17
skipped question		1

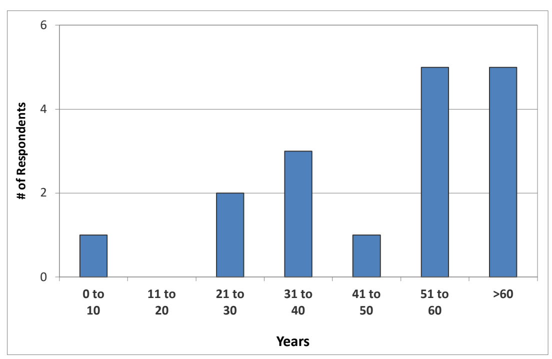


Recreational Activity on Lake Laura

8. How many years ago did you first visit Lake Laura?

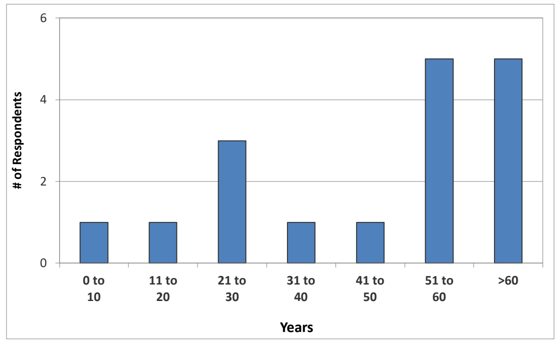
Answer Options	Response Count
	17
answered question	17
skipped question	1

Category (# of days)	Responses	% Response
0 to 10	1	6%
11 to 20	0	0%
21 to 30	2	12%
31 to 40	3	18%
41 to 50	1	6%
51 to 60	5	29%
>60	5	29%



9. For how many years have you fished your lake?	
Answer Options	**Response Count**
	17
answered question	**17**
skipped question	**1**

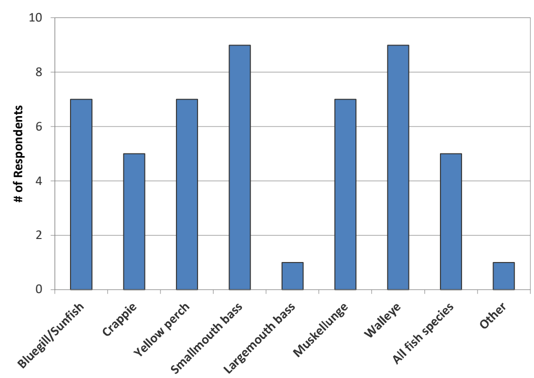
Category (# of days)	**Responses**	**% Response**
0 to 10	**1**	**6%**
11 to 20	**1**	**6%**
21 to 30	**3**	**18%**
31 to 40	**1**	**6%**
41 to 50	**1**	**6%**
51 to 60	**5**	**29%**
>60	**5**	**29%**



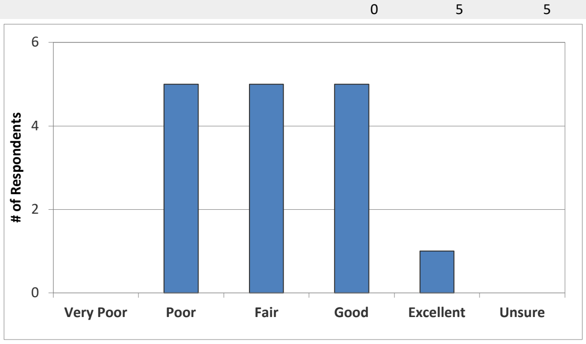
10. Have you personally fished on Lake Laura in the past three years?		
Answer Options	**Response Percent**	**Response Count**
Yes	100%	17
No	0%	0
answered question		**17**
skipped question		**1**

11. What species of fish do you like to catch on Lake Laura?		
Answer Options	**Response Percent**	**Response Count**
Bluegill/Sunfish	43.8%	7
Crappie	31.3%	5
Yellow perch	43.8%	7
Smallmouth bass	56.3%	9
Largemouth bass	6.3%	1
Muskellunge	43.8%	7
Walleye	56.3%	9
All fish species	31.3%	5
Other	6.3%	1
answered question		**16**
skipped question		**2**

Number	**Other (please specify)**
1	Rock Bass

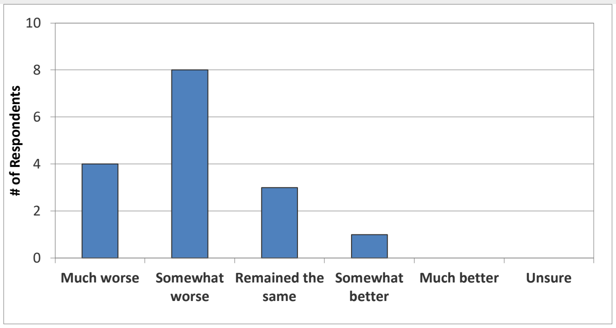


12. How would you describe the current quality of fishing on Lake Laura?							
Answer Options	**Very Poor**	**Poor**	**Fair**	**Good**	**Excellent**	**Unsure**	**Response Count**
	0	5	5	5	1	0	0
						answered question	**16**
						skipped question	**2**



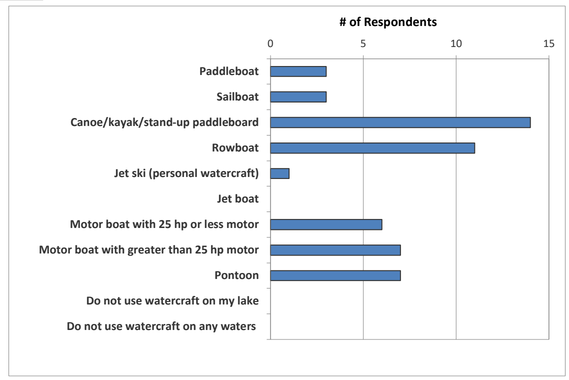
13. How has the quality of fishing changed on Lake Laura since you have started fishing the lake?

Answer Options	Much worse	Somewhat worse	Remained the same	Somewhat better	Much better	Unsure	Response Count
	4	8	3	1	0	0	16
						answered question	16
						skipped question	2



14. What types of watercraft do you currently use on Lake Laura?

Answer Options	Response Percent	Response Count
Paddleboat	18.8%	3
Sailboat	18.8%	3
Canoe/kayak/stand-up paddleboard	87.5%	14
Rowboat	68.8%	11
Jet ski (personal watercraft)	6.3%	1
Jet boat	0.0%	0
Motor boat with 25 hp or less motor	37.5%	6
Motor boat with greater than 25 hp motor	43.8%	7
Pontoon	43.8%	7
Do not use watercraft on my lake	0.0%	0
Do not use watercraft on any waters	0.0%	0
answered question		16
skipped question		2



15. Do you use your watercraft on waters other than Lake Laura?

Answer Options	Response Percent	Response Count
Yes	12.5%	2
No	87.5%	14
answered question		16
skipped question		2

16. What is your typical cleaning routine after using your watercraft on waters other than Lake Laura?

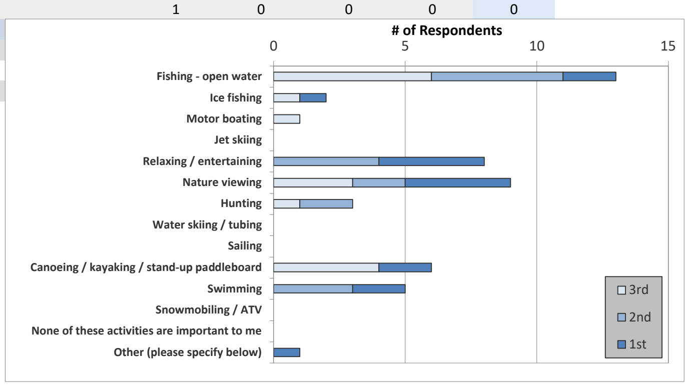
Answer Options	Response Percent	Response Count
Remove aquatic hitch-hikers (ex. - plant material, clams, mussels)	66.7%	2
Drain bilge	33.3%	1
Rinse boat	0.0%	0
Power wash boat	0.0%	0
Apply bleach	0.0%	0
Air dry boat for 5 or more days	0.0%	0
Do not clean boat	0.0%	0
Other (please specify)	0.0%	0
answered question		3
skipped question		15

17. Please rank up to three activities that are important reasons for owning your property on or near Lake Laura, with 1 being the most important activity.

Answer Options	1st	2nd	3rd	Rating Average	Response Count
Fishing - open water	2	5	6	0	0
Ice fishing	1	0	1	0	0
Motor boating	0	0	1	0	0
Jet skiing	0	0	0	0	0
Relaxing / entertaining	4	4	0	0	0
Nature viewing	4	2	3	0	0
Hunting	0	2	1	0	0
Water skiing / tubing	0	0	0	0	0
Sailing	0	0	0	0	0
Canoeing / kayaking / stand-up paddleboard	2	0	4	0	0
Swimming	2	3	0	0	0
Snowmobiling / ATV	0	0	0	0	0
None of these activities are important to me	0	0	0	0	0
Other (please specify below)	1	0	0	0	0

answered question	*16*
skipped question	*2*

Number	"Other" responses
1	It's Home

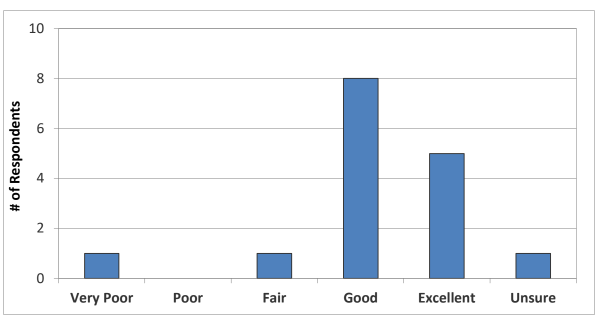


Lake Laura Current and Historic Condition, Health and Management

18. How would you describe the overall current water quality of Lake Laura?

Answer Options	Very Poor	Poor	Fair	Good	Excellent	Unsure	Response Count
	1	0	1	8	5	1	16

answered question	**16**
skipped question	**2**



19. How has the overall water quality changed in Lake Laura since you first visited the lake?

Answer Options	Severely degraded	Somewhat degraded	Remained the same	Somewhat improved	Greatly improved	Unsure	Response Count
	1	5	9	1	0	0	16

answered question	**16**
skipped question	**2**

20. Considering how you answered the questions above, what do you think of when describing water quality?

Answer Options	Response Percent	Response Count
Water clarity (clearness of water)	93.8%	15
Aquatic plant growth (not including algae blooms)	68.8%	11
Water color	56.3%	9
Algae blooms	37.5%	6
Smell	31.3%	5
Water level	37.5%	6
Fish kills	31.3%	5
Other	12.5%	2
answered question		16
skipped question		2

Number	"Other" responses
1	dead frogs + tadpoles
2	This is difficult because all features contribute to an access net. Some algae bloom being normal at different temperatures, some plants growing better at certain depths and bottom types. Lake Laura has gone through a long period of low water levels that affected many of these categories, and now a rapid raise in levels and heavy rains and run off have affected a great deal. So it is all of these things in combination I believe.

21. Based on your answer above, which of the following answers is the single most important aspect when considering water quality?

Answer Options	Response Percent	Response Count
Water clarity (clearness of water)	68.8%	11
Aquatic plant growth (not including algae blooms)	18.8%	3
Water color	0.0%	0
Algae blooms	0.0%	0
Smell	0.0%	0
Water level	0.0%	0
Fish kills	0.0%	0
Other (please specify)	12.5%	2
answered question		16
skipped question		2

Number	"Other" responses
1	dead frogs + tadpoles
2	I don't think I can fairly isolate one from the rest, as it is all of these and more, such as nutrients, oxgen levels that help to truly assess it.

22. Before reading the statement above, had you ever heard of aquatic invasive species?

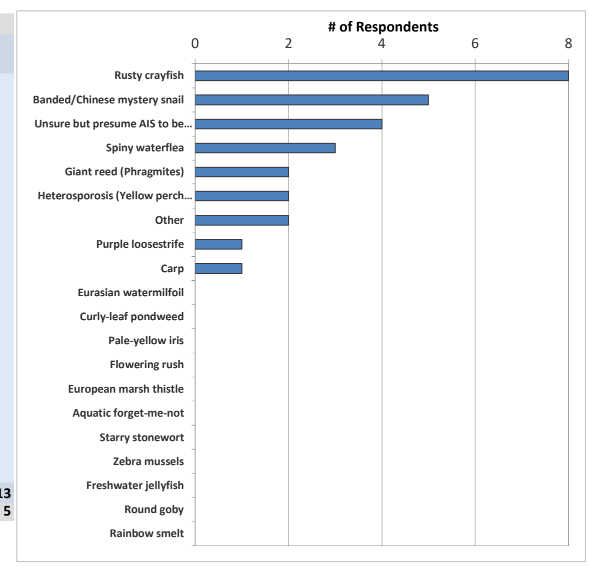
Answer Options	Response Percent	Response Count
Yes	100.0%	15
No	0.0%	0
answered question		15
skipped question		3

23. Do you believe aquatic invasive species are present within Lake Laura?

Answer Options	Response Percent	Response Count
Yes	56.3%	9
I think so but am not certain	25.0%	4
No	18.8%	3
answered question		16
skipped question		2

24. Which aquatic invasive species do you believe are in Lake Laura?

Answer Options	Response Percent	Response Count
Rusty crayfish	61.5%	8
Banded/Chinese mystery snail	38.5%	5
Unsure but presume AIS to be present	30.8%	4
Spiny waterflea	23.1%	3
Giant reed (*Phragmites*)	15.4%	2
Heterosporosis (Yellow perch parasite)	15.4%	2
Other	15.4%	2
Purple loosestrife	7.7%	1
Carp	7.7%	1
Eurasian watermilfoil	0.0%	0
Curly-leaf pondweed	0.0%	0
Pale-yellow iris	0.0%	0
Flowering rush	0.0%	0
European marsh thistle	0.0%	0
Aquatic forget-me-not	0.0%	0
Starry stonewort	0.0%	0
Zebra mussels	0.0%	0
Freshwater jellyfish	0.0%	0
Round goby	0.0%	0
Rainbow smelt	0.0%	0
answered question		13
skipped question		5

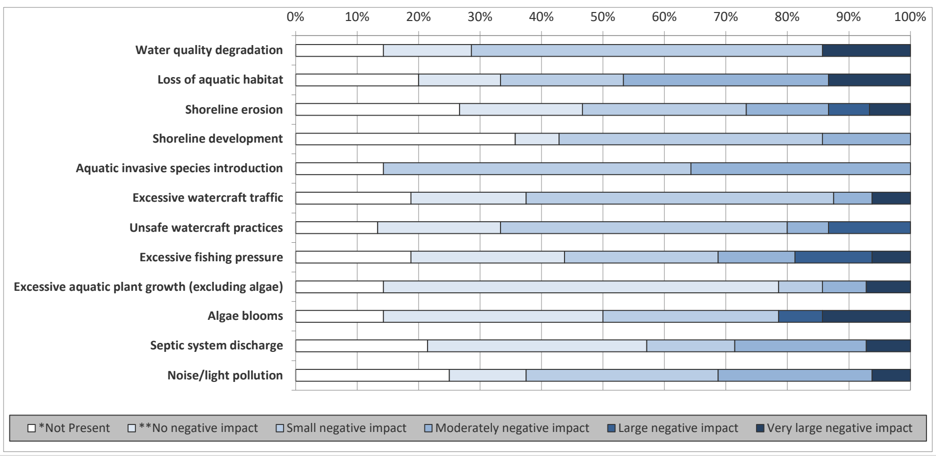


Number	"Other" responses
1	there seems to be some sort of bamboo on the north side of lake
2	Perkanise Protists may qualify as invasive and striped mystery snail would just be alien invader

25. To what level do you believe each of the following factors may currently be negatively impacting Lake Laura?
*** Not Present means that you believe the issue does not exist on Lake Laura.**
**** No Impact means that the issue may exist on Lake Laura but it is not negatively impacting the lake.**

Answer Options	*Not Present	**No negative impact	Small negative impact	Moderately negative impact	Large negative impact	Very large negative impact	Unsure: Need more information	Rating Average	Response Count
Water quality degradation	2	2	8	0	0	2	1	1.07	15
Loss of aquatic habitat	3	2	3	5	0	2	0	1.40	15
Shoreline erosion	4	3	4	2	1	1	0	1.00	15
Shoreline development	5	1	6	2	0	0	1	0.67	15
Aquatic invasive species introduction	2	0	7	5	0	0	1	1.13	15
Excessive watercraft traffic	3	3	8	1	0	1	0	0.88	16
Unsafe watercraft practices	2	3	7	1	2	0	0	1.00	15
Excessive fishing pressure	3	4	4	2	2	1	0	1.13	16
Excessive aquatic plant growth (excluding algae)	2	9	1	1	0	1	1	0.47	15
Algae blooms	2	5	4	0	1	2	2	0.94	16
Septic system discharge	3	5	2	3	0	1	2	0.75	16
Noise/light pollution	4	2	5	4	0	1	0	1.06	16
Other (please specify)									0

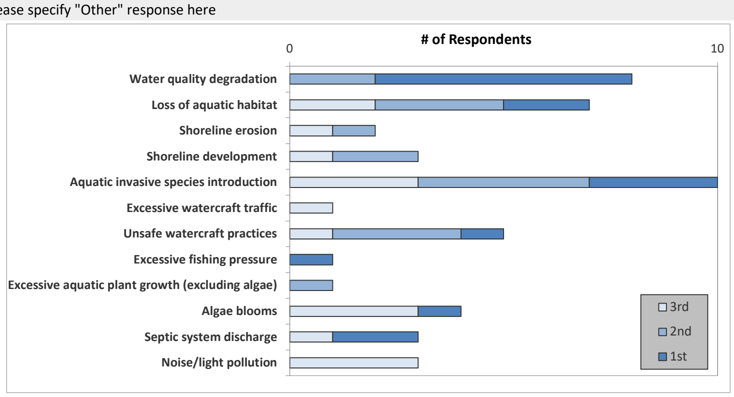
answered question	16
skipped question	2



26. From the list below, please rank your top three concerns regarding Lake Laura, with 1 being your greatest concern.

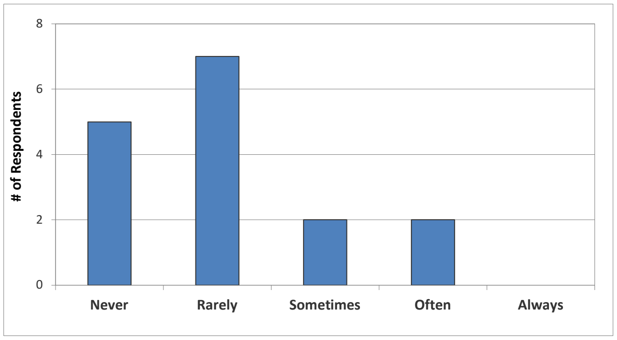
Answer Options	1st	2nd	3rd	Response Count
Water quality degradation	6	2	0	8
Loss of aquatic habitat	2	3	2	7
Shoreline erosion	0	1	1	2
Shoreline development	0	2	1	3
Aquatic invasive species introduction	3	4	3	10
Excessive watercraft traffic	0	0	1	1
Unsafe watercraft practices	1	3	1	5
Excessive fishing pressure	1	0	0	1
Excessive aquatic plant growth (excluding algae)	0	1	0	1
Algae blooms	1	0	3	4
Septic system discharge	2	0	1	3
Noise/light pollution	0	0	3	3
Other (please specify)	0	0	0	0
Please specify "Other" response here				0

answered question	*16*
skipped question	*2*



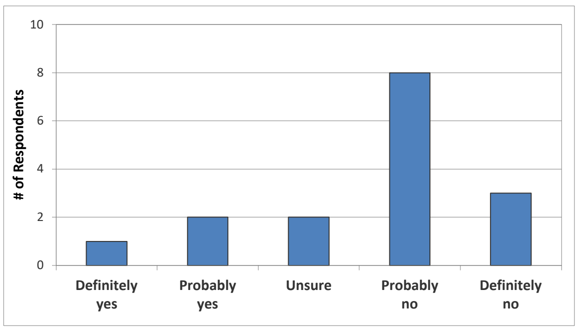
27. During open water season how often does aquatic plant growth, including algae, negatively impact your enjoyment of Lake Laura?

Answer Options	Never	Rarely	Sometimes	Often	Always	Response
	5	7	2	2	0	16
					answered question	16
					skipped question	2



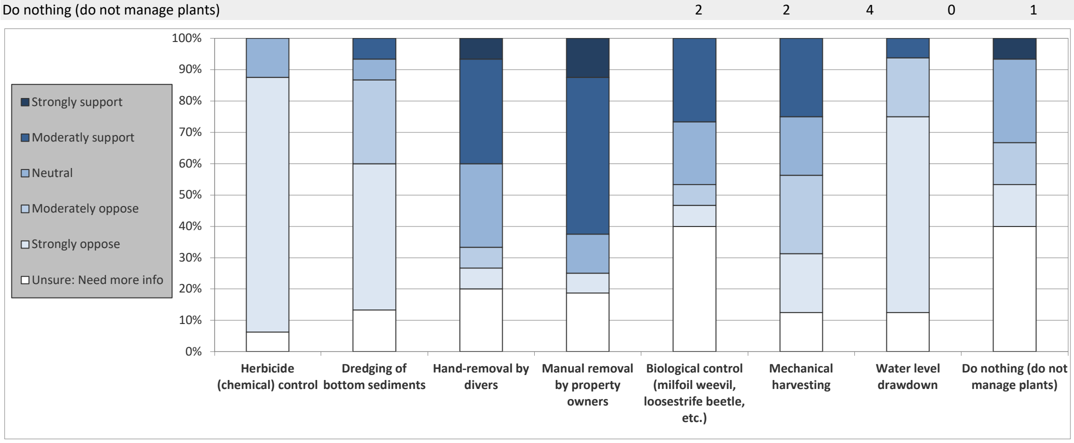
28. Considering your answer to the question above, do you believe aquatic plant control is needed on Lake Laura?

Answer Options	Definitely yes	Probably yes	Unsure	Probably no	Definitely no	Response Count
	1	2	2	8	3	16
					answered question	16
					skipped question	2



29. Aquatic plants can be managed using many techniques. What is your level of support for the responsible use of the following techniques on Lake Laura?

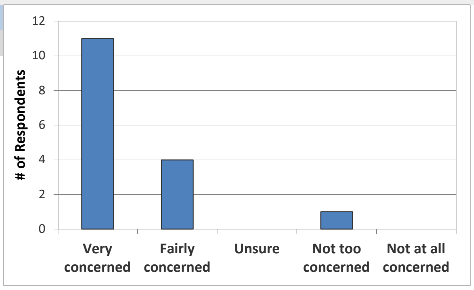
Answer Options	Strongly oppose	Moderately oppose	Neutral	Moderatly support	Strongly support	Unsure: Need more info	Rating Average	Response Count
Herbicide (chemical) control	13	0	2	0	0	1	1.19	16
Dredging of bottom sediments	7	4	1	1	0	2	1.47	15
Hand-removal by divers	1	1	4	5	1	3	2.67	15
Manual removal by property owners	1	0	2	8	2	3	3.06	16
Biological control (milfoil weevil, loosestrife beetle, etc.)	1	1	3	4	0	6	1.87	15
Mechanical harvesting	3	4	3	4	0	2	2.25	16
Water level drawdown	10	3	0	1	0	2	1.25	16
Do nothing (do not manage plants)	2	2	4	0	1	6	1.53	15
							answered question	16
							skipped question	2



30. Lake Laura, to date, have helped avoid an infestation of invasive plants. How concerned, if at all, are you about aquatic invasive plants becoming established within your lake?

Answer Options	Very concerned	Fairly concerned	Unsure	Not too concerned	Not at all concerned	Total	Weighted average
	11	4	0	1	0	16	1.44

answered question	16
skipped question	2

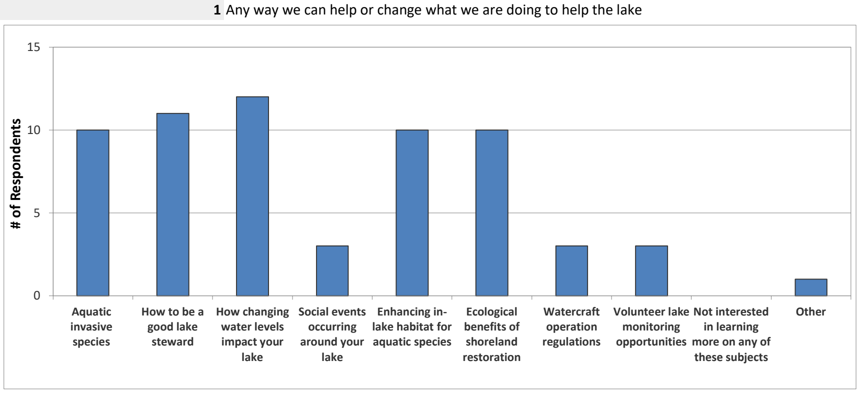


Lake Laura Lands

31. Stakeholder education is an important component of every lake management planning effort. Which of these subjects would you like to learn more about?

Answer Options	Responses	
Aquatic invasive species	62.50%	10
How to be a good lake steward	68.75%	11
How changing water levels impact your lake	75.00%	12
Social events occurring around your lake	18.75%	3
Enhancing in-lake habitat for aquatic species	62.50%	10
Ecological benefits of shoreland restoration	62.50%	10
Watercraft operation regulations	18.75%	3
Volunteer lake monitoring opportunities	18.75%	3
Not interested in learning more on any of these subjects	0.00%	0
Other	6.25%	1
answered question	16	
skipped question	2	

Number	Other (please specify)
1	Any way we can help or change what we are doing to help the lake



32. Please indicate which of the following activities you would be willing to participate in if the Town of Plum Lakes requires additional assistance.

Answer Choices	Responses	
Watercraft inspections at boat landings	28.57%	4
Aquatic plant monitoring	71.43%	10
Writing newsletter articles	14.29%	2
Attending Wisconsin Lakes Convention	14.29%	2
Bulk mailing assembly	14.29%	2
Water quality monitoring	78.57%	11
Lake Laura Board	35.71%	5
I do not wish to volunteer	14.29%	2
	answered question	*14*
	skipped question	*4*

33. Please feel free to provide written comments concerning Lake Laura, its current and/or historic condition and its management.

Answer Options	Response Count
answered question	14
skipped question	4

Number	Response Text
1	Mediocre fish management over the years. Walleye population way down. No stocking plans. Too many SM bass. Size limits and Bag Limits should be revised.Musky management stocking levels too low for acreage. Shoreline habitat - trees in water needs upgrading.
2	Glad this study is happening. We have to be educated on how to keep lakes beautiful.
3	I'm very concerned about the small black dot parasites in the bass, and panfish. Bass population is very good. I haven't caught a walleye in many years. We also had a tadpole kill last year.

C

APPENDIX C

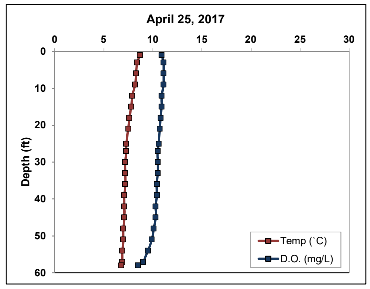
Water Quality Data

Plum Lake

Date: 4/25/2017
Time: 8:30
Weather: 80% clouds, 8mph winds, 55F
Entry: EEH

Max Depth: 59.1
PLMS Depth (ft): 3.0
PLMB Depth (ft): 57.0
Secchi Depth (ft): 7.7

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	8.7	10.9		
3	8.4	11.1		
6	8.3	11.1		
9	8.2	11.1		
12	7.9	10.9		
15	7.8	10.9		
18	7.6	10.8		
21	7.5	10.7		
25	7.3	10.6		
27	7.3	10.5		
30	7.2	10.5		
33	7.2	10.5		
36	7.2	10.4		
39	7.1	10.4		
42	7.1	10.3		
45	7.1	10.3		
48	7.0	10.1		
51	7.0	9.9		
54	6.9	9.5		
57	6.9	9.0		
58	6.8	8.5		



Parameter	PLMS	PLMB
Total P (µg/L)	22.80	22.30
Dissolved P (µg/L)	2.10	2.00
Chl-*a* (µg/L)	3.13	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	384.00	311.00
Lab Cond. (µS/cm)	91.00	91.20
Lab pH	7.56	7.45
Alkalinity (mg/L $CaCO_3$)	39.60	39.50
Total Susp. Solids (mg/L)	2.20	ND
Calcium (mg/L)	11.10	NA
Magnesium (mg/L)	3.15	NA
Hardness (mg/L)	40.70	NA
Color (SU)	10.00	NA
Turbidity (NTU)	NA	NA

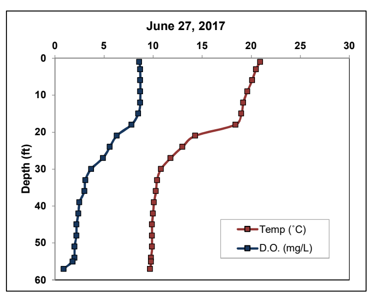
Data collected by JMB (Onterra).

Plum Lake

Date: 6/27/2017
Time: 14:00
Weather:
Entry: EEH

Max Depth: 57.8
PLMS Depth (ft): 3.0
PLMB Depth (ft): 55.0
Secchi Depth (ft): 10.3

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	20.9	8.6		
3	20.5	8.7		
6	20.1	8.7		
9	19.6	8.7		
12	19.2	8.7		
15	19.0	8.5		
18	18.4	7.8		
21	14.3	6.3		
24	13.0	5.6		
27	11.8	4.9		
30	10.8	3.7		
33	10.4	3.1		
36	10.3	3.0		
39	10.1	2.5		
42	10.0	2.4		
45	9.9	2.2		
48	9.9	2.2		
51	9.9	2.0		
54	9.8	2.0		
55	9.8	1.8		
57	9.7	0.9		



Parameter	PLMS	PLMB
Total P (µg/L)	16.30	37.20
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	3.75	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

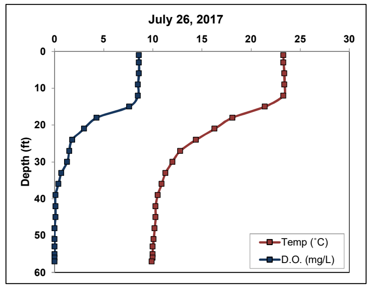
Data collected by TAH and JMB (Onterra).

Plum Lake

Date: 7/26/2017
Time: 11:15
Weather: 100% clouds, 75F, light breeze
Entry: EEH

Max Depth: 56.9
PLMS Depth (ft): 3.0
PLMB Depth (ft): 53.0
Secchi Depth (ft): 9.6

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	23.3	8.6		
3	23.3	8.6		
6	23.4	8.6		
9	23.4	8.5		
12	23.3	8.5		
15	21.4	7.6		
18	18.1	4.3		
21	16.3	3.0		
24	14.4	1.8		
27	12.8	1.5		
30	12.0	1.3		
33	11.3	0.7		
36	10.9	0.4		
39	10.5	0.1		
42	10.3	0.1		
45	10.3	0.1		
48	10.2	0.0		
51	10.1	0.0		
53	10.0	0.0		
55	10.0	0.0		
56	10.0	0.0		
57	9.9	0.0		



Parameter	PLMS	PLMB
Total P (µg/L)	17.70	29.10
Dissolved P (µg/L)	2.80	5.80
Chl-a (µg/L)	4.48	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	349.00	508.00
Lab Cond. (µS/cm)	86.40	98.60
Lab pH	7.89	7.34
Alkalinity (mg/L $CaCO_3$)	38.00	44.10
Total Susp. Solids (mg/L)	NA	3.14
Calcium (mg/L)	11.10	NA
Magnesium (mg/L)	3.23	NA
Hardness (mg/L)	41.10	NA
Color (SU)	30.00	NA
Turbidity (NTU)	NA	NA

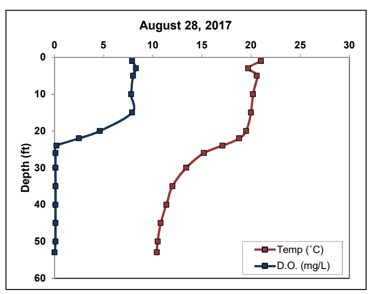
Data collected by JMB and AMS (Onterra)

Plum Lake

Date: 8/28/2017
Time: 14:30
Weather: 60% clouds, 80F, light breeze
Entry: EEH

Max Depth: 55.9
PLMS Depth (ft): 3.0
PLMB Depth (ft): 53.0
Secchi Depth (ft): 9.7

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	21.0	7.9		
3	19.7	8.3		
5	20.6	8.0		
10	20.2	7.8		
15	20.0	7.9		
20	19.5	4.6		
22	18.8	2.5		
24	17.1	0.2		
26	15.2	0.1		
30	13.4	0.1		
35	12.0	0.1		
40	11.4	0.1		
45	10.8	0.1		
50	10.5	0.1		
53	10.4	0.0		



Parameter	PLMS	PLMB
Total P (µg/L)	17.10	42.30
Dissolved P (µg/L)	NA	NA
Chl-a (µg/L)	7.84	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

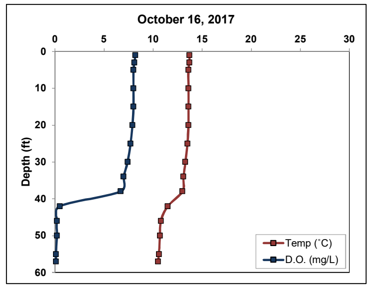
Data collected by JMB (Onterra).

Plum Lake

Date: 10/16/2017
Time: 15:30
Weather: 60F, 20% clouds, 8 mph wind
Entry: EEH

Max Depth: 58.8
PLMS Depth (ft): 3.0
PLMB Depth (ft): 55.0
Secchi Depth (ft): 11.2

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	13.7	8.2		
3	13.7	8.1		
5	13.6	8.0		
10	13.6	8.0		
15	13.6	8.0		
20	13.6	7.9		
25	13.5	7.7		
30	13.3	7.4		
34	13.1	7.0		
38	13.0	6.7		
42	11.5	0.5		
46	10.8	0.2		
50	10.7	0.2		
55	10.6	0.1		
57	10.5	0.1		



Parameter	PLMS	PLMB
Total P (µg/L)	33.20	138.00
Dissolved P (µg/L)	NA	NA
Chl-a (µg/L)	1.58	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	ND	6.00
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

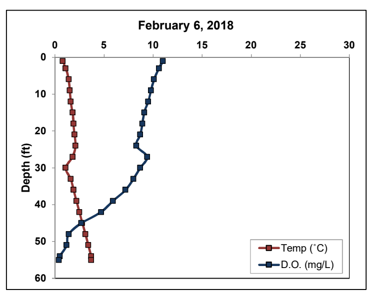
Data collected by JMB & CJF (Onterra).

Plum Lake

Date: 2/6/2018
Time: 10:45
Weather: 100% sun, -1F
Entry: EEH

Max Depth: 57.2
PLMS Depth (ft): 3.0
PLMB Depth (ft): 54.0
Secchi Depth (ft): 5.8

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	0.8	11.0		
3	1.1	10.6		
6	1.4	10.1		
9	1.5	9.8		
12	1.6	9.5		
15	1.8	9.1		
18	1.9	8.9		
21	2.0	8.7		
24	2.1	8.3		
27	1.8	9.4		
30	1.1	8.7		
33	1.6	8.0		
36	1.9	7.2		
39	2.2	5.9		
42	2.5	4.7		
45	2.8	2.7		
48	3.1	1.4		
51	3.4	1.2		
54	3.7	0.5		
55	3.7	0.4		



Parameter	PLMS	PLMB
Total P (µg/L)	16.50	39.10
Dissolved P (µg/L)	4.90	13.00
Chl-a (µg/L)	NA	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	490.00	798.00
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data collected by TWH and JMB (Onterra). Ice thickness 1.9 feet

Water Quality Data

2017-2018	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	9.1	NA	NA
Total P (µg/L)	6	20.6	6	51.3
Dissolved P (µg/L)	3	3.3	3	6.9
Chl a (µg/L)	5	4.2	0	NA
TKN (µg/L	0	NA	0	NA
NO_3+NO_2-N (µg/L)	0	NA	0	NA
NH_3-N (µg/L)	0	NA	0	NA
Total N (µg/L)	3	407.7	3	539.0
Lab Cond. (µS/cm)	2	88.7	2	94.9
Alkal (mg/l $CaCC_3$)	2	38.8	2	41.8
Total Susp. Solids (mg/l)	2	2.2	3	4.6
Calcium (mg/L)	2	11.1	0	NA
Magnesium (mg/L)	2	3.2	0	NA
Hardness (mg/L)	2	40.9	0	NA
Color (SU)	2	20.0	0	NA
Turbidity (NTU)	0	NA	0	NA

Trophic State Index (TSI)

Year	TP	Chl-a	Secchi
1989	33.8	43.3	46.8
1990			38.7
1991			
1992			
1993			38.9
1994	41.7	44.5	38.5
1995			35.4
1996	38.7	43.5	39.5
1997			36.4
1998			39.6
1999			37.7
2000			37.9
2001			36.1
2002			
2003			37.2
2004			39.7
2005			37.3
2006			37.1
2007	34.1	35.6	37.7
2008			
2009			
2010	39.6	39.4	38.0
2011	41.1	42.6	39.9
2012	39.2	41.1	37.2
2013	45.5	41.2	37.2
2014	39.9	42.4	39.9
2015	44.9	42.0	40.7
2016			
2017	45.0	47.1	44.1
All Years (Weighted)	41.4	42.2	38.1
DLDL Median	49.4	49.7	46.2
NLF Ecoregion Median	48.1	47.5	45.7

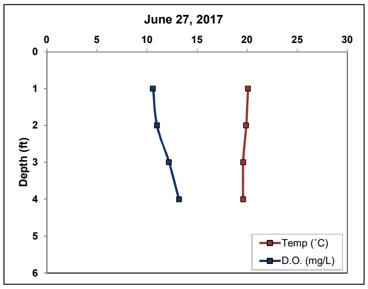
	Secchi (feet)				Chlorophyll-a (µg/L)				Total Phosphorus (µg/L)			
	Growing Season		Summer		Growing Season		Summer		Growing Season		Summer	
Year	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
1989	1	8.2	1	8.2	3	3.7	3	3.7	6	7.8	6.0	7.8
1990	4	14.4	4	14.4	0		0		0		0.0	
1991	0		0		0		0		0		0.0	
1992	0		0		0		0		0		0.0	
1993	10	13.7	8	14.2	0		0		0		0.0	
1994	20	13.8	11	14.6	2	4.1	2	4.1	3	16.0	2.0	13.5
1995	22	15.2	10	18.2	0		0		0		0.0	
1996	20	12.5	14	13.6	4	3.7	4	3.7	4	11.0	4.0	11.0
1997	11	15.5	7	16.8	0		0		0		0.0	
1998	20	13.3	9	13.5	0		0		0		0.0	
1999	16	15.7	12	15.4	0		0		0		0.0	
2000	13	14.0	8	15.2	0		0		0		0.0	
2001	18	16.5	10	17.3	3	1.7	3	1.7	3	20.0	3.0	20.0
2002	0		0		0		0		0		0.0	
2003	3	15.6	1	16.0	0		0		0		0.0	
2004	9	13.6	6	13.5	0		0		0		0.0	
2005	7	15.9	5	15.9	0		0		0		0.0	
2006	7	15.8	5	16.1	0		0		0		0.0	
2007	1	15.4	1	15.4	1	1.7	1	1.7	1	8.0	1.0	8.0
2008	0		0		0		0		0		0.0	
2009	0		0		0		0		0		0.0	
2010	8	15.1	8	15.1	3	2.5	3	2.5	3	11.7	3.0	11.7
2011	5	13.2	5	13.2	3	3.4	3	3.4	4	14.8	3.0	13.0
2012	4	16.0	4	16.0	4	2.9	4	2.9	4	14.0	3.0	11.3
2013	3	16.0	3	16.0	3	3.0	3	3.0	4	17.3	3.0	17.5
2014	2	13.3	2	13.3	2	3.3	2	3.3	2	11.9	2.0	11.9
2015	4	12.5	4	12.5	3	3.2	3	3.2	4	16.8	4.0	16.8
2016	0		0		0		0		0		0.0	
2017	5	9.7	3	9.9	5	4.2	3	5.4	5	21.4	3.0	17.0
All Years (Weighted)		14.4		14.9		3.2		3.3		14.5		13.2
DLDL Median				8.5				7.0				23.0
NLF Ecoregion Mediar				8.9				5.6				21.0

West Plum Lake

Date: 6/27/2017
Time: 15:00
Weather:
Entry: EEH

Max Depth: 5.0
WPMS Depth (ft): 2.5
WPMB Depth (ft):
Secchi Depth (ft): Hit bottom

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	20.1	10.6		
2	19.9	11.0		
3	19.6	12.2		
4	19.6	13.2		



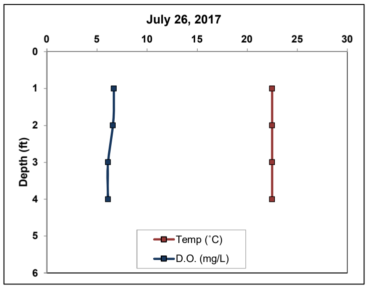
Parameter	WPMS	WPMB
Total P (µg/L)	23.20	NA
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	1.46	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	325.00	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

West Plum Lake

Date: 7/26/2017
Time: 10:45
Weather: 100% clouds, 5 mph wind, 72F
Entry: EEH

Max Depth: 5.0
WPMS Depth (ft): 3.0
WPMB Depth (ft): -
Secchi Depth (ft): hit bottom

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	22.5	6.7		
2	22.5	6.6		
3	22.5	6.1		
4	22.5	6.1		



Parameter	WPMS	WPMB
Total P (µg/L)	34.10	NA
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	14.40	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	625.00	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

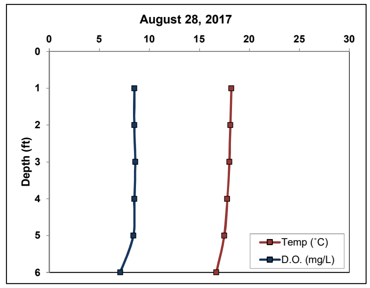
Data collected by JMB and AMS (Onterra).

West Plum Lake

Date: 8/28/2017
Time: 12:25
Weather: 90% clouds, 65F
Entry: EEH

Max Depth: 6.4
WPMS Depth (ft): 3.0
WPMB Depth (ft):
Secchi Depth (ft): hit bottom

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	18.2	8.5		
2	18.1	8.5		
3	18.0	8.6		
4	17.8	8.5		
5	17.5	8.4		
6	16.7	7.1		



Parameter	WPMS	WPMB
Total P (µg/L)	38.10	NA
Dissolved P (µg/L)	NA	NA
Chl-a (µg/L)	8.65	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	506.00	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

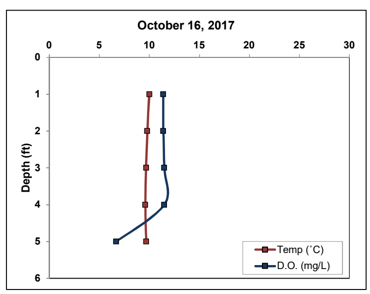
Data collected by TWH & CJF (Onterra).

West Plum Lake

Date: 10/16/2017
Time: 14:30
Weather: 40% clouds, 60F
Entry: EEH

Max Depth: 5.4
WPMS Depth (ft):
WPMB Depth (ft):
Secchi Depth (ft): Hit bottom

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	10.0	11.4		
2	9.8	11.4		
3	9.7	11.5		
4	9.6	11.5		
5	9.7	6.7		



Parameter	WPMS	WPMB
Total P (µg/L)	NA	NA
Dissolved P (µg/L)	NA	NA
Chl-a (µg/L)	NA	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data collected by JMB & CJF (Onterra)

Water Quality Data

2017-2018	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	0	NA	NA	NA
Total P (µg/L)	3	31.8	0	NA
Dissolved P (µg/L)	0	NA	0	NA
Chl a (µg/L)	3	8.2	0	NA
TKN (µg/L	0	NA	0	NA
NO_3+NO_2-N (µg/L)	0	NA	0	NA
NH_3-N (µg/L)	0	NA	0	NA
Total N (µg/L)	3	485.3	0	NA
Lab Cond. (µS/cm)	0	NA	0	NA
Alkal (mg/l $CaCC_3$)	0	NA	0	NA
Total Susp. Solids (mg/l)	0	NA	0	NA
Calcium (mg/L)	0	NA	0	NA
Magnesium (mg/L)	0	NA	0	NA
Hardness (mg/L)	0	NA	0	NA
Color (SU)	0	NA	0	NA
Turbidity (NTU)	0	NA	0	NA

Trophic State Index (TSI)

Year	TP	Chl-a	Secchi
2017	54.0	51.2	
All Years (Weighted)	54.0	51.2	
SHDL Median	52.7	50.4	52.4
NLF Ecoregion Median	48.1	47.5	45.7

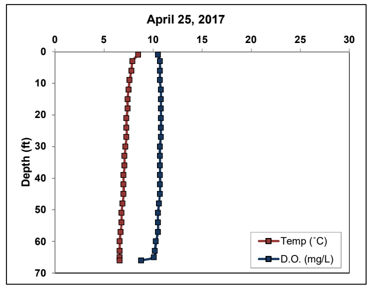
	Secchi (feet)				Chlorophyll-a (µg/L)				Total Phosphorus (µg/L)			
	Growing Season		Summer		Growing Season		Summer		Growing Season		Summer	
Year	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
2017	0		0		3	8.2	3	8.2	3	31.8	3.0	31.8
All Years (Weighted)		#VALUE!		#VALUE!		8.2		8.2		31.8		31.8
SHDL Median				5.6				7.5				29.0
NLF Ecoregion Mediar				8.9				5.6				21.0

Star Lake

Date: 4/25/2017
Time: 9:55
Weather: 30% clouds, 7mph winds, 60F
Entry: EEH

Max Depth: 66.9
STRS Depth (ft): 3.0
STRB Depth (ft): 63.0
Secchi Depth (ft): 12.3

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	8.5	10.5		
3	7.9	10.7		
6	7.8	10.7		
9	7.6	10.7		
12	7.5	10.8		
15	7.4	10.8		
18	7.4	10.8		
21	7.3	10.8		
24	7.3	10.8		
27	7.3	10.8		
30	7.2	10.7		
33	7.1	10.7		
36	7.1	10.7		
39	7.0	10.7		
42	7.0	10.7		
45	7.0	10.7		
48	6.9	10.6		
51	6.8	10.5		
54	6.8	10.5		
57	6.7	10.5		
60	6.6	10.3		
63	6.6	10.2		
65	6.6	10.1		
66	6.6	8.8		



Parameter	STRS	STRB
Total P (µg/L)	20.70	19.20
Dissolved P (µg/L)	2.80	2.60
Chl-a (µg/L)	1.58	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	348.00	348.00
Lab Cond. (µS/cm)	77.40	76.40
Lab pH	7.45	7.15
Alkalinity (mg/L $CaCO_3$)	31.30	31.00
Total Susp. Solids (mg/L)	ND	2.80
Calcium (mg/L)	8.63	NA
Magnesium (mg/L)	2.57	NA
Hardness (mg/L)	32.10	NA
Color (SU)	15.00	NA
Turbidity (NTU)	NA	NA

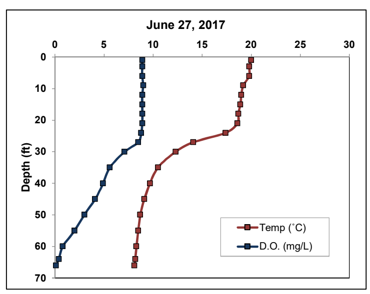
Data collected by JMB (Onterra).

Star Lake

Date: 6/27/2017
Time: 15:45
Weather: 50% clouds 68F, light breeze
Entry: EEH

Max Depth: 66.9
STRS Depth (ft): 3.0
STRB Depth (ft): 64.0
Secchi Depth (ft): 20.2

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	20	8.9		
3	19.8	8.9		
6	19.8	8.9		
9	19.2	9.0		
12	19	8.9		
15	18.9	8.9		
18	18.7	8.9		
21	18.6	8.9		
24	17.4	8.8		
27	14.1	8.5		
30	12.3	7.1		
35	10.5	5.6		
40	9.7	4.9		
45	9.1	4.1		
50	8.7	3.0		
55	8.5	2.0		
60	8.3	0.8		
64	8.2	0.4		
66	8.1	0.1		



Parameter	STRS	STRB
Total P (µg/L)	12.00	89.10
Dissolved P (µg/L)	NA	NA
Chl-a (µg/L)	0.62	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

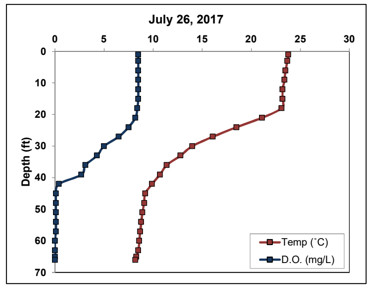
Data collected by TAH and JMB (Onterra).

Star Lake

Date: 7/26/2017
Time: 14:00
Weather: 80% clouds, light breeze, 77F
Entry: EEH

Max Depth: 66.7
STRS Depth (ft): 3.0
STRB Depth (ft): 63.0
Secchi Depth (ft): 14.8

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	23.8	8.5		
3	23.7	8.5		
6	23.5	8.5		
9	23.4	8.5		
12	23.2	8.5		
15	23.2	8.5		
18	23.1	8.4		
21	21.1	8.2		
24	18.5	7.5		
27	16.1	6.5		
30	14.0	5.0		
33	12.8	4.3		
36	11.4	3.1		
39	10.7	2.7		
42	9.9	0.4		
45	9.2	0.1		
48	9.1	0.1		
51	8.9	0.1		
54	8.8	0.1		
57	8.7	0.1		
60	8.6	0.0		
63	8.5	0.0		
65	8.3	0.0		
66	8.2	0.0		



Parameter	STRS	STRB
Total P (µg/L)	12.90	105.00
Dissolved P (µg/L)	2.90	31.70
Chl-a (µg/L)	1.89	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	271.00	744.00
Lab Cond. (µS/cm)	72.90	84.20
Lab pH	7.74	7.00
Alkalinity (mg/L $CaCO_3$)	31.20	36.60
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	8.50	NA
Magnesium (mg/L)	2.54	NA
Hardness (mg/L)	31.70	NA
Color (SU)	10.00	NA
Turbidity (NTU)	NA	NA

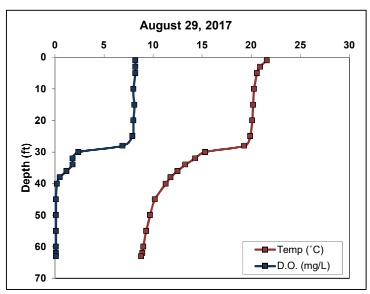
Data collected by JMB and AMS (Onterra).

Star Lake

Date: 8/29/2017
Time: 11:30
Weather: 80F, no wind, 50% clouds
Entry: EEH

Max Depth: 65.6
STRS Depth (ft): 3.0
STRB Depth (ft): 62.0
Secchi Depth (ft): 30.1

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	21.6	8.2		
3	20.9	8.2		
5	20.6	8.2		
10	20.3	8.0		
15	20.2	8.1		
20	20.1	8.0		
25	19.9	7.9		
28	19.3	6.9		
30	15.3	2.4		
32	14.3	1.8		
34	13.3	1.8		
36	12.5	1.2		
38	11.8	0.5		
40	11.3	0.2		
45	10.2	0.1		
50	9.7	0.1		
55	9.3	0.1		
60	9.0	0.1		
62	8.9	0.1		
63	8.8	0.1		



Parameter	STRS	STRB
Total P (µg/L)	7.61	222.00
Dissolved P (µg/L)	NA	NA
Chl-a (µg/L)	0.88	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

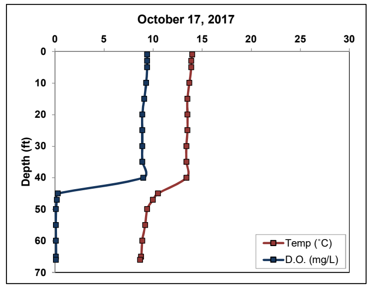
Data collected by JMB & AMS (Onterra).

Star Lake

Date: 10/17/2017
Time: 14:30
Weather: 20% clouds, 67F, light breeze
Entry: EEH

Max Depth: 67.3
STRS Depth (ft): 3.0
STRB Depth (ft): 65.0
Secchi Depth (ft): 11.4

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	14.0	9.4		
3	13.9	9.4		
5	13.9	9.4		
10	13.7	9.3		
15	13.5	9.1		
20	13.5	8.9		
25	13.5	8.9		
30	13.4	8.9		
35	13.4	8.9		
40	13.4	9.0		
45	10.5	0.3		
47	10.0	0.2		
50	9.4	0.1		
55	9.2	0.1		
60	8.9	0.1		
65	8.8	0.1		
66	8.7	0.1		



Parameter	STRS	STRB
Total P (µg/L)	18.80	244.00
Dissolved P (µg/L)	NA	NA
Chl-a (µg/L)	5.94	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	ND	4.50
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

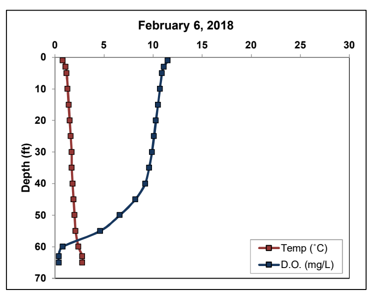
Data collected by JMB & CJF (Onterra)

Star Lake

Date: 2/6/2018
Time: 12:30
Weather: 2F, no wind, 100% clouds
Entry: EEH

Max Depth: 66.1
STRS Depth (ft): 3.0
STRB Depth (ft): 63.0
Secchi Depth (ft): 8.3

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	0.8	11.5		
3	1.1	11.1		
5	1.2	10.9		
10	1.3	10.7		
15	1.4	10.5		
20	1.5	10.3		
25	1.6	10.1		
30	1.7	9.9		
35	1.7	9.6		
40	1.8	9.2		
45	1.9	8.2		
50	2.0	6.6		
55	2.1	4.6		
60	2.4	0.8		
63	2.8	0.4		
65	2.8	0.4		



Parameter	STRS	STRB
Total P (µg/L)	12.60	50.50
Dissolved P (µg/L)	ND	3.70
Chl-a (µg/L)	NA	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	387.00	882.00
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data collected by TWH and JMB (Onterra). Ice thickness = 1.7 feet

Water Quality Data

2017-2018	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	16.2	NA	NA
Total P (µg/L)	6	14.1	6	121.6
Dissolved P (µg/L)	3	2.9	3	12.7
Chl a (µg/L)	5	2.2	0	NA
TKN (µg/L	0	NA	0	NA
NO_3+NO_2-N (µg/L)	0	NA	0	NA
NH_3-N (µg/L)	0	NA	0	NA
Total N (µg/L)	3	335.3	3	658.0
Lab Cond. (µS/cm)	2	75.2	2	80.3
Alkal (mg/l $CaCO_3$)	2	31.3	2	33.8
Total Susp. Solids (mg/l)	2	ND	2	3.7
Calcium (mg/L)	2	8.6	0	NA
Magnesium (mg/L)	2	2.6	0	NA
Hardness (mg/L)	2	31.9	0	NA
Color (SU)	2	12.5	0	NA
Turbidity (NTU)	0	NA	0	NA

Trophic State Index (TSI)

Year	TP	Chl-a	Secchi
1979		38.7	36.3
1989	30.0	39.6	
1993			41.0
1994			41.2
1995			42.2
1996			41.9
1997			38.7
1998			43.1
1999			43.2
2000			43.9
2001			43.1
2002			44.7
2017	38.5	31.8	32.8
All Years (Weighted)	34.3	36.3	41.2
DLDL Median	49.4	49.7	46.2
NLF Ecoregion Median	48.1	47.5	45.7

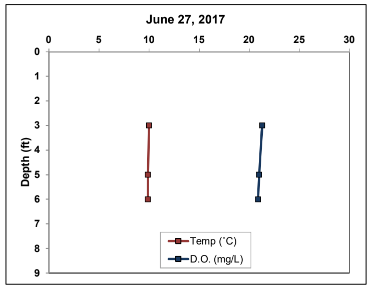
	Secchi (feet)				Chlorophyll-a (µg/L)				Total Phosphorus (µg/L)			
	Growing Season		Summer		Growing Season		Summer		Growing Season		Summer	
Year	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
1979	1	17.0	1	17.0	1	2.3	1	2.3				
1989					2	2.5	2	2.5	4	6.0	4.0	6.0
1993	13	12.2	8	12.3								
1994	8	11.9	5	12.1								
1995	5	11.6	4	11.3								
1996	8	11.6	5	11.5								
1997	5	14.4	5	14.4								
1998	5	10.4	4	10.6								
1999	10	10.8	5	10.5								
2000	7	9.9	6	10.0								
2001	6	10.0	4	10.6								
2002	5	10.0	3	9.5								
2017	5	17.8	3	21.7	5	2.2	3	1.1	5	14.4	3.0	10.8
All Years (Weighted)		11.8		12.1		2.3		1.8		10.7		8.1
DLDL Median				8.5				7.0				23.0
NLF Ecoregion Mediar				8.9				5.6				21.0

Little Star Lake

Date: 6/27/2017
Time: 16:45
Weather: 30% clouds
Entry: EEH

Max Depth:
LSRS Depth (ft): 3.0
LSRB Depth (ft):
Secchi Depth (ft): 3.1

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
3	10.0	21.3		
5	9.9	21.0		
6	9.9	20.9		



Parameter	LSRS	LSRB
Total P (µg/L)	56.90	NA
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	25.90	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	763.00	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

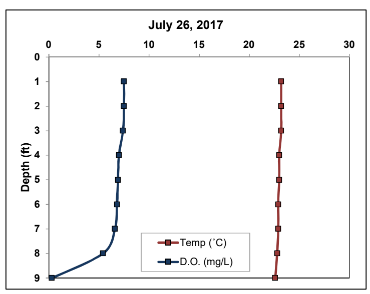
Data collected by TAH & JMB (Onterra).

Little Star Lake

Date: 7/26/2017
Time: 12:45
Weather: 95% clouds, 76F, light breeze
Entry: EEH

Max Depth: 9.0
LSRS Depth (ft): 3.0
LSRB Depth (ft): -
Secchi Depth (ft): 2.7

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	23.2	7.5		
2	23.2	7.5		
3	23.2	7.4		
4	23.0	7.0		
5	23.0	6.9		
6	22.9	6.8		
7	22.9	6.6		
8	22.8	5.4		
9	22.6	0.3		



Parameter	LSRS	LSRB
Total P (µg/L)	44.30	NA
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	24.50	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	740.00	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

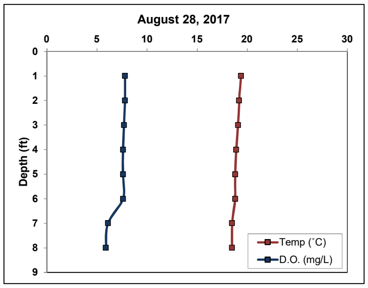
Data collected by JMB and AMS (Onterra).

Little Star Lake

Date: 8/28/2017
Time: 11:30
Weather: 90% clouds, 63F
Entry: EEH

Max Depth: 8.3
LSRS Depth (ft): 3.0
LSRB Depth (ft):
Secchi Depth (ft): 1.6

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	19.4	7.8		
2	19.2	7.8		
3	19.1	7.7		
4	18.9	7.6		
5	18.8	7.6		
6	18.8	7.6		
7	18.5	6.1		
8	18.5	5.9		



Parameter	LSRS	LSRB
Total P (µg/L)	60.10	NA
Dissolved P (µg/L)	NA	NA
Chl-a (µg/L)	45.80	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	845.00	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

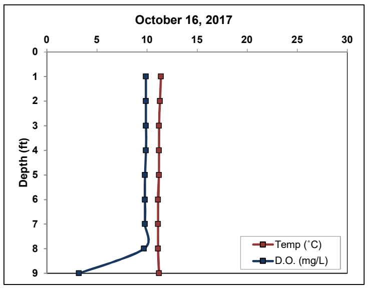
Data collected by TWH & CJF (Onterra).

Little Star Lake

Date: 10/16/2017
Time: 12:20
Weather: 15% clouds, 55F, 5 mph winds
Entry: EEH

Max Depth: 8.8
LSRS Depth (ft):
LSRB Depth (ft):
Secchi Depth (ft): 1.7

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	11.4	9.9		
2	11.3	9.9		
3	11.2	9.9		
4	11.2	9.9		
5	11.2	9.8		
6	11.1	9.8		
7	11.1	9.8		
8	11.1	9.7		
9	11.2	3.2		



Parameter	LSRS	LSRB
Total P (µg/L)	NA	NA
Dissolved P (µg/L)	NA	NA
Chl-a (µg/L)	NA	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data collected by JMB & CJF (Onterra).

Water Quality Data

2017-2018	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	4	2.3	NA	NA
Total P (µg/L)	3	53.8	0	NA
Dissolved P (µg/L)	0	NA	0	NA
Chl a (µg/L)	3	32.1	0	NA
TKN (µg/L	0	NA	0	NA
NO_3+NO_2-N (µg/L)	0	NA	0	NA
NH_3-N (µg/L)	0	NA	0	NA
Total N (µg/L)	3	782.7	0	NA
Lab Cond. (µS/cm)	0	NA	0	NA
Alkal (mg/l $CaCO_3$)	0	NA	0	NA
Total Susp. Solids (mg/l)	0	NA	0	NA
Calcium (mg/L)	0	NA	0	NA
Magnesium (mg/L)	0	NA	0	NA
Hardness (mg/L)	0	NA	0	NA
Color (SU)	0	NA	0	NA
Turbidity (NTU)	0	NA	0	NA

Trophic State Index (TSI)

Year	TP	Chl-a	Secchi
1979	41.1	47.2	
2007	68.0	63.2	73.2
2008			
2009			
2010			
2011			
2012			
2013			
2014			
2015			
2016			
2017	61.6	64.6	64.7
All Years (Weighted)	61.0	62.5	66.4
SHDL Median	52.7	50.4	52.4
NLF Ecoregion Median	48.1	47.5	45.7

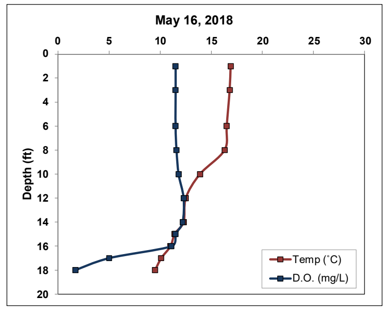
	Secchi (feet)				Chlorophyll-a (µg/L)				Total Phosphorus (µg/L)			
	Growing Season		Summer		Growing Season		Summer		Growing Season		Summer	
Year	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
1979					1	5.4	1	5.4	1	13.0	1.0	13.0
2007	1	1.3	1	1.3	1	27.8	1	27.8	1	84.0	1.0	84.0
2008	0		0		0		0		0		0.0	
2009	0		0		0		0		0		0.0	
2010	0		0		0		0		0		0.0	
2011	0		0		0		0		0		0.0	
2012	0		0		0		0		0		0.0	
2013	0		0		0		0		0		0.0	
2014	0		0		0		0		0		0.0	
2015	0		0		0		0		0		0.0	
2016	0		0		0		0		0		0.0	
2017	4	2.2	3	2.4	3	32.1	3	32.1	3	53.8	3.0	53.8
All Years (Weighted)		2.0		2.1		25.9		25.9		51.7		51.7
SHDL Median				5.6				7.5				29.0
NLF Ecoregion Mediar				8.9				5.6				21.0

Ballard Lake

Date: 5/16/2018
Time: 13:00
Weather: 30% clouds, 12 mph west wind, 71°F
Entry: JLW

Max Depth: 18.2
BLS Depth (ft): 3.0
BLB Depth (ft): 15.0
Secchi Depth (ft): 9.0

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	16.9	11.5	119%		
3	16.8	11.5	119%	8.0	
6	16.5	11.5	117%		
8	16.3	11.6	118%		
10	13.9	11.8	115%	7.8	
12	12.5	12.3	115%		
14	12.3	12.2	114%		
15	11.4	11.5	106%	7.7	
16	11.0	11.1	101%		
17	10.1	5.0	44%		
18	9.5	1.7	15%		



Parameter	BLS	BLB
Total P (µg/L)	13.40	26.90
Dissolved P (µg/L)	ND	ND
Chl-*a* (µg/L)	6.80	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	391.00	537.00
Lab Cond. (µS/cm)	68.50	71.30
Lab pH	7.62	7.34
Alkalinity (mg/L $CaCO_3$)	30.70	31.80
Total Susp. Solids (mg/L)	ND	3.25
Calcium (mg/L)	7.63	NA
Magnesium (mg/L)	2.36	NA
Hardness (mg/L)	28.80	NA
Color (SU)	20.00	NA
Turbidity (NTU)	NA	NA

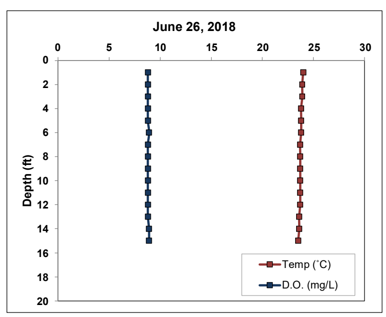
Data collected by JMB (Onterra). Moved water quality point east of existing point.

Ballard Lake

Date: 6/26/2018
Time: 3:10
Weather: 95% clouds, 75°F, 15mph wind
Entry: JLW

Max Depth: 16.0
BLS Depth (ft): 3.0
BLB Depth (ft): 15.0
Secchi Depth (ft): 10.7

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	24.0	8.8	105%		
2	23.9	8.8	105%		
3	23.9	8.8	105%		
4	23.8	8.8	104%		
5	23.8	8.8	104%		
6	23.8	8.9	105%		
7	23.7	8.8	104%		
8	23.7	8.8	104%		
9	23.7	8.8	104%		
10	23.7	8.8	104%		
11	23.7	8.8	104%		
12	23.7	8.8	104%		
13	23.6	8.8	104%		
14	23.6	8.9	105%		
15	23.5	8.9	105%		



Parameter	BLS	BLB
Total P (µg/L)	16.20	16.60
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	1.06	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

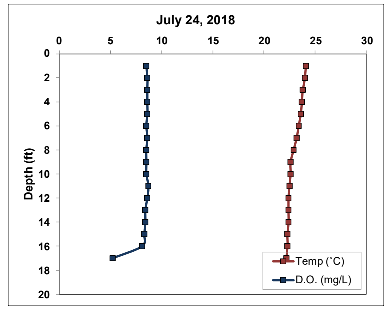
Data collected by Onterra (NLS & AMS).

Ballard Lake

Date: 7/24/2018
Time: 12:15
Weather: 40% clouds, 74°F
Entry: HAL

Max Depth: 17.7
BLS Depth (ft): 3.0
BLB Depth (ft): 15.0
Secchi Depth (ft): 8.9

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (μS/cm)
1	24.1	8.5	101%		
2	24.0	8.6	102%		
3	23.8	8.6	101%		
4	23.7	8.6	101%		
5	23.6	8.6	101%		
6	23.4	8.5	100%		
7	23.2	8.6	101%		
8	22.9	8.5	99%		
9	22.6	8.5	99%		
10	22.6	8.5	99%		
11	22.5	8.7	100%		
12	22.4	8.6	99%		
13	22.4	8.4	97%		
14	22.4	8.4	97%		
15	22.3	8.3	95%		
16	22.3	8.1	93%		
17	22.2	5.2	60%		



Parameter	BLS	BLB
Total P (µg/L)	12.80	16.40
Dissolved P (µg/L)	ND	ND
Chl-*a* (µg/L)	3.36	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	456.00	477.00
Lab Cond. (µS/cm)	71.50	69.50
Lab pH	8.33	8.26
Alkalinity (mg/L $CaCO_3$)	29.80	29.00
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)	7.48	NA
Magnesium (mg/L)	2.36	NA
Hardness (mg/L)	28.40	NA
Color (SU)	15.00	NA
Turbidity (NTU)	NA	NA

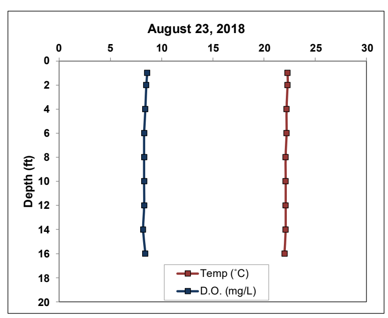
Data collected by Onterra (TWH & NLS).

Ballard Lake

Date: 8/23/2018
Time: 11:15
Weather: clear, light breeze, 70°F
Entry: HAL

Max Depth: 18.0
BLS Depth (ft): 3.0
BLB Depth (ft): 16.0
Secchi Depth (ft): 9.1

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (μS/cm)
1	22.3	8.6	99%		
2	22.3	8.5	98%		
4	22.2	8.4	97%		
6	22.2	8.3	95%		
8	22.1	8.3	95%		
10	22.1	8.3	95%		
12	22.1	8.3	95%		
14	22.1	8.2	94%		
16	22.0	8.4	97%		



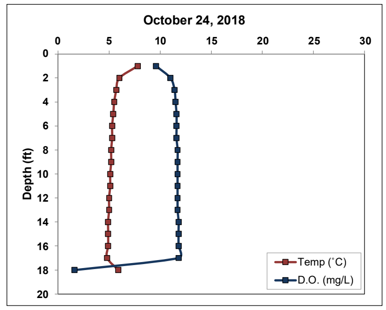
Parameter	BLS	BLB
Total P (µg/L)	15.40	15.80
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	2.52	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data collected by Onterra (TAH).

Ballard Lake

Date:	10/24/2018	**Max Depth:**	18.3
Time:	14:45	**BLS Depth (ft):**	3.0
Weather:	100% sun, 45°F	**BLB Depth (ft):**	15.0
Entry:	HAL	**Secchi Depth (ft):**	12.4

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	7.8	9.6	81%		
2	6.0	11.0	89%		
3	5.7	11.4	91%		
4	5.5	11.5	91%		
5	5.4	11.6	92%		
6	5.3	11.6	91%		
7	5.3	11.6	91%		
8	5.2	11.7	92%		
9	5.2	11.7	92%		
10	5.1	11.7	92%		
11	5.1	11.7	92%		
12	5.0	11.7	91%		
13	5.0	11.7	91%		
14	4.9	11.8	92%		
15	4.9	11.8	92%		
16	4.9	11.8	92%		
17	4.8	11.8	92%		
18	5.9	1.6	13%		



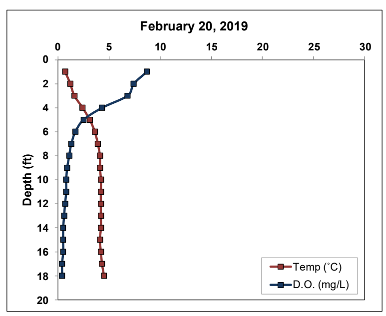
Parameter	BLS	BLB
Total P (µg/L)	15.70	14.20
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	6.40	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data collected by Onterra (AMS).

Ballard Lake

Date:	2/20/2019	**Max Depth:**	18.1
Time:	9:05	**BLS Depth (ft):**	3.0
Weather:	100% clouds, 5mph winds, 5deg F, 2.1' ice	**BLB Depth (ft):**	16.0
Entry:	HAL	**Secchi Depth (ft):**	8.6

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	0.7	8.7	61%		
2	1.2	7.4	52%		
3	1.6	6.8	49%		
4	2.4	4.3	31%		
5	3.1	2.5	19%		
6	3.6	1.7	13%		
7	3.9	1.3	10%		
8	4.1	1.1	8%		
9	4.1	0.9	7%		
10	4.2	0.8	6%		
11	4.2	0.8	6%		
12	4.2	0.7	5%		
13	4.2	0.6	5%		
14	4.2	0.5	4%		
15	4.1	0.5	4%		
16	4.2	0.5	4%		
17	4.3	0.4	3%		
18	4.5	0.4	3%		



Parameter	BLS	BLB
Total P (µg/L)	NA	NA
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	NA	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data collected by Onterra (JMB & AMS)

Water Quality Data

2018-2019	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	9.8	NA	NA
Total P (µg/L)	5	14.7	5	18.0
Dissolved P (µg/L)	2	ND	2	ND
Chl a (µg/L)	5	4.0	0	NA
TKN (µg/L	0	NA	0	NA
NO_3+NO_2-N (µg/L)	0	NA	0	NA
NH_3-N (µg/L)	0	NA	0	NA
Total N (µg/L)	2	423.5	2	507.0
Lab Cond. (µS/cm)	2	70.0	2	70.4
Alkal (mg/l $CaCO_3$)	2	30.3	2	30.4
Total Susp. Solids (mg/l)	3	ND	3	3.3
Calcium (mg/L)	2	7.6	0	NA
Magnesium (mg/L)	2	2.4	0	NA
Hardness (mg/L)	2	28.6	0	NA
Color (SU)	2	17.5	0	NA
Turbidity (NTU)	0	NA	0	NA

Trophic State Index (TSI)

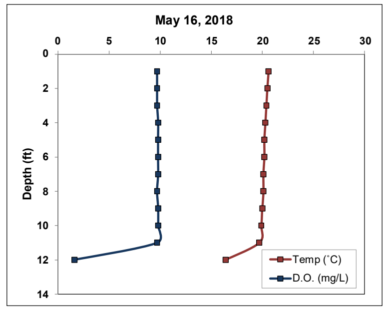
Year	TP	Chl-a	Secchi
1984		46.4	36.2
1985			
1986			
1987			
1988			
1989			
1990			
1991			
1992			
1993			40.3
1994			39.9
1995			43.5
1996			42.4
1997			40.7
1998			44.5
1999	45.2	47.1	43.5
2000			40.4
2017			37.3
2018	41.5	38.0	44.6
0			
0			
0			
0			
0			
0			
0			
0			
0			
0			
0			
0			
All Years (Weighted)	43.3	42.6	44.1
SHDL Median	52.7	50.4	52.4
NLF Ecoregion Median	48.1	47.5	45.7

	Secchi (feet)				Chlorophyll-*a* (µg/L)				Total Phosphorus (µg/L)			
	Growing Season		Summer		Growing Season		Summer		Growing Season		Summer	
Year	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
1984	2	12.3	1	17.1	1	5.0	1	5.0	1	20.0	0.0	
1985	0		0									
1986	0		0									
1987	0		0									
1988	0		0									
1989	0		0									
1990	0		0									
1991	0		0									
1992	0		0									
1993	8	11.5	5	12.9								
1994	7	13.6	5	13.2								
1995	9	12.4	3	10.3								
1996	4	11.4	3	11.2								
1997	6	13.2	4	12.5								
1998	8	9.9	5	9.6	1	7.2	0		1	20.0	0.0	
1999	17	10.9	9	10.3	7	6.2	4	5.4	8	18.0	4.0	17.3
2000	10	13.9	4	12.8					1	14.0	0.0	
2017	4	15.8	2	15.9								
2018	7	12.0	3	9.6	8	3.3	6	2.1	6	13.7	4.0	13.3
All Years (Weighted)		12		12		5		4		16		15
SHDL Median				5.6				7.5				29.0
NLF Ecoregion Median				8.9				5.6				21.0

Irving Lake

Date:	5/16/2018	**Max Depth:**	12.2
Time:	14:45	**ILS Depth (ft):**	3.0
Weather:	50% clouds, 75°F, 10mph west wind	**ILB Depth (ft):**	-
Entry:	JLW	**Secchi Depth (ft):**	7.2

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	20.6	9.7	108%		
2	20.5	9.7	108%		
3	20.4	9.7	108%	7.8	
4	20.3	9.8	109%		
5	20.2	9.8	108%		
6	20.2	9.8	108%		
7	20.1	9.8	108%		
8	20.1	9.7	107%		
9	20.0	9.8	108%	7.7	
10	19.9	9.8	108%		
11	19.7	9.7	107%		
12	16.4	1.6	16%		



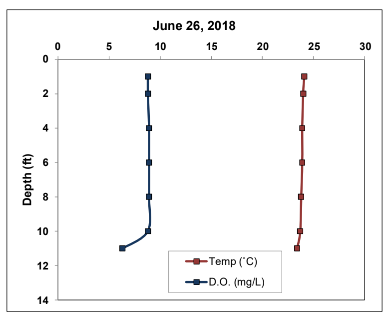
Parameter	ILS	ILB
Total P (µg/L)	21.60	NA
Dissolved P (µg/L)	ND	NA
Chl-*a* (µg/L)	3.71	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	345.00	NA
Lab Cond. (µS/cm)	58.10	NA
Lab pH	7.49	NA
Alkalinity (mg/L $CaCO_3$)	25.00	NA
Total Susp. Solids (mg/L)	2.40	NA
Calcium (mg/L)	6.45	NA
Magnesium (mg/L)	1.98	NA
Hardness (mg/L)	24.20	NA
Color (SU)	20.00	NA
Turbidity (NTU)	NA	NA

Data collected by JMB (Onterra). Moved water quality point.

Irving Lake

Date:	6/26/2018	**Max Depth:**	11.5
Time:	15:30	**ILS Depth (ft):**	3.0
Weather:	70°F, windy, 100% clouds	**ILB Depth (ft):**	-
Entry:	JLW	**Secchi Depth (ft):**	5.2

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	24.1	8.8	105%		
2	24.0	8.8	105%		
4	23.9	8.9	106%		
6	23.9	8.9	106%		
8	23.8	8.9	105%		
10	23.7	8.8	104%		
11	23.4	6.3	74%		



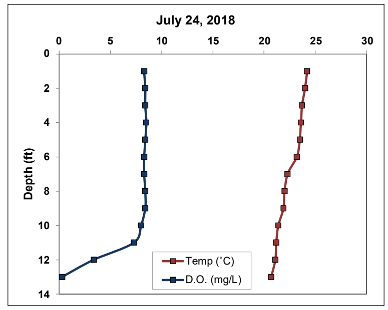
Parameter	ILS	ILB
Total P (µg/L)	25.50	NA
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	3.11	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data collected by TAH (Onterra).

Irving Lake

Date:	7/24/2018	**Max Depth:**	13.4
Time:	10:45	**ILS Depth (ft):**	3.0
Weather:	20% clouds, 74°F	**ILB Depth (ft):**	-
Entry:	JLW	**Secchi Depth (ft):**	6.2

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	24.2	8.3	99%		
2	24.0	8.4	100%		
3	23.7	8.4	99%		
4	23.6	8.5	100%		
5	23.5	8.4	99%		
6	23.2	8.3	98%		
7	22.3	8.3	95%		
8	22.0	8.4	97%		
9	21.9	8.4	95%		
10	21.4	8.0	91%		
11	21.2	7.3	82%		
12	21.1	3.4	38%		
13	20.7	0.3	3%		



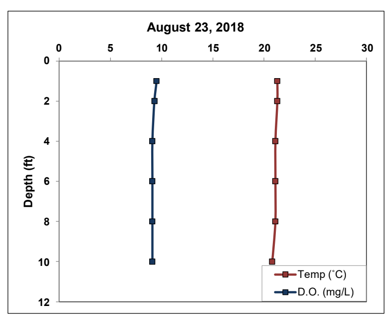
Parameter	ILS	ILB
Total P (µg/L)	22.50	NA
Dissolved P (µg/L)	ND	NA
Chl-*a* (µg/L)	4.02	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	522.00	NA
Lab Cond. (µS/cm)	60.10	NA
Lab pH	7.59	NA
Alkalinity (mg/L $CaCO_3$)	25.60	NA
Total Susp. Solids (mg/L)	ND	NA
Calcium (mg/L)	7.12	NA
Magnesium (mg/L)	2.43	NA
Hardness (mg/L)	27.80	NA
Color (SU)	20.00	NA
Turbidity (NTU)	NA	NA

Data collected by TWH & NLS (Onterra).

Irving Lake

Date:	8/23/2018	**Max Depth:**	12.0
Time:	12:00	**ILS Depth (ft):**	3.0
Weather:	clear, light breeze, 70°F	**ILB Depth (ft):**	(not entered)
Entry:	HAL	**Secchi Depth (ft):**	6.5

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	21.3	9.5	107%		
2	21.3	9.3	104%		
4	21.1	9.1	102%		
6	21.1	9.1	102%		
8	21.1	9.1	102%		
10	20.8	9.1	101%		



Parameter	ILS	ILB
Total P (µg/L)	30.90	NA
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	2.74	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

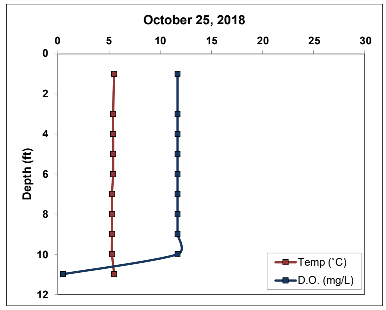
Data collected by Onterra (TAH).

Irving Lake

Date: 10/25/2018
Time: 11:55
Weather: 100% clouds, 45°F, 3mph winds
Entry: HAL

Max Depth: 12.3
ILS Depth (ft): 3.0
ILB Depth (ft): -
Secchi Depth (ft): 6.8

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	5.5	11.7	93%		
3	5.4	11.7	93%		
4	5.4	11.7	93%		
5	5.4	11.7	93%		
6	5.4	11.7	93%		
7	5.3	11.7	92%		
8	5.3	11.7	92%		
9	5.3	11.7	92%		
10	5.3	11.7	92%		
11	5.5	0.5	4%		



Parameter	ILS	ILB
Total P (µg/L)	18.90	NA
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	7.43	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	ND	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

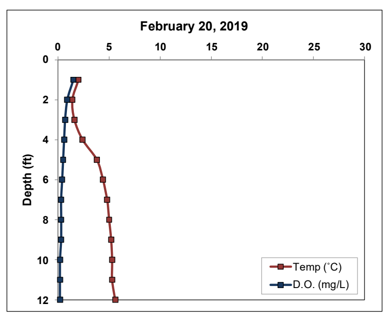
Data collected by Onterra (JMB).

Irving Lake

Date: 2/20/2019
Time: 11:00
Weather: 100% clouds, 15deg F, 5mph winds, 1.5' ice
Entry: HAL

Max Depth: 11.9
ILS Depth (ft): 3.0
ILB Depth (ft):
Secchi Depth (ft): 4.8

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	2.0	1.5	11%		
2	1.4	0.9	6%		
3	1.6	0.7	5%		
4	2.4	0.6	4%		
5	3.8	0.5	4%		
6	4.4	0.4	3%		
7	4.8	0.3	2%		
8	5.0	0.3	2%		
9	5.2	0.3	2%		
10	5.3	0.2	2%		
11	5.3	0.2	2%		
12	5.6	0.2	2%		



Parameter	ILS	ILB
Total P (µg/L)	NA	NA
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	NA	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data entered by Onterra (JMB & AMS)

Water Quality Data

2018-2019	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	6.1	NA	NA
Total P (µg/L)	5	23.9	0	NA
Dissolved P (µg/L)	2	ND	0	NA
Chl a (µg/L)	5	4.2	0	NA
TKN (µg/L	0	NA	0	NA
NO_3+NO_2-N (µg/L)	0	NA	0	NA
NH_3-N (µg/L)	0	NA	0	NA
Total N (µg/L)	2	433.5	0	NA
Lab Cond. (µS/cm)	2	59.1	0	NA
Alkal (mg/l $CaCO_3$)	2	25.3	0	NA
Total Susp. Solids (mg/l)	3	2.4	0	NA
Calcium (mg/L)	2	6.8	0	NA
Magnesium (mg/L)	2	2.2	0	NA
Hardness (mg/L)	2	26.0	0	NA
Color (SU)	2	20.0	0	NA
Turbidity (NTU)	0	NA	0	NA

Trophic State Index (TSI)

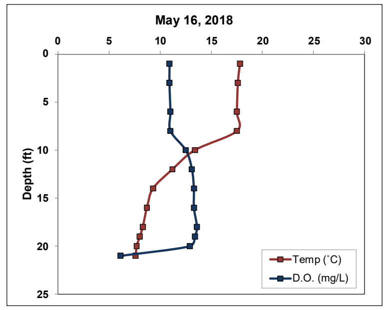
Year	TP	Chl-a	Secchi
1998			
1999	59.0	56.1	55.1
2000			48.7
2017			44.9
2018	49.7	44.2	50.8
2019			
0			
0			
0			
0			
0			
All Years (Weighted)	54.3	50.1	53.0
SHDL Median	52.7	50.4	52.4
NLF Ecoregion Median	48.1	47.5	45.7

	Secchi (feet)				Chlorophyll-*a* (µg/L)				Total Phosphorus (µg/L)			
	Growing Season		Summer		Growing Season		Summer		Growing Season		Summer	
Year	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
1998	2	9.5	0									
1999	16	5.0	10	4.6	6	11.3	4	13.5	6	39.8	4.0	44.8
2000	10	7.0	5	7.2					1	14.0	0.0	
2017	3	8.5	2	9.4								
2018	11	6.9	7	6.2	8	4.4	6	4.0	8	22.7	6.0	23.6
2019	2	10.0										
All Years (Weighted)		7		6		7		8		29		32
SHDL Median				5.6				7.5				29.0
NLF Ecoregion Median				8.9				5.6				21.0

White Birch Lake

Date:	5/16/2018	**Max Depth:**	21.5
Time:	13:30	**WBLS Depth (ft):**	3.0
Weather:	35% clouds, 72°F, 12 mph west wind	**WBLB Depth (ft):**	18.0
Entry:	JLW	**Secchi Depth (ft):**	11.3

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	17.8	10.9	115%		
3	17.6	10.9	115%	8.0	
6	17.5	11.0	115%		
8	17.5	11.0	115%		
10	13.4	12.5	120%		
12	11.2	13.1	119%	8.0	
14	9.3	13.3	116%		
16	8.7	13.3	115%		
18	8.3	13.6	115%	7.8	
19	8.0	13.4	114%		
20	7.7	12.9	108%		
21	7.6	6.1	51%		



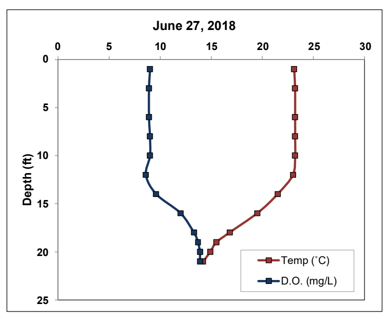
Parameter	WBLS	WBLB
Total P (µg/L)	16.60	17.20
Dissolved P (µg/L)	ND	ND
Chl-*a* (µg/L)	4.23	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	409.00	525.00
Lab Cond. (µS/cm)	62.60	62.60
Lab pH	7.66	7.45
Alkalinity (mg/L $CaCO_3$)	27.90	27.20
Total Susp. Solids (mg/L)	ND	3.00
Calcium (mg/L)	7.00	NA
Magnesium (mg/L)	2.23	NA
Hardness (mg/L)	26.70	NA
Color (SU)	20.00	NA
Turbidity (NTU)	NA	NA

Data collected by JMB (Onterra).

White Birch Lake

Date:	6/27/2018	**Max Depth:**	21.0
Time:	9:00	**WBLS Depth (ft):**	3.0
Weather:	100% clouds, 67°F, 5mph wind	**WBLB Depth (ft):**	19.0
Entry:	JLW	**Secchi Depth (ft):**	14.2

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	23.1	9.0	105%		
3	23.2	8.9	105%		
6	23.2	8.9	105%		
8	23.2	9.0	106%		
10	23.2	9.0	106%		
12	23.0	8.6	100%		
14	21.5	9.6	109%		
16	19.5	12.0	130%		
18	16.8	13.3	137%		
19	15.5	13.7	137%		
20	14.9	13.9	138%		
21	14.2	13.9	135%		



Parameter	WBLS	WBLB
Total P (µg/L)	13.60	17.50
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	2.27	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

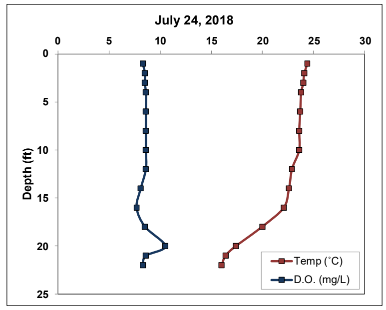
Data collected by Onterra (NLS & AMS).

White Birch Lake

Date: 7/24/2018
Time: 12:45
Weather: 40% clouds, 74°F
Entry: HAL

Max Depth: 22.4
WBLS Depth (ft): 3.0
WBLB Depth (ft): 20.0
Secchi Depth (ft): 12.1

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	24.4	8.3	99%		
2	24.1	8.5	101%		
3	24.0	8.5	101%		
4	23.8	8.6	101%		
6	23.7	8.6	101%		
8	23.6	8.6	101%		
10	23.6	8.6	101%		
12	22.9	8.6	100%		
14	22.6	8.1	94%		
16	22.1	7.7	89%		
18	20.0	8.5	93%		
20	17.4	10.5	109%		
21	16.4	8.6	88%		
22	16.0	8.3	84%		



Parameter	WBLS	WBLB
Total P (µg/L)	11.10	15.50
Dissolved P (µg/L)	ND	ND
Chl-*a* (µg/L)	3.28	NA
TKN (µg/L)	NA	NA
$NO_3 + NO_2$-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	489.00	696.00
Lab Cond. (µS/cm)	59.30	64.10
Lab pH	7.79	7.22
Alkalinity (mg/L $CaCO_3$)	26.40	27.60
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)	7.10	NA
Magnesium (mg/L)	2.31	NA
Hardness (mg/L)	27.30	NA
Color (SU)	10.00	NA
Turbidity (NTU)	NA	NA

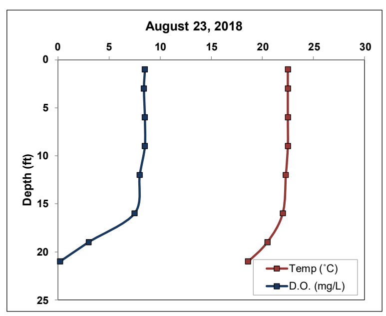
Data collected by Onterra (TWH & NLS)

White Birch Lake

Date: 8/23/2018
Time: 10:00
Weather: clear, light breeze, 65°F
Entry: HAL

Max Depth: 23.8
WBLS Depth (ft): 3.0
WBLB Depth (ft): 21.0
Secchi Depth (ft): 11.1

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	22.5	8.5	98%		
3	22.5	8.4	97%		
6	22.5	8.5	98%		
9	22.5	8.5	98%		
12	22.3	8.0	92%		
16	22.0	7.5	86%		
19	20.5	3.0	33%		
21	18.6	0.2	2%		



Parameter	WBLS	WBLB
Total P (µg/L)	13.50	24.10
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	2.14	NA
TKN (µg/L)	NA	NA
$NO_3 + NO_2$-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

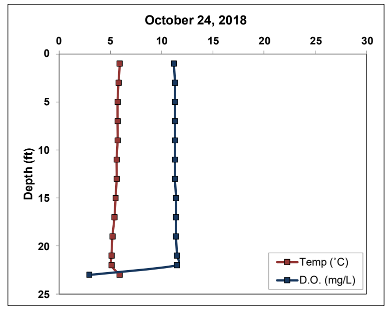
Data collected by Onterra (TAH) using Trout Lake YSI S50A DO Probe.

White Birch Lake

Date: 10/24/2018
Time: 2:15
Weather: 100% sun, 45°F
Entry: HAL

Max Depth: 23.3
WBLS Depth (ft): 3.0
WBLB Depth (ft): 21.0
Secchi Depth (ft): 15.6

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	5.9	11.2	90%		
3	5.8	11.3	90%		
5	5.7	11.3	90%		
7	5.7	11.3	90%		
9	5.7	11.3	90%		
11	5.6	11.3	90%		
13	5.6	11.3	90%		
15	5.5	11.4	90%		
17	5.4	11.4	90%		
19	5.2	11.4	90%		
21	5.1	11.5	91%		
22	5.1	11.5	91%		
23	5.9	2.9	24%		



Parameter	WBLS	WBLB
Total P (µg/L)	13.00	12.40
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	5.14	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

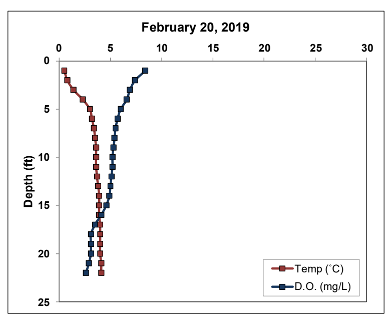
Data collected by Onterra (AMS).

White Birch Lake

Date: 2/20/2019
Time: 9:30
Weather: 100% clouds, 5mph winds, 5deg F, 1.6' ice
Entry: HAL

Max Depth: 22.4
WBLS Depth (ft): 3.0
WBLB Depth (ft): 20.0
Secchi Depth (ft): 8.9

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	0.5	8.4	58%		
2	0.8	7.4	52%		
3	1.4	6.9	49%		
4	2.3	6.6	48%		
5	3.0	6.0	44%		
6	3.2	5.7	43%		
7	3.4	5.5	41%		
8	3.5	5.4	41%		
9	3.6	5.3	40%		
10	3.6	5.2	39%		
11	3.6	5.2	39%		
12	3.7	5.1	39%		
13	3.8	5.0	38%		
14	3.9	4.9	37%		
15	3.9	4.6	35%		
16	3.9	4.1	31%		
17	4.0	3.5	27%		
18	4.0	3.1	24%		
19	4.0	3.1	24%		
20	4.0	3.1	24%		
21	4.1	2.9	22%		
22	4.1	2.6	20%		



Parameter	WBLS	WBLB
Total P (µg/L)	NA	NA
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	NA	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data collected by Onterra (JMB & AMS)

Water Quality Data

2018-2019	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	12.2	NA	NA
Total P (µg/L)	5	13.6	5	17.3
Dissolved P (µg/L)	2	ND	2	ND
Chl a (µg/L)	5	3.4	0	NA
TKN (µg/L	0	NA	0	NA
NO_3+NO_2-N (µg/L)	0	NA	0	NA
NH_3-N (µg/L)	0	NA	0	NA
Total N (µg/L)	2	449.0	2	610.5
Lab Cond. (µS/cm)	2	61.0	2	63.4
Alkal (mg/l $CaCO_3$)	2	27.2	2	27.4
Total Susp. Solids (mg/l)	3	ND	3	3.0
Calcium (mg/L)	2	7.1	0	NA
Magnesium (mg/L)	2	2.3	0	NA
Hardness (mg/L)	2	27.0	0	NA
Color (SU)	2	15.0	0	NA
Turbidity (NTU)	0	NA	0	NA

Trophic State Index (TSI)

Year	TP	Chl-a	Secchi
1984		46.4	38.7
1998			
1999	41.9	44.1	41.1
2000			38.8
2001			
2002			
2003			
2004			
2005			
2006			
2007			
2008			
2009			
2010			
2011			
2012			
2013			
2014			
2015			36.3
2016			
2017			35.7
2018	40.8	39.8	37.4
2019			
0			
0			
0			
0			
0			
0			
0			
0			
All Years (Weighted)	41.4	42.0	39.2
DLDL Median	49.4	49.7	46.2
NLF Ecoregion Median	48.1	47.5	45.7

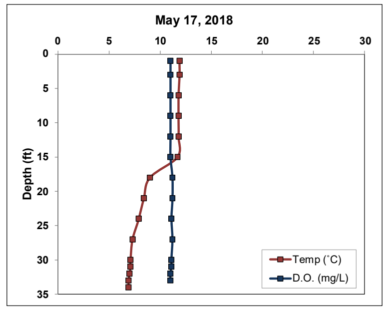
	Secchi (feet)				Chlorophyll-*a* (µg/L)				Total Phosphorus (µg/L)			
	Growing Season		Summer		Growing Season		Summer		Growing Season		Summer	
Year	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
1984	2	12.3	1	14.4	1	5.0	1	5.0	1	20.0	0.0	
1998	2	13.3	0		0		0		0		0.0	
1999	29	12.0	17	12.2	6	4.3	4	4.0	6	13.5	4.0	13.8
2000	10	15.2	4	14.3					1	17.0	0.0	
2001	0		0									
2002	0		0									
2003	3	12.7	0									
2004	0		0									
2005	0		0									
2006	0		0									
2007	0		0									
2008	0		0									
2009	0		0									
2010	0		0									
2011	0		0									
2012	0		0									
2013	0		0									
2014	0		0									
2015	1	17.0	1	17.0								
2016	0		0									
2017	3	14.4	1	17.8								
2018	10	15.3	8	15.8	5	3.4	3	2.6	5	13.6	3.0	12.7
2019												
All Years (Weighted)		13		14		4		4		14		13
DLDL Median				8.5				7.0				23.0
NLF Ecoregion Median				8.9				5.6				21.0

Lake Laura

Date: 5/17/2018
Time: 9:45
Weather: 5% clouds, 5mph east wind, 62°F
Entry: JLW

Max Depth: 34.2
LLS Depth (ft): 3.0
LLB Depth (ft): 31.0
Secchi Depth (ft): 14.6

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	11.9	11.0	102%		
3	11.9	11.0	102%	7.2	
6	11.8	11.0	102%		
9	11.8	11.0	102%		
12	11.8	11.0	102%	7.1	
15	11.7	11.0	101%		
18	9.0	11.2	97%		
21	8.4	11.2	96%		
24	7.9	11.1	93%	7.1	
27	7.3	11.2	93%		
30	7.1	11.1	92%		
31	7.1	11.1	92%	7.0	
32	7.0	11.0	91%		
33	6.9	11.0	90%		
34	6.9		0%		



Parameter	LLS	LLB
Total P (µg/L)	6.52	8.62
Dissolved P (µg/L)	ND	ND
Chl-*a* (µg/L)	2.20	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	291.00	324.00
Lab Cond. (µS/cm)	58.00	58.00
Lab pH	7.42	7.30
Alkalinity (mg/L $CaCO_3$)	26.10	26.10
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)	6.79	NA
Magnesium (mg/L)	2.19	NA
Hardness (mg/L)	26.00	NA
Color (SU)	5.00	NA
Turbidity (NTU)	NA	NA

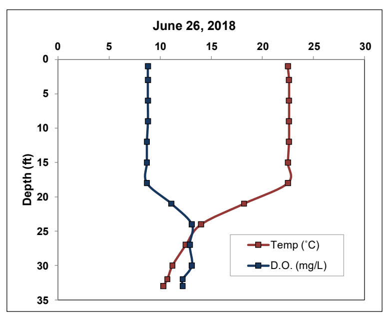
Data collected by JMB (Onterra). Moved water quality point west of old point.

Lake Laura

Date: 6/26/2018
Time: 4:00
Weather:
Entry: JLW

Max Depth: 34.8
LLS Depth (ft): 3.0
LLB Depth (ft): 32.0
Secchi Depth (ft): 11.4

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	22.5	8.8	101%		
3	22.6	8.8	102%		
6	22.6	8.8	102%		
9	22.6	8.8	102%		
12	22.6	8.7	101%		
15	22.5	8.7	100%		
18	22.5	8.7	100%		
21	18.2	11.1	118%		
24	14.0	13.1	127%		
27	12.5	12.9	121%		
30	11.2	13.1	119%		
32	10.7	12.2	110%		
33	10.3	12.2	109%		



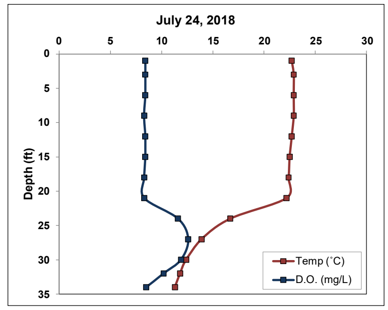
Parameter	LLS	LLB
Total P (µg/L)	12.00	12.40
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	0.48	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data collected by Onterra (JMB & DOT).

Lake Laura

Date:	7/24/2018	**Max Depth:**	34.6
Time:	9:00	**LLS Depth (ft):**	3.0
Weather:	100% sun, 66°F	**LLB Depth (ft):**	32.0
Entry:	JLW	**Secchi Depth (ft):**	15.6

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	22.7	8.4	98%		
3	22.9	8.4	98%		
6	22.9	8.4	98%		
9	22.9	8.3	97%		
12	22.7	8.4	98%		
15	22.5	8.4	97%		
18	22.4	8.3	95%		
21	22.2	8.3	95%		
24	16.7	11.6	120%		
27	13.9	12.6	122%		
30	12.4	11.9	111%		
32	11.8	10.2	94%		
34	11.3	8.5	77%		



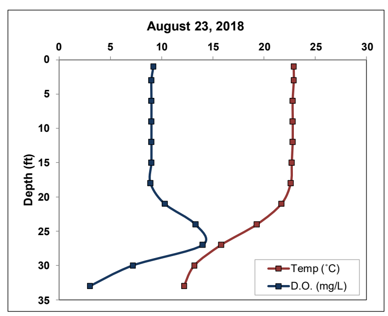
Parameter	LLS	LLB
Total P (µg/L)	8.39	19.30
Dissolved P (µg/L)	ND	ND
Chl-*a* (µg/L)	1.82	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	301.00	333.00
Lab Cond. (µS/cm)	56.10	57.90
Lab pH	7.89	7.22
Alkalinity (mg/L $CaCO_3$)	25.30	26.40
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)	6.75	NA
Magnesium (mg/L)	2.18	NA
Hardness (mg/L)	25.80	NA
Color (SU)	10.00	NA
Turbidity (NTU)	NA	NA

Data collected by TWH & NLS (Onterra).

Lake Laura

Date:	8/23/2018	**Max Depth:**	34.2
Time:	13:15	**LLS Depth (ft):**	3.0
Weather:	25% clouds, windy, 72°F	**LLB Depth (ft):**	31.0
Entry:	HAL	**Secchi Depth (ft):**	16.0

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	22.9	9.2	107%		
3	22.9	9.0	105%		
6	22.8	9.0	105%		
9	22.8	9.0	105%		
12	22.8	9.0	105%		
15	22.7	9.0	105%		
18	22.6	8.9	103%		
21	21.7	10.3	117%		
24	19.3	13.3	145%		
27	15.8	14.0	141%		
30	13.2	7.2	69%		
33	12.2	3.0	28%		



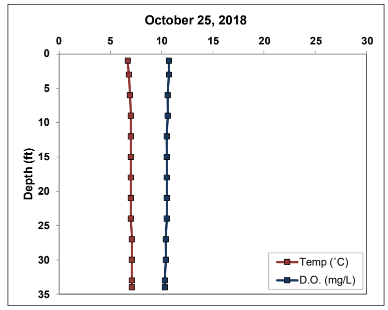
Parameter	LLS	LLB
Total P (µg/L)	7.46	17.60
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	0.53	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data collected by Onterra (TAH).

Lake Laura

Date:	10/25/2018	**Max Depth:**	35.3
Time:	9:30	**LLS Depth (ft):**	3.0
Weather:	100% clouds, 45°F	**LLB Depth (ft):**	33.0
Entry:	HAL	**Secchi Depth (ft):**	17.4

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (μS/cm)
1	6.7	10.7	88%		
3	6.8	10.7	88%		
6	6.9	10.6	87%		
9	7.0	10.6	88%		
12	7.0	10.5	87%		
15	7.0	10.5	87%		
18	7.0	10.5	87%		
21	7.0	10.5	87%		
24	7.0	10.5	87%		
27	7.1	10.4	86%		
30	7.1	10.4	86%		
33	7.1	10.3	85%		
34	7.1	10.3	85%		



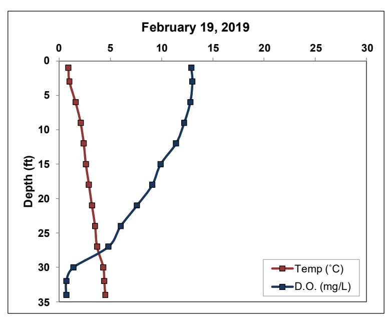
Parameter	LLS	LLB
Total P (μg/L)	7.49	8.58
Dissolved P (μg/L)	NA	NA
Chl-*a* (μg/L)	2.91	NA
TKN (μg/L)	NA	NA
NO_3 + NO_2-N (μg/L)	NA	NA
NH_3-N (μg/L)	NA	NA
Total N (μg/L)	NA	NA
Lab Cond. (μS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data collected by Onterra (JMB).

Lake Laura

Date:	2/19/2019	**Max Depth:**	35.7'
Time:	14:45	**LLS Depth (ft):**	3.0
Weather:	0% clouds, 5mph winds, 15F, 2' ice	**LLB Depth (ft):**	32.0
Entry:	HAL	**Secchi Depth (ft):**	13.2

Depth (ft)	Temp (°C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (μS/cm)
1	0.9	12.9	90%		
3	1.0	13.0	92%		
6	1.6	12.8	91%		
9	2.1	12.2	88%		
12	2.4	11.4	83%		
15	2.6	9.9	73%		
18	2.9	9.1	67%		
21	3.2	7.6	57%		
24	3.5	6.0	45%		
27	3.7	4.8	36%		
30	4.3	1.4	11%		
32	4.4	0.7	5%		
34	4.5	0.7	5%		



Parameter	LLS	LLB
Total P (μg/L)	NA	NA
Dissolved P (μg/L)	NA	NA
Chl-*a* (μg/L)	NA	NA
TKN (μg/L)	NA	NA
NO_3 + NO_2-N (μg/L)	NA	NA
NH_3-N (μg/L)	NA	NA
Total N (μg/L)	NA	NA
Lab Cond. (μS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Data collected by Onterra (JMB & AMS)

Water Quality Data

2018-2019	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	14.7	NA	NA
Total P (µg/L)	5	8.4	5	13.3
Dissolved P (µg/L)	2	ND	2	ND
Chl a (µg/L)	5	1.6	0	NA
TKN (µg/L	0	NA	0	NA
NO_3+NO_2-N (µg/L)	0	NA	0	NA
NH_3-N (µg/L)	0	NA	0	NA
Total N (µg/L)	2	296.0	2	328.5
Lab Cond. (µS/cm)	2	57.1	2	58.0
Alkal (mg/l $CaCO_3$)	2	25.7	2	26.3
Total Susp. Solids (mg/l)	3	ND	3	ND
Calcium (mg/L)	2	6.8	0	NA
Magnesium (mg/L)	2	2.2	0	NA
Hardness (mg/L)	2	25.9	0	NA
Color (SU)	2	7.5	0	NA
Turbidity (NTU)	0	NA	0	NA

Trophic State Index (TSI)

Year	TP	Chl-a	Secchi
1979	41.1	35.1	31.3
1980			
1981			
1982			
1983			
1984			
1985			
1986			
1987			
1988			
1989	35.4	38.9	
2018	36.3	30.0	38.8
0			
0			
0			
All Years (Weighted)	38.7	32.6	35.0
DSL Median	43.2	43.2	42.4
NLF Ecoregion Median	48.1	47.5	45.7

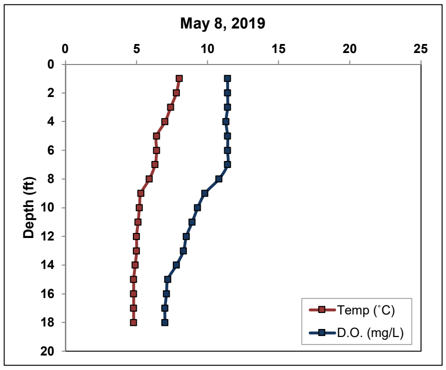
	Secchi (feet)				Chlorophyll-*a* (µg/L)				Total Phosphorus (µg/L)			
	Growing Season		Summer		Growing Season		Summer		Growing Season		Summer	
Year	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
1979	1	24.0	1	24.0	1	1.6	1	1.6	1	13.0	1.0	13.0
1980					0		0		0		0.0	
1981					0		0		0		0.0	
1982					0		0		0		0.0	
1983					0		0		0		0.0	
1984					0		0		0		0.0	
1985					0		0		0		0.0	
1986					0		0		0		0.0	
1987					0		0		0		0.0	
1988					0		0		0		0.0	
1989					3	2.3	3	2.3	4	8.8	4.0	8.8
2018	5	15.0	3	14.3	5	1.6	3	0.9	5	8.8	3.0	9.3
All Years (Weighted)		16.5		16.8		1.8		1.6		9.2		9.5
DSL Median				11.2				3.6				15.0
NLF Ecoregion Median				8.9				5.6				21.0

Big Muskellunge Lake

All data is from LTER site

Date:		**Max Depth:**	
Time:		**LS Depth (ft):**	
Weather:		**LB Depth (ft):**	
Entry:		**Secchi Depth (ft):**	12.5

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	8.0	11.4	97%		
2	7.8	11.4	96%		
3	7.4	11.4	95%		
4	7.0	11.3	93%		
5	6.4	11.4	93%		
6	6.4	11.4	93%		
7	6.3	11.4	92%		
8	5.9	10.8	86%		
9	5.3	9.8	77%		
10	5.2	9.3	73%		
11	5.1	8.9	70%		
12	5.0	8.5	66%		
13	5.0	8.3	65%		
14	4.9	7.8	61%		
15	4.8	7.2	56%		
16	4.8	7.1	55%		
17	4.8	7.0	55%		
18	4.8	7.0	55%		

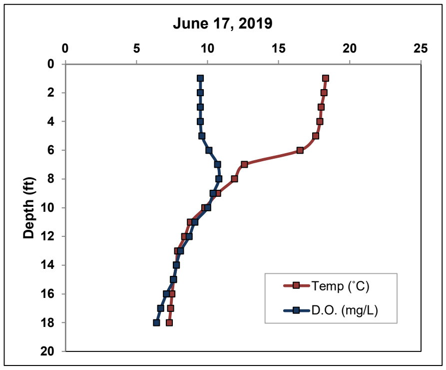


Parameter	LS	LB
Total P (µg/L)	10.00	19.00
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	6.10	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	322.00	432.00
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Big Muskellunge Lake

Date:		**Max Depth:**	
Time:		**LS Depth (ft):**	
Weather:		**LB Depth (ft):**	
Entry:		**Secchi Depth (ft):**	19.7

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	18.3	9.5	101%		
2	18.2	9.5	101%		
3	18.0	9.5	100%		
4	17.9	9.5	100%		
5	17.6	9.6	101%		
6	16.5	10.1	103%		
7	12.6	10.7	101%		
8	11.9	10.8	100%		
9	10.7	10.4	94%		
10	9.8	10.0	88%		
11	8.8	9.1	78%		
12	8.4	8.7	74%		
13	7.9	8.1	68%		
14	7.8	7.8	66%		
15	7.6	7.6	63%		
16	7.5	7.1	59%		
17	7.4	6.7	56%		
18	7.3	6.4	53%		



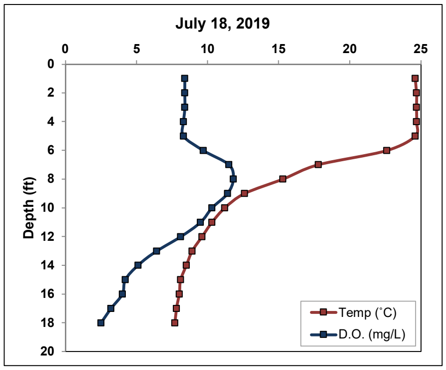
Parameter	LS	LB
Total P (µg/L)	NA	NA
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	1.80	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Big Muskellunge Lake

Date:
Time:
Weather:
Entry:

Max Depth:
LS Depth (ft):
LB Depth (ft):
Secchi Depth (ft): 18.0

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	24.6	8.4	101%		
2	24.7	8.4	101%		
3	24.7	8.4	101%		
4	24.7	8.3	100%		
5	24.6	8.3	100%		
6	22.6	9.7	113%		
7	17.8	11.5	121%		
8	15.3	11.8	118%		
9	12.6	11.4	108%		
10	11.2	10.3	94%		
11	10.3	9.5	85%		
12	9.6	8.1	71%		
13	8.9	6.4	55%		
14	8.5	5.1	44%		
15	8.1	4.2	36%		
16	8.0	4.0	34%		
17	7.8	3.2	27%		
18	7.7	2.5	21%		



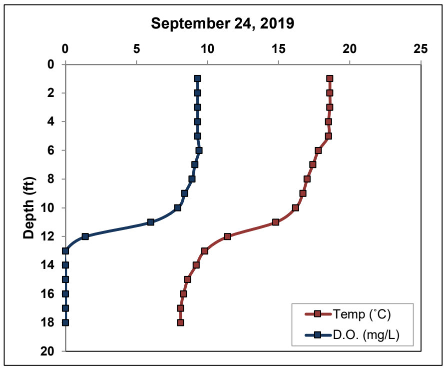
Parameter	LS	LB
Total P (µg/L)	NA	NA
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	2.60	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Big Muskellunge Lake

Date:
Time:
Weather:
Entry:

Max Depth:
LS Depth (ft):
LB Depth (ft):
Secchi Depth (ft): 26.2

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	18.6	9.3	99%		
2	18.6	9.3	99%		
3	18.6	9.3	99%		
4	18.5	9.3	99%		
5	18.5	9.3	99%		
6	17.8	9.4	99%		
7	17.4	9.1	95%		
8	17.0	8.9	92%		
9	16.7	8.4	87%		
10	16.2	7.9	81%		
11	14.8	6.0	59%		
12	11.4	1.4	13%		
13	9.8	0.0	0%		
14	9.2	0.0	0%		
15	8.6	0.0	0%		
16	8.3	0.0	0%		
17	8.1	0.0	0%		
18	8.1	0.0	0%		

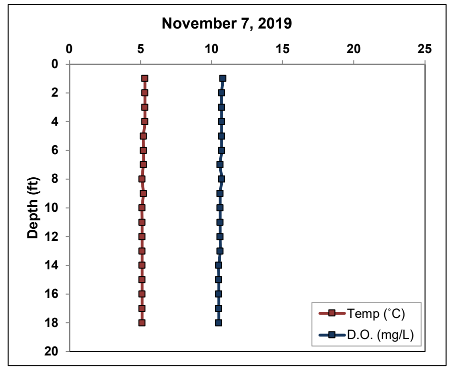


Parameter	LS	LB
Total P (µg/L)	5.00	17.00
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	2.00	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	300.00	739.00
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Big Muskellunge Lake

Date:		**Max Depth:**	
Time:		**LS Depth (ft):**	
Weather:		**LB Depth (ft):**	
Entry:		**Secchi Depth (ft):**	20.7

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	5.3	10.8	85%		
2	5.3	10.7	84%		
3	5.3	10.7	84%		
4	5.3	10.7	84%		
5	5.2	10.7	84%		
6	5.2	10.7	84%		
7	5.2	10.6	83%		
8	5.1	10.7	84%		
9	5.2	10.6	83%		
10	5.1	10.6	83%		
11	5.1	10.6	83%		
12	5.1	10.6	83%		
13	5.1	10.6	83%		
14	5.1	10.5	83%		
15	5.1	10.5	83%		
16	5.1	10.5	83%		
17	5.1	10.5	83%		
18	5.1	10.5	83%		



Parameter	LS	LB
Total P (µg/L)	NA	NA
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	3.30	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

Water Quality Data

2019-2020	Surface		Bottom	
Parameter	**Count**	**Mean**	**Count**	**Mean**
Secchi Depth (feet)	5	19.4	NA	NA
Total P (µg/L)	2	7.5	2	18.0
Dissolved P (µg/L)	0	NA	0	NA
Chl a (µg/L)	5	3.2	0	NA
TKN (µg/L	0	NA	0	NA
NO_3+NO_2-N (µg/L)	0	NA	0	NA
NH_3-N (µg/L)	0	NA	0	NA
Total N (µg/L)	2	311.0	2	585.5
Lab Cond. (µS/cm)	0	NA	0	NA
Alkal (mg/l $CaCO_3$)	0	NA	0	NA
Total Susp. Solids (mg/l)	0	NA	0	NA
Calcium (mg/L)	0	NA	0	NA
Magnesium (mg/L)	0	NA	0	NA
Hardness (mg/L)	0	NA	0	NA
Color (SU)	0	NA	0	NA
Turbidity (NTU)	0	NA	0	NA

Trophic State Index (TSI)

Year	TP	Chl-a	Secchi
1973			40.2
1974			43.9
1975			
1976			
1977			
1978			
1979			
1980			
1981	32.2	51.5	
1982		34.0	30.0
1983		38.0	33.2
1984		41.2	35.5
1985		39.9	34.0
1986	30.0	36.7	33.1
1987	30.0	34.5	32.9
1988	26.4	34.7	32.5
1989	28.3	32.9	31.1
1990	30.8	34.9	32.4
1991	28.5	33.7	31.0
1992	26.6	40.3	31.1
1993	33.2	37.5	33.5
1994	34.1	39.5	33.3
1995	29.2	33.7	32.0
1996	30.0	36.3	34.0
1997	25.8	37.1	30.3
1998	24.1	38.3	33.8
1999	28.3	38.9	34.2
2000	33.5	36.9	34.6
2001	29.2	36.4	31.6
2002	41.1	35.1	31.6
2003	49.2	35.7	33.1
2004	31.1	34.0	33.3
2005	30.0	37.2	33.6
2006	30.0	40.1	35.6
2007	35.8	37.7	34.3
2008	35.4	37.1	33.1
2009	22.9	33.3	32.8
2010	35.2	35.7	34.8
2011	43.8	39.1	36.0
2012	4.2	35.8	35.2
2013	20.0	38.4	34.7
2014	26.6	36.5	32.4
2015	20.0	35.7	31.6
2016	33.7	37.1	34.1
2017	25.0	37.9	34.1
2018	21.5	35.3	32.8
2019	31.7	37.7	34.6
2020			
0			
0			
All Years (Weighted)	29.6	36.5	33.2
DHDL Median	45.0	46.4	42.8
NLF Ecoregion Median	48.1	47.5	45.7

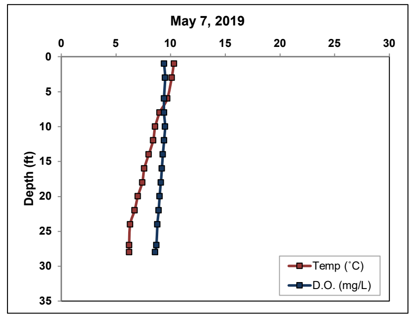
	Secchi (feet)				Chlorophyll-*a* (μg/L)				Total Phosphorus (μg/L)			
	Growing Season		Summer		Growing Season		Summer		Growing Season		Summer	
Year	**Count**	**Mean**	**Count**	**Mean**	**Count**	**Mean**	**Count**	**Mean**	**Count**	**Mean**	**Count**	**Mean**
1973	1	13.0	1	13.0								
1974	3	10.6	1	10.0								
1975	0		0									
1976												
1977												
1978												
1979												
1980												
1981					8	7.9	5	8.4	2	6.0	1.0	7.0
1982	13	22.9	6	26.2	11	2.3	6	1.4	0		0.0	
1983	11	21.6	6	21.1	11	2.1	6	2.1	0		0.0	
1984	11	19.1	6	18.0	12	3.8	8	2.9	0		0.0	
1985	12	20.8	6	20.0	12	2.7	6	2.6	0		0.0	
1986	15	21.3	7	21.3	16	2.6	7	1.9	8	9.5	3.0	6.0
1987	14	20.5	7	21.5	15	2.0	7	1.5	7	7.6	3.0	6.0
1988	15	20.1	7	22.1	16	2.5	7	1.5	8	7.9	3.0	4.7
1989	13	21.8	6	24.3	14	2.2	6	1.3	8	9.5	3.0	5.3
1990	14	20.1	6	22.3	15	2.6	6	1.6	8	8.3	3.0	6.3
1991	13	21.3	7	24.6	14	2.4	7	1.4	9	7.4	5.0	5.4
1992	13	20.8	7	24.4	13	2.8	7	2.7	7	6.7	4.0	4.8
1993	13	18.3	7	20.6	12	2.6	7	2.0	8	8.4	4.0	7.5
1994	12	17.8	5	20.9	14	3.2	7	2.5	7	9.9	2.0	8.0
1995	14	20.0	6	23.0	17	2.5	7	1.4	8	7.5	3.0	5.7
1996	13	16.7	6	20.0	14	2.4	7	1.8	7	8.4	3.0	6.0
1997	14	21.5	7	25.8	14	2.1	7	1.9	9	7.9	4.0	4.5
1998	14	19.3	7	20.2	13	2.9	7	2.2	9	5.8	4.0	4.0
1999	13	18.5	6	19.6	15	2.6	6	2.3	8	8.0	3.0	5.3
2000	15	19.4	6	19.1	15	2.5	6	1.9	8	7.1	3.0	7.7
2001	14	20.1	6	23.6	16	2.6	6	1.8	9	8.6	3.0	5.7
2002	15	22.2	7	23.6	17	2.6	9	1.6	9	11.4	3.0	13.0
2003	15	20.2	6	21.3	16	2.7	6	1.7	10	10.8	3.0	22.7
2004	17	20.5	8	20.9	18	1.9	9	1.4	11	6.6	4.0	6.5
2005	15	20.9	6	20.5	18	2.8	6	2.0	10	6.8	3.0	6.0
2006	15	19.4	6	17.9	19	3.0	7	2.6	10	6.3	4.0	6.0
2007	14	18.3	7	19.5	16	2.4	8	2.1	8	8.1	3.0	9.0
2008	13	18.6	7	21.2	15	2.7	7	1.9	8	10.1	4.0	8.8
2009	14	19.1	6	21.7	19	3.3	8	1.3	7	8.4	3.0	3.7
2010	15	17.7	7	18.8	17	3.2	8	1.7	10	12.3	5.0	8.6
2011	13	17.5	6	17.3	14	2.6	6	2.4	7	12.1	3.0	15.7
2012	16	19.0	6	18.4	21	2.1	7	1.7	4	7.0	1.0	1.0
2013	9	19.1	5	19.0	10	2.5	5	2.2	8	6.1	3.0	3.0
2014	12	20.1	7	22.3	12	2.6	7	1.8	7	6.6	4.0	4.8
2015	14	21.3	7	23.6	16	2.6	7	1.7	8	6.1	3.0	3.0
2016	14	17.8	7	19.8	18	2.2	9	1.9	9	9.2	4.0	7.8
2017	14	18.0	6	19.7	16	2.5	8	2.1	8	5.8	4.0	4.3
2018	12	20.6	6	21.7	12	1.8	6	1.6	6	4.2	3.0	3.3
2019	13	18.6	7	19.1	13	2.6	7	2.1	6	7.0	4.0	6.8
2020	0		0		0		0		0		0.0	
All Years (Weighted)		19.7		21.1		2.6		2.0		8.1		6.7
DHDL Median				10.8				5.0				17.0
NLF Ecoregion Median				8.9				5.6				21.0

Razorback Lake

Date: 5/7/2019
Time: 15:15
Weather: clear, 60F, 2mph wind
Entry: MFU

Max Depth: 30.1
LS Depth (ft): 3.0
LB Depth (ft): 27.0
Secchi Depth (ft): 28.8

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	10.3	9.4	84%		
3	10.1	9.5	84%	7.5	
6	9.7	9.4	82%		
8	9.0	9.4	81%		
10	8.6	9.5	81%		
12	8.4	9.4	80%		
14	8.0	9.3	79%		
16	7.6	9.2	77%	7.3	
18	7.4	9.1	76%		
20	7.0	9.0	74%		
22	6.7	8.9	73%		
24	6.3	8.8	71%		
27	6.2	8.7	70%	7.1	
28	6.2	8.6	69%		



Parameter	LS	LB
Total P (µg/L)	8.38	13.40
Dissolved P (µg/L)	ND	ND
Chl-*a* (µg/L)	0.68	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	408.00	443.00
Lab Cond. (µS/cm)	176.00	NA
Lab pH	7.58	NA
Alkalinity (mg/L $CaCO_3$)	45.10	NA
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)	5.49	NA
Magnesium (mg/L)	1.81	NA
Hardness (mg/L)	21.20	NA
Color (SU)	5.00	NA
Turbidity (NTU)	NA	NA

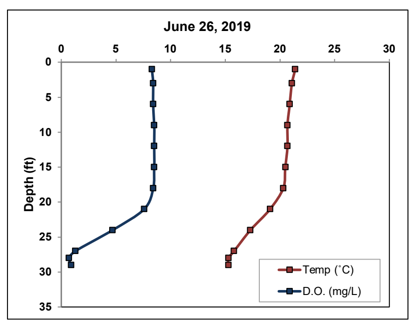
WQ collected by JMB and MFU (Onterra)

Razorback Lake

Date: 6/26/2019
Time: 11:00
Weather: 10% clouds, 70F, breezy
Entry: MFU

Max Depth: 30.2
LS Depth (ft): 3.0
LB Depth (ft): 28.0
Secchi Depth (ft): 16.1

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	21.4	8.3	94%		
3	21.1	8.4	94%		
6	20.9	8.4	94%		
9	20.7	8.5	94%		
12	20.7	8.5	94%		
15	20.5	8.5	94%		
18	20.3	8.4	93%		
21	19.1	7.6	82%		
24	17.3	4.7	49%		
27	15.8	1.3	13%		
28	15.3	0.7	7%		
29	15.3	0.9	9%		



Parameter	LS	LB
Total P (µg/L)	10.80	42.30
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	2.39	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

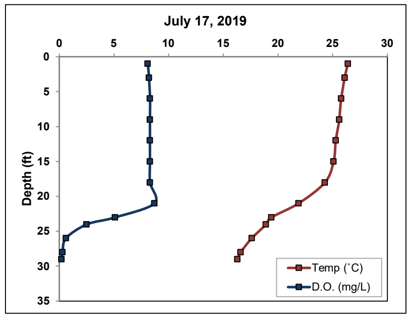
WQ collected by TAH (Onterra)

Razorback Lake

Date: 7/17/2019
Time: 12:45
Weather: 20% clouds, 80F, breezy
Entry: MFU

Max Depth: 30.0
LS Depth (ft): 3.0
LB Depth (ft): 28.0
Secchi Depth (ft): 13.1

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	26.4	8.1	100%		
3	26.1	8.2	101%		
6	25.8	8.3	102%		
9	25.6	8.3	101%		
12	25.3	8.3	101%		
15	25.1	8.3	101%		
18	24.3	8.3	99%		
21	21.9	8.7	99%		
23	19.4	5.1	55%		
24	18.9	2.5	27%		
26	17.6	0.6	6%		
28	16.6	0.3	3%		
29	16.3	0.2	2%		



Parameter	LS	LB
Total P (µg/L)	11.10	33.20
Dissolved P (µg/L)	ND	6.61
Chl-*a* (µg/L)	3.22	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	343.00	497.00
Lab Cond. (µS/cm)	51.10	66.90
Lab pH	7.66	6.92
Alkalinity (mg/L $CaCO_3$)	22.50	30.70
Total Susp. Solids (mg/L)	ND	4.60
Calcium (mg/L)	5.82	NA
Magnesium (mg/L)	1.98	NA
Hardness (mg/L)	22.70	NA
Color (SU)	5.00	NA
Turbidity (NTU)	NA	NA

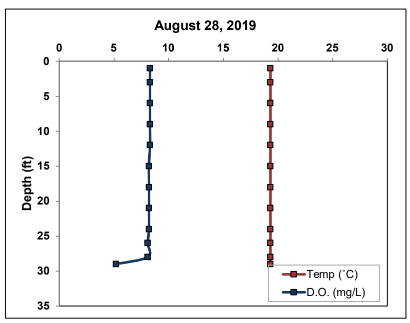
WQ collected by TAH (Onterra)

Razorback Lake

Date: 8/29/2019
Time: 8:30
Weather: clear, 52F, light breeze but very windy the day before sampling
Entry: MFU

Max Depth: 30.0
LS Depth (ft): 3.0
LB Depth (ft): 28.0
Secchi Depth (ft): 9.6

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	19.3	8.3	90%		
3	19.3	8.3	90%		
6	19.3	8.3	90%		
9	19.3	8.3	90%		
12	19.3	8.3	90%		
15	19.3	8.2	89%		
18	19.3	8.2	89%		
21	19.3	8.2	89%		
24	19.3	8.2	89%		
26	19.3	8.1	88%		
28	19.3	8.1	88%		
29	19.3	5.2	57%		



Parameter	LS	LB
Total P (µg/L)	12.40	12.30
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	3.63	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

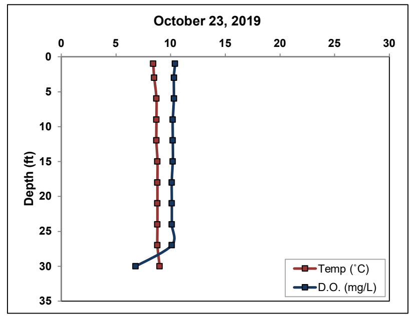
WQ collected by TAH (Onterra)

Razorback Lake

Date: 10/23/2019
Time: 12:00
Weather: 90% clouds, 40F, windy
Entry: MFU

Max Depth: 30.4
LS Depth (ft): 3.0
LB Depth (ft): 27.0
Secchi Depth (ft): 9.1

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	8.4	10.4	89%		
3	8.5	10.3	88%		
6	8.7	10.3	89%		
9	8.7	10.2	88%		
12	8.7	10.2	88%		
15	8.8	10.2	88%		
18	8.8	10.1	87%		
21	8.8	10.1	87%		
24	8.8	10.1	87%		
27	8.8	10.1	87%		
30	9.0	6.8	59%		



Parameter	LS	LB
Total P (µg/L)	13.80	11.90
Dissolved P (µg/L)	NA	NA
Chl-*a* (µg/L)	4.32	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	NA	NA
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	2.00	2.20
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

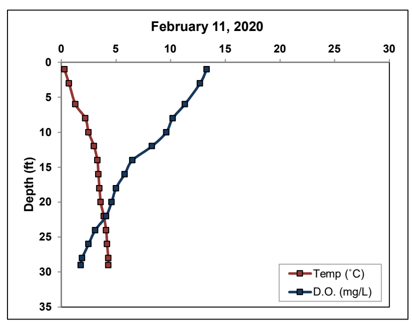
WQ collected by AMS (Onterra)

Razorback Lake

Date: 2/11/2020
Time: 14:30
Weather: 5% clouds, 25F 11" ice
Entry: MFU

Max Depth: 29.8
LS Depth (ft): 3.0
LB Depth (ft): 28.0
Secchi Depth (ft): 9.1

Depth (ft)	Temp (˚C)	D.O. (mg/L)	% Saturation	pH	Sp. Cond. (µS/cm)
1	0.3	13.3	92%		
3	0.7	12.7	89%		
6	1.3	11.3	80%		
8	2.2	10.2	74%		
10	2.5	9.6	71%		
12	3.0	8.3	61%		
14	3.3	6.5	49%		
16	3.4	5.8	44%		
18	3.5	5.0	38%		
20	3.6	4.6	35%		
22	3.9	4.1	31%		
24	4.1	3.1	24%		
26	4.2	2.5	19%		
28	4.3	1.9	15%		
29	4.3	1.8	14%		



Parameter	LS	LB
Total P (µg/L)	ND	13.00
Dissolved P (µg/L)	ND	4.65
Chl-*a* (µg/L)	NA	NA
TKN (µg/L)	NA	NA
NO_3 + NO_2-N (µg/L)	NA	NA
NH_3-N (µg/L)	NA	NA
Total N (µg/L)	348.00	774.00
Lab Cond. (µS/cm)	NA	NA
Lab pH	NA	NA
Alkalinity (mg/L $CaCO_3$)	NA	NA
Total Susp. Solids (mg/L)	NA	NA
Calcium (mg/L)	NA	NA
Magnesium (mg/L)	NA	NA
Hardness (mg/L)	NA	NA
Color (SU)	NA	NA
Turbidity (NTU)	NA	NA

WQ data collected by JMB and AMS (Onterra)

Water Quality Data

2019-2020	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	14.3	NA	NA
Total P (µg/L)	6	11.3	6	21.0
Dissolved P (µg/L)	3	ND	3	5.6
Chl a (µg/L)	5	2.8	0	NA
TKN (µg/L	0	NA	0	NA
NO_3+NO_2-N (µg/L)	0	NA	0	NA
NH_3-N (µg/L)	0	NA	0	NA
Total N (µg/L)	3	366.3	3	571.3
Lab Cond. (µS/cm)	2	113.6	1	66.9
Alkal (mg/l $CaCO_3$)	2	33.8	1	30.7
Total Susp. Solids (mg/l)	3	2.0	3	3.4
Calcium (mg/L)	2	5.7	0	NA
Magnesium (mg/L)	2	1.9	0	NA
Hardness (mg/L)	2	22.0	0	NA
Color (SU)	2	5.0	0	NA
Turbidity (NTU)	0	NA	0	NA

Trophic State Index (TSI)

Year	TP	Chl-a	Secchi
1979		39.4	38.1
1989	39.1	49.0	
2019	39.3	41.6	40.2
2020			
0			
0			
0			
0			
0			
All Years (Weighted)	39.3	41.6	40.2
DSL Median	43.2	43.2	42.4
NLF Ecoregion Median	48.1	47.5	45.7

	Secchi (feet)				Chlorophyll-*a* (µg/L)				Total Phosphorus (µg/L)			
	Growing Season		Summer		Growing Season		Summer		Growing Season		Summer	
Year	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
1979	1	15.0	1	15.0	1	2.5	1	2.5				
1989					4	6.5	4	6.5	4	11.3	4.0	11.3
2019	5	14.7	3	12.9	5	2.8	3	3.1	5	11.3	3.0	11.4
2020	0		0						0		0.0	
All Years (Weighted)		14.8		13.5		4.3		4.7		11.3		11.3
DSL Median				11.2				3.6				15.0
NLF Ecoregion Median				8.9				5.6				21.0

D

APPENDIX D

Point-Intercept Aquatic Macrophyte Survey Data

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
1	553995	613436	120	Plum Lake	Vilas	7/26/2017	EEH & JBS	1	0			NONNAVIGABLE (PLANTS)																																
2	553995	613373	119	Plum Lake	Vilas	7/26/2017	EEH & JBS	2	4	Muck	Pole	SAMPLED			0																													
3	553995	613310	118	Plum Lake	Vilas	7/26/2017	EEH & JBS	3	3	Muck	Pole	SAMPLED			1													1																
4	553995	613247	117	Plum Lake	Vilas	7/26/2017	EEH & JBS	4	2	Muck	Pole	SAMPLED			2		1			2																	1							
5	554058	613688	128	Plum Lake	Vilas	7/26/2017	EEH & JBS	5	0			DOCK																																
6	554058	613625	129	Plum Lake	Vilas	7/26/2017	EEH & JBS	6	0			DOCK																																
7	554058	613562	130	Plum Lake	Vilas	7/26/2017	EEH & JBS	7	2	Sand	Pole	SAMPLED			1																										1			
8	554058	613436	112	Plum Lake	Vilas	7/26/2017	EEH & JBS	8	3	Muck	Pole	SAMPLED			3										3																			
9	554058	613373	113	Plum Lake	Vilas	7/26/2017	EEH & JBS	9	4	Muck	Pole	SAMPLED			0																													
10	554058	613310	114	Plum Lake	Vilas	7/26/2017	EEH & JBS	10	5	Muck	Pole	SAMPLED			1										1																			
11	554058	613247	115	Plum Lake	Vilas	7/26/2017	EEH & JBS	11	5	Muck	Pole	SAMPLED			1										1																			
12	554058	613184	116	Plum Lake	Vilas	7/26/2017	EEH & JBS	12	0			NONNAVIGABLE (PLANTS)																																
13	554058	613121	108	Plum Lake	Vilas	7/26/2017	EEH & JBS	13	0			NONNAVIGABLE (PLANTS)																																
14	554121	613814	127	Plum Lake	Vilas	7/26/2017	EEH & JBS	14	1	Sand	Pole	SAMPLED			0																													
15	554121	613751	126	Plum Lake	Vilas	7/26/2017	EEH & JBS	15	5	Sand	Pole	SAMPLED			2			2							1																			
16	554121	613688	125	Plum Lake	Vilas	7/26/2017	EEH & JBS	16	13	Sand	Pole	SAMPLED			0																													
17	554121	613625	124	Plum Lake	Vilas	7/26/2017	EEH & JBS	17	0			DEEP																																
18	554121	613562	123	Plum Lake	Vilas	7/26/2017	EEH & JBS	18	9	Sand	Pole	SAMPLED			0																													
19	554121	613499	122	Plum Lake	Vilas	7/26/2017	EEH & JBS	19	6	Muck	Pole	SAMPLED			3					3																								
20	554121	613436	121	Plum Lake	Vilas	7/26/2017	EEH & JBS	20	6	Muck	Pole	SAMPLED			1	1	1			1			1			1																		
21	554121	613373	111	Plum Lake	Vilas	7/26/2017	EEH & JBS	21	6	Muck	Pole	SAMPLED			1										1																			
22	554121	613310	100	Plum Lake	Vilas	7/26/2017	EEH & JBS	22	6	Muck	Pole	SAMPLED			1	1		1																										
23	554121	613247	110	Plum Lake	Vilas	7/26/2017	EEH & JBS	23	5	Muck	Pole	SAMPLED			1										1																			
24	554121	613184	109	Plum Lake	Vilas	7/26/2017	EEH & JBS	24	4	Muck	Pole	SAMPLED			1			1																										
25	554121	613121	107	Plum Lake	Vilas	7/26/2017	EEH & JBS	25	0			NONNAVIGABLE (PLANTS)																																
26	554121	613058	106	Plum Lake	Vilas	7/26/2017	EEH & JBS	26	0			NONNAVIGABLE (PLANTS)																																
27	554184	614003	88	Plum Lake	Vilas	7/26/2017	EEH & JBS	27	1	Sand	Pole	SAMPLED			1														1															
28	554184	613940	89	Plum Lake	Vilas	7/26/2017	EEH & JBS	28	3	Sand	Pole	SAMPLED			1			1							1																			
29	554184	613877	90	Plum Lake	Vilas	7/26/2017	EEH & JBS	29	3	Sand	Pole	SAMPLED			1			1	1																									
30	554184	613814	91	Plum Lake	Vilas	7/26/2017	EEH & JBS	30	10	Sand	Pole	SAMPLED			0																													
31	554184	613751	92	Plum Lake	Vilas	7/26/2017	EEH & JBS	31	20		Rope	SAMPLED			0																													
32	554184	613688	93	Plum Lake	Vilas	7/26/2017	EEH & JBS	32	19		Rope	SAMPLED			0																													
33	554184	613625	94	Plum Lake	Vilas	7/26/2017	EEH & JBS	33	20		Rope	SAMPLED			0																													
34	554184	613562	95	Plum Lake	Vilas	7/26/2017	EEH & JBS	34	19		Rope	SAMPLED			0																													
35	554184	613499	96	Plum Lake	Vilas	7/26/2017	EEH & JBS	35	18		Rope	SAMPLED			0																													
36	554184	613436	97	Plum Lake	Vilas	7/26/2017	EEH & JBS	36	7	Muck	Pole	SAMPLED			2					1			1		1																1			
37	554184	613373	98	Plum Lake	Vilas	7/26/2017	EEH & JBS	37	7	Muck	Pole	SAMPLED			3		2			1			1												1						1			
38	554184	613310	99	Plum Lake	Vilas	7/26/2017	EEH & JBS	38	7	Muck	Pole	SAMPLED			0																													
39	554184	613247	101	Plum Lake	Vilas	7/26/2017	EEH & JBS	39	0			DOCK																																
40	554184	613184	102	Plum Lake	Vilas	7/26/2017	EEH & JBS	40	4	Sand	Pole	SAMPLED			1					1																								
41	554184	613121	105	Plum Lake	Vilas	7/26/2017	EEH & JBS	41	0			NONNAVIGABLE (PLANTS)																																
42	554184	613058	103	Plum Lake	Vilas	7/26/2017	EEH & JBS	42	4	Muck	Pole	SAMPLED			1		1			1							1	1														1		
43	554184	612995	104	Plum Lake	Vilas	7/26/2017	EEH & JBS	43	0			NONNAVIGABLE (PLANTS)																																
44	554247	614003	87	Plum Lake	Vilas	7/26/2017	EEH & JBS	44	4	Sand	Pole	SAMPLED			1			1	1						1																			
45	554247	613940	86	Plum Lake	Vilas	7/26/2017	EEH & JBS	45	12	Muck	Pole	SAMPLED			1		1									1																		
46	554247	613877	85	Plum Lake	Vilas	7/26/2017	EEH & JBS	46	7	Muck	Pole	SAMPLED			2		1																		1						1			
47	554247	613814	84	Plum Lake	Vilas	7/26/2017	EEH & JBS	47	21		Rope	SAMPLED			0																													
48	554247	613751	83	Plum Lake	Vilas	7/26/2017	EEH & JBS	48	0			DEEP																																
49	554247	613688	377	Plum Lake	Vilas	7/27/2017	EEH & JBS	49	0			DEEP																																
50	554247	613625	378	Plum Lake	Vilas	7/27/2017	EEH & JBS	50	0			DEEP																																
51	554247	613562	379	Plum Lake	Vilas	7/27/2017	EEH & JBS	51	0			DEEP																																
52	554247	613499	380	Plum Lake	Vilas	7/27/2017	EEH & JBS	52	0			DEEP																																
53	554247	613436	131	Plum Lake	Vilas	7/26/2017	EEH & JBS	53	0			DEEP																																
54	554310	614066	78	Plum Lake	Vilas	7/26/2017	EEH & JBS	54	3	Sand	Pole	SAMPLED			1		1	1		1																								
55	554310	614003	79	Plum Lake	Vilas	7/26/2017	EEH & JBS	55	17		Rope	SAMPLED			0																													
56	554310	613940	80	Plum Lake	Vilas	7/26/2017	EEH & JBS	56	17		Rope	SAMPLED			0																													
57	554310	613877	81	Plum Lake	Vilas	7/26/2017	EEH & JBS	57	10	Muck	Pole	SAMPLED			0																													
58	554310	613814	82	Plum Lake	Vilas	7/26/2017	EEH & JBS	58	0			DEEP																																
59	554310	613751	0	Plum Lake	Vilas			59	0			DEEP																																
60	554310	613688	0	Plum Lake	Vilas			60	0			DEEP																																
61	554310	613625	0	Plum Lake	Vilas			61	0			DEEP																																
62	554310	613562	0	Plum Lake	Vilas			62	0			DEEP																																
63	554310	613499	133	Plum Lake	Vilas	7/26/2017	EEH & JBS	63	0			DEEP																																
64	554310	613436	132	Plum Lake	Vilas	7/26/2017	EEH & JBS	64	2	Sand	Pole	SAMPLED			0																													
65	554373	614066	77	Plum Lake	Vilas	7/26/2017	EEH & JBS	65	3	Rock	Pole	SAMPLED			0																													
66	554373	614003	76	Plum Lake	Vilas	7/26/2017	EEH & JBS	66	3	Sand	Pole	SAMPLED			0																													
67	554373	613940	75	Plum Lake	Vilas	7/26/2017	EEH & JBS	67	16		Rope	SAMPLED			0																													
68	554373	613877	74	Plum Lake	Vilas	7/26/2017	EEH & JBS	68	18		Rope	SAMPLED			0																													
69	554373	613814	72	Plum Lake	Vilas	7/26/2017	EEH & JBS	69	17		Rope	SAMPLED			0																													
70	554373	613751	73	Plum Lake	Vilas	7/26/2017	EEH & JBS	70	0			DEEP																																

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
71	554373	613688	0	Plum Lake	Vilas			71	0			DEEP																																
72	554373	613625	0	Plum Lake	Vilas			72	0			DEEP																																
73	554373	613562	136	Plum Lake	Vilas	7/26/2017	EEH & JBS	73	0			DEEP																																
74	554373	613499	134	Plum Lake	Vilas	7/26/2017	EEH & JBS	74	4	Sand	Pole	SAMPLED			1			1																										
75	554436	614066	68	Plum Lake	Vilas	7/26/2017	EEH & JBS	75	2	Sand	Pole	SAMPLED			0																													
76	554436	614003	69	Plum Lake	Vilas	7/26/2017	EEH & JBS	76	4	Sand	Pole	SAMPLED			0																													
77	554436	613940	70	Plum Lake	Vilas	7/26/2017	EEH & JBS	77	16		Rope	SAMPLED			0																													
78	554436	613877	71	Plum Lake	Vilas	7/26/2017	EEH & JBS	78	0			DEEP																																
79	554436	613814	0	Plum Lake	Vilas			79	0			DEEP																																
80	554436	613751	0	Plum Lake	Vilas			80	0			DEEP																																
81	554436	613688	0	Plum Lake	Vilas			81	0			DEEP																																
82	554436	613625	0	Plum Lake	Vilas			82	0			DEEP																																
83	554436	613562	135	Plum Lake	Vilas	7/26/2017	EEH & JBS	83	0			DEEP																																
84	554499	614066	67	Plum Lake	Vilas	7/26/2017	EEH & JBS	84	1	Sand	Pole	SAMPLED			1			1						1																				
85	554499	614003	66	Plum Lake	Vilas	7/26/2017	EEH & JBS	85	4	Sand	Pole	SAMPLED			1			1							1																			
86	554499	613940	65	Plum Lake	Vilas	7/26/2017	EEH & JBS	86	16		Rope	SAMPLED			0																													
87	554499	613877	64	Plum Lake	Vilas	7/26/2017	EEH & JBS	87	10		Rope	SAMPLED			0																													
88	554499	613814	0	Plum Lake	Vilas			88	0			DEEP																																
89	554499	613751	0	Plum Lake	Vilas			89	0			DEEP																																
90	554499	613688	0	Plum Lake	Vilas			90	0			DEEP																																
91	554499	613625	138	Plum Lake	Vilas	7/26/2017	EEH & JBS	91	0			DEEP																																
92	554499	613562	137	Plum Lake	Vilas	7/26/2017	EEH & JBS	92	2	Sand	Pole	SAMPLED			0																													
93	554562	614003	60	Plum Lake	Vilas	7/26/2017	EEH & JBS	93	6	Muck	Pole	SAMPLED			3		3			1			1								1			1	1									
94	554562	613940	61	Plum Lake	Vilas	7/26/2017	EEH & JBS	94	17		Rope	SAMPLED			0																													
95	554562	613877	62	Plum Lake	Vilas	7/26/2017	EEH & JBS	95	0			DEEP																																
96	554562	613814	0	Plum Lake	Vilas			96	0			DEEP																																
97	554562	613751	0	Plum Lake	Vilas			97	0			DEEP																																
98	554562	613688	0	Plum Lake	Vilas			98	0			DEEP																																
99	554562	613625	139	Plum Lake	Vilas	7/26/2017	EEH & JBS	99	0			DEEP																																
100	554625	614003	59	Plum Lake	Vilas	7/26/2017	EEH & JBS	100	4	Muck	Pole	SAMPLED			3	1	1			3																								
101	554625	613940	58	Plum Lake	Vilas	7/26/2017	EEH & JBS	101	20		Rope	SAMPLED			0																													
102	554625	613877	63	Plum Lake	Vilas	7/26/2017	EEH & JBS	102	0			DEEP																																
103	554625	613814	0	Plum Lake	Vilas			103	0			DEEP																																
104	554625	613751	0	Plum Lake	Vilas			104	0			DEEP																																
105	554625	613688	141	Plum Lake	Vilas	7/26/2017	EEH & JBS	105	0			DEEP																																
106	554625	613625	140	Plum Lake	Vilas	7/26/2017	EEH & JBS	106	5	Sand	Pole	SAMPLED			1		1								1								1											
107	554688	614003	56	Plum Lake	Vilas	7/26/2017	EEH & JBS	107	4	Muck	Pole	SAMPLED			3		1			3		1													1						1			
108	554688	613940	57	Plum Lake	Vilas	7/26/2017	EEH & JBS	108	0			DEEP																																
109	554688	613877	0	Plum Lake	Vilas			109	0			DEEP																																
110	554688	613814	0	Plum Lake	Vilas			110	0			DEEP																																
111	554688	613751	142	Plum Lake	Vilas	7/26/2017	EEH & JBS	111	0			DEEP																																
112	554751	614003	55	Plum Lake	Vilas	7/26/2017	EEH & JBS	112	2	Rock	Pole	SAMPLED			0																													
113	554751	613940	54	Plum Lake	Vilas	7/26/2017	EEH & JBS	113	0			DEEP																																
114	554751	613877	0	Plum Lake	Vilas			114	0			DEEP																																
115	554751	613814	143	Plum Lake	Vilas	7/26/2017	EEH & JBS	115	0			DEEP																																
116	554814	614003	53	Plum Lake	Vilas	7/26/2017	EEH & JBS	116	0			DEEP																																
117	554814	613940	0	Plum Lake	Vilas			117	0			DEEP																																
118	554814	613877	0	Plum Lake	Vilas			118	0			DEEP																																
119	554814	613814	144	Plum Lake	Vilas	7/26/2017	EEH & JBS	119	0			DEEP																																
120	554877	614066	52	Plum Lake	Vilas	7/26/2017	EEH & JBS	120	1	Rock	Pole	SAMPLED			0																													
121	554877	614003	51	Plum Lake	Vilas	7/26/2017	EEH & JBS	121	0			DEEP																																
122	554877	613940	0	Plum Lake	Vilas			122	0			DEEP																																
123	554877	613877	0	Plum Lake	Vilas			123	0			DEEP																																
124	554877	613814	145	Plum Lake	Vilas	7/26/2017	EEH & JBS	124	0			DEEP																																
125	554940	614066	49	Plum Lake	Vilas	7/26/2017	EEH & JBS	125	8	Sand	Pole	SAMPLED			3		3			1													1											
126	554940	614003	50	Plum Lake	Vilas	7/26/2017	EEH & JBS	126	0			DEEP																																
127	554940	613940	0	Plum Lake	Vilas			127	0			DEEP																																
128	554940	613877	0	Plum Lake	Vilas			128	0			DEEP																																
129	554940	613814	146	Plum Lake	Vilas	7/26/2017	EEH & JBS	129	0			DEEP																																
130	555003	614066	48	Plum Lake	Vilas	7/26/2017	EEH & JBS	130	0			DEEP																																
131	555003	614003	0	Plum Lake	Vilas			131	0			DEEP																																
132	555003	613940	0	Plum Lake	Vilas			132	0			DEEP																																
133	555003	613877	0	Plum Lake	Vilas			133	0			DEEP																																
134	555003	613814	147	Plum Lake	Vilas	7/26/2017	EEH & JBS	134	0			DEEP																																
135	555003	613751	148	Plum Lake	Vilas	7/26/2017	EEH & JBS	135	0			DEEP																																
136	555066	614066	47	Plum Lake	Vilas	7/26/2017	EEH & JBS	136	0			DEEP																																
137	555066	614003	46	Plum Lake	Vilas	7/26/2017	EEH & JBS	137	0			DEEP																																
138	555066	613940	0	Plum Lake	Vilas			138	0			DEEP																																
139	555066	613877	0	Plum Lake	Vilas			139	0			DEEP																																
140	555066	613814	0	Plum Lake	Vilas			140	0			DEEP																																

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
141	555066	613751	150	Plum Lake	Vilas	7/26/2017	EEH & JBS	141	0			DEEP																																
142	555066	613688	149	Plum Lake	Vilas	7/26/2017	EEH & JBS	142	4	Sand	Pole	SAMPLED			1			1																										
143	555129	614129	43	Plum Lake	Vilas	7/26/2017	EEH & JBS	143	5	Sand	Pole	SAMPLED			1			1	1						1																1			
144	555129	614066	44	Plum Lake	Vilas	7/26/2017	EEH & JBS	144	19		Rope	SAMPLED			0																													
145	555129	614003	45	Plum Lake	Vilas	7/26/2017	EEH & JBS	145	0			DEEP																																
146	555129	613940	0	Plum Lake	Vilas			146	0			DEEP																																
147	555129	613877	0	Plum Lake	Vilas			147	0			DEEP																																
148	555129	613814	0	Plum Lake	Vilas			148	0			DEEP																																
149	555129	613751	151	Plum Lake	Vilas	7/26/2017	EEH & JBS	149	0			DEEP																																
150	555192	614192	42	Plum Lake	Vilas	7/26/2017	EEH & JBS	150	1	Sand	Pole	SAMPLED			1			1		1					1																			
151	555192	614129	41	Plum Lake	Vilas	7/26/2017	EEH & JBS	151	28		Rope	SAMPLED			0																													
152	555192	614066	0	Plum Lake	Vilas			152	0			DEEP																																
153	555192	614003	0	Plum Lake	Vilas			153	0			DEEP																																
154	555192	613940	0	Plum Lake	Vilas			154	0			DEEP																																
155	555192	613877	0	Plum Lake	Vilas			155	0			DEEP																																
156	555192	613814	153	Plum Lake	Vilas	7/26/2017	EEH & JBS	156	0			DEEP																																
157	555192	613751	152	Plum Lake	Vilas	7/26/2017	EEH & JBS	157	8	Sand	Pole	SAMPLED			1										1																			
158	555255	614192	39	Plum Lake	Vilas	7/26/2017	EEH & JBS	158	0			DEEP																																
159	555255	614129	40	Plum Lake	Vilas	7/26/2017	EEH & JBS	159	0			DEEP																																
160	555255	614066	0	Plum Lake	Vilas			160	0			DEEP																																
161	555255	614003	0	Plum Lake	Vilas			161	0			DEEP																																
162	555255	613940	0	Plum Lake	Vilas			162	0			DEEP																																
163	555255	613877	0	Plum Lake	Vilas			163	0			DEEP																																
164	555255	613814	154	Plum Lake	Vilas	7/26/2017	EEH & JBS	164	0			DEEP																																
165	555255	613751	155	Plum Lake	Vilas	7/26/2017	EEH & JBS	165	1	Rock	Pole	SAMPLED			0																													
166	555318	614192	38	Plum Lake	Vilas	7/26/2017	EEH & JBS	166	0			TERRESTRIAL																																
167	555318	614129	37	Plum Lake	Vilas	7/26/2017	EEH & JBS	167	0			DEEP																																
168	555318	614066	0	Plum Lake	Vilas			168	0			DEEP																																
169	555318	614003	0	Plum Lake	Vilas			169	0			DEEP																																
170	555318	613940	0	Plum Lake	Vilas			170	0			DEEP																																
171	555318	613877	0	Plum Lake	Vilas			171	0			DEEP																																
172	555318	613814	156	Plum Lake	Vilas	7/26/2017	EEH & JBS	172	0			DEEP																																
173	555318	613751	157	Plum Lake	Vilas	7/26/2017	EEH & JBS	173	6	Sand	Pole	SAMPLED			1			1		1			1		1																			
174	555318	613688	158	Plum Lake	Vilas	7/26/2017	EEH & JBS	174	9	Sand	Pole	SAMPLED			1			1		1					1	1																		
175	555318	613625	159	Plum Lake	Vilas	7/26/2017	EEH & JBS	175	0			TEMPORARY OBSTACLE																																
176	555381	614192	35	Plum Lake	Vilas	7/26/2017	EEH & JBS	176	6	Sand	Pole	SAMPLED			2					1	1		1		2								1											
177	555381	614129	36	Plum Lake	Vilas	7/26/2017	EEH & JBS	177	0			DEEP																																
178	555381	614066	0	Plum Lake	Vilas			178	0			DEEP																																
179	555381	614003	0	Plum Lake	Vilas			179	0			DEEP																																
180	555381	613940	0	Plum Lake	Vilas			180	0			DEEP																																
181	555381	613877	0	Plum Lake	Vilas			181	0			DEEP																																
182	555381	613814	162	Plum Lake	Vilas	7/26/2017	EEH & JBS	182	0			DEEP																																
183	555381	613751	161	Plum Lake	Vilas	7/26/2017	EEH & JBS	183	0			DEEP																																
184	555381	613688	160	Plum Lake	Vilas	7/26/2017	EEH & JBS	184	0			DEEP																																
185	555444	614192	34	Plum Lake	Vilas	##########	EEH & JBS	185	9	Sand	Pole	SAMPLED			3		1			1			1																		1			
186	555444	614129	33	Plum Lake	Vilas	##########	EEH & JBS	186	0			DEEP																																
187	555444	614066	0	Plum Lake	Vilas			187	0			DEEP																																
188	555444	614003	0	Plum Lake	Vilas			188	0			DEEP																																
189	555444	613940	0	Plum Lake	Vilas			189	0			DEEP																																
190	555444	613877	164	Plum Lake	Vilas	##########	EEH & JBS	190	0			DEEP																																
191	555444	613814	163	Plum Lake	Vilas	##########	EEH & JBS	191	4	Rock	Pole	SAMPLED			0																													
192	555444	613688	439	Plum Lake	Vilas	##########	EEH & JBS	192	0			NONNAVIGABLE (PLANTS)																																
193	555507	614318	30	Plum Lake	Vilas	##########	EEH & JBS	193	0			NONNAVIGABLE (PLANTS)																																
194	555507	614255	31	Plum Lake	Vilas	##########	EEH & JBS	194	12	Sand	Pole	SAMPLED			2		2			1	1																							
195	555507	614192	32	Plum Lake	Vilas	##########	EEH & JBS	195	0			DEEP																					1											
196	555507	614129	0	Plum Lake	Vilas			196	0			DEEP																																
197	555507	614066	0	Plum Lake	Vilas			197	0			DEEP																																
198	555507	614003	0	Plum Lake	Vilas			198	0			DEEP																																
199	555507	613940	0	Plum Lake	Vilas			199	0			DEEP																																
200	555507	613877	165	Plum Lake	Vilas	##########	EEH & JBS	200	0			DEEP																																
201	555507	613814	166	Plum Lake	Vilas	##########	EEH & JBS	201	1	Sand	Pole	SAMPLED			0																													
202	555570	614444	376	Plum Lake	Vilas	##########	EEH & JBS	202	0			TERRESTRIAL																																
203	555570	614381	29	Plum Lake	Vilas	##########	EEH & JBS	203	4	Muck	Pole	SAMPLED			1			1		1					1																1			
204	555570	614318	28	Plum Lake	Vilas	##########	EEH & JBS	204	2	Rock	Pole	SAMPLED			1			1																										
205	555570	614255	27	Plum Lake	Vilas	##########	EEH & JBS	205	0			DEEP																																
206	555570	614192	0	Plum Lake	Vilas			206	0			DEEP																																
207	555570	614129	0	Plum Lake	Vilas			207	0			DEEP																																
208	555570	614066	0	Plum Lake	Vilas			208	0			DEEP																																
209	555570	614003	0	Plum Lake	Vilas			209	0			DEEP																																
210	555570	613940	0	Plum Lake	Vilas			210	0			DEEP																																

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
211	555570	613877	0	Plum Lake	Vilas			211	0			DEEP																																
212	555570	613814	167	Plum Lake	Vilas	#########	EEH & JBS	212	0			DEEP																																
213	555633	614444	23	Plum Lake	Vilas	7/26/2017	EEH & JBS	213	0			TERRESTRIAL																																
214	555633	614381	24	Plum Lake	Vilas	7/26/2017	EEH & JBS	214	4	Muck	Pole	SAMPLED			3			1	3	1																					1			
215	555633	614318	25	Plum Lake	Vilas	7/26/2017	EEH & JBS	215	4	Sand	Pole	SAMPLED			1			1							1																			
216	555633	614255	26	Plum Lake	Vilas	7/26/2017	EEH & JBS	216	0			DEEP																																
217	555633	614192	0	Plum Lake	Vilas			217	0			DEEP																																
218	555633	614129	0	Plum Lake	Vilas			218	0			DEEP																																
219	555633	614066	0	Plum Lake	Vilas			219	0			DEEP																																
220	555633	614003	0	Plum Lake	Vilas			220	0			DEEP																																
221	555633	613940	0	Plum Lake	Vilas			221	0			DEEP																																
222	555633	613877	0	Plum Lake	Vilas			222	0			DEEP																																
223	555633	613814	168	Plum Lake	Vilas	7/26/2017	EEH & JBS	223	0			DEEP																																
224	555633	613751	169	Plum Lake	Vilas	7/26/2017	EEH & JBS	224	9	Sand	Pole	SAMPLED			3					1													3											
225	555696	614444	22	Plum Lake	Vilas	7/26/2017	EEH & JBS	225	3	Muck	Pole	SAMPLED			1			1		1					1													1			1			
226	555696	614381	20	Plum Lake	Vilas	7/26/2017	EEH & JBS	226	4	Muck	Pole	SAMPLED			3	1	2			1	1																				1			
227	555696	614318	19	Plum Lake	Vilas	7/26/2017	EEH & JBS	227	4	Sand	Pole	SAMPLED			1			1							1																			
228	555696	614255	18	Plum Lake	Vilas	7/26/2017	EEH & JBS	228	5	Sand	Pole	SAMPLED			1			1	1																									
229	555696	614192	17	Plum Lake	Vilas	7/26/2017	EEH & JBS	229	0			DEEP																																
230	555696	614129	0	Plum Lake	Vilas			230	0			DEEP																																
231	555696	614066	0	Plum Lake	Vilas			231	0			DEEP																																
232	555696	614003	0	Plum Lake	Vilas			232	0			DEEP																																
233	555696	613940	0	Plum Lake	Vilas			233	0			DEEP																																
234	555696	613877	0	Plum Lake	Vilas			234	0			DEEP																																
235	555696	613814	0	Plum Lake	Vilas			235	0			DEEP																																
236	555696	613751	170	Plum Lake	Vilas	7/26/2017	EEH & JBS	236	0			DEEP																																
237	555759	614381	21	Plum Lake	Vilas	7/26/2017	EEH & JBS	237	0			TERRESTRIAL																																
238	555759	614255	16	Plum Lake	Vilas	7/26/2017	EEH & JBS	238	1	Rock	Pole	SAMPLED			1				1					1									1								1			
239	555759	614192	15	Plum Lake	Vilas	7/26/2017	EEH & JBS	239	0			DEEP																																
240	555759	614129	14	Plum Lake	Vilas	7/26/2017	EEH & JBS	240	0			DEEP																																
241	555759	614066	0	Plum Lake	Vilas			241	0			DEEP																																
242	555759	614003	0	Plum Lake	Vilas			242	0			DEEP																																
243	555759	613940	0	Plum Lake	Vilas			243	0			DEEP																																
244	555759	613877	0	Plum Lake	Vilas			244	0			DEEP																																
245	555759	613814	0	Plum Lake	Vilas			245	0			DEEP																																
246	555759	613751	171	Plum Lake	Vilas	7/26/2017	EEH & JBS	246	0			DEEP																																
247	555759	613688	172	Plum Lake	Vilas	7/26/2017	EEH & JBS	247	14	Sand	Pole	SAMPLED			0																													
248	555759	613625	173	Plum Lake	Vilas	7/26/2017	EEH & JBS	248	0			DEEP																																
249	555822	614192	13	Plum Lake	Vilas	7/26/2017	EEH & JBS	249	7	Rock	Pole	SAMPLED			3					1			1										3								1			
250	555822	614129	12	Plum Lake	Vilas	7/26/2017	EEH & JBS	250	0			DEEP																																
251	555822	614066	0	Plum Lake	Vilas			251	0			DEEP																																
252	555822	614003	0	Plum Lake	Vilas			252	0			DEEP																																
253	555822	613940	0	Plum Lake	Vilas			253	0			DEEP																																
254	555822	613877	0	Plum Lake	Vilas			254	0			DEEP																																
255	555822	613814	0	Plum Lake	Vilas			255	0			DEEP																																
256	555822	613751	0	Plum Lake	Vilas			256	0			DEEP																																
257	555822	613688	0	Plum Lake	Vilas			257	0			DEEP																																
258	555822	613625	175	Plum Lake	Vilas	7/26/2017	EEH & JBS	258	0			DEEP																																
259	555822	613562	174	Plum Lake	Vilas	7/26/2017	EEH & JBS	259	17	Sand	Pole	SAMPLED			0																													
260	555885	614129	11	Plum Lake	Vilas	7/26/2017	EEH & JBS	260	0			DEEP																																
261	555885	614066	0	Plum Lake	Vilas			261	0			DEEP																																
262	555885	614003	0	Plum Lake	Vilas			262	0			DEEP																																
263	555885	613940	0	Plum Lake	Vilas			263	0			DEEP																																
264	555885	613877	0	Plum Lake	Vilas			264	0			DEEP																																
265	555885	613814	0	Plum Lake	Vilas			265	0			DEEP																																
266	555885	613751	0	Plum Lake	Vilas			266	0			DEEP																																
267	555885	613688	0	Plum Lake	Vilas			267	0			DEEP																																
268	555885	613625	176	Plum Lake	Vilas	7/26/2017	EEH & JBS	268	0			DEEP																																
269	555885	613562	177	Plum Lake	Vilas	7/26/2017	EEH & JBS	269	0			DOCK																																
270	555948	614129	10	Plum Lake	Vilas	7/26/2017	EEH & JBS	270	2	Rock	Pole	SAMPLED			0																													
271	555948	614066	9	Plum Lake	Vilas	7/26/2017	EEH & JBS	271	0			DEEP																																
272	555948	614003	0	Plum Lake	Vilas			272	0			DEEP																																
273	555948	613940	0	Plum Lake	Vilas			273	0			DEEP																																
274	555948	613877	0	Plum Lake	Vilas			274	0			DEEP																																
275	555948	613814	0	Plum Lake	Vilas			275	0			DEEP																																
276	555948	613751	0	Plum Lake	Vilas			276	0			DEEP																																
277	555948	613688	0	Plum Lake	Vilas			277	0			DEEP																																
278	555948	613625	178	Plum Lake	Vilas	7/26/2017	EEH & JBS	278	0			DEEP																																
279	556011	614066	8	Plum Lake	Vilas	7/26/2017	EEH & JBS	279	0			DEEP																																
280	556011	614003	0	Plum Lake	Vilas			280	0			DEEP																																

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
281	556011	613940	0	Plum Lake	Vilas			281	0			DEEP																																
282	556011	613877	0	Plum Lake	Vilas			282	0			DEEP																																
283	556011	613814	0	Plum Lake	Vilas			283	0			DEEP																																
284	556011	613751	0	Plum Lake	Vilas			284	0			DEEP																																
285	556011	613688	180	Plum Lake	Vilas	7/26/2017	EEH & JBS	285	0			DEEP																																
286	556011	613625	179	Plum Lake	Vilas	7/26/2017	EEH & JBS	286	4	Rock	Pole	SAMPLED			0																													
287	556074	614129	6	Plum Lake	Vilas	7/26/2017	EEH & JBS	287	1	Rock	Pole	SAMPLED			0																													
288	556074	614066	7	Plum Lake	Vilas	7/26/2017	EEH & JBS	288	0			DEEP																																
289	556074	614003	0	Plum Lake	Vilas			289	0			DEEP																																
290	556074	613940	0	Plum Lake	Vilas			290	0			DEEP																																
291	556074	613877	0	Plum Lake	Vilas			291	0			DEEP																																
292	556074	613814	0	Plum Lake	Vilas			292	0			DEEP																																
293	556074	613751	182	Plum Lake	Vilas	7/26/2017	EEH & JBS	293	0			DEEP																																
294	556074	613688	181	Plum Lake	Vilas	7/26/2017	EEH & JBS	294	8	Rock	Pole	SAMPLED			1					1					1								1											
295	556137	614129	5	Plum Lake	Vilas	7/26/2017	EEH & JBS	295	0			DEEP																																
296	556137	614066	0	Plum Lake	Vilas			296	0			DEEP																																
297	556137	614003	0	Plum Lake	Vilas			297	0			DEEP																																
298	556137	613940	0	Plum Lake	Vilas			298	0			DEEP																																
299	556137	613877	441	Plum Lake	Vilas	7/27/2017	EEH & JBS	299	0			DEEP																																
300	556137	613814	440	Plum Lake	Vilas	7/27/2017	EEH & JBS	300	0			DEEP																																
301	556137	613751	183	Plum Lake	Vilas	7/26/2017	EEH & JBS	301	0			DEEP																																
302	556200	614129	4	Plum Lake	Vilas	7/26/2017	EEH & JBS	302	0			DEEP																																
303	556200	614066	0	Plum Lake	Vilas			303	0			DEEP																																
304	556200	614003	0	Plum Lake	Vilas			304	0			DEEP																																
305	556200	613940	186	Plum Lake	Vilas	7/26/2017	EEH & JBS	305	0			DEEP																																
306	556200	613877	185	Plum Lake	Vilas	7/26/2017	EEH & JBS	306	15	Sand	Pole	SAMPLED			0																													
307	556200	613814	184	Plum Lake	Vilas	7/26/2017	EEH & JBS	307	2	Rock	Pole	SAMPLED			0																													
308	556263	614129	3	Plum Lake	Vilas	7/26/2017	EEH & JBS	308	0			DEEP																																
309	556263	614066	0	Plum Lake	Vilas			309	0			DEEP																																
310	556263	614003	0	Plum Lake	Vilas			310	0			DEEP																																
311	556263	613940	187	Plum Lake	Vilas	7/26/2017	EEH & JBS	311	0			DEEP																																
312	556263	613877	188	Plum Lake	Vilas	7/26/2017	EEH & JBS	312	4	Sand	Pole	SAMPLED			0																													
313	556326	614192	1	Plum Lake	Vilas	7/26/2017	EEH & JBS	313	11	Rock	Pole	SAMPLED			0																													
314	556326	614129	2	Plum Lake	Vilas	7/26/2017	EEH & JBS	314	0			DEEP																																
315	556326	614066	0	Plum Lake	Vilas			315	0			DEEP																																
316	556326	614003	0	Plum Lake	Vilas			316	0			DEEP																																
317	556326	613940	190	Plum Lake	Vilas	7/26/2017	EEH & JBS	317	0			DEEP																																
318	556326	613877	189	Plum Lake	Vilas	7/26/2017	EEH & JBS	318	2	Sand	Pole	SAMPLED			0																													
319	556389	614192	1	Plum Lake	Vilas	7/26/2017	LJS & NLS	319	26			DEEP																																
320	556389	614129	0	Plum Lake	Vilas			320	0			DEEP																																
321	556389	614066	0	Plum Lake	Vilas			321	0			DEEP																																
322	556389	614003	0	Plum Lake	Vilas			322	0			DEEP																																
323	556389	613940	191	Plum Lake	Vilas	7/26/2017	EEH & JBS	323	0			DEEP																																
324	556389	613877	192	Plum Lake	Vilas	7/26/2017	EEH & JBS	324	0			DEEP																																
325	556389	613814	193	Plum Lake	Vilas	7/26/2017	EEH & JBS	325	15	Sand	Pole	SAMPLED			0																													
326	556452	614381	10	Plum Lake	Vilas	7/26/2017	LJS & NLS	326	2	Sand	Pole	SAMPLED			2																2													
327	556452	614192	2	Plum Lake	Vilas	7/26/2017	LJS & NLS	327	36			DEEP																																
328	556452	614129	0	Plum Lake	Vilas			328	0			DEEP																																
329	556452	614066	0	Plum Lake	Vilas			329	0			DEEP																																
330	556452	614003	0	Plum Lake	Vilas			330	0			DEEP																																
331	556452	613940	0	Plum Lake	Vilas			331	0			DEEP																																
332	556452	613877	195	Plum Lake	Vilas	7/26/2017	EEH & JBS	332	0			DEEP																																
333	556452	613814	194	Plum Lake	Vilas	7/26/2017	EEH & JBS	333	8	Sand	Pole	SAMPLED			1			1		1																								
334	556515	614570	20	Plum Lake	Vilas	7/26/2017	LJS & NLS	334	3	Sand	Pole	SAMPLED			1													1																
335	556515	614507	15	Plum Lake	Vilas	7/26/2017	LJS & NLS	335	0			SHALLOW																																
336	556515	614444	13	Plum Lake	Vilas	7/26/2017	LJS & NLS	336	0			SHALLOW																																
337	556515	614381	9	Plum Lake	Vilas	7/26/2017	LJS & NLS	337	4	Sand	Pole	SAMPLED			0																													
338	556515	614318	8	Plum Lake	Vilas	7/26/2017	LJS & NLS	338	4	Rock	Pole	SAMPLED			0																													
339	556515	614255	4	Plum Lake	Vilas	7/26/2017	LJS & NLS	339	10	Sand	Pole	SAMPLED			0																													
340	556515	614192	3	Plum Lake	Vilas	7/26/2017	LJS & NLS	340	35			DEEP																																
341	556515	614129	0	Plum Lake	Vilas			341	0			DEEP																																
342	556515	614066	0	Plum Lake	Vilas			342	0			DEEP																																
343	556515	614003	0	Plum Lake	Vilas			343	0			DEEP																																
344	556515	613940	197	Plum Lake	Vilas	7/26/2017	EEH & JBS	344	0			DEEP																																
345	556515	613877	196	Plum Lake	Vilas	7/26/2017	EEH & JBS	345	5	Rock	Pole	SAMPLED			0																													
346	556578	614633	22	Plum Lake	Vilas	7/26/2017	LJS & NLS	346	8	Sand	Pole	SAMPLED			0																													
347	556578	614570	19	Plum Lake	Vilas	7/26/2017	LJS & NLS	347	20		Rope	SAMPLED			0																													
348	556578	614507	14	Plum Lake	Vilas	7/26/2017	LJS & NLS	348	13	Sand	Pole	SAMPLED			0																													
349	556578	614444	12	Plum Lake	Vilas	7/26/2017	LJS & NLS	349	18		Rope	SAMPLED			0																													
350	556578	614381	11	Plum Lake	Vilas	7/26/2017	LJS & NLS	350	40			DEEP																																

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
351	556578	614318	7	Plum Lake	Vilas	7/26/2017	LJS & NLS	351	45			DEEP																																
352	556578	614255	6	Plum Lake	Vilas	7/26/2017	LJS & NLS	352	50			DEEP																																
353	556578	614192	5	Plum Lake	Vilas	7/26/2017	LJS & NLS	353	0			DEEP																																
354	556578	614129	442	Plum Lake	Vilas	7/27/2017	EEH & JBS	354	0			DEEP																																
355	556578	614066	199	Plum Lake	Vilas	7/26/2017	EEH & JBS	355	0			DEEP																																
356	556578	614003	198	Plum Lake	Vilas	7/26/2017	EEH & JBS	356	6	Rock	Pole	SAMPLED			0																														
357	556641	615011	50	Plum Lake	Vilas	7/26/2017	LJS & NLS	357	15	Sand	Pole	SAMPLED			0																														
358	556641	614948	49	Plum Lake	Vilas	7/26/2017	LJS & NLS	358	8	Sand	Pole	SAMPLED			1					1					1								1	1										
359	556641	614696	24	Plum Lake	Vilas	7/26/2017	LJS & NLS	359	0			NONNAVIGABLE (PLANTS)																																
360	556641	614633	23	Plum Lake	Vilas	7/26/2017	LJS & NLS	360	16		Rope	SAMPLED			0																														
361	556641	614570	17	Plum Lake	Vilas	7/26/2017	LJS & NLS	361	32			DEEP																																
362	556641	614507	16	Plum Lake	Vilas	7/26/2017	LJS & NLS	362	33			DEEP																																
363	556641	614444	18	Plum Lake	Vilas	7/26/2017	LJS & NLS	363	0			DEEP																																
364	556641	614381	21	Plum Lake	Vilas	7/26/2017	LJS & NLS	364	0			DEEP																																
365	556641	614318	0	Plum Lake	Vilas			365	0			DEEP																																
366	556641	614255	0	Plum Lake	Vilas			366	0			DEEP																																
367	556641	614192	201	Plum Lake	Vilas	7/26/2017	EEH & JBS	367	0			DEEP																																
368	556641	614129	200	Plum Lake	Vilas	7/26/2017	EEH & JBS	368	10	Sand	Pole	SAMPLED			1										1																			
369	556704	615011	51	Plum Lake	Vilas	7/26/2017	LJS & NLS	369	18		Rope	SAMPLED			0																														
370	556704	614948	48	Plum Lake	Vilas	7/26/2017	LJS & NLS	370	18		Rope	SAMPLED			0																														
371	556704	614696	26	Plum Lake	Vilas	7/26/2017	LJS & NLS	371	20		Rope	SAMPLED			0																														
372	556704	614633	25	Plum Lake	Vilas	7/26/2017	LJS & NLS	372	0			DEEP																																
373	556704	614570	27	Plum Lake	Vilas	7/26/2017	LJS & NLS	373	0			DEEP																																
374	556704	614507	0	Plum Lake	Vilas			374	0			DEEP																																
375	556704	614444	0	Plum Lake	Vilas			375	0			DEEP																																
376	556704	614381	0	Plum Lake	Vilas			376	0			DEEP																																
377	556704	614318	0	Plum Lake	Vilas			377	0			DEEP																																
378	556704	614255	0	Plum Lake	Vilas			378	0			DEEP																																
379	556704	614192	202	Plum Lake	Vilas	7/26/2017	EEH & JBS	379	0			DEEP																																
380	556704	614129	203	Plum Lake	Vilas	7/26/2017	EEH & JBS	380	2	Sand	Pole	SAMPLED			0																														
381	556767	615011	52	Plum Lake	Vilas	7/26/2017	LJS & NLS	381	18		Rope	SAMPLED			0																														
382	556767	614948	47	Plum Lake	Vilas	7/26/2017	LJS & NLS	382	20		Rope	SAMPLED			0																														
383	556767	614885	41	Plum Lake	Vilas	7/26/2017	LJS & NLS	383	9	Rock	Pole	SAMPLED			0																														
384	556767	614822	40	Plum Lake	Vilas	7/26/2017	LJS & NLS	384	1	Rock	Pole	SAMPLED			0																														
385	556767	614759	30	Plum Lake	Vilas	7/26/2017	LJS & NLS	385	17		Rope	SAMPLED			0																														
386	556767	614696	29	Plum Lake	Vilas	7/26/2017	LJS & NLS	386	25			DEEP																																
387	556767	614633	28	Plum Lake	Vilas	7/26/2017	LJS & NLS	387	0			DEEP																																
388	556767	614570	0	Plum Lake	Vilas			388	0			DEEP																																
389	556767	614507	0	Plum Lake	Vilas			389	0			DEEP																																
390	556767	614444	0	Plum Lake	Vilas			390	0			DEEP																																
391	556767	614381	0	Plum Lake	Vilas			391	0			DEEP																																
392	556767	614318	0	Plum Lake	Vilas			392	0			DEEP																																
393	556767	614255	0	Plum Lake	Vilas			393	0			DEEP																																
394	556767	614192	204	Plum Lake	Vilas	7/26/2017	EEH & JBS	394	0			DEEP																																
395	556830	615074	56	Plum Lake	Vilas	7/26/2017	LJS & NLS	395	2	Sand	Pole	SAMPLED			1										1																			
396	556830	615011	53	Plum Lake	Vilas	7/26/2017	LJS & NLS	396	19		Rope	SAMPLED			0																														
397	556830	614948	46	Plum Lake	Vilas	7/26/2017	LJS & NLS	397	19		Rope	SAMPLED			0																														
398	556830	614885	42	Plum Lake	Vilas	7/26/2017	LJS & NLS	398	22			DEEP																																
399	556830	614822	39	Plum Lake	Vilas	7/26/2017	LJS & NLS	399	9	Muck	Pole	SAMPLED			0																														
400	556830	614759	32	Plum Lake	Vilas	7/26/2017	LJS & NLS	400	11	Sand	Pole	SAMPLED			0																														
401	556830	614696	31	Plum Lake	Vilas	7/26/2017	LJS & NLS	401	0			DEEP																																
402	556830	614633	0	Plum Lake	Vilas			402	0			DEEP																																
403	556830	614570	0	Plum Lake	Vilas			403	0			DEEP																																
404	556830	614507	0	Plum Lake	Vilas			404	0			DEEP																																
405	556830	614444	0	Plum Lake	Vilas			405	0			DEEP																																
406	556830	614381	0	Plum Lake	Vilas			406	0			DEEP																																
407	556830	614318	0	Plum Lake	Vilas			407	0			DEEP																																
408	556830	614255	206	Plum Lake	Vilas	7/26/2017	EEH & JBS	408	0			DEEP																																
409	556830	614192	205	Plum Lake	Vilas	7/26/2017	EEH & JBS	409	7	Rock	Pole	SAMPLED			0																														
410	556893	615200	58	Plum Lake	Vilas	7/26/2017	LJS & NLS	410	2	Muck	Pole	SAMPLED			2					2					1								1								1			
411	556893	615137	57	Plum Lake	Vilas	7/26/2017	LJS & NLS	411	14	Muck	Pole	SAMPLED			0																														
412	556893	615074	55	Plum Lake	Vilas	7/26/2017	LJS & NLS	412	19		Rope	SAMPLED			0																														
413	556893	615011	54	Plum Lake	Vilas	7/26/2017	LJS & NLS	413	23			DEEP																																
414	556893	614948	45	Plum Lake	Vilas	7/26/2017	LJS & NLS	414	20		Rope	SAMPLED			0																														
415	556893	614885	43	Plum Lake	Vilas	7/26/2017	LJS & NLS	415	25			DEEP																																
416	556893	614822	38	Plum Lake	Vilas	7/26/2017	LJS & NLS	416	14	Sand	Pole	SAMPLED			0																														
417	556893	614759	33	Plum Lake	Vilas	7/26/2017	LJS & NLS	417	7	Sand	Pole	SAMPLED			0																														
418	556893	614696	34	Plum Lake	Vilas	7/26/2017	LJS & NLS	418	0			DEEP																																
419	556893	614633	0	Plum Lake	Vilas			419	0			DEEP																																
420	556893	614570	0	Plum Lake	Vilas			420	0			DEEP																																

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
421	556893	614507	0	Plum Lake	Vilas			421	0			DEEP																																
422	556893	614444	0	Plum Lake	Vilas			422	0			DEEP																																
423	556893	614381	0	Plum Lake	Vilas			423	0			DEEP																																
424	556893	614318	0	Plum Lake	Vilas			424	0			DEEP																																
425	556893	614255	207	Plum Lake	Vilas	7/26/2017	EEH & JBS	425	0			TEMPORARY OBSTACLE																																
426	556956	615137	59	Plum Lake	Vilas	7/26/2017	LJS & NLS	426	5	Sand	Pole	SAMPLED			0																													
427	556956	615074	60	Plum Lake	Vilas	7/26/2017	LJS & NLS	427	23			DEEP																																
428	556956	615011	61	Plum Lake	Vilas	7/26/2017	LJS & NLS	428	30			DEEP																																
429	556956	614948	62	Plum Lake	Vilas	7/26/2017	LJS & NLS	429	0			DEEP																																
430	556956	614885	44	Plum Lake	Vilas	7/26/2017	LJS & NLS	430	0			DEEP																																
431	556956	614822	37	Plum Lake	Vilas	7/26/2017	LJS & NLS	431	29			DEEP																																
432	556956	614759	36	Plum Lake	Vilas	7/26/2017	LJS & NLS	432	25			DEEP																																
433	556956	614696	35	Plum Lake	Vilas	7/26/2017	LJS & NLS	433	0			DEEP																																
434	556956	614633	0	Plum Lake	Vilas			434	0			DEEP																																
435	556956	614570	0	Plum Lake	Vilas			435	0			DEEP																																
436	556956	614507	0	Plum Lake	Vilas			436	0			DEEP																																
437	556956	614444	0	Plum Lake	Vilas			437	0			DEEP																																
438	556956	614381	0	Plum Lake	Vilas			438	0			DEEP																																
439	556956	614318	0	Plum Lake	Vilas			439	0			DEEP																																
440	556956	614255	208	Plum Lake	Vilas	7/26/2017	EEH & JBS	440	0			DEEP																																
441	557019	615074	64	Plum Lake	Vilas	7/26/2017	LJS & NLS	441	10	Rock	Pole	SAMPLED			0																													
442	557019	615011	63	Plum Lake	Vilas	7/26/2017	LJS & NLS	442	26			DEEP																																
443	557019	614948	68	Plum Lake	Vilas	7/26/2017	LJS & NLS	443	0			DEEP																																
444	557019	614885	69	Plum Lake	Vilas	7/26/2017	LJS & NLS	444	0			DEEP																																
445	557019	614822	0	Plum Lake	Vilas			445	0			DEEP																																
446	557019	614759	0	Plum Lake	Vilas			446	0			DEEP																																
447	557019	614696	0	Plum Lake	Vilas			447	0			DEEP																																
448	557019	614633	0	Plum Lake	Vilas			448	0			DEEP																																
449	557019	614570	0	Plum Lake	Vilas			449	0			DEEP																																
450	557019	614507	0	Plum Lake	Vilas			450	0			DEEP																																
451	557019	614444	0	Plum Lake	Vilas			451	0			DEEP																																
452	557019	614381	0	Plum Lake	Vilas			452	0			DEEP																																
453	557019	614318	0	Plum Lake	Vilas			453	0			DEEP																																
454	557019	614255	209	Plum Lake	Vilas	7/26/2017	EEH & JBS	454	0			DEEP																																
455	557082	615074	65	Plum Lake	Vilas	7/26/2017	LJS & NLS	455	4	Rock	Pole	SAMPLED			0																													
456	557082	615011	66	Plum Lake	Vilas	7/26/2017	LJS & NLS	456	6	Rock	Pole	SAMPLED			0																													
457	557082	614948	67	Plum Lake	Vilas	7/26/2017	LJS & NLS	457	12	Rock	Pole	SAMPLED			0																													
458	557082	614885	70	Plum Lake	Vilas	7/26/2017	LJS & NLS	458	0			DEEP																																
459	557082	614822	0	Plum Lake	Vilas			459	0			DEEP																																
460	557082	614759	0	Plum Lake	Vilas			460	0			DEEP																																
461	557082	614696	0	Plum Lake	Vilas			461	0			DEEP																																
462	557082	614633	0	Plum Lake	Vilas			462	0			DEEP																																
463	557082	614570	0	Plum Lake	Vilas			463	0			DEEP																																
464	557082	614507	0	Plum Lake	Vilas			464	0			DEEP																																
465	557082	614444	0	Plum Lake	Vilas			465	0			DEEP																																
466	557082	614381	0	Plum Lake	Vilas			466	0			DEEP																																
467	557082	614318	0	Plum Lake	Vilas			467	0			DEEP																																
468	557082	614255	210	Plum Lake	Vilas	7/26/2017	EEH & JBS	468	0			DEEP																																
469	557082	614192	211	Plum Lake	Vilas	7/26/2017	EEH & JBS	469	2	Sand	Pole	SAMPLED			1										1																			
470	557145	615011	72	Plum Lake	Vilas	7/26/2017	LJS & NLS	470	13	Sand	Pole	SAMPLED			0																													
471	557145	614948	71	Plum Lake	Vilas	7/26/2017	LJS & NLS	471	31			DEEP																																
472	557145	614885	77	Plum Lake	Vilas	7/26/2017	LJS & NLS	472	0			DEEP																																
473	557145	614822	0	Plum Lake	Vilas			473	0			DEEP																																
474	557145	614759	0	Plum Lake	Vilas			474	0			DEEP																																
475	557145	614696	0	Plum Lake	Vilas			475	0			DEEP																																
476	557145	614633	94	Plum Lake	Vilas	7/26/2017	LJS & NLS	476	0			DEEP																																
477	557145	614570	93	Plum Lake	Vilas	7/26/2017	LJS & NLS	477	0			DEEP																																
478	557145	614507	0	Plum Lake	Vilas			478	0			DEEP																																
479	557145	614444	0	Plum Lake	Vilas			479	0			DEEP																																
480	557145	614381	0	Plum Lake	Vilas			480	0			DEEP																																
481	557145	614318	0	Plum Lake	Vilas			481	0			DEEP																																
482	557145	614255	213	Plum Lake	Vilas	7/26/2017	EEH & JBS	482	0			DEEP																																
483	557145	614192	212	Plum Lake	Vilas	7/26/2017	EEH & JBS	483	1	Rock	Pole	SAMPLED			0																													
484	557208	615011	73	Plum Lake	Vilas	7/26/2017	LJS & NLS	484	13	Sand	Pole	SAMPLED			0																													
485	557208	614948	74	Plum Lake	Vilas	7/26/2017	LJS & NLS	485	28			DEEP																																
486	557208	614885	78	Plum Lake	Vilas	7/26/2017	LJS & NLS	486	0			DEEP																																
487	557208	614822	80	Plum Lake	Vilas	7/26/2017	LJS & NLS	487	0			DEEP																																
488	557208	614759	0	Plum Lake	Vilas			488	0			DEEP																																
489	557208	614696	95	Plum Lake	Vilas	7/26/2017	LJS & NLS	489	0			DEEP																																
490	557208	614633	86	Plum Lake	Vilas	7/26/2017	LJS & NLS	490	36			DEEP																																

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
491	557208	614570	87	Plum Lake	Vilas	7/26/2017	LJS & NLS	491	14	Rock	Pole	SAMPLED			0																													
492	557208	614507	92	Plum Lake	Vilas	7/26/2017	LJS & NLS	492	27			DEEP																																
493	557208	614444	0	Plum Lake	Vilas			493	0			DEEP																																
494	557208	614381	0	Plum Lake	Vilas			494	0			DEEP																																
495	557208	614318	0	Plum Lake	Vilas			495	0			DEEP																																
496	557208	614255	214	Plum Lake	Vilas	7/26/2017	EEH & JBS	496	0			DEEP																																
497	557271	614948	75	Plum Lake	Vilas	7/26/2017	LJS & NLS	497	4	Sand	Pole	SAMPLED			0																													
498	557271	614885	76	Plum Lake	Vilas	7/26/2017	LJS & NLS	498	19		Rope	SAMPLED			0																													
499	557271	614822	79	Plum Lake	Vilas	7/26/2017	LJS & NLS	499	39			DEEP																																
500	557271	614759	0	Plum Lake	Vilas			500	0			DEEP																																
501	557271	614696	88	Plum Lake	Vilas	7/26/2017	LJS & NLS	501	0			DEEP																																
502	557271	614633	85	Plum Lake	Vilas	7/26/2017	LJS & NLS	502	23			DEEP																																
503	557271	614570	89	Plum Lake	Vilas	7/26/2017	LJS & NLS	503	2	Rock	Pole	SAMPLED			0																													
504	557271	614507	91	Plum Lake	Vilas	7/26/2017	LJS & NLS	504	35			DEEP																																
505	557271	614444	98	Plum Lake	Vilas	7/26/2017	LJS & NLS	505	0			DEEP																																
506	557271	614381	0	Plum Lake	Vilas			506	0			DEEP																																
507	557271	614318	0	Plum Lake	Vilas			507	0			DEEP																																
508	557271	614255	215	Plum Lake	Vilas	7/26/2017	EEH & JBS	508	0			DEEP																																
509	557334	614822	81	Plum Lake	Vilas	7/26/2017	LJS & NLS	509	11	Rock	Pole	SAMPLED			0																													
510	557334	614759	82	Plum Lake	Vilas	7/26/2017	LJS & NLS	510	40			DEEP																																
511	557334	614696	83	Plum Lake	Vilas	7/26/2017	LJS & NLS	511	45			DEEP																																
512	557334	614633	84	Plum Lake	Vilas	7/26/2017	LJS & NLS	512	13	Sand	Pole	SAMPLED			0																													
513	557334	614507	90	Plum Lake	Vilas	7/26/2017	LJS & NLS	513	19		Rope	SAMPLED			0																													
514	557334	614444	96	Plum Lake	Vilas	7/26/2017	LJS & NLS	514	48			DEEP																																
515	557334	614381	0	Plum Lake	Vilas			515	0			DEEP																																
516	557334	614318	0	Plum Lake	Vilas			516	0			DEEP																																
517	557334	614255	216	Plum Lake	Vilas	7/26/2017	EEH & JBS	517	0			DEEP																																
518	557397	614822	109	Plum Lake	Vilas	7/26/2017	LJS & NLS	518	9	Rock	Pole	SAMPLED			0																													
519	557397	614759	108	Plum Lake	Vilas	7/26/2017	LJS & NLS	519	37			DEEP																																
520	557397	614696	107	Plum Lake	Vilas	7/26/2017	LJS & NLS	520	38			DEEP																																
521	557397	614633	106	Plum Lake	Vilas	7/26/2017	LJS & NLS	521	3	Sand	Pole	SAMPLED			0																													
522	557397	614507	99	Plum Lake	Vilas	7/26/2017	LJS & NLS	522	9	Sand	Pole	SAMPLED			0																													
523	557397	614444	97	Plum Lake	Vilas	7/26/2017	LJS & NLS	523	52			DEEP																																
524	557397	614381	0	Plum Lake	Vilas			524	0			DEEP																																
525	557397	614318	217	Plum Lake	Vilas	7/26/2017	EEH & JBS	525	0			DEEP																																
526	557460	614759	110	Plum Lake	Vilas	7/26/2017	LJS & NLS	526	36			DEEP																																
527	557460	614696	112	Plum Lake	Vilas	7/26/2017	LJS & NLS	527	0			DEEP																																
528	557460	614633	105	Plum Lake	Vilas	7/26/2017	LJS & NLS	528	10	Rock	Pole	SAMPLED			0																													
529	557460	614570	101	Plum Lake	Vilas	7/26/2017	LJS & NLS	529	9	Rock	Pole	SAMPLED			0																													
530	557460	614507	100	Plum Lake	Vilas	7/26/2017	LJS & NLS	530	37			DEEP																																
531	557460	614444	102	Plum Lake	Vilas	7/26/2017	LJS & NLS	531	0			DEEP																																
532	557460	614381	219	Plum Lake	Vilas	7/26/2017	EEH & JBS	532	0			DEEP																																
533	557460	614318	218	Plum Lake	Vilas	7/26/2017	EEH & JBS	533	4	Rock	Pole	SAMPLED			1										1																			
534	557523	614948	119	Plum Lake	Vilas	7/26/2017	LJS & NLS	534	5	Sand	Pole	SAMPLED			1																1													
535	557523	614885	118	Plum Lake	Vilas	7/26/2017	LJS & NLS	535	7	Sand	Pole	SAMPLED			0																													
536	557523	614822	116	Plum Lake	Vilas	7/26/2017	LJS & NLS	536	11	Sand	Pole	SAMPLED			0																													
537	557523	614759	111	Plum Lake	Vilas	7/26/2017	LJS & NLS	537	30			DEEP																																
538	557523	614696	114	Plum Lake	Vilas	7/26/2017	LJS & NLS	538	0			DEEP																																
539	557523	614633	117	Plum Lake	Vilas	7/26/2017	LJS & NLS	539	0			DEEP																																
540	557523	614570	104	Plum Lake	Vilas	7/26/2017	LJS & NLS	540	0			DEEP																																
541	557523	614507	103	Plum Lake	Vilas	7/26/2017	LJS & NLS	541	0			DEEP																																
542	557523	614444	0	Plum Lake	Vilas			542	0			DEEP																																
543	557523	614381	220	Plum Lake	Vilas	7/26/2017	EEH & JBS	543	0			DEEP																																
544	557586	614948	120	Plum Lake	Vilas	7/26/2017	LJS & NLS	544	4	Sand	Pole	SAMPLED			1												1																	
545	557586	614885	121	Plum Lake	Vilas	7/26/2017	LJS & NLS	545	9	Rock	Pole	SAMPLED			0																													
546	557586	614822	115	Plum Lake	Vilas	7/26/2017	LJS & NLS	546	25			DEEP																																
547	557586	614759	113	Plum Lake	Vilas	7/26/2017	LJS & NLS	547	36			DEEP																																
548	557586	614696	0	Plum Lake	Vilas			548	0			DEEP																																
549	557586	614633	0	Plum Lake	Vilas			549	0			DEEP																																
550	557586	614570	0	Plum Lake	Vilas			550	0			DEEP																																
551	557586	614507	0	Plum Lake	Vilas			551	0			DEEP																																
552	557586	614444	0	Plum Lake	Vilas			552	0			DEEP																																
553	557586	614381	221	Plum Lake	Vilas	7/26/2017	EEH & JBS	553	0			DEEP																																
554	557649	614948	124	Plum Lake	Vilas	7/26/2017	LJS & NLS	554	9	Rock	Pole	SAMPLED			0																													
555	557649	614885	123	Plum Lake	Vilas	7/26/2017	LJS & NLS	555	19			DEEP																																
556	557649	614822	122	Plum Lake	Vilas	7/26/2017	LJS & NLS	556	30			DEEP																																
557	557649	614759	0	Plum Lake	Vilas			557	0			DEEP																																
558	557649	614696	0	Plum Lake	Vilas			558	0			DEEP																																
559	557649	614633	0	Plum Lake	Vilas			559	0			DEEP																																
560	557649	614570	0	Plum Lake	Vilas			560	0			DEEP																																

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
561	557649	614507	0	Plum Lake	Vilas			561	0			DEEP																																
562	557649	614444	0	Plum Lake	Vilas			562	0			DEEP																																
563	557649	614381	222	Plum Lake	Vilas	7/26/2017	EEH & JBS	563	0			DEEP																																
564	557649	614318	223	Plum Lake	Vilas	7/26/2017	EEH & JBS	564	8	Sand	Pole	SAMPLED			0																													
565	557712	614885	125	Plum Lake	Vilas	7/26/2017	LJS & NLS	565	26			DEEP																																
566	557712	614822	0	Plum Lake	Vilas			566	0			DEEP																																
567	557712	614759	0	Plum Lake	Vilas			567	0			DEEP																																
568	557712	614696	0	Plum Lake	Vilas			568	0			DEEP																																
569	557712	614633	0	Plum Lake	Vilas			569	0			DEEP																																
570	557712	614570	0	Plum Lake	Vilas			570	0			DEEP																																
571	557712	614507	0	Plum Lake	Vilas			571	0			DEEP																																
572	557712	614444	0	Plum Lake	Vilas			572	0			DEEP																																
573	557712	614381	443	Plum Lake	Vilas	7/27/2017	EEH & JBS	573	0			DEEP																																
574	557712	614318	224	Plum Lake	Vilas	7/26/2017	EEH & JBS	574	10	Sand	Pole	SAMPLED			0																													
575	557712	614255	225	Plum Lake	Vilas	7/26/2017	EEH & JBS	575	1	Rock	Pole	SAMPLED			0																													
576	557775	614885	126	Plum Lake	Vilas	7/26/2017	LJS & NLS	576	39			DEEP																																
577	557775	614822	0	Plum Lake	Vilas			577	0			DEEP																																
578	557775	614759	0	Plum Lake	Vilas			578	0			DEEP																																
579	557775	614696	0	Plum Lake	Vilas			579	0			DEEP																																
580	557775	614633	0	Plum Lake	Vilas			580	0			DEEP																																
581	557775	614570	0	Plum Lake	Vilas			581	0			DEEP																																
582	557775	614507	0	Plum Lake	Vilas			582	0			DEEP																																
583	557775	614444	0	Plum Lake	Vilas			583	0			DEEP																																
584	557775	614381	228	Plum Lake	Vilas	7/26/2017	EEH & JBS	584	0			DEEP																																
585	557775	614318	227	Plum Lake	Vilas	7/26/2017	EEH & JBS	585	6	Rock	Pole	SAMPLED			0																													
586	557775	614255	226	Plum Lake	Vilas	7/26/2017	EEH & JBS	586	7	Sand	Pole	SAMPLED			0																													
587	557838	614948	128	Plum Lake	Vilas	7/26/2017	LJS & NLS	587	4	Rock	Pole	SAMPLED			0																													
588	557838	614885	127	Plum Lake	Vilas	7/26/2017	LJS & NLS	588	38			DEEP																																
589	557838	614822	0	Plum Lake	Vilas			589	0			DEEP																																
590	557838	614759	0	Plum Lake	Vilas			590	0			DEEP																																
591	557838	614696	0	Plum Lake	Vilas			591	0			DEEP																																
592	557838	614633	0	Plum Lake	Vilas			592	0			DEEP																																
593	557838	614570	0	Plum Lake	Vilas			593	0			DEEP																																
594	557838	614507	0	Plum Lake	Vilas			594	0			DEEP																																
595	557838	614444	0	Plum Lake	Vilas			595	0			DEEP																																
596	557838	614381	229	Plum Lake	Vilas	7/26/2017	EEH & JBS	596	0			DEEP																																
597	557838	614318	231	Plum Lake	Vilas	7/26/2017	EEH & JBS	597	0			DEEP																																
598	557838	614255	232	Plum Lake	Vilas	7/26/2017	EEH & JBS	598	0			DEEP																																
599	557838	614192	381	Plum Lake	Vilas	7/27/2017	EEH & JBS	599	0			TERRESTRIAL																																
600	557901	615011	129	Plum Lake	Vilas	7/26/2017	LJS & NLS	600	12	Sand	Pole	SAMPLED			0																													
601	557901	614948	130	Plum Lake	Vilas	7/26/2017	LJS & NLS	601	40			DEEP																																
602	557901	614885	0	Plum Lake	Vilas			602	0			DEEP																																
603	557901	614822	0	Plum Lake	Vilas			603	0			DEEP																																
604	557901	614759	0	Plum Lake	Vilas			604	0			DEEP																																
605	557901	614696	0	Plum Lake	Vilas			605	0			DEEP																																
606	557901	614633	0	Plum Lake	Vilas			606	0			DEEP																																
607	557901	614570	0	Plum Lake	Vilas			607	0			DEEP																																
608	557901	614507	0	Plum Lake	Vilas			608	0			DEEP																																
609	557901	614444	0	Plum Lake	Vilas			609	0			DEEP																																
610	557901	614381	230	Plum Lake	Vilas	7/26/2017	EEH & JBS	610	0			DEEP																																
611	557901	614318	234	Plum Lake	Vilas	7/26/2017	EEH & JBS	611	18		Rope	SAMPLED			0																													
612	557901	614255	233	Plum Lake	Vilas	7/26/2017	EEH & JBS	612	4	Rock	Pole	SAMPLED			0																													
613	557964	615011	132	Plum Lake	Vilas	7/26/2017	LJS & NLS	613	11	Sand	Pole	SAMPLED			0																													
614	557964	614948	131	Plum Lake	Vilas	7/26/2017	LJS & NLS	614	35			DEEP																																
615	557964	614885	0	Plum Lake	Vilas			615	0			DEEP																																
616	557964	614822	0	Plum Lake	Vilas			616	0			DEEP																																
617	557964	614759	0	Plum Lake	Vilas			617	0			DEEP																																
618	557964	614696	0	Plum Lake	Vilas			618	0			DEEP																																
619	557964	614633	0	Plum Lake	Vilas			619	0			DEEP																																
620	557964	614570	0	Plum Lake	Vilas			620	0			DEEP																																
621	557964	614507	0	Plum Lake	Vilas			621	0			DEEP																																
622	557964	614444	237	Plum Lake	Vilas	7/26/2017	EEH & JBS	622	0			DEEP																																
623	557964	614381	236	Plum Lake	Vilas	7/26/2017	EEH & JBS	623	17		Rope	SAMPLED			0																													
624	557964	614318	235	Plum Lake	Vilas	7/26/2017	EEH & JBS	624	2	Rock	Pole	SAMPLED			0																													
625	558027	615011	133	Plum Lake	Vilas	7/26/2017	LJS & NLS	625	4	Rock	Pole	SAMPLED			0																													
626	558027	614948	134	Plum Lake	Vilas	7/26/2017	LJS & NLS	626	34			DEEP																																
627	558027	614885	0	Plum Lake	Vilas			627	0			DEEP																																
628	558027	614822	0	Plum Lake	Vilas			628	0			DEEP																																
629	558027	614759	0	Plum Lake	Vilas			629	0			DEEP																																
630	558027	614696	0	Plum Lake	Vilas			630	0			DEEP																																

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
631	558027	614633	0	Plum Lake	Vilas			631	0			DEEP																																
632	558027	614570	0	Plum Lake	Vilas			632	0			DEEP																																
633	558027	614507	0	Plum Lake	Vilas			633	0			DEEP																																
634	558027	614444	238	Plum Lake	Vilas	7/26/2017	EEH & JBS	634	0			DEEP																																
635	558090	615074	137	Plum Lake	Vilas	7/26/2017	LJS & NLS	635	12	Sand	Pole	SAMPLED			0																													
636	558090	615011	136	Plum Lake	Vilas	7/26/2017	LJS & NLS	636	26			DEEP																																
637	558090	614948	135	Plum Lake	Vilas	7/26/2017	LJS & NLS	637	32			DEEP																																
638	558090	614885	0	Plum Lake	Vilas			638	0			DEEP																																
639	558090	614822	0	Plum Lake	Vilas			639	0			DEEP																																
640	558090	614759	0	Plum Lake	Vilas			640	0			DEEP																																
641	558090	614696	0	Plum Lake	Vilas			641	0			DEEP																																
642	558090	614633	0	Plum Lake	Vilas			642	0			DEEP																																
643	558090	614570	0	Plum Lake	Vilas			643	0			DEEP																																
644	558090	614507	240	Plum Lake	Vilas	7/26/2017	EEH & JBS	644	0			DEEP																																
645	558090	614444	239	Plum Lake	Vilas	7/26/2017	EEH & JBS	645	11	Sand	Pole	SAMPLED			0																													
646	558153	616082	192	Plum Lake	Vilas	7/26/2017	LJS & NLS	646	0			TERRESTRIAL																																
647	558153	616019	189	Plum Lake	Vilas	7/26/2017	LJS & NLS	647	7	Rock	Pole	SAMPLED			0																													
648	558153	615956	188	Plum Lake	Vilas	7/26/2017	LJS & NLS	648	14	Sand	Pole	SAMPLED			0																													
649	558153	615893	185	Plum Lake	Vilas	7/26/2017	LJS & NLS	649	9	Sand	Pole	SAMPLED			0																													
650	558153	615830	184	Plum Lake	Vilas	7/26/2017	LJS & NLS	650	12	Muck	Pole	SAMPLED			0																													
651	558153	615767	181	Plum Lake	Vilas	7/26/2017	LJS & NLS	651	12	Muck	Pole	SAMPLED			0																													
652	558153	615704	180	Plum Lake	Vilas	7/26/2017	LJS & NLS	652	5	Muck	Pole	SAMPLED			0																													
653	558153	615578	174	Plum Lake	Vilas	7/26/2017	LJS & NLS	653	7	Muck	Pole	SAMPLED			0																													
654	558153	615515	169	Plum Lake	Vilas	7/26/2017	LJS & NLS	654	2	Muck	Pole	SAMPLED			2		1											2																
655	558153	615452	168	Plum Lake	Vilas	7/26/2017	LJS & NLS	655	3	Muck	Pole	SAMPLED			1												1				1											1			
656	558153	615200	140	Plum Lake	Vilas	7/26/2017	LJS & NLS	656	3	Sand	Pole	SAMPLED			0																													
657	558153	615137	139	Plum Lake	Vilas	7/26/2017	LJS & NLS	657	12	Sand	Pole	SAMPLED			0																													
658	558153	615074	138	Plum Lake	Vilas	7/26/2017	LJS & NLS	658	27			DEEP																																
659	558153	615011	0	Plum Lake	Vilas			659	0			DEEP																																
660	558153	614948	0	Plum Lake	Vilas			660	0			DEEP																																
661	558153	614885	0	Plum Lake	Vilas			661	0			DEEP																																
662	558153	614822	0	Plum Lake	Vilas			662	0			DEEP																																
663	558153	614759	0	Plum Lake	Vilas			663	0			DEEP																																
664	558153	614696	0	Plum Lake	Vilas			664	0			DEEP																																
665	558153	614633	0	Plum Lake	Vilas			665	0			DEEP																																
666	558153	614570	0	Plum Lake	Vilas			666	0			DEEP																																
667	558153	614507	241	Plum Lake	Vilas	7/26/2017	EEH & JBS	667	0			DEEP																																
668	558153	614444	242	Plum Lake	Vilas	7/26/2017	EEH & JBS	668	2	Rock	Pole	SAMPLED			0																													
669	558216	616145	193	Plum Lake	Vilas	7/26/2017	LJS & NLS	669	6	Muck	Pole	SAMPLED			0																													
670	558216	616082	191	Plum Lake	Vilas	7/26/2017	LJS & NLS	670	13	Muck	Pole	SAMPLED			0																													
671	558216	616019	190	Plum Lake	Vilas	7/26/2017	LJS & NLS	671	18			DEEP																																
672	558216	615956	187	Plum Lake	Vilas	7/26/2017	LJS & NLS	672	18			DEEP																																
673	558216	615893	186	Plum Lake	Vilas	7/26/2017	LJS & NLS	673	18			DEEP																																
674	558216	615830	183	Plum Lake	Vilas	7/26/2017	LJS & NLS	674	17			DEEP																																
675	558216	615767	182	Plum Lake	Vilas	7/26/2017	LJS & NLS	675	18			DEEP																																
676	558216	615704	179	Plum Lake	Vilas	7/26/2017	LJS & NLS	676	12	Rock	Pole	SAMPLED			0																													
677	558216	615641	176	Plum Lake	Vilas	7/26/2017	LJS & NLS	677	5	Rock	Pole	SAMPLED			0																													
678	558216	615578	173	Plum Lake	Vilas	7/26/2017	LJS & NLS	678	14	Muck	Pole	SAMPLED			0																													
679	558216	615515	170	Plum Lake	Vilas	7/26/2017	LJS & NLS	679	2	Rock	Pole	SAMPLED			0																													
680	558216	615452	165	Plum Lake	Vilas	7/26/2017	LJS & NLS	680	9	Muck	Pole	SAMPLED			0																													
681	558216	615389	166	Plum Lake	Vilas	7/26/2017	LJS & NLS	681	7	Muck	Pole	SAMPLED			0																													
682	558216	615200	141	Plum Lake	Vilas	7/26/2017	LJS & NLS	682	0			SHALLOW																																
683	558216	615137	142	Plum Lake	Vilas	7/26/2017	LJS & NLS	683	7	Rock	Pole	SAMPLED			0																													
684	558216	615074	143	Plum Lake	Vilas	7/26/2017	LJS & NLS	684	26			DEEP																																
685	558216	615011	0	Plum Lake	Vilas			685	0			DEEP																																
686	558216	614948	0	Plum Lake	Vilas			686	0			DEEP																																
687	558216	614885	0	Plum Lake	Vilas			687	0			DEEP																																
688	558216	614822	0	Plum Lake	Vilas			688	0			DEEP																																
689	558216	614759	0	Plum Lake	Vilas			689	0			DEEP																																
690	558216	614696	247	Plum Lake	Vilas	7/26/2017	EEH & JBS	690	8	Rock	Pole	SAMPLED			0																													
691	558216	614633	246	Plum Lake	Vilas	7/26/2017	EEH & JBS	691	0			DEEP																																
692	558216	614570	0	Plum Lake	Vilas			692	0			DEEP																																
693	558216	614507	244	Plum Lake	Vilas	7/26/2017	EEH & JBS	693	0			DEEP																																
694	558216	614444	243	Plum Lake	Vilas	7/26/2017	EEH & JBS	694	1	Rock	Pole	SAMPLED			0																													
695	558279	616145	194	Plum Lake	Vilas	7/26/2017	LJS & NLS	695	6	Sand	Pole	SAMPLED			0																													
696	558279	616082	195	Plum Lake	Vilas	7/26/2017	LJS & NLS	696	15	Muck	Pole	SAMPLED			0																													
697	558279	616019	196	Plum Lake	Vilas	7/26/2017	LJS & NLS	697	19			DEEP																																
698	558279	615956	0	Plum Lake	Vilas			698	0			DEEP																																
699	558279	615893	0	Plum Lake	Vilas			699	0			DEEP																																
700	558279	615830	0	Plum Lake	Vilas			700	0			DEEP																																

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
701	558279	615767	0	Plum Lake	Vilas			701	0			DEEP																																
702	558279	615704	178	Plum Lake	Vilas	7/26/2017	LJS & NLS	702	23			DEEP																																
703	558279	615641	177	Plum Lake	Vilas	7/26/2017	LJS & NLS	703	21			DEEP																																
704	558279	615578	175	Plum Lake	Vilas	7/26/2017	LJS & NLS	704	0			DEEP																																
705	558279	615515	171	Plum Lake	Vilas	7/26/2017	LJS & NLS	705	18			DEEP																																
706	558279	615452	163	Plum Lake	Vilas	7/26/2017	LJS & NLS	706	10	Rock	Pole	SAMPLED			0																													
707	558279	615389	167	Plum Lake	Vilas	7/26/2017	LJS & NLS	707	3	Muck	Pole	SAMPLED			3													3																
708	558279	615200	148	Plum Lake	Vilas	7/26/2017	LJS & NLS	708	0			SHALLOW																																
709	558279	615137	146	Plum Lake	Vilas	7/26/2017	LJS & NLS	709	8	Rock	Pole	SAMPLED			0																													
710	558279	615074	144	Plum Lake	Vilas	7/26/2017	LJS & NLS	710	0			DEEP																																
711	558279	615011	0	Plum Lake	Vilas			711	0			DEEP																																
712	558279	614948	0	Plum Lake	Vilas			712	0			DEEP																																
713	558279	614885	0	Plum Lake	Vilas			713	0			DEEP																																
714	558279	614822	0	Plum Lake	Vilas			714	0			DEEP																																
715	558279	614759	250	Plum Lake	Vilas	7/26/2017	EEH & JBS	715	0			DEEP																																
716	558279	614696	248	Plum Lake	Vilas	7/26/2017	EEH & JBS	716	13	Sand	Pole	SAMPLED			0																													
717	558279	614633	245	Plum Lake	Vilas	7/26/2017	EEH & JBS	717	6	Sand	Pole	SAMPLED			0																													
718	558279	614570	266	Plum Lake	Vilas	7/26/2017	EEH & JBS	718	0			DEEP																																
719	558279	614507	267	Plum Lake	Vilas	7/26/2017	EEH & JBS	719	0			DEEP																																
720	558279	614444	268	Plum Lake	Vilas	7/26/2017	EEH & JBS	720	7	Muck	Pole	SAMPLED			0																													
721	558342	616019	197	Plum Lake	Vilas	7/26/2017	LJS & NLS	721	18			DEEP																																
722	558342	615956	198	Plum Lake	Vilas	7/26/2017	LJS & NLS	722	0			DEEP																																
723	558342	615893	0	Plum Lake	Vilas			723	0			DEEP																																
724	558342	615830	0	Plum Lake	Vilas			724	0			DEEP																																
725	558342	615767	0	Plum Lake	Vilas			725	0			DEEP																																
726	558342	615704	0	Plum Lake	Vilas			726	0			DEEP																																
727	558342	615641	0	Plum Lake	Vilas			727	0			DEEP																																
728	558342	615578	0	Plum Lake	Vilas			728	0			DEEP																																
729	558342	615515	172	Plum Lake	Vilas	7/26/2017	LJS & NLS	729	0			DEEP																																
730	558342	615452	162	Plum Lake	Vilas	7/26/2017	LJS & NLS	730	18			DEEP																																
731	558342	615389	164	Plum Lake	Vilas	7/26/2017	LJS & NLS	731	0			SWIM AREA																																
732	558342	615263	149	Plum Lake	Vilas	7/26/2017	LJS & NLS	732	13	Sand	Pole	SAMPLED			0																													
733	558342	615200	147	Plum Lake	Vilas	7/26/2017	LJS & NLS	733	22			DEEP																																
734	558342	615137	145	Plum Lake	Vilas	7/26/2017	LJS & NLS	734	36			DEEP																																
735	558342	615074	153	Plum Lake	Vilas	7/26/2017	LJS & NLS	735	0			DEEP																																
736	558342	615011	0	Plum Lake	Vilas			736	0			DEEP																																
737	558342	614948	0	Plum Lake	Vilas			737	0			DEEP																																
738	558342	614885	0	Plum Lake	Vilas			738	0			DEEP																																
739	558342	614822	0	Plum Lake	Vilas			739	0			DEEP																																
740	558342	614759	251	Plum Lake	Vilas	7/26/2017	EEH & JBS	740	0			DEEP																																
741	558342	614696	249	Plum Lake	Vilas	7/26/2017	EEH & JBS	741	1	Rock	Pole	SAMPLED			0																													
742	558342	614633	265	Plum Lake	Vilas	7/26/2017	EEH & JBS	742	17		Rope	SAMPLED			0																													
743	558342	614570	264	Plum Lake	Vilas	7/26/2017	EEH & JBS	743	13	Sand	Pole	SAMPLED			0																													
744	558342	614507	263	Plum Lake	Vilas	7/26/2017	EEH & JBS	744	16		Rope	SAMPLED			0																													
745	558342	614444	261	Plum Lake	Vilas	7/26/2017	EEH & JBS	745	3	Rock	Pole	SAMPLED			0																													
746	558342	614381	262	Plum Lake	Vilas	7/26/2017	EEH & JBS	746	0			TEMPORARY OBSTACLE																																
747	558405	615956	199	Plum Lake	Vilas	7/26/2017	LJS & NLS	747	22			DEEP																																
748	558405	615893	201	Plum Lake	Vilas	7/26/2017	LJS & NLS	748	0			DEEP																																
749	558405	615830	205	Plum Lake	Vilas	7/26/2017	LJS & NLS	749	0			DEEP																																
750	558405	615767	0	Plum Lake	Vilas			750	0			DEEP																																
751	558405	615704	0	Plum Lake	Vilas			751	0			DEEP																																
752	558405	615641	0	Plum Lake	Vilas			752	0			DEEP																																
753	558405	615578	0	Plum Lake	Vilas			753	0			DEEP																																
754	558405	615515	0	Plum Lake	Vilas			754	0			DEEP																																
755	558405	615452	161	Plum Lake	Vilas	7/26/2017	LJS & NLS	755	23			DEEP																																
756	558405	615389	156	Plum Lake	Vilas	7/26/2017	LJS & NLS	756	26			DEEP																																
757	558405	615326	155	Plum Lake	Vilas	7/26/2017	LJS & NLS	757	25			DEEP																																
758	558405	615263	150	Plum Lake	Vilas	7/26/2017	LJS & NLS	758	25			DEEP																																
759	558405	615200	151	Plum Lake	Vilas	7/26/2017	LJS & NLS	759	0			DEEP																																
760	558405	615137	249	Plum Lake	Vilas	7/26/2017	LJS & NLS	760	26			DEEP																																
761	558405	615074	250	Plum Lake	Vilas	7/26/2017	LJS & NLS	761	25			DEEP																																
762	558405	615011	251	Plum Lake	Vilas	7/26/2017	LJS & NLS	762	29			DEEP																																
763	558405	614948	256	Plum Lake	Vilas	7/26/2017	LJS & NLS	763	0			DEEP																																
764	558405	614885	0	Plum Lake	Vilas			764	0			DEEP																																
765	558405	614822	0	Plum Lake	Vilas			765	0			DEEP																																
766	558405	614759	252	Plum Lake	Vilas	7/26/2017	EEH & JBS	766	18		Rope	SAMPLED			0																													
767	558405	614696	255	Plum Lake	Vilas	7/26/2017	EEH & JBS	767	0			DEEP																																
768	558405	614633	256	Plum Lake	Vilas	7/26/2017	EEH & JBS	768	17		Rope	SAMPLED			0																													
769	558405	614570	257	Plum Lake	Vilas	7/26/2017	EEH & JBS	769	7	Sand	Pole	SAMPLED			0																													
770	558405	614507	258	Plum Lake	Vilas	7/26/2017	EEH & JBS	770	11	Muck	Pole	SAMPLED			0																													

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
771	558405	614444	259	Plum Lake	Vilas	7/26/2017	EEH & JBS	771	9	Muck	Pole	SAMPLED			1								1								1													
772	558405	614381	260	Plum Lake	Vilas	7/26/2017	EEH & JBS	772	1	Sand	Pole	SAMPLED			1										1																			
773	558468	615893	200	Plum Lake	Vilas	7/26/2017	LJS & NLS	773	11	Rock	Pole	SAMPLED			0																													
774	558468	615830	202	Plum Lake	Vilas	7/26/2017	LJS & NLS	774	30			DEEP																																
775	558468	615767	0	Plum Lake	Vilas			775	0			DEEP																																
776	558468	615704	0	Plum Lake	Vilas			776	0			DEEP																																
777	558468	615641	0	Plum Lake	Vilas			777	0			DEEP																																
778	558468	615578	0	Plum Lake	Vilas			778	0			DEEP																																
779	558468	615515	0	Plum Lake	Vilas			779	0			DEEP																																
780	558468	615452	160	Plum Lake	Vilas	7/26/2017	LJS & NLS	780	25			DEEP																																
781	558468	615389	157	Plum Lake	Vilas	7/26/2017	LJS & NLS	781	25			DEEP																																
782	558468	615326	154	Plum Lake	Vilas	7/26/2017	LJS & NLS	782	17		Rope	SAMPLED			0																													
783	558468	615263	152	Plum Lake	Vilas	7/26/2017	LJS & NLS	783	27			DEEP																																
784	558468	615200	248	Plum Lake	Vilas	7/26/2017	LJS & NLS	784	0			DEEP																																
785	558468	615137	247	Plum Lake	Vilas	7/26/2017	LJS & NLS	785	21			DEEP																																
786	558468	615011	252	Plum Lake	Vilas	7/26/2017	LJS & NLS	786	2	Rock	Pole	SAMPLED			1																								1					
787	558468	614948	255	Plum Lake	Vilas	7/26/2017	LJS & NLS	787	18			DEEP																																
788	558468	614885	0	Plum Lake	Vilas			788	0			DEEP																																
789	558468	614822	0	Plum Lake	Vilas			789	0			DEEP																																
790	558468	614759	253	Plum Lake	Vilas	7/26/2017	EEH & JBS	790	0			DEEP																																
791	558468	614696	254	Plum Lake	Vilas	7/26/2017	EEH & JBS	791	16		Rope	SAMPLED			0																													
792	558468	614633	273	Plum Lake	Vilas	7/26/2017	EEH & JBS	792	17		Rope	SAMPLED			0																													
793	558468	614570	272	Plum Lake	Vilas	7/26/2017	EEH & JBS	793	10	Muck	Pole	SAMPLED			0																													
794	558468	614507	271	Plum Lake	Vilas	7/26/2017	EEH & JBS	794	10	Muck	Pole	SAMPLED			0																													
795	558468	614444	269	Plum Lake	Vilas	7/26/2017	EEH & JBS	795	9	Muck	Pole	SAMPLED			0																													
796	558468	614381	270	Plum Lake	Vilas	7/26/2017	EEH & JBS	796	0			NONNAVIGABLE (PLANTS)																																
797	558531	615830	203	Plum Lake	Vilas	7/26/2017	LJS & NLS	797	27			DEEP																																
798	558531	615767	0	Plum Lake	Vilas			798	0			DEEP																																
799	558531	615704	0	Plum Lake	Vilas			799	0			DEEP																																
800	558531	615641	0	Plum Lake	Vilas			800	0			DEEP																																
801	558531	615578	0	Plum Lake	Vilas			801	0			DEEP																																
802	558531	615515	0	Plum Lake	Vilas			802	0			DEEP																																
803	558531	615452	0	Plum Lake	Vilas			803	0			DEEP																																
804	558531	615389	158	Plum Lake	Vilas	7/26/2017	LJS & NLS	804	0			DEEP																																
805	558531	615326	159	Plum Lake	Vilas	7/26/2017	LJS & NLS	805	0			DEEP																																
806	558531	615263	0	Plum Lake	Vilas			806	0			DEEP																																
807	558531	615200	245	Plum Lake	Vilas	7/26/2017	LJS & NLS	807	26			DEEP																																
808	558531	615137	246	Plum Lake	Vilas	7/26/2017	LJS & NLS	808	8	Rock	Pole	SAMPLED			0																													
809	558531	615011	253	Plum Lake	Vilas	7/26/2017	LJS & NLS	809	13	Sand	Pole	SAMPLED			0																													
810	558531	614948	254	Plum Lake	Vilas	7/26/2017	LJS & NLS	810	17			DEEP																																
811	558531	614885	0	Plum Lake	Vilas			811	0			DEEP																																
812	558531	614822	277	Plum Lake	Vilas	7/26/2017	EEH & JBS	812	0			DEEP																																
813	558531	614759	276	Plum Lake	Vilas	7/26/2017	EEH & JBS	813	8	Rock	Pole	SAMPLED			0																													
814	558531	614696	275	Plum Lake	Vilas	7/26/2017	EEH & JBS	814	9	Muck	Pole	SAMPLED			0																													
815	558531	614633	274	Plum Lake	Vilas	7/26/2017	EEH & JBS	815	0			DEEP																																
816	558531	614570	289	Plum Lake	Vilas	7/26/2017	EEH & JBS	816	14	Muck	Pole	SAMPLED			0																													
817	558531	614507	288	Plum Lake	Vilas	7/26/2017	EEH & JBS	817	10	Muck	Pole	SAMPLED			0																													
818	558531	614444	287	Plum Lake	Vilas	7/26/2017	EEH & JBS	818	8	Muck	Pole	SAMPLED			0																													
819	558531	614381	286	Plum Lake	Vilas	7/26/2017	EEH & JBS	819	5	Muck	Pole	SAMPLED			1					1					1																			
820	558594	615830	204	Plum Lake	Vilas	7/26/2017	LJS & NLS	820	28			DEEP																																
821	558594	615767	207	Plum Lake	Vilas	7/26/2017	LJS & NLS	821	0			DEEP																																
822	558594	615704	0	Plum Lake	Vilas			822	0			DEEP																																
823	558594	615641	0	Plum Lake	Vilas			823	0			DEEP																																
824	558594	615578	0	Plum Lake	Vilas			824	0			DEEP																																
825	558594	615515	0	Plum Lake	Vilas			825	0			DEEP																																
826	558594	615452	0	Plum Lake	Vilas			826	0			DEEP																																
827	558594	615389	0	Plum Lake	Vilas			827	0			DEEP																																
828	558594	615326	0	Plum Lake	Vilas			828	0			DEEP																																
829	558594	615263	244	Plum Lake	Vilas	7/26/2017	LJS & NLS	829	0			DEEP																																
830	558594	615200	243	Plum Lake	Vilas	7/26/2017	LJS & NLS	830	29			DEEP																																
831	558594	615011	258	Plum Lake	Vilas	7/26/2017	LJS & NLS	831	11	Sand	Pole	SAMPLED			0																													
832	558594	614948	257	Plum Lake	Vilas	7/26/2017	LJS & NLS	832	17			DEEP																																
833	558594	614885	263	Plum Lake	Vilas	7/26/2017	LJS & NLS	833	0			DEEP																																
834	558594	614822	278	Plum Lake	Vilas	7/26/2017	EEH & JBS	834	0			DEEP																																
835	558594	614759	279	Plum Lake	Vilas	7/26/2017	EEH & JBS	835	0																																			
836	558594	614696	280	Plum Lake	Vilas	7/26/2017	EEH & JBS	836	14	Sand	Pole	SAMPLED			0																													
837	558594	614633	281	Plum Lake	Vilas	7/26/2017	EEH & JBS	837	17		Rope	SAMPLED			0																													
838	558594	614570	282	Plum Lake	Vilas	7/26/2017	EEH & JBS	838	18		Rope	SAMPLED			0																													
839	558594	614507	283	Plum Lake	Vilas	7/26/2017	EEH & JBS	839	7	Muck	Pole	SAMPLED			1			1															1											
840	558594	614444	284	Plum Lake	Vilas	7/26/2017	EEH & JBS	840	7	Muck	Pole	SAMPLED			2																1										2			

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
841	558594	614381	285	Plum Lake	Vilas	7/26/2017	EEH & JBS	841	5	Muck	Pole	SAMPLED			3					1																	1				3			
842	558594	614318	295	Plum Lake	Vilas	7/26/2017	EEH & JBS	842	1	Sand	Pole	SAMPLED			0																													
843	558657	615830	206	Plum Lake	Vilas	7/26/2017	LJS & NLS	843	10	Rock	Pole	SAMPLED			0																													
844	558657	615767	210	Plum Lake	Vilas	7/26/2017	LJS & NLS	844	0			DEEP																																
845	558657	615704	0	Plum Lake	Vilas			845	0			DEEP																																
846	558657	615641	0	Plum Lake	Vilas			846	0			DEEP																																
847	558657	615578	0	Plum Lake	Vilas			847	0			DEEP																																
848	558657	615515	0	Plum Lake	Vilas			848	0			DEEP																																
849	558657	615452	0	Plum Lake	Vilas			849	0			DEEP																																
850	558657	615389	0	Plum Lake	Vilas			850	0			DEEP																																
851	558657	615326	240	Plum Lake	Vilas	7/26/2017	LJS & NLS	851	0			DEEP																																
852	558657	615263	241	Plum Lake	Vilas	7/26/2017	LJS & NLS	852	25			DEEP																																
853	558657	615200	242	Plum Lake	Vilas	7/26/2017	LJS & NLS	853	15	Rock	Pole	SAMPLED			0																													
854	558657	615074	259	Plum Lake	Vilas	7/26/2017	LJS & NLS	854	2	Sand	Pole	SAMPLED			0																													
855	558657	615011	260	Plum Lake	Vilas	7/26/2017	LJS & NLS	855	12	Muck	Pole	SAMPLED			0																													
856	558657	614948	261	Plum Lake	Vilas	7/26/2017	LJS & NLS	856	16	Muck	Pole	SAMPLED			0																													
857	558657	614885	262	Plum Lake	Vilas	7/26/2017	LJS & NLS	857	17			DEEP																																
858	558657	614822	268	Plum Lake	Vilas	7/26/2017	LJS & NLS	858	0			DEEP																																
859	558657	614759	269	Plum Lake	Vilas	7/26/2017	LJS & NLS	859	0			DEEP																																
860	558657	614696	270	Plum Lake	Vilas	7/26/2017	LJS & NLS	860	0			DEEP																																
861	558657	614633	290	Plum Lake	Vilas	7/26/2017	EEH & JBS	861	16		Rope	SAMPLED			0																													
862	558657	614570	291	Plum Lake	Vilas	7/26/2017	EEH & JBS	862	9	Sand	Pole	SAMPLED			0																													
863	558657	614507	292	Plum Lake	Vilas	7/26/2017	EEH & JBS	863	2	Rock	Pole	SAMPLED			0																													
864	558657	614444	293	Plum Lake	Vilas	7/26/2017	EEH & JBS	864	1	Rock	Pole	SAMPLED			0																													
865	558657	614381	294	Plum Lake	Vilas	7/26/2017	EEH & JBS	865	5	Muck	Pole	SAMPLED			3		1			1	1												3		1						1			
866	558657	614318	296	Plum Lake	Vilas	7/26/2017	EEH & JBS	866	0			DOCK																																
867	558720	615830	208	Plum Lake	Vilas	7/26/2017	LJS & NLS	867	4	Sand	Pole	SAMPLED			0																													
868	558720	615767	209	Plum Lake	Vilas	7/26/2017	LJS & NLS	868	27			DEEP																																
869	558720	615704	0	Plum Lake	Vilas			869	0			DEEP																																
870	558720	615641	0	Plum Lake	Vilas			870	0			DEEP																																
871	558720	615578	0	Plum Lake	Vilas			871	0			DEEP																																
872	558720	615515	0	Plum Lake	Vilas			872	0			DEEP																																
873	558720	615452	0	Plum Lake	Vilas			873	0			DEEP																																
874	558720	615389	0	Plum Lake	Vilas			874	0			DEEP																																
875	558720	615326	238	Plum Lake	Vilas	7/26/2017	LJS & NLS	875	29			DEEP																																
876	558720	615263	239	Plum Lake	Vilas	7/26/2017	LJS & NLS	876	13	Sand	Pole	SAMPLED			0																													
877	558720	615074	278	Plum Lake	Vilas	7/26/2017	LJS & NLS	877	2	Rock	Pole	SAMPLED			0																													
878	558720	615011	277	Plum Lake	Vilas	7/26/2017	LJS & NLS	878	11	Muck	Pole	SAMPLED			0																													
879	558720	614948	276	Plum Lake	Vilas	7/26/2017	LJS & NLS	879	15	Muck	Pole	SAMPLED			0																													
880	558720	614885	264	Plum Lake	Vilas	7/26/2017	LJS & NLS	880	13	Muck	Pole	SAMPLED			0																													
881	558720	614822	265	Plum Lake	Vilas	7/26/2017	LJS & NLS	881	13	Muck	Pole	SAMPLED			0																													
882	558720	614759	266	Plum Lake	Vilas	7/26/2017	LJS & NLS	882	15	Sand	Pole	SAMPLED			0																													
883	558720	614696	267	Plum Lake	Vilas	7/26/2017	LJS & NLS	883	17			DEEP																																
884	558720	614633	311	Plum Lake	Vilas	7/26/2017	EEH & JBS	884	18		Rope	SAMPLED			0																													
885	558720	614570	310	Plum Lake	Vilas	7/26/2017	EEH & JBS	885	6	Sand	Pole	SAMPLED			1			1							1																			
886	558720	614318	297	Plum Lake	Vilas	7/26/2017	EEH & JBS	886	2	Rock	Pole	SAMPLED			1			1							1	1																		
887	558720	614255	298	Plum Lake	Vilas	7/26/2017	EEH & JBS	887	3	Muck	Pole	SAMPLED			3	1	1	1		1			1		3																1			
888	558783	615830	212	Plum Lake	Vilas	7/26/2017	LJS & NLS	888	3	Sand	Pole	SAMPLED			0																													
889	558783	615767	211	Plum Lake	Vilas	7/26/2017	LJS & NLS	889	18			DEEP																																
890	558783	615704	216	Plum Lake	Vilas	7/26/2017	LJS & NLS	890	28			DEEP																																
891	558783	615641	217	Plum Lake	Vilas	7/26/2017	LJS & NLS	891	27			DEEP																																
892	558783	615578	0	Plum Lake	Vilas			892	0			DEEP																																
893	558783	615515	0	Plum Lake	Vilas			893	0			DEEP																																
894	558783	615452	0	Plum Lake	Vilas			894	0			DEEP																																
895	558783	615389	236	Plum Lake	Vilas	7/26/2017	LJS & NLS	895	0			DEEP																																
896	558783	615326	237	Plum Lake	Vilas	7/26/2017	LJS & NLS	896	20			DEEP																																
897	558783	615074	280	Plum Lake	Vilas	7/26/2017	LJS & NLS	897	3	Muck	Pole	SAMPLED			1																								1					
898	558783	615011	279	Plum Lake	Vilas	7/26/2017	LJS & NLS	898	7	Sand	Pole	SAMPLED			0																													
899	558783	614948	275	Plum Lake	Vilas	7/26/2017	LJS & NLS	899	15	Muck	Pole	SAMPLED			0																													
900	558783	614885	274	Plum Lake	Vilas	7/26/2017	LJS & NLS	900	10	Muck	Pole	SAMPLED			1					1																								
901	558783	614822	273	Plum Lake	Vilas	7/26/2017	LJS & NLS	901	10	Rock	Pole	SAMPLED			0																													
902	558783	614759	272	Plum Lake	Vilas	7/26/2017	LJS & NLS	902	17			DEEP																																
903	558783	614696	271	Plum Lake	Vilas	7/26/2017	LJS & NLS	903	17			DEEP																																
904	558783	614633	312	Plum Lake	Vilas	7/26/2017	EEH & JBS	904	18		Rope	SAMPLED			0																													
905	558783	614570	309	Plum Lake	Vilas	7/26/2017	EEH & JBS	905	16		Rope	SAMPLED			0																													
906	558783	614507	308	Plum Lake	Vilas	7/26/2017	EEH & JBS	906	12	Sand	Pole	SAMPLED			1					1	1																							
907	558783	614444	305	Plum Lake	Vilas	7/26/2017	EEH & JBS	907	2	Sand	Pole	SAMPLED			1													1																
908	558783	614381	304	Plum Lake	Vilas	7/26/2017	EEH & JBS	908	3	Sand	Pole	SAMPLED			1										1																			
909	558783	614255	299	Plum Lake	Vilas	7/26/2017	EEH & JBS	909	6	Muck	Pole	SAMPLED			1										1						1													
910	558846	615767	213	Plum Lake	Vilas	7/26/2017	LJS & NLS	910	10	Muck	Pole	SAMPLED			0																													

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
911	558846	615704	215	Plum Lake	Vilas	7/26/2017	LJS & NLS	911	13	Sand	Pole	SAMPLED			0																													
912	558846	615641	218	Plum Lake	Vilas	7/26/2017	LJS & NLS	912	20			DEEP																																
913	558846	615578	226	Plum Lake	Vilas	7/26/2017	LJS & NLS	913	0			DEEP																																
914	558846	615515	0	Plum Lake	Vilas			914	0			DEEP																																
915	558846	615452	0	Plum Lake	Vilas			915	0			DEEP																																
916	558846	615389	235	Plum Lake	Vilas	7/26/2017	LJS & NLS	916	0			DEEP																																
917	558846	615326	234	Plum Lake	Vilas	7/26/2017	LJS & NLS	917	5	Rock	Pole	SAMPLED			0																													
918	558846	615074	281	Plum Lake	Vilas	7/26/2017	LJS & NLS	918	3	Rock	Pole	SAMPLED			0																													
919	558846	615011	282	Plum Lake	Vilas	7/26/2017	LJS & NLS	919	10	Muck	Pole	SAMPLED			0																													
920	558846	614948	283	Plum Lake	Vilas	7/26/2017	LJS & NLS	920	12	Muck	Pole	SAMPLED			0																													
921	558846	614885	284	Plum Lake	Vilas	7/26/2017	LJS & NLS	921	8	Muck	Pole	SAMPLED			0																													
922	558846	614822	285	Plum Lake	Vilas	7/26/2017	LJS & NLS	922	10	Muck	Pole	SAMPLED			0																													
923	558846	614759	286	Plum Lake	Vilas	7/26/2017	LJS & NLS	923	16			DEEP																																
924	558846	614696	287	Plum Lake	Vilas	7/26/2017	LJS & NLS	924	0			DEEP																																
925	558846	614633	313	Plum Lake	Vilas	7/26/2017	EEH & JBS	925	17		Rope	SAMPLED			0																													
926	558846	614570	314	Plum Lake	Vilas	7/26/2017	EEH & JBS	926	16		Rope	SAMPLED			0																													
927	558846	614507	307	Plum Lake	Vilas	7/26/2017	EEH & JBS	927	14	Muck	Pole	SAMPLED			1		1															1					1							
928	558846	614444	306	Plum Lake	Vilas	7/26/2017	EEH & JBS	928	13	Muck	Pole	SAMPLED			3		3			1																	1							
929	558846	614381	303	Plum Lake	Vilas	7/26/2017	EEH & JBS	929	12	Muck	Pole	SAMPLED			2		2			1																	1							
930	558846	614318	302	Plum Lake	Vilas	7/26/2017	EEH & JBS	930	9	Muck	Pole	SAMPLED			1		1			1													1				1							
931	558846	614255	301	Plum Lake	Vilas	7/26/2017	EEH & JBS	931	6	Muck	Pole	SAMPLED			2		2	1		1					1						1										1			
932	558846	614192	300	Plum Lake	Vilas	7/26/2017	EEH & JBS	932	3	Sand	Pole	SAMPLED			1										1																1			1
933	558909	615767	214	Plum Lake	Vilas	7/26/2017	LJS & NLS	933	2	Sand	Pole	SAMPLED			0																													
934	558909	615641	219	Plum Lake	Vilas	7/26/2017	LJS & NLS	934	14	Sand	Pole	SAMPLED			0																													
935	558909	615578	225	Plum Lake	Vilas	7/26/2017	LJS & NLS	935	0			DEEP																																
936	558909	615515	227	Plum Lake	Vilas	7/26/2017	LJS & NLS	936	0			DEEP																																
937	558909	615452	231	Plum Lake	Vilas	7/26/2017	LJS & NLS	937	0			DEEP																																
938	558909	615389	232	Plum Lake	Vilas	7/26/2017	LJS & NLS	938	28			DEEP																																
939	558909	615326	233	Plum Lake	Vilas	7/26/2017	LJS & NLS	939	10	Rock	Pole	SAMPLED			0																													
940	558909	615074	294	Plum Lake	Vilas	7/26/2017	LJS & NLS	940	5	Muck	Pole	SAMPLED			1			1																										
941	558909	615011	293	Plum Lake	Vilas	7/26/2017	LJS & NLS	941	8	Muck	Pole	SAMPLED			1			1		1																	1							
942	558909	614948	292	Plum Lake	Vilas	7/26/2017	LJS & NLS	942	6	Muck	Pole	SAMPLED			1			1							1									1										
943	558909	614885	291	Plum Lake	Vilas	7/26/2017	LJS & NLS	943	7	Muck	Pole	SAMPLED			1										1																			
944	558909	614822	290	Plum Lake	Vilas	7/26/2017	LJS & NLS	944	8	Muck	Pole	SAMPLED			0																													
945	558909	614759	289	Plum Lake	Vilas	7/26/2017	LJS & NLS	945	15	Muck	Pole	SAMPLED			3		3																				1							
946	558909	614696	288	Plum Lake	Vilas	7/26/2017	LJS & NLS	946	16			DEEP																																
947	558909	614633	315	Plum Lake	Vilas	7/26/2017	EEH & JBS	947	17		Rope	SAMPLED			1																			1										
948	558909	614570	316	Plum Lake	Vilas	7/26/2017	EEH & JBS	948	15	0	Rope	SAMPLED			1		1															1												
949	558909	614507	317	Plum Lake	Vilas	7/26/2017	EEH & JBS	949	17		Rope	SAMPLED			2		2																				1							
950	558909	614444	318	Plum Lake	Vilas	7/26/2017	EEH & JBS	950	15		Rope	SAMPLED			2		1															1					1							
951	558909	614381	319	Plum Lake	Vilas	7/26/2017	EEH & JBS	951	13	Muck	Pole	SAMPLED			2		1																				2							
952	558909	614318	320	Plum Lake	Vilas	7/26/2017	EEH & JBS	952	12	Muck	Pole	SAMPLED			2		2																1				1							
953	558909	614255	321	Plum Lake	Vilas	7/26/2017	EEH & JBS	953	5	Muck	Pole	SAMPLED			3			1		2					1					1			1	1			1				2			
954	558909	614192	322	Plum Lake	Vilas	7/26/2017	EEH & JBS	954	4	Muck	Pole	SAMPLED			1					1					1					1					1						1			
955	558972	615641	220	Plum Lake	Vilas	7/26/2017	LJS & NLS	955	8	Muck	Pole	SAMPLED			0																													
956	558972	615578	224	Plum Lake	Vilas	7/26/2017	LJS & NLS	956	5	Rock	Pole	SAMPLED			0																													
957	558972	615515	223	Plum Lake	Vilas	7/26/2017	LJS & NLS	957	27			DEEP																																
958	558972	615452	228	Plum Lake	Vilas	7/26/2017	LJS & NLS	958	19			DEEP																																
959	558972	615389	229	Plum Lake	Vilas	7/26/2017	LJS & NLS	959	13	Sand	Pole	SAMPLED			0																													
960	558972	615326	230	Plum Lake	Vilas	7/26/2017	LJS & NLS	960	0			TERRESTRIAL																																
961	558972	615011	295	Plum Lake	Vilas	7/26/2017	LJS & NLS	961	6	Muck	Pole	SAMPLED			2					1															2		1							
962	558972	614948	296	Plum Lake	Vilas	7/26/2017	LJS & NLS	962	6	Muck	Pole	SAMPLED			1								1								1										1			
963	558972	614885	297	Plum Lake	Vilas	7/26/2017	LJS & NLS	963	8	Muck	Pole	SAMPLED			1			1																										
964	558972	614822	298	Plum Lake	Vilas	7/26/2017	LJS & NLS	964	14	Muck	Pole	SAMPLED			0																													
965	558972	614759	299	Plum Lake	Vilas	7/26/2017	LJS & NLS	965	15	Muck	Pole	SAMPLED			1		1																				1							
966	558972	614696	300	Plum Lake	Vilas	7/26/2017	LJS & NLS	966	15	Muck	Pole	SAMPLED			2		1																	2										
967	558972	614633	301	Plum Lake	Vilas	7/26/2017	LJS & NLS	967	16	Muck	Pole	SAMPLED			1		1																											
968	558972	614570	330	Plum Lake	Vilas	7/26/2017	EEH & JBS	968	16		Rope	SAMPLED			0																													
969	558972	614507	329	Plum Lake	Vilas	7/26/2017	EEH & JBS	969	17		Rope	SAMPLED			1																	1												
970	558972	614444	328	Plum Lake	Vilas	7/26/2017	EEH & JBS	970	16		Rope	SAMPLED			1																	1												
971	558972	614381	327	Plum Lake	Vilas	7/26/2017	EEH & JBS	971	15		Rope	SAMPLED			0																													
972	558972	614318	326	Plum Lake	Vilas	7/26/2017	EEH & JBS	972	13	Muck	Pole	SAMPLED			3		3																				1							
973	558972	614255	325	Plum Lake	Vilas	7/26/2017	EEH & JBS	973	6	Muck	Pole	SAMPLED			1					1			1								1										1			
974	558972	614192	324	Plum Lake	Vilas	7/26/2017	EEH & JBS	974	5	Muck	Pole	SAMPLED			1			1		1					1																1			
975	558972	614129	323	Plum Lake	Vilas	7/26/2017	EEH & JBS	975	3	Sand	Pole	SAMPLED			1			1							1																1		1	
976	559035	615578	221	Plum Lake	Vilas	7/26/2017	LJS & NLS	976	6	Muck	Pole	SAMPLED			0																													
977	559035	615515	222	Plum Lake	Vilas	7/26/2017	LJS & NLS	977	9	Sand	Pole	SAMPLED			0																													
978	559035	614948	331	Plum Lake	Vilas	7/26/2017	EEH & JBS	978	5	Muck	Pole	SAMPLED			2																				2									
979	559035	614885	332	Plum Lake	Vilas	7/26/2017	EEH & JBS	979	10	Muck	Pole	SAMPLED			1					1													1											
980	559035	614822	333	Plum Lake	Vilas	7/26/2017	EEH & JBS	980	13	Muck	Pole	SAMPLED			2																						2							

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
981	559035	614759	334	Plum Lake	Vilas	7/26/2017	EEH & JBS	981	14	Muck	Pole	SAMPLED			1		1		1							1											1							
982	559035	614696	335	Plum Lake	Vilas	7/26/2017	EEH & JBS	982	15	Muck	Pole	SAMPLED			1		1																											
983	559035	614633	336	Plum Lake	Vilas	7/26/2017	EEH & JBS	983	17		Rope	SAMPLED			1		1																											
984	559035	614570	337	Plum Lake	Vilas	7/26/2017	EEH & JBS	984	17		Rope	SAMPLED			0																													
985	559035	614507	338	Plum Lake	Vilas	7/26/2017	EEH & JBS	985	16		Rope	SAMPLED			0																													
986	559035	614444	339	Plum Lake	Vilas	7/26/2017	EEH & JBS	986	16		Rope	SAMPLED			1		1																											
987	559035	614381	340	Plum Lake	Vilas	7/26/2017	EEH & JBS	987	17		Rope	SAMPLED			0																													
988	559035	614318	341	Plum Lake	Vilas	7/26/2017	EEH & JBS	988	17		Rope	SAMPLED			1																	1												
989	559035	614255	342	Plum Lake	Vilas	7/26/2017	EEH & JBS	989	13		Rope	SAMPLED			1		1																				1							
990	559035	614192	343	Plum Lake	Vilas	7/26/2017	EEH & JBS	990	11	Muck	Pole	SAMPLED			1		1																		1									
991	559035	614129	344	Plum Lake	Vilas	7/26/2017	EEH & JBS	991	8	Muck	Pole	SAMPLED			1			1		1																					1			
992	559098	614948	359	Plum Lake	Vilas	7/26/2017	EEH & JBS	992	4	Muck	Pole	SAMPLED			1	1										1					1				1									
993	559098	614885	358	Plum Lake	Vilas	7/26/2017	EEH & JBS	993	11	Muck	Pole	SAMPLED			1		1																											
994	559098	614822	357	Plum Lake	Vilas	7/26/2017	EEH & JBS	994	14		Rope	SAMPLED			1		1									1																		
995	559098	614759	356	Plum Lake	Vilas	7/26/2017	EEH & JBS	995	15		Rope	SAMPLED			1											1							1											
996	559098	614696	355	Plum Lake	Vilas	7/26/2017	EEH & JBS	996	15		Rope	SAMPLED			2		2																				1							
997	559098	614633	354	Plum Lake	Vilas	7/26/2017	EEH & JBS	997	15		Rope	SAMPLED			1		1																											
998	559098	614570	353	Plum Lake	Vilas	7/26/2017	EEH & JBS	998	17		Rope	SAMPLED			1		1																											
999	559098	614507	352	Plum Lake	Vilas	7/26/2017	EEH & JBS	999	11	Muck	Pole	SAMPLED			2		2																											
1000	559098	614444	351	Plum Lake	Vilas	7/26/2017	EEH & JBS	1000	10	Muck	Pole	SAMPLED			3		3			1																	1							
1001	559098	614381	350	Plum Lake	Vilas	7/26/2017	EEH & JBS	1001	7	Rock	Pole	SAMPLED			3		1						3			1															1			
1002	559098	614318	349	Plum Lake	Vilas	7/26/2017	EEH & JBS	1002	15		Rope	SAMPLED			0																													
1003	559098	614255	348	Plum Lake	Vilas	7/26/2017	EEH & JBS	1003	2	Rock	Pole	SAMPLED			1			1						1																				
1004	559098	614192	347	Plum Lake	Vilas	7/26/2017	EEH & JBS	1004	7	Muck	Pole	SAMPLED			3			3		1																					2			
1005	559098	614129	346	Plum Lake	Vilas	7/26/2017	EEH & JBS	1005	7	Muck	Pole	SAMPLED			2			1																	1						2		1	
1006	559098	614066	345	Plum Lake	Vilas	7/26/2017	EEH & JBS	1006	8	Muck	Pole	SAMPLED			2					1					2																			
1007	559161	614948	360	Plum Lake	Vilas	7/26/2017	EEH & JBS	1007	4	Muck	Pole	SAMPLED			1											1								1										
1008	559161	614885	361	Plum Lake	Vilas	7/26/2017	EEH & JBS	1008	8	Muck	Pole	SAMPLED			0																													
1009	559161	614822	362	Plum Lake	Vilas	7/26/2017	EEH & JBS	1009	10	Muck	Pole	SAMPLED			0																													
1010	559161	614759	363	Plum Lake	Vilas	7/26/2017	EEH & JBS	1010	13	Sand	Pole	SAMPLED			0																													
1011	559161	614696	364	Plum Lake	Vilas	7/26/2017	EEH & JBS	1011	15		Pole	SAMPLED			2		1																				1							
1012	559161	614633	365	Plum Lake	Vilas	7/26/2017	EEH & JBS	1012	16		Rope	SAMPLED			1		1																				1							
1013	559161	614570	366	Plum Lake	Vilas	7/26/2017	EEH & JBS	1013	15		Rope	SAMPLED			2		2																				1							
1014	559161	614507	367	Plum Lake	Vilas	7/26/2017	EEH & JBS	1014	9	Muck	Pole	SAMPLED			3					1			3																					
1015	559161	614444	368	Plum Lake	Vilas	7/26/2017	EEH & JBS	1015	6	Muck	Pole	SAMPLED			3			1		1			1								1	1									1			
1016	559161	614381	369	Plum Lake	Vilas	7/26/2017	EEH & JBS	1016	3	Sand	Pole	SAMPLED			1			1																									1	
1017	559161	614318	370	Plum Lake	Vilas	7/26/2017	EEH & JBS	1017	17		Rope	SAMPLED			0																													
1018	559161	614255	371	Plum Lake	Vilas	7/26/2017	EEH & JBS	1018	15		Rope	SAMPLED			3		3																				1							
1019	559161	614192	372	Plum Lake	Vilas	7/26/2017	EEH & JBS	1019	12	Muck	Pole	SAMPLED			3		1																		1		2							
1020	559161	614129	373	Plum Lake	Vilas	7/26/2017	EEH & JBS	1020	11	Muck	Pole	SAMPLED			3		1						3														1							
1021	559161	614066	374	Plum Lake	Vilas	7/26/2017	EEH & JBS	1021	10	Muck	Pole	SAMPLED			3		3			1														1			1				1			
1022	559161	614003	375	Plum Lake	Vilas	7/26/2017	EEH & JBS	1022	2	Sand	Pole	SAMPLED			0																													
1023	559224	614885	382	Plum Lake	Vilas	7/27/2017	EEH & JBS	1023	5	Sand	Pole	SAMPLED			1			1																										
1024	559224	614822	383	Plum Lake	Vilas	7/27/2017	EEH & JBS	1024	7	Muck	Pole	SAMPLED			1											1															1			
1025	559224	614759	384	Plum Lake	Vilas	7/27/2017	EEH & JBS	1025	9	Muck	Pole	SAMPLED			1											1																		
1026	559224	614696	385	Plum Lake	Vilas	7/27/2017	EEH & JBS	1026	12	Muck	Pole	SAMPLED			0																													
1027	559224	614633	386	Plum Lake	Vilas	7/27/2017	EEH & JBS	1027	13	Muck	Pole	SAMPLED			0																													
1028	559224	614570	387	Plum Lake	Vilas	7/27/2017	EEH & JBS	1028	12	Muck	Pole	SAMPLED			3		3																				1				1			
1029	559224	614507	388	Plum Lake	Vilas	7/27/2017	EEH & JBS	1029	7	Muck	Pole	SAMPLED			3					1			3								1				1						1			
1030	559224	614444	389	Plum Lake	Vilas	7/27/2017	EEH & JBS	1030	5	Muck	Pole	SAMPLED			3	1				1															1						1			
1031	559224	614381	390	Plum Lake	Vilas	7/27/2017	EEH & JBS	1031	9	Muck	Pole	SAMPLED			2		2						1			1									1		1							
1032	559224	614318	391	Plum Lake	Vilas	7/27/2017	EEH & JBS	1032	15	Muck	Pole	SAMPLED			0																													
1033	559224	614255	392	Plum Lake	Vilas	7/27/2017	EEH & JBS	1033	14	Muck	Pole	SAMPLED			3		3																											
1034	559224	614192	393	Plum Lake	Vilas	7/27/2017	EEH & JBS	1034	14	Muck	Pole	SAMPLED			1		1																											
1035	559224	614129	394	Plum Lake	Vilas	7/27/2017	EEH & JBS	1035	13	Muck	Pole	SAMPLED			1		1																											
1036	559224	614066	395	Plum Lake	Vilas	7/27/2017	EEH & JBS	1036	11	Muck	Pole	SAMPLED			1		1																											
1037	559224	614003	396	Plum Lake	Vilas	7/27/2017	EEH & JBS	1037	6	Muck	Pole	SAMPLED			3	1				1					1						1				3		1				1		1	
1038	559224	613940	397	Plum Lake	Vilas	7/27/2017	EEH & JBS	1038	5	Muck	Pole	SAMPLED			2			2		1					1																			
1039	559287	614885	414	Plum Lake	Vilas	7/27/2017	EEH & JBS	1039	0			SHALLOW																																
1040	559287	614822	412	Plum Lake	Vilas	7/27/2017	EEH & JBS	1040	0			SHALLOW																																
1041	559287	614759	411	Plum Lake	Vilas	7/27/2017	EEH & JBS	1041	5	Sand	Pole	SAMPLED			1			1							1																			
1042	559287	614696	410	Plum Lake	Vilas	7/27/2017	EEH & JBS	1042	11	Muck	Pole	SAMPLED			2					1					1												1				2			
1043	559287	614633	409	Plum Lake	Vilas	7/27/2017	EEH & JBS	1043	10	Muck	Pole	SAMPLED			1		1						1			1									1									
1044	559287	614570	408	Plum Lake	Vilas	7/27/2017	EEH & JBS	1044	8	Muck	Pole	SAMPLED			3		1			1			3			0																		
1045	559287	614507	407	Plum Lake	Vilas	7/27/2017	EEH & JBS	1045	7	Muck	Pole	SAMPLED			1					1					1	1							1								1			
1046	559287	614444	406	Plum Lake	Vilas	7/27/2017	EEH & JBS	1046	0			SHALLOW																																
1047	559287	614381	405	Plum Lake	Vilas	7/27/2017	EEH & JBS	1047	10	Muck	Pole	SAMPLED			3		1						2										1		1		1							
1048	559287	614318	404	Plum Lake	Vilas	7/27/2017	EEH & JBS	1048	15	Muck	Pole	SAMPLED			0																													
1049	559287	614255	403	Plum Lake	Vilas	7/27/2017	EEH & JBS	1049	15	Muck	Pole	SAMPLED			1																						1							
1050	559287	614192	402	Plum Lake	Vilas	7/27/2017	EEH & JBS	1050	15	Muck	Pole	SAMPLED			1		1																											

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Heteranthera dubia	Lemna trisulca	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton praelongus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
1051	559287	614129	401	Plum Lake	Vilas	7/27/2017	EEH & JBS	1051	11	Muck	Pole	SAMPLED			2		2															1			1		2							
1052	559287	614066	400	Plum Lake	Vilas	7/27/2017	EEH & JBS	1052	6	Muck	Pole	SAMPLED			1								1		1	1															1			
1053	559287	614003	399	Plum Lake	Vilas	7/27/2017	EEH & JBS	1053	4	Muck	Pole	SAMPLED			1										1	1																		
1054	559287	613940	398	Plum Lake	Vilas	7/27/2017	EEH & JBS	1054	4	Muck	Pole	SAMPLED			3	1				1					1	3									1					1	1			
1055	559350	614885	415	Plum Lake	Vilas	7/27/2017	EEH & JBS	1055	0			SHALLOW																																
1056	559350	614822	413	Plum Lake	Vilas	7/27/2017	EEH & JBS	1056	0			SHALLOW																																
1057	559350	614759	416	Plum Lake	Vilas	7/27/2017	EEH & JBS	1057	5	Sand	Pole	SAMPLED			1			1							1																1			
1058	559350	614696	417	Plum Lake	Vilas	7/27/2017	EEH & JBS	1058	10	Muck	Pole	SAMPLED			3		3			1																	1							
1059	559350	614633	418	Plum Lake	Vilas	7/27/2017	EEH & JBS	1059	7	Muck	Pole	SAMPLED			1					1					1	1								1										
1060	559350	614570	419	Plum Lake	Vilas	7/27/2017	EEH & JBS	1060	7	Muck	Pole	SAMPLED			1		1									1							1											
1061	559350	614507	420	Plum Lake	Vilas	7/27/2017	EEH & JBS	1061	1	Rock	Pole	SAMPLED			1								1																					
1062	559350	614444	424	Plum Lake	Vilas	7/27/2017	EEH & JBS	1062	0			SHALLOW																																
1063	559350	614381	425	Plum Lake	Vilas	7/27/2017	EEH & JBS	1063	9	Muck	Pole	SAMPLED			3		3																		1		1							
1064	559350	614318	426	Plum Lake	Vilas	7/27/2017	EEH & JBS	1064	11	Muck	Pole	SAMPLED			3					1			1												3		1							
1065	559350	614255	427	Plum Lake	Vilas	7/27/2017	EEH & JBS	1065	13	Muck	Pole	SAMPLED			3		3						1														1							
1066	559350	614192	429	Plum Lake	Vilas	7/27/2017	EEH & JBS	1066	12	Muck	Pole	SAMPLED			3		3															1												
1067	559350	614129	430	Plum Lake	Vilas	7/27/2017	EEH & JBS	1067	7	Muck	Pole	SAMPLED			3	1	1						1		1								1		1						2			
1068	559350	614066	431	Plum Lake	Vilas	7/27/2017	EEH & JBS	1068	5	Muck	Pole	SAMPLED			1	1		1							1																			
1069	559350	614003	432	Plum Lake	Vilas	7/27/2017	EEH & JBS	1069	0			NONNAVIGABLE (PLANTS)																																
1070	559413	614696	423	Plum Lake	Vilas	7/27/2017	EEH & JBS	1070	4	Rock	Pole	SAMPLED			3										3																1			
1071	559413	614633	422	Plum Lake	Vilas	7/27/2017	EEH & JBS	1071	6	Muck	Pole	SAMPLED			2		1			1						1							1		1						2			
1072	559413	614570	421	Plum Lake	Vilas	7/27/2017	EEH & JBS	1072	4	Sand	Pole	SAMPLED			3					1					1								1	1							1			
1073	559413	614381	437	Plum Lake	Vilas	7/27/2017	EEH & JBS	1073	2	Muck	Pole	SAMPLED			3		3								1			1								1	1				1			
1074	559413	614318	436	Plum Lake	Vilas	7/27/2017	EEH & JBS	1074	5	Muck	Pole	SAMPLED			3																			1	3						2			
1075	559413	614255	435	Plum Lake	Vilas	7/27/2017	EEH & JBS	1075	10	Muck	Pole	SAMPLED			3		3			1			1			1									1		1							
1076	559413	614192	434	Plum Lake	Vilas	7/27/2017	EEH & JBS	1076	6	Muck	Pole	SAMPLED			3	1	2			1			1										1								2			
1077	559413	614129	433	Plum Lake	Vilas	7/27/2017	EEH & JBS	1077	4	Sand	Pole	SAMPLED			1			1							1					1											1			
1078	559476	614255	438	Plum Lake	Vilas	7/27/2017	EEH & JBS	1078	2	Sand	Pole	SAMPLED			0																													

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Brasenia schreberi	Chara spp.	Elodea canadensis	Myriophyllum sibiricum	Najas flexilis	Nymphaea odorata	Pontederia cordata	Potamogeton friesii	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton strictifolius	Potamogeton zosteriformis	Sagittaria sp. (rosette)	Schoenoplectus acutus	Utricularia geminiscapa	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
1			193	West Plum Lake	Vilas	8/8/2017	TWH & JBS	1	3	Rock	Pole	SAMPLED			1								1											1
2			194	West Plum Lake	Vilas	8/8/2017	TWH & JBS	2	2	Muck	Pole	SAMPLED			2					2						1								
3			195	West Plum Lake	Vilas	8/8/2017	TWH & JBS	3	3	Muck	Pole	SAMPLED			2								2											
4			192	West Plum Lake	Vilas	8/8/2017	TWH & JBS	4	2	Muck	Pole	SAMPLED			1								1	1										
5			191	West Plum Lake	Vilas	8/8/2017	TWH & JBS	5	2	Muck	Pole	SAMPLED			2		1	2		1														
6			190	West Plum Lake	Vilas	8/8/2017	TWH & JBS	6	1	Muck	Pole	SAMPLED			1			1																
7			189	West Plum Lake	Vilas	8/8/2017	TWH & JBS	7	2	Muck	Pole	SAMPLED			0																			
8			196	West Plum Lake	Vilas	8/8/2017	TWH & JBS	8	0			SHALLOW																						
9			186	West Plum Lake	Vilas	8/8/2017	TWH & JBS	9	3	Muck	Pole	SAMPLED			3					3														
10			187	West Plum Lake	Vilas	8/8/2017	TWH & JBS	10	3	Muck	Pole	SAMPLED			2								2											
11			188	West Plum Lake	Vilas	8/8/2017	TWH & JBS	11	2	Muck	Pole	SAMPLED	Check potst		2					2			1			1								
12			197	West Plum Lake	Vilas	8/8/2017	TWH & JBS	12	0			SHALLOW																						
13			185	West Plum Lake	Vilas	8/8/2017	TWH & JBS	13	2	Muck	Pole	SAMPLED			1		1					1						1				1		
14			184	West Plum Lake	Vilas	8/8/2017	TWH & JBS	14	3	Muck	Pole	SAMPLED			1								1											
15			183	West Plum Lake	Vilas	8/8/2017	TWH & JBS	15	2	Muck	Pole	SAMPLED			2								2											
16			198	West Plum Lake	Vilas	8/8/2017	TWH & JBS	16	0			SHALLOW																						
17			180	West Plum Lake	Vilas	8/8/2017	TWH & JBS	17	3	Muck	Pole	SAMPLED			2			1		1			2											
18			181	West Plum Lake	Vilas	8/8/2017	TWH & JBS	18	2	Muck	Pole	SAMPLED			1			1			1		1											
19			182	West Plum Lake	Vilas	8/8/2017	TWH & JBS	19	2	Muck	Pole	SAMPLED			0																			
20			179	West Plum Lake	Vilas	8/8/2017	TWH & JBS	20	2	Muck	Pole	SAMPLED	Check to see if POTST is still POTST		2			2					1			1								
21			178	West Plum Lake	Vilas	8/8/2017	TWH & JBS	21	2	Muck	Pole	SAMPLED			1			1							1								1	
22			173	West Plum Lake	Vilas	8/8/2017	TWH & JBS	22	0			NONNAVIGABLE (PLANTS)																						
23			174	West Plum Lake	Vilas	8/8/2017	TWH & JBS	23	3	Muck	Pole	SAMPLED			2			1					1											
24			175	West Plum Lake	Vilas	8/8/2017	TWH & JBS	24	3	Muck	Pole	SAMPLED			0																			
25			176	West Plum Lake	Vilas	8/8/2017	TWH & JBS	25	2	Muck	Pole	SAMPLED			1																	1		
26			177	West Plum Lake	Vilas	8/8/2017	TWH & JBS	26	2	Rock	Pole	SAMPLED			1			1																
27			172	West Plum Lake	Vilas	8/8/2017	TWH & JBS	27	0			NONNAVIGABLE (PLANTS)																						
28			171	West Plum Lake	Vilas	8/8/2017	TWH & JBS	28	0			SHALLOW																						
29			170	West Plum Lake	Vilas	8/8/2017	TWH & JBS	29	3	Muck	Pole	SAMPLED			0																			
30			169	West Plum Lake	Vilas	8/8/2017	TWH & JBS	30	2	Muck	Pole	SAMPLED			1			1			1		1											
31			168	West Plum Lake	Vilas	8/8/2017	TWH & JBS	31	2	Muck	Pole	SAMPLED			3								3											
32			155	West Plum Lake	Vilas	8/8/2017	TWH & JBS	32	0			SHALLOW																						
33			156	West Plum Lake	Vilas	8/8/2017	TWH & JBS	33	0			NONNAVIGABLE (PLANTS)																						
34			164	West Plum Lake	Vilas	8/8/2017	TWH & JBS	34	3	Muck	Pole	SAMPLED			1								1											
35			165	West Plum Lake	Vilas	8/8/2017	TWH & JBS	35	2	Rock	Pole	SAMPLED			1								1											
36			166	West Plum Lake	Vilas	8/8/2017	TWH & JBS	36	2	Rock	Pole	SAMPLED			3			3					1											
37			167	West Plum Lake	Vilas	8/8/2017	TWH & JBS	37	2	Muck	Pole	SAMPLED			2		1	1					1											
38			151	West Plum Lake	Vilas	8/8/2017	TWH & JBS	38	1	Muck	Pole	SAMPLED			0																			
39			152	West Plum Lake	Vilas	8/8/2017	TWH & JBS	39	0			NONNAVIGABLE (PLANTS)																						
40			153	West Plum Lake	Vilas	8/8/2017	TWH & JBS	40	0			NONNAVIGABLE (PLANTS)																						
41			163	West Plum Lake	Vilas	8/8/2017	TWH & JBS	41	2	Muck	Pole	SAMPLED			0																			
42			162	West Plum Lake	Vilas	8/8/2017	TWH & JBS	42	3	Muck	Pole	SAMPLED			1		1																	
43			161	West Plum Lake	Vilas	8/8/2017	TWH & JBS	43	1	Rock	Pole	SAMPLED			1		1																	
44			149	West Plum Lake	Vilas	8/8/2017	TWH & JBS	44	2	Muck	Pole	SAMPLED			0																			
45			150	West Plum Lake	Vilas	8/8/2017	TWH & JBS	45	0			NONNAVIGABLE (PLANTS)																						
46			154	West Plum Lake	Vilas	8/8/2017	TWH & JBS	46	0			NONNAVIGABLE (PLANTS)																						
47			157	West Plum Lake	Vilas	8/8/2017	TWH & JBS	47	3	Muck	Pole	SAMPLED			1			1																
48			158	West Plum Lake	Vilas	8/8/2017	TWH & JBS	48	2	Muck	Pole	SAMPLED											1											
49			159	West Plum Lake	Vilas	8/8/2017	TWH & JBS	49	2	Muck	Pole	SAMPLED			2			1					2											
50			160	West Plum Lake	Vilas	8/8/2017	TWH & JBS	50	0			SHALLOW																						
51			147	West Plum Lake	Vilas	8/8/2017	TWH & JBS	51	3	Muck	Pole	SAMPLED			1			1																
52			148	West Plum Lake	Vilas	8/8/2017	TWH & JBS	52	0			NONNAVIGABLE (PLANTS)																						
53			146	West Plum Lake	Vilas	8/8/2017	TWH & JBS	53	3	Muck	Pole	SAMPLED			1								1											
54			145	West Plum Lake	Vilas	8/8/2017	TWH & JBS	54	2	Muck	Pole	SAMPLED			0																			
55			144	West Plum Lake	Vilas	8/8/2017	TWH & JBS	55	2	Muck	Pole	SAMPLED			2			1	1															
56			143	West Plum Lake	Vilas	8/8/2017	TWH & JBS	56	2	Muck	Pole	SAMPLED			1			1																
57			142	West Plum Lake	Vilas	8/8/2017	TWH & JBS	57	2	Muck	Pole	SAMPLED	POTST needs ID confirmation		2			2																
58			141	West Plum Lake	Vilas	8/8/2017	TWH & JBS	58	2	Sand	Pole	SAMPLED			1			1																
59			131	West Plum Lake	Vilas	8/8/2017	TWH & JBS	59	0			SHALLOW																						

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Brasenia schreberi	Chara spp.	Elodea canadensis	Myriophyllum sibiricum	Najas flexilis	Nymphaea odorata	Pontederia cordata	Potamogeton friesii	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton strictifolius	Potamogeton zosteriformis	Sagittaria sp. (rosette)	Schoenoplectus acutus	Utricularia geminiscapa	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
60			132	West Plum Lake	Vilas	8/8/2017	TWH & JBS	60	2	Muck	Pole	SAMPLED			0																			
61			133	West Plum Lake	Vilas	8/8/2017	TWH & JBS	61	2	Muck	Pole	SAMPLED			1			1																
62			134	West Plum Lake	Vilas	8/8/2017	TWH & JBS	62	2	Muck	Pole	SAMPLED			3			3																
63			135	West Plum Lake	Vilas	8/8/2017	TWH & JBS	63	2	Muck	Pole	SAMPLED			2			2														1		
64			136	West Plum Lake	Vilas	8/8/2017	TWH & JBS	64	3	Muck	Pole	SAMPLED			3			3																
65			137	West Plum Lake	Vilas	8/8/2017	TWH & JBS	65	2	Muck	Pole	SAMPLED			3			3					1											
66			138	West Plum Lake	Vilas	8/8/2017	TWH & JBS	66	2	Muck	Pole	SAMPLED			1			1																
67			139	West Plum Lake	Vilas	8/8/2017	TWH & JBS	67	2	Muck	Pole	SAMPLED			1			1																
68			140	West Plum Lake	Vilas	8/8/2017	TWH & JBS	68	2	Muck	Pole	SAMPLED			3			1					3											
69			130	West Plum Lake	Vilas	8/8/2017	TWH & JBS	69	2	Muck	Pole	SAMPLED			0																			
70			129	West Plum Lake	Vilas	8/8/2017	TWH & JBS	70	2	Muck	Pole	SAMPLED			1			1																
71			128	West Plum Lake	Vilas	8/8/2017	TWH & JBS	71	2	Muck	Pole	SAMPLED			2			2																
72			127	West Plum Lake	Vilas	8/8/2017	TWH & JBS	72	3	Muck	Pole	SAMPLED			1			1																
73			126	West Plum Lake	Vilas	8/8/2017	TWH & JBS	73	3	Muck	Pole	SAMPLED			3			3					1											
74			125	West Plum Lake	Vilas	8/8/2017	TWH & JBS	74	4	Muck	Pole	SAMPLED			3			2	1				3											
75			124	West Plum Lake	Vilas	8/8/2017	TWH & JBS	75	5	Muck	Pole	SAMPLED			3			2					1	2										
76			123	West Plum Lake	Vilas	8/8/2017	TWH & JBS	76	5	Muck	Pole	SAMPLED			3			1	2				2											
77			122	West Plum Lake	Vilas	8/8/2017	TWH & JBS	77	4	Muck	Pole	SAMPLED			1			1					1											
78			121	West Plum Lake	Vilas	8/8/2017	TWH & JBS	78	2	Muck	Pole	SAMPLED			2								2											
79			110	West Plum Lake	Vilas	8/8/2017	TWH & JBS	79	2	Muck	Pole	SAMPLED			1			1																
80			111	West Plum Lake	Vilas	8/8/2017	TWH & JBS	80	2	Muck	Pole	SAMPLED			0																			
81			112	West Plum Lake	Vilas	8/8/2017	TWH & JBS	81	2	Muck	Pole	SAMPLED			3			3					1											
82			113	West Plum Lake	Vilas	8/8/2017	TWH & JBS	82	3	Muck	Pole	SAMPLED			3			3						1										
83			114	West Plum Lake	Vilas	8/8/2017	TWH & JBS	83	4	Muck	Pole	SAMPLED			3			3															1	
84			115	West Plum Lake	Vilas	8/8/2017	TWH & JBS	84	5	Muck	Pole	SAMPLED			2			2					1											
85			116	West Plum Lake	Vilas	8/8/2017	TWH & JBS	85	6	Muck	Pole	SAMPLED			3			1	3				1											
86			117	West Plum Lake	Vilas	8/8/2017	TWH & JBS	86	6	Muck	Pole	SAMPLED			1			1																
87			118	West Plum Lake	Vilas	8/8/2017	TWH & JBS	87	5	Muck	Pole	SAMPLED			1			1																
88			119	West Plum Lake	Vilas	8/8/2017	TWH & JBS	88	4	Muck	Pole	SAMPLED			1			1																
89			120	West Plum Lake	Vilas	8/8/2017	TWH & JBS	89	2	Sand	Pole	SAMPLED			2			1					1								1			
90			109	West Plum Lake	Vilas	8/8/2017	TWH & JBS	90	2	Sand	Pole	SAMPLED			1																1			
91			108	West Plum Lake	Vilas	8/8/2017	TWH & JBS	91	2	Muck	Pole	SAMPLED			1			1					1											
92			107	West Plum Lake	Vilas	8/8/2017	TWH & JBS	92	2	Muck	Pole	SAMPLED			1			1						1										
93			106	West Plum Lake	Vilas	8/8/2017	TWH & JBS	93	2	Muck	Pole	SAMPLED			2			2																
94			105	West Plum Lake	Vilas	8/8/2017	TWH & JBS	94	5	Muck	Pole	SAMPLED			1			1																
95			104	West Plum Lake	Vilas	8/8/2017	TWH & JBS	95	6	Muck	Pole	SAMPLED			2			1					1				2							
96			103	West Plum Lake	Vilas	8/8/2017	TWH & JBS	96	6	Muck	Pole	SAMPLED			1			1					1											
97			102	West Plum Lake	Vilas	8/8/2017	TWH & JBS	97	6	Muck	Pole	SAMPLED			1			1																
98			101	West Plum Lake	Vilas	8/8/2017	TWH & JBS	98	6	Muck	Pole	SAMPLED			3			2	2				1											
99			100	West Plum Lake	Vilas	8/8/2017	TWH & JBS	99	3	Muck	Pole	SAMPLED			3			3	1															
100			99	West Plum Lake	Vilas	8/8/2017	TWH & JBS	100	3	Muck	Pole	SAMPLED			2			1					2											
101			98	West Plum Lake	Vilas	8/8/2017	TWH & JBS	101	2	Muck	Pole	SAMPLED			2			1					2											
102			86	West Plum Lake	Vilas	8/8/2017	TWH & JBS	102	2	Muck	Pole	SAMPLED			1			1																
103			87	West Plum Lake	Vilas	8/8/2017	TWH & JBS	103	2	Muck	Pole	SAMPLED			1			1																
104			88	West Plum Lake	Vilas	8/8/2017	TWH & JBS	104	3	Muck	Pole	SAMPLED			2			1					1										1	
105			89	West Plum Lake	Vilas	8/8/2017	TWH & JBS	105	3	Muck	Pole	SAMPLED			3			3	1															
106			90	West Plum Lake	Vilas	8/8/2017	TWH & JBS	106	4	Muck	Pole	SAMPLED			1			1					1				1							
107			91	West Plum Lake	Vilas	8/8/2017	TWH & JBS	107	6	Muck	Pole	SAMPLED			1			1					1											
108			92	West Plum Lake	Vilas	8/8/2017	TWH & JBS	108	6	Muck	Pole	SAMPLED			3			1		1			2								2			
109			93	West Plum Lake	Vilas	8/8/2017	TWH & JBS	109	6	Muck	Pole	SAMPLED			0																			
110			94	West Plum Lake	Vilas	8/8/2017	TWH & JBS	110	6	Muck	Pole	SAMPLED			2			2	1				1										1	
111			95	West Plum Lake	Vilas	8/8/2017	TWH & JBS	111	3	Muck	Pole	SAMPLED			3			3					1											
112			96	West Plum Lake	Vilas	8/8/2017	TWH & JBS	112	3	Muck	Pole	SAMPLED			1			1			1		1											
113			97	West Plum Lake	Vilas	8/8/2017	TWH & JBS	113	2	Muck	Pole	SAMPLED			2								2											
114			85	West Plum Lake	Vilas	8/8/2017	TWH & JBS	114	2	Muck	Pole	SAMPLED			0																			
115			84	West Plum Lake	Vilas	8/8/2017	TWH & JBS	115	2	Muck	Pole	SAMPLED			1			1		1														
116			83	West Plum Lake	Vilas	8/8/2017	TWH & JBS	116	2	Muck	Pole	SAMPLED			1			1														1		
117			82	West Plum Lake	Vilas	8/8/2017	TWH & JBS	117	3	Muck	Pole	SAMPLED			1			1																
118			81	West Plum Lake	Vilas	8/8/2017	TWH & JBS	118	3	Muck	Pole	SAMPLED			1			1																

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Brasenia schreberi	Chara spp.	Elodea canadensis	Myriophyllum sibiricum	Najas flexilis	Nymphaea odorata	Pontederia cordata	Potamogeton friesii	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton strictifolius	Potamogeton zosteriformis	Sagittaria sp. (rosette)	Schoenoplectus acutus	Utricularia geminiscapa	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
119			80	West Plum Lake	Vilas	8/8/2017	TWH & JBS	119	3	Muck	Pole	SAMPLED			1			1																
120			79	West Plum Lake	Vilas	8/8/2017	TWH & JBS	120	6	Muck	Pole	SAMPLED			1			1					1											
121			78	West Plum Lake	Vilas	8/8/2017	TWH & JBS	121	4	Muck	Pole	SAMPLED			3			3							1								1	
122			77	West Plum Lake	Vilas	8/8/2017	TWH & JBS	122	5	Muck	Pole	SAMPLED			3			3	1					1	1									
123			76	West Plum Lake	Vilas	8/8/2017	TWH & JBS	123	6	Muck	Pole	SAMPLED			3			2	1				2											
124			75	West Plum Lake	Vilas	8/8/2017	TWH & JBS	124	3	Muck	Pole	SAMPLED			3			3					1											
125			74	West Plum Lake	Vilas	8/8/2017	TWH & JBS	125	3	Muck	Pole	SAMPLED			1								1											
126			73	West Plum Lake	Vilas	8/8/2017	TWH & JBS	126	2	Muck	Pole	SAMPLED			1			1																
127			59	West Plum Lake	Vilas	8/8/2017	TWH & JBS	127	2	Muck	Pole	SAMPLED			0																			
128			60	West Plum Lake	Vilas	8/8/2017	TWH & JBS	128	2	Muck	Pole	SAMPLED			1			1														1		
129			61	West Plum Lake	Vilas	8/8/2017	TWH & JBS	129	2	Muck	Pole	SAMPLED			1			1									1							
130			62	West Plum Lake	Vilas	8/8/2017	TWH & JBS	130	2	Muck	Pole	SAMPLED			1			1																
131			63	West Plum Lake	Vilas	8/8/2017	TWH & JBS	131	2	Muck	Pole	SAMPLED			1			1																
132			64	West Plum Lake	Vilas	8/8/2017	TWH & JBS	132	2	Muck	Pole	SAMPLED			3			2					1	1			1							
133			65	West Plum Lake	Vilas	8/8/2017	TWH & JBS	133	3	Muck	Pole	SAMPLED			2			1					1											
134			66	West Plum Lake	Vilas	8/8/2017	TWH & JBS	134	5	Muck	Pole	SAMPLED			2			1		1			1											
135			67	West Plum Lake	Vilas	8/8/2017	TWH & JBS	135	4	Muck	Pole	SAMPLED			3			2							3									
136			68	West Plum Lake	Vilas	8/8/2017	TWH & JBS	136	5	Muck	Pole	SAMPLED			3			2					1				1							
137			69	West Plum Lake	Vilas	8/8/2017	TWH & JBS	137	5	Muck	Pole	SAMPLED			3			2					1		1						1			
138			70	West Plum Lake	Vilas	8/8/2017	TWH & JBS	138	3	Muck	Pole	SAMPLED			3			3					1											
139			71	West Plum Lake	Vilas	8/8/2017	TWH & JBS	139	2	Muck	Pole	SAMPLED			1								1		1									
140			72	West Plum Lake	Vilas	8/8/2017	TWH & JBS	140	1	Sand	Pole	SAMPLED			1			1							1									
141			58	West Plum Lake	Vilas	8/8/2017	TWH & JBS	141	2	Muck	Pole	SAMPLED			0																			
142			57	West Plum Lake	Vilas	8/8/2017	TWH & JBS	142	2	Muck	Pole	SAMPLED			0																			
143			56	West Plum Lake	Vilas	8/8/2017	TWH & JBS	143	3	Muck	Pole	SAMPLED			1			1																
144			55	West Plum Lake	Vilas	8/8/2017	TWH & JBS	144	3	Muck	Pole	SAMPLED			1																	1		
145			54	West Plum Lake	Vilas	8/8/2017	TWH & JBS	145	3	Muck	Pole	SAMPLED			1			1																
146			53	West Plum Lake	Vilas	8/8/2017	TWH & JBS	146	3	Muck	Pole	SAMPLED			1			1																
147			52	West Plum Lake	Vilas	8/8/2017	TWH & JBS	147	3	Muck	Pole	SAMPLED			1			1																
148			51	West Plum Lake	Vilas	8/8/2017	TWH & JBS	148	5	Muck	Pole	SAMPLED			3				1				2				2							
149			50	West Plum Lake	Vilas	8/8/2017	TWH & JBS	149	4	Muck	Pole	SAMPLED			2			1	1								1							
150			49	West Plum Lake	Vilas	8/8/2017	TWH & JBS	150	4	Muck	Pole	SAMPLED			2			2					1		2									
151			48	West Plum Lake	Vilas	8/8/2017	TWH & JBS	151	5	Muck	Pole	SAMPLED			3			2	2				1											
152			47	West Plum Lake	Vilas	8/8/2017	TWH & JBS	152	4	Muck	Pole	SAMPLED			1			1																
153			205	West Plum Lake	Vilas	8/8/2017	TWH & JBS	153	0			NONNAVIGABLE (PLANTS)																						
154			204	West Plum Lake	Vilas	8/8/2017	TWH & JBS	154	2	Muck	Pole	SAMPLED			1			1														1		
155			203	West Plum Lake	Vilas	8/8/2017	TWH & JBS	155	2	Muck	Pole	SAMPLED			0																			
156			202	West Plum Lake	Vilas	8/8/2017	TWH & JBS	156	2	Muck	Pole	SAMPLED			1			1														1		
157			201	West Plum Lake	Vilas	8/8/2017	TWH & JBS	157	2	Muck	Pole	SAMPLED			0																			
158			200	West Plum Lake	Vilas	8/8/2017	TWH & JBS	158	3	Muck	Pole	SAMPLED			0																			
159			199	West Plum Lake	Vilas	8/8/2017	TWH & JBS	159	3	Muck	Pole	SAMPLED			0																			
160			42	West Plum Lake	Vilas	8/8/2017	TWH & JBS	160	3	Sand	Pole	SAMPLED			2			1					1		1				1					
161			43	West Plum Lake	Vilas	8/8/2017	TWH & JBS	161	0			NONNAVIGABLE (PLANTS)																						
162			44	West Plum Lake	Vilas	8/8/2017	TWH & JBS	162	3	Muck	Pole	SAMPLED			1						1				1									
163			45	West Plum Lake	Vilas	8/8/2017	TWH & JBS	163	3	Muck	Pole	SAMPLED			2			1	1				1											
164			46	West Plum Lake	Vilas	8/8/2017	TWH & JBS	164	4	Muck	Pole	SAMPLED			2			2	1						1						1			
165			31	West Plum Lake	Vilas	8/8/2017	TWH & JBS	165	2	Muck	Pole	SAMPLED			1								1											
166			32	West Plum Lake	Vilas	8/8/2017	TWH & JBS	166	2	Muck	Pole	SAMPLED			1			1																
167			33	West Plum Lake	Vilas	8/8/2017	TWH & JBS	167	2	Muck	Pole	SAMPLED			0																			
168			34	West Plum Lake	Vilas	8/8/2017	TWH & JBS	168	2	Muck	Pole	SAMPLED			0																			
169			35	West Plum Lake	Vilas	8/8/2017	TWH & JBS	169	3	Muck	Pole	SAMPLED			1			1																
170			36	West Plum Lake	Vilas	8/8/2017	TWH & JBS	170	3	Muck	Pole	SAMPLED			1			1																
171			37	West Plum Lake	Vilas	8/8/2017	TWH & JBS	171	2	Muck	Pole	SAMPLED			1			1						1								1		
172			38	West Plum Lake	Vilas	8/8/2017	TWH & JBS	172	2	Muck	Pole	SAMPLED			1			1														1		
173			39	West Plum Lake	Vilas	8/8/2017	TWH & JBS	173	2	Muck	Pole	SAMPLED			1				1				1							1				
174			40	West Plum Lake	Vilas	8/8/2017	TWH & JBS	174	0			NONNAVIGABLE (PLANTS)																						
175			41	West Plum Lake	Vilas	8/8/2017	TWH & JBS	175	0			NONNAVIGABLE (PLANTS)																						
176			30	West Plum Lake	Vilas	8/8/2017	TWH & JBS	176	0			NONNAVIGABLE (PLANTS)																						
177			29	West Plum Lake	Vilas	8/8/2017	TWH & JBS	177	3	Muck	Pole	SAMPLED			1	1		1																

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Brasenia schreberi	Chara spp.	Elodea canadensis	Myriophyllum sibiricum	Najas flexilis	Nymphaea odorata	Pontederia cordata	Potamogeton friesii	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton strictifolius	Potamogeton zosteriformis	Sagittaria sp. (rosette)	Schoenoplectus acutus	Utricularia geminiscapa	Vallisneria americana	Zizania spp.	Freshwater sponge	Filamentous algae
178			28	West Plum Lake	Vilas	8/8/2017	TWH & JBS	178	3	Muck	Pole	SAMPLED			1			1																
179			27	West Plum Lake	Vilas	8/8/2017	TWH & JBS	179	3	Muck	Pole	SAMPLED			0																			
180			26	West Plum Lake	Vilas	8/8/2017	TWH & JBS	180	2	Muck	Pole	SAMPLED			1										1									
181			25	West Plum Lake	Vilas	8/8/2017	TWH & JBS	181	2	Muck	Pole	SAMPLED			1			1																
182			24	West Plum Lake	Vilas	8/8/2017	TWH & JBS	182	2	Muck	Pole	SAMPLED			1						1													
183			22	West Plum Lake	Vilas	8/8/2017	TWH & JBS	183	2	Muck	Pole	SAMPLED			0																			
184			23	West Plum Lake	Vilas	8/8/2017	TWH & JBS	184	2	Muck	Pole	SAMPLED			1			1					1											
185			14	West Plum Lake	Vilas	8/8/2017	TWH & JBS	185	0			NONNAVIGABLE (PLANTS)																						
186			15	West Plum Lake	Vilas	8/8/2017	TWH & JBS	186	3	Muck	Pole	SAMPLED			1								1											
187			16	West Plum Lake	Vilas	8/8/2017	TWH & JBS	187	3	Muck	Pole	SAMPLED			0																			
188			17	West Plum Lake	Vilas	8/8/2017	TWH & JBS	188	3	Muck	Pole	SAMPLED			0																			
189			18	West Plum Lake	Vilas	8/8/2017	TWH & JBS	189	3	Muck	Pole	SAMPLED			0																			
190			19	West Plum Lake	Vilas	8/8/2017	TWH & JBS	190	2	Muck	Pole	SAMPLED			0																			
191			20	West Plum Lake	Vilas	8/8/2017	TWH & JBS	191	2	Muck	Pole	SAMPLED			0																			
192			21	West Plum Lake	Vilas	8/8/2017	TWH & JBS	192	0			NONNAVIGABLE (PLANTS)																						
193			13	West Plum Lake	Vilas	8/8/2017	TWH & JBS	193	0			NONNAVIGABLE (PLANTS)																						
194			12	West Plum Lake	Vilas	8/8/2017	TWH & JBS	194	3	Muck	Pole	SAMPLED			0																			
195			11	West Plum Lake	Vilas	8/8/2017	TWH & JBS	195	3	Muck	Pole	SAMPLED			0																			
196			7	West Plum Lake	Vilas	8/8/2017	TWH & JBS	196	3	Muck	Pole	SAMPLED			1																	1		
197			8	West Plum Lake	Vilas	8/8/2017	TWH & JBS	197	0			NONNAVIGABLE (PLANTS)																						
198			9	West Plum Lake	Vilas	8/8/2017	TWH & JBS	198	0			NONNAVIGABLE (PLANTS)																						
199			10	West Plum Lake	Vilas	8/8/2017	TWH & JBS	199	0			NONNAVIGABLE (PLANTS)																						
200			2	West Plum Lake	Vilas	8/8/2017	TWH & JBS	200	3	Muck	Pole	SAMPLED			0																			
201			3	West Plum Lake	Vilas	8/8/2017	TWH & JBS	201	3	Muck	Pole	SAMPLED			3			3																
202			5	West Plum Lake	Vilas	8/8/2017	TWH & JBS	202	3	Muck	Pole	SAMPLED			3			2					2											
203			6	West Plum Lake	Vilas	8/8/2017	TWH & JBS	203	0			NONNAVIGABLE (PLANTS)																						
204			1	West Plum Lake	Vilas	8/8/2017	TWH & JBS	204	3	Muck	Pole	SAMPLED			2					2														
205			4	West Plum Lake	Vilas	8/8/2017	TWH & JBS	205	2	Muck	Pole	SAMPLED			2		1	1					1											

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
1	46.043224	-89.478877	809	Star Lake	Vilas	8/3/2017	JLW & JMB	1	2	Sand	Pole	SAMPLED			0																									
2	46.043220	-89.478037	808	Star Lake	Vilas	8/3/2017	JLW & JMB	2	3	Sand	Pole	SAMPLED			0																									
3	46.042673	-89.486443	799	Star Lake	Vilas	8/3/2017	JLW & JMB	3	3	Sand	Pole	SAMPLED			1					1																		1		
4	46.042669	-89.485603	800	Star Lake	Vilas	8/3/2017	JLW & JMB	4	2	Sand	Pole	SAMPLED			1																							1		
5	46.042654	-89.482243	801	Star Lake	Vilas	8/3/2017	JLW & JMB	5	10	Muck	Pole	SAMPLED			2										1						2									
6	46.042650	-89.481403	802	Star Lake	Vilas	8/3/2017	JLW & JMB	6	12	Muck	Pole	SAMPLED			1							1			1				1											
7	46.042647	-89.480563	803	Star Lake	Vilas	8/3/2017	JLW & JMB	7	9	Muck	Pole	SAMPLED			2					1		1									1									
8	46.042643	-89.479723	804	Star Lake	Vilas	8/3/2017	JLW & JMB	8	10	Muck	Pole	SAMPLED			1																1									
9	46.042639	-89.478883	805	Star Lake	Vilas	8/3/2017	JLW & JMB	9	12	Muck	Pole	SAMPLED			1																1									
10	46.042635	-89.478043	806	Star Lake	Vilas	8/3/2017	JLW & JMB	10	11	Muck	Pole	SAMPLED			1							1																		
11	46.042631	-89.477203	807	Star Lake	Vilas	8/3/2017	JLW & JMB	11	6	Sand	Pole	SAMPLED			1					1		1								1					1					
12	46.042092	-89.487289	798	Star Lake	Vilas	8/3/2017	JLW & JMB	12	5	Muck	Pole	SAMPLED			1			1		1		1													1					
13	46.042088	-89.486449	797	Star Lake	Vilas	8/3/2017	JLW & JMB	13	8	Muck	Pole	SAMPLED			2			2				1						1												
14	46.042084	-89.485609	796	Star Lake	Vilas	8/3/2017	JLW & JMB	14	7	Muck	Pole	SAMPLED			2			2										1							1					
15	46.042081	-89.484769	795	Star Lake	Vilas	8/3/2017	JLW & JMB	15	4	Sand	Pole	SAMPLED			0																									
16	46.042077	-89.483929	794	Star Lake	Vilas	8/3/2017	JLW & JMB	16	5	Muck	Pole	SAMPLED			1			1						1																
17	46.042073	-89.483089	793	Star Lake	Vilas	8/3/2017	JLW & JMB	17	12	Muck	Pole	SAMPLED			2										1				2											
18	46.042069	-89.482249	792	Star Lake	Vilas	8/3/2017	JLW & JMB	18	13	Muck	Pole	SAMPLED			1		1								1															
19	46.042065	-89.481409	791	Star Lake	Vilas	8/3/2017	JLW & JMB	19	13	Muck	Pole	SAMPLED			1		1								1															
20	46.042062	-89.480569	790	Star Lake	Vilas	8/3/2017	JLW & JMB	20	14	Muck	Pole	SAMPLED			1		1																							
21	46.042058	-89.479729	789	Star Lake	Vilas	8/3/2017	JLW & JMB	21	13	Muck	Pole	SAMPLED			2		1								1															
22	46.042054	-89.478888	788	Star Lake	Vilas	8/3/2017	JLW & JMB	22	13	Muck	Pole	SAMPLED			1							1			1				1						1					
23	46.042050	-89.478048	787	Star Lake	Vilas	8/3/2017	JLW & JMB	23	13	Muck	Pole	SAMPLED			1		1			1									1											
24	46.042046	-89.477208	786	Star Lake	Vilas	8/3/2017	JLW & JMB	24	11	Muck	Pole	SAMPLED			2		1					1																		
25	46.042042	-89.476368	785	Star Lake	Vilas	8/3/2017	JLW & JMB	25	8	Muck	Pole	SAMPLED			1					1		1									1				1					
26	46.041511	-89.488134	0	Star Lake	Vilas			26	0			NO INFORMATION																												
27	46.041507	-89.487294	772	Star Lake	Vilas	8/3/2017	JLW & JMB	27	6	Muck	Pole	SAMPLED			2													2					1							
28	46.041503	-89.486454	773	Star Lake	Vilas	8/3/2017	JLW & JMB	28	7	Muck	Pole	SAMPLED			2			1				1						1	1						1					
29	46.041499	-89.485614	774	Star Lake	Vilas	8/3/2017	JLW & JMB	29	11	Muck	Pole	SAMPLED			3					1					1						3									
30	46.041496	-89.484774	775	Star Lake	Vilas	8/3/2017	JLW & JMB	30	13	Muck	Pole	SAMPLED			1										1						1									
31	46.041492	-89.483934	776	Star Lake	Vilas	8/3/2017	JLW & JMB	31	13	Muck	Pole	SAMPLED			1							1									1									
32	46.041488	-89.483094	777	Star Lake	Vilas	8/3/2017	JLW & JMB	32	13	Muck	Pole	SAMPLED			2					1					2															
33	46.041484	-89.482254	778	Star Lake	Vilas	8/3/2017	JLW & JMB	33	13	Muck	Pole	SAMPLED			1							1																		
34	46.041480	-89.481414	779	Star Lake	Vilas	8/3/2017	JLW & JMB	34	13	Muck	Pole	SAMPLED			1		1																							
35	46.041477	-89.480574	780	Star Lake	Vilas	8/3/2017	JLW & JMB	35	14	Muck	Pole	SAMPLED			0																									
36	46.041473	-89.479734	781	Star Lake	Vilas	8/3/2017	JLW & JMB	36	16		Rope	SAMPLED			1										1															
37	46.041469	-89.478894	782	Star Lake	Vilas	8/3/2017	JLW & JMB	37	16		Rope	SAMPLED			1										1															
38	46.041465	-89.478054	783	Star Lake	Vilas	8/3/2017	JLW & JMB	38	16		Rope	SAMPLED			0																									
39	46.041461	-89.477214	784	Star Lake	Vilas	8/3/2017	JLW & JMB	39	10	Muck	Pole	SAMPLED			1					1											1									
40	46.041457	-89.476374	756	Star Lake	Vilas	8/3/2017	JLW & JMB	40	12	Muck	Pole	SAMPLED			3	1				2									1											
41	46.040922	-89.487300	771	Star Lake	Vilas	8/3/2017	JLW & JMB	41	3	Sand	Pole	SAMPLED			1			1		1				1							1									
42	46.040918	-89.486460	770	Star Lake	Vilas	8/3/2017	JLW & JMB	42	10	Muck	Pole	SAMPLED			2					1		1							1											
43	46.040914	-89.485620	769	Star Lake	Vilas	8/3/2017	JLW & JMB	43	13	Muck	Pole	SAMPLED			2										1				1											
44	46.040911	-89.484780	768	Star Lake	Vilas	8/3/2017	JLW & JMB	44	13	Muck	Pole	SAMPLED			2										2															
45	46.040907	-89.483940	767	Star Lake	Vilas	8/3/2017	JLW & JMB	45	16		Rope	SAMPLED			2										2															
46	46.040903	-89.483100	766	Star Lake	Vilas	8/3/2017	JLW & JMB	46	17		Rope	SAMPLED			1										1															
47	46.040899	-89.482260	765	Star Lake	Vilas	8/3/2017	JLW & JMB	47	15		Rope	SAMPLED			0																									
48	46.040895	-89.481420	764	Star Lake	Vilas	8/3/2017	JLW & JMB	48	16		Rope	SAMPLED			1										1															
49	46.040892	-89.480580	763	Star Lake	Vilas	8/3/2017	JLW & JMB	49	16		Rope	SAMPLED			1										1															
50	46.040888	-89.479740	762	Star Lake	Vilas	8/3/2017	JLW & JMB	50	17		Rope	SAMPLED			1										1															
51	46.040884	-89.478899	761	Star Lake	Vilas	8/3/2017	JLW & JMB	51	19		Rope	SAMPLED			0																									
52	46.040880	-89.478059	760	Star Lake	Vilas	8/3/2017	JLW & JMB	52	19		Rope	SAMPLED			0																									
53	46.040876	-89.477219	755	Star Lake	Vilas	8/3/2017	JLW & JMB	53	18		Rope	SAMPLED			0																									
54	46.040872	-89.476379	757	Star Lake	Vilas	8/3/2017	JLW & JMB	54	13	Muck	Pole	SAMPLED			3		3																							
55	46.040869	-89.475539	758	Star Lake	Vilas	8/3/2017	JLW & JMB	55	2	Sand	Pole	SAMPLED			0																									
56	46.040337	-89.487305	740	Star Lake	Vilas	8/3/2017	JLW & JMB	56	1	Sand	Pole	SAMPLED			1																1			1						
57	46.040333	-89.486465	741	Star Lake	Vilas	8/3/2017	JLW & JMB	57	13	Muck	Pole	SAMPLED			3					1					3															
58	46.040329	-89.485625	742	Star Lake	Vilas	8/3/2017	JLW & JMB	58	14	Muck	Pole	SAMPLED			3										3															
59	46.040326	-89.484785	743	Star Lake	Vilas	8/3/2017	JLW & JMB	59	14	Muck	Pole	SAMPLED			3										3															
60	46.040322	-89.483945	744	Star Lake	Vilas	8/3/2017	JLW & JMB	60	16		Rope	SAMPLED			1										1															
61	46.040318	-89.483105	745	Star Lake	Vilas	8/3/2017	JLW & JMB	61	14	Muck	Pole	SAMPLED			3										3															
62	46.040314	-89.482265	746	Star Lake	Vilas	8/3/2017	JLW & JMB	62	11	Muck	Pole	SAMPLED			0																									
63	46.040310	-89.481425	747	Star Lake	Vilas	8/3/2017	JLW & JMB	63	6	Sand	Pole	SAMPLED			1			1													1									
64	46.040307	-89.480585	748	Star Lake	Vilas	8/3/2017	JLW & JMB	64	8	Sand	Pole	SAMPLED			2			2													1									
65	46.040303	-89.479745	749	Star Lake	Vilas	8/3/2017	JLW & JMB	65	5	Sand	Pole	SAMPLED			1			1					1																	
66	46.040299	-89.478905	750	Star Lake	Vilas	8/3/2017	JLW & JMB	66	13	Muck	Pole	SAMPLED			2					1					1				1											
67	46.040295	-89.478065	751	Star Lake	Vilas	8/3/2017	JLW & JMB	67	20		Rope	SAMPLED			0																									
68	46.040291	-89.477225	752	Star Lake	Vilas	8/3/2017	JLW & JMB	68	21		Rope	SAMPLED			0																									
69	46.040287	-89.476385	759	Star Lake	Vilas	8/3/2017	JLW & JMB	69	7	Muck	Pole	SAMPLED			1																1									
70	46.040284	-89.475545	754	Star Lake	Vilas	8/3/2017	JLW & JMB	70	3	Muck	Pole	SAMPLED			0																									
71	46.039752	-89.487311	739	Star Lake	Vilas	8/3/2017	JLW & JMB	71	5	Sand	Pole	SAMPLED			1									1																
72	46.039748	-89.486471	738	Star Lake	Vilas	8/3/2017	JLW & JMB	72	13	Muck	Pole	SAMPLED			3										3															
73	46.039744	-89.485631	737	Star Lake	Vilas	8/3/2017	JLW & JMB	73	16		Rope	SAMPLED			3										3															

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
74	46.039741	-89.484791	736	Star Lake	Vilas	8/3/2017	JLW & JMB	74	17		Rope	SAMPLED			0																									
75	46.039737	-89.483951	735	Star Lake	Vilas	8/3/2017	JLW & JMB	75	18		Rope	SAMPLED			1										1															
76	46.039733	-89.483111	734	Star Lake	Vilas	8/3/2017	JLW & JMB	76	15		Rope	SAMPLED			0										1										1					
77	46.039729	-89.482271	733	Star Lake	Vilas	8/3/2017	JLW & JMB	77	8	Muck	Pole	SAMPLED			1										1						1									
78	46.039725	-89.481431	732	Star Lake	Vilas	8/3/2017	JLW & JMB	78	6	Rock	Pole	SAMPLED			0																									
79	46.039722	-89.480591	731	Star Lake	Vilas	8/3/2017	JLW & JMB	79	4	Sand	Pole	SAMPLED			1			1													1									
80	46.039718	-89.479750	730	Star Lake	Vilas	8/3/2017	JLW & JMB	80	4	Sand	Pole	SAMPLED			2			2	1																					
81	46.039714	-89.478910	729	Star Lake	Vilas	8/3/2017	JLW & JMB	81	4	Sand	Pole	SAMPLED			1			1																		1				
82	46.039710	-89.478070	728	Star Lake	Vilas	8/3/2017	JLW & JMB	82	5	Rock	Pole	SAMPLED			1			1																						
83	46.039706	-89.477230	727	Star Lake	Vilas	8/3/2017	JLW & JMB	83	21		Rope	SAMPLED			0																									
84	46.039703	-89.476390	726	Star Lake	Vilas	8/3/2017	JLW & JMB	84	16		Rope	SAMPLED			0																									
85	46.039699	-89.475550	725	Star Lake	Vilas	8/3/2017	JLW & JMB	85	7	Muck	Pole	SAMPLED			1					1		1		1	1						1									
86	46.039171	-89.488156	708	Star Lake	Vilas	8/3/2017	JLW & JMB	86	7	Muck	Pole	SAMPLED			1																1									
87	46.039167	-89.487316	709	Star Lake	Vilas	8/3/2017	JLW & JMB	87	8	Muck	Pole	SAMPLED			2									1	1						1									
88	46.039163	-89.486476	710	Star Lake	Vilas	8/3/2017	JLW & JMB	88	5	Sand	Pole	SAMPLED			1			1																						
89	46.039159	-89.485636	711	Star Lake	Vilas	8/3/2017	JLW & JMB	89	6	Muck	Pole	SAMPLED			1		1			1		1									1				1					
90	46.039156	-89.484796	712	Star Lake	Vilas	8/3/2017	JLW & JMB	90	18		Rope	SAMPLED			0																									
91	46.039152	-89.483956	713	Star Lake	Vilas	8/3/2017	JLW & JMB	91	20		Rope	SAMPLED			0																									
92	46.039148	-89.483116	714	Star Lake	Vilas	8/3/2017	JLW & JMB	92	18		Rope	SAMPLED			0																									
93	46.039144	-89.482276	715	Star Lake	Vilas	8/3/2017	JLW & JMB	93	16		Rope	SAMPLED			1										1															
94	46.039140	-89.481436	716	Star Lake	Vilas	8/3/2017	JLW & JMB	94	6	Muck	Pole	SAMPLED			0																									
95	46.039137	-89.480596	717	Star Lake	Vilas	8/3/2017	JLW & JMB	95	5	Sand	Pole	SAMPLED			1			1																						
96	46.039133	-89.479756	718	Star Lake	Vilas	8/3/2017	JLW & JMB	96	4	Sand	Pole	SAMPLED			1			1																						
97	46.039129	-89.478916	719	Star Lake	Vilas	8/3/2017	JLW & JMB	97	3	Sand	Pole	SAMPLED			1			1																						
98	46.039125	-89.478076	720	Star Lake	Vilas	8/3/2017	JLW & JMB	98	22		Rope	SAMPLED			0																									
99	46.039121	-89.477236	721	Star Lake	Vilas	8/3/2017	JLW & JMB	99	23		Rope	SAMPLED			0																									
100	46.039118	-89.476396	722	Star Lake	Vilas	8/3/2017	JLW & JMB	100	22		Rope	SAMPLED			0																									
101	46.039114	-89.475556	723	Star Lake	Vilas	8/3/2017	JLW & JMB	101	16		Rope	SAMPLED			0																									
102	46.039110	-89.474716	724	Star Lake	Vilas	8/3/2017	JLW & JMB	102	1	Sand	Pole	SAMPLED			0																									
103	46.038612	-89.494041	864	Star Lake	Vilas	8/3/2017	JLW & JMB	103	3	Muck	Pole	SAMPLED			1			1						1																
104	46.038608	-89.493201	863	Star Lake	Vilas	8/3/2017	JLW & JMB	104	5	Muck	Pole	SAMPLED			1			1		1																		1		
105	46.038605	-89.492361	862	Star Lake	Vilas	8/3/2017	JLW & JMB	105	2	Sand	Pole	SAMPLED			1			1				1				1														
106	46.038586	-89.488161	707	Star Lake	Vilas	8/2/2017	JLW & JMB	106	16		Rope	SAMPLED			0																									
107	46.038582	-89.487321	706	Star Lake	Vilas	8/2/2017	JLW & JMB	107	17		Rope	SAMPLED			0																									
108	46.038578	-89.486481	705	Star Lake	Vilas	8/2/2017	JLW & JMB	108	16		Rope	SAMPLED			0																									
109	46.038574	-89.485641	704	Star Lake	Vilas	8/2/2017	JLW & JMB	109	6	Rock	Pole	SAMPLED			1																									
110	46.038571	-89.484801	703	Star Lake	Vilas	8/2/2017	JLW & JMB	110	18		Rope	SAMPLED			0																									
111	46.038567	-89.483961	702	Star Lake	Vilas	8/2/2017	JLW & JMB	111	22		Rope	SAMPLED			0																									
112	46.038563	-89.483121	701	Star Lake	Vilas	8/2/2017	JLW & JMB	112	13	Muck	Pole	SAMPLED			0																									
113	46.038559	-89.482281	700	Star Lake	Vilas	8/2/2017	JLW & JMB	113	10	Muck	Pole	SAMPLED			1										1															
114	46.038555	-89.481441	699	Star Lake	Vilas	8/2/2017	JLW & JMB	114	6	Sand	Pole	SAMPLED			1																1									
115	46.038552	-89.480601	698	Star Lake	Vilas	8/2/2017	JLW & JMB	115	18		Rope	SAMPLED			0																									
116	46.038548	-89.479761	697	Star Lake	Vilas	8/2/2017	JLW & JMB	116	16		Rope	SAMPLED			1										1															
117	46.038544	-89.478921	696	Star Lake	Vilas	8/2/2017	JLW & JMB	117	18		Rope	SAMPLED			1														1											
118	46.038540	-89.478081	695	Star Lake	Vilas	8/2/2017	JLW & JMB	118	22		Rope	SAMPLED			0																									
119	46.038536	-89.477241	694	Star Lake	Vilas	8/2/2017	JLW & JMB	119	19		Rope	SAMPLED			0																									
120	46.038533	-89.476402	693	Star Lake	Vilas	8/2/2017	JLW & JMB	120	23		Rope	SAMPLED			0																									
121	46.038529	-89.475562	691	Star Lake	Vilas	8/2/2017	JLW & JMB	121	19		Rope	SAMPLED			0																									
122	46.038525	-89.474722	692	Star Lake	Vilas	8/2/2017	JLW & JMB	122	0			DOCK	And people swimming																											
123	46.038049	-89.499087	908	Star Lake	Vilas	8/3/2017	JLW & JMB	123	3	Muck	Pole	SAMPLED			0																									1
124	46.038045	-89.498247	899	Star Lake	Vilas	8/3/2017	JLW & JMB	124	5	Muck	Pole	SAMPLED			0																									
125	46.038042	-89.497407	898	Star Lake	Vilas	8/3/2017	JLW & JMB	125	5	Muck	Pole	SAMPLED			1					1								1												
126	46.038038	-89.496567	886	Star Lake	Vilas	8/3/2017	JLW & JMB	126	4	Muck	Pole	SAMPLED			2			1							1								1					1		
127	46.038034	-89.495727	885	Star Lake	Vilas	8/3/2017	JLW & JMB	127	3	Muck	Pole	SAMPLED			1			1																				1		
128	46.038027	-89.494047	865	Star Lake	Vilas	8/3/2017	JLW & JMB	128	10	Muck	Pole	SAMPLED			1										1															
129	46.038023	-89.493207	866	Star Lake	Vilas	8/3/2017	JLW & JMB	129	6	Muck	Pole	SAMPLED			2		1			1													1					2		
130	46.038020	-89.492367	861	Star Lake	Vilas	8/3/2017	JLW & JMB	130	5	Muck	Pole	SAMPLED			1			1				1																1		
131	46.038005	-89.489007	814	Star Lake	Vilas	8/3/2017	JLW & JMB	131	5	Sand	Pole	SAMPLED			1																1									
132	46.038001	-89.488167	813	Star Lake	Vilas	8/3/2017	JLW & JMB	132	16		Rope	SAMPLED			0																									
133	46.037997	-89.487327	812	Star Lake	Vilas	8/3/2017	JLW & JMB	133	17		Rope	SAMPLED			0																									
134	46.037993	-89.486487	811	Star Lake	Vilas	8/3/2017	JLW & JMB	134	20		Rope	SAMPLED			0																									
135	46.037989	-89.485647	810	Star Lake	Vilas	8/3/2017	JLW & JMB	135	21		Rope	SAMPLED			0																									
136	46.037986	-89.484807	679	Star Lake	Vilas	8/2/2017	JLW & JMB	136	25		Rope	SAMPLED			0																									
137	46.037982	-89.483967	680	Star Lake	Vilas	8/2/2017	JLW & JMB	137	11	Sand	Pole	SAMPLED			0																									
138	46.037978	-89.483127	681	Star Lake	Vilas	8/2/2017	JLW & JMB	138	16		Rope	SAMPLED			0																									
139	46.037974	-89.482287	682	Star Lake	Vilas	8/2/2017	JLW & JMB	139	7	Sand	Pole	SAMPLED			0																									
140	46.037970	-89.481447	683	Star Lake	Vilas	8/2/2017	JLW & JMB	140	8	Rock	Pole	SAMPLED			1			1																						
141	46.037967	-89.480607	684	Star Lake	Vilas	8/2/2017	JLW & JMB	141	26			DEEP																												
142	46.037963	-89.479767	685	Star Lake	Vilas	8/2/2017	JLW & JMB	142	27			DEEP																												
143	46.037959	-89.478927	686	Star Lake	Vilas	8/2/2017	JLW & JMB	143	28			DEEP																												
144	46.037955	-89.478087	687	Star Lake	Vilas	8/2/2017	JLW & JMB	144	25		Rope	SAMPLED			0																									
145	46.037951	-89.477247	688	Star Lake	Vilas	8/2/2017	JLW & JMB	145	13	Rock	Pole	SAMPLED			0																									
146	46.037948	-89.476407	689	Star Lake	Vilas	8/2/2017	JLW & JMB	146	21		Rope	SAMPLED			0																									

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
147	46.037944	-89.475567	690	Star Lake	Vilas	8/2/2017	JLW & JMB	147	10	Muck	Pole	SAMPLED			0																									
148	46.037464	-89.499092	907	Star Lake	Vilas	8/3/2017	JLW & JMB	148	5	Muck	Pole	SAMPLED			1																		1					1		
149	46.037460	-89.498252	900	Star Lake	Vilas	8/3/2017	JLW & JMB	149	6	Muck	Pole	SAMPLED			1					1											1		1							
150	46.037457	-89.497412	897	Star Lake	Vilas	8/3/2017	JLW & JMB	150	6	Muck	Pole	SAMPLED			3		3																1					1		
151	46.037453	-89.496572	887	Star Lake	Vilas	8/3/2017	JLW & JMB	151	5	Muck	Pole	SAMPLED			3					1													2					2		
152	46.037449	-89.495732	884	Star Lake	Vilas	8/3/2017	JLW & JMB	152	5	Muck	Pole	SAMPLED			1			1													1		1							
153	46.037446	-89.494892	869	Star Lake	Vilas	8/3/2017	JLW & JMB	153	2	Sand	Pole	SAMPLED			1			1						1																
154	46.037442	-89.494052	868	Star Lake	Vilas	8/3/2017	JLW & JMB	154	7	Muck	Pole	SAMPLED			1										1															
155	46.037438	-89.493212	867	Star Lake	Vilas	8/3/2017	JLW & JMB	155	7	Muck	Pole	SAMPLED			2																1		2						1	
156	46.037435	-89.492372	860	Star Lake	Vilas	8/3/2017	JLW & JMB	156	9	Muck	Pole	SAMPLED			1					1											1		1							
157	46.037423	-89.489852	815	Star Lake	Vilas	8/3/2017	JLW & JMB	157	3	Sand	Pole	SAMPLED			0																									
158	46.037420	-89.489012	816	Star Lake	Vilas	8/3/2017	JLW & JMB	158	16		Rope	SAMPLED			0																									
159	46.037416	-89.488172	817	Star Lake	Vilas	8/3/2017	JLW & JMB	159	4	Rock	Pole	SAMPLED			0																									
160	46.037412	-89.487332	818	Star Lake	Vilas	8/3/2017	JLW & JMB	160	11	Rock	Pole	SAMPLED			0																									
161	46.037408	-89.486492	819	Star Lake	Vilas	8/3/2017	JLW & JMB	161	20		Rope	SAMPLED			0																									
162	46.037404	-89.485652	820	Star Lake	Vilas	8/3/2017	JLW & JMB	162	22		Rope	SAMPLED			0																									
163	46.037401	-89.484812	677	Star Lake	Vilas	8/2/2017	JLW & JMB	163	24		Rope	SAMPLED			0																									
164	46.037397	-89.483972	676	Star Lake	Vilas	8/2/2017	JLW & JMB	164	25			DEEP																												
165	46.037393	-89.483132	675	Star Lake	Vilas	8/2/2017	JLW & JMB	165	25			DEEP																												
166	46.037389	-89.482292	673	Star Lake	Vilas	8/2/2017	JLW & JMB	166	18		Rope	SAMPLED			0																									
167	46.037386	-89.481452	672	Star Lake	Vilas	8/2/2017	JLW & JMB	167	27			DEEP																												
168	46.037382	-89.480612	671	Star Lake	Vilas	8/2/2017	JLW & JMB	168	27			DEEP																												
169	46.037378	-89.479772	0	Star Lake	Vilas			169	0			DEEP																												
170	46.037374	-89.478932	0	Star Lake	Vilas			170	0			DEEP																												
171	46.037370	-89.478093	670	Star Lake	Vilas	8/2/2017	JLW & JMB	171	32			DEEP																												
172	46.037366	-89.477253	669	Star Lake	Vilas	8/2/2017	JLW & JMB	172	23		Rope	SAMPLED			0																									
173	46.037363	-89.476413	668	Star Lake	Vilas	8/2/2017	JLW & JMB	173	21		Rope	SAMPLED			0																									
174	46.037359	-89.475573	667	Star Lake	Vilas	8/2/2017	JLW & JMB	174	6	Muck	Pole	SAMPLED			0																									
175	46.036883	-89.499937	909	Star Lake	Vilas	8/3/2017	JLW & JMB	175	3	Muck	Pole	SAMPLED			0																									
176	46.036879	-89.499097	906	Star Lake	Vilas	8/3/2017	JLW & JMB	176	5	Muck	Pole	SAMPLED			1																							1		
177	46.036875	-89.498257	901	Star Lake	Vilas	8/3/2017	JLW & JMB	177	7	Muck	Pole	SAMPLED			3										1													3		
178	46.036872	-89.497417	896	Star Lake	Vilas	8/3/2017	JLW & JMB	178	7	Muck	Pole	SAMPLED			3		1																1					2		
179	46.036868	-89.496577	888	Star Lake	Vilas	8/3/2017	JLW & JMB	179	7	Muck	Pole	SAMPLED			3					1		1			1				1									2		
180	46.036864	-89.495737	883	Star Lake	Vilas	8/3/2017	JLW & JMB	180	2	Sand	Pole	SAMPLED			0																									
181	46.036861	-89.494897	870	Star Lake	Vilas	8/3/2017	JLW & JMB	181	5	Sand	Pole	SAMPLED			1			1		1				1				1			1							1		
182	46.036857	-89.494057	871	Star Lake	Vilas	8/3/2017	JLW & JMB	182	9	Muck	Pole	SAMPLED			1																		1		1					
183	46.036853	-89.493217	857	Star Lake	Vilas	8/3/2017	JLW & JMB	183	10	Muck	Pole	SAMPLED			1																							1		
184	46.036850	-89.492377	858	Star Lake	Vilas	8/3/2017	JLW & JMB	184	3	Sand	Pole	SAMPLED			1																						1			
185	46.036846	-89.491537	859	Star Lake	Vilas	8/3/2017	JLW & JMB	185	4	Sand	Pole	SAMPLED			1																						1			
186	46.036842	-89.490698	838	Star Lake	Vilas	8/3/2017	JLW & JMB	186	6	Sand	Pole	SAMPLED			*																									
187	46.036838	-89.489858	827	Star Lake	Vilas	8/3/2017	JLW & JMB	187	22		Rope	SAMPLED			0																									
188	46.036835	-89.489018	826	Star Lake	Vilas	8/3/2017	JLW & JMB	188	22		Rope	SAMPLED			0																									
189	46.036831	-89.488178	825	Star Lake	Vilas	8/3/2017	JLW & JMB	189	17		Rope	SAMPLED			0																									
190	46.036827	-89.487338	824	Star Lake	Vilas	8/3/2017	JLW & JMB	190	5	Rock	Pole	SAMPLED			0																									
191	46.036823	-89.486498	823	Star Lake	Vilas	8/3/2017	JLW & JMB	191	19		Rope	SAMPLED			0																									
192	46.036819	-89.485658	822	Star Lake	Vilas	8/3/2017	JLW & JMB	192	24		Rope	SAMPLED			0																									
193	46.036816	-89.484818	678	Star Lake	Vilas	8/2/2017	JLW & JMB	193	24		Rope	SAMPLED			0																									
194	46.036812	-89.483978	821	Star Lake	Vilas	8/3/2017	JLW & JMB	194	24			DEEP																												
195	46.036808	-89.483138	0	Star Lake	Vilas			195	0			DEEP																												
196	46.036804	-89.482298	674	Star Lake	Vilas	8/2/2017	JLW & JMB	196	28			DEEP																												
197	46.036801	-89.481458	0	Star Lake	Vilas			197	0			DEEP																												
198	46.036797	-89.480618	0	Star Lake	Vilas			198	0			DEEP																												
199	46.036793	-89.479778	0	Star Lake	Vilas			199	0			DEEP																												
200	46.036789	-89.478938	662	Star Lake	Vilas	8/2/2017	JLW & JMB	200	39			DEEP																												
201	46.036785	-89.478098	663	Star Lake	Vilas	8/2/2017	JLW & JMB	201	36			DEEP																												
202	46.036781	-89.477258	664	Star Lake	Vilas	8/2/2017	JLW & JMB	202	16		Rope	SAMPLED			0																									
203	46.036778	-89.476418	665	Star Lake	Vilas	8/2/2017	JLW & JMB	203	4	Rock	Pole	SAMPLED			0																									
204	46.036774	-89.475578	666	Star Lake	Vilas	8/2/2017	JLW & JMB	204	2	Sand	Pole	SAMPLED			1									1																
205	46.036298	-89.499942	910	Star Lake	Vilas	8/3/2017	JLW & JMB	205	3	Muck	Pole	SAMPLED			2																							2		
206	46.036294	-89.499102	905	Star Lake	Vilas	8/3/2017	JLW & JMB	206	6	Muck	Pole	SAMPLED			0																									
207	46.036290	-89.498263	902	Star Lake	Vilas	8/3/2017	JLW & JMB	207	7	Muck	Pole	SAMPLED			3		1																					3		
208	46.036287	-89.497423	895	Star Lake	Vilas	8/3/2017	JLW & JMB	208	13	Muck	Pole	SAMPLED			0																									
209	46.036283	-89.496583	889	Star Lake	Vilas	8/3/2017	JLW & JMB	209	4	Sand	Pole	SAMPLED			0																									
210	46.036279	-89.495743	882	Star Lake	Vilas	8/3/2017	JLW & JMB	210	4	Muck	Pole	SAMPLED			1														1											
211	46.036276	-89.494903	878	Star Lake	Vilas	8/3/2017	JLW & JMB	211	8	Muck	Pole	SAMPLED			2		2																					1		
212	46.036272	-89.494063	872	Star Lake	Vilas	8/3/2017	JLW & JMB	212	12	Muck	Pole	SAMPLED			2										2													1		
213	46.0362683	-89.4932228	856	Star Lake	Vilas	8/3/2017	JLW & JMB	213	12	Muck	Pole	SAMPLED			1										1															
214	46.0362645	-89.4923828	849	Star Lake	Vilas	8/3/2017	JLW & JMB	214	8	Muck	Pole	SAMPLED			1									1							1									
215	46.0362608	-89.4915428	848	Star Lake	Vilas	8/3/2017	JLW & JMB	215	15		Rope	SAMPLED			0																									
216	46.0362571	-89.4907029	839	Star Lake	Vilas	8/3/2017	JLW & JMB	216	13	Muck	Pole	SAMPLED			1														1											
217	46.0362533	-89.4898629	828	Star Lake	Vilas	8/3/2017	JLW & JMB	217	24			DEEP																												
218	46.0362496	-89.489023	829	Star Lake	Vilas	8/3/2017	JLW & JMB	218	23		Rope	SAMPLED			0																									
219	46.0362458	-89.488183	830	Star Lake	Vilas	8/3/2017	JLW & JMB	219	26			DEEP																												

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
220	46.036242	-89.487343	831	Star Lake	Vilas	8/3/2017	JLW & JMB	220	27			DEEP																												
221	46.0362383	-89.4865031	832	Star Lake	Vilas	8/3/2017	JLW & JMB	221	28			DEEP																												
222	46.0362345	-89.4856631	833	Star Lake	Vilas	8/3/2017	JLW & JMB	222	28			DEEP																												
223	46.0362307	-89.4848232	834	Star Lake	Vilas	8/3/2017	JLW & JMB	223	26			DEEP																												
224	46.0362269	-89.4839832	835	Star Lake	Vilas	8/3/2017	JLW & JMB	224	0			DEEP																												
225	46.0362231	-89.4831433	0	Star Lake	Vilas			225	0			DEEP																												
226	46.0362193	-89.4823033	0	Star Lake	Vilas			226	0			DEEP																												
227	46.0362155	-89.4814633	0	Star Lake	Vilas			227	0			DEEP																												
228	46.0362117	-89.4806234	0	Star Lake	Vilas			228	0			DEEP																												
229	46.0362079	-89.4797834	0	Star Lake	Vilas			229	0			DEEP																												
230	46.0362041	-89.4789435	661	Star Lake	Vilas	8/2/2017	JLW & JMB	230	0			DEEP																												
231	46.0362002	-89.4781035	660	Star Lake	Vilas	8/2/2017	JLW & JMB	231	27			DEEP																												
232	46.0361964	-89.4772636	659	Star Lake	Vilas	8/2/2017	JLW & JMB	232	8	Rock	Pole	SAMPLED			1									1							1									
233	46.0361925	-89.4764236	658	Star Lake	Vilas	8/2/2017	JLW & JMB	233	3	Sand	Pole	SAMPLED			0																									
234	46.0357092	-89.4991078	904	Star Lake	Vilas	8/3/2017	JLW & JMB	234	5	Muck	Pole	SAMPLED			0																									
235	46.0357055	-89.4982678	903	Star Lake	Vilas	8/3/2017	JLW & JMB	235	13	Muck	Pole	SAMPLED			0																									
236	46.0357018	-89.4974279	894	Star Lake	Vilas	8/3/2017	JLW & JMB	236	13	Muck	Pole	SAMPLED			1														1											
237	46.0356981	-89.4965879	890	Star Lake	Vilas	8/3/2017	JLW & JMB	237	13	Muck	Pole	SAMPLED			1										1															
238	46.0356944	-89.495748	881	Star Lake	Vilas	8/3/2017	JLW & JMB	238	13	Muck	Pole	SAMPLED			1										1				1											
239	46.0356907	-89.494908	877	Star Lake	Vilas	8/3/2017	JLW & JMB	239	8	Rock	Pole	SAMPLED			2			2																						
240	46.035687	-89.494068	873	Star Lake	Vilas	8/3/2017	JLW & JMB	240	12	Muck	Pole	SAMPLED			1			1																						
241	46.0356833	-89.4932281	855	Star Lake	Vilas	8/3/2017	JLW & JMB	241	23		Rope	SAMPLED			0																									
242	46.0356795	-89.4923881	850	Star Lake	Vilas	8/3/2017	JLW & JMB	242	21		Rope	SAMPLED			0																									
243	46.0356758	-89.4915482	847	Star Lake	Vilas	8/3/2017	JLW & JMB	243	21		Rope	SAMPLED			3		1								3															
244	46.0356721	-89.4907082	840	Star Lake	Vilas	8/3/2017	JLW & JMB	244	21		Rope	SAMPLED			0																									
245	46.0356683	-89.4898683	837	Star Lake	Vilas	8/3/2017	JLW & JMB	245	24			DEEP																												
246	46.0356646	-89.4890284	836	Star Lake	Vilas	8/3/2017	JLW & JMB	246	25			DEEP																												
247	46.0356608	-89.4881884	0	Star Lake	Vilas			247	0			DEEP																												
248	46.035657	-89.4873485	0	Star Lake	Vilas			248	0			DEEP																												
249	46.0356533	-89.4865085	0	Star Lake	Vilas			249	0			DEEP																												
250	46.0356495	-89.4856686	0	Star Lake	Vilas			250	0			DEEP																												
251	46.0356457	-89.4848286	0	Star Lake	Vilas			251	0			DEEP																												
252	46.0356419	-89.4839887	649	Star Lake	Vilas	8/2/2017	JLW & JMB	252	31			DEEP																												
253	46.0356381	-89.4831487	650	Star Lake	Vilas	8/2/2017	JLW & JMB	253	31			DEEP																												
254	46.0356343	-89.4823088	651	Star Lake	Vilas	8/2/2017	JLW & JMB	254	28			DEEP																												
255	46.0356305	-89.4814688	652	Star Lake	Vilas	8/2/2017	JLW & JMB	255	28			DEEP																												
256	46.0356267	-89.4806289	653	Star Lake	Vilas	8/2/2017	JLW & JMB	256	29			DEEP																												
257	46.0356229	-89.4797889	654	Star Lake	Vilas	8/2/2017	JLW & JMB	257	31			DEEP																												
258	46.0356191	-89.478949	655	Star Lake	Vilas	8/2/2017	JLW & JMB	258	26			DEEP																												
259	46.0356152	-89.478109	656	Star Lake	Vilas	8/2/2017	JLW & JMB	259	8	Sand	Pole	SAMPLED			1																1									
260	46.0356114	-89.4772691	657	Star Lake	Vilas	8/2/2017	JLW & JMB	260	5	Muck	Pole	SAMPLED			0																									
261	46.0351205	-89.4982731	370	Star Lake	Vilas	8/1/2017	JLW & JMB	261	15	Muck	Pole	SAMPLED			3										3															
262	46.0351168	-89.4974332	369	Star Lake	Vilas	8/1/2017	JLW & JMB	262	14	Muck	Pole	SAMPLED			2										2															
263	46.0351131	-89.4965932	891	Star Lake	Vilas	8/3/2017	JLW & JMB	263	13	Muck	Pole	SAMPLED			2										2															
264	46.0351094	-89.4957533	880	Star Lake	Vilas	8/3/2017	JLW & JMB	264	12	Muck	Pole	SAMPLED			3					1		1			2				2											
265	46.0351057	-89.4949133	876	Star Lake	Vilas	8/3/2017	JLW & JMB	265	2	Sand	Pole	SAMPLED			0																									
266	46.035102	-89.4940734	874	Star Lake	Vilas	8/3/2017	JLW & JMB	266	20		Rope	SAMPLED			0																									
267	46.0350983	-89.4932334	854	Star Lake	Vilas	8/3/2017	JLW & JMB	267	20		Rope	SAMPLED			1										1															
268	46.0350945	-89.4923935	851	Star Lake	Vilas	8/3/2017	JLW & JMB	268	21		Rope	SAMPLED			0																									
269	46.0350908	-89.4915536	846	Star Lake	Vilas	8/3/2017	JLW & JMB	269	21		Rope	SAMPLED			0																									
270	46.0350871	-89.4907136	841	Star Lake	Vilas	8/3/2017	JLW & JMB	270	23		Rope	SAMPLED			0																									
271	46.0350833	-89.4898737	844	Star Lake	Vilas	8/3/2017	JLW & JMB	271	25			DEEP																												
272	46.0350796	-89.4890337	0	Star Lake	Vilas			272	0			DEEP																												
273	46.0350758	-89.4881938	0	Star Lake	Vilas			273	0			DEEP																												
274	46.035072	-89.4873539	0	Star Lake	Vilas			274	0			DEEP																												
275	46.0350683	-89.4865139	0	Star Lake	Vilas			275	0			DEEP																												
276	46.0350645	-89.485674	0	Star Lake	Vilas			276	0			DEEP																												
277	46.0350607	-89.484834	648	Star Lake	Vilas	8/2/2017	JLW & JMB	277	30			DEEP																												
278	46.0350569	-89.4839941	647	Star Lake	Vilas	8/2/2017	JLW & JMB	278	31			DEEP																												
279	46.0350531	-89.4831542	646	Star Lake	Vilas	8/2/2017	JLW & JMB	279	26			DEEP																												
280	46.0350493	-89.4823142	645	Star Lake	Vilas	8/2/2017	JLW & JMB	280	26			DEEP																												
281	46.0350455	-89.4814743	644	Star Lake	Vilas	8/2/2017	JLW & JMB	281	25		Rope	SAMPLED			0																									
282	46.0350417	-89.4806343	643	Star Lake	Vilas	8/2/2017	JLW & JMB	282	23		Rope	SAMPLED			0																									
283	46.0350379	-89.4797944	642	Star Lake	Vilas	8/2/2017	JLW & JMB	283	24		Rope	SAMPLED			0																									
284	46.0350341	-89.4789545	641	Star Lake	Vilas	8/2/2017	JLW & JMB	284	11	Muck	Pole	SAMPLED			0																									
285	46.0350302	-89.4781145	640	Star Lake	Vilas	8/2/2017	JLW & JMB	285	6	Muck	Pole	SAMPLED			1																1									
286	46.0350264	-89.4772746	639	Star Lake	Vilas	8/2/2017	JLW & JMB	286	4	Sand	Pole	SAMPLED			0																									
287	46.0345392	-89.4991183	246	Star Lake	Vilas	7/27/2017	TWH & CJF	287	8	Sand	Pole	SAMPLED			1														1											
288	46.0345355	-89.4982784	231	Star Lake	Vilas	7/27/2017	TWH & CJF	288	16		Rope	SAMPLED			3										3															
289	46.0345318	-89.4974385	368	Star Lake	Vilas	8/1/2017	JLW & JMB	289	16	Muck	Pole	SAMPLED			3		1								2															
290	46.0345281	-89.4965985	892	Star Lake	Vilas	8/3/2017	JLW & JMB	290	14	Muck	Pole	SAMPLED			2					1					1															
291	46.0345244	-89.4957586	879	Star Lake	Vilas	8/3/2017	JLW & JMB	291	9	Muck	Pole	SAMPLED			1					1									1											
292	46.034517	-89.4940787	875	Star Lake	Vilas	8/3/2017	JLW & JMB	292	6	Muck	Pole	SAMPLED			1																1									

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
293	46.0345133	-89.4932388	853	Star Lake	Vilas	8/3/2017	JLW & JMB	293	19		Rope	SAMPLED			0																									
294	46.0345095	-89.4923989	852	Star Lake	Vilas	8/3/2017	JLW & JMB	294	21		Rope	SAMPLED			1										1															
295	46.0345058	-89.4915589	845	Star Lake	Vilas	8/3/2017	JLW & JMB	295	22		Rope	SAMPLED			0																									
296	46.0345021	-89.490719	842	Star Lake	Vilas	8/3/2017	JLW & JMB	296	24			DEEP																												
297	46.0344983	-89.4898791	843	Star Lake	Vilas	8/3/2017	JLW & JMB	297	26			DEEP																												
298	46.0344946	-89.4890391	0	Star Lake	Vilas			298	0			DEEP																												
299	46.0344908	-89.4881992	0	Star Lake	Vilas			299	0			DEEP																												
300	46.0344871	-89.4873593	0	Star Lake	Vilas			300	0			DEEP																												
301	46.0344833	-89.4865193	0	Star Lake	Vilas			301	0			DEEP																												
302	46.0344795	-89.4856794	626	Star Lake	Vilas	8/2/2017	JLW & JMB	302	28			DEEP																												
303	46.0344757	-89.4848395	627	Star Lake	Vilas	8/2/2017	JLW & JMB	303	28			DEEP																												
304	46.0344719	-89.4839995	628	Star Lake	Vilas	8/2/2017	JLW & JMB	304	23		Rope	SAMPLED			0																									
305	46.0344681	-89.4831596	629	Star Lake	Vilas	8/2/2017	JLW & JMB	305	4	Sand	Pole	SAMPLED			0																									
306	46.0344643	-89.4823197	630	Star Lake	Vilas	8/2/2017	JLW & JMB	306	2	Sand	Pole	SAMPLED			0																									
307	46.0344605	-89.4814798	631	Star Lake	Vilas	8/2/2017	JLW & JMB	307	15	Muck	Pole	SAMPLED			0																									
308	46.0344567	-89.4806398	632	Star Lake	Vilas	8/2/2017	JLW & JMB	308	22		Rope	SAMPLED			0																									
309	46.0344529	-89.4797999	633	Star Lake	Vilas	8/2/2017	JLW & JMB	309	22		Rope	SAMPLED			0																									
310	46.0344491	-89.47896	634	Star Lake	Vilas	8/2/2017	JLW & JMB	310	17		Rope	SAMPLED			0																									
311	46.0344452	-89.47812	635	Star Lake	Vilas	8/2/2017	JLW & JMB	311	9	Muck	Pole	SAMPLED			1							1											1		1					
312	46.0344066	-89.4697208	442	Star Lake	Vilas	8/2/2017	JLW & JMB	312	2	Muck	Pole	SAMPLED			2		1	1		1					1		1				1							1		
313	46.0344027	-89.4688808	441	Star Lake	Vilas	8/2/2017	JLW & JMB	313	5	Muck	Pole	SAMPLED			1					1																		1		
314	46.0343988	-89.4680409	440	Star Lake	Vilas	8/2/2017	JLW & JMB	314	6	Muck	Pole	SAMPLED			2					1		1									2									
315	46.0343949	-89.467201	439	Star Lake	Vilas	8/2/2017	JLW & JMB	315	4	Rock	Pole	SAMPLED			0																									
316	46.0343909	-89.466361	433	Star Lake	Vilas	8/2/2017	JLW & JMB	316	4	Rock	Pole	SAMPLED			0																									
317	46.034387	-89.4655211	432	Star Lake	Vilas	8/2/2017	JLW & JMB	317	12	Muck	Pole	SAMPLED			0																									
318	46.0343831	-89.4646812	422	Star Lake	Vilas	8/2/2017	JLW & JMB	318	6	Rock	Pole	SAMPLED			0																									
319	46.0339579	-89.4999635	349	Star Lake	Vilas	8/1/2017	JLW & JMB	319	8	Sand	Pole	SAMPLED			1							1																		
320	46.0339542	-89.4991236	245	Star Lake	Vilas	7/27/2017	TWH & CJF	320	16		Rope	SAMPLED			1														1											
321	46.0339505	-89.4982837	232	Star Lake	Vilas	7/27/2017	TWH & CJF	321	17		Rope	SAMPLED			3										3															
322	46.0339468	-89.4974438	367	Star Lake	Vilas	8/1/2017	JLW & JMB	322	21		Rope	SAMPLED			0																									
323	46.0339431	-89.4966038	893	Star Lake	Vilas	8/3/2017	JLW & JMB	323	3	Sand	Pole	SAMPLED			0																									
324	46.0339283	-89.4932441	934	Star Lake	Vilas	8/3/2017	JLW & JMB	324	6	Sand	Pole	SAMPLED			1					1											1									
325	46.0339246	-89.4924042	933	Star Lake	Vilas	8/3/2017	JLW & JMB	325	22		Rope	SAMPLED			0																									
326	46.0339208	-89.4915643	935	Star Lake	Vilas	8/3/2017	JLW & JMB	326	25			DEEP																												
327	46.0339171	-89.4907244	0	Star Lake	Vilas			327	0			DEEP																												
328	46.0339133	-89.4898844	0	Star Lake	Vilas			328	0			DEEP																												
329	46.0339096	-89.4890445	0	Star Lake	Vilas			329	0			DEEP																												
330	46.0339058	-89.4882046	0	Star Lake	Vilas			330	0			DEEP																												
331	46.0339021	-89.4873647	0	Star Lake	Vilas			331	0			DEEP																												
332	46.0338983	-89.4865248	625	Star Lake	Vilas	8/2/2017	JLW & JMB	332	28			DEEP																												
333	46.0338945	-89.4856848	624	Star Lake	Vilas	8/2/2017	JLW & JMB	333	23		Rope	SAMPLED			0																									
334	46.0338907	-89.4848449	623	Star Lake	Vilas	8/2/2017	JLW & JMB	334	13	Muck	Pole	SAMPLED			0																									
335	46.0338869	-89.484005	622	Star Lake	Vilas	8/2/2017	JLW & JMB	335	4	Sand	Pole	SAMPLED			0																									
336	46.0338717	-89.4806453	638	Star Lake	Vilas	8/2/2017	JLW & JMB	336	2	Sand	Pole	SAMPLED			0																									
337	46.0338679	-89.4798054	637	Star Lake	Vilas	8/2/2017	JLW & JMB	337	21		Rope	SAMPLED			0																									
338	46.0338641	-89.4789655	636	Star Lake	Vilas	8/2/2017	JLW & JMB	338	16		Rope	SAMPLED			0																									
339	46.0338216	-89.4697264	444	Star Lake	Vilas	8/2/2017	JLW & JMB	339	2	Muck	Pole	SAMPLED			1					1					1		1													
340	46.0338177	-89.4688864	443	Star Lake	Vilas	8/2/2017	JLW & JMB	340	5	Muck	Pole	SAMPLED			1			1														1						1		
341	46.0338138	-89.4680465	446	Star Lake	Vilas	8/2/2017	JLW & JMB	341	5	Muck	Pole	SAMPLED			2					1											2									
342	46.0338099	-89.4672066	438	Star Lake	Vilas	8/2/2017	JLW & JMB	342	9	Muck	Pole	SAMPLED			3		3																					1		
343	46.0338059	-89.4663667	434	Star Lake	Vilas	8/2/2017	JLW & JMB	343	20		Rope	SAMPLED			0																									
344	46.033802	-89.4655268	431	Star Lake	Vilas	8/2/2017	JLW & JMB	344	27		Rope	SAMPLED			0																									
345	46.0337981	-89.4646868	421	Star Lake	Vilas	8/2/2017	JLW & JMB	345	24		Rope	SAMPLED			0																									
346	46.0337942	-89.4638469	423	Star Lake	Vilas	8/2/2017	JLW & JMB	346	6	Sand	Pole	SAMPLED			0																									
347	46.0333765	-89.5008087	348	Star Lake	Vilas	8/1/2017	JLW & JMB	347	14	Muck	Pole	SAMPLED			0																									
348	46.0333729	-89.4999688	350	Star Lake	Vilas	8/1/2017	JLW & JMB	348	16		Rope	SAMPLED			3										3															
349	46.0333692	-89.4991289	244	Star Lake	Vilas	7/27/2017	TWH & CJF	349	16	Sand	Pole	SAMPLED			2										2															
350	46.0333655	-89.498289	233	Star Lake	Vilas	7/27/2017	TWH & CJF	350	19		Rope	SAMPLED			0																									
351	46.0333618	-89.4974491	366	Star Lake	Vilas	8/1/2017	JLW & JMB	351	7	Rock	Pole	SAMPLED			1			1																						
352	46.0333396	-89.4924096	932	Star Lake	Vilas	8/3/2017	JLW & JMB	352	18		Rope	SAMPLED			0																									
353	46.0333358	-89.4915697	936	Star Lake	Vilas	8/3/2017	JLW & JMB	353	28			DEEP																												
354	46.0333321	-89.4907297	0	Star Lake	Vilas			354	0			DEEP																												
355	46.0333283	-89.4898898	0	Star Lake	Vilas			355	0			DEEP																												
356	46.0333246	-89.4890499	0	Star Lake	Vilas			356	0			DEEP																												
357	46.0333208	-89.48821	0	Star Lake	Vilas			357	0			DEEP																												
358	46.0333171	-89.4873701	618	Star Lake	Vilas	8/2/2017	JLW & JMB	358	28			DEEP																												
359	46.0333133	-89.4865302	619	Star Lake	Vilas	8/2/2017	JLW & JMB	359	26			DEEP																												
360	46.0333095	-89.4856903	620	Star Lake	Vilas	8/2/2017	JLW & JMB	360	11	Muck	Pole	SAMPLED			0																									
361	46.0333057	-89.4848504	621	Star Lake	Vilas	8/2/2017	JLW & JMB	361	4	Sand	Pole	SAMPLED			0																									
362	46.0332366	-89.4697319	445	Star Lake	Vilas	8/2/2017	JLW & JMB	362	5	Muck	Pole	SAMPLED			1		1			1							1				1									
363	46.0332288	-89.4680521	447	Star Lake	Vilas	8/2/2017	JLW & JMB	363	15	Muck	Pole	SAMPLED			0																									
364	46.0332249	-89.4672122	437	Star Lake	Vilas	8/2/2017	JLW & JMB	364	21		Rope	SAMPLED			0																									
365	46.033221	-89.4663723	435	Star Lake	Vilas	8/2/2017	JLW & JMB	365	27			DEEP																												

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
366	46.033217	-89.4655324	430	Star Lake	Vilas	8/2/2017	JLW & JMB	366	30			DEEP																												
367	46.0332131	-89.4646925	420	Star Lake	Vilas	8/2/2017	JLW & JMB	367	28			DEEP																												
368	46.0332092	-89.4638526	424	Star Lake	Vilas	8/2/2017	JLW & JMB	368	22		Pole	SAMPLED			0																									
369	46.0332052	-89.4630127	425	Star Lake	Vilas	8/2/2017	JLW & JMB	369	1	Sand	Pole	SAMPLED			0																									
370	46.0327952	-89.5016539	345	Star Lake	Vilas	8/1/2017	JLW & JMB	370	6	Sand	Pole	SAMPLED			0																									
371	46.0327916	-89.500814	347	Star Lake	Vilas	8/1/2017	JLW & JMB	371	16		Rope	SAMPLED			0																									
372	46.0327879	-89.4999741	351	Star Lake	Vilas	8/1/2017	JLW & JMB	372	16		Rope	SAMPLED			0																									
373	46.0327842	-89.4991342	243	Star Lake	Vilas	7/27/2017	TWH & CJF	373	21		Rope	SAMPLED			0																									
374	46.0327805	-89.4982943	234	Star Lake	Vilas	7/27/2017	TWH & CJF	374	22		Rope	SAMPLED			0																									
375	46.0327768	-89.4974544	365	Star Lake	Vilas	8/1/2017	JLW & JMB	375	8	Muck	Pole	SAMPLED			2			1						1	1				1											
376	46.0327731	-89.4966145	911	Star Lake	Vilas	8/3/2017	JLW & JMB	376	5	Sand	Pole	SAMPLED			0																									
377	46.032762	-89.4940947	927	Star Lake	Vilas	8/3/2017	JLW & JMB	377	4	Sand	Pole	SAMPLED			1																1									
378	46.0327583	-89.4932548	928	Star Lake	Vilas	8/3/2017	JLW & JMB	378	13	Muck	Pole	SAMPLED			0																									
379	46.0327546	-89.4924149	931	Star Lake	Vilas	8/3/2017	JLW & JMB	379	27			DEEP																												
380	46.0327508	-89.491575	0	Star Lake	Vilas			380	0			DEEP																												
381	46.0327471	-89.4907351	0	Star Lake	Vilas			381	0			DEEP																												
382	46.0327433	-89.4898952	0	Star Lake	Vilas			382	0			DEEP																												
383	46.0327396	-89.4890553	0	Star Lake	Vilas			383	0			DEEP																												
384	46.0327358	-89.4882154	0	Star Lake	Vilas			384	0			DEEP																												
385	46.0327321	-89.4873755	617	Star Lake	Vilas	8/2/2017	JLW & JMB	385	27			DEEP																												
386	46.0327283	-89.4865356	616	Star Lake	Vilas	8/2/2017	JLW & JMB	386	24		Rope	SAMPLED			0																									
387	46.0327245	-89.4856957	615	Star Lake	Vilas	8/2/2017	JLW & JMB	387	6	Rock	Pole	SAMPLED			0																									
388	46.0326671	-89.4730971	465	Star Lake	Vilas	8/2/2017	JLW & JMB	388	2	Sand	Pole	SAMPLED			0																									
389	46.0326633	-89.4722572	464	Star Lake	Vilas	8/2/2017	JLW & JMB	389	3	Sand	Pole	SAMPLED			0																									
390	46.0326594	-89.4714173	457	Star Lake	Vilas	8/2/2017	JLW & JMB	390	2	Sand	Pole	SAMPLED			0																									
391	46.0326555	-89.4705774	456	Star Lake	Vilas	8/2/2017	JLW & JMB	391	2	Sand	Pole	SAMPLED			1						1		1																	
392	46.0326516	-89.4697375	452	Star Lake	Vilas	8/2/2017	JLW & JMB	392	3	Sand	Pole	SAMPLED			1								1																	
393	46.0326477	-89.4688976	451	Star Lake	Vilas	8/2/2017	JLW & JMB	393	16		Rope	SAMPLED			0																									
394	46.0326438	-89.4680577	448	Star Lake	Vilas	8/2/2017	JLW & JMB	394	20		Rope	SAMPLED			0																									
395	46.0326399	-89.4672178	436	Star Lake	Vilas	8/2/2017	JLW & JMB	395	33			DEEP																												
396	46.032636	-89.4663779	0	Star Lake	Vilas			396	0			DEEP																												
397	46.032632	-89.465538	429	Star Lake	Vilas	8/2/2017	JLW & JMB	397	34			DEEP																												
398	46.0326281	-89.4646981	419	Star Lake	Vilas	8/2/2017	JLW & JMB	398	34			DEEP																												
399	46.0326242	-89.4638582	418	Star Lake	Vilas	8/2/2017	JLW & JMB	399	25		Rope	SAMPLED			0																									
400	46.0326202	-89.4630183	426	Star Lake	Vilas	8/2/2017	JLW & JMB	400	14	Muck	Pole	SAMPLED			0																									
401	46.0322139	-89.5024991	344	Star Lake	Vilas	8/1/2017	JLW & JMB	401	5	Muck	Pole	SAMPLED			0																									
402	46.0322102	-89.5016592	343	Star Lake	Vilas	8/1/2017	JLW & JMB	402	9	Muck	Pole	SAMPLED			0																									
403	46.0322066	-89.5008193	346	Star Lake	Vilas	8/1/2017	JLW & JMB	403	21		Rope	SAMPLED			0																									
404	46.0322029	-89.4999794	352	Star Lake	Vilas	8/1/2017	JLW & JMB	404	23		Rope	SAMPLED			1										1															
405	46.0321992	-89.4991395	242	Star Lake	Vilas	7/27/2017	TWH & CJF	405	20		Rope	SAMPLED			3										3															
406	46.0321955	-89.4982996	235	Star Lake	Vilas	7/27/2017	TWH & CJF	406	22		Rope	SAMPLED			0																									
407	46.0321918	-89.4974597	364	Star Lake	Vilas	8/1/2017	JLW & JMB	407	17		Rope	SAMPLED			0																									
408	46.0321881	-89.4966198	912	Star Lake	Vilas	8/3/2017	JLW & JMB	408	13	Muck	Pole	SAMPLED			2		1			1					1															
409	46.0321844	-89.4957799	920	Star Lake	Vilas	8/3/2017	JLW & JMB	409	9	Muck	Pole	SAMPLED			1																				1					
410	46.0321807	-89.49494	921	Star Lake	Vilas	8/3/2017	JLW & JMB	410	11	Muck	Pole	SAMPLED			1							1																		
411	46.032177	-89.4941001	926	Star Lake	Vilas	8/3/2017	JLW & JMB	411	22		Rope	SAMPLED			0																									
412	46.0321733	-89.4932602	929	Star Lake	Vilas	8/3/2017	JLW & JMB	412	25			DEEP																												
413	46.0321696	-89.4924203	930	Star Lake	Vilas	8/3/2017	JLW & JMB	413	27			DEEP																												
414	46.0321658	-89.4915804	606	Star Lake	Vilas	8/2/2017	JLW & JMB	414	24			DEEP																												
415	46.0321621	-89.4907405	608	Star Lake	Vilas	8/2/2017	JLW & JMB	415	32			DEEP																												
416	46.0321583	-89.4899006	609	Star Lake	Vilas	8/2/2017	JLW & JMB	416	29			DEEP																												
417	46.0321546	-89.4890607	610	Star Lake	Vilas	8/2/2017	JLW & JMB	417	27			DEEP																												
418	46.0321508	-89.4882208	611	Star Lake	Vilas	8/2/2017	JLW & JMB	418	26			DEEP																												
419	46.0321471	-89.4873809	612	Star Lake	Vilas	8/2/2017	JLW & JMB	419	19		Rope	SAMPLED			0																									
420	46.0321433	-89.486541	613	Star Lake	Vilas	8/2/2017	JLW & JMB	420	16		Rope	SAMPLED			0																									
421	46.0321395	-89.4857011	614	Star Lake	Vilas	8/2/2017	JLW & JMB	421	5	Sand	Pole	SAMPLED			0																									
422	46.032086	-89.4739426	473	Star Lake	Vilas	8/2/2017	JLW & JMB	422	6	Sand	Pole	SAMPLED			0																									
423	46.0320821	-89.4731027	466	Star Lake	Vilas	8/2/2017	JLW & JMB	423	21		Rope	SAMPLED			0																									
424	46.0320783	-89.4722628	463	Star Lake	Vilas	8/2/2017	JLW & JMB	424	23		Rope	SAMPLED			0																									
425	46.0320744	-89.4714229	458	Star Lake	Vilas	8/2/2017	JLW & JMB	425	11	Sand	Pole	SAMPLED			0																									
426	46.0320705	-89.470583	455	Star Lake	Vilas	8/2/2017	JLW & JMB	426	25		Rope	SAMPLED			0																									
427	46.0320666	-89.4697431	453	Star Lake	Vilas	8/2/2017	JLW & JMB	427	36			DEEP																												
428	46.0320627	-89.4689032	450	Star Lake	Vilas	8/2/2017	JLW & JMB	428	36			DEEP																												
429	46.0320588	-89.4680634	449	Star Lake	Vilas	8/2/2017	JLW & JMB	429	35			DEEP																												
430	46.0320549	-89.4672235	0	Star Lake	Vilas			430	0			DEEP																												
431	46.032051	-89.4663836	0	Star Lake	Vilas			431	0			DEEP																												
432	46.032047	-89.4655437	411	Star Lake	Vilas	8/2/2017	JLW & JMB	432	35			DEEP																												
433	46.0320431	-89.4647038	412	Star Lake	Vilas	8/2/2017	JLW & JMB	433	31			DEEP																												
434	46.0320392	-89.4638639	417	Star Lake	Vilas	8/2/2017	JLW & JMB	434	26		Rope	SAMPLED			0																									
435	46.0320352	-89.463024	427	Star Lake	Vilas	8/2/2017	JLW & JMB	435	23		Pole	SAMPLED			0																									
436	46.0316325	-89.5033442	330	Star Lake	Vilas	8/1/2017	JLW & JMB	436	5	Muck	Pole	SAMPLED			1		1																							
437	46.0316289	-89.5025043	331	Star Lake	Vilas	8/1/2017	JLW & JMB	437	12	Muck	Pole	SAMPLED			1		1			1																				
438	46.0316252	-89.5016644	332	Star Lake	Vilas	8/1/2017	JLW & JMB	438	21		Rope	SAMPLED			0																									

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
439	46.0316216	-89.5008245	342	Star Lake	Vilas	8/1/2017	JLW & JMB	439	21		Rope	SAMPLED			1										1															
440	46.0316179	-89.4999846	353	Star Lake	Vilas	8/1/2017	JLW & JMB	440	23		Rope	SAMPLED			1										1															
441	46.0316142	-89.4991447	241	Star Lake	Vilas	7/27/2017	TWH & CJF	441	19		Rope	SAMPLED			3										3															
442	46.0316105	-89.4983049	236	Star Lake	Vilas	7/27/2017	TWH & CJF	442	21		Rope	SAMPLED			3										3															
443	46.0316068	-89.497465	363	Star Lake	Vilas	8/1/2017	JLW & JMB	443	23		Rope	SAMPLED			0																									
444	46.0316031	-89.4966251	913	Star Lake	Vilas	8/3/2017	JLW & JMB	444	24		Rope	SAMPLED			0																									
445	46.0315994	-89.4957852	919	Star Lake	Vilas	8/3/2017	JLW & JMB	445	25			DEEP																												
446	46.0315957	-89.4949453	922	Star Lake	Vilas	8/3/2017	JLW & JMB	446	24		Rope	SAMPLED			0																									
447	46.031592	-89.4941054	925	Star Lake	Vilas	8/3/2017	JLW & JMB	447	23		Rope	SAMPLED			0																									
448	46.0315883	-89.4932655	937	Star Lake	Vilas	8/3/2017	JLW & JMB	448	24			DEEP																												
449	46.0315846	-89.4924256	0	Star Lake	Vilas			449	0			DEEP																												
450	46.0315808	-89.4915858	607	Star Lake	Vilas	8/2/2017	JLW & JMB	450	0			DEEP																												
451	46.0315771	-89.4907459	605	Star Lake	Vilas	8/2/2017	JLW & JMB	451	27			DEEP																												
452	46.0315733	-89.489906	604	Star Lake	Vilas	8/2/2017	JLW & JMB	452	26			DEEP																												
453	46.0315696	-89.4890661	603	Star Lake	Vilas	8/2/2017	JLW & JMB	453	26		Rope	SAMPLED			0																									
454	46.0315658	-89.4882262	602	Star Lake	Vilas	8/2/2017	JLW & JMB	454	13	Sand	Pole	SAMPLED			0																									
455	46.0315621	-89.4873863	601	Star Lake	Vilas	8/2/2017	JLW & JMB	455	12	Sand	Pole	SAMPLED			0																									
456	46.0315583	-89.4865464	600	Star Lake	Vilas	8/2/2017	JLW & JMB	456	5	Rock	Pole	SAMPLED			0																									
457	46.0315049	-89.474788	474	Star Lake	Vilas	8/2/2017	JLW & JMB	457	19		Rope	SAMPLED			0																									
458	46.031501	-89.4739481	472	Star Lake	Vilas	8/2/2017	JLW & JMB	458	16		Rope	SAMPLED			0																									
459	46.0314971	-89.4731083	467	Star Lake	Vilas	8/2/2017	JLW & JMB	459	20		Rope	SAMPLED			0																									
460	46.0314933	-89.4722684	462	Star Lake	Vilas	8/2/2017	JLW & JMB	460	21		Pole	SAMPLED			0																									
461	46.0314894	-89.4714285	459	Star Lake	Vilas	8/2/2017	JLW & JMB	461	19		Rope	SAMPLED			0																									
462	46.0314855	-89.4705886	454	Star Lake	Vilas	8/2/2017	JLW & JMB	462	39			DEEP																												
463	46.0314816	-89.4697487	0	Star Lake	Vilas			463	0			DEEP																												
464	46.0314777	-89.4689088	0	Star Lake	Vilas			464	0			DEEP																												
465	46.0314738	-89.468069	0	Star Lake	Vilas			465	0			DEEP																												
466	46.0314699	-89.4672291	0	Star Lake	Vilas			466	0			DEEP																												
467	46.031466	-89.4663892	0	Star Lake	Vilas			467	0			DEEP																												
468	46.031462	-89.4655493	410	Star Lake	Vilas	8/2/2017	JLW & JMB	468	35			DEEP																												
469	46.0314581	-89.4647094	413	Star Lake	Vilas	8/2/2017	JLW & JMB	469	7	Rock	Pole	SAMPLED			0																									
470	46.0314542	-89.4638696	416	Star Lake	Vilas	8/2/2017	JLW & JMB	470	4	Rock	Pole	SAMPLED			0																									
471	46.0314502	-89.4630297	428	Star Lake	Vilas	8/2/2017	JLW & JMB	471	10	Muck	Pole	SAMPLED			0																									
472	46.0310512	-89.5041893	328	Star Lake	Vilas	8/1/2017	JLW & JMB	472	6	Sand	Pole	SAMPLED			0																									
473	46.0310475	-89.5033494	329	Star Lake	Vilas	8/1/2017	JLW & JMB	473	16		Rope	SAMPLED			0																									
474	46.0310439	-89.5025096	334	Star Lake	Vilas	8/1/2017	JLW & JMB	474	21		Rope	SAMPLED			0																									
475	46.0310402	-89.5016697	333	Star Lake	Vilas	8/1/2017	JLW & JMB	475	21		Rope	SAMPLED			1										1															
476	46.0310366	-89.5008298	341	Star Lake	Vilas	8/1/2017	JLW & JMB	476	23		Pole	SAMPLED			0																									
477	46.0310329	-89.4999899	354	Star Lake	Vilas	8/1/2017	JLW & JMB	477	23		Rope	SAMPLED			0																									
478	46.0310292	-89.49915	240	Star Lake	Vilas	7/27/2017	TWH & CJF	478	23		Rope	SAMPLED			0																									
479	46.0310255	-89.4983102	237	Star Lake	Vilas	7/27/2017	TWH & CJF	479	23		Rope	SAMPLED			0																									
480	46.0310218	-89.4974703	362	Star Lake	Vilas	8/1/2017	JLW & JMB	480	27		Rope	SAMPLED			0																									
481	46.0310181	-89.4966304	914	Star Lake	Vilas	8/3/2017	JLW & JMB	481	25			DEEP																												
482	46.0310144	-89.4957905	918	Star Lake	Vilas	8/3/2017	JLW & JMB	482	26			DEEP																												
483	46.0310107	-89.4949506	923	Star Lake	Vilas	8/3/2017	JLW & JMB	483	0			DEEP																												
484	46.031007	-89.4941108	924	Star Lake	Vilas	8/3/2017	JLW & JMB	484	0			DEEP																												
485	46.0310033	-89.4932709	0	Star Lake	Vilas			485	0			DEEP																												
486	46.0309996	-89.492431	0	Star Lake	Vilas			486	0			DEEP																												
487	46.0309958	-89.4915911	596	Star Lake	Vilas	8/2/2017	JLW & JMB	487	26			DEEP																												
488	46.0309921	-89.4907512	597	Star Lake	Vilas	8/2/2017	JLW & JMB	488	8	Sand	Pole	SAMPLED			0																									
489	46.0309884	-89.4899114	598	Star Lake	Vilas	8/2/2017	JLW & JMB	489	16		Rope	SAMPLED			0																									
490	46.0309808	-89.4882316	599	Star Lake	Vilas	8/2/2017	JLW & JMB	490	0			TERRESTRIAL																												
491	46.0309276	-89.4764733	481	Star Lake	Vilas	8/2/2017	JLW & JMB	491	3	Sand	Pole	SAMPLED			1						1																			
492	46.0309237	-89.4756334	480	Star Lake	Vilas	8/2/2017	JLW & JMB	492	10	Muck	Pole	SAMPLED			0																									
493	46.0309199	-89.4747936	475	Star Lake	Vilas	8/2/2017	JLW & JMB	493	23		Rope	SAMPLED			0																									
494	46.030916	-89.4739537	471	Star Lake	Vilas	8/2/2017	JLW & JMB	494	17		Rope	SAMPLED			0																									
495	46.0309122	-89.4731138	468	Star Lake	Vilas	8/2/2017	JLW & JMB	495	26		Rope	SAMPLED			0																									
496	46.0309083	-89.4722739	461	Star Lake	Vilas	8/2/2017	JLW & JMB	496	36			DEEP																												
497	46.0309044	-89.4714341	460	Star Lake	Vilas	8/2/2017	JLW & JMB	497	37			DEEP																												
498	46.0309005	-89.4705942	0	Star Lake	Vilas			498	0			DEEP																												
499	46.0308966	-89.4697543	0	Star Lake	Vilas			499	0			DEEP																												
500	46.0308927	-89.4689144	0	Star Lake	Vilas			500	0			DEEP																												
501	46.0308888	-89.4680746	0	Star Lake	Vilas			501	0			DEEP																												
502	46.0308849	-89.4672347	0	Star Lake	Vilas			502	0			DEEP																												
503	46.030881	-89.4663948	408	Star Lake	Vilas	8/2/2017	JLW & JMB	503	27			DEEP																												
504	46.0308771	-89.465555	409	Star Lake	Vilas	8/2/2017	JLW & JMB	504	9	Sand	Pole	SAMPLED			0																									
505	46.0308731	-89.4647151	414	Star Lake	Vilas	8/2/2017	JLW & JMB	505	5	Muck	Pole	SAMPLED			0																									
506	46.0308692	-89.4638752	415	Star Lake	Vilas	8/2/2017	JLW & JMB	506	2	Sand	Pole	SAMPLED			0																									
507	46.0304698	-89.5050344	327	Star Lake	Vilas	8/1/2017	JLW & JMB	507	5	Muck	Pole	SAMPLED			0																									
508	46.0304662	-89.5041945	326	Star Lake	Vilas	8/1/2017	JLW & JMB	508	15		Rope	SAMPLED			0																									
509	46.0304625	-89.5033547	325	Star Lake	Vilas	8/1/2017	JLW & JMB	509	20		Rope	SAMPLED			0																									
510	46.0304589	-89.5025148	335	Star Lake	Vilas	8/1/2017	JLW & JMB	510	21		Rope	SAMPLED			1										1															
511	46.0304552	-89.5016749	338	Star Lake	Vilas	8/1/2017	JLW & JMB	511	22		Rope	SAMPLED			0																									

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
512	46.0304516	-89.5008351	340	Star Lake	Vilas	8/1/2017	JLW & JMB	512	24		Rope	SAMPLED			1										1																
513	46.0304479	-89.4999952	355	Star Lake	Vilas	8/1/2017	JLW & JMB	513	26		Rope	SAMPLED			0																										
514	46.0304442	-89.4991553	239	Star Lake	Vilas	7/27/2017	TWH & CJF	514	27		Rope	SAMPLED			0																										
515	46.0304405	-89.4983154	238	Star Lake	Vilas	7/27/2017	TWH & CJF	515	26		Rope	SAMPLED			0																										
516	46.0304368	-89.4974756	361	Star Lake	Vilas	8/1/2017	JLW & JMB	516	28		Pole	SAMPLED			0																										
517	46.0304331	-89.4966357	915	Star Lake	Vilas	8/3/2017	JLW & JMB	517	27			DEEP																													
518	46.0304294	-89.4957958	917	Star Lake	Vilas	8/3/2017	JLW & JMB	518	28			DEEP																													
519	46.0304257	-89.494956	0	Star Lake	Vilas			519	0			DEEP																													
520	46.030422	-89.4941161	0	Star Lake	Vilas			520	0			DEEP																													
521	46.0304183	-89.4932762	0	Star Lake	Vilas			521	0			DEEP																													
522	46.0304146	-89.4924363	0	Star Lake	Vilas			522	0			DEEP																													
523	46.0304108	-89.4915965	595	Star Lake	Vilas	8/2/2017	JLW & JMB	523	26			DEEP																													
524	46.0304071	-89.4907566	594	Star Lake	Vilas	8/2/2017	JLW & JMB	524	16		Rope	SAMPLED			0																										
525	46.0304034	-89.4899167	593	Star Lake	Vilas	8/2/2017	JLW & JMB	525	4	Sand	Pole	SAMPLED			0																										
526	46.0303464	-89.4773187	485	Star Lake	Vilas	8/2/2017	JLW & JMB	526	6	Sand	Pole	SAMPLED			0																										
527	46.0303426	-89.4764788	482	Star Lake	Vilas	8/2/2017	JLW & JMB	527	17		Rope	SAMPLED			0																										
528	46.0303387	-89.475639	479	Star Lake	Vilas	8/2/2017	JLW & JMB	528	32			DEEP																													
529	46.0303349	-89.4747991	476	Star Lake	Vilas	8/2/2017	JLW & JMB	529	16		Rope	SAMPLED			0																										
530	46.030331	-89.4739592	470	Star Lake	Vilas	8/2/2017	JLW & JMB	530	42			DEEP																													
531	46.0303272	-89.4731194	469	Star Lake	Vilas	8/2/2017	JLW & JMB	531	51			DEEP																													
532	46.0303233	-89.4722795	0	Star Lake	Vilas			532	0			DEEP																													
533	46.0303194	-89.4714396	0	Star Lake	Vilas			533	0			DEEP																													
534	46.0303155	-89.4705998	0	Star Lake	Vilas			534	0			DEEP																													
535	46.0303116	-89.4697599	0	Star Lake	Vilas			535	0			DEEP																													
536	46.0303077	-89.4689201	403	Star Lake	Vilas	8/2/2017	JLW & JMB	536	46			DEEP																													
537	46.0303038	-89.4680802	404	Star Lake	Vilas	8/2/2017	JLW & JMB	537	43			DEEP																													
538	46.0302999	-89.4672403	405	Star Lake	Vilas	8/2/2017	JLW & JMB	538	39			DEEP																													
539	46.030296	-89.4664005	406	Star Lake	Vilas	8/2/2017	JLW & JMB	539	20		Pole	SAMPLED			0																										
540	46.0302921	-89.4655606	407	Star Lake	Vilas	8/2/2017	JLW & JMB	540	4	Sand	Pole	SAMPLED			0																										
541	46.0298848	-89.5050396	322	Star Lake	Vilas	8/1/2017	JLW & JMB	541	8	Muck	Pole	SAMPLED			0																										
542	46.0298812	-89.5041998	323	Star Lake	Vilas	8/1/2017	JLW & JMB	542	19		Rope	SAMPLED			0																										
543	46.0298775	-89.5033599	324	Star Lake	Vilas	8/1/2017	JLW & JMB	543	20		Rope	SAMPLED			0																										
544	46.0298739	-89.5025201	336	Star Lake	Vilas	8/1/2017	JLW & JMB	544	21		Rope	SAMPLED			0																										
545	46.0298702	-89.5016802	337	Star Lake	Vilas	8/1/2017	JLW & JMB	545	23		Rope	SAMPLED			0																										
546	46.0298666	-89.5008403	339	Star Lake	Vilas	8/1/2017	JLW & JMB	546	25		Rope	SAMPLED			0																										
547	46.0298629	-89.5000005	356	Star Lake	Vilas	8/1/2017	JLW & JMB	547	26		Rope	SAMPLED			0																										
548	46.0298592	-89.4991606	357	Star Lake	Vilas	8/1/2017	JLW & JMB	548	26		Rope	SAMPLED			0																										
549	46.0298555	-89.4983207	358	Star Lake	Vilas	8/1/2017	JLW & JMB	549	28		Rope	SAMPLED			0																										
550	46.0298518	-89.4974809	359	Star Lake	Vilas	8/1/2017	JLW & JMB	550	28		Rope	SAMPLED			0																										
551	46.0298481	-89.496641	916	Star Lake	Vilas	8/3/2017	JLW & JMB	551	27			DEEP																													
552	46.0298444	-89.4958012	0	Star Lake	Vilas			552	0			DEEP																													
553	46.0298407	-89.4949613	0	Star Lake	Vilas			553	0			DEEP																													
554	46.029837	-89.4941214	0	Star Lake	Vilas			554	0			DEEP																													
555	46.0298333	-89.4932816	588	Star Lake	Vilas	8/2/2017	JLW & JMB	555	29			DEEP																													
556	46.0298296	-89.4924417	589	Star Lake	Vilas	8/2/2017	JLW & JMB	556	27			DEEP																													
557	46.0298258	-89.4916018	590	Star Lake	Vilas	8/2/2017	JLW & JMB	557	21		Rope	SAMPLED			0																										
558	46.0298221	-89.490762	591	Star Lake	Vilas	8/2/2017	JLW & JMB	558	16		Rope	SAMPLED			0																										
559	46.0298184	-89.4899221	592	Star Lake	Vilas	8/2/2017	JLW & JMB	559	2	Sand	Pole	SAMPLED			0																										
560	46.0297806	-89.4815235	500	Star Lake	Vilas	8/2/2017	JLW & JMB	560	1	Sand	Pole	SAMPLED			1								1																		
561	46.0297768	-89.4806837	493	Star Lake	Vilas	8/2/2017	JLW & JMB	561	2	Sand	Pole	SAMPLED			1			1			1		1																		
562	46.0297653	-89.4781641	486	Star Lake	Vilas	8/2/2017	JLW & JMB	562	14	Muck	Pole	SAMPLED			0																										
563	46.0297614	-89.4773242	484	Star Lake	Vilas	8/2/2017	JLW & JMB	563	44			DEEP																													
564	46.0297576	-89.4764844	483	Star Lake	Vilas	8/2/2017	JLW & JMB	564	48			DEEP																													
565	46.0297537	-89.4756445	477	Star Lake	Vilas	8/2/2017	JLW & JMB	565	49			DEEP																													
566	46.0297499	-89.4748047	478	Star Lake	Vilas	8/2/2017	JLW & JMB	566	43			DEEP																													
567	46.029746	-89.4739648	0	Star Lake	Vilas			567	0			DEEP																													
568	46.0297422	-89.4731249	0	Star Lake	Vilas			568	0			DEEP																													
569	46.0297383	-89.4722851	0	Star Lake	Vilas			569	0			DEEP																													
570	46.0297344	-89.4714452	0	Star Lake	Vilas			570	0			DEEP																													
571	46.0297305	-89.4706054	0	Star Lake	Vilas			571	0			DEEP																													
572	46.0297266	-89.4697655	402	Star Lake	Vilas	8/2/2017	JLW & JMB	572	47			DEEP																													
573	46.0297227	-89.4689257	401	Star Lake	Vilas	8/2/2017	JLW & JMB	573	43			DEEP																													
574	46.0297188	-89.4680858	400	Star Lake	Vilas	8/2/2017	JLW & JMB	574	20		Rope	SAMPLED			0																										
575	46.0297149	-89.4672459	399	Star Lake	Vilas	8/2/2017	JLW & JMB	575	12	Muck	Pole	SAMPLED			0																										
576	46.029711	-89.4664061	398	Star Lake	Vilas	8/2/2017	JLW & JMB	576	5	Muck	Pole	SAMPLED			0																										
577	46.0292998	-89.5050449	321	Star Lake	Vilas	8/1/2017	JLW & JMB	577	17		Rope	SAMPLED			0																										
578	46.0292962	-89.504205	320	Star Lake	Vilas	8/1/2017	JLW & JMB	578	19		Rope	SAMPLED			0																										
579	46.0292925	-89.5033652	319	Star Lake	Vilas	8/1/2017	JLW & JMB	579	21		Rope	SAMPLED			1										1																
580	46.0292889	-89.5025253	318	Star Lake	Vilas	8/1/2017	JLW & JMB	580	21		Rope	SAMPLED			0																										
581	46.0292852	-89.5016854	317	Star Lake	Vilas	8/1/2017	JLW & JMB	581	23		Rope	SAMPLED			0																										
582	46.0292816	-89.5008456	316	Star Lake	Vilas	8/1/2017	JLW & JMB	582	25		Rope	SAMPLED			0																										
583	46.0292779	-89.5000057	315	Star Lake	Vilas	8/1/2017	JLW & JMB	583	26		Rope	SAMPLED			0																										
584	46.0292742	-89.4991659	314	Star Lake	Vilas	8/1/2017	JLW & JMB	584	27		Rope	SAMPLED			0																										

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
585	46.0292705	-89.498326	313	Star Lake	Vilas	8/1/2017	JLW & JMB	585	28			DEEP																												
586	46.0292668	-89.4974862	360	Star Lake	Vilas	8/1/2017	JLW & JMB	586	28			DEEP																												
587	46.0292632	-89.4966463	0	Star Lake	Vilas			587	0			DEEP																												
588	46.0292595	-89.4958065	0	Star Lake	Vilas			588	0			DEEP																												
589	46.0292557	-89.4949666	0	Star Lake	Vilas			589	0			DEEP																												
590	46.029252	-89.4941268	0	Star Lake	Vilas			590	0			DEEP																												
591	46.0292483	-89.4932869	587	Star Lake	Vilas	8/2/2017	JLW & JMB	591	29			DEEP																												
592	46.0292446	-89.4924471	586	Star Lake	Vilas	8/2/2017	JLW & JMB	592	9	Rock	Pole	SAMPLED			0																									
593	46.0292408	-89.4916072	585	Star Lake	Vilas	8/2/2017	JLW & JMB	593	9	Sand	Pole	SAMPLED			0																									
594	46.0292371	-89.4907674	584	Star Lake	Vilas	8/2/2017	JLW & JMB	594	7	Muck	Pole	SAMPLED			0																									
595	46.0292032	-89.4832087	506	Star Lake	Vilas	8/2/2017	JLW & JMB	595	1	Rock	Pole	SAMPLED			0																									
596	46.0291994	-89.4823688	501	Star Lake	Vilas	8/2/2017	JLW & JMB	596	4	Sand	Pole	SAMPLED			0																									
597	46.0291956	-89.481529	499	Star Lake	Vilas	8/2/2017	JLW & JMB	597	5	Sand	Pole	SAMPLED			0																									
598	46.0291918	-89.4806891	494	Star Lake	Vilas	8/2/2017	JLW & JMB	598	5	Sand	Pole	SAMPLED			0																									
599	46.0291879	-89.4798493	492	Star Lake	Vilas	8/2/2017	JLW & JMB	599	5	Sand	Pole	SAMPLED			0																									
600	46.0291841	-89.4790094	488	Star Lake	Vilas	8/2/2017	JLW & JMB	600	11	Muck	Pole	SAMPLED			0																									
601	46.0291803	-89.4781696	487	Star Lake	Vilas	8/2/2017	JLW & JMB	601	42			DEEP																												
602	46.0291764	-89.4773297	0	Star Lake	Vilas			602	0			DEEP																												
603	46.0291726	-89.4764899	0	Star Lake	Vilas			603	0			DEEP																												
604	46.0291688	-89.47565	0	Star Lake	Vilas			604	0			DEEP																												
605	46.0291649	-89.4748102	0	Star Lake	Vilas			605	0			DEEP																												
606	46.029161	-89.4739703	0	Star Lake	Vilas			606	0			DEEP																												
607	46.0291572	-89.4731305	0	Star Lake	Vilas			607	0			DEEP																												
608	46.0291533	-89.4722906	390	Star Lake	Vilas	8/2/2017	JLW & JMB	608	51			DEEP																												
609	46.0291494	-89.4714508	391	Star Lake	Vilas	8/2/2017	JLW & JMB	609	47			DEEP																												
610	46.0291455	-89.470611	392	Star Lake	Vilas	8/2/2017	JLW & JMB	610	43			DEEP																												
611	46.0291416	-89.4697711	393	Star Lake	Vilas	8/2/2017	JLW & JMB	611	15	Muck	Pole	SAMPLED			0																									
612	46.0291377	-89.4689313	395	Star Lake	Vilas	8/2/2017	JLW & JMB	612	20		Rope	SAMPLED			0																									
613	46.0291338	-89.4680914	396	Star Lake	Vilas	8/2/2017	JLW & JMB	613	7	Muck	Pole	SAMPLED			0																									
614	46.0291299	-89.4672516	397	Star Lake	Vilas	8/2/2017	JLW & JMB	614	3	Rock	Pole	SAMPLED			0																									
615	46.0287148	-89.5050501	304	Star Lake	Vilas	8/1/2017	JLW & JMB	615	15		Rope	SAMPLED			0																									
616	46.0287112	-89.5042102	305	Star Lake	Vilas	8/1/2017	JLW & JMB	616	17		Rope	SAMPLED			0																									
617	46.0287075	-89.5033704	306	Star Lake	Vilas	8/1/2017	JLW & JMB	617	20		Rope	SAMPLED			0																									
618	46.0287039	-89.5025305	307	Star Lake	Vilas	8/1/2017	JLW & JMB	618	21		Rope	SAMPLED			0																									
619	46.0287002	-89.5016907	308	Star Lake	Vilas	8/1/2017	JLW & JMB	619	22		Rope	SAMPLED			0																									
620	46.0286966	-89.5008509	309	Star Lake	Vilas	8/1/2017	JLW & JMB	620	23		Rope	SAMPLED			0																									
621	46.0286929	-89.500011	310	Star Lake	Vilas	8/1/2017	JLW & JMB	621	25		Rope	SAMPLED			0																									
622	46.0286892	-89.4991712	311	Star Lake	Vilas	8/1/2017	JLW & JMB	622	25		Rope	SAMPLED			0																									
623	46.0286855	-89.4983313	312	Star Lake	Vilas	8/1/2017	JLW & JMB	623	27			DEEP																												
624	46.0286819	-89.4974915	0	Star Lake	Vilas			624	0			DEEP																												
625	46.0286782	-89.4966516	0	Star Lake	Vilas			625	0			DEEP																												
626	46.0286745	-89.4958118	0	Star Lake	Vilas			626	0			DEEP																												
627	46.0286707	-89.4949719	0	Star Lake	Vilas			627	0			DEEP																												
628	46.028667	-89.4941321	579	Star Lake	Vilas	8/2/2017	JLW & JMB	628	26			DEEP																												
629	46.0286633	-89.4932923	580	Star Lake	Vilas	8/2/2017	JLW & JMB	629	26			DEEP																												
630	46.0286596	-89.4924524	581	Star Lake	Vilas	8/2/2017	JLW & JMB	630	10	Rock	Pole	SAMPLED			0																									
631	46.0286559	-89.4916126	582	Star Lake	Vilas	8/2/2017	JLW & JMB	631	4	Rock	Pole	SAMPLED			0																									
632	46.0286521	-89.4907727	583	Star Lake	Vilas	8/2/2017	JLW & JMB	632	3	Sand	Pole	SAMPLED			0																									
633	46.028622	-89.484054	507	Star Lake	Vilas	8/2/2017	JLW & JMB	633	3	Sand	Pole	SAMPLED			0																									
634	46.0286182	-89.4832141	505	Star Lake	Vilas	8/2/2017	JLW & JMB	634	7	Sand	Pole	SAMPLED			0																									
635	46.0286144	-89.4823743	502	Star Lake	Vilas	8/2/2017	JLW & JMB	635	16		Rope	SAMPLED			0																									
636	46.0286106	-89.4815345	498	Star Lake	Vilas	8/2/2017	JLW & JMB	636	10	Muck	Pole	SAMPLED			0																									
637	46.0286068	-89.4806946	495	Star Lake	Vilas	8/2/2017	JLW & JMB	637	6	Sand	Pole	SAMPLED			0																									
638	46.0286029	-89.4798548	490	Star Lake	Vilas	8/2/2017	JLW & JMB	638	16		Rope	SAMPLED			0																									
639	46.0285991	-89.4790149	489	Star Lake	Vilas	8/2/2017	JLW & JMB	639	30			DEEP																												
640	46.0285953	-89.4781751	0	Star Lake	Vilas			640	0			DEEP																												
641	46.0285915	-89.4773353	0	Star Lake	Vilas			641	0			DEEP																												
642	46.0285876	-89.4764954	0	Star Lake	Vilas			642	0			DEEP																												
643	46.0285838	-89.4756556	0	Star Lake	Vilas			643	0			DEEP																												
644	46.0285799	-89.4748157	0	Star Lake	Vilas			644	0			DEEP																												
645	46.028576	-89.4739759	0	Star Lake	Vilas			645	0			DEEP																												
646	46.0285722	-89.4731361	0	Star Lake	Vilas			646	0			DEEP																												
647	46.0285683	-89.4722962	389	Star Lake	Vilas	8/2/2017	JLW & JMB	647	47			DEEP																												
648	46.0285644	-89.4714564	388	Star Lake	Vilas	8/2/2017	JLW & JMB	648	32			DEEP																												
649	46.0285605	-89.4706165	387	Star Lake	Vilas	8/2/2017	JLW & JMB	649	5	Rock	Pole	SAMPLED			0																									
650	46.0285566	-89.4697767	394	Star Lake	Vilas	8/2/2017	JLW & JMB	650	1	Muck	Pole	SAMPLED			0																									
651	46.0281298	-89.5050553	303	Star Lake	Vilas	8/1/2017	JLW & JMB	651	12	Muck	Pole	SAMPLED			0																									
652	46.0281262	-89.5042155	302	Star Lake	Vilas	8/1/2017	JLW & JMB	652	18		Rope	SAMPLED			0																									
653	46.0281226	-89.5033756	301	Star Lake	Vilas	8/1/2017	JLW & JMB	653	19		Rope	SAMPLED			0																									
654	46.0281189	-89.5025358	300	Star Lake	Vilas	8/1/2017	JLW & JMB	654	22		Rope	SAMPLED			0																									
655	46.0281152	-89.501696	299	Star Lake	Vilas	8/1/2017	JLW & JMB	655	10	Rock	Pole	SAMPLED			0																									
656	46.0281079	-89.5000163	291	Star Lake	Vilas	8/1/2017	JLW & JMB	656	15	Muck	Rope	SAMPLED			0																									
657	46.0281042	-89.4991765	290	Star Lake	Vilas	8/1/2017	JLW & JMB	657	26		Rope	SAMPLED			0																									

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
658	46.0281005	-89.4983366	289	Star Lake	Vilas	8/1/2017	JLW & JMB	658	27		Rope	SAMPLED			0																									
659	46.0280969	-89.4974968	288	Star Lake	Vilas	8/1/2017	JLW & JMB	659	28			DEEP																												
660	46.0280932	-89.4966569	287	Star Lake	Vilas	8/1/2017	JLW & JMB	660	28			DEEP																												
661	46.0280895	-89.4958171	0	Star Lake	Vilas			661	0			DEEP																												
662	46.0280857	-89.4949773	0	Star Lake	Vilas			662	0			DEEP																												
663	46.028082	-89.4941374	578	Star Lake	Vilas	8/2/2017	JLW & JMB	663	25			DEEP																												
664	46.0280783	-89.4932976	577	Star Lake	Vilas	8/2/2017	JLW & JMB	664	23		Rope	SAMPLED			0																									
665	46.0280746	-89.4924578	576	Star Lake	Vilas	8/2/2017	JLW & JMB	665	8	Rock	Pole	SAMPLED			0																									
666	46.0280408	-89.4848993	515	Star Lake	Vilas	8/2/2017	JLW & JMB	666	2	Muck	Pole	SAMPLED			0																									
667	46.028037	-89.4840594	508	Star Lake	Vilas	8/2/2017	JLW & JMB	667	19		Rope	SAMPLED			0																									
668	46.0280332	-89.4832196	504	Star Lake	Vilas	8/2/2017	JLW & JMB	668	30			DEEP																												
669	46.0280294	-89.4823798	503	Star Lake	Vilas	8/2/2017	JLW & JMB	669	38			DEEP																												
670	46.0280256	-89.4815399	497	Star Lake	Vilas	8/2/2017	JLW & JMB	670	36			DEEP																												
671	46.0280218	-89.4807001	496	Star Lake	Vilas	8/2/2017	JLW & JMB	671	33			DEEP																												
672	46.028018	-89.4798603	491	Star Lake	Vilas	8/2/2017	JLW & JMB	672	47			DEEP																												
673	46.0280141	-89.4790204	0	Star Lake	Vilas			673	0			DEEP																												
674	46.0280103	-89.4781806	0	Star Lake	Vilas			674	0			DEEP																												
675	46.0280065	-89.4773408	0	Star Lake	Vilas			675	0			DEEP																												
676	46.0280026	-89.4765009	379	Star Lake	Vilas	8/2/2017	JLW & JMB	676	64			DEEP																												
677	46.0279988	-89.4756611	380	Star Lake	Vilas	8/2/2017	JLW & JMB	677	59			DEEP																												
678	46.0279949	-89.4748213	381	Star Lake	Vilas	8/2/2017	JLW & JMB	678	50			DEEP																												
679	46.027991	-89.4739814	382	Star Lake	Vilas	8/2/2017	JLW & JMB	679	44			DEEP																												
680	46.0279872	-89.4731416	383	Star Lake	Vilas	8/2/2017	JLW & JMB	680	37			DEEP																												
681	46.0279833	-89.4723018	384	Star Lake	Vilas	8/2/2017	JLW & JMB	681	10	Sand	Pole	SAMPLED			0																									
682	46.0279794	-89.471462	385	Star Lake	Vilas	8/2/2017	JLW & JMB	682	6	Rock	Pole	SAMPLED			0																									
683	46.0279755	-89.4706221	386	Star Lake	Vilas	8/2/2017	JLW & JMB	683	4	Sand	Pole	SAMPLED			0																									
684	46.0275412	-89.5042207	294	Star Lake	Vilas	8/1/2017	JLW & JMB	684	6	Rock	Pole	SAMPLED			0																									
685	46.0275376	-89.5033809	295	Star Lake	Vilas	8/1/2017	JLW & JMB	685	16		Rope	SAMPLED			0																									
686	46.0275339	-89.502541	296	Star Lake	Vilas	8/1/2017	JLW & JMB	686	17		Rope	SAMPLED			0																									
687	46.0275302	-89.5017012	297	Star Lake	Vilas	8/1/2017	JLW & JMB	687	11	Rock	Pole	SAMPLED			0																									
688	46.0275266	-89.5008614	298	Star Lake	Vilas	8/1/2017	JLW & JMB	688	3	Muck	Pole	SAMPLED			0																									
689	46.0275229	-89.5000216	282	Star Lake	Vilas	8/1/2017	JLW & JMB	689	6	Rock	Pole	SAMPLED			0																									
690	46.0275192	-89.4991817	283	Star Lake	Vilas	8/1/2017	JLW & JMB	690	25		Rope	SAMPLED			0																									
691	46.0275155	-89.4983419	284	Star Lake	Vilas	8/1/2017	JLW & JMB	691	27		Rope	SAMPLED			0																									
692	46.0275119	-89.4975021	285	Star Lake	Vilas	8/1/2017	JLW & JMB	692	27			DEEP																												
693	46.0275082	-89.4966623	286	Star Lake	Vilas	8/1/2017	JLW & JMB	693	27			DEEP																												
694	46.0275045	-89.4958224	230	Star Lake	Vilas	7/27/2017	TWH & CJF	694	25			DEEP																												
695	46.0275008	-89.4949826	572	Star Lake	Vilas	8/2/2017	JLW & JMB	695	25			DEEP																												
696	46.027497	-89.4941428	573	Star Lake	Vilas	8/2/2017	JLW & JMB	696	25			DEEP																												
697	46.0274933	-89.4933029	574	Star Lake	Vilas	8/2/2017	JLW & JMB	697	26			DEEP																												
698	46.0274896	-89.4924631	575	Star Lake	Vilas	8/2/2017	JLW & JMB	698	14	Muck	Pole	SAMPLED			0																									
699	46.0274596	-89.4857445	516	Star Lake	Vilas	8/2/2017	JLW & JMB	699	1	Rock	Pole	SAMPLED			0																									
700	46.0274558	-89.4849047	514	Star Lake	Vilas	8/2/2017	JLW & JMB	700	10	Sand	Pole	SAMPLED			0																									
701	46.027452	-89.4840649	509	Star Lake	Vilas	8/2/2017	JLW & JMB	701	39			DEEP																												
702	46.0274482	-89.483225	0	Star Lake	Vilas			702	0			DEEP																												
703	46.0274444	-89.4823852	0	Star Lake	Vilas			703	0			DEEP																												
704	46.0274406	-89.4815454	0	Star Lake	Vilas			704	0			DEEP																												
705	46.0274368	-89.4807056	0	Star Lake	Vilas			705	0			DEEP																												
706	46.027433	-89.4798658	0	Star Lake	Vilas			706	0			DEEP																												
707	46.0274291	-89.4790259	0	Star Lake	Vilas			707	0			DEEP																												
708	46.0274253	-89.4781861	0	Star Lake	Vilas			708	0			DEEP																												
709	46.0274215	-89.4773463	0	Star Lake	Vilas			709	0			DEEP																												
710	46.0274176	-89.4765065	378	Star Lake	Vilas	8/2/2017	JLW & JMB	710	36			DEEP																												
711	46.0274138	-89.4756666	377	Star Lake	Vilas	8/2/2017	JLW & JMB	711	16		Rope	SAMPLED			0																									
712	46.0274099	-89.4748268	376	Star Lake	Vilas	8/2/2017	JLW & JMB	712	8	Rock	Pole	SAMPLED			0																									
713	46.0274061	-89.473987	375	Star Lake	Vilas	8/2/2017	JLW & JMB	713	12	Sand	Pole	SAMPLED			0																									
714	46.0274022	-89.4731472	374	Star Lake	Vilas	8/2/2017	JLW & JMB	714	7	Rock	Pole	SAMPLED			0																									
715	46.0273983	-89.4723074	373	Star Lake	Vilas	8/2/2017	JLW & JMB	715	6	Rock	Pole	SAMPLED			0																									
716	46.0273944	-89.4714675	372	Star Lake	Vilas	8/2/2017	JLW & JMB	716	5	Rock	Pole	SAMPLED			0																									
717	46.0273905	-89.4706277	371	Star Lake	Vilas	8/2/2017	JLW & JMB	717	4	Rock	Pole	SAMPLED			0																									
718	46.0269489	-89.5025463	293	Star Lake	Vilas	8/1/2017	JLW & JMB	718	10	Muck	Pole	SAMPLED			0																									
719	46.0269452	-89.5017065	292	Star Lake	Vilas	8/1/2017	JLW & JMB	719	5	Sand	Pole	SAMPLED			0																									
720	46.0269342	-89.499187	225	Star Lake	Vilas	7/27/2017	TWH & CJF	720	13	Sand	Pole	SAMPLED			0																									
721	46.0269305	-89.4983472	226	Star Lake	Vilas	7/27/2017	TWH & CJF	721	16	Rock	Pole	SAMPLED			0																									
722	46.0269269	-89.4975074	227	Star Lake	Vilas	7/27/2017	TWH & CJF	722	21		Rope	SAMPLED			0																									
723	46.0269232	-89.4966676	228	Star Lake	Vilas	7/27/2017	TWH & CJF	723	23		Rope	SAMPLED			0																									
724	46.0269195	-89.4958277	229	Star Lake	Vilas	7/27/2017	TWH & CJF	724	26			DEEP																												
725	46.0269158	-89.4949879	571	Star Lake	Vilas	8/2/2017	JLW & JMB	725	16		Rope	SAMPLED			0																									
726	46.026912	-89.4941481	570	Star Lake	Vilas	8/2/2017	JLW & JMB	726	23		Rope	SAMPLED			0																									
727	46.0269083	-89.4933083	569	Star Lake	Vilas	8/2/2017	JLW & JMB	727	25		Rope	SAMPLED			0																									
728	46.0269046	-89.4924685	568	Star Lake	Vilas	8/2/2017	JLW & JMB	728	13	Sand	Pole	SAMPLED			0																									
729	46.0269009	-89.4916287	567	Star Lake	Vilas	8/2/2017	JLW & JMB	729	13	Sand	Pole	SAMPLED			0																									
730	46.0268783	-89.4865898	523	Star Lake	Vilas	8/2/2017	JLW & JMB	730	1	Rock	Pole	SAMPLED			0																									

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
731	46.0268746	-89.4857499	517	Star Lake	Vilas	8/2/2017	JLW & JMB	731	8	Sand	Pole	SAMPLED			0																									
732	46.0268708	-89.4849101	513	Star Lake	Vilas	8/2/2017	JLW & JMB	732	22		Rope	SAMPLED			0																									
733	46.026867	-89.4840703	510	Star Lake	Vilas	8/2/2017	JLW & JMB	733	0			DEEP																												
734	46.0268632	-89.4832305	0	Star Lake	Vilas			734	0			DEEP																												
735	46.0268594	-89.4823907	0	Star Lake	Vilas			735	0			DEEP																												
736	46.0268556	-89.4815509	0	Star Lake	Vilas			736	0			DEEP																												
737	46.0268518	-89.4807111	0	Star Lake	Vilas			737	0			DEEP																												
738	46.026848	-89.4798712	0	Star Lake	Vilas			738	0			DEEP																												
739	46.0268441	-89.4790314	0	Star Lake	Vilas			739	0			DEEP																												
740	46.0268403	-89.4781916	0	Star Lake	Vilas			740	0			DEEP																												
741	46.0268365	-89.4773518	0	Star Lake	Vilas			741	0			DEEP																												
742	46.0268326	-89.476512	274	Star Lake	Vilas	8/1/2017	JLW & JMB	742	39			DEEP																												
743	46.0268288	-89.4756722	275	Star Lake	Vilas	8/1/2017	JLW & JMB	743	25		Rope	SAMPLED			0																									
744	46.0268249	-89.4748324	276	Star Lake	Vilas	8/1/2017	JLW & JMB	744	8	Muck	Pole	SAMPLED			0																									
745	46.0268211	-89.4739925	277	Star Lake	Vilas	8/1/2017	JLW & JMB	745	7	Muck	Pole	SAMPLED			0																									
746	46.0268172	-89.4731527	278	Star Lake	Vilas	8/1/2017	JLW & JMB	746	17		Rope	SAMPLED			0																									
747	46.0268133	-89.4723129	279	Star Lake	Vilas	8/1/2017	JLW & JMB	747	11	Muck	Pole	SAMPLED			0																									
748	46.0268094	-89.4714731	280	Star Lake	Vilas	8/1/2017	JLW & JMB	748	10	Muck	Pole	SAMPLED			0																									
749	46.0268055	-89.4706333	281	Star Lake	Vilas	8/1/2017	JLW & JMB	749	5	Sand	Pole	SAMPLED			0																									
750	46.0263492	-89.4991923	224	Star Lake	Vilas	7/27/2017	TWH & CJF	750	16	Muck	Pole	SAMPLED			0																									
751	46.0263456	-89.4983525	223	Star Lake	Vilas	7/27/2017	TWH & CJF	751	14	Sand	Pole	SAMPLED			0																									
752	46.0263419	-89.4975127	222	Star Lake	Vilas	7/27/2017	TWH & CJF	752	11	Rock	Pole	SAMPLED			0																									
753	46.0263382	-89.4966729	221	Star Lake	Vilas	7/27/2017	TWH & CJF	753	18		Rope	SAMPLED			0																									
754	46.0263345	-89.4958331	220	Star Lake	Vilas	7/27/2017	TWH & CJF	754	23		Rope	SAMPLED			0																									
755	46.0263308	-89.4949933	562	Star Lake	Vilas	8/2/2017	JLW & JMB	755	24		Rope	SAMPLED			0																									
756	46.026327	-89.4941534	563	Star Lake	Vilas	8/2/2017	JLW & JMB	756	23		Rope	SAMPLED			0																									
757	46.0263233	-89.4933136	564	Star Lake	Vilas	8/2/2017	JLW & JMB	757	24		Rope	SAMPLED			0																									
758	46.0263196	-89.4924738	565	Star Lake	Vilas	8/2/2017	JLW & JMB	758	25		Rope	SAMPLED			0																									
759	46.0263159	-89.491634	566	Star Lake	Vilas	8/2/2017	JLW & JMB	759	16		Rope	SAMPLED			0																									
760	46.0263046	-89.4891146	550	Star Lake	Vilas	8/2/2017	JLW & JMB	760	3	Sand	Pole	SAMPLED			0																									
761	46.0263009	-89.4882748	549	Star Lake	Vilas	8/2/2017	JLW & JMB	761	2	Sand	Pole	SAMPLED			0																									
762	46.0262971	-89.487435	524	Star Lake	Vilas	8/2/2017	JLW & JMB	762	3	Rock	Pole	SAMPLED			0																									
763	46.0262933	-89.4865952	522	Star Lake	Vilas	8/2/2017	JLW & JMB	763	7	Sand	Pole	SAMPLED			0																									
764	46.0262896	-89.4857554	518	Star Lake	Vilas	8/2/2017	JLW & JMB	764	14	Sand	Pole	SAMPLED			0																									
765	46.0262858	-89.4849156	512	Star Lake	Vilas	8/2/2017	JLW & JMB	765	37			DEEP																												
766	46.026282	-89.4840758	511	Star Lake	Vilas	8/2/2017	JLW & JMB	766	0			DEEP																												
767	46.0262782	-89.483236	0	Star Lake	Vilas			767	0			DEEP																												
768	46.0262744	-89.4823961	0	Star Lake	Vilas			768	0			DEEP																												
769	46.0262706	-89.4815563	0	Star Lake	Vilas			769	0			DEEP																												
770	46.0262668	-89.4807165	0	Star Lake	Vilas			770	0			DEEP																												
771	46.026263	-89.4798767	0	Star Lake	Vilas			771	0			DEEP																												
772	46.0262591	-89.4790369	0	Star Lake	Vilas			772	0			DEEP																												
773	46.0262553	-89.4781971	0	Star Lake	Vilas			773	0			DEEP																												
774	46.0262515	-89.4773573	0	Star Lake	Vilas			774	0			DEEP																												
775	46.0262476	-89.4765175	273	Star Lake	Vilas	8/1/2017	JLW & JMB	775	38			DEEP																												
776	46.0262438	-89.4756777	272	Star Lake	Vilas	8/1/2017	JLW & JMB	776	20		Rope	SAMPLED			0																									
777	46.0262399	-89.4748379	271	Star Lake	Vilas	8/1/2017	JLW & JMB	777	15	Muck	Pole	SAMPLED			0																									
778	46.0262361	-89.4739981	270	Star Lake	Vilas	8/1/2017	JLW & JMB	778	13	Muck	Pole	SAMPLED			0																									
779	46.0262322	-89.4731583	269	Star Lake	Vilas	8/1/2017	JLW & JMB	779	21		Rope	SAMPLED			0																									
780	46.0262283	-89.4723185	268	Star Lake	Vilas	8/1/2017	JLW & JMB	780	18		Rope	SAMPLED			0																									
781	46.0262244	-89.4714787	267	Star Lake	Vilas	8/1/2017	JLW & JMB	781	18		Rope	SAMPLED			0																									
782	46.0262206	-89.4706389	266	Star Lake	Vilas	8/1/2017	JLW & JMB	782	15	Muck	Pole	SAMPLED			0																									
783	46.0257679	-89.5000374	214	Star Lake	Vilas	7/27/2017	TWH & CJF	783	4	Rock	Pole	SAMPLED			0																									
784	46.0257642	-89.4991976	215	Star Lake	Vilas	7/27/2017	TWH & CJF	784	16		Rope	SAMPLED			0																									
785	46.0257606	-89.4983578	216	Star Lake	Vilas	7/27/2017	TWH & CJF	785	16		Rope	SAMPLED			0																									
786	46.0257569	-89.497518	217	Star Lake	Vilas	7/27/2017	TWH & CJF	786	18		Rope	SAMPLED			0																									
787	46.0257532	-89.4966782	218	Star Lake	Vilas	7/27/2017	TWH & CJF	787	20		Rope	SAMPLED			0																									
788	46.0257495	-89.4958384	219	Star Lake	Vilas	7/27/2017	TWH & CJF	788	23		Rope	SAMPLED			0																									
789	46.0257458	-89.4949986	561	Star Lake	Vilas	8/2/2017	JLW & JMB	789	22		Rope	SAMPLED			0																									
790	46.025742	-89.4941588	560	Star Lake	Vilas	8/2/2017	JLW & JMB	790	23		Rope	SAMPLED			0																									
791	46.0257383	-89.493319	559	Star Lake	Vilas	8/2/2017	JLW & JMB	791	25		Rope	SAMPLED			0																									
792	46.0257346	-89.4924792	558	Star Lake	Vilas	8/2/2017	JLW & JMB	792	23		Rope	SAMPLED			0																									
793	46.0257309	-89.4916394	557	Star Lake	Vilas	8/2/2017	JLW & JMB	793	9	Sand	Pole	SAMPLED			0																									
794	46.0257271	-89.4907996	556	Star Lake	Vilas	8/2/2017	JLW & JMB	794	5	Sand	Pole	SAMPLED			0																									
795	46.0257234	-89.4899598	555	Star Lake	Vilas	8/2/2017	JLW & JMB	795	4	Sand	Pole	SAMPLED			0																									
796	46.0257196	-89.48912	551	Star Lake	Vilas	8/2/2017	JLW & JMB	796	4	Muck	Pole	SAMPLED			0																									
797	46.0257159	-89.4882802	548	Star Lake	Vilas	8/2/2017	JLW & JMB	797	5	Sand	Pole	SAMPLED			0																									
798	46.0257121	-89.4874404	525	Star Lake	Vilas	8/2/2017	JLW & JMB	798	7	Sand	Pole	SAMPLED			0																									
799	46.0257083	-89.4866006	521	Star Lake	Vilas	8/2/2017	JLW & JMB	799	8	Sand	Pole	SAMPLED			0																									
800	46.0257046	-89.4857608	519	Star Lake	Vilas	8/2/2017	JLW & JMB	800	27			DEEP																												
801	46.0257008	-89.484921	0	Star Lake	Vilas			801	0			DEEP																												
802	46.025697	-89.4840812	0	Star Lake	Vilas			802	0			DEEP																												
803	46.0256932	-89.4832414	0	Star Lake	Vilas			803	0			DEEP																												

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
804	46.0256894	-89.4824016	0	Star Lake	Vilas			804	0			DEEP																												
805	46.0256856	-89.4815618	0	Star Lake	Vilas			805	0			DEEP																												
806	46.0256818	-89.480722	0	Star Lake	Vilas			806	0			DEEP																												
807	46.025678	-89.4798822	0	Star Lake	Vilas			807	0			DEEP																												
808	46.0256741	-89.4790424	0	Star Lake	Vilas			808	0			DEEP																												
809	46.0256703	-89.4782026	257	Star Lake	Vilas	8/1/2017	JLW & JMB	809	64			DEEP																												
810	46.0256665	-89.4773628	258	Star Lake	Vilas	8/1/2017	JLW & JMB	810	52			DEEP																												
811	46.0256626	-89.476523	259	Star Lake	Vilas	8/1/2017	JLW & JMB	811	34			DEEP																												
812	46.0256588	-89.4756832	260	Star Lake	Vilas	8/1/2017	JLW & JMB	812	24		Rope	SAMPLED			0																									
813	46.0256549	-89.4748434	261	Star Lake	Vilas	8/1/2017	JLW & JMB	813	29		Rope	SAMPLED			0																									
814	46.0256511	-89.4740036	262	Star Lake	Vilas	8/1/2017	JLW & JMB	814	21		Rope	SAMPLED			0																									
815	46.0256472	-89.4731638	263	Star Lake	Vilas	8/1/2017	JLW & JMB	815	19		Rope	SAMPLED			0																									
816	46.0256433	-89.472324	264	Star Lake	Vilas	8/1/2017	JLW & JMB	816	17		Rope	SAMPLED			0																									
817	46.0256394	-89.4714843	265	Star Lake	Vilas	8/1/2017	JLW & JMB	817	16		Rope	SAMPLED			0																									
818	46.0256317	-89.4698047	4	Star Lake	Vilas	7/27/2017	TWH & CJF	818	4	Muck	Pole	SAMPLED			1																					1				
819	46.0256278	-89.4689649	3	Star Lake	Vilas	7/27/2017	TWH & CJF	819	5	Muck	Pole	SAMPLED			0																									
820	46.0256239	-89.4681251	2	Star Lake	Vilas	7/27/2017	TWH & CJF	820	4	Muck	Pole	SAMPLED			0																									
821	46.0256199	-89.4672853	1	Star Lake	Vilas	7/27/2017	TWH & CJF	821	3	Muck	Pole	SAMPLED	7-27-17		1																							1		
822	46.0251792	-89.4992029	213	Star Lake	Vilas	7/27/2017	TWH & CJF	822	4	Rock	Pole	SAMPLED			0																									
823	46.0251756	-89.4983631	212	Star Lake	Vilas	7/27/2017	TWH & CJF	823	18		Rope	SAMPLED			0																									
824	46.0251719	-89.4975233	211	Star Lake	Vilas	7/27/2017	TWH & CJF	824	21		Rope	SAMPLED			0																									
825	46.0251682	-89.4966835	202	Star Lake	Vilas	7/27/2017	TWH & CJF	825	21		Rope	SAMPLED			0																									
826	46.0251645	-89.4958437	201	Star Lake	Vilas	7/27/2017	TWH & CJF	826	22		Rope	SAMPLED			0																									
827	46.0251608	-89.4950039	196	Star Lake	Vilas	7/27/2017	TWH & CJF	827	3	Rock	Pole	SAMPLED			0																									
828	46.0251571	-89.4941641	195	Star Lake	Vilas	7/27/2017	TWH & CJF	828	12	Sand	Pole	SAMPLED			0																									
829	46.0251533	-89.4933243	190	Star Lake	Vilas	7/27/2017	TWH & CJF	829	19		Rope	SAMPLED			0																									
830	46.0251496	-89.4924845	189	Star Lake	Vilas	7/27/2017	TWH & CJF	830	17		Rope	SAMPLED			0																									
831	46.0251459	-89.4916447	554	Star Lake	Vilas	8/2/2017	JLW & JMB	831	8	Sand	Pole	SAMPLED			0																									
832	46.0251421	-89.490805	553	Star Lake	Vilas	8/2/2017	JLW & JMB	832	5	Sand	Pole	SAMPLED			0																									
833	46.0251384	-89.4899652	552	Star Lake	Vilas	8/2/2017	JLW & JMB	833	9	Muck	Pole	SAMPLED			0																									
834	46.0251346	-89.4891254	547	Star Lake	Vilas	8/2/2017	JLW & JMB	834	2	Rock	Pole	SAMPLED			0																									
835	46.0251309	-89.4882856	546	Star Lake	Vilas	8/2/2017	JLW & JMB	835	7	Sand	Pole	SAMPLED			0																									
836	46.0251271	-89.4874458	526	Star Lake	Vilas	8/2/2017	JLW & JMB	836	11	Muck	Pole	SAMPLED			0																									
837	46.0251233	-89.486606	520	Star Lake	Vilas	8/2/2017	JLW & JMB	837	27			DEEP																												
838	46.0251196	-89.4857662	0	Star Lake	Vilas			838	0			DEEP																												
839	46.0251158	-89.4849264	0	Star Lake	Vilas			839	0			DEEP																												
840	46.025112	-89.4840866	0	Star Lake	Vilas			840	0			DEEP																												
841	46.0251082	-89.4832469	0	Star Lake	Vilas			841	0			DEEP																												
842	46.0251044	-89.4824071	0	Star Lake	Vilas			842	0			DEEP																												
843	46.0251006	-89.4815673	0	Star Lake	Vilas			843	0			DEEP																												
844	46.0250968	-89.4807275	0	Star Lake	Vilas			844	0			DEEP																												
845	46.025093	-89.4798877	0	Star Lake	Vilas			845	0			DEEP																												
846	46.0250891	-89.4790479	0	Star Lake	Vilas			846	0			DEEP																												
847	46.0250853	-89.4782081	256	Star Lake	Vilas	8/1/2017	JLW & JMB	847	56			DEEP																												
848	46.0250815	-89.4773683	255	Star Lake	Vilas	8/1/2017	JLW & JMB	848	25		Rope	SAMPLED			0																									
849	46.0250776	-89.4765285	254	Star Lake	Vilas	8/1/2017	JLW & JMB	849	22		Rope	SAMPLED			0																									
850	46.0250738	-89.4756888	253	Star Lake	Vilas	8/1/2017	JLW & JMB	850	31			DEEP																												
851	46.0250699	-89.474849	252	Star Lake	Vilas	8/1/2017	JLW & JMB	851	32			DEEP																												
852	46.0250661	-89.4740092	251	Star Lake	Vilas	8/1/2017	JLW & JMB	852	24		Rope	SAMPLED			0																									
853	46.0250622	-89.4731694	250	Star Lake	Vilas	8/1/2017	JLW & JMB	853	22		Rope	SAMPLED			0																									
854	46.0250583	-89.4723296	249	Star Lake	Vilas	8/1/2017	JLW & JMB	854	20		Rope	SAMPLED			0																									
855	46.0250544	-89.4714898	248	Star Lake	Vilas	8/1/2017	JLW & JMB	855	16		Rope	SAMPLED			0																									
856	46.0250506	-89.47065	247	Star Lake	Vilas	8/1/2017	JLW & JMB	856	12	Rock	Pole	SAMPLED			0																									
857	46.0250467	-89.4698103	7	Star Lake	Vilas	7/27/2017	TWH & CJF	857	7	Muck	Pole	SAMPLED			1																		1							
858	46.0250428	-89.4689705	6	Star Lake	Vilas	7/27/2017	TWH & CJF	858	6	Muck	Pole	SAMPLED			0																									
859	46.0250389	-89.4681307	5	Star Lake	Vilas	7/27/2017	TWH & CJF	859	5	Muck	Pole	SAMPLED			0																									
860	46.0245942	-89.4992081	208	Star Lake	Vilas	7/27/2017	TWH & CJF	860	9	Sand	Pole	SAMPLED			0																									
861	46.0245906	-89.4983684	209	Star Lake	Vilas	7/27/2017	TWH & CJF	861	17		Rope	SAMPLED			0																									
862	46.0245869	-89.4975286	210	Star Lake	Vilas	7/27/2017	TWH & CJF	862	18		Rope	SAMPLED			0																									
863	46.0245832	-89.4966888	203	Star Lake	Vilas	7/27/2017	TWH & CJF	863	17		Rope	SAMPLED			0																									
864	46.0245795	-89.495849	200	Star Lake	Vilas	7/27/2017	TWH & CJF	864	17	Rock	Pole	SAMPLED			0																									
865	46.0245758	-89.4950092	197	Star Lake	Vilas	7/27/2017	TWH & CJF	865	21		Rope	SAMPLED			0																									
866	46.0245721	-89.4941695	194	Star Lake	Vilas	7/27/2017	TWH & CJF	866	23		Rope	SAMPLED			0																									
867	46.0245683	-89.4933297	191	Star Lake	Vilas	7/27/2017	TWH & CJF	867	26			DEEP																												
868	46.0245646	-89.4924899	188	Star Lake	Vilas	7/27/2017	TWH & CJF	868	11	Sand	Pole	SAMPLED			0																									
869	46.0245609	-89.4916501	541	Star Lake	Vilas	8/2/2017	JLW & JMB	869	5	Sand	Pole	SAMPLED			0																									
870	46.0245571	-89.4908103	542	Star Lake	Vilas	8/2/2017	JLW & JMB	870	21		Rope	SAMPLED			0																									
871	46.0245534	-89.4899705	543	Star Lake	Vilas	8/2/2017	JLW & JMB	871	21		Rope	SAMPLED			0																									
872	46.0245496	-89.4891308	544	Star Lake	Vilas	8/2/2017	JLW & JMB	872	0			TERRESTRIAL																												
873	46.0245459	-89.488291	545	Star Lake	Vilas	8/2/2017	JLW & JMB	873	26		Rope	SAMPLED			0																									
874	46.0245421	-89.4874512	527	Star Lake	Vilas	8/2/2017	JLW & JMB	874	42			DEEP																												
875	46.0245384	-89.4866114	0	Star Lake	Vilas			875	0			DEEP																												
876	46.0245346	-89.4857716	0	Star Lake	Vilas			876	0			DEEP																												

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
877	46.0245308	-89.4849319	0	Star Lake	Vilas			877	0			DEEP																												
878	46.024527	-89.4840921	0	Star Lake	Vilas			878	0			DEEP																												
879	46.0245232	-89.4832523	0	Star Lake	Vilas			879	0			DEEP																												
880	46.0245194	-89.4824125	0	Star Lake	Vilas			880	0			DEEP																												
881	46.0245156	-89.4815727	0	Star Lake	Vilas			881	0			DEEP																												
882	46.0245118	-89.480733	0	Star Lake	Vilas			882	0			DEEP																												
883	46.024508	-89.4798932	0	Star Lake	Vilas			883	0			DEEP																												
884	46.0245042	-89.4790534	0	Star Lake	Vilas			884	0			DEEP																												
885	46.0245003	-89.4782136	28	Star Lake	Vilas	7/27/2017	TWH & CJF	885	47			DEEP																												
886	46.0244965	-89.4773738	27	Star Lake	Vilas	7/27/2017	TWH & CJF	886	20		Rope	SAMPLED			0																									
887	46.0244926	-89.4765341	26	Star Lake	Vilas	7/27/2017	TWH & CJF	887	26			DEEP																												
888	46.0244888	-89.4756943	0	Star Lake	Vilas			888	0			DEEP																												
889	46.0244849	-89.4748545	0	Star Lake	Vilas			889	0			DEEP																												
890	46.0244811	-89.4740147	25	Star Lake	Vilas	7/27/2017	TWH & CJF	890	34			DEEP																												
891	46.0244772	-89.473175	24	Star Lake	Vilas	7/27/2017	TWH & CJF	891	23		Rope	SAMPLED			0																									
892	46.0244733	-89.4723352	23	Star Lake	Vilas	7/27/2017	TWH & CJF	892	16		Rope	SAMPLED			0																									
893	46.0244695	-89.4714954	22	Star Lake	Vilas	7/27/2017	TWH & CJF	893	16		Rope	SAMPLED			0																									
894	46.0244656	-89.4706556	21	Star Lake	Vilas	7/27/2017	TWH & CJF	894	13	Muck	Pole	SAMPLED			0																									
895	46.0244617	-89.4698158	8	Star Lake	Vilas	7/27/2017	TWH & CJF	895	8	Muck	Pole	SAMPLED			1																							1		
896	46.0244578	-89.4689761	9	Star Lake	Vilas	7/27/2017	TWH & CJF	896	7	Muck	Pole	SAMPLED			2																							2		
897	46.0244539	-89.4681363	10	Star Lake	Vilas	7/27/2017	TWH & CJF	897	5	Rock	Pole	SAMPLED			0																									
898	46.02445	-89.4672965	11	Star Lake	Vilas	7/27/2017	TWH & CJF	898	5	Muck	Pole	SAMPLED			2													1										2		
899	46.024446	-89.4664567	12	Star Lake	Vilas	7/27/2017	TWH & CJF	899	4	Sand	Pole	SAMPLED			0																									
900	46.0240092	-89.4992134	207	Star Lake	Vilas	7/27/2017	TWH & CJF	900	11	Muck	Pole	SAMPLED			0																									
901	46.0240056	-89.4983737	206	Star Lake	Vilas	7/27/2017	TWH & CJF	901	4	Rock	Pole	SAMPLED			0																									
902	46.0240019	-89.4975339	205	Star Lake	Vilas	7/27/2017	TWH & CJF	902	5	Sand	Pole	SAMPLED			0																									
903	46.0239982	-89.4966941	204	Star Lake	Vilas	7/27/2017	TWH & CJF	903	3	Sand	Pole	SAMPLED			0																									
904	46.0239945	-89.4958543	199	Star Lake	Vilas	7/27/2017	TWH & CJF	904	11	Sand	Pole	SAMPLED			0																									
905	46.0239908	-89.4950146	198	Star Lake	Vilas	7/27/2017	TWH & CJF	905	25			DEEP																												
906	46.0239871	-89.4941748	193	Star Lake	Vilas	7/27/2017	TWH & CJF	906	26			DEEP																												
907	46.0239833	-89.493335	192	Star Lake	Vilas	7/27/2017	TWH & CJF	907	25			DEEP																												
908	46.0239796	-89.4924952	187	Star Lake	Vilas	7/27/2017	TWH & CJF	908	7	Sand	Pole	SAMPLED			0																									
909	46.0239759	-89.4916555	540	Star Lake	Vilas	8/2/2017	JLW & JMB	909	11	Muck	Pole	SAMPLED			0																									
910	46.0239721	-89.4908157	539	Star Lake	Vilas	8/2/2017	JLW & JMB	910	32			DEEP																												
911	46.0239684	-89.4899759	538	Star Lake	Vilas	8/2/2017	JLW & JMB	911	34			DEEP																												
912	46.0239646	-89.4891362	537	Star Lake	Vilas	8/2/2017	JLW & JMB	912	23		Rope	SAMPLED			0																									
913	46.0239609	-89.4882964	536	Star Lake	Vilas	8/2/2017	JLW & JMB	913	49			DEEP																												
914	46.0239571	-89.4874566	535	Star Lake	Vilas	8/2/2017	JLW & JMB	914	54			DEEP																												
915	46.0239534	-89.4866168	0	Star Lake	Vilas			915	0			DEEP																												
916	46.0239496	-89.4857771	0	Star Lake	Vilas			916	0			DEEP																												
917	46.0239458	-89.4849373	0	Star Lake	Vilas			917	0			DEEP																												
918	46.023942	-89.4840975	0	Star Lake	Vilas			918	0			DEEP																												
919	46.0239382	-89.4832578	0	Star Lake	Vilas			919	0			DEEP																												
920	46.0239344	-89.482418	0	Star Lake	Vilas			920	0			DEEP																												
921	46.0239306	-89.4815782	0	Star Lake	Vilas			921	0			DEEP																												
922	46.0239268	-89.4807384	0	Star Lake	Vilas			922	0			DEEP																												
923	46.023923	-89.4798987	0	Star Lake	Vilas			923	0			DEEP																												
924	46.0239192	-89.4790589	0	Star Lake	Vilas			924	0			DEEP																												
925	46.0239153	-89.4782191	48	Star Lake	Vilas	7/27/2017	TWH & CJF	925	27			DEEP																												
926	46.0239115	-89.4773794	49	Star Lake	Vilas	7/27/2017	TWH & CJF	926	16		Rope	SAMPLED			0																									
927	46.0239076	-89.4765396	50	Star Lake	Vilas	7/27/2017	TWH & CJF	927	27			DEEP																												
928	46.0239038	-89.4756998	51	Star Lake	Vilas	7/27/2017	TWH & CJF	928	29			DEEP																												
929	46.0238999	-89.4748601	52	Star Lake	Vilas	7/27/2017	TWH & CJF	929	30			DEEP																												
930	46.0238961	-89.4740203	53	Star Lake	Vilas	7/27/2017	TWH & CJF	930	29			DEEP																												
931	46.0238922	-89.4731805	54	Star Lake	Vilas	7/27/2017	TWH & CJF	931	11	Rock	Pole	SAMPLED			0																									
932	46.0238883	-89.4723407	55	Star Lake	Vilas	7/27/2017	TWH & CJF	932	14	Sand	Pole	SAMPLED			0																									
933	46.0238845	-89.471501	56	Star Lake	Vilas	7/27/2017	TWH & CJF	933	13	Muck	Pole	SAMPLED			0																									
934	46.0238806	-89.4706612	57	Star Lake	Vilas	7/27/2017	TWH & CJF	934	9	Rock	Pole	SAMPLED			0																									
935	46.0238767	-89.4698214	17	Star Lake	Vilas	7/27/2017	TWH & CJF	935	7	Muck	Pole	SAMPLED			0																									
936	46.0238728	-89.4689817	16	Star Lake	Vilas	7/27/2017	TWH & CJF	936	3	Rock	Pole	SAMPLED			0																									
937	46.0238689	-89.4681419	15	Star Lake	Vilas	7/27/2017	TWH & CJF	937	6	Muck	Pole	SAMPLED			0																									
938	46.023865	-89.4673021	14	Star Lake	Vilas	7/27/2017	TWH & CJF	938	5	Muck	Pole	SAMPLED			0																									
939	46.023861	-89.4664624	13	Star Lake	Vilas	7/27/2017	TWH & CJF	939	4	Muck	Pole	SAMPLED			0																									
940	46.0234095	-89.4958597	181	Star Lake	Vilas	7/27/2017	TWH & CJF	940	3	Sand	Pole	SAMPLED			0																									
941	46.0234058	-89.4950199	182	Star Lake	Vilas	7/27/2017	TWH & CJF	941	11	Rock	Pole	SAMPLED			0																									
942	46.0234021	-89.4941801	183	Star Lake	Vilas	7/27/2017	TWH & CJF	942	17	Rock	Pole	SAMPLED			0																									
943	46.0233983	-89.4933404	184	Star Lake	Vilas	7/27/2017	TWH & CJF	943	21		Rope	SAMPLED			0																									
944	46.0233946	-89.4925006	186	Star Lake	Vilas	7/27/2017	TWH & CJF	944	7	Rock	Pole	SAMPLED			0																									
945	46.0233909	-89.4916608	530	Star Lake	Vilas	8/2/2017	JLW & JMB	945	19		Rope	SAMPLED			0																									
946	46.0233871	-89.4908211	531	Star Lake	Vilas	8/2/2017	JLW & JMB	946	24		Rope	SAMPLED			0																									
947	46.0233834	-89.4899813	532	Star Lake	Vilas	8/2/2017	JLW & JMB	947	39			DEEP																												
948	46.0233796	-89.4891415	533	Star Lake	Vilas	8/2/2017	JLW & JMB	948	52			DEEP																												
949	46.0233759	-89.4883018	534	Star Lake	Vilas	8/2/2017	JLW & JMB	949	60			DEEP																												

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
950	46.0233721	-89.487462	0	Star Lake	Vilas			950	0			DEEP																												
951	46.0233684	-89.4866223	0	Star Lake	Vilas			951	0			DEEP																												
952	46.0233646	-89.4857825	0	Star Lake	Vilas			952	0			DEEP																												
953	46.0233608	-89.4849427	0	Star Lake	Vilas			953	0			DEEP																												
954	46.023357	-89.484103	0	Star Lake	Vilas			954	0			DEEP																												
955	46.0233532	-89.4832632	0	Star Lake	Vilas			955	0			DEEP																												
956	46.0233494	-89.4824234	0	Star Lake	Vilas			956	0			DEEP																												
957	46.0233456	-89.4815837	0	Star Lake	Vilas			957	0			DEEP																												
958	46.0233418	-89.4807439	31	Star Lake	Vilas	7/27/2017	TWH & CJF	958	45			DEEP																												
959	46.023338	-89.4799042	32	Star Lake	Vilas	7/27/2017	TWH & CJF	959	30			DEEP																												
960	46.0233342	-89.4790644	33	Star Lake	Vilas	7/27/2017	TWH & CJF	960	28			DEEP																												
961	46.0233303	-89.4782246	34	Star Lake	Vilas	7/27/2017	TWH & CJF	961	30			DEEP																												
962	46.0233265	-89.4773849	35	Star Lake	Vilas	7/27/2017	TWH & CJF	962	20		Rope	SAMPLED			0																									
963	46.0233227	-89.4765451	65	Star Lake	Vilas	7/27/2017	TWH & CJF	963	26			DEEP																												
964	46.0233188	-89.4757054	64	Star Lake	Vilas	7/27/2017	TWH & CJF	964	26			DEEP																												
965	46.0233149	-89.4748656	63	Star Lake	Vilas	7/27/2017	TWH & CJF	965	30			DEEP																												
966	46.0233111	-89.4740258	62	Star Lake	Vilas	7/27/2017	TWH & CJF	966	27			DEEP																												
967	46.0233072	-89.4731861	61	Star Lake	Vilas	7/27/2017	TWH & CJF	967	9	Rock	Pole	SAMPLED			0																									
968	46.0233033	-89.4723463	60	Star Lake	Vilas	7/27/2017	TWH & CJF	968	6	Sand	Pole	SAMPLED			0																									
969	46.0232995	-89.4715066	59	Star Lake	Vilas	7/27/2017	TWH & CJF	969	9	Sand	Pole	SAMPLED			0																									
970	46.0232956	-89.4706668	58	Star Lake	Vilas	7/27/2017	TWH & CJF	970	3	Rock	Pole	SAMPLED			0																									
971	46.0232839	-89.4681475	18	Star Lake	Vilas	7/27/2017	TWH & CJF	971	2	Sand	Pole	SAMPLED			0																									
972	46.02328	-89.4673078	19	Star Lake	Vilas	7/27/2017	TWH & CJF	972	2	Sand	Pole	SAMPLED			0																									
973	46.0232761	-89.466468	20	Star Lake	Vilas	7/27/2017	TWH & CJF	973	0			OTHER	STUMPS																											
974	46.0228208	-89.4950252	180	Star Lake	Vilas	7/27/2017	TWH & CJF	974	17		Rope	SAMPLED			0																									
975	46.0228171	-89.4941855	179	Star Lake	Vilas	7/27/2017	TWH & CJF	975	30			DEEP																												
976	46.0228133	-89.4933457	178	Star Lake	Vilas	7/27/2017	TWH & CJF	976	39			DEEP																												
977	46.0228096	-89.4925059	185	Star Lake	Vilas	7/27/2017	TWH & CJF	977	36			DEEP																												
978	46.0228059	-89.4916662	529	Star Lake	Vilas	8/2/2017	JLW & JMB	978	41			DEEP																												
979	46.0228021	-89.4908264	528	Star Lake	Vilas	8/2/2017	JLW & JMB	979	46			DEEP																												
980	46.0227984	-89.4899867	0	Star Lake	Vilas			980	0			DEEP																												
981	46.0227947	-89.4891469	0	Star Lake	Vilas			981	0			DEEP																												
982	46.0227909	-89.4883072	0	Star Lake	Vilas			982	0			DEEP																												
983	46.0227871	-89.4874674	0	Star Lake	Vilas			983	0			DEEP																												
984	46.0227834	-89.4866277	0	Star Lake	Vilas			984	0			DEEP																												
985	46.0227796	-89.4857879	0	Star Lake	Vilas			985	0			DEEP																												
986	46.0227758	-89.4849482	0	Star Lake	Vilas			986	0			DEEP																												
987	46.022772	-89.4841084	0	Star Lake	Vilas			987	0			DEEP																												
988	46.0227682	-89.4832687	0	Star Lake	Vilas			988	0			DEEP																												
989	46.0227644	-89.4824289	0	Star Lake	Vilas			989	0			DEEP																												
990	46.0227606	-89.4815891	30	Star Lake	Vilas	7/27/2017	TWH & CJF	990	48			DEEP																												
991	46.0227568	-89.4807494	29	Star Lake	Vilas	7/27/2017	TWH & CJF	991	18		Rope	SAMPLED			0																									
992	46.022753	-89.4799096	39	Star Lake	Vilas	7/27/2017	TWH & CJF	992	8	Sand	Pole	SAMPLED			0																									
993	46.0227492	-89.4790699	38	Star Lake	Vilas	7/27/2017	TWH & CJF	993	14	Sand	Pole	SAMPLED			0																									
994	46.0227453	-89.4782301	37	Star Lake	Vilas	7/27/2017	TWH & CJF	994	30			DEEP																												
995	46.0227415	-89.4773904	36	Star Lake	Vilas	7/27/2017	TWH & CJF	995	20		Rope	SAMPLED			0																									
996	46.0227377	-89.4765506	66	Star Lake	Vilas	7/27/2017	TWH & CJF	996	27			DEEP																												
997	46.0227338	-89.4757109	67	Star Lake	Vilas	7/27/2017	TWH & CJF	997	30			DEEP																												
998	46.02273	-89.4748711	68	Star Lake	Vilas	7/27/2017	TWH & CJF	998	31			DEEP																												
999	46.0227261	-89.4740314	69	Star Lake	Vilas	7/27/2017	TWH & CJF	999	11	Rock	Pole	SAMPLED			0																									
1000	46.0227222	-89.4731916	70	Star Lake	Vilas	7/27/2017	TWH & CJF	1000	4	Rock	Pole	SAMPLED			0																									
1001	46.0227183	-89.4723519	71	Star Lake	Vilas	7/27/2017	TWH & CJF	1001	7	Rock	Pole	SAMPLED			0																									
1002	46.0227145	-89.4715121	72	Star Lake	Vilas	7/27/2017	TWH & CJF	1002	6	Rock	Pole	SAMPLED			0																									
1003	46.0222321	-89.4941908	176	Star Lake	Vilas	7/27/2017	TWH & CJF	1003	27			DEEP																												
1004	46.0222283	-89.493351	177	Star Lake	Vilas	7/27/2017	TWH & CJF	1004	43			DEEP																												
1005	46.0222246	-89.4925113	0	Star Lake	Vilas			1005	0			DEEP																												
1006	46.0222209	-89.4916716	0	Star Lake	Vilas			1006	0			DEEP																												
1007	46.0222172	-89.4908318	0	Star Lake	Vilas			1007	0			DEEP																												
1008	46.0222134	-89.4899921	0	Star Lake	Vilas			1008	0			DEEP																												
1009	46.0222097	-89.4891523	0	Star Lake	Vilas			1009	0			DEEP																												
1010	46.0222059	-89.4883126	0	Star Lake	Vilas			1010	0			DEEP																												
1011	46.0222021	-89.4874728	0	Star Lake	Vilas			1011	0			DEEP																												
1012	46.0221984	-89.4866331	0	Star Lake	Vilas			1012	0			DEEP																												
1013	46.0221946	-89.4857933	0	Star Lake	Vilas			1013	0			DEEP																												
1014	46.0221908	-89.4849536	0	Star Lake	Vilas			1014	0			DEEP																												
1015	46.022187	-89.4841138	0	Star Lake	Vilas			1015	0			DEEP																												
1016	46.0221832	-89.4832741	0	Star Lake	Vilas			1016	0			DEEP																												
1017	46.0221794	-89.4824344	0	Star Lake	Vilas			1017	0			DEEP																												
1018	46.0221756	-89.4815946	0	Star Lake	Vilas			1018	0			DEEP																												
1019	46.0221718	-89.4807549	40	Star Lake	Vilas	7/27/2017	TWH & CJF	1019	31			DEEP																												
1020	46.022168	-89.4799151	41	Star Lake	Vilas	7/27/2017	TWH & CJF	1020	20		Rope	SAMPLED			0																									
1021	46.0221642	-89.4790754	42	Star Lake	Vilas	7/27/2017	TWH & CJF	1021	20		Rope	SAMPLED			0																									
1022	46.0221603	-89.4782356	43	Star Lake	Vilas	7/27/2017	TWH & CJF	1022	32			DEEP																												

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
1023	46.0221565	-89.4773959	44	Star Lake	Vilas	7/27/2017	TWH & CJF	1023	32			DEEP																												
1024	46.0221527	-89.4765562	94	Star Lake	Vilas	7/27/2017	TWH & CJF	1024	0			DEEP																												
1025	46.0221488	-89.4757164	0	Star Lake	Vilas			1025	0			DEEP																												
1026	46.022145	-89.4748767	77	Star Lake	Vilas	7/27/2017	TWH & CJF	1026	30			DEEP																												
1027	46.0221411	-89.4740369	76	Star Lake	Vilas	7/27/2017	TWH & CJF	1027	17		Rope	SAMPLED			0																									
1028	46.0221372	-89.4731972	75	Star Lake	Vilas	7/27/2017	TWH & CJF	1028	7	Rock	Pole	SAMPLED			0																									
1029	46.0221334	-89.4723574	74	Star Lake	Vilas	7/27/2017	TWH & CJF	1029	6	Sand	Pole	SAMPLED			0																									
1030	46.0221295	-89.4715177	73	Star Lake	Vilas	7/27/2017	TWH & CJF	1030	6	Sand	Pole	SAMPLED			0																									
1031	46.0216471	-89.4941961	175	Star Lake	Vilas	7/27/2017	TWH & CJF	1031	0			OTHER	DOWNED TREE																											
1032	46.0216433	-89.4933564	174	Star Lake	Vilas	7/27/2017	TWH & CJF	1032	16		Rope	SAMPLED			0																									
1033	46.0216396	-89.4925167	173	Star Lake	Vilas	7/27/2017	TWH & CJF	1033	46			DEEP																												
1034	46.0216359	-89.4916769	0	Star Lake	Vilas			1034	0			DEEP																												
1035	46.0216322	-89.4908372	0	Star Lake	Vilas			1035	0			DEEP																												
1036	46.0216284	-89.4899974	0	Star Lake	Vilas			1036	0			DEEP																												
1037	46.0216247	-89.4891577	0	Star Lake	Vilas			1037	0			DEEP																												
1038	46.0216209	-89.488318	0	Star Lake	Vilas			1038	0			DEEP																												
1039	46.0216171	-89.4874782	0	Star Lake	Vilas			1039	0			DEEP																												
1040	46.0216134	-89.4866385	0	Star Lake	Vilas			1040	0			DEEP																												
1041	46.0216096	-89.4857988	0	Star Lake	Vilas			1041	0			DEEP																												
1042	46.0216058	-89.484959	0	Star Lake	Vilas			1042	0			DEEP																												
1043	46.021602	-89.4841193	0	Star Lake	Vilas			1043	0			DEEP																												
1044	46.0215982	-89.4832796	0	Star Lake	Vilas			1044	0			DEEP																												
1045	46.0215944	-89.4824398	0	Star Lake	Vilas			1045	0			DEEP																												
1046	46.0215906	-89.4816001	0	Star Lake	Vilas			1046	0			DEEP																												
1047	46.0215868	-89.4807603	47	Star Lake	Vilas	7/27/2017	TWH & CJF	1047	31			DEEP																												
1048	46.021583	-89.4799206	46	Star Lake	Vilas	7/27/2017	TWH & CJF	1048	26			DEEP																												
1049	46.0215792	-89.4790809	45	Star Lake	Vilas	7/27/2017	TWH & CJF	1049	32			DEEP																												
1050	46.0215753	-89.4782411	95	Star Lake	Vilas	7/27/2017	TWH & CJF	1050	0			DEEP																												
1051	46.0215715	-89.4774014	0	Star Lake	Vilas			1051	0			DEEP																												
1052	46.0215677	-89.4765617	0	Star Lake	Vilas			1052	0			DEEP																												
1053	46.0215638	-89.4757219	0	Star Lake	Vilas			1053	0			DEEP																												
1054	46.02156	-89.4748822	78	Star Lake	Vilas	7/27/2017	TWH & CJF	1054	30			DEEP																												
1055	46.0215561	-89.4740425	79	Star Lake	Vilas	7/27/2017	TWH & CJF	1055	11	Rock	Pole	SAMPLED			0																									
1056	46.0215522	-89.4732027	80	Star Lake	Vilas	7/27/2017	TWH & CJF	1056	17	Sand	Pole	SAMPLED			0																									
1057	46.0215484	-89.472363	81	Star Lake	Vilas	7/27/2017	TWH & CJF	1057	16	Sand	Pole	SAMPLED			0																									
1058	46.0215445	-89.4715233	82	Star Lake	Vilas	7/27/2017	TWH & CJF	1058	4	Rock	Pole	SAMPLED			0																									
1059	46.0210584	-89.4933617	172	Star Lake	Vilas	7/27/2017	TWH & CJF	1059	17		Rope	SAMPLED			0																									
1060	46.0210546	-89.492522	171	Star Lake	Vilas	7/27/2017	TWH & CJF	1060	49			DEEP																												
1061	46.0210509	-89.4916823	0	Star Lake	Vilas			1061	0			DEEP																												
1062	46.0210472	-89.4908425	0	Star Lake	Vilas			1062	0			DEEP																												
1063	46.0210434	-89.4900028	0	Star Lake	Vilas			1063	0			DEEP																												
1064	46.0210397	-89.4891631	0	Star Lake	Vilas			1064	0			DEEP																												
1065	46.0210359	-89.4883234	0	Star Lake	Vilas			1065	0			DEEP																												
1066	46.0210321	-89.4874836	0	Star Lake	Vilas			1066	0			DEEP																												
1067	46.0210284	-89.4866439	0	Star Lake	Vilas			1067	0			DEEP																												
1068	46.0210246	-89.4858042	0	Star Lake	Vilas			1068	0			DEEP																												
1069	46.0210208	-89.4849645	0	Star Lake	Vilas			1069	0			DEEP																												
1070	46.021017	-89.4841247	136	Star Lake	Vilas	7/27/2017	TWH & CJF	1070	43			DEEP																												
1071	46.0210132	-89.483285	0	Star Lake	Vilas			1071	0			DEEP																												
1072	46.0210094	-89.4824453	0	Star Lake	Vilas			1072	0			DEEP																												
1073	46.0210056	-89.4816056	0	Star Lake	Vilas			1073	0			DEEP																												
1074	46.0210018	-89.4807658	118	Star Lake	Vilas	7/27/2017	TWH & CJF	1074	40			DEEP																												
1075	46.020998	-89.4799261	116	Star Lake	Vilas	7/27/2017	TWH & CJF	1075	11	Rock	Pole	SAMPLED			0																									
1076	46.0209942	-89.4790864	117	Star Lake	Vilas	7/27/2017	TWH & CJF	1076	34			DEEP																												
1077	46.0209903	-89.4782466	0	Star Lake	Vilas			1077	0			DEEP																												
1078	46.0209865	-89.4774069	0	Star Lake	Vilas			1078	0			DEEP																												
1079	46.0209827	-89.4765672	0	Star Lake	Vilas			1079	0			DEEP																												
1080	46.0209788	-89.4757275	0	Star Lake	Vilas			1080	0			DEEP																												
1081	46.020975	-89.4748877	0	Star Lake	Vilas			1081	0			DEEP																												
1082	46.0209711	-89.474048	86	Star Lake	Vilas	7/27/2017	TWH & CJF	1082	26			DEEP																												
1083	46.0209672	-89.4732083	85	Star Lake	Vilas	7/27/2017	TWH & CJF	1083	25		Rope	SAMPLED			0																									
1084	46.0209634	-89.4723686	84	Star Lake	Vilas	7/27/2017	TWH & CJF	1084	23		Rope	SAMPLED			0																									
1085	46.0209595	-89.4715288	83	Star Lake	Vilas	7/27/2017	TWH & CJF	1085	7	Rock	Pole	SAMPLED			0																									
1086	46.0204771	-89.4942068	169	Star Lake	Vilas	7/27/2017	TWH & CJF	1086	8	Rock	Pole	SAMPLED			0																									
1087	46.0204734	-89.4933671	170	Star Lake	Vilas	7/27/2017	TWH & CJF	1087	39			DEEP																												
1088	46.0204696	-89.4925274	0	Star Lake	Vilas			1088	0			DEEP																												
1089	46.0204659	-89.4916876	0	Star Lake	Vilas			1089	0			DEEP																												
1090	46.0204622	-89.4908479	0	Star Lake	Vilas			1090	0			DEEP																												
1091	46.0204584	-89.4900082	0	Star Lake	Vilas			1091	0			DEEP																												
1092	46.0204547	-89.4891685	0	Star Lake	Vilas			1092	0			DEEP																												
1093	46.0204509	-89.4883288	0	Star Lake	Vilas			1093	0			DEEP																												
1094	46.0204471	-89.487489	0	Star Lake	Vilas			1094	0			DEEP																												
1095	46.0204434	-89.4866493	0	Star Lake	Vilas			1095	0			DEEP																												

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
1096	46.0204396	-89.4858096	147	Star Lake	Vilas	7/27/2017	TWH & CJF	1096	42			DEEP																												
1097	46.0204358	-89.4849699	146	Star Lake	Vilas	7/27/2017	TWH & CJF	1097	40			DEEP																												
1098	46.020432	-89.4841302	135	Star Lake	Vilas	7/27/2017	TWH & CJF	1098	18		Rope	SAMPLED			0																									
1099	46.0204282	-89.4832905	134	Star Lake	Vilas	7/27/2017	TWH & CJF	1099	35			DEEP																												
1100	46.0204244	-89.4824507	126	Star Lake	Vilas	7/27/2017	TWH & CJF	1100	26			DEEP																												
1101	46.0204206	-89.481611	125	Star Lake	Vilas	7/27/2017	TWH & CJF	1101	30			DEEP																												
1102	46.0204168	-89.4807713	119	Star Lake	Vilas	7/27/2017	TWH & CJF	1102	34			DEEP																												
1103	46.020413	-89.4799316	115	Star Lake	Vilas	7/27/2017	TWH & CJF	1103	26			DEEP																												
1104	46.0204092	-89.4790919	111	Star Lake	Vilas	7/27/2017	TWH & CJF	1104	32			DEEP																												
1105	46.0204054	-89.4782522	110	Star Lake	Vilas	7/27/2017	TWH & CJF	1105	35			DEEP																												
1106	46.0204015	-89.4774124	107	Star Lake	Vilas	7/27/2017	TWH & CJF	1106	35			DEEP																												
1107	46.0203977	-89.4765727	106	Star Lake	Vilas	7/27/2017	TWH & CJF	1107	35			DEEP																												
1108	46.0203938	-89.475733	103	Star Lake	Vilas	7/27/2017	TWH & CJF	1108	27			DEEP																												
1109	46.02039	-89.4748933	102	Star Lake	Vilas	7/27/2017	TWH & CJF	1109	33			DEEP																												
1110	46.0203861	-89.4740536	87	Star Lake	Vilas	7/27/2017	TWH & CJF	1110	29			DEEP																												
1111	46.0203822	-89.4732139	88	Star Lake	Vilas	7/27/2017	TWH & CJF	1111	23		Rope	SAMPLED			0																									
1112	46.0203784	-89.4723741	89	Star Lake	Vilas	7/27/2017	TWH & CJF	1112	25		Rope	SAMPLED			0																									
1113	46.0203745	-89.4715344	90	Star Lake	Vilas	7/27/2017	TWH & CJF	1113	5	Rock	Pole	SAMPLED			0																									
1114	46.0198921	-89.4942121	167	Star Lake	Vilas	7/27/2017	TWH & CJF	1114	20		Rope	SAMPLED			0																									
1115	46.0198884	-89.4933724	166	Star Lake	Vilas	7/27/2017	TWH & CJF	1115	35			DEEP																												
1116	46.0198846	-89.4925327	165	Star Lake	Vilas	7/27/2017	TWH & CJF	1116	44			DEEP																												
1117	46.0198809	-89.491693	0	Star Lake	Vilas			1117	0			DEEP																												
1118	46.0198772	-89.4908533	0	Star Lake	Vilas			1118	0			DEEP																												
1119	46.0198734	-89.4900136	0	Star Lake	Vilas			1119	0			DEEP																												
1120	46.0198697	-89.4891739	0	Star Lake	Vilas			1120	0			DEEP																												
1121	46.0198659	-89.4883342	0	Star Lake	Vilas			1121	0			DEEP																												
1122	46.0198621	-89.4874944	0	Star Lake	Vilas			1122	0			DEEP																												
1123	46.0198584	-89.4866547	0	Star Lake	Vilas			1123	0			DEEP																												
1124	46.0198546	-89.485815	148	Star Lake	Vilas	7/27/2017	TWH & CJF	1124	41			DEEP																												
1125	46.0198508	-89.4849753	145	Star Lake	Vilas	7/27/2017	TWH & CJF	1125	30			DEEP																												
1126	46.019847	-89.4841356	137	Star Lake	Vilas	7/27/2017	TWH & CJF	1126	24		Rope	SAMPLED			0																									
1127	46.0198432	-89.4832959	133	Star Lake	Vilas	7/27/2017	TWH & CJF	1127	11	Rock	Pole	SAMPLED			0																									
1128	46.0198394	-89.4824562	127	Star Lake	Vilas	7/27/2017	TWH & CJF	1128	13	Sand	Pole	SAMPLED			0																									
1129	46.0198356	-89.4816165	124	Star Lake	Vilas	7/27/2017	TWH & CJF	1129	22		Rope	SAMPLED			0																									
1130	46.0198318	-89.4807768	120	Star Lake	Vilas	7/27/2017	TWH & CJF	1130	16	Sand	Pole	SAMPLED			0																									
1131	46.019828	-89.4799371	114	Star Lake	Vilas	7/27/2017	TWH & CJF	1131	24		Rope	SAMPLED			0																									
1132	46.0198242	-89.4790974	112	Star Lake	Vilas	7/27/2017	TWH & CJF	1132	18		Rope	SAMPLED			0																									
1133	46.0198204	-89.4782577	109	Star Lake	Vilas	7/27/2017	TWH & CJF	1133	19		Rope	SAMPLED			0																									
1134	46.0198165	-89.4774179	108	Star Lake	Vilas	7/27/2017	TWH & CJF	1134	23		Rope	SAMPLED			0																									
1135	46.0198127	-89.4765782	105	Star Lake	Vilas	7/27/2017	TWH & CJF	1135	17		Rope	SAMPLED			0																									
1136	46.0198088	-89.4757385	104	Star Lake	Vilas	7/27/2017	TWH & CJF	1136	23		Rope	SAMPLED			0																									
1137	46.019805	-89.4748988	101	Star Lake	Vilas	7/27/2017	TWH & CJF	1137	24		Rope	SAMPLED			0																									
1138	46.0198011	-89.4740591	98	Star Lake	Vilas	7/27/2017	TWH & CJF	1138	27			DEEP																												
1139	46.0197972	-89.4732194	97	Star Lake	Vilas	7/27/2017	TWH & CJF	1139	24		Rope	SAMPLED			0																									
1140	46.0197934	-89.4723797	91	Star Lake	Vilas	7/27/2017	TWH & CJF	1140	18		Rope	SAMPLED			0																									
1141	46.0193071	-89.4942175	168	Star Lake	Vilas	7/27/2017	TWH & CJF	1141	0			TERRESTRIAL																												
1142	46.0192959	-89.4916984	164	Star Lake	Vilas	7/27/2017	TWH & CJF	1142	32			DEEP																												
1143	46.0192922	-89.4908587	163	Star Lake	Vilas	7/27/2017	TWH & CJF	1143	40			DEEP																												
1144	46.0192884	-89.490019	162	Star Lake	Vilas	7/27/2017	TWH & CJF	1144	37			DEEP																												
1145	46.0192847	-89.4891793	0	Star Lake	Vilas			1145	0			DEEP																												
1146	46.0192809	-89.4883396	0	Star Lake	Vilas			1146	0			DEEP																												
1147	46.0192772	-89.4874999	0	Star Lake	Vilas			1147	0			DEEP																												
1148	46.0192734	-89.4866602	0	Star Lake	Vilas			1148	0			DEEP																												
1149	46.0192696	-89.4858205	149	Star Lake	Vilas	7/27/2017	TWH & CJF	1149	30			DEEP																												
1150	46.0192658	-89.4849808	144	Star Lake	Vilas	7/27/2017	TWH & CJF	1150	23		Rope	SAMPLED			0																									
1151	46.019262	-89.4841411	138	Star Lake	Vilas	7/27/2017	TWH & CJF	1151	22		Rope	SAMPLED			0																									
1152	46.0192582	-89.4833014	132	Star Lake	Vilas	7/27/2017	TWH & CJF	1152	13	Rock	Pole	SAMPLED			0																									
1153	46.0192544	-89.4824617	128	Star Lake	Vilas	7/27/2017	TWH & CJF	1153	18		Rope	SAMPLED			0																									
1154	46.0192506	-89.481622	123	Star Lake	Vilas	7/27/2017	TWH & CJF	1154	16		Rope	SAMPLED			0																									
1155	46.0192468	-89.4807823	121	Star Lake	Vilas	7/27/2017	TWH & CJF	1155	7	Sand	Pole	SAMPLED			0																									
1156	46.019243	-89.4799426	113	Star Lake	Vilas	7/27/2017	TWH & CJF	1156	5	Rock	Pole	SAMPLED			0																									
1157	46.01922	-89.4749044	100	Star Lake	Vilas	7/27/2017	TWH & CJF	1157	13	Rock	Pole	SAMPLED			0																									
1158	46.0192161	-89.4740647	99	Star Lake	Vilas	7/27/2017	TWH & CJF	1158	26			DEEP																												
1159	46.0192122	-89.473225	96	Star Lake	Vilas	7/27/2017	TWH & CJF	1159	23		Rope	SAMPLED			0																									
1160	46.0192084	-89.4723853	92	Star Lake	Vilas	7/27/2017	TWH & CJF	1160	6	Rock	Pole	SAMPLED			0																									
1161	46.0187034	-89.4900243	161	Star Lake	Vilas	7/27/2017	TWH & CJF	1161	27			DEEP																												
1162	46.0186997	-89.4891846	160	Star Lake	Vilas	7/27/2017	TWH & CJF	1162	37			DEEP																												
1163	46.0186959	-89.488345	0	Star Lake	Vilas			1163	0			DEEP																												
1164	46.0186922	-89.4875053	156	Star Lake	Vilas	7/27/2017	TWH & CJF	1164	48			DEEP																												
1165	46.0186884	-89.4866656	0	Star Lake	Vilas			1165	0			DEEP																												
1166	46.0186846	-89.4858259	150	Star Lake	Vilas	7/27/2017	TWH & CJF	1166	39			DEEP																												
1167	46.0186808	-89.4849862	143	Star Lake	Vilas	7/27/2017	TWH & CJF	1167	30			DEEP																												
1168	46.018677	-89.4841465	139	Star Lake	Vilas	7/27/2017	TWH & CJF	1168	7	Rock	Pole	SAMPLED			0																									

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton foliosus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sagittaria cristata	Schoenoplectus acutus	Vallisneria americana	Freshwater sponge	Filamentous algae
1169	46.0186733	-89.4833068	131	Star Lake	Vilas	7/27/2017	TWH & CJF	1169	4	Rock	Pole	SAMPLED			0																									
1170	46.0186695	-89.4824671	129	Star Lake	Vilas	7/27/2017	TWH & CJF	1170	5	Sand	Pole	SAMPLED			0																									
1171	46.0186656	-89.4816274	122	Star Lake	Vilas	7/27/2017	TWH & CJF	1171	1	Sand	Pole	SAMPLED			0																									
1172	46.0186273	-89.4732305	93	Star Lake	Vilas	7/27/2017	TWH & CJF	1172	5	Rock	Pole	SAMPLED			0																									
1173	46.0181147	-89.48919	159	Star Lake	Vilas	7/27/2017	TWH & CJF	1173	10	Rock	Pole	SAMPLED			0																									
1174	46.0181109	-89.4883503	158	Star Lake	Vilas	7/27/2017	TWH & CJF	1174	30			DEEP																												
1175	46.0181072	-89.4875107	155	Star Lake	Vilas	7/27/2017	TWH & CJF	1175	22		Rope	SAMPLED			0																									
1176	46.0181034	-89.486671	154	Star Lake	Vilas	7/27/2017	TWH & CJF	1176	30			DEEP																												
1177	46.0180996	-89.4858313	151	Star Lake	Vilas	7/27/2017	TWH & CJF	1177	24		Rope	SAMPLED			0																									
1178	46.0180958	-89.4849916	142	Star Lake	Vilas	7/27/2017	TWH & CJF	1178	19		Rope	SAMPLED			0																									
1179	46.018092	-89.4841519	140	Star Lake	Vilas	7/27/2017	TWH & CJF	1179	9	Sand	Pole	SAMPLED			0																									
1180	46.0180883	-89.4833122	130	Star Lake	Vilas	7/27/2017	TWH & CJF	1180	2	Sand	Pole	SAMPLED			0																									
1181	46.0175222	-89.4875161	157	Star Lake	Vilas	7/27/2017	TWH & CJF	1181	3	Rock	Pole	SAMPLED			0																									
1182	46.0175184	-89.4866764	153	Star Lake	Vilas	7/27/2017	TWH & CJF	1182	6	Sand	Pole	SAMPLED			0																									
1183	46.0175146	-89.4858367	152	Star Lake	Vilas	7/27/2017	TWH & CJF	1183	7	Sand	Pole	SAMPLED			0																									
1184	46.0175108	-89.484997	141	Star Lake	Vilas	7/27/2017	TWH & CJF	1184	13	Sand	Pole	SAMPLED			0																									

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Chara spp.	Elodea canadensis	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton folious	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Vallisneria americana	Filamentous algae
1			179	Little Star Lake	Vilas	8/3/2017	TWH & AMS	1	3	Muck	Pole	SAMPLED			3	3												
2			180	Little Star Lake	Vilas	8/3/2017	TWH & AMS	2	4	Muck	Pole	SAMPLED			1		1	1	1									
3			181	Little Star Lake	Vilas	8/3/2017	TWH & AMS	3	5	Muck	Pole	SAMPLED			1			1										
4			182	Little Star Lake	Vilas	8/3/2017	TWH & AMS	4	4	Muck	Pole	SAMPLED			3				3									
5			183	Little Star Lake	Vilas	8/3/2017	TWH & AMS	5	5	Muck	Pole	SAMPLED			3			1	1								3	
6			184	Little Star Lake	Vilas	8/3/2017	TWH & AMS	6	5	Muck	Pole	SAMPLED			2												2	
7			185	Little Star Lake	Vilas	8/3/2017	TWH & AMS	7	4	Muck	Pole	SAMPLED			2				1		1						2	
8			186	Little Star Lake	Vilas	8/3/2017	TWH & AMS	8	2	Muck	Pole	SAMPLED			2	1	1										1	
9			178	Little Star Lake	Vilas	8/3/2017	TWH & AMS	9	2	Muck	Pole	SAMPLED			0													1
10			177	Little Star Lake	Vilas	8/3/2017	TWH & AMS	10	2	Muck	Pole	SAMPLED			1		1				1					1		
11			176	Little Star Lake	Vilas	8/3/2017	TWH & AMS	11	3	Muck	Pole	SAMPLED			3	3	1					1						
12			175	Little Star Lake	Vilas	8/3/2017	TWH & AMS	12	4	Muck	Pole	SAMPLED			2	1			2	1								
13			174	Little Star Lake	Vilas	8/3/2017	TWH & AMS	13	5	Muck	Pole	SAMPLED			2				2									
14			173	Little Star Lake	Vilas	8/3/2017	TWH & AMS	14	6	Muck	Pole	SAMPLED			0													
15			172	Little Star Lake	Vilas	8/3/2017	TWH & AMS	15	7	Muck	Pole	SAMPLED			0													
16			171	Little Star Lake	Vilas	8/3/2017	TWH & AMS	16	7	Muck	Pole	SAMPLED			0													
17			170	Little Star Lake	Vilas	8/3/2017	TWH & AMS	17	7	Muck	Pole	SAMPLED			0													
18			169	Little Star Lake	Vilas	8/3/2017	TWH & AMS	18	7	Muck	Pole	SAMPLED			0													
19			168	Little Star Lake	Vilas	8/3/2017	TWH & AMS	19	5	Sand	Pole	SAMPLED			1			1										
20			167	Little Star Lake	Vilas	8/3/2017	TWH & AMS	20	6	Muck	Pole	SAMPLED			0													
21			166	Little Star Lake	Vilas	8/3/2017	TWH & AMS	21	2	Sand	Pole	SAMPLED			2	2		1										
22			155	Little Star Lake	Vilas	8/3/2017	TWH & AMS	22	2	Muck	Pole	SAMPLED			2	2	3											
23			156	Little Star Lake	Vilas	8/3/2017	TWH & AMS	23	5	Muck	Pole	SAMPLED			2			1	2									
24			157	Little Star Lake	Vilas	8/3/2017	TWH & AMS	24	6	Muck	Pole	SAMPLED			0													
25			158	Little Star Lake	Vilas	8/3/2017	TWH & AMS	25	7	Muck	Pole	SAMPLED			0													
26			159	Little Star Lake	Vilas	8/3/2017	TWH & AMS	26	7	Muck	Pole	SAMPLED			0													
27			160	Little Star Lake	Vilas	8/3/2017	TWH & AMS	27	8	Muck	Pole	SAMPLED			0													
28			161	Little Star Lake	Vilas	8/3/2017	TWH & AMS	28	8	Muck	Pole	SAMPLED			0													
29			162	Little Star Lake	Vilas	8/3/2017	TWH & AMS	29	8	Muck	Pole	SAMPLED			0													
30			163	Little Star Lake	Vilas	8/3/2017	TWH & AMS	30	7	Muck	Pole	SAMPLED			0													
31			164	Little Star Lake	Vilas	8/3/2017	TWH & AMS	31	6	Muck	Pole	SAMPLED			3		1										3	
32			165	Little Star Lake	Vilas	8/3/2017	TWH & AMS	32	4	Muck	Pole	SAMPLED			3				1			1	1				2	
33			154	Little Star Lake	Vilas	8/3/2017	TWH & AMS	33	3	Sand	Pole	SAMPLED			1			1	1								1	
34			153	Little Star Lake	Vilas	8/3/2017	TWH & AMS	34	6	Muck	Pole	SAMPLED			0													
35			152	Little Star Lake	Vilas	8/3/2017	TWH & AMS	35	7	Muck	Pole	SAMPLED			0													
36			151	Little Star Lake	Vilas	8/3/2017	TWH & AMS	36	8	Muck	Pole	SAMPLED			0													
37			150	Little Star Lake	Vilas	8/3/2017	TWH & AMS	37	9	Muck	Pole	SAMPLED			0													
38			149	Little Star Lake	Vilas	8/3/2017	TWH & AMS	38	9	Muck	Pole	SAMPLED			0													
39			148	Little Star Lake	Vilas	8/3/2017	TWH & AMS	39	9	Muck	Pole	SAMPLED			0													
40			147	Little Star Lake	Vilas	8/3/2017	TWH & AMS	40	9	Muck	Pole	SAMPLED			0													
41			146	Little Star Lake	Vilas	8/3/2017	TWH & AMS	41	8	Muck	Pole	SAMPLED			0													
42			145	Little Star Lake	Vilas	8/3/2017	TWH & AMS	42	8	Muck	Pole	SAMPLED			0													
43			144	Little Star Lake	Vilas	8/3/2017	TWH & AMS	43	8	Muck	Pole	SAMPLED			0													
44			143	Little Star Lake	Vilas	8/3/2017	TWH & AMS	44	3	Muck	Pole	SAMPLED			2	1	1	1	1								1	
45			129	Little Star Lake	Vilas	8/3/2017	TWH & AMS	45	2	Sand	Pole	SAMPLED			2		1			1						1		
46			130	Little Star Lake	Vilas	8/3/2017	TWH & AMS	46	5	Muck	Pole	SAMPLED			2		1		1			1						
47			131	Little Star Lake	Vilas	8/3/2017	TWH & AMS	47	7	Muck	Pole	SAMPLED			0													
48			132	Little Star Lake	Vilas	8/3/2017	TWH & AMS	48	7	Muck	Pole	SAMPLED			0													
49			133	Little Star Lake	Vilas	8/3/2017	TWH & AMS	49	7	Muck	Pole	SAMPLED			0													
50			134	Little Star Lake	Vilas	8/3/2017	TWH & AMS	50	8	Muck	Pole	SAMPLED			0													
51			135	Little Star Lake	Vilas	8/3/2017	TWH & AMS	51	9	Muck	Pole	SAMPLED			0													
52			136	Little Star Lake	Vilas	8/3/2017	TWH & AMS	52	9	Rock	Pole	SAMPLED			0													
53			137	Little Star Lake	Vilas	8/3/2017	TWH & AMS	53	9	Muck	Pole	SAMPLED			0													

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Chara spp.	Elodea canadensis	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton folious	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Vallisneria americana	Filamentous algae
54			138	Little Star Lake	Vilas	8/3/2017	TWH & AMS	54	10	Muck	Pole	SAMPLED			0													
55			139	Little Star Lake	Vilas	8/3/2017	TWH & AMS	55	9	Muck	Pole	SAMPLED			0													
56			140	Little Star Lake	Vilas	8/3/2017	TWH & AMS	56	9	Muck	Pole	SAMPLED			0													
57			141	Little Star Lake	Vilas	8/3/2017	TWH & AMS	57	8	Muck	Pole	SAMPLED			0													
58			142	Little Star Lake	Vilas	8/3/2017	TWH & AMS	58	6	Muck	Pole	SAMPLED			3												3	
59			128	Little Star Lake	Vilas	8/3/2017	TWH & AMS	59	4	Muck	Pole	SAMPLED			0													
60			127	Little Star Lake	Vilas	8/3/2017	TWH & AMS	60	6	Muck	Pole	SAMPLED			1		1					1						
61			126	Little Star Lake	Vilas	8/3/2017	TWH & AMS	61	7	Muck	Pole	SAMPLED			0													
62			125	Little Star Lake	Vilas	8/3/2017	TWH & AMS	62	8	Muck	Pole	SAMPLED			0													
63			124	Little Star Lake	Vilas	8/3/2017	TWH & AMS	63	9	Muck	Pole	SAMPLED			0													
64			123	Little Star Lake	Vilas	8/3/2017	TWH & AMS	64	9	Muck	Pole	SAMPLED			0													
65			122	Little Star Lake	Vilas	8/3/2017	TWH & AMS	65	9	Muck	Pole	SAMPLED			0													
66			121	Little Star Lake	Vilas	8/3/2017	TWH & AMS	66	10	Muck	Pole	SAMPLED			0													
67			120	Little Star Lake	Vilas	8/3/2017	TWH & AMS	67	10	Muck	Pole	SAMPLED			0													
68			119	Little Star Lake	Vilas	8/3/2017	TWH & AMS	68	10	Muck	Pole	SAMPLED			0													
69			118	Little Star Lake	Vilas	8/3/2017	TWH & AMS	69	10	Muck	Pole	SAMPLED			0													
70			117	Little Star Lake	Vilas	8/3/2017	TWH & AMS	70	10	Muck	Pole	SAMPLED			0													
71			116	Little Star Lake	Vilas	8/3/2017	TWH & AMS	71	9	Muck	Pole	SAMPLED			0													
72			115	Little Star Lake	Vilas	8/3/2017	TWH & AMS	72	8	Muck	Pole	SAMPLED			0													
73			114	Little Star Lake	Vilas	8/3/2017	TWH & AMS	73	7	Sand	Pole	SAMPLED			0													
74			99	Little Star Lake	Vilas	8/3/2017	TWH & AMS	74	6	Muck	Pole	SAMPLED			0													
75			100	Little Star Lake	Vilas	8/3/2017	TWH & AMS	75	8	Muck	Pole	SAMPLED			0													
76			101	Little Star Lake	Vilas	8/3/2017	TWH & AMS	76	8	Muck	Pole	SAMPLED			0													
77			102	Little Star Lake	Vilas	8/3/2017	TWH & AMS	77	9	Muck	Pole	SAMPLED			0													
78			103	Little Star Lake	Vilas	8/3/2017	TWH & AMS	78	9	Muck	Pole	SAMPLED			0													
79			104	Little Star Lake	Vilas	8/3/2017	TWH & AMS	79	9	Muck	Pole	SAMPLED			0													
80			105	Little Star Lake	Vilas	8/3/2017	TWH & AMS	80	10	Muck	Pole	SAMPLED			0													
81			106	Little Star Lake	Vilas	8/3/2017	TWH & AMS	81	10	Muck	Pole	SAMPLED			0													
82			107	Little Star Lake	Vilas	8/3/2017	TWH & AMS	82	10	Muck	Pole	SAMPLED			0													
83			108	Little Star Lake	Vilas	8/3/2017	TWH & AMS	83	10	Muck	Pole	SAMPLED			0													
84			109	Little Star Lake	Vilas	8/3/2017	TWH & AMS	84	10	Muck	Pole	SAMPLED			0													
85			110	Little Star Lake	Vilas	8/3/2017	TWH & AMS	85	9	Muck	Pole	SAMPLED			0													
86			111	Little Star Lake	Vilas	8/3/2017	TWH & AMS	86	9	Muck	Pole	SAMPLED			0													
87			112	Little Star Lake	Vilas	8/3/2017	TWH & AMS	87	8	Muck	Pole	SAMPLED			0													
88			113	Little Star Lake	Vilas	8/3/2017	TWH & AMS	88	6	Muck	Pole	SAMPLED			0													
89			98	Little Star Lake	Vilas	8/3/2017	TWH & AMS	89	1	Sand	Pole	SAMPLED			0													
90			97	Little Star Lake	Vilas	8/3/2017	TWH & AMS	90	5	Muck	Pole	SAMPLED			3												3	
91			96	Little Star Lake	Vilas	8/3/2017	TWH & AMS	91	7	Muck	Pole	SAMPLED			0													
92			95	Little Star Lake	Vilas	8/3/2017	TWH & AMS	92	8	Muck	Pole	SAMPLED			0													
93			94	Little Star Lake	Vilas	8/3/2017	TWH & AMS	93	8	Muck	Pole	SAMPLED			0													
94			93	Little Star Lake	Vilas	8/3/2017	TWH & AMS	94	9	Muck	Pole	SAMPLED			0													
95			92	Little Star Lake	Vilas	8/3/2017	TWH & AMS	95	9	Muck	Pole	SAMPLED			0													
96			91	Little Star Lake	Vilas	8/3/2017	TWH & AMS	96	9	Muck	Pole	SAMPLED			0													
97			90	Little Star Lake	Vilas	8/3/2017	TWH & AMS	97	10	Muck	Pole	SAMPLED			0													
98			89	Little Star Lake	Vilas	8/3/2017	TWH & AMS	98	10	Muck	Pole	SAMPLED			0													
99			88	Little Star Lake	Vilas	8/3/2017	TWH & AMS	99	10	Muck	Pole	SAMPLED			0													
100			87	Little Star Lake	Vilas	8/3/2017	TWH & AMS	100	10	Muck	Pole	SAMPLED			0													
101			86	Little Star Lake	Vilas	8/3/2017	TWH & AMS	101	10	Muck	Pole	SAMPLED			0													
102			85	Little Star Lake	Vilas	8/3/2017	TWH & AMS	102	10	Muck	Pole	SAMPLED			0													
103			84	Little Star Lake	Vilas	8/3/2017	TWH & AMS	103	9	Muck	Pole	SAMPLED			0													
104			83	Little Star Lake	Vilas	8/3/2017	TWH & AMS	104	4	Muck	Pole	SAMPLED			3	1		1	1				1		1		3	
105			70	Little Star Lake	Vilas	8/3/2017	TWH & AMS	105	7	Muck	Pole	SAMPLED			0													
106			71	Little Star Lake	Vilas	8/3/2017	TWH & AMS	106	8	Muck	Pole	SAMPLED			0													

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Chara spp.	Elodea canadensis	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton folious	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Vallisneria americana	Filamentous algae
107			72	Little Star Lake	Vilas	8/3/2017	TWH & AMS	107	9	Muck	Pole	SAMPLED			0													
108			73	Little Star Lake	Vilas	8/3/2017	TWH & AMS	108	9	Muck	Pole	SAMPLED			0													
109			74	Little Star Lake	Vilas	8/3/2017	TWH & AMS	109	9	Muck	Pole	SAMPLED			0													
110			75	Little Star Lake	Vilas	8/3/2017	TWH & AMS	110	10	Muck	Pole	SAMPLED			0													
111			76	Little Star Lake	Vilas	8/3/2017	TWH & AMS	111	10	Muck	Pole	SAMPLED			0													
112			77	Little Star Lake	Vilas	8/3/2017	TWH & AMS	112	10	Muck	Pole	SAMPLED			0													
113			78	Little Star Lake	Vilas	8/3/2017	TWH & AMS	113	10	Muck	Pole	SAMPLED			0													
114			79	Little Star Lake	Vilas	8/3/2017	TWH & AMS	114	10	Muck	Pole	SAMPLED			0													
115			80	Little Star Lake	Vilas	8/3/2017	TWH & AMS	115	10	Muck	Pole	SAMPLED			0													
116			81	Little Star Lake	Vilas	8/3/2017	TWH & AMS	116	9	Muck	Pole	SAMPLED			0													
117			82	Little Star Lake	Vilas	8/3/2017	TWH & AMS	117	9	Muck	Pole	SAMPLED			0													
118			69	Little Star Lake	Vilas	8/3/2017	TWH & AMS	118	7	Muck	Pole	SAMPLED			0													
119			68	Little Star Lake	Vilas	8/3/2017	TWH & AMS	119	7	Sand	Pole	SAMPLED			0													
120			67	Little Star Lake	Vilas	8/3/2017	TWH & AMS	120	8	Rock	Pole	SAMPLED			0													
121			66	Little Star Lake	Vilas	8/3/2017	TWH & AMS	121	9	Muck	Pole	SAMPLED			0													
122			65	Little Star Lake	Vilas	8/3/2017	TWH & AMS	122	11	Muck	Pole	SAMPLED			0													
123			64	Little Star Lake	Vilas	8/3/2017	TWH & AMS	123	10	Muck	Pole	SAMPLED			0													
124			63	Little Star Lake	Vilas	8/3/2017	TWH & AMS	124	11	10	Pole	SAMPLED			0													
125			62	Little Star Lake	Vilas	8/3/2017	TWH & AMS	125	11	Muck	Pole	SAMPLED			0													
126			61	Little Star Lake	Vilas	8/3/2017	TWH & AMS	126	10	Muck	Pole	SAMPLED			0													
127			60	Little Star Lake	Vilas	8/3/2017	TWH & AMS	127	10	Muck	Pole	SAMPLED			0													
128			59	Little Star Lake	Vilas	8/3/2017	TWH & AMS	128	9	Muck	Pole	SAMPLED			0													
129			58	Little Star Lake	Vilas	8/3/2017	TWH & AMS	129	8	Muck	Pole	SAMPLED			0													
130			46	Little Star Lake	Vilas	8/3/2017	TWH & AMS	130	6	Sand	Pole	SAMPLED			3												3	
131			47	Little Star Lake	Vilas	8/3/2017	TWH & AMS	131	9	Muck	Pole	SAMPLED			0													
132			48	Little Star Lake	Vilas	8/3/2017	TWH & AMS	132	10	Muck	Pole	SAMPLED			0													
133			49	Little Star Lake	Vilas	8/3/2017	TWH & AMS	133	10	Muck	Pole	SAMPLED			0													
134			50	Little Star Lake	Vilas	8/3/2017	TWH & AMS	134	11	Muck	Pole	SAMPLED			0													
135			51	Little Star Lake	Vilas	8/3/2017	TWH & AMS	135	11	Muck	Pole	SAMPLED			0													
136			52	Little Star Lake	Vilas	8/3/2017	TWH & AMS	136	10	Muck	Pole	SAMPLED			0													
137			53	Little Star Lake	Vilas	8/3/2017	TWH & AMS	137	10	Muck	Pole	SAMPLED			0													
138			54	Little Star Lake	Vilas	8/3/2017	TWH & AMS	138	10	Muck	Pole	SAMPLED			0													
139			55	Little Star Lake	Vilas	8/3/2017	TWH & AMS	139	9	Muck	Pole	SAMPLED			0													
140			56	Little Star Lake	Vilas	8/3/2017	TWH & AMS	140	8	Muck	Pole	SAMPLED			0													
141			57	Little Star Lake	Vilas	8/3/2017	TWH & AMS	141	3	Muck	Pole	SAMPLED			3	1		1									3	
142			45	Little Star Lake	Vilas	8/3/2017	TWH & AMS	142	4	Sand	Pole	SAMPLED			0													
143			44	Little Star Lake	Vilas	8/3/2017	TWH & AMS	143	9	Muck	Pole	SAMPLED			0													
144			43	Little Star Lake	Vilas	8/3/2017	TWH & AMS	144	11	Muck	Pole	SAMPLED			0													
145			42	Little Star Lake	Vilas	8/3/2017	TWH & AMS	145	11	Muck	Pole	SAMPLED			0													
146			41	Little Star Lake	Vilas	8/3/2017	TWH & AMS	146	11	Muck	Pole	SAMPLED			0													
147			40	Little Star Lake	Vilas	8/3/2017	TWH & AMS	147	10	Muck	Pole	SAMPLED			1												1	
148			39	Little Star Lake	Vilas	8/3/2017	TWH & AMS	148	10	Muck	Pole	SAMPLED			0													
149			38	Little Star Lake	Vilas	8/3/2017	TWH & AMS	149	9	Muck	Pole	SAMPLED			0													
150			37	Little Star Lake	Vilas	8/3/2017	TWH & AMS	150	9	Muck	Pole	SAMPLED			0													
151			36	Little Star Lake	Vilas	8/3/2017	TWH & AMS	151	8	Muck	Pole	SAMPLED			0													
152			35	Little Star Lake	Vilas	8/3/2017	TWH & AMS	152	7	Muck	Pole	SAMPLED			3												3	
153			26	Little Star Lake	Vilas	8/3/2017	TWH & AMS	153	5	Sand	Pole	SAMPLED			0													
154			27	Little Star Lake	Vilas	8/3/2017	TWH & AMS	154	10	Muck	Pole	SAMPLED			0													
155			28	Little Star Lake	Vilas	8/3/2017	TWH & AMS	155	10	Muck	Pole	SAMPLED			0													
156			29	Little Star Lake	Vilas	8/3/2017	TWH & AMS	156	10	Muck	Pole	SAMPLED			0													
157			30	Little Star Lake	Vilas	8/3/2017	TWH & AMS	157	10	Muck	Pole	SAMPLED			0													
158			31	Little Star Lake	Vilas	8/3/2017	TWH & AMS	158	9	Muck	Pole	SAMPLED			0													
159			32	Little Star Lake	Vilas	8/3/2017	TWH & AMS	159	9	Muck	Pole	SAMPLED			0													

Point Number	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	ID	Lake Name	County	Date	Field Crew	Point Number	Depth (ft)	Sediment	Pole; Rope	Comments	Notes	Nuisance	Total Rake Fullness	Chara spp.	Elodea canadensis	Najas flexilis	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton folious	Potamogeton robbinsii	Potamogeton vaseyi	Potamogeton zosteriformis	Vallisneria americana	Filamentous algae
160			33	Little Star Lake	Vilas	8/3/2017	TWH & AMS	160	8	Muck	Pole	SAMPLED			0													
161			34	Little Star Lake	Vilas	8/3/2017	TWH & AMS	161	8	Muck	Pole	SAMPLED			0													
162			25	Little Star Lake	Vilas	8/3/2017	TWH & AMS	162	8	Sand	Pole	SAMPLED			0													
163			24	Little Star Lake	Vilas	8/3/2017	TWH & AMS	163	8	Muck	Pole	SAMPLED			0													
164			23	Little Star Lake	Vilas	8/3/2017	TWH & AMS	164	8	Muck	Pole	SAMPLED			0													
165			22	Little Star Lake	Vilas	8/3/2017	TWH & AMS	165	8	Muck	Pole	SAMPLED			0													
166			21	Little Star Lake	Vilas	8/3/2017	TWH & AMS	166	7	Muck	Pole	SAMPLED			0													
167			20	Little Star Lake	Vilas	8/3/2017	TWH & AMS	167	8	Muck	Pole	SAMPLED			0													
168			19	Little Star Lake	Vilas	8/3/2017	TWH & AMS	168	7	Muck	Pole	SAMPLED			0													
169			14	Little Star Lake	Vilas	8/3/2017	TWH & AMS	169	8	Muck	Pole	SAMPLED			0													
170			15	Little Star Lake	Vilas	8/3/2017	TWH & AMS	170	7	Muck	Pole	SAMPLED			0													
171			16	Little Star Lake	Vilas	8/3/2017	TWH & AMS	171	7	Muck	Pole	SAMPLED			0													
172			17	Little Star Lake	Vilas	8/3/2017	TWH & AMS	172	7	Muck	Pole	SAMPLED			0													
173			18	Little Star Lake	Vilas	8/3/2017	TWH & AMS	173	7	Muck	Pole	SAMPLED			0													
174			13	Little Star Lake	Vilas	8/3/2017	TWH & AMS	174	4	Sand	Pole	SAMPLED			2		1	1									2	
175			12	Little Star Lake	Vilas	8/3/2017	TWH & AMS	175	7	Muck	Pole	SAMPLED			0													
176			11	Little Star Lake	Vilas	8/3/2017	TWH & AMS	176	7	Muck	Pole	SAMPLED			0													
177			10	Little Star Lake	Vilas	8/3/2017	TWH & AMS	177	7	Muck	Pole	SAMPLED			0													
178			9	Little Star Lake	Vilas	8/3/2017	TWH & AMS	178	6	Muck	Pole	SAMPLED			0													
179			5	Little Star Lake	Vilas	8/3/2017	TWH & AMS	179	2	Sand	Pole	SAMPLED			3	3				2		1						
180			6	Little Star Lake	Vilas	8/3/2017	TWH & AMS	180	6	Muck	Pole	SAMPLED			1		1						1					
181			7	Little Star Lake	Vilas	8/3/2017	TWH & AMS	181	6	Muck	Pole	SAMPLED			1			1										
182			8	Little Star Lake	Vilas	8/3/2017	TWH & AMS	182	4	Muck	Pole	SAMPLED			3	3			1								2	
183			4	Little Star Lake	Vilas	8/3/2017	TWH & AMS	183	3	Sand	Pole	SAMPLED			2					2			1				1	
184			3	Little Star Lake	Vilas	8/3/2017	TWH & AMS	184	5	Muck	Pole	SAMPLED			1			1										
185			2	Little Star Lake	Vilas	8/3/2017	TWH & AMS	185	5	Muck	Pole	SAMPLED			1	1		1									1	
186			1	Little Star Lake	Vilas	8/3/2017	TWH & AMS	186	4	Muck	Pole	SAMPLED			1	1								1			1	

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lemna minor	Lobelia dortmanna	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Ranunculus flammula	Sparganium angustifolium	Utricularia resupinata	Vallisneria americana	Aquatic moss
1	46.0627151	-89.5153814	1	Ballard Lake	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																											
2	46.0622021	-89.5153859	2	Ballard Lake	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											
3	46.0616891	-89.5153903	3	Ballard Lake	Vilas	7/23/2018	JMB & DOT	4	Muck	Pole	SAMPLED	0																											
4	46.0627120	-89.5146444	7	Ballard Lake	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											
5	46.0621990	-89.5146489	6	Ballard Lake	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1										1				1													
6	46.0616860	-89.5146534	5	Ballard Lake	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											
7	46.0611730	-89.5146579	4	Ballard Lake	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											
8	46.0606600	-89.5146624	0					0			NO INFORMATION																												
9	46.0627089	-89.5139075	8	Ballard Lake	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1										1																	
10	46.0621959	-89.5139120	9	Ballard Lake	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	3																			3							1	
11	46.0616829	-89.5139165	10	Ballard Lake	Vilas	7/23/2018	JMB & DOT	11	Muck	Pole	SAMPLED	2														2													
12	46.0611699	-89.5139210	11	Ballard Lake	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1										1																	
13	46.0606569	-89.5139255	12	Ballard Lake	Vilas	7/23/2018	JMB & DOT	3	Muck	Pole	SAMPLED	1						1			1																		
14	46.0621927	-89.5131751	17	Ballard Lake	Vilas	7/23/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1																			1							1	
15	46.0616797	-89.5131796	16	Ballard Lake	Vilas	7/23/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1		1																	1							1	
16	46.0611667	-89.5131841	15	Ballard Lake	Vilas	7/23/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1										1									1								
17	46.0606537	-89.5131886	14	Ballard Lake	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1										1																	
18	46.0601407	-89.5131931	13	Ballard Lake	Vilas	7/23/2018	JMB & DOT	0			TERRESTRIAL																												
19	46.0627026	-89.5124336	18	Ballard Lake	Vilas	7/23/2018	JMB & DOT	8	Muck	Pole	SAMPLED	3																			3								
20	46.0621896	-89.5124381	19	Ballard Lake	Vilas	7/23/2018	JMB & DOT	12	Muck	Pole	SAMPLED	2										1				1					1								
21	46.0616766	-89.5124427	20	Ballard Lake	Vilas	7/23/2018	JMB & DOT	14	Muck	Pole	SAMPLED	1																			1								
22	46.0611636	-89.5124472	21	Ballard Lake	Vilas	7/23/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1										1									1								
23	46.0606506	-89.5124517	22	Ballard Lake	Vilas	7/23/2018	JMB & DOT	8	Muck	Pole	SAMPLED	3										1									2							1	
24	46.0601376	-89.5124562	23	Ballard Lake	Vilas	7/23/2018	JMB & DOT	2	Muck	Pole	SAMPLED	2						1			2																		
25	46.0632124	-89.5116922	30	Ballard Lake	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	2		2															1										
26	46.0626994	-89.5116967	29	Ballard Lake	Vilas	7/23/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2																			2								
27	46.0621864	-89.5117012	28	Ballard Lake	Vilas	7/23/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2										1									2								
28	46.0616734	-89.5117057	27	Ballard Lake	Vilas	7/23/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1										1									1							1	
29	46.0611604	-89.5117103	26	Ballard Lake	Vilas	7/23/2018	JMB & DOT	14	Muck	Pole	SAMPLED	2																			2								
30	46.0606475	-89.5117148	25	Ballard Lake	Vilas	7/23/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2		2								1									1								
31	46.0601345	-89.5117193	24	Ballard Lake	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1										1									1								
32	46.0637223	-89.5109507	31	Ballard Lake	Vilas	7/24/2018	JMB & DOT	5	Muck	Pole	SAMPLED	2		2							1																	1	
33	46.0632093	-89.5109552	32	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Rock	Pole	SAMPLED	0																											
34	46.0626963	-89.5109598	33	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	2														1					2								
35	46.0621833	-89.5109643	34	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1										1									1							1	
36	46.0616703	-89.5109688	35	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	2																			2								
37	46.0611573	-89.5109734	36	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
38	46.0606443	-89.5109779	37	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2																			2								
39	46.0601313	-89.5109824	38	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	2										1							1		2								
40	46.0596183	-89.5109869	40	Ballard Lake	Vilas	7/24/2018	JMB & DOT	0			TERRESTRIAL																												
41	46.0642321	-89.5102092	49	Ballard Lake	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	1										1																	
42	46.0637191	-89.5102138	48	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1										1							1										
43	46.0632061	-89.5102183	47	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1										1									1								
44	46.0626931	-89.5102228	46	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1										1				1					1								
45	46.0621801	-89.5102274	45	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	0																											
46	46.0616671	-89.5102319	44	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
47	46.0611541	-89.5102364	43	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
48	46.0606411	-89.5102410	42	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1		1								1									1								
49	46.0601282	-89.5102455	39	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	3																			3								
50	46.0596152	-89.5102500	41	Ballard Lake	Vilas	7/24/2018	JMB & DOT	0			TERRESTRIAL																												
51	46.0647419	-89.5094677	50	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Rock	Pole	SAMPLED	0																											
52	46.0642290	-89.5094723	51	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	0																											
53	46.0637160	-89.5094768	52	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2										1									2								
54	46.0632030	-89.5094814	53	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1										1				1					1							1	

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lemna minor	Lobelia dortmanna	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Ranunculus flammula	Sparganium angustifolium	Utricularia resupinata	Vallisneria americana	Aquatic moss
55	46.0626900	-89.5094859	54	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2										1				1					1								
56	46.0621770	-89.5094904	55	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
57	46.0616640	-89.5094950	56	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
58	46.0611510	-89.5094995	57	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	1																			1								
59	46.0606380	-89.5095041	58	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	0																											
60	46.0601250	-89.5095086	59	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	0																											
61	46.0596120	-89.5095132	60	Ballard Lake	Vilas	7/24/2018	JMB & DOT	0			TERRESTRIAL																												
62	46.0647388	-89.5087308	71	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	0																											
63	46.0642258	-89.5087353	70	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1										1									1								
64	46.0637128	-89.5087399	69	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1																			1								
65	46.0631998	-89.5087444	68	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	0																											
66	46.0626868	-89.5087490	67	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	1																			1							1	
67	46.0621738	-89.5087535	66	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
68	46.0616608	-89.5087581	65	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
69	46.0611478	-89.5087626	64	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	2										1									2								
70	46.0606348	-89.5087672	63	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	1										1																	
71	46.0601218	-89.5087717	62	Ballard Lake	Vilas	7/24/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1		1																									
72	46.0596088	-89.5087763	61	Ballard Lake	Vilas	7/24/2018	JMB & DOT	0			TERRESTRIAL																												
73	46.0652486	-89.5079892	72	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1		1															1									1	
74	46.0647356	-89.5079938	73	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1																			1								
75	46.0642226	-89.5079984	74	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2				1															2								
76	46.0637096	-89.5080029	75	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1																			1							1	
77	46.0631966	-89.5080075	76	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
78	46.0626836	-89.5080120	77	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
79	46.0621706	-89.5080166	78	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
80	46.0616576	-89.5080211	79	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
81	46.0611446	-89.5080257	80	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	1																			1								
82	46.0606317	-89.5080303	81	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	3														1					2								
83	46.0601187	-89.5080348	82	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1		1	1							1																	
84	46.0657584	-89.5072477	95	Ballard Lake	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	1										1																	
85	46.0652454	-89.5072523	94	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1																			1								
86	46.0647324	-89.5072568	93	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	0																											
87	46.0642194	-89.5072614	92	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1														1					1								
88	46.0637064	-89.5072660	91	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
89	46.0631935	-89.5072705	90	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
90	46.0626805	-89.5072751	89	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
91	46.0621675	-89.5072797	88	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	0																											
92	46.0616545	-89.5072842	87	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
93	46.0611415	-89.5072888	86	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	0																											
94	46.0606285	-89.5072934	85	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1																			1							1	
95	46.0601155	-89.5072979	84	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1																			1							1	
96	46.0596025	-89.5073025	83	Ballard Lake	Vilas	7/24/2018	JMB & DOT	0			TERRESTRIAL																												
97	46.0657552	-89.5065107	24	Ballard Lake	Vilas	7/23/2018	JLW & HAL	7	Sand	Pole	SAMPLED	1		1	1							1							1										
98	46.0652423	-89.5065153	96	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	0																											
99	46.0647293	-89.5065199	97	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
100	46.0642163	-89.5065245	98	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
101	46.0637033	-89.5065290	99	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
102	46.0631903	-89.5065336	100	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
103	46.0626773	-89.5065382	101	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
104	46.0621643	-89.5065427	102	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
105	46.0616513	-89.5065473	103	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
106	46.0611383	-89.5065519	104	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1																			1								
107	46.0606253	-89.5065565	105	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	2										1									2								
108	46.0601123	-89.5065610	106	Ballard Lake	Vilas	7/24/2018	JMB & DOT	5	Sand	Pole	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lemna minor	Lobelia dortmanna	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Ranunculus flammula	Sparganium angustifolium	Utricularia resupinata	Vallisneria americana	Aquatic moss
109	46.0657521	-89.5057738	23	Ballard Lake	Vilas	7/23/2018	JLW & HAL	9	Sand	Pole	SAMPLED	0																											
110	46.0652391	-89.5057784	22	Ballard Lake	Vilas	7/23/2018	JLW & HAL	9	Muck	Pole	SAMPLED	1				1															1							1	
111	46.0647261	-89.5057829	21	Ballard Lake	Vilas	7/23/2018	JLW & HAL	12	Muck	Pole	SAMPLED	2																			2							1	
112	46.0642131	-89.5057875	20	Ballard Lake	Vilas	7/23/2018	JLW & HAL	15	Muck	Pole	SAMPLED	1																			1								
113	46.0637001	-89.5057921	19	Ballard Lake	Vilas	7/23/2018	JLW & HAL	16		Rope	SAMPLED	1																			1								
114	46.0631871	-89.5057967	18	Ballard Lake	Vilas	7/23/2018	JLW & HAL	16		Rope	SAMPLED	1																			1								
115	46.0626741	-89.5058012	17	Ballard Lake	Vilas	7/23/2018	JLW & HAL	16		Rope	SAMPLED	1																			1								
116	46.0621611	-89.5058058	16	Ballard Lake	Vilas	7/23/2018	JLW & HAL	16		Rope	SAMPLED	2																			2								
117	46.0616481	-89.5058104	15	Ballard Lake	Vilas	7/23/2018	JLW & HAL	15	Muck	Pole	SAMPLED	1																			1								
118	46.0611351	-89.5058150	14	Ballard Lake	Vilas	7/23/2018	JLW & HAL	14	Muck	Pole	SAMPLED	2																			2								
119	46.0606221	-89.5058195	13	Ballard Lake	Vilas	7/23/2018	JLW & HAL	13	Muck	Pole	SAMPLED	3																			3								
120	46.0601091	-89.5058241	12	Ballard Lake	Vilas	7/23/2018	JLW & HAL	5	Sand	Pole	SAMPLED	1										1																	
121	46.0657489	-89.5050368	1	Ballard Lake	Vilas	7/23/2018	JLW & HAL	9	Sand	Pole	SAMPLED	1										1									1								
122	46.0652359	-89.5050414	2	Ballard Lake	Vilas	7/23/2018	JLW & HAL	13	Muck	Pole	SAMPLED	1																			1								
123	46.0647229	-89.5050460	3	Ballard Lake	Vilas	7/23/2018	JLW & HAL	15	Muck	Pole	SAMPLED	1																			1								
124	46.0642099	-89.5050506	4	Ballard Lake	Vilas	7/23/2018	JLW & HAL	16		Rope	SAMPLED	2																			2								
125	46.0636969	-89.5050551	5	Ballard Lake	Vilas	7/23/2018	JLW & HAL	16		Rope	SAMPLED	1																			1								
126	46.0631839	-89.5050597	6	Ballard Lake	Vilas	7/23/2018	JLW & HAL	16		Rope	SAMPLED	2																			2								
127	46.0626709	-89.5050643	7	Ballard Lake	Vilas	7/23/2018	JLW & HAL	16		Rope	SAMPLED	1																			1								
128	46.0621579	-89.5050689	8	Ballard Lake	Vilas	7/23/2018	JLW & HAL	16		Rope	SAMPLED	2																			2								
129	46.0616449	-89.5050735	9	Ballard Lake	Vilas	7/23/2018	JLW & HAL	16		Rope	SAMPLED	2																			2								
130	46.0611319	-89.5050781	10	Ballard Lake	Vilas	7/23/2018	JLW & HAL	16	Muck	Pole	SAMPLED	2																			2								
131	46.0606189	-89.5050826	11	Ballard Lake	Vilas	7/23/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1									1																		
132	46.0657457	-89.5042998	119	Ballard Lake	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	0																											
133	46.0652327	-89.5043044	118	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	2																			2								
134	46.0647197	-89.5043090	117	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	2																			2								
135	46.0642067	-89.5043136	116	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
136	46.0636937	-89.5043182	115	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	0																											
137	46.0631807	-89.5043228	114	Ballard Lake	Vilas	7/24/2018	JMB & DOT	17		Rope	SAMPLED	1																			1								
138	46.0626677	-89.5043274	113	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
139	46.0621547	-89.5043320	112	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
140	46.0616417	-89.5043366	111	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
141	46.0611287	-89.5043411	110	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
142	46.0606157	-89.5043457	109	Ballard Lake	Vilas	7/24/2018	JMB & DOT	17		Rope	SAMPLED	0																											
143	46.0601027	-89.5043503	108	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	2																			2								
144	46.0595897	-89.5043549	107	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1																			1								
145	46.0657425	-89.5035629	120	Ballard Lake	Vilas	7/24/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1									1																		
146	46.0652295	-89.5035675	121	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	2																			2								
147	46.0647165	-89.5035721	122	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
148	46.0642035	-89.5035767	123	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
149	46.0636905	-89.5035812	124	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
150	46.0631775	-89.5035858	125	Ballard Lake	Vilas	7/24/2018	JMB & DOT	17		Rope	SAMPLED	0																											
151	46.0626645	-89.5035904	126	Ballard Lake	Vilas	7/24/2018	JMB & DOT	17		Rope	SAMPLED	1																			1								
152	46.0621515	-89.5035950	127	Ballard Lake	Vilas	7/24/2018	JMB & DOT	17		Rope	SAMPLED	1																			1								
153	46.0616385	-89.5035996	128	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
154	46.0611255	-89.5036042	129	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	0																											
155	46.0606125	-89.5036088	130	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
156	46.0600995	-89.5036134	131	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2																			2								
157	46.0595865	-89.5036180	132	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	2																			2							1	
158	46.0590736	-89.5036226	133	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1			1																								
159	46.0657393	-89.5028259	148	Ballard Lake	Vilas	7/24/2018	JMB & DOT	12	Muck	Pole	SAMPLED	1																			1								
160	46.0652263	-89.5028305	147	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16		Rope	SAMPLED	1																			1								
161	46.0647133	-89.5028351	146	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16		Rope	SAMPLED	0																											
162	46.0642003	-89.5028397	145	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16		Rope	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lemna minor	Lobelia dortmanna	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Ranunculus flammula	Sparganium angustifolium	Utricularia resupinata	Vallisneria americana	Aquatic moss
163	46.0636873	-89.5028443	144	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16		Rope	SAMPLED	1																			1								
164	46.0631743	-89.5028489	143	Ballard Lake	Vilas	7/24/2018	JMB & DOT	17		Rope	SAMPLED	1																			1								
165	46.0626613	-89.5028535	142	Ballard Lake	Vilas	7/24/2018	JMB & DOT	17		Rope	SAMPLED	2																			2								
166	46.0621483	-89.5028581	141	Ballard Lake	Vilas	7/24/2018	JMB & DOT	17		Rope	SAMPLED	2	2																		1								
167	46.0616353	-89.5028627	140	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
168	46.0611223	-89.5028673	139	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
169	46.0606093	-89.5028719	138	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
170	46.0600963	-89.5028765	137	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	1																			1								
171	46.0595833	-89.5028811	136	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	2																			2								
172	46.0590703	-89.5028857	134	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1																			1								
173	46.0585574	-89.5028903	135	Ballard Lake	Vilas	7/24/2018	JMB & DOT	0			TERRESTRIAL																												
174	46.0657361	-89.5020889	149	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
175	46.0652231	-89.5020935	150	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
176	46.0647101	-89.5020981	151	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
177	46.0641971	-89.5021027	152	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16		Rope	SAMPLED	1																			1								
178	46.0636841	-89.5021074	153	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16		Rope	SAMPLED	1																			1								
179	46.0631711	-89.5021120	154	Ballard Lake	Vilas	7/24/2018	JMB & DOT	17		Rope	SAMPLED	0																											
180	46.0626581	-89.5021166	155	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16		Rope	SAMPLED	1																			1								
181	46.0621451	-89.5021212	156	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15		Rope	SAMPLED	0																											
182	46.0616321	-89.5021258	157	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15		Rope	SAMPLED	1																			1								
183	46.0611191	-89.5021304	158	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15		Rope	SAMPLED	1																			1								
184	46.0606061	-89.5021350	159	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	2																			2								
185	46.0600931	-89.5021396	160	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	1																			1								
186	46.0595801	-89.5021442	161	Ballard Lake	Vilas	7/24/2018	JMB & DOT	12	Muck	Pole	SAMPLED	1										1																	
187	46.0590671	-89.5021489	162	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	2																			2								
188	46.0585541	-89.5021535	163	Ballard Lake	Vilas	7/24/2018	JMB & DOT	3	Sand	Pole	SAMPLED	1										1																	
189	46.0667588	-89.5013427	181	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1										1																	
190	46.0662459	-89.5013473	180	Ballard Lake	Vilas	7/24/2018	JMB & DOT	13	Muck	Pole	SAMPLED	1																			1								
191	46.0657329	-89.5013519	179	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	2																			2								
192	46.0652199	-89.5013566	178	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	2																			2								
193	46.0647069	-89.5013612	177	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
194	46.0641939	-89.5013658	176	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
195	46.0636809	-89.5013704	175	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15		Rope	SAMPLED	1																			1								
196	46.0631679	-89.5013750	174	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15		Rope	SAMPLED	0																											
197	46.0626549	-89.5013797	173	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16		Rope	SAMPLED	1																			1								
198	46.0621419	-89.5013843	172	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16		Rope	SAMPLED	1																			1								
199	46.0616289	-89.5013889	171	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
200	46.0611159	-89.5013935	170	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
201	46.0606029	-89.5013981	169	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
202	46.0600899	-89.5014027	168	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	2																			2								
203	46.0595769	-89.5014074	167	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2																			2								
204	46.0590639	-89.5014120	166	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	0																											
205	46.0585509	-89.5014166	165	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	2																			2								
206	46.0580379	-89.5014212	164	Ballard Lake	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	0																											
207	46.0672686	-89.5006011	182	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	3																			3								
208	46.0667556	-89.5006057	183	Ballard Lake	Vilas	7/24/2018	JMB & DOT	13	Muck	Pole	SAMPLED	2																			2								
209	46.0662426	-89.5006103	184	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	1																			1								
210	46.0657296	-89.5006150	185	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	1																			1								
211	46.0652166	-89.5006196	186	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
212	46.0647037	-89.5006242	187	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
213	46.0641907	-89.5006288	188	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
214	46.0636777	-89.5006335	189	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
215	46.0631647	-89.5006381	190	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15		Rope	SAMPLED	0																											
216	46.0626517	-89.5006427	191	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15		Rope	SAMPLED	1																			1								

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lemna minor	Lobelia dortmanna	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Ranunculus flammula	Sparganium angustifolium	Utricularia resupinata	Vallisneria americana	Aquatic moss
217	46.0621387	-89.5006473	192	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16		Rope	SAMPLED	2																			2								
218	46.0616257	-89.5006520	193	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16		Rope	SAMPLED	1																			1								
219	46.0611127	-89.5006566	194	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16		Rope	SAMPLED	1																			1								
220	46.0605997	-89.5006612	195	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16		Rope	SAMPLED	1																			1								
221	46.0600867	-89.5006658	196	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1																			1								
222	46.0595737	-89.5006705	197	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	2																			2								
223	46.0590607	-89.5006751	198	Ballard Lake	Vilas	7/24/2018	JMB & DOT	13	Muck	Pole	SAMPLED	1																			1								
224	46.0585477	-89.5006797	199	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2																			2								
225	46.0580347	-89.5006843	200	Ballard Lake	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	1		1				1			1																		
226	46.0570087	-89.5006936	348	Ballard Lake	Vilas	7/24/2018	JMB & DOT	0			TERRESTRIAL																												
227	46.0564957	-89.5006982	349	Ballard Lake	Vilas	7/24/2018	JMB & DOT	0			TERRESTRIAL																												
228	46.0677784	-89.4998595	220	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	2																			2								
229	46.0672654	-89.4998641	219	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	2										1									2								
230	46.0667524	-89.4998687	218	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	3																			3								
231	46.0662394	-89.4998734	217	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	0																											
232	46.0657264	-89.4998780	216	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	2																			2								
233	46.0652134	-89.4998826	215	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
234	46.0647004	-89.4998873	214	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
235	46.0641874	-89.4998919	213	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
236	46.0636744	-89.4998965	212	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
237	46.0631614	-89.4999012	211	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	2																			2								
238	46.0626485	-89.4999058	210	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	2																			2								
239	46.0621355	-89.4999104	209	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
240	46.0616225	-89.4999151	208	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
241	46.0611095	-89.4999197	207	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
242	46.0605965	-89.4999243	206	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
243	46.0600835	-89.4999289	205	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	1																			1								
244	46.0595705	-89.4999336	204	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2																			2								
245	46.0590575	-89.4999382	203	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1										1																	
246	46.0585445	-89.4999428	202	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	0																											
247	46.0580315	-89.4999475	201	Ballard Lake	Vilas	7/24/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1		1	1																								
248	46.0575185	-89.4999521	347	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1											1																
249	46.0570055	-89.4999567	346	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1		1									1																
250	46.0564925	-89.4999614	345	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											
251	46.0559795	-89.4999660	350	Ballard Lake	Vilas	7/24/2018	JMB & DOT	0			TERRESTRIAL																												
252	46.0682882	-89.4991178	221	Ballard Lake	Vilas	7/24/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1									1																		
253	46.0677752	-89.4991225	222	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1																			1								
254	46.0672622	-89.4991271	223	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	2										1								1	1							1	
255	46.0667492	-89.4991317	224	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1										1									1								
256	46.0662362	-89.4991364	225	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	1				1										1					1								
257	46.0657232	-89.4991410	226	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1			1					
258	46.0652102	-89.4991457	227	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
259	46.0646972	-89.4991503	228	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	2																			2								
260	46.0641842	-89.4991549	229	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15		Rope	SAMPLED	1																			1								
261	46.0636712	-89.4991596	230	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
262	46.0631582	-89.4991642	231	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
263	46.0626452	-89.4991689	232	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
264	46.0621322	-89.4991735	233	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	1																			1								
265	46.0616192	-89.4991781	234	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
266	46.0611062	-89.4991828	235	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	0																											
267	46.0605932	-89.4991874	236	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	1																			1								
268	46.0600803	-89.4991921	237	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	0																											
269	46.0595673	-89.4991967	238	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	0																											
270	46.0590543	-89.4992013	239	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	2										1				1					1							1	

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lemna minor	Lobelia dortmanna	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Ranunculus flammula	Sparganium angustifolium	Utricularia resupinata	Vallisneria americana	Aquatic moss
271	46.0585413	-89.4992060	240	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	0																											
272	46.0580283	-89.4992106	241	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Rock	Pole	SAMPLED	1																			1								
273	46.0575153	-89.4992152	341	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	2											2								1								
274	46.0570023	-89.4992199	342	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	2																			2								
275	46.0564893	-89.4992245	343	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																											
276	46.0559763	-89.4992292	344	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											
277	46.0682849	-89.4983808	262	Ballard Lake	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	0																											
278	46.0677719	-89.4983855	261	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1																			1								
279	46.0672589	-89.4983901	260	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	0																											
280	46.0667459	-89.4983948	259	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	3		1								1							1		2								
281	46.0662330	-89.4983994	258	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	2										1				1					1							1	
282	46.0657200	-89.4984041	257	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	1																			1								
283	46.0652070	-89.4984087	256	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	1																			1								
284	46.0646940	-89.4984133	255	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
285	46.0641810	-89.4984180	254	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
286	46.0636680	-89.4984226	253	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
287	46.0631550	-89.4984273	252	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	3																			3								
288	46.0626420	-89.4984319	251	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
289	46.0621290	-89.4984366	250	Ballard Lake	Vilas	7/24/2018	JMB & DOT	12	Muck	Pole	SAMPLED	2											1								1								
290	46.0616160	-89.4984412	249	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1																			1								
291	46.0611030	-89.4984459	248	Ballard Lake	Vilas	7/24/2018	JMB & DOT	12	Muck	Pole	SAMPLED	2																			2								
292	46.0605900	-89.4984505	247	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	2																			2								
293	46.0600770	-89.4984552	246	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	1																			1								
294	46.0595640	-89.4984598	245	Ballard Lake	Vilas	7/24/2018	JMB & DOT	13	Muck	Pole	SAMPLED	1															1				1								
295	46.0590510	-89.4984644	244	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2																			2								
296	46.0585380	-89.4984691	243	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	2																			2							1	
297	46.0580250	-89.4984737	242	Ballard Lake	Vilas	7/24/2018	JMB & DOT	0			TERRESTRIAL																												
298	46.0569991	-89.4984830	340	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											
299	46.0564861	-89.4984877	339	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1										1	1																
300	46.0559731	-89.4984923	338	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											
301	46.0554601	-89.4984970	337	Ballard Lake	Vilas	7/24/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																											
302	46.0677687	-89.4976485	263	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																											
303	46.0672557	-89.4976531	264	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	3										1				2			1										
304	46.0667427	-89.4976578	265	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	2																			2								
305	46.0662297	-89.4976624	266	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	1																										1	
306	46.0657167	-89.4976671	267	Ballard Lake	Vilas	7/24/2018	JMB & DOT	12	Muck	Pole	SAMPLED	2										1									2								
307	46.0652037	-89.4976717	268	Ballard Lake	Vilas	7/24/2018	JMB & DOT	13	Muck	Pole	SAMPLED	1																			1								
308	46.0646907	-89.4976764	269	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	1																			1								
309	46.0641777	-89.4976810	270	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	0																											
310	46.0636647	-89.4976857	271	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
311	46.0631518	-89.4976903	272	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	1																			1								
312	46.0626388	-89.4976950	273	Ballard Lake	Vilas	7/24/2018	JMB & DOT	13	Muck	Pole	SAMPLED	1											1								1								
313	46.0621258	-89.4976996	274	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1																			1								
314	46.0616128	-89.4977043	275	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1											1								1								
315	46.0610998	-89.4977090	276	Ballard Lake	Vilas	7/24/2018	JMB & DOT	12	Muck	Pole	SAMPLED	2																			2								
316	46.0605868	-89.4977136	277	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	0																											
317	46.0600738	-89.4977183	278	Ballard Lake	Vilas	7/24/2018	JMB & DOT	17		Rope	SAMPLED	0																											
318	46.0595608	-89.4977229	279	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	2																			2								
319	46.0590478	-89.4977276	280	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1																			1								
320	46.0585348	-89.4977322	281	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	0																											
321	46.0569958	-89.4977462	333	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											
322	46.0564828	-89.4977508	334	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																											
323	46.0559698	-89.4977555	335	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											
324	46.0554568	-89.4977601	336	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lemna minor	Lobelia dortmanna	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Ranunculus flammula	Sparganium angustifolium	Utricularia resupinata	Vallisneria americana	Aquatic moss
325	46.0677655	-89.4969115	300	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											
326	46.0672525	-89.4969161	299	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																											
327	46.0667395	-89.4969208	298	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	3																			3								
328	46.0662265	-89.4969254	297	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1																			1								
329	46.0657135	-89.4969301	296	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	2										1									2								
330	46.0652005	-89.4969348	295	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Rock	Pole	SAMPLED	0																											
331	46.0646875	-89.4969394	294	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	1																			1								
332	46.0641745	-89.4969441	293	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15	Muck	Pole	SAMPLED	3																			3								
333	46.0636615	-89.4969487	292	Ballard Lake	Vilas	7/24/2018	JMB & DOT	13	Muck	Pole	SAMPLED	1																			1								
334	46.0631485	-89.4969534	291	Ballard Lake	Vilas	7/24/2018	JMB & DOT	14	Muck	Pole	SAMPLED	1																			1								
335	46.0626355	-89.4969581	290	Ballard Lake	Vilas	7/24/2018	JMB & DOT	12	Muck	Pole	SAMPLED	2																			2								
336	46.0621225	-89.4969627	289	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	2																			1							1	
337	46.0616095	-89.4969674	288	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	2																			2								
338	46.0610965	-89.4969720	287	Ballard Lake	Vilas	7/24/2018	JMB & DOT	12	Muck	Pole	SAMPLED	0																											
339	46.0605835	-89.4969767	286	Ballard Lake	Vilas	7/24/2018	JMB & DOT	15		Rope	SAMPLED	3																			3							1	
340	46.0600705	-89.4969814	285	Ballard Lake	Vilas	7/24/2018	JMB & DOT	18		Rope	SAMPLED	0																											
341	46.0595576	-89.4969860	284	Ballard Lake	Vilas	7/24/2018	JMB & DOT	18		Rope	SAMPLED	0																											
342	46.0590446	-89.4969907	283	Ballard Lake	Vilas	7/24/2018	JMB & DOT	17		Rope	SAMPLED	0																											
343	46.0585316	-89.4969953	282	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	3																			3								
344	46.0575056	-89.4970047	332	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																											
345	46.0569926	-89.4970093	331	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																											
346	46.0564796	-89.4970140	330	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1											1																
347	46.0559666	-89.4970186	329	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																											
348	46.0554536	-89.4970233	328	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED																												
349	46.0549406	-89.4970279	327	Ballard Lake	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	0																											
350	46.0677622	-89.4961745	301	Ballard Lake	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	1									1																		
351	46.0672492	-89.4961791	302	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											
352	46.0667362	-89.4961838	303	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1										1									1								
353	46.0662232	-89.4961885	304	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	2																			2								
354	46.0657102	-89.4961931	305	Ballard Lake	Vilas	7/24/2018	JMB & DOT	5	Rock	Pole	SAMPLED	0																											
355	46.0651972	-89.4961978	306	Ballard Lake	Vilas	7/24/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1									1																		
356	46.0646842	-89.4962025	307	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1		1																									
357	46.0641713	-89.4962071	308	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Rock	Pole	SAMPLED	1		1																									
358	46.0636583	-89.4962118	309	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Sand	Pole	SAMPLED	0																											
359	46.0631453	-89.4962165	310	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	0																											
360	46.0626323	-89.4962211	311	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	2																			2								
361	46.0621193	-89.4962258	312	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	1																			1								
362	46.0616063	-89.4962305	313	Ballard Lake	Vilas	7/24/2018	JMB & DOT	12	Muck	Pole	SAMPLED	0																											
363	46.0610933	-89.4962351	314	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	2																			1							1	
364	46.0605803	-89.4962398	315	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	2																			2								
365	46.0600673	-89.4962445	316	Ballard Lake	Vilas	7/24/2018	JMB & DOT	12	Muck	Pole	SAMPLED	2																			2								
366	46.0595543	-89.4962491	317	Ballard Lake	Vilas	7/24/2018	JMB & DOT	19		Rope	SAMPLED	0																											
367	46.0590413	-89.4962538	318	Ballard Lake	Vilas	7/24/2018	JMB & DOT	21		Rope	SAMPLED	0																											
368	46.0585283	-89.4962585	319	Ballard Lake	Vilas	7/24/2018	JMB & DOT	17		Rope	SAMPLED	0																											
369	46.0580153	-89.4962631	320	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2																			2								
370	46.0575023	-89.4962678	321	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	2																			2								
371	46.0569893	-89.4962725	322	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	2																			2								
372	46.0564763	-89.4962771	323	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	2										1									1								
373	46.0559633	-89.4962818	324	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	0																											
374	46.0554503	-89.4962864	325	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																											
375	46.0549374	-89.4962911	326	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1											1																
376	46.0672460	-89.4954421	392	Ballard Lake	Vilas	7/24/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																											
377	46.0667330	-89.4954468	391	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																											
378	46.0662200	-89.4954515	390	Ballard Lake	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	2																			2								

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lemna minor	Lobelia dortmanna	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Ranunculus flammula	Sparganium angustifolium	Utricularia resupinata	Vallisneria americana	Aquatic moss
379	46.0657070	-89.4954562	389	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	3																			3							1	
380	46.0651940	-89.4954608	388	Ballard Lake	Vilas	7/24/2018	JMB & DOT	2	Muck	Pole	SAMPLED	0																											
381	46.0646810	-89.4954655	387	Ballard Lake	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	1			1			1																					
382	46.0641680	-89.4954702	386	Ballard Lake	Vilas	7/24/2018	JMB & DOT	3	Rock	Pole	SAMPLED	0																											
383	46.0636550	-89.4954749	385	Ballard Lake	Vilas	7/24/2018	JMB & DOT	5	Rock	Pole	SAMPLED	1		1															1										
384	46.0631420	-89.4954795	383	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	0																											
385	46.0626290	-89.4954842	382	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Rock	Pole	SAMPLED	0																											
386	46.0621160	-89.4954889	379	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Sand	Pole	SAMPLED	0																											
387	46.0616030	-89.4954936	378	Ballard Lake	Vilas	7/24/2018	JMB & DOT	10	Muck	Pole	SAMPLED	2				1										1					1								
388	46.0610900	-89.4954982	375	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2																			2								
389	46.0605770	-89.4955029	374	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1											1								1							1	
390	46.0600640	-89.4955076	371	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	3																			3								
391	46.0595511	-89.4955122	370	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1																			1								
392	46.0590381	-89.4955169	367	Ballard Lake	Vilas	7/24/2018	JMB & DOT	18	Muck	Pole	SAMPLED	0																											
393	46.0585251	-89.4955216	366	Ballard Lake	Vilas	7/24/2018	JMB & DOT	18		Rope	SAMPLED	0																											
394	46.0580121	-89.4955263	363	Ballard Lake	Vilas	7/24/2018	JMB & DOT	16	Muck	Pole	SAMPLED	1																			1								
395	46.0574991	-89.4955309	362	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	2																	1		2							1	
396	46.0569861	-89.4955356	359	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1											1								1								
397	46.0564731	-89.4955403	358	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1																			1								
398	46.0559601	-89.4955449	355	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	0																											
399	46.0554471	-89.4955496	354	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	2				1						1	1								2								
400	46.0549341	-89.4955543	351	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED																												
401	46.0667297	-89.4947098	393	Ballard Lake	Vilas	7/24/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1									1																		
402	46.0662167	-89.4947145	394	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1											1			1													
403	46.0631388	-89.4947426	384	Ballard Lake	Vilas	7/24/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1		1																									
404	46.0626258	-89.4947473	381	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	0																											
405	46.0621128	-89.4947520	380	Ballard Lake	Vilas	7/24/2018	JMB & DOT	12	Muck	Pole	SAMPLED	0																											
406	46.0615998	-89.4947566	377	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Sand	Pole	SAMPLED	1																	1										
407	46.0610868	-89.4947613	376	Ballard Lake	Vilas	7/24/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1																			1								
408	46.0605738	-89.4947660	373	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1																			1								
409	46.0600608	-89.4947707	372	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	3				1															3								
410	46.0595478	-89.4947754	369	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1																			1							1	
411	46.0590348	-89.4947800	368	Ballard Lake	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	3											1								3								
412	46.0585218	-89.4947847	365	Ballard Lake	Vilas	7/24/2018	JMB & DOT	17		Rope	SAMPLED	1																			1								
413	46.0580088	-89.4947894	364	Ballard Lake	Vilas	7/24/2018	JMB & DOT	18		Rope	SAMPLED	0																											
414	46.0574958	-89.4947941	361	Ballard Lake	Vilas	7/24/2018	JMB & DOT	12	Muck	Pole	SAMPLED	3																			3								
415	46.0569828	-89.4947987	360	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2																			2								
416	46.0564698	-89.4948034	357	Ballard Lake	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	0																											
417	46.0559568	-89.4948081	356	Ballard Lake	Vilas	7/24/2018	JMB & DOT	5	Muck	Pole	SAMPLED	2		2																									
418	46.0554438	-89.4948128	353	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1											1								1								
419	46.0549309	-89.4948175	352	Ballard Lake	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	0																											
420	46.0657005	-89.4939822	395	Ballard Lake	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	0																											
421	46.0641615	-89.4939963	19	Ballard Lake	Vilas	7/23/2018	TWH & NLS	5	Muck	Pole	SAMPLED	1															1												
422	46.0631355	-89.4940057	206	Ballard Lake	Vilas	7/23/2018	TWH & NLS	2	Sand	Pole	SAMPLED	0																											
423	46.0626225	-89.4940103	205	Ballard Lake	Vilas	7/23/2018	TWH & NLS	11	Muck	Pole	SAMPLED	0																											
424	46.0621095	-89.4940150	204	Ballard Lake	Vilas	7/23/2018	TWH & NLS	10	Muck	Pole	SAMPLED	0																											
425	46.0615965	-89.4940197	203	Ballard Lake	Vilas	7/23/2018	TWH & NLS	11	Muck	Pole	SAMPLED	0																											
426	46.0610835	-89.4940244	202	Ballard Lake	Vilas	7/23/2018	TWH & NLS	9	Muck	Pole	SAMPLED	3				1							1								3								
427	46.0605705	-89.4940291	201	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	3											2								3								
428	46.0600575	-89.4940338	200	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	2				1															2								
429	46.0595445	-89.4940385	199	Ballard Lake	Vilas	7/23/2018	TWH & NLS	9	Muck	Pole	SAMPLED	1																			1							1	
430	46.0590315	-89.4940431	198	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	2											2								2							1	
431	46.0585186	-89.4940478	197	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	3				1							1								3								
432	46.0580056	-89.4940525	196	Ballard Lake	Vilas	7/23/2018	TWH & NLS	17		Rope	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lemna minor	Lobelia dortmanna	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Ranunculus flammula	Sparganium angustifolium	Utricularia resupinata	Vallisneria americana	Aquatic moss
433	46.0574926	-89.4940572	195	Ballard Lake	Vilas	7/23/2018	TWH & NLS	15	Sand	Pole	SAMPLED	0																											
434	46.0569796	-89.4940619	194	Ballard Lake	Vilas	7/23/2018	TWH & NLS	15	Muck	Pole	SAMPLED	0																											
435	46.0564666	-89.4940666	193	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	3											2							1	2								
436	46.0559536	-89.4940713	192	Ballard Lake	Vilas	7/23/2018	TWH & NLS	9	Muck	Pole	SAMPLED	0																											
437	46.0554406	-89.4940759	191	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	1																			1								
438	46.0549276	-89.4940806	190	Ballard Lake	Vilas	7/23/2018	TWH & NLS	9	Muck	Pole	SAMPLED	0																											
439	46.0646712	-89.4932546	18	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Muck	Pole	SAMPLED	1															1											1	
440	46.0641582	-89.4932593	20	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Muck	Pole	SAMPLED	0																											
441	46.0636452	-89.4932640	29	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	0																											
442	46.0631322	-89.4932687	30	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	0																											
443	46.0626192	-89.4932734	39	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Rock	Pole	SAMPLED	0																											
444	46.0621062	-89.4932781	40	Ballard Lake	Vilas	7/23/2018	TWH & NLS	10	Muck	Pole	SAMPLED	0																											
445	46.0615933	-89.4932828	49	Ballard Lake	Vilas	7/23/2018	TWH & NLS	11	Muck	Pole	SAMPLED	0																											
446	46.0610803	-89.4932875	50	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	2																			2								
447	46.0605673	-89.4932922	67	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	2																			2								
448	46.0600543	-89.4932969	68	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	2																			2							1	
449	46.0595413	-89.4933016	83	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3											2								3								
450	46.0590283	-89.4933063	84	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3																			3								
451	46.0585153	-89.4933110	98	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	3				2							1								3								
452	46.0580023	-89.4933157	99	Ballard Lake	Vilas	7/23/2018	TWH & NLS	9	Muck	Pole	SAMPLED	0																											
453	46.0574893	-89.4933203	114	Ballard Lake	Vilas	7/23/2018	TWH & NLS	10	Muck	Pole	SAMPLED	1																			1								
454	46.0569763	-89.4933250	115	Ballard Lake	Vilas	7/23/2018	TWH & NLS	21		Rope	SAMPLED	0																											
455	46.0564633	-89.4933297	130	Ballard Lake	Vilas	7/23/2018	TWH & NLS	20		Rope	SAMPLED	0																											
456	46.0559503	-89.4933344	131	Ballard Lake	Vilas	7/23/2018	TWH & NLS	16	Sand	Pole	SAMPLED	0																											
457	46.0554373	-89.4933391	148	Ballard Lake	Vilas	7/23/2018	TWH & NLS	9	Muck	Pole	SAMPLED	3															1				3								
458	46.0549243	-89.4933438	149	Ballard Lake	Vilas	7/23/2018	TWH & NLS	9	Muck	Pole	SAMPLED	3															1				2							2	
459	46.0544113	-89.4933485	166	Ballard Lake	Vilas	7/23/2018	TWH & NLS	5	Sand	Pole	SAMPLED	1			1							1							1										
460	46.0533853	-89.4933579	182	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Muck	Pole	SAMPLED	0																											
461	46.0528723	-89.4933626	183	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Muck	Pole	SAMPLED	0																											
462	46.0646679	-89.4925177	17	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Muck	Pole	SAMPLED	1				1																							
463	46.0641550	-89.4925224	21	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Muck	Pole	SAMPLED	0																											
464	46.0636420	-89.4925271	28	Ballard Lake	Vilas	7/23/2018	TWH & NLS	2	Sand	Pole	SAMPLED	1						1			1																		
465	46.0631290	-89.4925318	31	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Sand	Pole	SAMPLED	1																	1										
466	46.0626160	-89.4925365	38	Ballard Lake	Vilas	7/23/2018	TWH & NLS	5	Sand	Pole	SAMPLED	0																											
467	46.0621030	-89.4925412	41	Ballard Lake	Vilas	7/23/2018	TWH & NLS	9	Muck	Pole	SAMPLED	0																											
468	46.0615900	-89.4925459	48	Ballard Lake	Vilas	7/23/2018	TWH & NLS	10	Muck	Pole	SAMPLED	0																											
469	46.0610770	-89.4925506	51	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	2														1					1								
470	46.0605640	-89.4925553	66	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	2														1					2								
471	46.0600510	-89.4925600	69	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	2											2								2								
472	46.0595380	-89.4925647	82	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	2											1								2							1	
473	46.0590250	-89.4925694	85	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	3											1								3								
474	46.0585120	-89.4925741	97	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	1																		1	1								
475	46.0579990	-89.4925788	100	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	3											1								3							1	
476	46.0574860	-89.4925835	113	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	1											1															1	
477	46.0569730	-89.4925882	116	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3											2							2									
478	46.0564600	-89.4925929	129	Ballard Lake	Vilas	7/23/2018	TWH & NLS	12	Muck	Pole	SAMPLED	2																			2							1	
479	46.0559470	-89.4925976	132	Ballard Lake	Vilas	7/23/2018	TWH & NLS	18		Rope	SAMPLED	1																			1								
480	46.0554341	-89.4926023	147	Ballard Lake	Vilas	7/23/2018	TWH & NLS	20		Rope	SAMPLED	0																											
481	46.0549211	-89.4926070	150	Ballard Lake	Vilas	7/23/2018	TWH & NLS	18		Rope	SAMPLED	0																											
482	46.0544081	-89.4926117	165	Ballard Lake	Vilas	7/23/2018	TWH & NLS	15	Muck	Pole	SAMPLED	0																											
483	46.0538951	-89.4926164	167	Ballard Lake	Vilas	7/23/2018	TWH & NLS	14	Muck	Pole	SAMPLED	1																			1								
484	46.0533821	-89.4926211	181	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3				1															3								
485	46.0528691	-89.4926258	184	Ballard Lake	Vilas	7/23/2018	TWH & NLS	5	Muck	Pole	SAMPLED	2											1								2								
486	46.0646647	-89.4917807	16	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Muck	Pole	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lemna minor	Lobelia dortmanna	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Ranunculus flammula	Sparganium angustifolium	Utricularia resupinata	Vallisneria americana	Aquatic moss
487	46.0641517	-89.4917854	22	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Muck	Pole	SAMPLED	1										1																	
488	46.0636387	-89.4917901	27	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Sand	Pole	SAMPLED	1			1			1																					
489	46.0631257	-89.4917949	32	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Sand	Pole	SAMPLED	3		1							3								1										
490	46.0626127	-89.4917996	37	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Sand	Pole	SAMPLED	1									1																		
491	46.0620997	-89.4918043	42	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	0																											
492	46.0615867	-89.4918090	47	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	3											1								3								
493	46.0610737	-89.4918137	52	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	0																											
494	46.0605607	-89.4918184	65	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	1											1			1					1								
495	46.0600477	-89.4918231	70	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	3											2								2							1	
496	46.0595347	-89.4918278	81	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	3														1					3								
497	46.0590217	-89.4918325	86	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3				1										2			1		3								
498	46.0585087	-89.4918372	96	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	1											1								1								
499	46.0579958	-89.4918419	101	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3																			3								
500	46.0574828	-89.4918466	112	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	0																											
501	46.0569698	-89.4918513	117	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	1											1								1								
502	46.0564568	-89.4918560	128	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	2											1							2									
503	46.0559438	-89.4918607	133	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3											2								2								
504	46.0554308	-89.4918654	146	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	3		1									2			1					2								
505	46.0549178	-89.4918701	151	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3											2								3								
506	46.0544048	-89.4918749	164	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3											2								3								
507	46.0538918	-89.4918796	168	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	3																			3								
508	46.0533788	-89.4918843	180	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	3																			3								
509	46.0528658	-89.4918890	185	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	2											1								2								
510	46.0646614	-89.4910438	15	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Muck	Pole	SAMPLED	0																											
511	46.0641484	-89.4910485	23	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Muck	Pole	SAMPLED	0																											
512	46.0636354	-89.4910532	26	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	3														1					3								
513	46.0631224	-89.4910579	33	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	0																											
514	46.0626094	-89.4910626	36	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	1		1																									
515	46.0620964	-89.4910673	43	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	1										1																	
516	46.0615834	-89.4910721	46	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	0																											
517	46.0610704	-89.4910768	53	Ballard Lake	Vilas	7/23/2018	TWH & NLS	9	Muck	Pole	SAMPLED	0																											
518	46.0605574	-89.4910815	64	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	0																											
519	46.0600444	-89.4910862	71	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	2																	1		2								
520	46.0595315	-89.4910909	80	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	3																			2							1	
521	46.0590185	-89.4910956	87	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	0																											
522	46.0585055	-89.4911003	95	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3				1															3							1	
523	46.0579925	-89.4911050	102	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	2											1								2								
524	46.0574795	-89.4911098	111	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	0																											
525	46.0569665	-89.4911145	118	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	2											1							1	2								
526	46.0564535	-89.4911192	127	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	2											1			2				1									
527	46.0559405	-89.4911239	134	Ballard Lake	Vilas	7/23/2018	TWH & NLS	9	Muck	Pole	SAMPLED	3											2								3								
528	46.0554275	-89.4911286	145	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	1											1							1									
529	46.0549145	-89.4911333	152	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	2														1					2								
530	46.0544015	-89.4911380	163	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	2																			2								
531	46.0538885	-89.4911427	169	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3											2			2					2								
532	46.0533755	-89.4911475	179	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	2																		1	1								
533	46.0528625	-89.4911522	186	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	1											1																
534	46.0646581	-89.4903068	14	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Muck	Pole	SAMPLED	1										1																	
535	46.0641451	-89.4903115	24	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Muck	Pole	SAMPLED	0																											
536	46.0636321	-89.4903163	25	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Muck	Pole	SAMPLED	1														1					1								
537	46.0631191	-89.4903210	34	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	1																			1								
538	46.0626061	-89.4903257	35	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	0																											
539	46.0620931	-89.4903304	44	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	0																											
540	46.0615801	-89.4903351	45	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Rock	Pole	SAMPLED	1		1				1			1																		

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lemna minor	Lobelia dortmanna	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Ranunculus flammula	Sparganium angustifolium	Utricularia resupinata	Vallisneria americana	Aquatic moss
541	46.0610672	-89.4903399	54	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Rock	Pole	SAMPLED	2		1	1						1	1							1										
542	46.0605542	-89.4903446	63	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Rock	Pole	SAMPLED	0																											
543	46.0600412	-89.4903493	72	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	2														1					1								
544	46.0595282	-89.4903540	79	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	2											1			1					2								
545	46.0590152	-89.4903587	88	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	0																											
546	46.0585022	-89.4903635	94	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	1																			1								
547	46.0579892	-89.4903682	103	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	3				1							2								2								
548	46.0574762	-89.4903729	110	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	1											1						1										
549	46.0569632	-89.4903776	119	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	1											1							1									
550	46.0564502	-89.4903823	126	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	1														1													
551	46.0559372	-89.4903871	135	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	2											1							2									
552	46.0554242	-89.4903918	144	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3											2			2													
553	46.0549112	-89.4903965	153	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	3											1								3								
554	46.0543982	-89.4904012	162	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	3											2							2	1							2	
555	46.0538852	-89.4904059	170	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	1											1						1		1								
556	46.0533722	-89.4904106	178	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	0																											
557	46.0528592	-89.4904154	187	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3																			3								
558	46.0641418	-89.4895746	13	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Muck	Pole	SAMPLED	0																											
559	46.0636288	-89.4895793	12	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Muck	Pole	SAMPLED	1										1																	
560	46.0631158	-89.4895840	11	Ballard Lake	Vilas	7/23/2018	TWH & NLS	5	Muck	Pole	SAMPLED	0																											
561	46.0626028	-89.4895888	10	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	0																											
562	46.0610639	-89.4896030	55	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	1	1	1																									
563	46.0605509	-89.4896077	62	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	1											1						1									1	
564	46.0600379	-89.4896124	73	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	0																											
565	46.0595249	-89.4896171	78	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	0																											
566	46.0590119	-89.4896219	89	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3				1							1			1					3								
567	46.0584989	-89.4896266	93	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	3											2								2								
568	46.0579859	-89.4896313	104	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3											2								3							2	
569	46.0574729	-89.4896360	109	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	3											3								1								
570	46.0569599	-89.4896408	120	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	0																											
571	46.0564469	-89.4896455	125	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	1																			1								
572	46.0559339	-89.4896502	136	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	3											2							2									
573	46.0554209	-89.4896549	143	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	0																											
574	46.0549079	-89.4896597	154	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	0																											
575	46.0543949	-89.4896644	161	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	0																											
576	46.0538819	-89.4896691	171	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	0																											
577	46.0533690	-89.4896738	177	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	0																											
578	46.0528560	-89.4896786	188	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	1											1								1								
579	46.0636255	-89.4888424	6	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Muck	Pole	SAMPLED	0																											
580	46.0631125	-89.4888471	7	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Muck	Pole	SAMPLED	0																											
581	46.0625996	-89.4888518	8	Ballard Lake	Vilas	7/23/2018	TWH & NLS	5	Muck	Pole	SAMPLED	0																											
582	46.0620866	-89.4888566	9	Ballard Lake	Vilas	7/23/2018	TWH & NLS	0			NONNAVIGABLE (PLANTS)																												
583	46.0615736	-89.4888613	57	Ballard Lake	Vilas	7/23/2018	TWH & NLS	2	Muck	Pole	SAMPLED	1										1		1														1	1
584	46.0610606	-89.4888660	56	Ballard Lake	Vilas	7/23/2018	TWH & NLS	5	Muck	Pole	SAMPLED	2			1														1									1	
585	46.0605476	-89.4888708	61	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	0																											
586	46.0600346	-89.4888755	74	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	1																			1								
587	46.0595216	-89.4888802	77	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	2											2								2								
588	46.0590086	-89.4888850	90	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Sand	Pole	SAMPLED	1																										1	
589	46.0584956	-89.4888897	92	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	3											3								1								
590	46.0579826	-89.4888944	105	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	2											2			2					1								
591	46.0574696	-89.4888992	108	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	3																			3								
592	46.0569566	-89.4889039	121	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	0																											
593	46.0564436	-89.4889086	124	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	1																			1								
594	46.0559306	-89.4889134	137	Ballard Lake	Vilas	7/23/2018	TWH & NLS	8	Muck	Pole	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lemna minor	Lobelia dortmanna	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Ranunculus flammula	Sparganium angustifolium	Utricularia resupinata	Vallisneria americana	Aquatic moss
595	46.0554176	-89.4889181	142	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	1																		1									
596	46.0549046	-89.4889228	155	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	1											1																
597	46.0543916	-89.4889276	160	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	1											1																
598	46.0538787	-89.4889323	172	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	1																	1		1								
599	46.0533657	-89.4889370	176	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	0																											
600	46.0528527	-89.4889418	189	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Sand	Pole	SAMPLED	1						1			1																		
601	46.0636222	-89.4881054	5	Ballard Lake	Vilas	7/23/2018	TWH & NLS	1	Sand	Pole	SAMPLED	1																	1							1			
602	46.0631092	-89.4881102	4	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Muck	Pole	SAMPLED	0																											
603	46.0625963	-89.4881149	3	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Muck	Pole	SAMPLED	0																											
604	46.0610573	-89.4881291	58	Ballard Lake	Vilas	7/23/2018	TWH & NLS	2	Sand	Pole	SAMPLED	3						3			1																		
605	46.0605443	-89.4881339	60	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	0																											
606	46.0600313	-89.4881386	75	Ballard Lake	Vilas	7/23/2018	TWH & NLS	7	Muck	Pole	SAMPLED	0																											
607	46.0595183	-89.4881434	76	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Sand	Pole	SAMPLED	1			1														1									1	
608	46.0584923	-89.4881528	91	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Sand	Pole	SAMPLED	2		1				2				1							1										
609	46.0579793	-89.4881576	106	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Sand	Pole	SAMPLED	2			1						1	1							1										
610	46.0574663	-89.4881623	107	Ballard Lake	Vilas	7/23/2018	TWH & NLS	3	Sand	Pole	SAMPLED	3									3								1										
611	46.0569533	-89.4881671	122	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Muck	Pole	SAMPLED	3		1							3																		
612	46.0564403	-89.4881718	123	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Sand	Pole	SAMPLED	1										1							1										
613	46.0559273	-89.4881765	138	Ballard Lake	Vilas	7/23/2018	TWH & NLS	5	Sand	Pole	SAMPLED	2		1	1							2																	
614	46.0554143	-89.4881813	141	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	2																			2								
615	46.0549013	-89.4881860	156	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	0																											
616	46.0543884	-89.4881908	159	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	0																											
617	46.0538754	-89.4881955	173	Ballard Lake	Vilas	7/23/2018	TWH & NLS	6	Muck	Pole	SAMPLED	1																			1								
618	46.0533624	-89.4882002	175	Ballard Lake	Vilas	7/23/2018	TWH & NLS	5	Muck	Pole	SAMPLED	1			1																1								
619	46.0620800	-89.4873827	2	Ballard Lake	Vilas	7/23/2018	TWH & NLS	1	Muck	Pole	SAMPLED	1										1			1								1						
620	46.0605410	-89.4873970	59	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Sand	Pole	SAMPLED	2		1								1							1									1	
621	46.0559240	-89.4874397	139	Ballard Lake	Vilas	7/23/2018	TWH & NLS	1	Sand	Pole	SAMPLED	1									1																		
622	46.0554110	-89.4874444	140	Ballard Lake	Vilas	7/23/2018	TWH & NLS	1	Sand	Pole	SAMPLED	1						1			1																		
623	46.0548980	-89.4874492	157	Ballard Lake	Vilas	7/23/2018	TWH & NLS	2	Sand	Pole	SAMPLED	3			1		2	1			2														1		1		
624	46.0543851	-89.4874539	158	Ballard Lake	Vilas	7/23/2018	TWH & NLS	2	Sand	Pole	SAMPLED	2					1	1		1																	1		
625	46.0538721	-89.4874587	174	Ballard Lake	Vilas	7/23/2018	TWH & NLS	4	Muck	Pole	SAMPLED	1			1														1										
626	46.0620733	-89.4859089	1	Ballard Lake	Vilas	7/23/2018	TWH & NLS	2	Muck	Pole	SAMPLED	1							1						1			1				1							

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field crew	Depth (ft.)	Sediment	Pole; Rope	Comments	Total Rake Fullness	Brasenia schreberi	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Juncus pelocarpus	Myriophyllum sibiricum	Najas flexilis	Nitella spp.	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton obtusifolius	Potamogeton praelongus	Potamogeton pusillus	Potamogeton robbinsii	Potamogeton strictifolius	Potamogeton zosteriformis	Schoenoplectus subterminalis	Utricularia gibba	Utricularia intermedia	Utricularia vulgaris	Vallisneria americana	Zizania palustris
1	46.061688	-89.483722	193	Irving	Vilas	7/23/2018	JMB & DOT	4	Muck	Pole	SAMPLED	0																												
2	46.063520	-89.482825	98	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
3	46.062908	-89.482831	148	Irving	Vilas	7/23/2018	JLW & HAL	2	Muck	Pole	SAMPLED	1									1		1		1															
4	46.062296	-89.482837	149	Irving	Vilas	7/23/2018	JLW & HAL	2	Muck	Pole	SAMPLED	2									1				2															
5	46.061684	-89.482843	192	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
6	46.061072	-89.482848	1	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
7	46.060460	-89.482854	2	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
8	46.064740	-89.481935	57	Irving	Vilas	7/23/2018	JLW & HAL	2	Muck	Pole	SAMPLED	2	1										1													1				
9	46.064128	-89.481940	96	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
10	46.063516	-89.481946	97	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	3	2												1															
11	46.062904	-89.481952	147	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1																												1
12	46.062292	-89.481958	150	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1									1											1								
13	46.061680	-89.481963	191	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
14	46.061068	-89.481969	3	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
15	46.060456	-89.481975	4	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1	1																	1										
16	46.059844	-89.481981	5	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
17	46.059232	-89.481986	16	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
18	46.058620	-89.481992	17	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
19	46.065960	-89.481044	31	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
20	46.065348	-89.481050	56	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1				1							1														1			
21	46.064736	-89.481056	58	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1													1											1				
22	46.064124	-89.481061	95	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
23	46.063512	-89.481067	99	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
24	46.062900	-89.481073	146	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	0																												
25	46.062288	-89.481079	151	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1									1																			
26	46.061676	-89.481084	190	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1									1																			
27	46.061064	-89.481090	7	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
28	46.060452	-89.481096	6	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
29	46.059840	-89.481101	11	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
30	46.059228	-89.481107	12	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
31	46.058616	-89.481113	18	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
32	46.058004	-89.481119	19	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
33	46.065956	-89.480165	30	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	0																												
34	46.065344	-89.480171	55	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1				1																								
35	46.064732	-89.480176	59	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1																												1
36	46.064120	-89.480182	94	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	2	2																											
37	46.063508	-89.480188	144	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	0																												
38	46.062896	-89.480194	154	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1																						1						
39	46.062284	-89.480199	152	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1									1																			
40	46.061672	-89.480205	189	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
41	46.061060	-89.480211	8	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
42	46.060448	-89.480217	9	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
43	46.059836	-89.480222	10	Irving	Vilas	7/23/2018	JMB & DOT	4	Muck	Pole	SAMPLED	3																		3										
44	46.059224	-89.480228	13	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
45	46.058612	-89.480234	14	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
46	46.058000	-89.480240	15	Irving	Vilas	7/23/2018	JMB & DOT	3	Muck	Pole	SAMPLED	1											1															1		
47	46.057388	-89.480245	21	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
48	46.066564	-89.479280	29	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1									1				1															
49	46.065952	-89.479286	32	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
50	46.065340	-89.479291	54	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
51	46.064728	-89.479297	60	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
52	46.064116	-89.479303	93	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																			
53	46.063504	-89.479309	101	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1									1																			
54	46.062892	-89.479314	143	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1																						1						
55	46.062280	-89.479320	153	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
56	46.061668	-89.479326	188	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
57	46.061056	-89.479332	30	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
58	46.060444	-89.479338	29	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
59	46.059832	-89.479343	28	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
60	46.059220	-89.479349	27	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
61	46.058608	-89.479355	26	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
62	46.057996	-89.479361	20	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
63	46.057384	-89.479366	22	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
64	46.056772	-89.479372	23	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
65	46.067784	-89.478389	12	Irving	Vilas	7/23/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1																											1	
66	46.067172	-89.478395	13	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	0																												
67	46.066560	-89.478401	28	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
68	46.065948	-89.478407	33	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
69	46.065336	-89.478412	53	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
70	46.064724	-89.478418	61	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
71	46.064112	-89.478424	92	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED																													
72	46.063500	-89.478430	102	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
73	46.062888	-89.478435	142	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
74	46.062276	-89.478441	155	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1																												1
75	46.061664	-89.478447	187	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1									1																			
76	46.061052	-89.478453	31	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
77	46.060440	-89.478458	32	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1									1																			
78	46.059828	-89.478464	33	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field crew	Depth (ft.)	Sediment	Pole; Rope	Comments	Total Rake Fullness	Brasenia schreberi	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Juncus pelocarpus	Myriophyllum sibiricum	Najas flexilis	Nitella spp.	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton obtusifolius	Potamogeton praelongus	Potamogeton pusillus	Potamogeton robbinsii	Potamogeton strictifolius	Potamogeton zosteriformis	Schoenoplectus subterminalis	Utricularia gibba	Utricularia intermedia	Utricularia vulgaris	Vallisneria americana	Zizania palustris
79	46.059216	-89.478470	34	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1																		1										
80	46.058604	-89.478476	35	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1																		1										
81	46.057992	-89.478481	24	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
82	46.057380	-89.478487	25	Irving	Vilas	7/23/2018	JMB & DOT	4	Muck	Pole	SAMPLED	0																												
83	46.056768	-89.478493	36	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
84	46.067780	-89.477510	11	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	0																												
85	46.067168	-89.477516	14	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	2									1				2														1	
86	46.066556	-89.477522	27	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
87	46.065944	-89.477527	34	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
88	46.065332	-89.477533	52	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1																												1
89	46.064720	-89.477539	62	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
90	46.064108	-89.477545	91	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
91	46.063496	-89.477550	103	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
92	46.062884	-89.477556	141	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1						1																						
93	46.062272	-89.477562	156	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1				1		1																						
94	46.061660	-89.477568	186	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1						1																						
95	46.061048	-89.477574	44	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
96	46.060436	-89.477579	43	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
97	46.059824	-89.477585	42	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
98	46.059212	-89.477591	41	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1									1																			
99	46.058600	-89.477597	40	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1									1																			
100	46.057988	-89.477602	39	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
101	46.057376	-89.477608	37	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
102	46.056764	-89.477614	38	Irving	Vilas	7/23/2018	JMB & DOT	4	Muck	Pole	SAMPLED	0																												
103	46.056152	-89.477620	69	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
104	46.068388	-89.476625	1	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	2						1		1	1																			
105	46.067776	-89.476631	10	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	0																												
106	46.067164	-89.476637	15	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
107	46.066552	-89.476642	26	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1									1																			
108	46.065940	-89.476648	35	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																			
109	46.065328	-89.476654	51	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
110	46.064716	-89.476660	63	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																			
111	46.064104	-89.476665	90	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
112	46.063492	-89.476671	104	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1																						1						1
113	46.062880	-89.476677	140	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
114	46.062268	-89.476683	157	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1										1										1								
115	46.061656	-89.476689	185	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	2				2		1																						
116	46.061044	-89.476694	45	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
117	46.060432	-89.476700	46	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
118	46.059820	-89.476706	47	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
119	46.059208	-89.476712	48	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
120	46.058596	-89.476718	49	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
121	46.057984	-89.476723	50	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
122	46.057372	-89.476729	51	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
123	46.056760	-89.476735	52	Irving	Vilas	7/23/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1	1																											
124	46.056148	-89.476741	70	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
125	46.068996	-89.475740	2	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	0																												
126	46.068384	-89.475746	6	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																						1							
127	46.067772	-89.475752	9	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1																				1								
128	46.067160	-89.475757	16	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	0																												
129	46.066548	-89.475763	25	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1									1																			
130	46.065936	-89.475769	36	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1									1													1						
131	46.065324	-89.475775	50	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																			
132	46.064712	-89.475781	64	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
133	46.064100	-89.475786	89	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
134	46.063488	-89.475792	105	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1								1	1																			
135	46.062876	-89.475798	139	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1				1																								
136	46.062264	-89.475804	158	Irving	Vilas	7/23/2018	JLW & HAL	8	Muck	Pole	SAMPLED	2																						1					2	
137	46.061652	-89.475809	184	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1				1																								
138	46.061040	-89.475815	60	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
139	46.060428	-89.475821	59	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
140	46.059816	-89.475827	58	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1													1															
141	46.059204	-89.475833	57	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1									1																			
142	46.058592	-89.475838	56	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
143	46.057980	-89.475844	55	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
144	46.057368	-89.475850	54	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
145	46.056756	-89.475856	53	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1																						1					1	
146	46.068992	-89.474861	3	Irving	Vilas	7/23/2018	JLW & HAL	2	Muck	Pole	SAMPLED	1									1	1																		1
147	46.068380	-89.474867	5	Irving	Vilas	7/23/2018	JLW & HAL	2	Muck	Pole	SAMPLED	1				1							1													1				
148	46.067768	-89.474872	8	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1						1																						
149	46.067156	-89.474878	17	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
150	46.066544	-89.474884	24	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
151	46.065932	-89.474890	37	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1									1																			
152	46.065320	-89.474896	49	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																			
153	46.064708	-89.474901	65	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																			
154	46.064096	-89.474907	88	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
155	46.063484	-89.474913	106	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
156	46.062872	-89.474919	138	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field crew	Depth (ft.)	Sediment	Pole; Rope	Comments	Total Rake Fullness	Brasenia schreberi	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Juncus pelocarpus	Myriophyllum sibiricum	Najas flexilis	Nitella spp.	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton obtusifolius	Potamogeton praelongus	Potamogeton pusillus	Potamogeton robbinsii	Potamogeton strictifolius	Potamogeton zosteriformis	Schoenoplectus subterminalis	Utricularia gibba	Utricularia intermedia	Utricularia vulgaris	Vallisneria americana	Zizania palustris
157	46.062260	-89.474925	159	Irving	Vilas	7/23/2018	JLW & HAL	11	Muck	Pole	SAMPLED	1																											1	
158	46.061648	-89.474930	183	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
159	46.061036	-89.474936	61	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
160	46.060424	-89.474942	62	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
161	46.059812	-89.474948	63	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
162	46.059200	-89.474954	64	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1																												1
163	46.058588	-89.474959	65	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	3																		3										
164	46.057976	-89.474965	66	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
165	46.057364	-89.474971	67	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
166	46.056752	-89.474977	68	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1									1																			
167	46.068376	-89.473987	4	Irving	Vilas	7/23/2018	JLW & HAL	2	Muck	Pole	SAMPLED	1				1					1		1	1							1					1				
168	46.067764	-89.473993	7	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1																											1	
169	46.067152	-89.473999	18	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
170	46.066540	-89.474005	23	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1																												1
171	46.065928	-89.474011	38	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1									1																			1
172	46.065316	-89.474016	48	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																			
173	46.064704	-89.474022	66	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																			
174	46.064092	-89.474028	87	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																			
175	46.063480	-89.474034	107	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1													1						
176	46.062868	-89.474040	137	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
177	46.062256	-89.474045	202	Irving	Vilas	7/23/2018	JMB & DOT	13	Muck	Pole	SAMPLED	0																												
178	46.061644	-89.474051	182	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	2																				2								
179	46.061032	-89.474057	81	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
180	46.060420	-89.474063	80	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
181	46.059808	-89.474069	79	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
182	46.059196	-89.474074	78	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
183	46.058584	-89.474080	77	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1									1																			
184	46.057972	-89.474086	76	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
185	46.057360	-89.474092	73	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
186	46.056748	-89.474098	72	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1	1																											
187	46.056136	-89.474104	71	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
188	46.055524	-89.474109	74	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
189	46.054912	-89.474115	75	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
190	46.067148	-89.473120	19	Irving	Vilas	7/23/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1																						1						
191	46.066536	-89.473126	22	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
192	46.065924	-89.473131	39	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1									1																			
193	46.065312	-89.473137	47	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																			
194	46.064700	-89.473143	67	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																			
195	46.064088	-89.473149	86	Irving	Vilas	7/23/2018	JLW & HAL	6	Muck	Pole	SAMPLED	1									1													1						
196	46.063476	-89.473155	108	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																			
197	46.062864	-89.473160	136	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	3				1																3								
198	46.062252	-89.473166	201	Irving	Vilas	7/23/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1																											1	
199	46.061640	-89.473172	181	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
200	46.061028	-89.473178	82	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1													1									1						
201	46.060416	-89.473184	83	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
202	46.059804	-89.473190	84	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
203	46.059192	-89.473195	85	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
204	46.058580	-89.473201	86	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1																											1	
205	46.057968	-89.473207	87	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
206	46.057356	-89.473213	88	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
207	46.056744	-89.473219	89	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
208	46.056132	-89.473225	90	Irving	Vilas	7/23/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1											1																	
209	46.055520	-89.473230	92	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
210	46.054908	-89.473236	93	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
211	46.066532	-89.472246	21	Irving	Vilas	7/23/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1				1				1							1												1	
212	46.065920	-89.472252	40	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
213	46.0653075	-89.472258	46	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
214	46.0646955	-89.4722638	68	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
215	46.0640836	-89.4722697	85	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
216	46.0634716	-89.4722755	109	Irving	Vilas	7/23/2018	JLW & HAL	7	Muck	Pole	SAMPLED	1																											1	
217	46.0628596	-89.4722813	135	Irving	Vilas	7/23/2018	JLW & HAL	9	Muck	Pole	SAMPLED	1																											1	
218	46.0622476	-89.4722872	200	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	2																				2								
219	46.0616356	-89.472293	180	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
220	46.0610236	-89.4722988	103	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1									1																			
221	46.0604116	-89.4723047	102	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
222	46.0597996	-89.4723105	101	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
223	46.0591876	-89.4723163	100	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1								1														1						
224	46.0585756	-89.4723221	99	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1			1																									
225	46.0579636	-89.472328	98	Irving	Vilas	7/23/2018	JMB & DOT	8	Muck	Pole	SAMPLED	0																												
226	46.0573517	-89.4723338	97	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
227	46.0567397	-89.4723396	96	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
228	46.0561277	-89.4723455	91	Irving	Vilas	7/23/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1	1										1																	
229	46.0555157	-89.4723513	94	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
230	46.0549037	-89.4723571	95	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
231	46.0665275	-89.4713671	20	Irving	Vilas	7/23/2018	JLW & HAL	2	Sand	Pole	SAMPLED	1					1		1								1													
232	46.0659155	-89.471373	41	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	2																											2	
233	46.0653035	-89.4713788	45	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
234	46.0646915	-89.4713847	69	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field crew	Depth (ft.)	Sediment	Pole; Rope	Comments	Total Rake Fullness	Brasenia schreberi	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Juncus pelocarpus	Myriophyllum sibiricum	Najas flexilis	Nitella spp.	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton obtusifolius	Potamogeton praelongus	Potamogeton pusillus	Potamogeton robbinsii	Potamogeton strictifolius	Potamogeton zosteriformis	Schoenoplectus subterminalis	Utricularia gibba	Utricularia intermedia	Utricularia vulgaris	Vallisneria americana	Zizania palustris
235	46.0640795	-89.4713905	84	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																			
236	46.0634675	-89.4713963	110	Irving	Vilas	7/23/2018	JLW & HAL	8	Muck	Pole	SAMPLED	0																												
237	46.0628555	-89.4714022	134	Irving	Vilas	7/23/2018	JLW & HAL	9	Muck	Pole	SAMPLED	0																												
238	46.0622435	-89.471408	199	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
239	46.0616315	-89.4714139	179	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1																										1	
240	46.0610195	-89.4714197	104	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
241	46.0604075	-89.4714255	105	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
242	46.0597956	-89.4714314	106	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
243	46.0591836	-89.4714372	107	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
244	46.0585716	-89.4714431	108	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1				1																								
245	46.0573476	-89.4714547	109	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
246	46.0567356	-89.4714606	110	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1									1																	1	
247	46.0561236	-89.4714664	111	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
248	46.0555116	-89.4714723	112	Irving	Vilas	7/23/2018	JMB & DOT	3	Muck	Pole	SAMPLED	1																						1			1		
249	46.0548996	-89.4714781	113	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
250	46.0659114	-89.4704938	42	Irving	Vilas	7/23/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1					1															1								
251	46.0652994	-89.4704996	44	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1																										1	
252	46.0646874	-89.4705055	70	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
253	46.0640754	-89.4705113	83	Irving	Vilas	7/23/2018	JLW & HAL	6	Muck	Pole	SAMPLED	1									1																			
254	46.0634634	-89.4705172	111	Irving	Vilas	7/23/2018	JLW & HAL	6	Muck	Pole	SAMPLED	1									1																			
255	46.0628514	-89.470523	133	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1						1																						
256	46.0622395	-89.4705289	198	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
257	46.0616275	-89.4705347	178	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
258	46.0610155	-89.4705406	173	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
259	46.0604035	-89.4705464	172	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1																					1							
260	46.0597915	-89.4705523	171	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1																											1
261	46.0591795	-89.4705581	170	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	2																			2									
262	46.0585675	-89.470564	169	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
263	46.0573435	-89.4705757	118	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
264	46.0567315	-89.4705815	117	Irving	Vilas	7/23/2018	JMB & DOT	3	Muck	Pole	SAMPLED	2	1					1			1										1									
265	46.0561195	-89.4705874	114	Irving	Vilas	7/23/2018	JMB & DOT	3	Muck	Pole	SAMPLED	2	1										1											1			1		
266	46.0555076	-89.4705932	115	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
267	46.0548956	-89.4705991	116	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
268	46.0652953	-89.4696205	43	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
269	46.0646833	-89.4696263	71	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1																										1	
270	46.0640713	-89.4696322	82	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																	1	
271	46.0634594	-89.469638	112	Irving	Vilas	7/23/2018	JLW & HAL	6	Muck	Pole	SAMPLED	1									1																			
272	46.0628474	-89.4696439	132	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1								1											1									
273	46.0622354	-89.4696498	197	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
274	46.0616234	-89.4696556	177	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
275	46.0610114	-89.4696615	164	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1						1																						
276	46.0603994	-89.4696673	165	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
277	46.0597874	-89.4696732	166	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
278	46.0591754	-89.4696791	167	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
279	46.0585634	-89.4696849	168	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
280	46.0573394	-89.4696966	119	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1			1			1			1																			
281	46.0567275	-89.4697025	124	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
282	46.0561155	-89.4697083	125	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
283	46.0555035	-89.4697142	126	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
284	46.0548915	-89.4697201	127	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
285	46.0646793	-89.4687471	72	Irving	Vilas	7/23/2018	JLW & HAL	6	Muck	Pole	SAMPLED	0																												
286	46.0640673	-89.468753	81	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	3						3															1							
287	46.0634553	-89.4687589	113	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	3																			3									
288	46.0628433	-89.4687648	131	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1																			1									
289	46.0622313	-89.4687706	196	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
290	46.0616193	-89.4687765	176	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1																					1							
291	46.0610073	-89.4687824	163	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1																					1							
292	46.0603953	-89.4687882	162	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1																										1	
293	46.0597833	-89.4687941	161	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1																										1	
294	46.0591713	-89.4688	160	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	2						1		1			1																
295	46.0579474	-89.4688117	121	Irving	Vilas	7/23/2018	JMB & DOT	12	Muck	Pole	SAMPLED	0																												
296	46.0573354	-89.4688176	120	Irving	Vilas	7/23/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1		1		1												1				1						1		
297	46.0567234	-89.4688234	128	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
298	46.0561114	-89.4688293	129	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
299	46.0554994	-89.4688352	130	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
300	46.0548874	-89.468841	131	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
301	46.0646752	-89.467868	73	Irving	Vilas	7/23/2018	JLW & HAL	6	Sand	Pole	SAMPLED	1				1		1																						
302	46.0640632	-89.4678738	80	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
303	46.0634512	-89.4678797	114	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
304	46.0628392	-89.4678856	130	Irving	Vilas	7/23/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																												
305	46.0622272	-89.4678915	195	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
306	46.0616152	-89.4678974	175	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1																										1	
307	46.0610032	-89.4679032	156	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
308	46.0603912	-89.4679091	157	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1									1																			
309	46.0597792	-89.467915	158	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
310	46.0591673	-89.4679209	159	Irving	Vilas	7/23/2018	JMB & DOT	0			SHALLOW																													
311	46.0585553	-89.4679268	122	Irving	Vilas	7/23/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1																										1	
312	46.0579433	-89.4679326	132	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field crew	Depth (ft.)	Sediment	Pole; Rope	Comments	Total Rake Fullness	Brasenia schreberi	Bidens beckii	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea canadensis	Juncus pelocarpus	Myriophyllum sibiricum	Najas flexilis	Nitella spp.	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton obtusifolius	Potamogeton praelongus	Potamogeton pusillus	Potamogeton robbinsii	Potamogeton strictifolius	Potamogeton zosteriformis	Schoenoplectus subterminalis	Utricularia gibba	Utricularia intermedia	Utricularia vulgaris	Vallisneria americana	Zizania palustris
313	46.0573313	-89.4679385	133	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
314	46.0567193	-89.4679444	134	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
315	46.0561073	-89.4679503	135	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
316	46.0554953	-89.4679562	136	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
317	46.0548833	-89.467962	137	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
318	46.0646711	-89.4669888	74	Irving	Vilas	7/23/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1				1															1								1	
319	46.0640591	-89.4669947	79	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	2																				1		1					1	
320	46.0634471	-89.4670006	115	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
321	46.0628351	-89.4670065	129	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
322	46.0622231	-89.4670124	194	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																												
323	46.0616111	-89.4670182	174	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
324	46.0609991	-89.4670241	155	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
325	46.0603871	-89.46703	152	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																												
326	46.0597751	-89.4670359	151	Irving	Vilas	7/23/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1			1	1							1																	
327	46.0591632	-89.4670418	150	Irving	Vilas	7/23/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1																											1	
328	46.0585512	-89.4670477	123	Irving	Vilas	7/23/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																												
329	46.0579392	-89.4670536	138	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
330	46.0573272	-89.4670595	139	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
331	46.0567152	-89.4670653	140	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
332	46.0561032	-89.4670712	141	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
333	46.0554912	-89.4670771	142	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
334	46.064055	-89.4661155	78	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
335	46.063443	-89.4661214	116	Irving	Vilas	7/23/2018	JLW & HAL	2	Muck	Pole	SAMPLED	1											1		1											1				
336	46.062831	-89.4661273	118	Irving	Vilas	7/23/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																												
337	46.062219	-89.4661332	119	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	0																												
338	46.061607	-89.4661391	120	Irving	Vilas	7/23/2018	JLW & HAL	3	Muck	Pole	SAMPLED	3													3															
339	46.060995	-89.466145	154	Irving	Vilas	7/23/2018	JMB & DOT	4	Muck	Pole	SAMPLED	0																												
340	46.060383	-89.4661509	153	Irving	Vilas	7/23/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1						1							1															
341	46.059771	-89.4661568	0	Irving				0			NO INFORMATION																													
342	46.0591591	-89.4661627	148	Irving	Vilas	7/23/2018	JMB & DOT	0			TERRESTRIAL																													
343	46.0585471	-89.4661686	143	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
344	46.0579351	-89.4661745	144	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
345	46.0573231	-89.4661804	145	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
346	46.0567111	-89.4661863	146	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
347	46.0560991	-89.4661922	147	Irving	Vilas	7/23/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																													
348	46.0640509	-89.4652364	77	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
349	46.0634389	-89.4652423	117	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
350	46.0628269	-89.4652482	121	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
351	46.0622149	-89.4652541	125	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
352	46.0616029	-89.46526	126	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
353	46.0609909	-89.4652659	0	Irving				0			NO INFORMATION																													
354	46.0603789	-89.4652718	0	Irving				0			NO INFORMATION																													
355	46.0597669	-89.4652777	0	Irving				0			NO INFORMATION																													
356	46.0591549	-89.4652836	149	Irving	Vilas	7/23/2018	JMB & DOT	5	Muck	Pole	SAMPLED	3			1			1								1			1					1						
357	46.0640467	-89.4643572	75	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
358	46.0634348	-89.4643631	76	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
359	46.0628228	-89.464369	123	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
360	46.0622108	-89.464375	124	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
361	46.0615988	-89.4643809	127	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
362	46.0603748	-89.4643927	0	Irving				0			NO INFORMATION																													
363	46.0634306	-89.463484	122	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													
364	46.0615947	-89.4635017	128	Irving	Vilas	7/23/2018	JLW & HAL	0			NONNAVIGABLE (PLANTS)																													

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton natans	Potamogeton praelongus	Potamogeton pusillus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus flammula	Sagittaria sp. (rosette)	Sagittaria graminea	Utricularia resupinata	Vallisneria americana	Filamentous algae
1	46.064026	-89.527099	31	White Birch	Vilas	7/24/2018	JMB & DOT	0			TERRESTRIAL																										
2	46.063720	-89.527101	30	White Birch	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	1											1														
3	46.063414	-89.527104	360	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1				1					1		1							1							1
4	46.060354	-89.527130	312	White Birch	Vilas	7/24/2018	JLW & HAL	0			TERRESTRIAL																										
5	46.060048	-89.527133	311	White Birch	Vilas	7/24/2018	JLW & HAL	0			TERRESTRIAL																										
6	46.064636	-89.526654	19	White Birch	Vilas	7/24/2018	JMB & DOT	0			SHALLOW																										
7	46.064330	-89.526656	20	White Birch	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	1											1														
8	46.064024	-89.526659	21	White Birch	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	1											1														
9	46.063718	-89.526662	29	White Birch	Vilas	7/24/2018	JMB & DOT	4	Muck	Pole	SAMPLED	0																									
10	46.063412	-89.526664	361	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1											1														
11	46.063106	-89.526667	359	White Birch	Vilas	7/24/2018	JLW & HAL	1	Sand	Pole	SAMPLED	1				1									1				1					1			
12	46.060964	-89.526685	332	White Birch	Vilas	7/24/2018	JLW & HAL	2	Sand	Pole	SAMPLED	1											1														
13	46.060658	-89.526688	331	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1								1																	
14	46.060352	-89.526690	322	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1							1								1										
15	46.060046	-89.526693	313	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1															1										
16	46.064940	-89.526212	10	White Birch	Vilas	7/24/2018	JMB & DOT	0			SHALLOW																										
17	46.064634	-89.526214	11	White Birch	Vilas	7/24/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1									1																
18	46.064328	-89.526217	18	White Birch	Vilas	7/24/2018	JMB & DOT	4	Muck	Pole	SAMPLED	0																									
19	46.064022	-89.526219	22	White Birch	Vilas	7/24/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1									1																
20	46.063716	-89.526222	28	White Birch	Vilas	7/24/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1											1														
21	46.063410	-89.526225	362	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1									1									1							
22	46.063104	-89.526227	358	White Birch	Vilas	7/24/2018	JLW & HAL	2	Sand	Pole	SAMPLED	1																	1								
23	46.060962	-89.526246	333	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1		1											1					1							
24	46.060656	-89.526248	330	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	0																									
25	46.060350	-89.526251	323	White Birch	Vilas	7/24/2018	JLW & HAL	6	Muck	Pole	SAMPLED	1						1																			
26	46.060044	-89.526253	321	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1											1		1												
27	46.059738	-89.526256	314	White Birch	Vilas	7/24/2018	JLW & HAL	2	Rock	Pole	SAMPLED	1													1												
28	46.065244	-89.525769	4	White Birch	Vilas	7/24/2018	JMB & DOT	3	Muck	Pole	SAMPLED	0																									
29	46.064938	-89.525772	9	White Birch	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																									
30	46.064632	-89.525775	12	White Birch	Vilas	7/24/2018	JMB & DOT	3	Rock	Pole	SAMPLED	0																									
31	46.064326	-89.525777	17	White Birch	Vilas	7/24/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																									
32	46.064020	-89.525780	23	White Birch	Vilas	7/24/2018	JMB & DOT	4	Muck	Pole	SAMPLED	0																									
33	46.063714	-89.525782	27	White Birch	Vilas	7/24/2018	JMB & DOT	4	Muck	Pole	SAMPLED	0																									
34	46.063408	-89.525785	363	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	2																								2	
35	46.063102	-89.525788	357	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	2								1	1									1			1				
36	46.062796	-89.525790	352	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1							1																		
37	46.062490	-89.525793	351	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1		1	1								1						1							1	
38	46.062184	-89.525796	346	White Birch	Vilas	7/24/2018	JLW & HAL	2	Sand	Pole	SAMPLED	1													1										1		
39	46.061878	-89.525798	345	White Birch	Vilas	7/24/2018	JLW & HAL	0			TERRESTRIAL																										
40	46.061572	-89.525801	340	White Birch	Vilas	7/24/2018	JLW & HAL	0			TERRESTRIAL																										
41	46.061266	-89.525803	339	White Birch	Vilas	7/24/2018	JLW & HAL	2	Sand	Pole	SAMPLED	1																							1		
42	46.060960	-89.525806	334	White Birch	Vilas	7/24/2018	JLW & HAL	7	Sand	Pole	SAMPLED	1									1																
43	46.060654	-89.525809	329	White Birch	Vilas	7/24/2018	JLW & HAL	6	Muck	Pole	SAMPLED	2									2																
44	46.060348	-89.525811	324	White Birch	Vilas	7/24/2018	JLW & HAL	8	Muck	Pole	SAMPLED	1								1	1																
45	46.060042	-89.525814	320	White Birch	Vilas	7/24/2018	JLW & HAL	6	Muck	Pole	SAMPLED	1								1	1																
46	46.059736	-89.525817	315	White Birch	Vilas	7/24/2018	JLW & HAL	1	Sand	Pole	SAMPLED	1													1												
47	46.065549	-89.525327	3	White Birch	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																									
48	46.065243	-89.525330	5	White Birch	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																									
49	46.064937	-89.525332	8	White Birch	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1									1																
50	46.064631	-89.525335	13	White Birch	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	0																									
51	46.064325	-89.525338	16	White Birch	Vilas	7/24/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																									
52	46.064019	-89.525340	24	White Birch	Vilas	7/24/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1								1			1														
53	46.063713	-89.525343	26	White Birch	Vilas	7/24/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1								1																	
54	46.063407	-89.525346	364	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1																								1	
55	46.062795	-89.525351	353	White Birch	Vilas	7/24/2018	JLW & HAL	8	Muck	Pole	SAMPLED	0																									
56	46.062489	-89.525353	350	White Birch	Vilas	7/24/2018	JLW & HAL	7	Muck	Pole	SAMPLED	0																									
57	46.062183	-89.525356	347	White Birch	Vilas	7/24/2018	JLW & HAL	5	Sand	Pole	SAMPLED	1		1	1					1					1												
58	46.061877	-89.525359	344	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	0																									
59	46.061571	-89.525361	341	White Birch	Vilas	7/24/2018	JLW & HAL	7	Sand	Pole	SAMPLED	1								1																	
60	46.061265	-89.525364	338	White Birch	Vilas	7/24/2018	JLW & HAL	7	Sand	Pole	SAMPLED	0																									
61	46.060959	-89.525367	335	White Birch	Vilas	7/24/2018	JLW & HAL	8	Muck	Pole	SAMPLED	2																		2							
62	46.060653	-89.525369	328	White Birch	Vilas	7/24/2018	JLW & HAL	11	Muck	Pole	SAMPLED	2									1									1							
63	46.060347	-89.525372	325	White Birch	Vilas	7/24/2018	JLW & HAL	9	Muck	Pole	SAMPLED	2									1									2							
64	46.060041	-89.525374	319	White Birch	Vilas	7/24/2018	JLW & HAL	6	Muck	Pole	SAMPLED	1									1																
65	46.059735	-89.525377	316	White Birch	Vilas	7/24/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1								1																	
66	46.066771	-89.524877	194	White Birch	Vilas	7/24/2018	JLW & HAL	0			TERRESTRIAL																										
67	46.065853	-89.524885	1	White Birch	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																									
68	46.065547	-89.524888	2	White Birch	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	0																									
69	46.065241	-89.524890	6	White Birch	Vilas	7/24/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1												1						1							
70	46.064935	-89.524893	7	White Birch	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	0																									
71	46.064629	-89.524895	14	White Birch	Vilas	7/24/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1						1																			
72	46.064323	-89.524898	15	White Birch	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1								1																	
73	46.064017	-89.524901	25	White Birch	Vilas	7/24/2018	JMB & DOT	7	Muck	Pole	SAMPLED	2								1										2							
74	46.063405	-89.524906	356	White Birch	Vilas	7/24/2018	JLW & HAL	5	Rock	Pole	SAMPLED	0																									
75	46.063099	-89.524909	355	White Birch	Vilas	7/24/2018	JLW & HAL	8	Sand	Pole	SAMPLED	0																									
76	46.062793	-89.524911	354	White Birch	Vilas	7/24/2018	JLW & HAL	8	Muck	Pole	SAMPLED	3				1														3							
77	46.062487	-89.524914	349	White Birch	Vilas	7/24/2018	JLW & HAL	7	Rock	Pole	SAMPLED	0																									
78	46.062181	-89.524916	348	White Birch	Vilas	7/24/2018	JLW & HAL	8	Rock	Pole	SAMPLED	1								1																	

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton natans	Potamogeton praelongus	Potamogeton pusillus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus flammula	Sagittaria sp. (rosette)	Sagittaria graminea	Utricularia resupinata	Vallisneria americana	Filamentous algae
79	46.061875	-89.524919	343	White Birch	Vilas	7/24/2018	JLW & HAL	8	Sand	Pole	SAMPLED	1			1										1												
80	46.061569	-89.524922	342	White Birch	Vilas	7/24/2018	JLW & HAL	11	Muck	Pole	SAMPLED	3				1					1									3							
81	46.061263	-89.524924	337	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	2									1									2							
82	46.060957	-89.524927	336	White Birch	Vilas	7/24/2018	JLW & HAL	9	Muck	Pole	SAMPLED	1									1									1							
83	46.060651	-89.524930	327	White Birch	Vilas	7/24/2018	JLW & HAL	11	Muck	Pole	SAMPLED	2									1									2							
84	46.060345	-89.524932	326	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	1									1									1							
85	46.060039	-89.524935	318	White Birch	Vilas	7/24/2018	JLW & HAL	7	Muck	Pole	SAMPLED	1									1									1							
86	46.059733	-89.524937	317	White Birch	Vilas	7/24/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																									
87	46.067687	-89.524430	190	White Birch	Vilas	7/24/2018	JLW & HAL	4	Rock	Pole	SAMPLED	1									1				1					1							
88	46.067381	-89.524432	191	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																									
89	46.067075	-89.524435	192	White Birch	Vilas	7/24/2018	JLW & HAL	2	Muck	Pole	SAMPLED	0																									
90	46.066463	-89.524440	290	White Birch	Vilas	7/24/2018	JLW & HAL	0			SWIM AREA																										
91	46.066157	-89.524443	289	White Birch	Vilas	7/24/2018	JLW & HAL	6	Muck	Pole	SAMPLED	2														1				2							
92	46.065851	-89.524445	291	White Birch	Vilas	7/24/2018	JLW & HAL	7	Muck	Pole	SAMPLED	3									1			1						2							
93	46.065545	-89.524448	292	White Birch	Vilas	7/24/2018	JLW & HAL	8	Muck	Pole	SAMPLED	2				1														2							
94	46.065239	-89.524451	293	White Birch	Vilas	7/24/2018	JLW & HAL	9	Muck	Pole	SAMPLED	3																		3							
95	46.064933	-89.524453	294	White Birch	Vilas	7/24/2018	JLW & HAL	9	Muck	Pole	SAMPLED	3																		3							
96	46.064627	-89.524456	295	White Birch	Vilas	7/24/2018	JLW & HAL	8	Muck	Pole	SAMPLED	3												1						3							
97	46.064321	-89.524458	296	White Birch	Vilas	7/24/2018	JLW & HAL	8	Muck	Pole	SAMPLED	3												1						2							
98	46.064015	-89.524461	297	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	2				1														2							
99	46.063709	-89.524464	298	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	3		1							1									3							
100	46.063403	-89.524466	299	White Birch	Vilas	7/24/2018	JLW & HAL	9	Muck	Pole	SAMPLED	2				1					1									2							
101	46.063097	-89.524469	300	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	3																		3							
102	46.062791	-89.524472	301	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	3																		3							
103	46.062485	-89.524474	302	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	2																		2							
104	46.062179	-89.524477	303	White Birch	Vilas	7/24/2018	JLW & HAL	11	Muck	Pole	SAMPLED	3																		3							
105	46.061873	-89.524480	304	White Birch	Vilas	7/24/2018	JLW & HAL	12	Muck	Pole	SAMPLED	2																		2							
106	46.061567	-89.524482	305	White Birch	Vilas	7/24/2018	JLW & HAL	13	Muck	Pole	SAMPLED	2																		2							
107	46.061261	-89.524485	306	White Birch	Vilas	7/24/2018	JLW & HAL	13	Muck	Pole	SAMPLED	2																		2							
108	46.060955	-89.524487	307	White Birch	Vilas	7/24/2018	JLW & HAL	14	Muck	Pole	SAMPLED	2																		2							
109	46.060649	-89.524490	308	White Birch	Vilas	7/24/2018	JLW & HAL	14	Muck	Pole	SAMPLED	2																		2							
110	46.060343	-89.524493	309	White Birch	Vilas	7/24/2018	JLW & HAL	9	Muck	Pole	SAMPLED	2									1									2							
111	46.060037	-89.524495	310	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1		1																							
112	46.059731	-89.524498	266	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1							1				1												1		
113	46.067991	-89.523987	187	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1											1														
114	46.067685	-89.523990	188	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	3									3																
115	46.067379	-89.523993	189	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1			1				1	1					1												
116	46.067073	-89.523995	193	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	0																									
117	46.066767	-89.523998	195	White Birch	Vilas	7/24/2018	JLW & HAL	6	Muck	Pole	SAMPLED	1									1																
118	46.066461	-89.524000	288	White Birch	Vilas	7/24/2018	JLW & HAL	6	Muck	Pole	SAMPLED	3																		3							
119	46.066155	-89.524003	287	White Birch	Vilas	7/24/2018	JLW & HAL	7	Muck	Pole	SAMPLED	0																									
120	46.065849	-89.524006	286	White Birch	Vilas	7/24/2018	JLW & HAL	8	Muck	Pole	SAMPLED	3									1			1				1		3							
121	46.065543	-89.524008	285	White Birch	Vilas	7/24/2018	JLW & HAL	9	Muck	Pole	SAMPLED	2									1									2							
122	46.065237	-89.524011	284	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	2																		2							
123	46.064931	-89.524014	283	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	2				1					1									3							
124	46.064625	-89.524016	282	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	2									1									1							
125	46.064319	-89.524019	281	White Birch	Vilas	7/24/2018	JLW & HAL	11	Muck	Pole	SAMPLED	3																		3							
126	46.064013	-89.524022	280	White Birch	Vilas	7/24/2018	JLW & HAL	11	Muck	Pole	SAMPLED	2																		2							
127	46.063707	-89.524024	279	White Birch	Vilas	7/24/2018	JLW & HAL	11	Muck	Pole	SAMPLED	3																		3							
128	46.063401	-89.524027	278	White Birch	Vilas	7/24/2018	JLW & HAL	11	Muck	Pole	SAMPLED	2									1									2							
129	46.063095	-89.524029	277	White Birch	Vilas	7/24/2018	JLW & HAL	11	Muck	Pole	SAMPLED	3									1									3							
130	46.062789	-89.524032	276	White Birch	Vilas	7/24/2018	JLW & HAL	12	Muck	Pole	SAMPLED	3																		3							
131	46.062483	-89.524035	275	White Birch	Vilas	7/24/2018	JLW & HAL	12	Muck	Pole	SAMPLED	2				1														2							
132	46.062177	-89.524037	274	White Birch	Vilas	7/24/2018	JLW & HAL	13	Muck	Pole	SAMPLED	3									1									2							
133	46.061871	-89.524040	273	White Birch	Vilas	7/24/2018	JLW & HAL	15	Muck	Pole	SAMPLED	2																		2							
134	46.061565	-89.524043	272	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	2																		2							
135	46.061259	-89.524045	271	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	2																		2							
136	46.060953	-89.524048	270	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	2																		2							
137	46.060647	-89.524050	269	White Birch	Vilas	7/24/2018	JLW & HAL	16	Muck	Pole	SAMPLED	2																		2							
138	46.060341	-89.524053	268	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	2																		2							
139	46.060035	-89.524056	267	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	0																									
140	46.059729	-89.524058	265	White Birch	Vilas	7/24/2018	JLW & HAL	2	Sand	Pole	SAMPLED	2	1	1																			2		1	1	
141	46.067989	-89.523548	186	White Birch	Vilas	7/24/2018	JLW & HAL	5	Muck	Pole	SAMPLED	0																									
142	46.067683	-89.523550	185	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	2									2																
143	46.067377	-89.523553	184	White Birch	Vilas	7/24/2018	JLW & HAL	5	Muck	Pole	SAMPLED	3									2			3													
144	46.067071	-89.523556	183	White Birch	Vilas	7/24/2018	JLW & HAL	6	Muck	Pole	SAMPLED	0																									
145	46.066765	-89.523558	196	White Birch	Vilas	7/24/2018	JLW & HAL	6	Muck	Pole	SAMPLED	2									2									1							
146	46.066459	-89.523561	243	White Birch	Vilas	7/24/2018	JLW & HAL	7	Muck	Pole	SAMPLED	3														1				3							
147	46.066153	-89.523564	244	White Birch	Vilas	7/24/2018	JLW & HAL	7	Muck	Pole	SAMPLED	3																1		3							
148	46.065847	-89.523566	245	White Birch	Vilas	7/24/2018	JLW & HAL	8	Muck	Pole	SAMPLED	1									1									1						1	
149	46.065541	-89.523569	246	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	3				1					1									3							
150	46.065235	-89.523571	247	White Birch	Vilas	7/24/2018	JLW & HAL	12	Muck	Pole	SAMPLED	2																		2							
151	46.064929	-89.523574	248	White Birch	Vilas	7/24/2018	JLW & HAL	13	Muck	Pole	SAMPLED	2																		2							
152	46.064623	-89.523577	249	White Birch	Vilas	7/24/2018	JLW & HAL	13	Muck	Pole	SAMPLED	2																		2							
153	46.064317	-89.523579	250	White Birch	Vilas	7/24/2018	JLW & HAL	14	Muck	Pole	SAMPLED	3				1														3							
154	46.064011	-89.523582	251	White Birch	Vilas	7/24/2018	JLW & HAL	13	Muck	Pole	SAMPLED	2																		2							
155	46.063705	-89.523585	252	White Birch	Vilas	7/24/2018	JLW & HAL	12	Muck	Pole	SAMPLED	2																		2							
156	46.063399	-89.523587	253	White Birch	Vilas	7/24/2018	JLW & HAL	12	Muck	Pole	SAMPLED	2									1									2							

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton natans	Potamogeton praelongus	Potamogeton pusillus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus flammula	Sagittaria sp. (rosette)	Sagittaria graminea	Utricularia resupinata	Vallisneria americana	Filamentous algae
157	46.063093	-89.523590	254	White Birch	Vilas	7/24/2018	JLW & HAL	12	Muck	Pole	SAMPLED	3				1														3							
158	46.062787	-89.523592	255	White Birch	Vilas	7/24/2018	JLW & HAL	13	Muck	Pole	SAMPLED	3				1														3							
159	46.062481	-89.523595	256	White Birch	Vilas	7/24/2018	JLW & HAL	14	Muck	Pole	SAMPLED	2																		2							
160	46.062175	-89.523598	257	White Birch	Vilas	7/24/2018	JLW & HAL	15	Muck	Pole	SAMPLED	2																		2							
161	46.061869	-89.523600	258	White Birch	Vilas	7/24/2018	JLW & HAL	16	Muck	Pole	SAMPLED	2																		2							
162	46.061563	-89.523603	259	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	3																		3							
163	46.061257	-89.523606	260	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	2																		2							
164	46.060951	-89.523608	261	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	1																		1							
165	46.060645	-89.523611	262	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	2																		2							
166	46.060339	-89.523614	263	White Birch	Vilas	7/24/2018	JLW & HAL	9	Muck	Pole	SAMPLED	3																		3							
167	46.060033	-89.523616	264	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1		1						1					1												
168	46.069211	-89.523098	159	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1									1																
169	46.068905	-89.523100	164	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	2			2						1												1			1	
170	46.068599	-89.523103	165	White Birch	Vilas	7/24/2018	JLW & HAL	1	Sand	Pole	SAMPLED	1									1									1							
171	46.068293	-89.523105	178	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																									
172	46.067987	-89.523108	179	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1									1																
173	46.067681	-89.523111	180	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	3									2			2													
174	46.067375	-89.523113	181	White Birch	Vilas	7/24/2018	JLW & HAL	5	Muck	Pole	SAMPLED	3									2			1													
175	46.067069	-89.523116	182	White Birch	Vilas	7/24/2018	JLW & HAL	7	Muck	Pole	SAMPLED	1														1											
176	46.066763	-89.523119	197	White Birch	Vilas	7/24/2018	JLW & HAL	7	Muck	Pole	SAMPLED	0																									
177	46.066457	-89.523121	242	White Birch	Vilas	7/24/2018	JLW & HAL	7	Muck	Pole	SAMPLED	2									1									2							
178	46.066151	-89.523124	241	White Birch	Vilas	7/24/2018	JLW & HAL	9	Muck	Pole	SAMPLED	1																		1							
179	46.065845	-89.523127	240	White Birch	Vilas	7/24/2018	JLW & HAL	9	Muck	Pole	SAMPLED	3									1					1				3							
180	46.065539	-89.523129	239	White Birch	Vilas	7/24/2018	JLW & HAL	13	Muck	Pole	SAMPLED	0																									
181	46.065233	-89.523132	238	White Birch	Vilas	7/24/2018	JLW & HAL	14	Muck	Pole	SAMPLED	2				1														2						1	
182	46.064927	-89.523134	237	White Birch	Vilas	7/24/2018	JLW & HAL	15		Rope	SAMPLED	2																		2							
183	46.064621	-89.523137	236	White Birch	Vilas	7/24/2018	JLW & HAL	15		Rope	SAMPLED	2																		2							
184	46.064315	-89.523140	235	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	0																									
185	46.064009	-89.523142	234	White Birch	Vilas	7/24/2018	JLW & HAL	15		Rope	SAMPLED	1																		1							
186	46.063703	-89.523145	233	White Birch	Vilas	7/24/2018	JLW & HAL	15		Rope	SAMPLED	1																		1							
187	46.063397	-89.523148	232	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	2																		2							
188	46.063091	-89.523150	231	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	0																									
189	46.062785	-89.523153	230	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	3																		3							
190	46.062479	-89.523156	229	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	2																		2							
191	46.062173	-89.523158	228	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	2																		2							
192	46.061867	-89.523161	227	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	3																		3							
193	46.061561	-89.523163	226	White Birch	Vilas	7/24/2018	JLW & HAL	19		Rope	SAMPLED	1				1														1							
194	46.061255	-89.523166	225	White Birch	Vilas	7/24/2018	JLW & HAL	19		Rope	SAMPLED	0																									
195	46.060949	-89.523169	224	White Birch	Vilas	7/24/2018	JLW & HAL	18		Rope	SAMPLED	0																									
196	46.060643	-89.523171	223	White Birch	Vilas	7/24/2018	JLW & HAL	16	Muck	Pole	SAMPLED	1																		1							
197	46.060337	-89.523174	222	White Birch	Vilas	7/24/2018	JLW & HAL	9	Muck	Pole	SAMPLED	3									1									3							
198	46.060031	-89.523177	221	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1		1	1	1					1																
199	46.069516	-89.522655	158	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1									1						1			1							
200	46.069210	-89.522658	160	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	2									2																
201	46.068904	-89.522661	163	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	2									2																
202	46.068598	-89.522663	166	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	2									2		V														
203	46.068292	-89.522666	177	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	2									2									1							
204	46.067986	-89.522668	176	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	2									2																
205	46.067680	-89.522671	175	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	3									3			1													
206	46.067374	-89.522674	174	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	3								1	2			2													
207	46.067068	-89.522676	173	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	2									2	1															
208	46.066456	-89.522682	198	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1		1																							
209	46.066150	-89.522684	199	White Birch	Vilas	7/24/2018	JLW & HAL	8	Muck	Pole	SAMPLED	3																		3						1	
210	46.065844	-89.522687	200	White Birch	Vilas	7/24/2018	JLW & HAL	14	Muck	Pole	SAMPLED	2																		2							
211	46.065538	-89.522690	201	White Birch	Vilas	7/24/2018	JLW & HAL	16	Muck	Pole	SAMPLED	2																		2							
212	46.065232	-89.522692	202	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	2																		2							
213	46.0649255	-89.5226949	203	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	1																		1							
214	46.0646195	-89.5226975	204	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	1																		1							
215	46.0643135	-89.5227001	205	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	2																		2							
216	46.0640076	-89.5227028	206	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	2																		2							
217	46.0637016	-89.5227054	207	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	2																		2							
218	46.0633956	-89.5227081	208	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	2																		2							
219	46.0630896	-89.5227107	209	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	2																		2							
220	46.0627836	-89.5227133	211	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	2																		2							
221	46.0624776	-89.522716	212	White Birch	Vilas	7/24/2018	JLW & HAL	19		Rope	SAMPLED	0																									
222	46.0621716	-89.5227186	213	White Birch	Vilas	7/24/2018	JLW & HAL	21		Rope	SAMPLED	0																									
223	46.0618656	-89.5227212	214	White Birch	Vilas	7/24/2018	JLW & HAL	21		Rope	SAMPLED	0																									
224	46.0615596	-89.5227239	215	White Birch	Vilas	7/24/2018	JLW & HAL	21		Rope	SAMPLED	0																									
225	46.0612536	-89.5227265	216	White Birch	Vilas	7/24/2018	JLW & HAL	21		Rope	SAMPLED	0																									
226	46.0609476	-89.5227291	217	White Birch	Vilas	7/24/2018	JLW & HAL	18		Rope	SAMPLED	2				1														2							
227	46.0606416	-89.5227318	218	White Birch	Vilas	7/24/2018	JLW & HAL	14	Muck	Pole	SAMPLED	2																		2							
228	46.0603356	-89.5227344	219	White Birch	Vilas	7/24/2018	JLW & HAL	9	Sand	Pole	SAMPLED	2				1														2							
229	46.0600296	-89.5227371	220	White Birch	Vilas	7/24/2018	JLW & HAL	1	Sand	Pole	SAMPLED	1							1																1		
230	46.0695137	-89.5222157	157	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1									1				1												
231	46.0692077	-89.5222183	161	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	0																									
232	46.0689017	-89.522221	162	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	3									3																
233	46.0685957	-89.5222236	167	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	2									2				1												
234	46.0682897	-89.5222262	168	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	3									3									1							

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton natans	Potamogeton praelongus	Potamogeton pusillus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus flammula	Sagittaria sp. (rosette)	Sagittaria graminea	Utricularia resupinata	Vallisneria americana	Filamentous algae
235	46.0679837	-89.5222289	169	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	2									2		1														
236	46.0676777	-89.5222315	170	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	2									2																
237	46.0673717	-89.5222342	171	White Birch	Vilas	7/24/2018	JLW & HAL	3	Muck	Pole	SAMPLED	1								1	1																
238	46.0670657	-89.5222368	172	White Birch	Vilas	7/24/2018	JLW & HAL	1	Sand	Pole	SAMPLED	1					1						1									1					
239	46.0667597	-89.5222394	147	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1		1					1																		
240	46.0664537	-89.5222421	146	White Birch	Vilas	7/24/2018	JLW & HAL	5	Muck	Pole	SAMPLED	3				1				1	1			2						1						2	
241	46.0661477	-89.5222447	145	White Birch	Vilas	7/24/2018	JLW & HAL	6	Sand	Pole	SAMPLED	1																		1							
242	46.0658417	-89.5222474	144	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	1																		1							
243	46.0655357	-89.52225	143	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	0																									
244	46.0652297	-89.5222526	142	White Birch	Vilas	7/24/2018	JLW & HAL	18		Rope	SAMPLED	1																		1							
245	46.0649237	-89.5222553	141	White Birch	Vilas	7/24/2018	JLW & HAL	20		Rope	SAMPLED	1																		1							
246	46.0646177	-89.5222579	140	White Birch	Vilas	7/24/2018	JLW & HAL	20		Rope	SAMPLED	0																									
247	46.0643117	-89.5222606	139	White Birch	Vilas	7/24/2018	JLW & HAL	20		Rope	SAMPLED	0																									
248	46.0640057	-89.5222632	138	White Birch	Vilas	7/24/2018	JLW & HAL	20		Rope	SAMPLED	0																									
249	46.0636997	-89.5222658	137	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
250	46.0633937	-89.5222685	136	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
251	46.0630877	-89.5222711	135	White Birch	Vilas	7/24/2018	JLW & HAL	24			DEEP																										
252	46.0627817	-89.5222738	134	White Birch	Vilas	7/24/2018	JLW & HAL	24			DEEP																										
253	46.0624757	-89.5222764	133	White Birch	Vilas	7/24/2018	JLW & HAL	25			DEEP																										
254	46.0621697	-89.522279	132	White Birch	Vilas	7/24/2018	JLW & HAL	26			DEEP																										
255	46.0618637	-89.5222817	131	White Birch	Vilas	7/24/2018	JLW & HAL	26			DEEP																										
256	46.0615577	-89.5222843	130	White Birch	Vilas	7/24/2018	JLW & HAL	26			DEEP																										
257	46.0612517	-89.5222869	129	White Birch	Vilas	7/24/2018	JLW & HAL	26			DEEP																										
258	46.0609457	-89.5222896	128	White Birch	Vilas	7/24/2018	JLW & HAL	20		Rope	SAMPLED	2				1														2							
259	46.0606397	-89.5222922	127	White Birch	Vilas	7/24/2018	JLW & HAL	15	Muck	Pole	SAMPLED	1																		1							
260	46.0603337	-89.5222949	126	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	3												1						2							
261	46.0695118	-89.521776	156	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1																								1	
262	46.0685938	-89.521784	155	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1	1																								
263	46.0682878	-89.5217866	154	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1	1							1																	
264	46.0679818	-89.5217893	153	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	0																									
265	46.0676758	-89.5217919	152	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1									1																
266	46.0673698	-89.5217945	151	White Birch	Vilas	7/24/2018	JLW & HAL	5	Muck	Pole	SAMPLED	1									1																
267	46.0670639	-89.5217972	149	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1															1										
268	46.0667579	-89.5217998	148	White Birch	Vilas	7/24/2018	JLW & HAL	4	Muck	Pole	SAMPLED	1										V					1										
269	46.0661459	-89.5218051	106	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1		1																							
270	46.0658399	-89.5218078	107	White Birch	Vilas	7/24/2018	JLW & HAL	13	Muck	Pole	SAMPLED	2				1														2							
271	46.0655339	-89.5218104	108	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	2																		2							
272	46.0652279	-89.521813	109	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	2																		2							
273	46.0649219	-89.5218157	110	White Birch	Vilas	7/24/2018	JLW & HAL	19		Rope	SAMPLED	0																									
274	46.0646159	-89.5218183	111	White Birch	Vilas	7/24/2018	JLW & HAL	19		Rope	SAMPLED	0																									
275	46.0643099	-89.521821	112	White Birch	Vilas	7/24/2018	JLW & HAL	20		Rope	SAMPLED	0																									
276	46.0640039	-89.5218236	113	White Birch	Vilas	7/24/2018	JLW & HAL	20		Rope	SAMPLED	0																									
277	46.0636979	-89.5218262	114	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
278	46.0633919	-89.5218289	115	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
279	46.0630859	-89.5218315	116	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
280	46.0627799	-89.5218342	117	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
281	46.0624739	-89.5218368	118	White Birch	Vilas	7/24/2018	JLW & HAL	23			DEEP																										
282	46.0621679	-89.5218395	119	White Birch	Vilas	7/24/2018	JLW & HAL	23			DEEP																										
283	46.0618619	-89.5218421	120	White Birch	Vilas	7/24/2018	JLW & HAL	23			DEEP																										
284	46.0615559	-89.5218447	121	White Birch	Vilas	7/24/2018	JLW & HAL	24			DEEP																										
285	46.0612499	-89.5218474	122	White Birch	Vilas	7/24/2018	JLW & HAL	24			DEEP																										
286	46.0609439	-89.52185	123	White Birch	Vilas	7/24/2018	JLW & HAL	19		Rope	SAMPLED	3																		3							
287	46.0606379	-89.5218527	124	White Birch	Vilas	7/24/2018	JLW & HAL	13	Muck	Pole	SAMPLED	2				1														2							
288	46.0603319	-89.5218553	125	White Birch	Vilas	7/24/2018	JLW & HAL	5	Sand	Pole	SAMPLED	1		1	1					1																	
289	46.067368	-89.5213549	150	White Birch	Vilas	7/24/2018	JLW & HAL	1	Muck	Pole	SAMPLED	2					1			1			1		1								1			1	
290	46.065532	-89.5213708	105	White Birch	Vilas	7/24/2018	JLW & HAL	13	Muck	Pole	SAMPLED	2																		2							
291	46.065226	-89.5213734	104	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	1																		1							
292	46.06492	-89.5213761	103	White Birch	Vilas	7/24/2018	JLW & HAL	19		Rope	SAMPLED	2				1														1							
293	46.064614	-89.5213787	102	White Birch	Vilas	7/24/2018	JLW & HAL	19		Rope	SAMPLED	0																									
294	46.064308	-89.5213814	101	White Birch	Vilas	7/24/2018	JLW & HAL	20		Rope	SAMPLED	0																									
295	46.064002	-89.521384	100	White Birch	Vilas	7/24/2018	JLW & HAL	20		Rope	SAMPLED	0																									
296	46.063696	-89.5213867	99	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
297	46.06339	-89.5213893	98	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
298	46.063084	-89.521392	97	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
299	46.062778	-89.5213946	96	White Birch	Vilas	7/24/2018	JLW & HAL	23			DEEP																										
300	46.062472	-89.5213972	95	White Birch	Vilas	7/24/2018	JLW & HAL	23			DEEP																										
301	46.0621661	-89.5213999	94	White Birch	Vilas	7/24/2018	JLW & HAL	23			DEEP																										
302	46.0618601	-89.5214025	93	White Birch	Vilas	7/24/2018	JLW & HAL	24			DEEP																										
303	46.0615541	-89.5214052	92	White Birch	Vilas	7/24/2018	JLW & HAL	24			DEEP																										
304	46.0612481	-89.5214078	91	White Birch	Vilas	7/24/2018	JLW & HAL	24			DEEP																										
305	46.0609421	-89.5214105	90	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
306	46.0606361	-89.5214131	89	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	1																		1							
307	46.0603301	-89.5214158	88	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1		1					1						1												
308	46.0652242	-89.5209339	71	White Birch	Vilas	7/24/2018	JLW & HAL	15	Muck	Pole	SAMPLED	2																		1							
309	46.0649182	-89.5209365	72	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	1				1														1							
310	46.0646122	-89.5209391	73	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	1																		1							
311	46.0643062	-89.5209418	74	White Birch	Vilas	7/24/2018	JLW & HAL	18		Rope	SAMPLED	2				1														1							
312	46.0640002	-89.5209444	75	White Birch	Vilas	7/24/2018	JLW & HAL	19		Rope	SAMPLED	0																									

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton natans	Potamogeton praelongus	Potamogeton pusillus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus flammula	Sagittaria sp. (rosette)	Sagittaria graminea	Utricularia resupinata	Vallisneria americana	Filamentous algae
313	46.0636942	-89.5209471	76	White Birch	Vilas	7/24/2018	JLW & HAL	19		Rope	SAMPLED	0																									
314	46.0633882	-89.5209497	77	White Birch	Vilas	7/24/2018	JLW & HAL	21		Rope	SAMPLED	0																									
315	46.0630822	-89.5209524	210	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
316	46.0627762	-89.520955	79	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
317	46.0624702	-89.5209577	80	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
318	46.0621642	-89.5209603	81	White Birch	Vilas	7/24/2018	JLW & HAL	22			DEEP																										
319	46.0618582	-89.520963	82	White Birch	Vilas	7/24/2018	JLW & HAL	23			DEEP																										
320	46.0615522	-89.5209656	83	White Birch	Vilas	7/24/2018	JLW & HAL	24			DEEP																										
321	46.0612462	-89.5209683	84	White Birch	Vilas	7/24/2018	JLW & HAL	25			DEEP																										
322	46.0609402	-89.5209709	85	White Birch	Vilas	7/24/2018	JLW & HAL	24			DEEP																										
323	46.0606342	-89.5209735	86	White Birch	Vilas	7/24/2018	JLW & HAL	18		Rope	SAMPLED	0																									
324	46.0603282	-89.5209762	87	White Birch	Vilas	7/24/2018	JLW & HAL	3	Rock	Pole	SAMPLED	1							1																		1
325	46.0649163	-89.5204969	70	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1							1						1												
326	46.0646103	-89.5204996	69	White Birch	Vilas	7/24/2018	JLW & HAL	12	Sand	Pole	SAMPLED	2		2																						1	
327	46.0643043	-89.5205022	68	White Birch	Vilas	7/24/2018	JLW & HAL	14	Muck	Pole	SAMPLED	2																		2							
328	46.0639984	-89.5205049	67	White Birch	Vilas	7/24/2018	JLW & HAL	15	Muck	Pole	SAMPLED	1				1														1							
329	46.0636924	-89.5205075	66	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	2				1														2							
330	46.0633864	-89.5205102	65	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	0																									
331	46.0630804	-89.5205128	64	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	1																		1							
332	46.0627744	-89.5205154	63	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	0																									
333	46.0624684	-89.5205181	62	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	1		1																1							
334	46.0621624	-89.5205207	61	White Birch	Vilas	7/24/2018	JLW & HAL	17		Rope	SAMPLED	2		2																1							
335	46.0618564	-89.5205234	60	White Birch	Vilas	7/24/2018	JLW & HAL	23		Rope	SAMPLED	0																									
336	46.0615504	-89.520526	59	White Birch	Vilas	7/24/2018	JLW & HAL	22		Rope	SAMPLED	0																									
337	46.0612444	-89.5205287	58	White Birch	Vilas	7/24/2018	JLW & HAL	22		Rope	SAMPLED	0																									
338	46.0609384	-89.5205313	57	White Birch	Vilas	7/24/2018	JLW & HAL	22		Rope	SAMPLED	0																									
339	46.0606324	-89.520534	56	White Birch	Vilas	7/24/2018	JLW & HAL	19		Rope	SAMPLED	0																									
340	46.0603264	-89.5205366	55	White Birch	Vilas	7/24/2018	JLW & HAL	13	Sand	Pole	SAMPLED	3																		2						1	
341	46.0600204	-89.5205393	54	White Birch	Vilas	7/24/2018	JLW & HAL	2	Sand	Pole	SAMPLED	1				1									1					1							
342	46.0639965	-89.5200653	40	White Birch	Vilas	7/24/2018	JLW & HAL	7	Sand	Pole	SAMPLED	1		1						1					1				1							1	
343	46.0636905	-89.5200679	41	White Birch	Vilas	7/24/2018	JLW & HAL	12	Sand	Pole	SAMPLED	2		1											1				1							2	
344	46.0633845	-89.5200706	42	White Birch	Vilas	7/24/2018	JLW & HAL	14	Muck	Pole	SAMPLED	1																		1							
345	46.0630785	-89.5200732	43	White Birch	Vilas	7/24/2018	JLW & HAL	15	Muck	Pole	SAMPLED	2																		2							
346	46.0627725	-89.5200759	44	White Birch	Vilas	7/24/2018	JLW & HAL	15	Muck	Pole	SAMPLED	2																		2							
347	46.0624665	-89.5200785	45	White Birch	Vilas	7/24/2018	JLW & HAL	15	Muck	Pole	SAMPLED	1																		1							
348	46.0621605	-89.5200812	46	White Birch	Vilas	7/24/2018	JLW & HAL	15	Muck	Pole	SAMPLED	1																		1							
349	46.0618545	-89.5200838	47	White Birch	Vilas	7/24/2018	JLW & HAL	15	Muck	Pole	SAMPLED	2																		2							
350	46.0615485	-89.5200865	48	White Birch	Vilas	7/24/2018	JLW & HAL	16	Muck	Pole	SAMPLED	2																		2							
351	46.0612425	-89.5200891	49	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	2																		2							
352	46.0609365	-89.5200918	50	White Birch	Vilas	7/24/2018	JLW & HAL	16		Rope	SAMPLED	1																		1							
353	46.0606305	-89.5200944	51	White Birch	Vilas	7/24/2018	JLW & HAL	16	Muck	Pole	SAMPLED	2																		2							
354	46.0603245	-89.5200971	52	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	2																		2						1	
355	46.0600185	-89.5200997	53	White Birch	Vilas	7/24/2018	JLW & HAL	5	Sand	Pole	SAMPLED	3	1	2	1															1						2	
356	46.0633827	-89.519631	19	White Birch	Vilas	7/24/2018	JLW & HAL	7	Sand	Pole	SAMPLED	1								1					1											1	
357	46.0630767	-89.5196336	20	White Birch	Vilas	7/24/2018	JLW & HAL	9	Sand	Pole	SAMPLED	1													1					1						1	
358	46.0627707	-89.5196363	21	White Birch	Vilas	7/24/2018	JLW & HAL	11	Sand	Pole	SAMPLED	2		1		1													1	1						1	
359	46.0624647	-89.519639	39	White Birch	Vilas	7/24/2018	JLW & HAL	13	Muck	Pole	SAMPLED	2				1					1									2							
360	46.0621587	-89.5196416	38	White Birch	Vilas	7/24/2018	JLW & HAL	12	Muck	Pole	SAMPLED	2																		2							
361	46.0618527	-89.5196443	37	White Birch	Vilas	7/24/2018	JLW & HAL	13	Muck	Pole	SAMPLED	2																		2							
362	46.0615467	-89.5196469	36	White Birch	Vilas	7/24/2018	JLW & HAL	14	Sand	Pole	SAMPLED	1																		1							
363	46.0612407	-89.5196496	35	White Birch	Vilas	7/24/2018	JLW & HAL	14	Muck	Pole	SAMPLED	2																		2							
364	46.0609347	-89.5196522	34	White Birch	Vilas	7/24/2018	JLW & HAL	14	Muck	Pole	SAMPLED	2																		2							
365	46.0606287	-89.5196549	33	White Birch	Vilas	7/24/2018	JLW & HAL	15	Muck	Pole	SAMPLED	2																		2							
366	46.0603227	-89.5196575	32	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	2																		2							
367	46.0600167	-89.5196602	31	White Birch	Vilas	7/24/2018	JLW & HAL	2	Sand	Pole	SAMPLED	1				1							1														
368	46.0630748	-89.5191941	18	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	2							2																		
369	46.0627688	-89.5191967	22	White Birch	Vilas	7/24/2018	JLW & HAL	7	Sand	Pole	SAMPLED	2		1	1									1	1	1				1	1						
370	46.0624628	-89.5191994	23	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	3								1	1								1	1						2	
371	46.0621568	-89.519202	24	White Birch	Vilas	7/24/2018	JLW & HAL	9	Muck	Pole	SAMPLED	2																		1						2	
372	46.0618508	-89.5192047	25	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	2									1									2							
373	46.0615448	-89.5192073	26	White Birch	Vilas	7/24/2018	JLW & HAL	10	Muck	Pole	SAMPLED	2																		2							
374	46.0612388	-89.51921	27	White Birch	Vilas	7/24/2018	JLW & HAL	11	Muck	Pole	SAMPLED	3																		3							
375	46.0609328	-89.5192127	28	White Birch	Vilas	7/24/2018	JLW & HAL	11	Muck	Pole	SAMPLED	3																		3							
376	46.0606268	-89.5192153	29	White Birch	Vilas	7/24/2018	JLW & HAL	9	Sand	Pole	SAMPLED	2				1														2							
377	46.0603208	-89.519218	30	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1		1	1					1			V		1					1			1				
378	46.063073	-89.5187545	17	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1		1					1						1												
379	46.062767	-89.5187571	16	White Birch	Vilas	7/24/2018	JLW & HAL	6	Muck	Pole	SAMPLED	2																		2							
380	46.062461	-89.5187598	15	White Birch	Vilas	7/24/2018	JLW & HAL	6	Rock	Pole	SAMPLED	0																									
381	46.062155	-89.5187625	14	White Birch	Vilas	7/24/2018	JLW & HAL	8	Sand	Pole	SAMPLED	3																		3							
382	46.061849	-89.5187651	13	White Birch	Vilas	7/24/2018	JLW & HAL	9	Muck	Pole	SAMPLED	3																		3							
383	46.061543	-89.5187678	12	White Birch	Vilas	7/24/2018	JLW & HAL	8	Muck	Pole	SAMPLED	3		3										1	2											1	
384	46.061237	-89.5187704	11	White Birch	Vilas	7/24/2018	JLW & HAL	7	Sand	Pole	SAMPLED	1		1	1					1					1					1							
385	46.060931	-89.5187731	10	White Birch	Vilas	7/24/2018	JLW & HAL	7	Sand	Pole	SAMPLED	1													1												
386	46.060625	-89.5187758	9	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1			1				1																		
387	46.0630711	-89.5183149	1	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1		1					1						1											1	
388	46.0627651	-89.5183176	2	White Birch	Vilas	7/24/2018	JLW & HAL	4	Sand	Pole	SAMPLED	1		1	1					1																	
389	46.0624591	-89.5183202	3	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1		1					1						1												
390	46.0621531	-89.5183229	4	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1		1	1					1					1											1	

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Elodea canadensis	Isoetes spp.	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Najas guadalupensis	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton gramineus	Potamogeton illinoensis	Potamogeton natans	Potamogeton praelongus	Potamogeton pusillus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus flammula	Sagittaria sp. (rosette)	Sagittaria graminea	Utricularia resupinata	Vallisneria americana	Filamentous algae
391	46.0618471	-89.5183256	5	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1			1																						
392	46.0615411	-89.5183282	6	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1		1					1						1												
393	46.0612351	-89.5183309	7	White Birch	Vilas	7/24/2018	JLW & HAL	3	Sand	Pole	SAMPLED	1		1						1																	
394	46.0609291	-89.5183335	8	White Birch	Vilas	7/24/2018	JLW & HAL	2	Sand	Pole	SAMPLED	1			1				1																		

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field crew	Depth	Sediment	Pole; Rope	Comments	Total Rake Fullness	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lobelia dortmanna	Myriophyllum alterniflorum	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton strictifolius	Ranunculus flammula	Sagittaria cuneata	Utricularia gibba	Vallisneria americana
1	46.062505	-89.451782	217	Lake Laura	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
2	46.061902	-89.451788	216	Laura Lake	Vilas	7/25/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1						1										1								
3	46.061299	-89.451794	185	Laura Lake	Vilas	7/25/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1							1				1													1
4	46.060696	-89.451800	183	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
5	46.063706	-89.450904	242	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
6	46.063103	-89.450910	241	Laura Lake	Vilas	7/25/2018	JMB & DOT	3	Muck	Pole	SAMPLED	1						1																		
7	46.062500	-89.450916	218	Laura Lake	Vilas	7/25/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1			1								1													
8	46.061897	-89.450922	215	Laura Lake	Vilas	7/25/2018	JMB & DOT	3	Muck	Pole	SAMPLED	0																								
9	46.061294	-89.450928	186	Laura Lake	Vilas	7/25/2018	JMB & DOT	4	Sand	Pole	SAMPLED	0																								
10	46.060691	-89.450934	182	Laura Lake	Vilas	7/25/2018	JMB & DOT	6	Muck	Pole	SAMPLED	1			1				1									1								
11	46.060088	-89.450940	153	Laura Lake	Vilas	7/25/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1												1										1		1
12	46.059485	-89.450946	184	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
13	46.064305	-89.450032	257	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
14	46.063702	-89.450038	243	Laura Lake	Vilas	7/25/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1											1													
15	46.063099	-89.450044	240	Laura Lake	Vilas	7/25/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1						1																		
16	46.062496	-89.450050	219	Laura Lake	Vilas	7/25/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1											1													
17	46.061893	-89.450056	214	Laura Lake	Vilas	7/25/2018	JMB & DOT	5	Sand	Pole	SAMPLED	1											1													
18	46.061290	-89.450062	187	Laura Lake	Vilas	7/25/2018	JMB & DOT	8	Muck	Pole	SAMPLED	2					2												1							1
19	46.060687	-89.450068	181	Laura Lake	Vilas	7/25/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1																								1
20	46.060084	-89.450074	154	Laura Lake	Vilas	7/25/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1														1										
21	46.059481	-89.450080	152	Laura Lake	Vilas	7/25/2018	JMB & DOT	10	Muck	Pole	SAMPLED	2																			2					
22	46.058878	-89.450086	125	Laura Lake	Vilas	7/25/2018	JMB & DOT	8	Sand	Pole	SAMPLED	1			1																					
23	46.058275	-89.450092	124	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
24	46.064301	-89.449166	258	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																									
25	46.063698	-89.449172	244	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			NONNAVIGABLE (PLANTS)																									
26	46.063095	-89.449178	239	Laura Lake	Vilas	7/25/2018	JMB & DOT	4	Muck	Pole	SAMPLED	0																								
27	46.062492	-89.449184	220	Laura Lake	Vilas	7/25/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																								
28	46.061889	-89.449190	213	Laura Lake	Vilas	7/25/2018	JMB & DOT	9	Muck	Pole	SAMPLED	2		2																						
29	46.061286	-89.449196	188	Laura Lake	Vilas	7/25/2018	JMB & DOT	10	Muck	Pole	SAMPLED	1														1					1					
30	46.060683	-89.449202	180	Laura Lake	Vilas	7/25/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1														1										
31	46.060080	-89.449208	155	Laura Lake	Vilas	7/25/2018	JMB & DOT	10	Muck	Pole	SAMPLED	0																								
32	46.059477	-89.449214	151	Laura Lake	Vilas	7/25/2018	JMB & DOT	10	Muck	Rope	SAMPLED	0																								
33	46.058874	-89.449220	126	Laura Lake	Vilas	7/25/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1		1										1							1					
34	46.058271	-89.449226	123	Laura Lake	Vilas	7/25/2018	JMB & DOT	12	Muck	Pole	SAMPLED	1		1										1												
35	46.057668	-89.449232	99	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
36	46.055256	-89.449256	49	Laura Lake	Vilas	7/25/2018	JMB & DOT	6	Sand	Pole	SAMPLED	1												1												
37	46.064297	-89.448299	259	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
38	46.063694	-89.448305	245	Laura Lake	Vilas	7/25/2018	JMB & DOT	4	Sand	Pole	SAMPLED	0																								
39	46.063091	-89.448311	238	Laura Lake	Vilas	7/25/2018	JMB & DOT	7	Muck	Pole	SAMPLED	0																								
40	46.062488	-89.448318	221	Laura Lake	Vilas	7/25/2018	JMB & DOT	11	Muck	Pole	SAMPLED	2		2										1				1								
41	46.061885	-89.448324	212	Laura Lake	Vilas	7/25/2018	JMB & DOT	11	Muck	Pole	SAMPLED	0																								
42	46.061282	-89.448330	189	Laura Lake	Vilas	7/25/2018	JMB & DOT	12	Muck	Pole	SAMPLED	0																								
43	46.060679	-89.448336	179	Laura Lake	Vilas	7/25/2018	JMB & DOT	13	Muck	Pole	SAMPLED	1												1												
44	46.060076	-89.448342	156	Laura Lake	Vilas	7/25/2018	JMB & DOT	12	Muck	Pole	SAMPLED	1																								1
45	46.059473	-89.448348	150	Laura Lake	Vilas	7/25/2018	JMB & DOT	13	Muck	Pole	SAMPLED	1															1									
46	46.058870	-89.448354	127	Laura Lake	Vilas	7/25/2018	JMB & DOT	14	Muck	Pole	SAMPLED	0																								
47	46.058267	-89.448360	122	Laura Lake	Vilas	7/25/2018	JMB & DOT	22		Rope	SAMPLED	0																								
48	46.057664	-89.448366	98	Laura Lake	Vilas	7/25/2018	JMB & DOT	14	Sand	Pole	SAMPLED	1												1				1								
49	46.057061	-89.448372	97	Laura Lake	Vilas	7/25/2018	JMB & DOT	15		Rope	SAMPLED	0																								
50	46.056458	-89.448378	74	Laura Lake	Vilas	7/25/2018	JMB & DOT	18		Rope	SAMPLED	0																								
51	46.055855	-89.448384	73	Laura Lake	Vilas	7/25/2018	JMB & DOT	23		Rope	SAMPLED	0																								
52	46.055252	-89.448390	50	Laura Lake	Vilas	7/25/2018	JMB & DOT	22		Rope	SAMPLED	0																								
53	46.054649	-89.448396	48	Laura Lake	Vilas	7/25/2018	JMB & DOT	4	Rock	Pole	SAMPLED	0																								
54	46.064293	-89.447433	260	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
55	46.063690	-89.447439	246	Laura Lake	Vilas	7/25/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																								
56	46.063087	-89.447445	237	Laura Lake	Vilas	7/25/2018	JMB & DOT	10	Muck	Pole	SAMPLED	1																1								
57	46.062484	-89.447451	222	Laura Lake	Vilas	7/25/2018	JMB & DOT	12	Muck	Pole	SAMPLED	0																								
58	46.061881	-89.447457	211	Laura Lake	Vilas	7/25/2018	JMB & DOT	24		Rope	SAMPLED	0																								
59	46.061278	-89.447463	190	Laura Lake	Vilas	7/25/2018	JMB & DOT	25		Rope	SAMPLED	1													1											
60	46.060675	-89.447469	178	Laura Lake	Vilas	7/25/2018	JMB & DOT	23		Rope	SAMPLED	0																								
61	46.060072	-89.447475	157	Laura Lake	Vilas	7/25/2018	JMB & DOT	20		Rope	SAMPLED	0																								
62	46.059469	-89.447481	149	Laura Lake	Vilas	7/25/2018	JMB & DOT	23		Rope	SAMPLED	0																								
63	46.058866	-89.447487	128	Laura Lake	Vilas	7/25/2018	JMB & DOT	24		Rope	SAMPLED	1													1											
64	46.058263	-89.447493	121	Laura Lake	Vilas	7/25/2018	JMB & DOT	24		Rope	SAMPLED	1													1											
65	46.057660	-89.447499	100	Laura Lake	Vilas	7/25/2018	JMB & DOT	23		Rope	SAMPLED	0																								
66	46.057057	-89.447505	96	Laura Lake	Vilas	7/25/2018	JMB & DOT	25		Rope	SAMPLED	0																								
67	46.056454	-89.447511	75	Laura Lake	Vilas	7/25/2018	JMB & DOT	25		Rope	SAMPLED	1													1											
68	46.055851	-89.447517	72	Laura Lake	Vilas	7/25/2018	JMB & DOT	25		Rope	SAMPLED	2													2											
69	46.055248	-89.447523	51	Laura Lake	Vilas	7/25/2018	JMB & DOT	25		Rope	SAMPLED	1													1											
70	46.054645	-89.447529	47	Laura Lake	Vilas	7/25/2018	JMB & DOT	11		Rope	SAMPLED	0																								
71	46.054042	-89.447535	26	Laura Lake	Vilas	7/25/2018	JMB & DOT	10	Muck	Pole	SAMPLED	1												1				1								1

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field crew	Depth	Sediment	Pole; Rope	Comments	Total Rake Fullness	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lobelia dortmanna	Myriophyllum alterniflorum	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton strictifolius	Ranunculus flammula	Sagittaria cuneata	Utricularia gibba	Vallisneria americana
72	46.064891	-89.446561	261	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
73	46.064288	-89.446567	256	Laura Lake	Vilas	7/25/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																								
74	46.063685	-89.446573	247	Laura Lake	Vilas	7/25/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1			1									1												
75	46.063082	-89.446579	236	Laura Lake	Vilas	7/25/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1		1															1							
76	46.062480	-89.446585	223	Laura Lake	Vilas	7/25/2018	JMB & DOT	17		Rope	SAMPLED	0																								
77	46.061877	-89.446591	210	Laura Lake	Vilas	7/25/2018	JMB & DOT	25		Rope	SAMPLED	1													1											
78	46.061274	-89.446597	191	Laura Lake	Vilas	7/25/2018	JMB & DOT	26		Rope	SAMPLED	1													1											
79	46.060671	-89.446603	177	Laura Lake	Vilas	7/25/2018	JMB & DOT	24		Rope	SAMPLED	0																								
80	46.060068	-89.446609	158	Laura Lake	Vilas	7/25/2018	JMB & DOT	22		Rope	SAMPLED	1													1											
81	46.059465	-89.446615	148	Laura Lake	Vilas	7/25/2018	JMB & DOT	24		Rope	SAMPLED	0																								
82	46.058862	-89.446621	129	Laura Lake	Vilas	7/25/2018	JMB & DOT	25		Rope	SAMPLED	0																								
83	46.058259	-89.446627	120	Laura Lake	Vilas	7/25/2018	JMB & DOT	26		Rope	SAMPLED	3													3											
84	46.057656	-89.446633	101	Laura Lake	Vilas	7/25/2018	JMB & DOT	26		Rope	SAMPLED	1													1											
85	46.057053	-89.446639	95	Laura Lake	Vilas	7/25/2018	JMB & DOT	28		Rope	SAMPLED	1													1											
86	46.056450	-89.446645	76	Laura Lake	Vilas	7/25/2018	JMB & DOT	29		Rope	SAMPLED	1													1											
87	46.055847	-89.446651	71	Laura Lake	Vilas	7/25/2018	JMB & DOT	30		Rope	SAMPLED	0																								
88	46.055244	-89.446657	52	Laura Lake	Vilas	7/25/2018	JMB & DOT	30		Rope	SAMPLED	0																								
89	46.054641	-89.446663	46	Laura Lake	Vilas	7/25/2018	JMB & DOT	22		Rope	SAMPLED	0																								
90	46.054038	-89.446669	27	Laura Lake	Vilas	7/25/2018	JMB & DOT	22		Rope	SAMPLED	0																								
91	46.053435	-89.446675	25	Laura Lake	Vilas	7/25/2018	JMB & DOT	7	Rock	Pole	SAMPLED	0																								
92	46.064887	-89.445695	262	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
93	46.064284	-89.445701	255	Laura Lake	Vilas	7/25/2018	JMB & DOT	5	Muck	Pole	SAMPLED	0																								
94	46.063681	-89.445707	248	Laura Lake	Vilas	7/25/2018	JMB & DOT	8	Muck	Pole	SAMPLED	0																								
95	46.063078	-89.445713	235	Laura Lake	Vilas	7/25/2018	JMB & DOT	12	Muck	Pole	SAMPLED	3		3																						
96	46.062475	-89.445719	224	Laura Lake	Vilas	7/25/2018	JMB & DOT	20		Rope	SAMPLED	0																								
97	46.061872	-89.445725	209	Laura Lake	Vilas	7/25/2018	JMB & DOT	26		Rope	SAMPLED	1													1											
98	46.061269	-89.445731	192	Laura Lake	Vilas	7/25/2018	JMB & DOT	27		Rope	SAMPLED	1													1											
99	46.060666	-89.445737	176	Laura Lake	Vilas	7/25/2018	JMB & DOT	26		Rope	SAMPLED	1													1											
100	46.060063	-89.445743	159	Laura Lake	Vilas	7/25/2018	JMB & DOT	26		Rope	SAMPLED	1													1											
101	46.059460	-89.445749	147	Laura Lake	Vilas	7/25/2018	JMB & DOT	27		Rope	SAMPLED	1													1											
102	46.058857	-89.445755	130	Laura Lake	Vilas	7/25/2018	JMB & DOT	27		Rope	SAMPLED	0																								
103	46.058254	-89.445761	119	Laura Lake	Vilas	7/25/2018	JMB & DOT	29		Rope	SAMPLED	0																								
104	46.057651	-89.445767	102	Laura Lake	Vilas	7/25/2018	JMB & DOT	29		Rope	SAMPLED	1													1											
105	46.057048	-89.445773	94	Laura Lake	Vilas	7/25/2018	JMB & DOT	30		Rope	SAMPLED	1													1											
106	46.056445	-89.445779	77	Laura Lake	Vilas	7/25/2018	JMB & DOT	31		Rope	SAMPLED	1													1											
107	46.055842	-89.445785	70	Laura Lake	Vilas	7/25/2018	JMB & DOT	35		Rope	SAMPLED	1		1											1											
108	46.055239	-89.445791	53	Laura Lake	Vilas	7/25/2018	JMB & DOT	35		Rope	SAMPLED	1													1											
109	46.054636	-89.445797	45	Laura Lake	Vilas	7/25/2018	JMB & DOT	29		Rope	SAMPLED	0																								
110	46.054033	-89.445803	28	Laura Lake	Vilas	7/25/2018	JMB & DOT	28		Rope	SAMPLED	0																								
111	46.053430	-89.445809	24	Laura Lake	Vilas	7/25/2018	JMB & DOT	16		Rope	SAMPLED	0																								
112	46.064883	-89.444828	263	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
113	46.064280	-89.444835	254	Laura Lake	Vilas	7/25/2018	JMB & DOT	5	Sand	Pole	SAMPLED	0																								
114	46.063677	-89.444841	249	Laura Lake	Vilas	7/25/2018	JMB & DOT	8	Muck	Pole	SAMPLED	1			1									1				1								
115	46.063074	-89.444847	234	Laura Lake	Vilas	7/25/2018	JMB & DOT	12	Muck	Pole	SAMPLED	1																1								1
116	46.062471	-89.444853	225	Laura Lake	Vilas	7/25/2018	JMB & DOT	21		Rope	SAMPLED	0																								
117	46.061868	-89.444859	208	Laura Lake	Vilas	7/25/2018	JMB & DOT	26		Rope	SAMPLED	1													1											
118	46.061265	-89.444865	193	Laura Lake	Vilas	7/25/2018	JMB & DOT	27		Rope	SAMPLED	1													1											
119	46.060662	-89.444871	175	Laura Lake	Vilas	7/25/2018	JMB & DOT	29		Rope	SAMPLED	1													1											
120	46.060059	-89.444877	160	Laura Lake	Vilas	7/25/2018	JMB & DOT	30		Rope	SAMPLED	1													1											
121	46.059456	-89.444883	146	Laura Lake	Vilas	7/25/2018	JMB & DOT	30		Rope	SAMPLED	0																								
122	46.058853	-89.444889	131	Laura Lake	Vilas	7/25/2018	JMB & DOT	31		Rope	SAMPLED	1													1											
123	46.058250	-89.444895	118	Laura Lake	Vilas	7/25/2018	JMB & DOT	32		Rope	SAMPLED	0																								
124	46.057647	-89.444901	103	Laura Lake	Vilas	7/25/2018	JMB & DOT	32		Rope	SAMPLED	0																								
125	46.057044	-89.444907	93	Laura Lake	Vilas	7/25/2018	JMB & DOT	32		Rope	SAMPLED	1													1											
126	46.056441	-89.444913	78	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	0																								
127	46.055838	-89.444919	69	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	0																								
128	46.055235	-89.444925	54	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	1													1											
129	46.054632	-89.444931	44	Laura Lake	Vilas	7/25/2018	JMB & DOT	35		Rope	SAMPLED	0																								
130	46.054029	-89.444937	29	Laura Lake	Vilas	7/25/2018	JMB & DOT	31		Rope	SAMPLED	0																								
131	46.053426	-89.444943	23	Laura Lake	Vilas	7/25/2018	JMB & DOT	28		Rope	SAMPLED	1													1											
132	46.052823	-89.444949	12	Laura Lake	Vilas	7/25/2018	JMB & DOT	13	Muck	Pole	SAMPLED	1																			1					
133	46.052220	-89.444955	11	Laura Lake	Vilas	7/25/2018	JMB & DOT	7	Sand	Pole	SAMPLED	0																								
134	46.064276	-89.443968	253	Laura Lake	Vilas	7/25/2018	JMB & DOT	4	Sand	Pole	SAMPLED	0																								
135	46.063673	-89.443974	250	Laura Lake	Vilas	7/25/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1												1				1								
136	46.063070	-89.443980	233	Laura Lake	Vilas	7/25/2018	JMB & DOT	11	Muck	Pole	SAMPLED	1		1														1								1
137	46.062467	-89.443986	226	Laura Lake	Vilas	7/25/2018	JMB & DOT	23		Rope	SAMPLED	0																								
138	46.061864	-89.443993	207	Laura Lake	Vilas	7/25/2018	JMB & DOT	27		Rope	SAMPLED	0																								
139	46.061261	-89.443999	194	Laura Lake	Vilas	7/25/2018	JMB & DOT	28		Rope	SAMPLED	0																								
140	46.060658	-89.444005	174	Laura Lake	Vilas	7/25/2018	JMB & DOT	30		Rope	SAMPLED	0																								
141	46.060055	-89.444011	161	Laura Lake	Vilas	7/25/2018	JMB & DOT	30		Rope	SAMPLED	0																								
142	46.059452	-89.444017	145	Laura Lake	Vilas	7/25/2018	JMB & DOT	32		Rope	SAMPLED	0																								

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field crew	Depth	Sediment	Pole; Rope	Comments	Total Rake Fullness	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lobelia dortmanna	Myriophyllum alterniflorum	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton strictifolius	Ranunculus flammula	Sagittaria cuneata	Utricularia gibba	Vallisneria americana
143	46.058849	-89.444023	132	Laura Lake	Vilas	7/25/2018	JMB & DOT	32		Rope	SAMPLED	0																								
144	46.058246	-89.444029	117	Laura Lake	Vilas	7/25/2018	JMB & DOT	32		Rope	SAMPLED	0																								
145	46.057643	-89.444035	104	Laura Lake	Vilas	7/25/2018	JMB & DOT	32		Rope	SAMPLED	0																								
146	46.057040	-89.444041	92	Laura Lake	Vilas	7/25/2018	JMB & DOT	35		Rope	SAMPLED	0																								
147	46.056437	-89.444047	79	Laura Lake	Vilas	7/25/2018	JMB & DOT	36		Rope	SAMPLED	0																								
148	46.055834	-89.444053	68	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
149	46.055231	-89.444059	55	Laura Lake	Vilas	7/25/2018	JMB & DOT	39		Rope	SAMPLED	0																								
150	46.054628	-89.444065	43	Laura Lake	Vilas	7/25/2018	JMB & DOT	39		Rope	SAMPLED	0																								
151	46.054025	-89.444071	30	Laura Lake	Vilas	7/25/2018	JMB & DOT	36		Rope	SAMPLED	0																								
152	46.053422	-89.444077	22	Laura Lake	Vilas	7/25/2018	JMB & DOT	29		Rope	SAMPLED	1													1											
153	46.052819	-89.444083	13	Laura Lake	Vilas	7/25/2018	JMB & DOT	14	Muck	Pole	SAMPLED	0																								
154	46.052216	-89.444089	10	Laura Lake	Vilas	7/25/2018	JMB & DOT	13	Muck	Pole	SAMPLED	1																1								1
155	46.064272	-89.443102	264	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
156	46.063669	-89.443108	251	Laura Lake	Vilas	7/25/2018	JMB & DOT	6	Muck	Pole	SAMPLED	0																								
157	46.063066	-89.443114	232	Laura Lake	Vilas	7/25/2018	JMB & DOT	9	Muck	Pole	SAMPLED	1		1														1								
158	46.062463	-89.443120	227	Laura Lake	Vilas	7/25/2018	JMB & DOT	17		Rope	SAMPLED	1													1											
159	46.061860	-89.443126	206	Laura Lake	Vilas	7/25/2018	JMB & DOT	23		Rope	SAMPLED	0																								
160	46.061257	-89.443132	195	Laura Lake	Vilas	7/25/2018	JMB & DOT	26		Rope	SAMPLED	1													1											
161	46.060654	-89.443138	173	Laura Lake	Vilas	7/25/2018	JMB & DOT	31		Rope	SAMPLED	1													1											
162	46.060051	-89.443145	162	Laura Lake	Vilas	7/25/2018	JMB & DOT	32		Rope	SAMPLED	1													1											
163	46.059448	-89.443151	144	Laura Lake	Vilas	7/25/2018	JMB & DOT	32		Rope	SAMPLED	0																								
164	46.058845	-89.443157	133	Laura Lake	Vilas	7/25/2018	JMB & DOT	32		Rope	SAMPLED	0																								
165	46.058242	-89.443163	116	Laura Lake	Vilas	7/25/2018	JMB & DOT	34		Pole	SAMPLED	0																								
166	46.057639	-89.443169	105	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	0																								
167	46.057036	-89.443175	91	Laura Lake	Vilas	7/25/2018	JMB & DOT	36		Rope	SAMPLED	0																								
168	46.056433	-89.443181	80	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	0																								
169	46.055830	-89.443187	67	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
170	46.055227	-89.443193	56	Laura Lake	Vilas	7/25/2018	JMB & DOT	28		Rope	SAMPLED	0																								
171	46.054624	-89.443199	42	Laura Lake	Vilas	7/25/2018	JMB & DOT	39		Rope	SAMPLED	0																								
172	46.054021	-89.443205	31	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
173	46.053418	-89.443211	21	Laura Lake	Vilas	7/25/2018	JMB & DOT	28		Rope	SAMPLED	1													1											
174	46.052815	-89.443217	14	Laura Lake	Vilas	7/25/2018	JMB & DOT	16		Rope	SAMPLED	0																								
175	46.052212	-89.443223	9	Laura Lake	Vilas	7/25/2018	JMB & DOT	13	Muck	Pole	SAMPLED	1														1					1					
176	46.064267	-89.442236	265	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
177	46.063664	-89.442242	252	Laura Lake	Vilas	7/25/2018	JMB & DOT	3	Muck	Pole	SAMPLED	0																								
178	46.063061	-89.442248	231	Laura Lake	Vilas	7/25/2018	JMB & DOT	7	Sand	Pole	SAMPLED	0																								
179	46.062458	-89.442254	228	Laura Lake	Vilas	7/25/2018	JMB & DOT	10	Muck	Pole	SAMPLED	1			1									1				1								1
180	46.061855	-89.442260	205	Laura Lake	Vilas	7/25/2018	JMB & DOT	15		Rope	SAMPLED	0																								
181	46.061252	-89.442266	196	Laura Lake	Vilas	7/25/2018	JMB & DOT	23		Rope	SAMPLED	1													1											
182	46.060649	-89.442272	172	Laura Lake	Vilas	7/25/2018	JMB & DOT	29		Rope	SAMPLED	0																								
183	46.060047	-89.442278	163	Laura Lake	Vilas	7/25/2018	JMB & DOT	32		Rope	SAMPLED	0																								
184	46.059444	-89.442284	143	Laura Lake	Vilas	7/25/2018	JMB & DOT	34		Rope	SAMPLED	0																								
185	46.058841	-89.442290	134	Laura Lake	Vilas	7/25/2018	JMB & DOT	36		Rope	SAMPLED	0																								
186	46.058238	-89.442297	115	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
187	46.057635	-89.442303	106	Laura Lake	Vilas	7/25/2018	JMB & DOT	35		Rope	SAMPLED	0																								
188	46.057032	-89.442309	90	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	0																								
189	46.056429	-89.442315	81	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	0																								
190	46.055826	-89.442321	66	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
191	46.055223	-89.442327	57	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
192	46.054620	-89.442333	41	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
193	46.054017	-89.442339	32	Laura Lake	Vilas	7/25/2018	JMB & DOT	36		Rope	SAMPLED	1													1											
194	46.053414	-89.442345	20	Laura Lake	Vilas	7/25/2018	JMB & DOT	19		Rope	SAMPLED	0																								
195	46.052811	-89.442351	15	Laura Lake	Vilas	7/25/2018	JMB & DOT	20		Rope	SAMPLED	0																								
196	46.052208	-89.442357	8	Laura Lake	Vilas	7/25/2018	JMB & DOT	13	Rock	Pole	SAMPLED	1												1				1								
197	46.063660	-89.441376	266	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
198	46.063057	-89.441382	230	Laura Lake	Vilas	7/25/2018	JMB & DOT	3	Muck	Pole	SAMPLED	1			1																					
199	46.062454	-89.441388	229	Laura Lake	Vilas	7/25/2018	JMB & DOT	7	Muck	Pole	SAMPLED	1			1				1					1												
200	46.061851	-89.441394	204	Laura Lake	Vilas	7/25/2018	JMB & DOT	12	Muck	Pole	SAMPLED	1												1												
201	46.061248	-89.441400	197	Laura Lake	Vilas	7/25/2018	JMB & DOT	16		Rope	SAMPLED	0																								
202	46.060645	-89.441406	171	Laura Lake	Vilas	7/25/2018	JMB & DOT	28		Rope	SAMPLED	1													1											
203	46.060042	-89.441412	164	Laura Lake	Vilas	7/25/2018	JMB & DOT	34		Rope	SAMPLED	0																								
204	46.059439	-89.441418	142	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
205	46.058836	-89.441424	135	Laura Lake	Vilas	7/25/2018	JMB & DOT	39		Rope	SAMPLED	0																								
206	46.058233	-89.441430	114	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
207	46.057630	-89.441436	107	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
208	46.057027	-89.441443	89	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
209	46.056424	-89.441449	82	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
210	46.055821	-89.441455	65	Laura Lake	Vilas	7/25/2018	JMB & DOT	36		Rope	SAMPLED	0																								
211	46.055218	-89.441461	58	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
212	46.054615	-89.441467	40	Laura Lake	Vilas	7/25/2018	JMB & DOT	34		Rope	SAMPLED	0																								
213	46.0540124	-89.441473	33	Laura Lake	Vilas	7/25/2018	JMB & DOT	33		Rope	SAMPLED	0																								

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field crew	Depth	Sediment	Pole; Rope	Comments	Total Rake Fullness	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lobelia dortmanna	Myriophyllum alterniflorum	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton strictifolius	Ranunculus flammula	Sagittaria cuneata	Utricularia gibba	Vallisneria americana
214	46.0534094	-89.4414791	19	Laura Lake	Vilas	7/25/2018	JMB & DOT	16		Rope	SAMPLED	0																								
215	46.0528064	-89.4414851	5	Laura Lake	Vilas	7/25/2018	JMB & DOT	4	Rock	Pole	SAMPLED	0																								
216	46.0522034	-89.4414912	6	Laura Lake	Vilas	7/25/2018	JMB & DOT	11	Sand	Pole	SAMPLED	1												1												
217	46.061847	-89.4405277	203	Laura Lake	Vilas	7/25/2018	JMB & DOT	9	Sand	Pole	SAMPLED	0																								
218	46.061244	-89.4405338	198	Laura Lake	Vilas	7/25/2018	JMB & DOT	14	Muck	Pole	SAMPLED	0																								
219	46.060641	-89.4405399	170	Laura Lake	Vilas	7/25/2018	JMB & DOT	30		Rope	SAMPLED	0																								
220	46.060038	-89.440546	165	Laura Lake	Vilas	7/25/2018	JMB & DOT	33		Rope	SAMPLED	0																								
221	46.059435	-89.4405521	141	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	0																								
222	46.0588321	-89.4405582	136	Laura Lake	Vilas	7/25/2018	JMB & DOT	39		Rope	SAMPLED	0																								
223	46.0582291	-89.4405643	113	Laura Lake	Vilas	7/25/2018	JMB & DOT	39		Rope	SAMPLED	0																								
224	46.0576261	-89.4405704	108	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
225	46.0570231	-89.4405765	88	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	0																								
226	46.0564201	-89.4405825	83	Laura Lake	Vilas	7/25/2018	JMB & DOT	39		Rope	SAMPLED	0																								
227	46.0558171	-89.4405886	64	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	0																								
228	46.0552141	-89.4405947	59	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	0																								
229	46.0546111	-89.4406008	39	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
230	46.0540082	-89.4406069	34	Laura Lake	Vilas	7/25/2018	JMB & DOT	30		Rope	SAMPLED	0																								
231	46.0534052	-89.440613	18	Laura Lake	Vilas	7/25/2018	JMB & DOT	17		Rope	SAMPLED	0																								
232	46.0528022	-89.4406191	4	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
233	46.0515962	-89.4406313	7	Laura Lake	Vilas	7/25/2018	JMB & DOT	4	Muck	Pole	SAMPLED	1							1					1												
234	46.0618428	-89.4396615	202	Laura Lake	Vilas	7/25/2018	JMB & DOT	10	Sand	Rope	SAMPLED	0																								
235	46.0612398	-89.4396676	199	Laura Lake	Vilas	7/25/2018	JMB & DOT	25		Rope	SAMPLED	0																								
236	46.0606368	-89.4396737	169	Laura Lake	Vilas	7/25/2018	JMB & DOT	32		Rope	SAMPLED	0																								
237	46.0600338	-89.4396798	166	Laura Lake	Vilas	7/25/2018	JMB & DOT	33		Rope	SAMPLED	0																								
238	46.0594308	-89.4396859	140	Laura Lake	Vilas	7/25/2018	JMB & DOT	36		Rope	SAMPLED	0																								
239	46.0588278	-89.439692	137	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
240	46.0582248	-89.4396981	112	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	0																								
241	46.0576218	-89.4397042	109	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
242	46.0570189	-89.4397103	87	Laura Lake	Vilas	7/25/2018	JMB & DOT	35		Rope	SAMPLED	0																								
243	46.0564159	-89.4397164	84	Laura Lake	Vilas	7/25/2018	JMB & DOT	34		Rope	SAMPLED	0																								
244	46.0558129	-89.4397225	63	Laura Lake	Vilas	7/25/2018	JMB & DOT	36		Rope	SAMPLED	0																								
245	46.0552099	-89.4397286	60	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Pole	SAMPLED	0																								
246	46.0546069	-89.4397347	38	Laura Lake	Vilas	7/25/2018	JMB & DOT	36		Pole	SAMPLED	0																								
247	46.0540039	-89.4397408	35	Laura Lake	Vilas	7/25/2018	JMB & DOT	30		Rope	SAMPLED	1													1											
248	46.0534009	-89.4397469	17	Laura Lake	Vilas	7/25/2018	JMB & DOT	22		Rope	SAMPLED	0																								
249	46.0527979	-89.439753	3	Laura Lake	Vilas	7/25/2018	JMB & DOT	0			TERRESTRIAL																									
250	46.0618385	-89.4387953	201	Laura Lake	Vilas	7/25/2018	JMB & DOT	19		Rope	SAMPLED	0																								
251	46.0612355	-89.4388015	200	Laura Lake	Vilas	7/25/2018	JMB & DOT	30		Rope	SAMPLED	0																								
252	46.0606325	-89.4388076	168	Laura Lake	Vilas	7/25/2018	JMB & DOT	31		Rope	SAMPLED	0																								
253	46.0600295	-89.4388137	167	Laura Lake	Vilas	7/25/2018	JMB & DOT	32		Rope	SAMPLED	0																								
254	46.0594266	-89.4388198	139	Laura Lake	Vilas	7/25/2018	JMB & DOT	34		Rope	SAMPLED	0																								
255	46.0588236	-89.4388259	138	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	0																								
256	46.0582206	-89.438832	111	Laura Lake	Vilas	7/25/2018	JMB & DOT	39		Rope	SAMPLED	0																								
257	46.0576176	-89.4388381	110	Laura Lake	Vilas	7/25/2018	JMB & DOT	38		Rope	SAMPLED	0																								
258	46.0570146	-89.4388442	86	Laura Lake	Vilas	7/25/2018	JMB & DOT	35		Rope	SAMPLED	0																								
259	46.0564116	-89.4388503	85	Laura Lake	Vilas	7/25/2018	JMB & DOT	29		Rope	SAMPLED	0																								
260	46.0558086	-89.4388564	62	Laura Lake	Vilas	7/25/2018	JMB & DOT	36		Rope	SAMPLED	0																								
261	46.0552056	-89.4388625	61	Laura Lake	Vilas	7/25/2018	JMB & DOT	36		Rope	SAMPLED	0																								
262	46.0546026	-89.4388686	37	Laura Lake	Vilas	7/25/2018	JMB & DOT	37		Rope	SAMPLED	0																								
263	46.0539997	-89.4388748	36	Laura Lake	Vilas	7/25/2018	JMB & DOT	30		Rope	SAMPLED	0																								
264	46.0533967	-89.4388809	16	Laura Lake	Vilas	7/25/2018	JMB & DOT	22		Rope	SAMPLED	0																								
265	46.0527937	-89.438887	2	Laura Lake	Vilas	7/25/2018	JMB & DOT	14	Sand	Pole	SAMPLED	0																								
266	46.0521907	-89.4388931	1	Laura Lake	Vilas	7/25/2018	JMB & DOT	5	Muck	Pole	SAMPLED	1			1																					
267	46.0618342	-89.4379291	271	Laura Lake	Vilas	7/25/2018	TWH & NLS	17		Rope	SAMPLED	1												1												
268	46.0612313	-89.4379353	270	Laura Lake	Vilas	7/25/2018	TWH & NLS	27		Rope	SAMPLED	2													2											
269	46.0606283	-89.4379414	269	Laura Lake	Vilas	7/25/2018	TWH & NLS	29		Rope	SAMPLED	2													2											
270	46.0600253	-89.4379475	244	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	0																								
271	46.0594223	-89.4379536	243	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
272	46.0588193	-89.4379597	218	Laura Lake	Vilas	7/25/2018	TWH & NLS	35		Rope	SAMPLED	0																								
273	46.0582163	-89.4379659	217	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
274	46.0576133	-89.437972	191	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
275	46.0570103	-89.4379781	190	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
276	46.0564074	-89.4379842	163	Laura Lake	Vilas	7/25/2018	TWH & NLS	36		Rope	SAMPLED	0																								
277	46.0558044	-89.4379903	162	Laura Lake	Vilas	7/25/2018	TWH & NLS	37		Rope	SAMPLED	0																								
278	46.0552014	-89.4379964	135	Laura Lake	Vilas	7/25/2018	TWH & NLS	37		Rope	SAMPLED	0																								
279	46.0545984	-89.4380026	134	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
280	46.0539954	-89.4380087	106	Laura Lake	Vilas	7/25/2018	TWH & NLS	30		Rope	SAMPLED	0																								
281	46.0533924	-89.4380148	105	Laura Lake	Vilas	7/25/2018	TWH & NLS	27		Rope	SAMPLED	2													2											
282	46.0527894	-89.4380209	78	Laura Lake	Vilas	7/25/2018	TWH & NLS	18		Rope	SAMPLED	0																								
283	46.0521864	-89.438027	77	Laura Lake	Vilas	7/25/2018	TWH & NLS	13	Sand	Pole	SAMPLED	1												1				1								
284	46.0515835	-89.4380331	61	Laura Lake	Vilas	7/24/2018	TWH & NLS	11	Sand	Pole	SAMPLED	0																								

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field crew	Depth	Sediment	Pole; Rope	Comments	Total Rake Fullness	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lobelia dortmanna	Myriophyllum alterniflorum	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton strictifolius	Ranunculus flammula	Sagittaria cuneata	Utricularia gibba	Vallisneria americana
285	46.0509805	-89.4380393	33	Laura Lake	Vilas	7/24/2018	TWH & NLS	2	Rock	Pole	SAMPLED	0																								
286	46.061227	-89.4370691	272	Laura Lake	Vilas	7/25/2018	TWH & NLS	17		Rope	SAMPLED	0																								
287	46.060624	-89.4370752	268	Laura Lake	Vilas	7/25/2018	TWH & NLS	25		Rope	SAMPLED	3													3											
288	46.060021	-89.4370813	245	Laura Lake	Vilas	7/25/2018	TWH & NLS	28		Rope	SAMPLED	1													1											
289	46.059418	-89.4370875	242	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	0																								
290	46.058815	-89.4370936	219	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
291	46.0582121	-89.4370997	216	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
292	46.0576091	-89.4371058	192	Laura Lake	Vilas	7/25/2018	TWH & NLS	35		Rope	SAMPLED	0																								
293	46.0570061	-89.437112	189	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
294	46.0564031	-89.4371181	164	Laura Lake	Vilas	7/25/2018	TWH & NLS	35		Rope	SAMPLED	0																								
295	46.0558001	-89.4371242	161	Laura Lake	Vilas	7/25/2018	TWH & NLS	36		Rope	SAMPLED	0																								
296	46.0551971	-89.4371304	136	Laura Lake	Vilas	7/25/2018	TWH & NLS	36		Rope	SAMPLED	0																								
297	46.0545941	-89.4371365	133	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
298	46.0539911	-89.4371426	107	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
299	46.0533882	-89.4371487	104	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	0																								
300	46.0527852	-89.4371549	79	Laura Lake	Vilas	7/25/2018	TWH & NLS	27		Rope	SAMPLED	0																								
301	46.0521822	-89.437161	76	Laura Lake	Vilas	7/25/2018	TWH & NLS	20		Rope	SAMPLED	1													1											
302	46.0515792	-89.4371671	60	Laura Lake	Vilas	7/24/2018	TWH & NLS	12	Rock	Pole	SAMPLED	1																1								
303	46.0509762	-89.4371732	34	Laura Lake	Vilas	7/24/2018	TWH & NLS	12	Muck	Pole	SAMPLED	3																			3					
304	46.0503732	-89.4371794	32	Laura Lake	Vilas	7/24/2018	TWH & NLS	5	Rock	Pole	SAMPLED	1												1												
305	46.0491672	-89.4371916	28	Laura Lake	Vilas	7/24/2018	TWH & NLS	4	Muck	Pole	SAMPLED	2	2																			2				1
306	46.0612227	-89.4362029	273	Laura Lake	Vilas	7/25/2018	TWH & NLS	9	Sand	Pole	SAMPLED	1												1												
307	46.0606197	-89.436209	267	Laura Lake	Vilas	7/25/2018	TWH & NLS	14	Sand	Pole	SAMPLED	1		1														1								
308	46.0600168	-89.4362152	246	Laura Lake	Vilas	7/25/2018	TWH & NLS	23		Rope	SAMPLED	0																								
309	46.0594138	-89.4362213	241	Laura Lake	Vilas	7/25/2018	TWH & NLS	29		Rope	SAMPLED	0																								
310	46.0588108	-89.4362274	220	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
311	46.0582078	-89.4362336	215	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
312	46.0576048	-89.4362397	193	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
313	46.0570018	-89.4362459	188	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
314	46.0563988	-89.436252	165	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
315	46.0557958	-89.4362581	160	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
316	46.0551929	-89.4362643	137	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
317	46.0545899	-89.4362704	132	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
318	46.0539869	-89.4362765	108	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	3													3											
319	46.0533839	-89.4362827	103	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	0																								
320	46.0527809	-89.4362888	80	Laura Lake	Vilas	7/25/2018	TWH & NLS	28		Rope	SAMPLED	1													1											
321	46.0521779	-89.4362949	75	Laura Lake	Vilas	7/25/2018	TWH & NLS	22		Rope	SAMPLED	0																								
322	46.0515749	-89.4363011	59	Laura Lake	Vilas	7/24/2018	TWH & NLS	18		Rope	SAMPLED	1		1																						
323	46.0509719	-89.4363072	35	Laura Lake	Vilas	7/24/2018	TWH & NLS	12	Rock	Pole	SAMPLED	1												1												
324	46.0503689	-89.4363133	31	Laura Lake	Vilas	7/24/2018	TWH & NLS	12	Muck	Pole	SAMPLED	2														1					1					2
325	46.049766	-89.4363195	30	Laura Lake	Vilas	7/24/2018	TWH & NLS	10	Muck	Pole	SAMPLED	1														1										
326	46.049163	-89.4363256	29	Laura Lake	Vilas	7/24/2018	TWH & NLS	5	Rock	Pole	SAMPLED	0																								
327	46.0612185	-89.4353367	274	Laura Lake	Vilas	7/25/2018	TWH & NLS	7	Sand	Pole	SAMPLED	1			1																					
328	46.0606155	-89.4353429	266	Laura Lake	Vilas	7/25/2018	TWH & NLS	12	Sand	Pole	SAMPLED	1												1												
329	46.0600125	-89.435349	247	Laura Lake	Vilas	7/25/2018	TWH & NLS	19		Rope	SAMPLED	1		1																						
330	46.0594095	-89.4353552	240	Laura Lake	Vilas	7/25/2018	TWH & NLS	30		Rope	SAMPLED	0																								
331	46.0588065	-89.4353613	221	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
332	46.0582035	-89.4353674	214	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
333	46.0576005	-89.4353736	194	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
334	46.0569975	-89.4353797	187	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
335	46.0563946	-89.4353859	166	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
336	46.0557916	-89.435392	159	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
337	46.0551886	-89.4353982	138	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
338	46.0545856	-89.4354043	131	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
339	46.0539826	-89.4354105	109	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
340	46.0533796	-89.4354166	102	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	1													1											
341	46.0527766	-89.4354228	81	Laura Lake	Vilas	7/25/2018	TWH & NLS	29		Rope	SAMPLED	2													2											
342	46.0521736	-89.4354289	74	Laura Lake	Vilas	7/25/2018	TWH & NLS	25		Rope	SAMPLED	1													1											
343	46.0515706	-89.435435	58	Laura Lake	Vilas	7/24/2018	TWH & NLS	17		Rope	SAMPLED	0																								
344	46.0509677	-89.4354412	36	Laura Lake	Vilas	7/24/2018	TWH & NLS	14	Sand	Pole	SAMPLED	1												1				1								
345	46.0503647	-89.4354473	25	Laura Lake	Vilas	7/24/2018	TWH & NLS	13	Muck	Pole	SAMPLED	0																								
346	46.0497617	-89.4354535	26	Laura Lake	Vilas	7/24/2018	TWH & NLS	11	Sand	Pole	SAMPLED	1												1				1								
347	46.0491587	-89.4354596	27	Laura Lake	Vilas	7/24/2018	TWH & NLS	6	Sand	Pole	SAMPLED	0																								
348	46.0612142	-89.4344705	275	Laura Lake	Vilas	7/25/2018	TWH & NLS	8	Sand	Pole	SAMPLED	2																								2
349	46.0606112	-89.4344767	265	Laura Lake	Vilas	7/25/2018	TWH & NLS	12	Sand	Pole	SAMPLED	1																								1
350	46.0600082	-89.4344828	248	Laura Lake	Vilas	7/25/2018	TWH & NLS	21		Rope	SAMPLED	1		1																						
351	46.0594052	-89.434489	239	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	3													3											
352	46.0588022	-89.4344952	222	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
353	46.0581992	-89.4345013	213	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
354	46.0575962	-89.4345075	195	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
355	46.0569933	-89.4345136	186	Laura Lake	Vilas	7/25/2018	TWH & NLS	32		Rope	SAMPLED	0																								

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field crew	Depth	Sediment	Pole; Rope	Comments	Total Rake Fullness	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lobelia dortmanna	Myriophyllum alterniflorum	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton strictifolius	Ranunculus flammula	Sagittaria cuneata	Utricularia gibba	Vallisneria americana
356	46.0563903	-89.4345198	167	Laura Lake	Vilas	7/25/2018	TWH & NLS	34		Rope	SAMPLED	0																								
357	46.0557873	-89.4345259	158	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	3		3																						
358	46.0551843	-89.4345321	139	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
359	46.0545813	-89.4345382	130	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
360	46.0539783	-89.4345444	110	Laura Lake	Vilas	7/25/2018	TWH & NLS	32		Rope	SAMPLED	2													2											
361	46.0533753	-89.4345505	101	Laura Lake	Vilas	7/25/2018	TWH & NLS	30		Rope	SAMPLED	0																								
362	46.0527723	-89.4345567	82	Laura Lake	Vilas	7/25/2018	TWH & NLS	27		Rope	SAMPLED	0																								
363	46.0521694	-89.4345629	73	Laura Lake	Vilas	7/25/2018	TWH & NLS	19		Rope	SAMPLED	0																								
364	46.0515664	-89.434569	57	Laura Lake	Vilas	7/24/2018	TWH & NLS	11	Rock	Pole	SAMPLED	0																								
365	46.0509634	-89.4345752	37	Laura Lake	Vilas	7/24/2018	TWH & NLS	11	Sand	Pole	SAMPLED	1																1								
366	46.0503604	-89.4345813	24	Laura Lake	Vilas	7/24/2018	TWH & NLS	11	Sand	Pole	SAMPLED	1																1								
367	46.0624159	-89.433592	291	Laura Lake	Vilas	7/25/2018	TWH & NLS	0			TERRESTRIAL																									
368	46.0618129	-89.4335982	290	Laura Lake	Vilas	7/25/2018	TWH & NLS	5	Sand	Pole	SAMPLED	1																								1
369	46.0612099	-89.4336043	276	Laura Lake	Vilas	7/25/2018	TWH & NLS	9	Sand	Pole	SAMPLED	1												1				1								
370	46.0606069	-89.4336105	264	Laura Lake	Vilas	7/25/2018	TWH & NLS	16		Rope	SAMPLED	1		1																						
371	46.0600039	-89.4336167	249	Laura Lake	Vilas	7/25/2018	TWH & NLS	25		Rope	SAMPLED	1		1																						
372	46.0594009	-89.4336228	238	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	1													1											
373	46.0587979	-89.433629	223	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
374	46.0581949	-89.4336352	212	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
375	46.057592	-89.4336413	196	Laura Lake	Vilas	7/25/2018	TWH & NLS	32		Rope	SAMPLED	1													1											
376	46.056989	-89.4336475	185	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	2		2																						
377	46.056386	-89.4336537	168	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
378	46.055783	-89.4336598	157	Laura Lake	Vilas	7/25/2018	TWH & NLS	32		Rope	SAMPLED	2		2																						
379	46.05518	-89.433666	140	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
380	46.054577	-89.4336722	129	Laura Lake	Vilas	7/25/2018	TWH & NLS	32		Rope	SAMPLED	0																								
381	46.053974	-89.4336783	111	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	0																								
382	46.053371	-89.4336845	100	Laura Lake	Vilas	7/25/2018	TWH & NLS	28		Rope	SAMPLED	3													3											
383	46.0527681	-89.4336906	83	Laura Lake	Vilas	7/25/2018	TWH & NLS	21		Rope	SAMPLED	1		1																						
384	46.0521651	-89.4336968	72	Laura Lake	Vilas	7/25/2018	TWH & NLS	14	Sand	Pole	SAMPLED	1																1								
385	46.0515621	-89.433703	56	Laura Lake	Vilas	7/24/2018	TWH & NLS	9	Rock	Pole	SAMPLED	1												1												
386	46.0509591	-89.4337091	38	Laura Lake	Vilas	7/24/2018	TWH & NLS	8	Rock	Pole	SAMPLED	1																1								
387	46.0497531	-89.4337215	10	Laura Lake	Vilas	7/24/2018	TWH & NLS	3	Muck	Pole	SAMPLED	1																1							1	
388	46.0491501	-89.4337276	62	Laura Lake	Vilas	7/24/2018	TWH & NLS	0			NONNAVIGABLE (PLANTS)																									
389	46.0624116	-89.4327258	292	Laura Lake	Vilas	7/25/2018	TWH & NLS	1	Sand	Pole	SAMPLED	1			1																					
390	46.0618086	-89.432732	289	Laura Lake	Vilas	7/25/2018	TWH & NLS	7	Sand	Pole	SAMPLED	1							1				1													
391	46.0612056	-89.4327382	277	Laura Lake	Vilas	7/25/2018	TWH & NLS	12	Sand	Pole	SAMPLED	1		1												1				1						1
392	46.0606026	-89.4327443	263	Laura Lake	Vilas	7/25/2018	TWH & NLS	19		Rope	SAMPLED	1													1											
393	46.0599996	-89.4327505	250	Laura Lake	Vilas	7/25/2018	TWH & NLS	26		Rope	SAMPLED	1													1											
394	46.0593966	-89.4327567	237	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	1													1											
395	46.0587936	-89.4327629	224	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
396	46.0581906	-89.432769	211	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
397	46.0575877	-89.4327752	197	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	1													1											
398	46.0569847	-89.4327814	184	Laura Lake	Vilas	7/25/2018	TWH & NLS	32		Rope	SAMPLED	0																								
399	46.0563817	-89.4327876	169	Laura Lake	Vilas	7/25/2018	TWH & NLS	32		Rope	SAMPLED	2													2											
400	46.0557787	-89.4327937	156	Laura Lake	Vilas	7/25/2018	TWH & NLS	32		Rope	SAMPLED	1													1											
401	46.0551757	-89.4327999	141	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	2		2																						
402	46.0545727	-89.4328061	128	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	3		3											1											
403	46.0539697	-89.4328122	112	Laura Lake	Vilas	7/25/2018	TWH & NLS	30		Rope	SAMPLED	3													3											
404	46.0533667	-89.4328184	99	Laura Lake	Vilas	7/25/2018	TWH & NLS	23		Rope	SAMPLED	3		3																						
405	46.0527638	-89.4328246	84	Laura Lake	Vilas	7/25/2018	TWH & NLS	15	Sand	Pole	SAMPLED	2		1										1				1								
406	46.0521608	-89.4328308	71	Laura Lake	Vilas	7/25/2018	TWH & NLS	12	Sand	Pole	SAMPLED	1												1				1								
407	46.0515578	-89.4328369	55	Laura Lake	Vilas	7/24/2018	TWH & NLS	10	Sand	Pole	SAMPLED	0																								
408	46.0509548	-89.4328431	39	Laura Lake	Vilas	7/24/2018	TWH & NLS	7	Rock	Pole	SAMPLED	0																								
409	46.0503518	-89.4328493	23	Laura Lake	Vilas	7/24/2018	TWH & NLS	7	Muck	Pole	SAMPLED	2			1																			1		2
410	46.0497488	-89.4328555	11	Laura Lake	Vilas	7/24/2018	TWH & NLS	6	Muck	Pole	SAMPLED	2			1																2			1		1
411	46.0491458	-89.4328616	9	Laura Lake	Vilas	7/24/2018	TWH & NLS	2	Rock	Pole	SAMPLED	1							1																	
412	46.0485428	-89.4328678	3	Laura Lake	Vilas	7/24/2018	TWH & NLS	0			NONNAVIGABLE (PLANTS)																									
413	46.0624073	-89.4318596	293	Laura Lake	Vilas	7/25/2018	TWH & NLS	1	Rock	Pole	SAMPLED	1																					1			
414	46.0618043	-89.4318658	288	Laura Lake	Vilas	7/25/2018	TWH & NLS	9	Sand	Pole	SAMPLED	1																								1
415	46.0612013	-89.431872	278	Laura Lake	Vilas	7/25/2018	TWH & NLS	17		Rope	SAMPLED	1		1			1																			
416	46.0605983	-89.4318782	262	Laura Lake	Vilas	7/25/2018	TWH & NLS	22		Rope	SAMPLED	1		1																						
417	46.0599953	-89.4318843	251	Laura Lake	Vilas	7/25/2018	TWH & NLS	26		Rope	SAMPLED	1													1											
418	46.0593923	-89.4318905	236	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	0																								
419	46.0587893	-89.4318967	225	Laura Lake	Vilas	7/25/2018	TWH & NLS	33		Rope	SAMPLED	0																								
420	46.0581863	-89.4319029	210	Laura Lake	Vilas	7/25/2018	TWH & NLS	32		Rope	SAMPLED	0																								
421	46.0575834	-89.4319091	198	Laura Lake	Vilas	7/25/2018	TWH & NLS	32		Rope	SAMPLED	1													1											
422	46.0569804	-89.4319153	183	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	0																								
423	46.0563774	-89.4319214	170	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	1													1											
424	46.0557744	-89.4319276	155	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	1													1											
425	46.0551714	-89.4319338	142	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	1													1											
426	46.0545684	-89.43194	127	Laura Lake	Vilas	7/25/2018	TWH & NLS	28		Rope	SAMPLED	1													1											

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field crew	Depth	Sediment	Pole; Rope	Comments	Total Rake Fullness	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lobelia dortmanna	Myriophyllum alterniflorum	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton strictifolius	Ranunculus flammula	Sagittaria cuneata	Utricularia gibba	Vallisneria americana
427	46.0539654	-89.4319462	113	Laura Lake	Vilas	7/25/2018	TWH & NLS	18		Rope	SAMPLED	0																								
428	46.0533624	-89.4319524	98	Laura Lake	Vilas	7/25/2018	TWH & NLS	9	Rock	Pole	SAMPLED	0																								
429	46.0527595	-89.4319585	85	Laura Lake	Vilas	7/25/2018	TWH & NLS	10	Rock	Pole	SAMPLED	1		1																						
430	46.0521565	-89.4319647	70	Laura Lake	Vilas	7/25/2018	TWH & NLS	11	Sand	Pole	SAMPLED	3		3														1								1
431	46.0515535	-89.4319709	54	Laura Lake	Vilas	7/24/2018	TWH & NLS	11	Sand	Pole	SAMPLED	2												1												2
432	46.0509505	-89.4319771	40	Laura Lake	Vilas	7/24/2018	TWH & NLS	5	Rock	Pole	SAMPLED	0																								
433	46.0503475	-89.4319833	22	Laura Lake	Vilas	7/24/2018	TWH & NLS	10	Muck	Pole	SAMPLED	1		1	1									1												1
434	46.0497445	-89.4319894	12	Laura Lake	Vilas	7/24/2018	TWH & NLS	8	Muck	Pole	SAMPLED	1			1									1		1										
435	46.0491415	-89.4319956	8	Laura Lake	Vilas	7/24/2018	TWH & NLS	5	Rock	Pole	SAMPLED	0																								
436	46.0485385	-89.4320018	1	Laura Lake	Vilas	7/24/2018	TWH & NLS	3	Sand	Pole	SAMPLED	2				1																	1			
437	46.0624029	-89.4309934	294	Laura Lake	Vilas	7/25/2018	TWH & NLS	7	Sand	Pole	SAMPLED	0																								
438	46.0618	-89.4309996	287	Laura Lake	Vilas	7/25/2018	TWH & NLS	16		Rope	SAMPLED	1		1												1										
439	46.061197	-89.4310058	279	Laura Lake	Vilas	7/25/2018	TWH & NLS	21		Rope	SAMPLED	3		3																						
440	46.060594	-89.431012	261	Laura Lake	Vilas	7/25/2018	TWH & NLS	26		Rope	SAMPLED	2													2											
441	46.059991	-89.4310182	252	Laura Lake	Vilas	7/25/2018	TWH & NLS	28		Rope	SAMPLED	1													1											
442	46.059388	-89.4310244	235	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	0																								
443	46.058785	-89.4310306	226	Laura Lake	Vilas	7/25/2018	TWH & NLS	32		Rope	SAMPLED	1													1											
444	46.058182	-89.4310368	209	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	3													3											
445	46.0575791	-89.4310429	199	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	1													1											
446	46.0569761	-89.4310491	182	Laura Lake	Vilas	7/25/2018	TWH & NLS	29		Rope	SAMPLED	1													1											
447	46.0563731	-89.4310553	171	Laura Lake	Vilas	7/25/2018	TWH & NLS	29		Rope	SAMPLED	1													1											
448	46.0557701	-89.4310615	154	Laura Lake	Vilas	7/25/2018	TWH & NLS	29		Rope	SAMPLED	3													3											
449	46.0551671	-89.4310677	143	Laura Lake	Vilas	7/25/2018	TWH & NLS	29		Rope	SAMPLED	1		1											1											
450	46.0545641	-89.4310739	126	Laura Lake	Vilas	7/25/2018	TWH & NLS	26		Rope	SAMPLED	1													1											
451	46.0539611	-89.4310801	114	Laura Lake	Vilas	7/25/2018	TWH & NLS	16	Rock	Pole	SAMPLED	1		1										1												
452	46.0533581	-89.4310863	97	Laura Lake	Vilas	7/25/2018	TWH & NLS	15	Muck	Pole	SAMPLED	0																								
453	46.0527552	-89.4310925	86	Laura Lake	Vilas	7/25/2018	TWH & NLS	14	Muck	Pole	SAMPLED	0																								
454	46.0521522	-89.4310987	69	Laura Lake	Vilas	7/25/2018	TWH & NLS	13	Muck	Pole	SAMPLED	1															1									
455	46.0515492	-89.4311049	53	Laura Lake	Vilas	7/24/2018	TWH & NLS	12	Muck	Pole	SAMPLED	1																			1					
456	46.0509462	-89.4311111	41	Laura Lake	Vilas	7/24/2018	TWH & NLS	10	Muck	Pole	SAMPLED	2														1					2					
457	46.0503432	-89.4311173	21	Laura Lake	Vilas	7/24/2018	TWH & NLS	11	Muck	Pole	SAMPLED	2																			2					
458	46.0497402	-89.4311234	13	Laura Lake	Vilas	7/24/2018	TWH & NLS	10	Muck	Pole	SAMPLED	3																			3					
459	46.0491372	-89.4311296	7	Laura Lake	Vilas	7/24/2018	TWH & NLS	6	Sand	Pole	SAMPLED	3		2	1				1					1				1								1
460	46.0485342	-89.4311358	2	Laura Lake	Vilas	7/24/2018	TWH & NLS	3	Sand	Pole	SAMPLED	1				1			1																	
461	46.0623986	-89.4301272	295	Laura Lake	Vilas	7/25/2018	TWH & NLS	7	Sand	Pole	SAMPLED	1			1				1														1			
462	46.0617956	-89.4301334	286	Laura Lake	Vilas	7/25/2018	TWH & NLS	18		Rope	SAMPLED	0																								
463	46.0611927	-89.4301396	280	Laura Lake	Vilas	7/25/2018	TWH & NLS	26		Rope	SAMPLED	1													1											
464	46.0605897	-89.4301458	260	Laura Lake	Vilas	7/25/2018	TWH & NLS	28		Rope	SAMPLED	2													2											
465	46.0599867	-89.430152	253	Laura Lake	Vilas	7/25/2018	TWH & NLS	29		Rope	SAMPLED	1													1											
466	46.0593837	-89.4301582	234	Laura Lake	Vilas	7/25/2018	TWH & NLS	31		Rope	SAMPLED	1													1											
467	46.0587807	-89.4301644	227	Laura Lake	Vilas	7/25/2018	TWH & NLS	30		Rope	SAMPLED	2													2											
468	46.0581777	-89.4301706	208	Laura Lake	Vilas	7/25/2018	TWH & NLS	30		Rope	SAMPLED	1													1											
469	46.0575747	-89.4301768	200	Laura Lake	Vilas	7/25/2018	TWH & NLS	29		Rope	SAMPLED	1													1											
470	46.0569717	-89.430183	181	Laura Lake	Vilas	7/25/2018	TWH & NLS	28		Rope	SAMPLED	3													3											
471	46.0563688	-89.4301892	172	Laura Lake	Vilas	7/25/2018	TWH & NLS	24		Rope	SAMPLED	1													1											
472	46.0557658	-89.4301954	153	Laura Lake	Vilas	7/25/2018	TWH & NLS	20		Rope	SAMPLED	1		1																						
473	46.0551628	-89.4302016	144	Laura Lake	Vilas	7/25/2018	TWH & NLS	19		Rope	SAMPLED	0																								
474	46.0545598	-89.4302078	125	Laura Lake	Vilas	7/25/2018	TWH & NLS	17		Rope	SAMPLED	0																								
475	46.0539568	-89.430214	115	Laura Lake	Vilas	7/25/2018	TWH & NLS	15	Muck	Pole	SAMPLED	0																								
476	46.0533538	-89.4302202	96	Laura Lake	Vilas	7/25/2018	TWH & NLS	15	Muck	Pole	SAMPLED	0																								
477	46.0527508	-89.4302264	87	Laura Lake	Vilas	7/25/2018	TWH & NLS	14	Muck	Pole	SAMPLED	1												1												
478	46.0521479	-89.4302326	68	Laura Lake	Vilas	7/25/2018	TWH & NLS	13	Muck	Pole	SAMPLED	0																								
479	46.0515449	-89.4302388	52	Laura Lake	Vilas	7/24/2018	TWH & NLS	12	Muck	Pole	SAMPLED	0																								
480	46.0509419	-89.430245	42	Laura Lake	Vilas	7/24/2018	TWH & NLS	11	Muck	Pole	SAMPLED	3																			3					
481	46.0503389	-89.4302512	20	Laura Lake	Vilas	7/24/2018	TWH & NLS	10	Muck	Pole	SAMPLED	2																			2					
482	46.0497359	-89.4302574	14	Laura Lake	Vilas	7/24/2018	TWH & NLS	8	Muck	Pole	SAMPLED	3														1					2					2
483	46.0491329	-89.4302636	6	Laura Lake	Vilas	7/24/2018	TWH & NLS	7	Muck	Pole	SAMPLED	2					1					1				1					2			1		1
484	46.0485299	-89.4302698	4	Laura Lake	Vilas	7/24/2018	TWH & NLS	0			SHALLOW																									
485	46.0623943	-89.429261	296	Laura Lake	Vilas	7/25/2018	TWH & NLS	3	Sand	Pole	SAMPLED	1			1																					
486	46.0617913	-89.4292672	285	Laura Lake	Vilas	7/25/2018	TWH & NLS	17		Rope	SAMPLED	1		1														1								
487	46.0611883	-89.4292734	281	Laura Lake	Vilas	7/25/2018	TWH & NLS	26		Rope	SAMPLED	1		1																						
488	46.0605853	-89.4292796	259	Laura Lake	Vilas	7/25/2018	TWH & NLS	28		Rope	SAMPLED	1													1											
489	46.0599824	-89.4292858	254	Laura Lake	Vilas	7/25/2018	TWH & NLS	29		Rope	SAMPLED	1													1											
490	46.0593794	-89.4292921	233	Laura Lake	Vilas	7/25/2018	TWH & NLS	29		Rope	SAMPLED	1													1											
491	46.0587764	-89.4292983	228	Laura Lake	Vilas	7/25/2018	TWH & NLS	29		Rope	SAMPLED	1													1											
492	46.0581734	-89.4293045	207	Laura Lake	Vilas	7/25/2018	TWH & NLS	25		Rope	SAMPLED	0																								
493	46.0575704	-89.4293107	201	Laura Lake	Vilas	7/25/2018	TWH & NLS	20		Rope	SAMPLED	0																								
494	46.0569674	-89.4293169	180	Laura Lake	Vilas	7/25/2018	TWH & NLS	17		Rope	SAMPLED	2		2			1																			
495	46.0563644	-89.4293231	173	Laura Lake	Vilas	7/25/2018	TWH & NLS	18		Rope	SAMPLED	1		1																						
496	46.0557615	-89.4293293	152	Laura Lake	Vilas	7/25/2018	TWH & NLS	17		Rope	SAMPLED	0																								
497	46.0551585	-89.4293355	145	Laura Lake	Vilas	7/25/2018	TWH & NLS	17		Rope	SAMPLED	0																								

Point Number	Latitude	Longitude	ID	Lake Name	County	Date	Field crew	Depth	Sediment	Pole; Rope	Comments	Total Rake Fullness	Brasenia schreberi	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Lobelia dortmanna	Myriophyllum alterniflorum	Myriophyllum sibiricum	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton gramineus	Potamogeton praelongus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton strictifolius	Ranunculus flammula	Sagittaria cuneata	Utricularia gibba	Vallisneria americana
498	46.0545555	-89.4293417	124	Laura Lake	Vilas	7/25/2018	TWH & NLS	16		Rope	SAMPLED	0																								
499	46.0539525	-89.429348	116	Laura Lake	Vilas	7/25/2018	TWH & NLS	17		Rope	SAMPLED	1		1																						
500	46.0533495	-89.4293542	95	Laura Lake	Vilas	7/25/2018	TWH & NLS	14	Muck	Pole	SAMPLED	0																								
501	46.0527465	-89.4293604	88	Laura Lake	Vilas	7/25/2018	TWH & NLS	14	Muck	Pole	SAMPLED	2																								2
502	46.0521435	-89.4293666	67	Laura Lake	Vilas	7/25/2018	TWH & NLS	12	Muck	Pole	SAMPLED	1																1								1
503	46.0515405	-89.4293728	51	Laura Lake	Vilas	7/24/2018	TWH & NLS	12	Muck	Pole	SAMPLED	3																			3					1
504	46.0509376	-89.429379	43	Laura Lake	Vilas	7/24/2018	TWH & NLS	10	Muck	Pole	SAMPLED	1														1					1					
505	46.0503346	-89.4293852	19	Laura Lake	Vilas	7/24/2018	TWH & NLS	10	Muck	Pole	SAMPLED	3														1					2					3
506	46.0497316	-89.4293914	15	Laura Lake	Vilas	7/24/2018	TWH & NLS	8	Muck	Pole	SAMPLED	2																			2					
507	46.0491286	-89.4293976	5	Laura Lake	Vilas	7/24/2018	TWH & NLS	3	Sand	Pole	SAMPLED	1							1																	
508	46.061787	-89.428401	284	Laura Lake	Vilas	7/25/2018	TWH & NLS	7	Sand	Pole	SAMPLED	1			1				1	1								1								
509	46.061184	-89.4284072	282	Laura Lake	Vilas	7/25/2018	TWH & NLS	15	Sand	Pole	SAMPLED	1		1																						1
510	46.060581	-89.4284135	258	Laura Lake	Vilas	7/25/2018	TWH & NLS	20		Rope	SAMPLED	1													1											
511	46.059978	-89.4284197	255	Laura Lake	Vilas	7/25/2018	TWH & NLS	22		Rope	SAMPLED	1													1											
512	46.059375	-89.4284259	232	Laura Lake	Vilas	7/25/2018	TWH & NLS	25		Rope	SAMPLED	1													1											
513	46.0587721	-89.4284321	229	Laura Lake	Vilas	7/25/2018	TWH & NLS	25		Rope	SAMPLED	1													1											
514	46.0581691	-89.4284383	206	Laura Lake	Vilas	7/25/2018	TWH & NLS	17		Rope	SAMPLED	1		1																						
515	46.0575661	-89.4284446	202	Laura Lake	Vilas	7/25/2018	TWH & NLS	16		Rope	SAMPLED	2		2																						
516	46.0569631	-89.4284508	179	Laura Lake	Vilas	7/25/2018	TWH & NLS	16		Rope	SAMPLED	0																								
517	46.0563601	-89.428457	174	Laura Lake	Vilas	7/25/2018	TWH & NLS	16		Rope	SAMPLED	0																								
518	46.0557571	-89.4284632	151	Laura Lake	Vilas	7/25/2018	TWH & NLS	16		Rope	SAMPLED	1		1																						
519	46.0551541	-89.4284694	146	Laura Lake	Vilas	7/25/2018	TWH & NLS	16		Rope	SAMPLED	1		1																						
520	46.0545512	-89.4284757	123	Laura Lake	Vilas	7/25/2018	TWH & NLS	15	Muck	Pole	SAMPLED	0																								
521	46.0539482	-89.4284819	117	Laura Lake	Vilas	7/25/2018	TWH & NLS	14	Muck	Pole	SAMPLED	3		1																						3
522	46.0533452	-89.4284881	94	Laura Lake	Vilas	7/25/2018	TWH & NLS	13	Muck	Pole	SAMPLED	0																								
523	46.0527422	-89.4284943	89	Laura Lake	Vilas	7/25/2018	TWH & NLS	13	Muck	Pole	SAMPLED	1		1												1										
524	46.0521392	-89.4285005	66	Laura Lake	Vilas	7/25/2018	TWH & NLS	12	Muck	Pole	SAMPLED	1																								1
525	46.0515362	-89.4285068	50	Laura Lake	Vilas	7/24/2018	TWH & NLS	12	Muck	Pole	SAMPLED	2														1					1					1
526	46.0509332	-89.428513	44	Laura Lake	Vilas	7/24/2018	TWH & NLS	10	Muck	Pole	SAMPLED	3																			3					
527	46.0503302	-89.4285192	18	Laura Lake	Vilas	7/24/2018	TWH & NLS	9	Muck	Pole	SAMPLED	2														1					2					
528	46.0497273	-89.4285254	16	Laura Lake	Vilas	7/24/2018	TWH & NLS	6	Sand	Pole	SAMPLED	2		1							1		2				1						2			
529	46.0611797	-89.427541	283	Laura Lake	Vilas	7/25/2018	TWH & NLS	4	Sand	Pole	SAMPLED	0																								
530	46.0605767	-89.4275473	257	Laura Lake	Vilas	7/25/2018	TWH & NLS	8	Sand	Pole	SAMPLED	1			1																					1
531	46.0599737	-89.4275535	256	Laura Lake	Vilas	7/25/2018	TWH & NLS	11	Sand	Pole	SAMPLED	1		1																						1
532	46.0593707	-89.4275597	231	Laura Lake	Vilas	7/25/2018	TWH & NLS	9	Rock	Pole	SAMPLED	0																								
533	46.0587677	-89.427566	230	Laura Lake	Vilas	7/25/2018	TWH & NLS	10	Sand	Pole	SAMPLED	1		1																						1
534	46.0581647	-89.4275722	205	Laura Lake	Vilas	7/25/2018	TWH & NLS	11	Sand	Pole	SAMPLED	1		1										1				1								1
535	46.0575618	-89.4275784	203	Laura Lake	Vilas	7/25/2018	TWH & NLS	12	Sand	Pole	SAMPLED	1		1										1												
536	46.0569588	-89.4275847	178	Laura Lake	Vilas	7/25/2018	TWH & NLS	13	Sand	Pole	SAMPLED	1		1																						
537	46.0563558	-89.4275909	175	Laura Lake	Vilas	7/25/2018	TWH & NLS	14	Sand	Pole	SAMPLED	3		3																						1
538	46.0557528	-89.4275971	150	Laura Lake	Vilas	7/25/2018	TWH & NLS	14	Sand	Pole	SAMPLED	3		3												1										1
539	46.0551498	-89.4276034	147	Laura Lake	Vilas	7/25/2018	TWH & NLS	14	Muck	Pole	SAMPLED	1												1		1										
540	46.0545468	-89.4276096	122	Laura Lake	Vilas	7/25/2018	TWH & NLS	14	Muck	Pole	SAMPLED	3																			3					
541	46.0539438	-89.4276158	118	Laura Lake	Vilas	7/25/2018	TWH & NLS	13	Muck	Pole	SAMPLED	0																								
542	46.0533408	-89.427622	93	Laura Lake	Vilas	7/25/2018	TWH & NLS	13	Muck	Pole	SAMPLED	1		1										1												
543	46.0527379	-89.4276283	90	Laura Lake	Vilas	7/25/2018	TWH & NLS	12	Muck	Pole	SAMPLED	1														1										
544	46.0521349	-89.4276345	65	Laura Lake	Vilas	7/25/2018	TWH & NLS	11	Muck	Pole	SAMPLED	2														1					2					1
545	46.0515319	-89.4276407	49	Laura Lake	Vilas	7/24/2018	TWH & NLS	11	Muck	Pole	SAMPLED	3														1					3					
546	46.0509289	-89.427647	45	Laura Lake	Vilas	7/24/2018	TWH & NLS	9	Muck	Pole	SAMPLED	3					1									1					2					3
547	46.0503259	-89.4276532	17	Laura Lake	Vilas	7/24/2018	TWH & NLS	4	Sand	Pole	SAMPLED	0																								
548	46.0575574	-89.4267123	204	Laura Lake	Vilas	7/25/2018	TWH & NLS	3	Sand	Pole	SAMPLED	0																								
549	46.0569544	-89.4267186	177	Laura Lake	Vilas	7/25/2018	TWH & NLS	4	Sand	Pole	SAMPLED	0																								
550	46.0563514	-89.4267248	176	Laura Lake	Vilas	7/25/2018	TWH & NLS	5	Sand	Pole	SAMPLED	0																								
551	46.0557485	-89.426731	149	Laura Lake	Vilas	7/25/2018	TWH & NLS	8	Sand	Pole	SAMPLED	1		1							1							1								1
552	46.0551455	-89.4267373	148	Laura Lake	Vilas	7/25/2018	TWH & NLS	9	Sand	Pole	SAMPLED	3		3	1							1						1								
553	46.0545425	-89.4267435	121	Laura Lake	Vilas	7/25/2018	TWH & NLS	10	Sand	Pole	SAMPLED	3		2								1									2					1
554	46.0539395	-89.4267497	119	Laura Lake	Vilas	7/25/2018	TWH & NLS	10	Sand	Pole	SAMPLED	3		1														2								3
555	46.0533365	-89.426756	92	Laura Lake	Vilas	7/25/2018	TWH & NLS	9	Sand	Pole	SAMPLED	2		1														2		1						1
556	46.0527335	-89.4267622	91	Laura Lake	Vilas	7/25/2018	TWH & NLS	9	Sand	Pole	SAMPLED	2		1	1		1							1		1		1								1
557	46.0521305	-89.4267685	64	Laura Lake	Vilas	7/25/2018	TWH & NLS	8	Sand	Pole	SAMPLED	1		1	1											1		1								1
558	46.0515275	-89.4267747	48	Laura Lake	Vilas	7/24/2018	TWH & NLS	6	Sand	Pole	SAMPLED	2		1					2																	
559	46.0509246	-89.4267809	46	Laura Lake	Vilas	7/24/2018	TWH & NLS	2	Sand	Pole	SAMPLED	2							2				1													
560	46.0539351	-89.4258837	120	Laura Lake	Vilas	7/25/2018	TWH & NLS	1	Sand	Pole	SAMPLED	1							1																	
561	46.0521262	-89.4259024	63	Laura Lake	Vilas	7/25/2018	TWH & NLS	2	Sand	Pole	SAMPLED	0																								
562	46.0515232	-89.4259087	47	Laura Lake	Vilas	7/24/2018	TWH & NLS	1	Sand	Pole	SAMPLED	1			1																					

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
1	46.005044	-89.615997	133	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	0			TERRESTRIAL																													
2	46.005560	-89.616730	53	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	0			TERRESTRIAL																													
3	46.005557	-89.615994	54	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	4	Sand	Pole	SAMPLED	1						1								1														
4	46.005555	-89.615258	68	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	4	Muck	Pole	SAMPLED	2						2																						
5	46.005552	-89.614521	69	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	4	Muck	Pole	SAMPLED	2						2											1											
6	46.006078	-89.618199	38	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	3	Sand	Pole	SAMPLED	1																	1											
7	46.006075	-89.617463	39	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	4	Muck	Pole	SAMPLED	2														2			1											
8	46.006073	-89.616726	52	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Muck	Pole	SAMPLED	3		3																	1									
9	46.006070	-89.615990	55	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	4	Sand	Pole	SAMPLED	3		1												3														
10	46.006068	-89.615254	67	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	0																												
11	46.006065	-89.614518	70	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	1												1		1														
12	46.006063	-89.613782	81	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	1						1						1																
13	46.006591	-89.618195	37	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Muck	Pole	SAMPLED	0																												
14	46.006588	-89.617459	40	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Rock	Pole	SAMPLED	0																												
15	46.006586	-89.616723	51	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	0																												
16	46.006583	-89.615987	56	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	1												1																
17	46.006581	-89.615250	66	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
18	46.006579	-89.614514	71	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	3						1						2					2											
19	46.006576	-89.613778	80	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	1												1					1											
20	46.006574	-89.613042	82	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	4	Sand	Pole	SAMPLED	2		1				1						1									1			1				
21	46.007106	-89.618928	28	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Muck	Pole	SAMPLED	2																										2		
22	46.007104	-89.618192	36	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
23	46.007101	-89.617455	41	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	1												1																
24	46.007099	-89.616719	50	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
25	46.007096	-89.615983	57	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	1						1						1																
26	46.007094	-89.615247	65	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
27	46.007092	-89.614511	72	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	1												1																
28	46.007089	-89.613774	79	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	2												2																
29	46.007087	-89.613038	83	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	1						1						1		1		1												
30	46.007634	-89.623342	5	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
31	46.007632	-89.622605	13	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	2												2																
32	46.007629	-89.621869	14	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Sand	Pole	SAMPLED	0																												
33	46.007622	-89.619661	27	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
34	46.007619	-89.618924	29	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	1												1																
35	46.007617	-89.618188	35	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
36	46.007614	-89.617452	42	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
37	46.007612	-89.616716	49	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	10	Muck	Pole	SAMPLED	1												1					1											
38	46.007609	-89.615980	58	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
39	46.007607	-89.615243	64	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
40	46.007605	-89.614507	73	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	1												1																
41	46.007602	-89.613771	78	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	1												1																
42	46.007600	-89.613035	84	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	1						1																						
43	46.007597	-89.612298	85	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	4	Muck	Pole	SAMPLED	1												1		1														
44	46.008176	-89.632173	14	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Muck	Pole	SAMPLED	2		2																										
45	46.008173	-89.631437	13	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	2	Muck	Pole	SAMPLED	1			1																	1					1		1	
46	46.008149	-89.624074	4	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Muck	Pole	SAMPLED	0																												
47	46.008147	-89.623338	6	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	2												2																
48	46.008145	-89.622602	12	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	1														1														
49	46.008142	-89.621866	15	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	10	Muck	Pole	SAMPLED	0																												
50	46.008140	-89.621129	20	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	1												1		1												1		
51	46.008137	-89.620393	21	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	10	Muck	Pole	SAMPLED	1																										1		
52	46.008135	-89.619657	26	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	10	Muck	Pole	SAMPLED	1												1					1											
53	46.008132	-89.618921	30	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	10	Muck	Pole	SAMPLED	0																												
54	46.008130	-89.618185	34	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	9	Muck	Pole	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
55	46.008127	-89.617448	43	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
56	46.008125	-89.616712	48	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	9	Muck	Pole	SAMPLED	1												1														1		
57	46.008122	-89.615976	59	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	1						1						1																
58	46.008120	-89.615240	63	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
59	46.008118	-89.614504	74	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	1												1																
60	46.008115	-89.613767	77	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
61	46.008113	-89.613031	87	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	1						1						1					1											
62	46.008110	-89.612295	86	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	4	Muck	Pole	SAMPLED	2	1					2											1											
63	46.008689	-89.632169	15	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	3	Muck	Pole	SAMPLED	0																												
64	46.008686	-89.631433	12	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	5	Muck	Pole	SAMPLED	0																												
65	46.008679	-89.629224	1	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	5	Sand	Pole	SAMPLED	0																												
66	46.008677	-89.628488	2	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	7	Muck	Pole	SAMPLED	1												1																
67	46.008674	-89.627752	3	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	7	Muck	Pole	SAMPLED	1												1																
68	46.008662	-89.624071	3	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	0																												
69	46.008660	-89.623335	7	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	1												1																
70	46.008658	-89.622598	11	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	1												1					1											
71	46.008655	-89.621862	16	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	9	Muck	Pole	SAMPLED	1												1																
72	46.008653	-89.621126	19	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
73	46.008650	-89.620390	22	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	1																	1											
74	46.008648	-89.619654	25	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
75	46.008645	-89.618917	31	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	1												1																
76	46.008643	-89.618181	33	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	1												1																
77	46.008640	-89.617445	44	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
78	46.008638	-89.616709	47	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
79	46.008635	-89.615972	61	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
80	46.008633	-89.615236	62	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Sand	Pole	SAMPLED	0																												
81	46.008631	-89.614500	75	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	1																										1		
82	46.008628	-89.613764	76	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	1						1						1																
83	46.008626	-89.613028	88	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Muck	Pole	SAMPLED	3														3				1	1									
84	46.009202	-89.632166	17	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Sand	Pole	SAMPLED	0																												
85	46.009199	-89.631430	16	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Muck	Pole	SAMPLED	0																												
86	46.009197	-89.630694	11	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	7	Muck	Pole	SAMPLED	0																												
87	46.009195	-89.629957	10	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	7	Muck	Pole	SAMPLED	1												1																
88	46.009192	-89.629221	9	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	7	Muck	Pole	SAMPLED	0																												
89	46.009190	-89.628485	8	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Muck	Pole	SAMPLED	0																												1
90	46.009187	-89.627749	7	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	8	Muck	Pole	SAMPLED	0																												
91	46.009185	-89.627012	6	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	8	Muck	Pole	SAMPLED	0																												
92	46.009183	-89.626276	5	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	7	Muck	Pole	SAMPLED	0																												
93	46.009180	-89.625540	4	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Muck	Pole	SAMPLED	0																												
94	46.009175	-89.624067	2	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
95	46.009173	-89.623331	9	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	0																												
96	46.009171	-89.622595	10	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	0																												
97	46.009168	-89.621859	17	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	1												1					1											
98	46.009166	-89.621122	18	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	0																												
99	46.009163	-89.620386	23	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Rock	Pole	SAMPLED	1																	1						1					
100	46.009161	-89.619650	24	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	1												1																
101	46.009158	-89.618914	32	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	1												1																
102	46.009153	-89.617441	45	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Muck	Pole	SAMPLED	1												1							1									
103	46.009151	-89.616705	46	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Sand	Pole	SAMPLED	0																												
104	46.009148	-89.615969	60	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Rock	Pole	SAMPLED	0																												
105	46.009141	-89.613760	89	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	1														1														
106	46.009715	-89.632163	18	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	3	Sand	Pole	SAMPLED	1														1	1													
107	46.009712	-89.631426	19	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	5	Muck	Pole	SAMPLED	1		1				1				1																		
108	46.009710	-89.630690	20	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	7	Muck	Pole	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
109	46.009708	-89.629954	21	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	8	Muck	Pole	SAMPLED	0																												
110	46.009705	-89.629218	22	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Muck	Pole	SAMPLED	0																												
111	46.009703	-89.628481	23	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Muck	Pole	SAMPLED	0																												
112	46.009700	-89.627745	24	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Muck	Pole	SAMPLED	0																												
113	46.009698	-89.627009	25	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Muck	Pole	SAMPLED	0																												
114	46.009696	-89.626273	26	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	8	Muck	Pole	SAMPLED	0																												
115	46.009693	-89.625536	27	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Sand	Pole	SAMPLED	1																					1						
116	46.009691	-89.624800	1	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Muck	Pole	SAMPLED	0																												
117	46.009686	-89.623328	8	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	0			TERRESTRIAL																													
118	46.009674	-89.619647	111	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
119	46.009671	-89.618910	110	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
120	46.009669	-89.618174	103	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
121	46.009666	-89.617438	102	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
122	46.009664	-89.616702	96	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
123	46.009662	-89.615965	95	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
124	46.009659	-89.615229	91	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	0																												
125	46.009657	-89.614493	90	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	1											1																
126	46.010225	-89.631423	36	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Sand	Pole	SAMPLED	0																												
127	46.010223	-89.630687	35	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	6	Sand	Pole	SAMPLED	1											1				1												
128	46.010221	-89.629950	34	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	8	Muck	Pole	SAMPLED	0																												
129	46.010218	-89.629214	33	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	8	Muck	Pole	SAMPLED	0																												
130	46.010216	-89.628478	32	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Muck	Pole	SAMPLED	0																												
131	46.010213	-89.627742	31	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	10	Muck	Pole	SAMPLED	0																												
132	46.010211	-89.627005	30	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	10	Muck	Pole	SAMPLED	0																												
133	46.010209	-89.626269	29	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Muck	Pole	SAMPLED	0																												
134	46.010206	-89.625533	28	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Rock	Pole	SAMPLED	0																												
135	46.010201	-89.624060	46	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Sand	Pole	SAMPLED	0																												
136	46.010197	-89.622588	129	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	0			TERRESTRIAL																													
137	46.010189	-89.620379	118	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
138	46.010187	-89.619643	112	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
139	46.010184	-89.618907	109	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	9	Muck	Pole	SAMPLED	1											1																
140	46.010182	-89.618170	104	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	2																				2							
141	46.010179	-89.617434	101	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	2											2																
142	46.010177	-89.616698	97	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
143	46.010175	-89.615962	94	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	0																												
144	46.010172	-89.615226	92	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Muck	Pole	SAMPLED	1													1														
145	46.010736	-89.630683	37	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	6	Muck	Pole	SAMPLED	0																												
146	46.010734	-89.629947	38	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Muck	Pole	SAMPLED	0																												
147	46.010731	-89.629211	39	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	10	Muck	Pole	SAMPLED	1																				1							
148	46.010729	-89.628475	40	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	11	Muck	Pole	SAMPLED	0																												
149	46.010726	-89.627738	41	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	13	Muck	Pole	SAMPLED	0																												
150	46.010724	-89.627002	42	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	11	Muck	Pole	SAMPLED	0																												
151	46.010722	-89.626266	43	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Muck	Pole	SAMPLED	0																												
152	46.010719	-89.625529	44	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Muck	Pole	SAMPLED	0																												
153	46.010717	-89.624793	45	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	5	Sand	Pole	SAMPLED	1									1																		
154	46.010714	-89.624057	47	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	8	Muck	Pole	SAMPLED	0																												
155	46.010712	-89.623321	48	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	3	Rock	Pole	SAMPLED	1																					1						
156	46.010710	-89.622584	130	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
157	46.010707	-89.621848	128	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
158	46.010705	-89.621112	119	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
159	46.010702	-89.620376	117	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
160	46.010700	-89.619639	113	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
161	46.010697	-89.618903	108	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
162	46.010695	-89.618167	105	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	2											2																

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
163	46.010692	-89.617431	100	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
164	46.010690	-89.616694	98	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	1						1																						
165	46.010688	-89.615958	93	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	4	Sand	Pole	SAMPLED	0																												
166	46.010640	-89.601969	330	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	3	Sand	Pole	SAMPLED	3						3																						
167	46.010637	-89.601233	329	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	4	Sand	Pole	SAMPLED	3					1		1		2													1						
168	46.011249	-89.630680	59	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Muck	Pole	SAMPLED	2							2																					
169	46.011247	-89.629944	58	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Sand	Pole	SAMPLED	0																												
170	46.011244	-89.629207	57	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	8	Sand	Pole	SAMPLED	1		1									1																	
171	46.011242	-89.628471	56	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	10	Muck	Pole	SAMPLED	0																												
172	46.011240	-89.627735	55	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	13	Muck	Pole	SAMPLED	0																												
173	46.011237	-89.626999	54	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	15	Muck	Pole	SAMPLED	0																												
174	46.011235	-89.626262	53	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	14	Muck	Pole	SAMPLED	0																												
175	46.011232	-89.625526	52	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	10	Sand	Pole	SAMPLED	0																												
176	46.011230	-89.624790	51	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	11	Muck	Pole	SAMPLED	0																												
177	46.011227	-89.624054	50	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Muck	Pole	SAMPLED	0																												
178	46.011225	-89.623317	49	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Muck	Pole	SAMPLED	0																												
179	46.011223	-89.622581	131	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
180	46.011220	-89.621845	127	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	1	1																				1							
181	46.011218	-89.621108	121	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	1												1																
182	46.011215	-89.620372	116	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Muck	Pole	SAMPLED	0																												
183	46.011213	-89.619636	114	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
184	46.011210	-89.618900	107	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
185	46.011208	-89.618163	106	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	0			TERRESTRIAL																													
186	46.011205	-89.617427	99	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	4	Sand	Pole	SAMPLED	0																												
187	46.011155	-89.602702	326	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	12	Sand	Pole	SAMPLED	0																												
188	46.011153	-89.601966	327	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	20		Rope	SAMPLED	0																												
189	46.011150	-89.601230	328	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	11	Rock	Pole	SAMPLED	0																												
190	46.011760	-89.629940	60	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	5	Sand	Pole	SAMPLED	0																												
191	46.011757	-89.629204	61	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	11	Muck	Pole	SAMPLED	1													1															
192	46.011755	-89.628468	62	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	14	Muck	Pole	SAMPLED	0																												
193	46.011753	-89.627731	63	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	12	Sand	Pole	SAMPLED	0																												
194	46.011750	-89.626995	64	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	16	Muck	Pole	SAMPLED	0																												
195	46.011748	-89.626259	65	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	16		Rope	SAMPLED	0																												
196	46.011745	-89.625523	66	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	14	Sand	Pole	SAMPLED	0																												
197	46.011743	-89.624786	67	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	10	Sand	Pole	SAMPLED	0																												
198	46.011740	-89.624050	68	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	13	Muck	Pole	SAMPLED	0																												
199	46.011738	-89.623314	69	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	16		Rope	SAMPLED	1																					1							
200	46.011736	-89.622577	132	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
201	46.011733	-89.621841	126	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	0																												
202	46.011731	-89.621105	122	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Muck	Pole	SAMPLED	1														1														
203	46.011728	-89.620369	123	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Muck	Pole	SAMPLED	0																												
204	46.011726	-89.619632	115	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	0			TERRESTRIAL																													
205	46.011671	-89.603435	325	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	6	Sand	Pole	SAMPLED	1				1							1																	
206	46.011668	-89.602698	324	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	21		Rope	SAMPLED	0																												
207	46.011666	-89.601962	323	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	24		Rope	SAMPLED	0																												
208	46.011663	-89.601226	322	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	22		Rope	SAMPLED	0																												
209	46.011661	-89.600490	321	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	11	Sand	Pole	SAMPLED	0																												
210	46.012273	-89.629937	79	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	5	Sand	Pole	SAMPLED	1											1																	
211	46.012270	-89.629200	78	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	12	Sand	Pole	SAMPLED	0																												
212	46.012268	-89.628464	77	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	17		Rope	SAMPLED	0																												
213	46.0122655	-89.62772792	76	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	20		Rope	SAMPLED	0																												
214	46.0122631	-89.62699165	75	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	17		Rope	SAMPLED	0																												
215	46.0122607	-89.62625537	74	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	21		Rope	SAMPLED	0																												
216	46.0122583	-89.6255191	73	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	16		Rope	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
217	46.0122559	-89.62478283	72	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	16		Rope	SAMPLED	0																												
218	46.0122535	-89.62404655	71	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	15		Rope	SAMPLED	0																												
219	46.012251	-89.62331028	70	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	13	Sand	Pole	SAMPLED	0																												
220	46.0122462	-89.62183773	120	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	0			TERRESTRIAL																													
221	46.0122437	-89.62110146	125	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Muck	Pole	SAMPLED	0																												
222	46.0122413	-89.62036519	124	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Muck	Pole	SAMPLED	0																												
223	46.0121838	-89.60343093	315	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	21		Rope	SAMPLED	1													1				1											
224	46.0121812	-89.60269466	316	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	24		Rope	SAMPLED	0																												
225	46.0121787	-89.60195839	317	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	26		Rope	SAMPLED	0																												
226	46.0121761	-89.60122212	318	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	26		Rope	SAMPLED	0																												
227	46.0121735	-89.60048585	319	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	20		Rope	SAMPLED	3																					3							
228	46.012171	-89.59974958	320	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	6	Rock	Pole	SAMPLED	0																												
229	46.0127857	-89.62993332	80	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	5	Sand	Pole	SAMPLED	0																												
230	46.0127833	-89.62919704	81	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	14	Sand	Pole	SAMPLED	0																												
231	46.0127809	-89.62846076	82	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	15		Rope	SAMPLED	0																												
232	46.0127785	-89.62772448	83	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	23		Rope	SAMPLED	0																												
233	46.0127761	-89.6269882	84	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	23		Rope	SAMPLED	0																												
234	46.0127737	-89.62625192	85	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	20		Rope	SAMPLED	0																												
235	46.0127713	-89.62551564	86	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	20		Rope	SAMPLED	0																												
236	46.0127689	-89.62477936	87	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	20		Rope	SAMPLED	0																												
237	46.0127665	-89.62404308	88	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	20		Rope	SAMPLED	0																												
238	46.0127641	-89.6233068	89	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Rock	Pole	SAMPLED	0																												
239	46.0127592	-89.62183424	146	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Rock	Pole	SAMPLED	0																												
240	46.0127568	-89.62109796	147	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	12	Sand	Pole	SAMPLED	0																												
241	46.0127543	-89.62036168	162	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Sand	Pole	SAMPLED	2											2																	
242	46.0127519	-89.6196254	163	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	9	Rock	Pole	SAMPLED	1											1																	
243	46.0126994	-89.60416354	314	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	7	Sand	Pole	SAMPLED	1												1																
244	46.0126968	-89.60342727	313	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	25		Rope	SAMPLED	1													1															
245	46.0126942	-89.60269099	312	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	28		Rope	SAMPLED	0																												
246	46.0126917	-89.60195471	311	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	29		Rope	SAMPLED	0																												
247	46.0126891	-89.60121843	310	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	28		Rope	SAMPLED	0																												
248	46.0126865	-89.60048216	309	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	24		Rope	SAMPLED	0																												
249	46.012684	-89.59974588	308	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	17		Rope	SAMPLED	0																												
250	46.0126814	-89.5990096	307	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	10	Sand	Pole	SAMPLED	0																												
251	46.0126788	-89.59827333	306	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	3	Sand	Pole	SAMPLED	2				1	1	1																						
252	46.0132987	-89.6299299	99	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	5	Sand	Pole	SAMPLED	1									1																			
253	46.0132963	-89.62919361	98	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	13	Sand	Pole	SAMPLED	0																												
254	46.0132939	-89.62845732	97	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	18		Rope	SAMPLED	0																												
255	46.0132915	-89.62772104	96	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	26		Rope	SAMPLED	0																												
256	46.0132891	-89.62698475	95	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	27		Rope	SAMPLED	0																												
257	46.0132867	-89.62624846	94	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	18		Rope	SAMPLED	0																												
258	46.0132843	-89.62551217	93	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	19		Rope	SAMPLED	0																												
259	46.0132819	-89.62477589	92	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	18		Rope	SAMPLED	0																												
260	46.0132795	-89.6240396	91	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	22		Rope	SAMPLED	0																												
261	46.0132771	-89.62330331	90	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	20		Rope	SAMPLED	0																												
262	46.0132746	-89.62256703	134	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	9	Rock	Pole	SAMPLED	0																												
263	46.0132722	-89.62183074	145	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	12	Rock	Pole	SAMPLED	0																												
264	46.0132698	-89.62109445	148	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	20		Rope	SAMPLED	0																												
265	46.0132673	-89.62035817	161	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	22		Rope	SAMPLED	0																												
266	46.0132649	-89.61962188	164	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	20		Rope	SAMPLED	0																												
267	46.0132624	-89.61888559	175	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	18		Rope	SAMPLED	0																												
268	46.0132124	-89.60415988	298	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	22		Rope	SAMPLED	2													1															
269	46.0132098	-89.6034236	299	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	28		Rope	SAMPLED	2													1															
270	46.0132073	-89.60268732	300	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	28		Rope	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
271	46.0132047	-89.60195103	301	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	29		Rope	SAMPLED	0																												
272	46.0132021	-89.60121475	302	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	28		Rope	SAMPLED	0																												
273	46.0131996	-89.60047846	303	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	27		Rope	SAMPLED	1													1															
274	46.013197	-89.59974218	304	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	25		Rope	SAMPLED	0																												
275	46.0131944	-89.5990059	305	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	11	Rock	Pole	SAMPLED	0																												
276	46.0138117	-89.62992648	100	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	7	Sand	Pole	SAMPLED	0																												
277	46.0138093	-89.62919018	101	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	16		Rope	SAMPLED	1		1											1															
278	46.0138069	-89.62845389	102	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	24		Rope	SAMPLED	1													1															
279	46.0138045	-89.62771759	103	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	0																												
280	46.0138021	-89.6269813	134	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	32		Rope	SAMPLED	1													1															
281	46.0137997	-89.62624501	133	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	32		Rope	SAMPLED	0																												
282	46.0137973	-89.62550871	106	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	27		Rope	SAMPLED	0																												
283	46.0137949	-89.62477242	107	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	26		Rope	SAMPLED	0																												
284	46.0137925	-89.62403612	108	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	25		Rope	SAMPLED	0																												
285	46.0137901	-89.62329983	109	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	26		Rope	SAMPLED	0																												
286	46.0137876	-89.62256354	135	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	18		Rope	SAMPLED	0																												
287	46.0137852	-89.62182724	144	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	20		Rope	SAMPLED	0																												
288	46.0137828	-89.62109095	149	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	17		Rope	SAMPLED	0																												
289	46.0137803	-89.62035466	160	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	17		Rope	SAMPLED	0																												
290	46.0137779	-89.61961836	165	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	16		Rope	SAMPLED	0																												
291	46.0137754	-89.61888207	174	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	21		Rope	SAMPLED	0																												
292	46.013773	-89.61814578	176	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	18		Rope	SAMPLED	0																												
293	46.0137705	-89.61740948	177	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	6	Sand	Pole	SAMPLED	2				1							2																	
294	46.0137279	-89.60489252	297	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	4	Sand	Pole	SAMPLED	2							1	1	1													1						
295	46.0137254	-89.60415622	296	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	24		Rope	SAMPLED	1													1															
296	46.0137228	-89.60341993	295	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	27		Rope	SAMPLED	3													3															
297	46.0137203	-89.60268364	294	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	29		Rope	SAMPLED	0																												
298	46.0137177	-89.60194735	293	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	30		Rope	SAMPLED	0																												
299	46.0137151	-89.60121106	292	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	30		Rope	SAMPLED	0																												
300	46.0137126	-89.60047477	291	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	27		Rope	SAMPLED	0																												
301	46.01371	-89.59973848	331	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	28		Rope	SAMPLED	0																												
302	46.0137074	-89.59900219	332	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	21		Rope	SAMPLED	0																												
303	46.0137048	-89.5982659	333	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	6	Rock	Pole	SAMPLED	0																												
304	46.0143247	-89.62992306	119	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Sand	Pole	SAMPLED	0																												
305	46.0143223	-89.62918675	118	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	23		Rope	SAMPLED	0																												
306	46.0143199	-89.62845045	117	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	27		Rope	SAMPLED	3													3															
307	46.0143176	-89.62771415	135	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	29		Rope	SAMPLED	0																												
308	46.0143151	-89.62697785	136	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	31		Rope	SAMPLED	0																												
309	46.0143127	-89.62624155	137	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	29		Rope	SAMPLED	1													1															
310	46.0143103	-89.62550525	138	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	29		Rope	SAMPLED	0																												
311	46.0143079	-89.62476895	139	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	28		Rope	SAMPLED	0																												
312	46.0143055	-89.62403265	140	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	0																												
313	46.0143031	-89.62329635	141	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	31		Rope	SAMPLED	0																												
314	46.0143006	-89.62256005	136	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	32		Rope	SAMPLED	0																												
315	46.0142982	-89.62182375	143	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	25		Rope	SAMPLED	0																												
316	46.0142958	-89.62108745	150	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	9	Rock	Pole	SAMPLED	0																												
317	46.0142933	-89.62035115	159	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Rock	Pole	SAMPLED	0																												
318	46.0142909	-89.61961484	166	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	25		Rope	SAMPLED	0																												
319	46.0142884	-89.61887854	173	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	22		Rope	SAMPLED	0																												
320	46.014286	-89.61814224	179	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	17		Rope	SAMPLED	0																												
321	46.0142835	-89.61740594	178	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Rock	Pole	SAMPLED	0																												
322	46.0142409	-89.60488886	284	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	5	Sand	Pole	SAMPLED	1												1				1												
323	46.0142384	-89.60415256	285	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	22		Rope	SAMPLED	1													1															
324	46.0142358	-89.60341627	286	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	27		Rope	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
325	46.0142333	-89.60267997	287	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	30		Rope	SAMPLED	0																												
326	46.0142307	-89.60194367	288	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	30		Rope	SAMPLED	0																												
327	46.0142281	-89.60120737	289	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	31		Rope	SAMPLED	0																												
328	46.0142256	-89.60047107	290	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	36			DEEP																													
329	46.014223	-89.59973478	338	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	30		Rope	SAMPLED	0																												
330	46.0142204	-89.59899848	337	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	26		Rope	SAMPLED	0																												
331	46.0142178	-89.59826218	336	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	17		Rope	SAMPLED	0																												
332	46.0142152	-89.59752589	335	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	11	Rock	Pole	SAMPLED	0																												
333	46.0142126	-89.59678959	334	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	4	Rock	Pole	SAMPLED	0																												
334	46.0148377	-89.62991963	120	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	10	Sand	Pole	SAMPLED	0																												
335	46.0148353	-89.62918333	121	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	24		Rope	SAMPLED	1													1															
336	46.014833	-89.62844702	122	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	29		Rope	SAMPLED	0																												
337	46.0148306	-89.62771071	145	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	31		Rope	SAMPLED	0																												
338	46.0148282	-89.6269744	144	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	0																												
339	46.0148258	-89.62623809	125	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	29		Rope	SAMPLED	1													1															
340	46.0148233	-89.62550179	143	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	0																												
341	46.0148209	-89.62476548	127	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	1													1															
342	46.0148185	-89.62402917	128	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	2													2															
343	46.0148161	-89.62329286	142	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	0																												
344	46.0148137	-89.62255656	137	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	33		Rope	SAMPLED	0																												
345	46.0148112	-89.62182025	142	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	29		Rope	SAMPLED	0																												
346	46.0148088	-89.62108394	151	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	13	Rock	Pole	SAMPLED	0																												
347	46.0148063	-89.62034763	158	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	27		Rope	SAMPLED	0																												
348	46.0148039	-89.61961133	167	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	34			DEEP																													
349	46.0148014	-89.61887502	172	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	37			DEEP																													
350	46.014799	-89.61813871	180	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	26		Rope	SAMPLED	0																												
351	46.0147965	-89.61740241	181	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	13	Rock	Pole	SAMPLED	0																												
352	46.014794	-89.6166661	182	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Rock	Pole	SAMPLED	0																												
353	46.0147539	-89.60488521	280	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	3	Sand	Pole	SAMPLED	0																												
354	46.0147514	-89.6041489	281	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	21		Rope	SAMPLED	0																												
355	46.0147488	-89.6034126	282	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	27		Rope	SAMPLED	0																												
356	46.0147463	-89.60267629	276	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	36			DEEP																													
357	46.0147437	-89.60193999	275	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	29		Rope	SAMPLED	3													3															
358	46.0147411	-89.60120368	274	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	35			DEEP																													
359	46.0147386	-89.60046738	273	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	30		Rope	SAMPLED	1													1															
360	46.014736	-89.59973108	272	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	38			DEEP																													
361	46.0147334	-89.59899477	339	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	30		Rope	SAMPLED	0																												
362	46.0147308	-89.59825847	340	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	24		Rope	SAMPLED	0																												
363	46.0147282	-89.59752216	341	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	21		Rope	SAMPLED	0																												
364	46.0147256	-89.59678586	342	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	19		Rope	SAMPLED	0																												
365	46.0153507	-89.62991621	146	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	7	Sand	Pole	SAMPLED	0																												
366	46.0153484	-89.6291799	147	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	13		Rope	SAMPLED	0																												
367	46.015346	-89.62844358	148	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	29		Rope	SAMPLED	0																												
368	46.0153436	-89.62770727	149	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	1													1															
369	46.0153412	-89.62697095	150	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	31		Rope	SAMPLED	1													1															
370	46.0153388	-89.62623464	151	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	1													1															
371	46.0153363	-89.62549832	152	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	15		Rope	SAMPLED	0																												
372	46.0153339	-89.62476201	132	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	31		Rope	SAMPLED	1													1															
373	46.0153315	-89.62402569	131	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	1													1															
374	46.0153291	-89.62328938	130	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	0																												
375	46.0153267	-89.62255307	138	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	33		Rope	SAMPLED	0																												
376	46.0153242	-89.62181675	141	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	33		Rope	SAMPLED	0																												
377	46.0153218	-89.62108044	152	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	19		Rope	SAMPLED	0																												
378	46.0153193	-89.62034412	157	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	22		Rope	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
379	46.0153169	-89.61960781	168	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	39			DEEP																													
380	46.0153144	-89.6188715	171	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	33		Rope	SAMPLED	0																												
381	46.015312	-89.61813518	185	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	37			DEEP																													
382	46.0153095	-89.61739887	184	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	30		Rope	SAMPLED	0																												
383	46.0153071	-89.61666256	183	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	11	Rock	Pole	SAMPLED	0																												
384	46.0152644	-89.60414524	279	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	17		Rope	SAMPLED	0																												
385	46.0152618	-89.60340893	278	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	24		Rope	SAMPLED	0																												
386	46.0152593	-89.60267262	277	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	35			DEEP																													
387	46.0152567	-89.60193631	268	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	30		Rope	SAMPLED	3													3															
388	46.0152541	-89.6012	269	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	30		Rope	SAMPLED	0																												
389	46.0152516	-89.60046369	270	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	30		Rope	SAMPLED	0																												
390	46.015249	-89.59972737	271	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	34			DEEP																													
391	46.0152464	-89.59899106	347	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	0			DEEP																													
392	46.0152438	-89.59825475	346	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	35			DEEP																													
393	46.0152412	-89.59751844	345	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	26		Rope	SAMPLED	0																												
394	46.0152386	-89.59678213	344	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	22		Rope	SAMPLED	0																												
395	46.015236	-89.59604582	343	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	9	Sand	Pole	SAMPLED	1																					1							
396	46.0158637	-89.62991279	162	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	13	Muck	Pole	SAMPLED	1																					1							
397	46.0158614	-89.62917647	161	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	16		Rope	SAMPLED	0																												
398	46.015859	-89.62844015	160	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	23		Rope	SAMPLED	0																												
399	46.0158566	-89.62770382	159	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	31		Rope	SAMPLED	0																												
400	46.0158542	-89.6269675	158	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	31		Rope	SAMPLED	1													1															
401	46.0158518	-89.62623118	157	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	2													2															
402	46.0158494	-89.62549486	156	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	29		Rope	SAMPLED	2													2															
403	46.0158469	-89.62475854	155	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	31		Rope	SAMPLED	2													2															
404	46.0158445	-89.62402222	154	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	36			DEEP																													
405	46.0158421	-89.6232859	153	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	14	Sand	Pole	SAMPLED	0																												
406	46.0158397	-89.62254958	139	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	36			DEEP																													
407	46.0158372	-89.62181325	140	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	34			DEEP																													
408	46.0158348	-89.62107693	153	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	16		Rope	SAMPLED	0																												
409	46.0158324	-89.62034061	156	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	9	Rock	Pole	SAMPLED	0																												
410	46.0158299	-89.61960429	169	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	36			DEEP																													
411	46.0158274	-89.61886797	170	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	52			DEEP																													
412	46.015825	-89.61813165	186	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	39			DEEP																													
413	46.0158225	-89.61739533	187	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	36			DEEP																													
414	46.0158201	-89.61665901	188	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	17		Rope	SAMPLED	0																												
415	46.0158176	-89.61592269	189	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	9	Sand	Pole	SAMPLED	0																												
416	46.0158151	-89.61518637	190	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	2	Rock	Pole	SAMPLED	0																												
417	46.0157774	-89.60414158	263	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	11	Sand	Pole	SAMPLED	0																												
418	46.0157748	-89.60340526	264	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	23		Rope	SAMPLED	0																												
419	46.0157723	-89.60266895	265	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	30		Rope	SAMPLED	0																												
420	46.0157697	-89.60193263	266	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	36			DEEP																													
421	46.0157672	-89.60119631	267	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	37			DEEP																													
422	46.0157646	-89.60045999	283	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	34			DEEP																													
423	46.015762	-89.59972367	348	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	36			DEEP																													
424	46.0157594	-89.59898736	349	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	32		Rope	SAMPLED	0																												
425	46.0157568	-89.59825104	350	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	31		Rope	SAMPLED	0																												
426	46.0157542	-89.59751472	351	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	28		Rope	SAMPLED	0																												
427	46.0157517	-89.5967784	352	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	23		Rope	SAMPLED	0																												
428	46.0157491	-89.59604209	353	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	7	Rock	Pole	SAMPLED	0																												
429	46.0163768	-89.62990937	163	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	5	Sand	Pole	SAMPLED	0																												
430	46.0163744	-89.62917304	164	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	10	Sand	Pole	SAMPLED	0																												
431	46.016372	-89.62843671	165	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	14	Sand	Pole	SAMPLED	0																												
432	46.0163696	-89.62770038	166	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	31		Rope	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
433	46.0163672	-89.62696405	167	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	0																												
434	46.0163648	-89.62622773	168	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	24		Rope	SAMPLED	0																												
435	46.0163624	-89.6254914	169	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	26		Rope	SAMPLED	0																												
436	46.0163599	-89.62475507	170	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	40			DEEP																													
437	46.0163575	-89.62401874	171	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	43			DEEP																													
438	46.0163551	-89.62328241	172	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	34			DEEP																													
439	46.0163527	-89.62254609	0					0			DEEP																													
440	46.0163502	-89.62180976	0					0			DEEP																													
441	46.0163478	-89.62107343	154	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	47			DEEP																													
442	46.0163454	-89.6203371	155	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	51			DEEP																													
443	46.0163429	-89.61960078	0					0			DEEP																													
444	46.0163405	-89.61886445	0					0			DEEP																													
445	46.016338	-89.61812812	0					0			DEEP																													
446	46.0163355	-89.61739179	194	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	40			DEEP																													
447	46.0163331	-89.61665547	193	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	35			DEEP																													
448	46.0163306	-89.61591914	192	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	24		Rope	SAMPLED	0																												
449	46.0163281	-89.61518281	191	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	8	Sand	Pole	SAMPLED	0																												
450	46.0162878	-89.6034016	262	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	19		Rope	SAMPLED	0																												
451	46.0162853	-89.60266527	261	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	27		Rope	SAMPLED	0																												
452	46.0162827	-89.60192895	260	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	23		Rope	SAMPLED	0																												
453	46.0162802	-89.60119262	257	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	29		Rope	SAMPLED	0																												
454	46.0162776	-89.6004563	256	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	36			DEEP																													
455	46.016275	-89.59971997	358	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	0			DEEP																													
456	46.0162724	-89.59898365	357	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	36			DEEP																													
457	46.0162698	-89.59824732	356	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	29		Rope	SAMPLED	0																												
458	46.0162673	-89.597511	355	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	21		Rope	SAMPLED	0																												
459	46.0162647	-89.59677467	354	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	12	Rock	Pole	SAMPLED	0																												
460	46.0168874	-89.62916961	181	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Rock	Pole	SAMPLED	0																												
461	46.016885	-89.62843327	180	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	8	Sand	Pole	SAMPLED	0																												
462	46.0168826	-89.62769694	179	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	0																												
463	46.0168802	-89.6269606	178	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	33		Rope	SAMPLED	0																												
464	46.0168778	-89.62622427	177	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	22		Rope	SAMPLED	1													1															
465	46.0168754	-89.62548793	176	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	0																												
466	46.016873	-89.6247516	175	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	38			DEEP																													
467	46.0168705	-89.62401526	174	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	47			DEEP																													
468	46.0168681	-89.62327893	173	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	41			DEEP																													
469	46.0168657	-89.62254259	0					0			DEEP																													
470	46.0168632	-89.62180626	0					0			DEEP																													
471	46.0168608	-89.62106993	0					0			DEEP																													
472	46.0168584	-89.62033359	0					0			DEEP																													
473	46.0168559	-89.61959726	0					0			DEEP																													
474	46.0168535	-89.61886092	0					0			DEEP																													
475	46.016851	-89.61812459	0					0			DEEP																													
476	46.0168485	-89.61738826	0					0			DEEP																													
477	46.0168461	-89.61665192	195	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	42			DEEP																													
478	46.0168436	-89.61591559	196	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	40			DEEP																													
479	46.0168411	-89.61517925	197	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	23		Rope	SAMPLED	0																												
480	46.0168034	-89.60413426	241	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	19		Rope	SAMPLED	0																												
481	46.0168008	-89.60339793	242	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	14	Rock	Pole	SAMPLED	0																												
482	46.0167983	-89.6026616	244	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	26		Rope	SAMPLED	0																												
483	46.0167957	-89.60192527	259	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	20		Rope	SAMPLED	0																												
484	46.0167932	-89.60118893	258	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	20		Rope	SAMPLED	0																												
485	46.0167906	-89.6004526	255	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	26		Rope	SAMPLED	0																												
486	46.016788	-89.59971627	254	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	34			DEEP																													

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
487	46.0167854	-89.59897994	359	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	29		Rope	SAMPLED	0																												
488	46.0167828	-89.59824361	360	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	25		Rope	SAMPLED	0																												
489	46.0167803	-89.59750728	361	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	10	Rock	Pole	SAMPLED	0																												
490	46.0167777	-89.59677095	362	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	5	Rock	Pole	SAMPLED	0																												
491	46.017398	-89.62842984	182	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Rock	Pole	SAMPLED	0																												
492	46.0173956	-89.6276935	183	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	29		Rope	SAMPLED	3													3															
493	46.0173932	-89.62695715	184	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	35			DEEP																													
494	46.0173908	-89.62622081	185	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	31		Rope	SAMPLED	0																												
495	46.0173884	-89.62548447	186	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	32		Rope	SAMPLED	0																												
496	46.017386	-89.62474813	187	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	44			DEEP																													
497	46.0173835	-89.62401179	0					0			DEEP																													
498	46.0173811	-89.62327545	0					0			DEEP																													
499	46.0173787	-89.6225391	0					0			DEEP																													
500	46.0173763	-89.62180276	0					0			DEEP																													
501	46.0173738	-89.62106642	0					0			DEEP																													
502	46.0173714	-89.62033008	0					0			DEEP																													
503	46.0173689	-89.61959374	0					0			DEEP																													
504	46.0173665	-89.6188574	0					0			DEEP																													
505	46.017364	-89.61812106	0					0			DEEP																													
506	46.0173615	-89.61738472	0					0			DEEP																													
507	46.0173591	-89.61664838	0					0			DEEP																													
508	46.0173566	-89.61591204	199	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	41			DEEP																													
509	46.0173541	-89.6151757	198	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	28		Rope	SAMPLED	0																												
510	46.0173517	-89.61443936	205	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	16		Rope	SAMPLED	0																												
511	46.0173492	-89.61370302	206	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	10	Rock	Pole	SAMPLED	0																												
512	46.0173341	-89.60928498	226	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	7	Rock	Pole	SAMPLED	1						1																						
513	46.0173266	-89.60707596	232	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	4	Rock	Pole	SAMPLED	0																												
514	46.017324	-89.60633962	233	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	24		Rope	SAMPLED	0																												
515	46.0173215	-89.60560328	236	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	22		Rope	SAMPLED	0																												
516	46.017319	-89.60486694	237	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	33		Rope	SAMPLED	0																												
517	46.0173164	-89.6041306	240	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	36			DEEP																													
518	46.0173139	-89.60339426	243	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	40			DEEP																													
519	46.0173113	-89.60265792	245	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	35			DEEP																													
520	46.0173087	-89.60192158	246	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	21		Rope	SAMPLED	0																												
521	46.0173062	-89.60118525	250	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	10	Rock	Pole	SAMPLED	0																												
522	46.0173036	-89.60044891	251	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	21		Rope	SAMPLED	0																												
523	46.017301	-89.59971257	253	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	35			DEEP																													
524	46.0172984	-89.59897623	365	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	33		Rope	SAMPLED	0																												
525	46.0172959	-89.59823989	364	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	26		Rope	SAMPLED	0																												
526	46.0172933	-89.59750355	363	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	13	Sand	Pole	SAMPLED	0																												
527	46.017911	-89.6284264	193	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	11	Sand	Pole	SAMPLED	0																												
528	46.0179086	-89.62769005	192	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	21		Rope	SAMPLED	0																												
529	46.0179062	-89.6269537	191	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	37			DEEP																													
530	46.0179038	-89.62621736	190	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	39			DEEP																													
531	46.0179014	-89.62548101	189	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	41			DEEP																													
532	46.017899	-89.62474466	188	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	44			DEEP																													
533	46.0178965	-89.62400831	0					0			DEEP																													
534	46.0178941	-89.62327196	0					0			DEEP																													
535	46.0178917	-89.62253561	0					0			DEEP																													
536	46.0178893	-89.62179927	0					0			DEEP																													
537	46.0178868	-89.62106292	0					0			DEEP																													
538	46.0178844	-89.62032657	0					0			DEEP																													
539	46.0178819	-89.61959022	0					0			DEEP																													
540	46.0178795	-89.61885387	0					0			DEEP																													

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
541	46.017877	-89.61811753	0					0			DEEP																													
542	46.0178746	-89.61738118	0					0			DEEP																													
543	46.0178721	-89.61664483	0					0			DEEP																													
544	46.0178696	-89.61590848	200	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	60			DEEP																													
545	46.0178671	-89.61517214	201	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	30		Rope	SAMPLED	0																												
546	46.0178647	-89.61443579	204	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	24		Rope	SAMPLED	0																												
547	46.0178622	-89.61369944	207	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	22		Rope	SAMPLED	0																												
548	46.0178597	-89.6129631	212	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	12	Rock	Pole	SAMPLED	0																												
549	46.0178572	-89.61222675	213	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Rock	Pole	SAMPLED	0																												
550	46.0178522	-89.61075406	221	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Sand	Pole	SAMPLED	1				1									1															
551	46.0178497	-89.61001771	222	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	11	Rock	Pole	SAMPLED	0																												
552	46.0178472	-89.60928136	225	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	36			DEEP																													
553	46.0178446	-89.60854502	227	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	36			DEEP																													
554	46.0178421	-89.60780867	228	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	28		Rope	SAMPLED	0																												
555	46.0178396	-89.60707232	231	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	35			DEEP																													
556	46.017837	-89.60633598	234	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	36			DEEP																													
557	46.0178345	-89.60559963	235	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	35			DEEP																													
558	46.017832	-89.60486329	238	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	36			DEEP																													
559	46.0178294	-89.60412694	239	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	39			DEEP																													
560	46.0178269	-89.60339059	0					0			DEEP																													
561	46.0178243	-89.60265425	0					0			DEEP																													
562	46.0178217	-89.6019179	247	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	36			DEEP																													
563	46.0178192	-89.60118156	249	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	22		Rope	SAMPLED	0																												
564	46.0178166	-89.60044521	252	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	34			DEEP																													
565	46.017814	-89.59970887	367	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	0			DEEP																													
566	46.0178114	-89.59897252	366	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	33		Rope	SAMPLED	0																												
567	46.0178089	-89.59823618	368	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	35			DEEP																													
568	46.0178063	-89.59749983	369	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	32		Rope	SAMPLED	0																												
569	46.0184264	-89.62915932	194	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Sand	Pole	SAMPLED	0																												
570	46.018424	-89.62842297	196	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	16		Rope	SAMPLED	0																												
571	46.0184216	-89.62768661	197	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	25		Rope	SAMPLED	0																												
572	46.0184192	-89.62695025	198	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	33		Rope	SAMPLED	0																												
573	46.0184168	-89.6262139	199	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	38			DEEP																													
574	46.0184144	-89.62547754	0					0			DEEP																													
575	46.018412	-89.62474119	0					0			DEEP																													
576	46.0184096	-89.62400483	0					0			DEEP																													
577	46.0184071	-89.62326848	0					0			DEEP																													
578	46.0184047	-89.62253212	0					0			DEEP																													
579	46.0184023	-89.62179577	0					0			DEEP																													
580	46.0183998	-89.62105941	0					0			DEEP																													
581	46.0183974	-89.62032306	0					0			DEEP																													
582	46.0183949	-89.6195867	0					0			DEEP																													
583	46.0183925	-89.61885035	0					0			DEEP																													
584	46.01839	-89.618114	0					0			DEEP																													
585	46.0183876	-89.61737764	0					0			DEEP																													
586	46.0183851	-89.61664129	0					0			DEEP																													
587	46.0183826	-89.61590493	0					0			DEEP																													
588	46.0183801	-89.61516858	202	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	56			DEEP																													
589	46.0183777	-89.61443222	203	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	35			DEEP																													
590	46.0183752	-89.61369587	208	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	22		Rope	SAMPLED	0																												
591	46.0183727	-89.61295952	211	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	18		Rope	SAMPLED	0																												
592	46.0183702	-89.61222316	214	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	16		Rope	SAMPLED	0																												
593	46.0183677	-89.61148681	217	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	5	Rock	Pole	SAMPLED	0																												
594	46.0183652	-89.61075046	220	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	9	Muck	Pole	SAMPLED	1				1									1															

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
595	46.0183627	-89.6100141	223	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	38			DEEP																													
596	46.0183602	-89.60927775	224	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	39			DEEP																													
597	46.0183576	-89.6085414	0					0			DEEP																													
598	46.0183551	-89.60780504	229	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	37			DEEP																													
599	46.0183526	-89.60706869	230	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	36			DEEP																													
600	46.0183501	-89.60633234	0					0			DEEP																													
601	46.0183475	-89.60559598	0					0			DEEP																													
602	46.018345	-89.60485963	0					0			DEEP																													
603	46.0183424	-89.60412328	0					0			DEEP																													
604	46.0183399	-89.60338693	0					0			DEEP																													
605	46.0183373	-89.60265057	0					0			DEEP																													
606	46.0183347	-89.60191422	0					0			DEEP																													
607	46.0183322	-89.60117787	248	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	34			DEEP																													
608	46.0183296	-89.60044152	375	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	34			DEEP																													
609	46.018327	-89.59970517	374	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	34			DEEP																													
610	46.0183244	-89.59896881	373	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	32		Rope	SAMPLED	0																												
611	46.0183219	-89.59823246	372	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	31		Rope	SAMPLED	0																												
612	46.0183193	-89.59749611	371	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	27		Rope	SAMPLED	0																												
613	46.0183167	-89.59675976	370	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	7	Sand	Pole	SAMPLED	0																												
614	46.0189394	-89.62915589	195	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Sand	Pole	SAMPLED	0																												
615	46.018937	-89.62841953	203	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	16		Rope	SAMPLED	0																												
616	46.0189346	-89.62768317	202	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	18		Rope	SAMPLED	0																												
617	46.0189322	-89.6269468	201	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	27		Rope	SAMPLED	0																												
618	46.0189298	-89.62621044	200	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	35			DEEP																													
619	46.0189274	-89.62547408	0					0			DEEP																													
620	46.018925	-89.62473772	0					0			DEEP																													
621	46.0189226	-89.62400136	0					0			DEEP																													
622	46.0189201	-89.62326499	0					0			DEEP																													
623	46.0189177	-89.62252863	0					0			DEEP																													
624	46.0189153	-89.62179227	0					0			DEEP																													
625	46.0189128	-89.62105591	0					0			DEEP																													
626	46.0189104	-89.62031955	0					0			DEEP																													
627	46.0189079	-89.61958319	0					0			DEEP																													
628	46.0189055	-89.61884682	0					0			DEEP																													
629	46.018903	-89.61811046	0					0			DEEP																													
630	46.0189006	-89.6173741	0					0			DEEP																													
631	46.0188981	-89.61663774	0					0			DEEP																													
632	46.0188956	-89.61590138	0					0			DEEP																													
633	46.0188932	-89.61516502	0					0			DEEP																													
634	46.0188907	-89.61442866	0					0			DEEP																													
635	46.0188882	-89.6136923	209	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	49			DEEP																													
636	46.0188857	-89.61295594	210	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	44			DEEP																													
637	46.0188832	-89.61221958	215	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	37			DEEP																													
638	46.0188807	-89.61148322	216	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	37			DEEP																													
639	46.0188782	-89.61074686	219	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	34			DEEP																													
640	46.0188757	-89.6100105	0					0			DEEP																													
641	46.0188732	-89.60927414	399	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	37			DEEP																													
642	46.0188706	-89.60853778	398	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	36			DEEP																													
643	46.0188681	-89.60780142	395	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	35			DEEP																													
644	46.0188656	-89.60706506	394	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	36			DEEP																													
645	46.0188631	-89.6063287	391	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	35			DEEP																													
646	46.0188605	-89.60559234	390	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	35			DEEP																													
647	46.018858	-89.60485598	0					0			DEEP																													
648	46.0188554	-89.60411962	0					0			DEEP																													

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
649	46.0188529	-89.60338326	0					0			DEEP																													
650	46.0188503	-89.6026469	269	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	35			DEEP																													
651	46.0188478	-89.60191054	268	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	38			DEEP																													
652	46.0188452	-89.60117418	377	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	34			DEEP																													
653	46.0188426	-89.60043782	376	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	31		Rope	SAMPLED	0																												
654	46.01884	-89.59970146	378	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	30		Rope	SAMPLED	0																												
655	46.0188375	-89.59896511	379	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	29		Rope	SAMPLED	0																												
656	46.0188349	-89.59822875	380	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	27		Rope	SAMPLED	0																												
657	46.0188323	-89.59749239	381	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	22		Rope	SAMPLED	0																												
658	46.0188297	-89.59675603	382	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	5	Sand	Pole	SAMPLED	0																												
659	46.0194524	-89.62915246	204	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	3	Sand	Pole	SAMPLED	2			1																			1						
660	46.01945	-89.62841609	205	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	17		Rope	SAMPLED	0																												
661	46.0194476	-89.62767972	206	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	16		Rope	SAMPLED	0																												
662	46.0194452	-89.62694335	207	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	27		Rope	SAMPLED	0																												
663	46.0194428	-89.62620699	208	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	35			DEEP																													
664	46.0194404	-89.62547062	0					0			DEEP																													
665	46.019438	-89.62473425	0					0			DEEP																													
666	46.0194356	-89.62399788	0					0			DEEP																													
667	46.0194331	-89.62326151	0					0			DEEP																													
668	46.0194307	-89.62252514	0					0			DEEP																													
669	46.0194283	-89.62178877	0					0			DEEP																													
670	46.0194258	-89.6210524	0					0			DEEP																													
671	46.0194234	-89.62031604	0					0			DEEP																													
672	46.0194209	-89.61957967	0					0			DEEP																													
673	46.0194185	-89.6188433	0					0			DEEP																													
674	46.019416	-89.61810693	0					0			DEEP																													
675	46.0194136	-89.61737056	0					0			DEEP																													
676	46.0194111	-89.6166342	0					0			DEEP																													
677	46.0194086	-89.61589783	0					0			DEEP																													
678	46.0194062	-89.61516146	0					0			DEEP																													
679	46.0194037	-89.61442509	0					0			DEEP																													
680	46.0194012	-89.61368873	0					0			DEEP																													
681	46.0193987	-89.61295236	0					0			DEEP																													
682	46.0193962	-89.61221599	0					0			DEEP																													
683	46.0193937	-89.61147962	0					0			DEEP																													
684	46.0193912	-89.61074326	218	Big Muskellunge	Vilas	7/30/2019	TWH & MMT	44			DEEP																													
685	46.0193887	-89.61000689	403	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	38			DEEP																													
686	46.0193862	-89.60927052	400	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	30		Rope	SAMPLED	0																												
687	46.0193836	-89.60853416	397	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	15	Rock	Pole	SAMPLED	0																												
688	46.0193811	-89.60779779	396	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	5	Sand	Pole	SAMPLED	0																												
689	46.0193786	-89.60706142	393	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	27		Rope	SAMPLED	0																												
690	46.0193761	-89.60632506	392	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	27		Rope	SAMPLED	0																												
691	46.0193735	-89.60558869	389	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	30		Rope	SAMPLED	1													1															
692	46.019371	-89.60485232	388	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	34			DEEP																													
693	46.0193684	-89.60411596	385	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	36			DEEP																													
694	46.0193659	-89.60337959	384	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	37			DEEP																													
695	46.0193633	-89.60264322	270	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	32		Rope	SAMPLED	0																												
696	46.0193608	-89.60190686	267	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	30		Rope	SAMPLED	0																												
697	46.0193582	-89.60117049	256	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	27		Rope	SAMPLED	0																												
698	46.0193556	-89.60043413	255	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	26		Rope	SAMPLED	0																												
699	46.019353	-89.59969776	254	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	25		Rope	SAMPLED	0																												
700	46.0193505	-89.5989614	253	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	23		Rope	SAMPLED	0																												
701	46.0193479	-89.59822503	252	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	18		Rope	SAMPLED	0																												
702	46.0193453	-89.59748867	251	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	15	Sand	Pole	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
703	46.0193427	-89.5967523	250	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	0			TERRESTRIAL																													
704	46.0199654	-89.62914903	214	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	3	Sand	Pole	SAMPLED	0																												
705	46.019963	-89.62841266	213	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	11	Sand	Pole	SAMPLED	0																												
706	46.0199606	-89.62767628	212	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	16		Rope	SAMPLED	0																												
707	46.0199582	-89.6269399	211	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	27		Rope	SAMPLED	0																												
708	46.0199558	-89.62620353	210	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	35			DEEP																													
709	46.0199534	-89.62546715	209	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	37			DEEP																													
710	46.019951	-89.62473078	0					0			DEEP																													
711	46.0199486	-89.6239944	0					0			DEEP																													
712	46.0199462	-89.62325803	0					0			DEEP																													
713	46.0199437	-89.62252165	0					0			DEEP																													
714	46.0199413	-89.62178528	0					0			DEEP																													
715	46.0199388	-89.6210489	0					0			DEEP																													
716	46.0199364	-89.62031252	152	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	41			DEEP																													
717	46.019934	-89.61957615	0					0			DEEP																													
718	46.0199315	-89.61883977	0					0			DEEP																													
719	46.019929	-89.6181034	411	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	38			DEEP																													
720	46.0199266	-89.61736702	412	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	45			DEEP																													
721	46.0199241	-89.61663065	0					0			DEEP																													
722	46.0199216	-89.61589428	0					0			DEEP																													
723	46.0199192	-89.6151579	0					0			DEEP																													
724	46.0199167	-89.61442153	0					0			DEEP																													
725	46.0199142	-89.61368515	0					0			DEEP																													
726	46.0199117	-89.61294878	0					0			DEEP																													
727	46.0199092	-89.6122124	0					0			DEEP																													
728	46.0199067	-89.61147603	405	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	50			DEEP																													
729	46.0199042	-89.61073966	404	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	37			DEEP																													
730	46.0199017	-89.61000328	402	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	28		Rope	SAMPLED	0																												
731	46.0198992	-89.60926691	401	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	11	Rock	Pole	SAMPLED	0																												
732	46.0198865	-89.60558504	0					0			NO INFORMATION																													
733	46.019884	-89.60484867	387	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	24		Rope	SAMPLED	0																												
734	46.0198814	-89.6041123	386	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	14	Sand	Pole	SAMPLED	0																												
735	46.0198789	-89.60337592	383	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	10	Sand	Pole	SAMPLED	0																												
736	46.0198763	-89.60263955	271	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	13	Sand	Pole	SAMPLED	0																												
737	46.0198738	-89.60190318	266	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	15	Rock	Pole	SAMPLED	0																												
738	46.0198712	-89.6011668	257	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	23		Rope	SAMPLED	0																												
739	46.0198686	-89.60043043	258	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	6	Rock	Pole	SAMPLED	0																												
740	46.019866	-89.59969406	259	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	14	Rock	Pole	SAMPLED	0																												
741	46.0198635	-89.59895769	260	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Sand	Pole	SAMPLED	0																												
742	46.0198609	-89.59822132	261	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	6	Sand	Pole	SAMPLED	0																												
743	46.0204784	-89.6291456	215	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	0			TERRESTRIAL																													
744	46.020476	-89.62840922	216	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	18		Rope	SAMPLED	0																												
745	46.0204736	-89.62767284	217	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	26		Rope	SAMPLED	1													1															
746	46.0204712	-89.62693645	218	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	21		Rope	SAMPLED	0																												
747	46.0204688	-89.62620007	219	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	32		Rope	SAMPLED	0																												
748	46.0204664	-89.62546369	220	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	37			DEEP																													
749	46.020464	-89.62472731	240	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	39			DEEP																													
750	46.0204616	-89.62399092	241	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	39			DEEP																													
751	46.0204592	-89.62325454	249	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	42			DEEP																													
752	46.0204567	-89.62251816	0					0			DEEP																													
753	46.0204543	-89.62178178	0					0			DEEP																													
754	46.0204519	-89.6210454	157	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	41			DEEP																													
755	46.0204494	-89.62030901	151	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	17		Rope	SAMPLED	0																												
756	46.020447	-89.61957263	150	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
757	46.0204445	-89.61883625	0					0			DEEP																													
758	46.0204421	-89.61809987	0					0			DEEP																													
759	46.0204396	-89.61736349	410	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	40			DEEP																													
760	46.0204371	-89.6166271	409	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	27		Rope	SAMPLED	0																												
761	46.0204346	-89.61589072	408	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	36			DEEP																													
762	46.0204322	-89.61515434	0					0			DEEP																													
763	46.0204297	-89.61441796	0					0			DEEP																													
764	46.0204272	-89.61368158	0					0			DEEP																													
765	46.0204247	-89.6129452	0					0			DEEP																													
766	46.0204222	-89.61220882	406	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	60			DEEP																													
767	46.0204197	-89.61147244	189	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	30		Rope	SAMPLED	0																												
768	46.0204172	-89.61073606	188	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	12	Rock	Pole	SAMPLED	0																												
769	46.0204147	-89.60999968	187	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	6	Rock	Pole	SAMPLED	0																												
770	46.0203842	-89.60116312	265	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Rock	Pole	SAMPLED	0																												
771	46.0203816	-89.60042674	264	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	11	Sand	Pole	SAMPLED	1																					1							
772	46.0203791	-89.59969036	263	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	6	Sand	Pole	SAMPLED	0																												
773	46.0203765	-89.59895398	262	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Rock	Pole	SAMPLED	0																												
774	46.020989	-89.62840578	225	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	10	Sand	Pole	SAMPLED	0																												
775	46.0209866	-89.62766939	224	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	29		Rope	SAMPLED	1													1															
776	46.0209842	-89.626933	223	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	27		Rope	SAMPLED	0																												
777	46.0209818	-89.62619661	222	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	35			DEEP																													
778	46.0209794	-89.62546022	221	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	37			DEEP																													
779	46.020977	-89.62472384	238	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	36			DEEP																													
780	46.0209746	-89.62398745	239	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	25		Rope	SAMPLED	0																												
781	46.0209722	-89.62325106	248	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	33		Rope	SAMPLED	0																												
782	46.0209697	-89.62251467	161	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	42			DEEP																													
783	46.0209673	-89.62177828	158	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	36			DEEP																													
784	46.0209649	-89.62104189	156	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	19		Rope	SAMPLED	0																												
785	46.0209624	-89.6203055	153	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	14	Sand	Pole	SAMPLED	0																												
786	46.02096	-89.61956911	149	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	19		Rope	SAMPLED	0																												
787	46.0209575	-89.61883272	0					0			DEEP																													
788	46.0209551	-89.61809634	0					0			DEEP																													
789	46.0209526	-89.61735995	0					0			DEEP																													
790	46.0209501	-89.61662356	413	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	50			DEEP																													
791	46.0209477	-89.61588717	407	Big Muskellunge	Vilas	7/31/2019	TWH & MMT	54			DEEP																													
792	46.0209452	-89.61515078	0					0			DEEP																													
793	46.0209427	-89.61441439	0					0			DEEP																													
794	46.0209402	-89.61367801	0					0			DEEP																													
795	46.0209377	-89.61294162	0					0			DEEP																													
796	46.0209352	-89.61220523	0					0			DEEP																													
797	46.0209327	-89.61146884	186	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	59			DEEP																													
798	46.0209302	-89.61073246	185	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	22		Rope	SAMPLED	0																												
799	46.0208972	-89.60115943	164	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	9	Rock	Pole	SAMPLED	0																												
800	46.021502	-89.62840235	226	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	4	Sand	Pole	SAMPLED	0																												
801	46.0214997	-89.62766595	227	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	9	Sand	Pole	SAMPLED	0																												
802	46.0214972	-89.62692955	228	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	13	Sand	Pole	SAMPLED	0																												
803	46.0214948	-89.62619316	229	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	22		Rope	SAMPLED	0																												
804	46.0214924	-89.62545676	230	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	31		Rope	SAMPLED	0																												
805	46.02149	-89.62472036	237	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	29		Rope	SAMPLED	0																												
806	46.0214876	-89.62398397	242	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	19		Rope	SAMPLED	0																												
807	46.0214852	-89.62324757	247	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	21		Rope	SAMPLED	0																												
808	46.0214827	-89.62251118	160	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	23		Rope	SAMPLED	0																												
809	46.0214803	-89.62177478	159	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	13	Sand	Pole	SAMPLED	0																												
810	46.0214779	-89.62103839	155	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	15		Rope	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
811	46.0214754	-89.62030199	154	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	19		Rope	SAMPLED	0																												
812	46.021473	-89.61956559	148	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	19		Rope	SAMPLED	0																												
813	46.0214705	-89.6188292	147	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	40			DEEP																													
814	46.0214681	-89.6180928	0					0			DEEP																													
815	46.0214656	-89.61735641	0					0			DEEP																													
816	46.0214631	-89.61662001	0					0			DEEP																													
817	46.0214607	-89.61588362	0					0			DEEP																													
818	46.0214582	-89.61514722	0					0			DEEP																													
819	46.0214557	-89.61441083	0					0			DEEP																													
820	46.0214532	-89.61367443	0					0			DEEP																													
821	46.0214507	-89.61293804	0					0			DEEP																													
822	46.0214482	-89.61220164	0					0			DEEP																													
823	46.0214457	-89.61146525	0					0			DEEP																													
824	46.0214432	-89.61072886	184	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	0			DEEP																													
825	46.0214407	-89.60999246	183	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	16		Rope	SAMPLED	0																												
826	46.0214306	-89.60704689	176	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	3	Rock	Pole	SAMPLED	1				1					1																			
827	46.0214281	-89.60631049	174	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	0			TERRESTRIAL																													
828	46.0214255	-89.6055741	172	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	6	Sand	Pole	SAMPLED	0																												
829	46.021423	-89.6048377	170	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	16		Rope	SAMPLED	0																												
830	46.0214205	-89.60410131	169	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
831	46.0214179	-89.60336492	168	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	45			DEEP																													
832	46.0214153	-89.60262852	167	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
833	46.0214128	-89.60189213	165	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
834	46.0214102	-89.60115574	163	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
835	46.0214076	-89.60041935	162	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
836	46.0214051	-89.59968295	1	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	14	Rock	Pole	SAMPLED	0																												
837	46.0220103	-89.6269261	231	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	2	Rock	Pole	SAMPLED	0																												
838	46.0220078	-89.6261897	232	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	8	Sand	Pole	SAMPLED	0																												
839	46.0220054	-89.6254533	233	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	11	Sand	Pole	SAMPLED	1																									1		
840	46.022003	-89.62471689	236	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	12	Sand	Pole	SAMPLED	1													1															
841	46.0220006	-89.62398049	243	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	10	Sand	Pole	SAMPLED	0																												
842	46.0219982	-89.62324409	246	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	10	Sand	Pole	SAMPLED	0																												
843	46.0219957	-89.62250769	141	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	10	Sand	Pole	SAMPLED	1													1													1		
844	46.0219933	-89.62177128	142	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	12	Sand	Pole	SAMPLED	1												1	1			1												
845	46.0219909	-89.62103488	143	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	14	Sand	Pole	SAMPLED	1		1											1															
846	46.0219884	-89.62029848	144	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	19		Rope	SAMPLED	0																												
847	46.021986	-89.61956208	145	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	22		Rope	SAMPLED	0																												
848	46.0219835	-89.61882567	146	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
849	46.0219811	-89.61808927	0					0			DEEP																													
850	46.0219786	-89.61735287	0					0			DEEP																													
851	46.0219761	-89.61661647	0					0			DEEP																													
852	46.0219737	-89.61588007	0					0			DEEP																													
853	46.0219712	-89.61514366	0					0			DEEP																													
854	46.0219687	-89.61440726	0					0			DEEP																													
855	46.0219662	-89.61367086	0					0			DEEP																													
856	46.0219637	-89.61293446	0					0			DEEP																													
857	46.0219612	-89.61219806	0					0			DEEP																													
858	46.0219587	-89.61146166	0					0			DEEP																													
859	46.0219562	-89.61072526	0					0			DEEP																													
860	46.0219537	-89.60998885	182	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	0			DEEP																													
861	46.0219512	-89.60925245	180	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	27		Rope	SAMPLED	0																												
862	46.0219487	-89.60851605	179	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
863	46.0219462	-89.60777965	178	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	43			DEEP																													
864	46.0219436	-89.60704325	177	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	41			DEEP																													

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
865	46.0219411	-89.60630685	175	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	45			DEEP																													
866	46.0219386	-89.60557045	173	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
867	46.021936	-89.60483405	171	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	0			DEEP																													
868	46.0219335	-89.60409765	0					0			DEEP																													
869	46.0219309	-89.60336125	0					0			DEEP																													
870	46.0219283	-89.60262485	0					0			DEEP																													
871	46.0219258	-89.60188845	166	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
872	46.0219232	-89.60115205	0					0			DEEP																													
873	46.0219206	-89.60041565	0					0			DEEP																													
874	46.0219181	-89.59967925	2	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	32			DEEP																													
875	46.0225184	-89.62544983	234	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	3	Sand	Pole	SAMPLED	1				1																		1						
876	46.022516	-89.62471342	235	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	5	Sand	Pole	SAMPLED	0																												
877	46.0225136	-89.62397701	244	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	7	Sand	Pole	SAMPLED	1				1					1																			
878	46.0225112	-89.6232406	245	Big Muskellunge	Vilas	7/30/2019	MFU & JLK	8	Rock	Pole	SAMPLED	0																												
879	46.0225088	-89.62250419	140	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	10	Sand	Pole	SAMPLED	0																												
880	46.0225063	-89.62176778	139	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	11	Rock	Pole	SAMPLED	0																												
881	46.0225039	-89.62103138	138	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	14	Sand	Pole	SAMPLED	1													1															
882	46.0225014	-89.62029497	137	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	20		Rope	SAMPLED	0																												
883	46.022499	-89.61955856	136	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	30		Rope	SAMPLED	0																												
884	46.0224965	-89.61882215	135	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	32		Rope	SAMPLED	0																												
885	46.0224941	-89.61808574	134	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
886	46.0224916	-89.61734933	0					0			DEEP																													
887	46.0224891	-89.61661292	0					0			DEEP																													
888	46.0224867	-89.61587651	0					0			DEEP																													
889	46.0224842	-89.6151401	0					0			DEEP																													
890	46.0224817	-89.6144037	0					0			DEEP																													
891	46.0224792	-89.61366729	0					0			DEEP																													
892	46.0224767	-89.61293088	0					0			DEEP																													
893	46.0224742	-89.61219447	0					0			DEEP																													
894	46.0224717	-89.61145806	0					0			DEEP																													
895	46.0224692	-89.61072166	0					0			DEEP																													
896	46.0224667	-89.60998525	0					0			DEEP																													
897	46.0224642	-89.60924884	181	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	0			DEEP																													
898	46.0224617	-89.60851243	0					0			DEEP																													
899	46.0224592	-89.60777602	0					0			DEEP																													
900	46.0224566	-89.60703962	0					0			DEEP																													
901	46.0224541	-89.60630321	0					0			DEEP																													
902	46.0224516	-89.6055668	0					0			DEEP																													
903	46.022449	-89.6048304	0					0			DEEP																													
904	46.0224465	-89.60409399	0					0			DEEP																													
905	46.0224439	-89.60335758	0					0			DEEP																													
906	46.0224414	-89.60262117	0					0			DEEP																													
907	46.0224388	-89.60188477	0					0			DEEP																													
908	46.0224362	-89.60114836	0					0			DEEP																													
909	46.0224337	-89.60041195	0					0			DEEP																													
910	46.0224311	-89.59967555	3	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	27		Rope	SAMPLED	0																												
911	46.0230218	-89.6225007	127	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	5	Sand	Pole	SAMPLED	0																												
912	46.0230193	-89.62176429	128	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	9	Sand	Pole	SAMPLED	0																												
913	46.0230169	-89.62102787	129	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	15	Sand	Pole	SAMPLED	2													2															
914	46.0230144	-89.62029145	130	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	21		Rope	SAMPLED	0																												
915	46.023012	-89.61955504	131	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	29		Rope	SAMPLED	0																												
916	46.0230095	-89.61881862	132	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	24		Rope	SAMPLED	0																												
917	46.0230071	-89.61808221	133	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	40			DEEP																													
918	46.0230046	-89.61734579	0					0			DEEP																													

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
919	46.0230022	-89.61660938	0					0			DEEP																													
920	46.0229997	-89.61587296	0					0			DEEP																													
921	46.0229972	-89.61513654	0					0			DEEP																													
922	46.0229947	-89.61440013	0					0			DEEP																													
923	46.0229922	-89.61366371	0					0			DEEP																													
924	46.0229897	-89.6129273	0					0			DEEP																													
925	46.0229872	-89.61219088	0					0			DEEP																													
926	46.0229847	-89.61145447	0					0			DEEP																													
927	46.0229822	-89.61071805	0					0			DEEP																													
928	46.0229797	-89.60998164	0					0			DEEP																													
929	46.0229772	-89.60924523	0					0			DEEP																													
930	46.0229747	-89.60850881	0					0			DEEP																													
931	46.0229722	-89.6077724	0					0			DEEP																													
932	46.0229696	-89.60703598	0					0			DEEP																													
933	46.0229671	-89.60629957	0					0			DEEP																													
934	46.0229646	-89.60556315	0					0			DEEP																													
935	46.022962	-89.60482674	0					0			DEEP																													
936	46.0229595	-89.60409033	0					0			DEEP																													
937	46.0229569	-89.60335391	0					0			DEEP																													
938	46.0229544	-89.6026175	0					0			DEEP																													
939	46.0229518	-89.60188109	0					0			DEEP																													
940	46.0229492	-89.60114467	0					0			DEEP																													
941	46.0229467	-89.60040826	12	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	36			DEEP																													
942	46.0229441	-89.59967184	4	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	27		Rope	SAMPLED	0																												
943	46.0235323	-89.62176079	126	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	5	Sand	Pole	SAMPLED	0																												
944	46.0235299	-89.62102436	125	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	10	Sand	Pole	SAMPLED	2		2																										
945	46.0235274	-89.62028794	124	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	12	Sand	Pole	SAMPLED	2													2															
946	46.023525	-89.61955152	123	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	20		Rope	SAMPLED	0																												
947	46.0235225	-89.6188151	122	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
948	46.0235201	-89.61807867	121	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	50			DEEP																													
949	46.0235176	-89.61734225	0					0			DEEP																													
950	46.0235152	-89.61660583	0					0			DEEP																													
951	46.0235127	-89.61586941	0					0			DEEP																													
952	46.0235102	-89.61513298	0					0			DEEP																													
953	46.0235077	-89.61439656	0					0			DEEP																													
954	46.0235052	-89.61366014	0					0			DEEP																													
955	46.0235027	-89.61292372	0					0			DEEP																													
956	46.0235002	-89.6121873	0					0			DEEP																													
957	46.0234977	-89.61145088	0					0			DEEP																													
958	46.0234952	-89.61071445	0					0			DEEP																													
959	46.0234927	-89.60997803	0					0			DEEP																													
960	46.0234902	-89.60924161	0					0			DEEP																													
961	46.0234877	-89.60850519	0					0			DEEP																													
962	46.0234852	-89.60776877	0					0			DEEP																													
963	46.0234826	-89.60703235	0					0			DEEP																													
964	46.0234801	-89.60629593	0					0			DEEP																													
965	46.0234776	-89.60555951	0					0			DEEP																													
966	46.023475	-89.60482308	0					0			DEEP																													
967	46.0234725	-89.60408666	0					0			DEEP																													
968	46.0234699	-89.60335024	0					0			DEEP																													
969	46.0234674	-89.60261382	0					0			DEEP																													
970	46.0234648	-89.6018774	0					0			DEEP																													
971	46.0234622	-89.60114098	13	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	38			DEEP																													
972	46.0234597	-89.60040456	11	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
973	46.0234571	-89.59966814	5	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	33			DEEP																													
974	46.0240429	-89.62102086	115	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	5	Sand	Pole	SAMPLED	0																												
975	46.0240405	-89.62028443	116	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	11	Sand	Pole	SAMPLED	1													1															
976	46.024038	-89.619548	117	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	16		Rope	SAMPLED	0																												
977	46.0240356	-89.61881157	118	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	23		Rope	SAMPLED	0																												
978	46.0240331	-89.61807514	119	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	45			DEEP																													
979	46.0240306	-89.61733871	0					0			DEEP																													
980	46.0240282	-89.61660228	0					0			DEEP																													
981	46.0240257	-89.61586585	0					0			DEEP																													
982	46.0240232	-89.61512943	0					0			DEEP																													
983	46.0240207	-89.614393	0					0			DEEP																													
984	46.0240182	-89.61365657	0					0			DEEP																													
985	46.0240158	-89.61292014	0					0			DEEP																													
986	46.0240133	-89.61218371	0					0			DEEP																													
987	46.0240108	-89.61144728	0					0			DEEP																													
988	46.0240082	-89.61071085	0					0			DEEP																													
989	46.0240057	-89.60997442	0					0			DEEP																													
990	46.0240032	-89.609238	0					0			DEEP																													
991	46.0240007	-89.60850157	0					0			DEEP																													
992	46.0239982	-89.60776514	52	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	0			DEEP																													
993	46.0239956	-89.60702871	0					0			DEEP																													
994	46.0239931	-89.60629228	0					0			DEEP																													
995	46.0239906	-89.60555586	0					0			DEEP																													
996	46.023988	-89.60481943	0					0			DEEP																													
997	46.0239855	-89.604083	25	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	41			DEEP																													
998	46.0239829	-89.60334657	24	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	41			DEEP																													
999	46.0239804	-89.60261015	0					0			DEEP																													
1000	46.0239778	-89.60187372	0					0			DEEP																													
1001	46.0239752	-89.60113729	14	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	22		Rope	SAMPLED	0																												
1002	46.0239727	-89.60040087	10	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	27		Rope	SAMPLED	0																												
1003	46.0239701	-89.59966444	6	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	25		Rope	SAMPLED	0																												
1004	46.0245535	-89.62028092	113	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	8	Sand	Pole	SAMPLED	1				1							1		1															
1005	46.024551	-89.61954448	114	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	13	Sand	Pole	SAMPLED	1													1															
1006	46.0245486	-89.61880804	106	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	24		Rope	SAMPLED	0																												
1007	46.0245461	-89.61807161	120	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	0			DEEP																													
1008	46.0245436	-89.61733517	0					0			DEEP																													
1009	46.0245412	-89.61659874	0					0			DEEP																													
1010	46.0245387	-89.6158623	0					0			DEEP																													
1011	46.0245362	-89.61512587	0					0			DEEP																													
1012	46.0245337	-89.61438943	86	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	51			DEEP																													
1013	46.0245312	-89.61365299	85	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	50			DEEP																													
1014	46.0245288	-89.61291656	79	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	48			DEEP																													
1015	46.0245263	-89.61218012	78	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	45			DEEP																													
1016	46.0245238	-89.61144369	71	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	0			DEEP																													
1017	46.0245213	-89.61070725	0					0			DEEP																													
1018	46.0245187	-89.60997082	63	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	45			DEEP																													
1019	46.0245162	-89.60923438	62	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	36			DEEP																													
1020	46.0245137	-89.60849795	53	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	34			DEEP																													
1021	46.0245112	-89.60776151	51	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	23		Rope	SAMPLED	0																												
1022	46.0245087	-89.60702508	42	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	38			DEEP																													
1023	46.0245061	-89.60628864	41	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	41			DEEP																													
1024	46.0245036	-89.60555221	33	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	41			DEEP																													
1025	46.024501	-89.60481577	32	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	36			DEEP																													
1026	46.0244985	-89.60407934	26	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	29		Rope	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
1027	46.0244959	-89.60334291	23	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	26		Rope	SAMPLED	0																												
1028	46.0244934	-89.60260647	19	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
1029	46.0244908	-89.60187004	18	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	33			DEEP																													
1030	46.0244882	-89.6011336	15	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	12	Rock	Pole	SAMPLED	0																												
1031	46.0244857	-89.60039717	9	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	9	Sand	Pole	SAMPLED	1																1												
1032	46.0244831	-89.59966074	7	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	4	Sand	Pole	SAMPLED	0																												
1033	46.0250665	-89.62027741	112	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	3	Sand	Pole	SAMPLED	0																												
1034	46.025064	-89.61954096	111	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	9	Sand	Pole	SAMPLED	2		2																										
1035	46.0250616	-89.61880452	107	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	13	Rock	Pole	SAMPLED	1													1															
1036	46.0250591	-89.61806808	105	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
1037	46.0250566	-89.61733163	99	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	41			DEEP																													
1038	46.0250542	-89.61659519	98	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	41			DEEP																													
1039	46.0250517	-89.61585875	93	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	41			DEEP																													
1040	46.0250492	-89.61512231	92	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	36			DEEP																													
1041	46.0250467	-89.61438586	87	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
1042	46.0250443	-89.61364942	84	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	23		Rope	SAMPLED	0																												
1043	46.0250418	-89.61291298	80	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	22		Rope	SAMPLED	1													1															
1044	46.0250393	-89.61217654	77	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	26		Rope	SAMPLED	0																												
1045	46.0250368	-89.61144009	72	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	30		Rope	SAMPLED	0																												
1046	46.0250343	-89.61070365	70	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	35			DEEP																													
1047	46.0250317	-89.60996721	64	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	32		Rope	SAMPLED	0																												
1048	46.0250292	-89.60923077	61	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	21		Rope	SAMPLED	0																												
1049	46.0250267	-89.60849433	54	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	11	Sand	Pole	SAMPLED	0																												
1050	46.0250242	-89.60775788	50	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	16		Rope	SAMPLED	0																												
1051	46.0250217	-89.60702144	43	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	18		Rope	SAMPLED	0																												
1052	46.0250191	-89.606285	40	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	11	Rock	Pole	SAMPLED	0																												
1053	46.0250166	-89.60554856	34	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	9	Rock	Pole	SAMPLED	1											1															1		
1054	46.025014	-89.60481212	31	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	16		Rope	SAMPLED	0																												
1055	46.0250115	-89.60407568	27	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	11	Rock	Pole	SAMPLED	1											1															1		
1056	46.0250089	-89.60333924	22	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	14	Sand	Pole	SAMPLED	0																												
1057	46.0250064	-89.6026028	20	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	10	Sand	Pole	SAMPLED	1						1										1					1							
1058	46.0250038	-89.60186636	17	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	20		Rope	SAMPLED	0																												
1059	46.0250012	-89.60112991	16	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	8	Sand	Pole	SAMPLED	1											1					1										1		
1060	46.0249987	-89.60039347	8	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	3	Sand	Pole	SAMPLED	2		1		1	1																	2						
1061	46.025577	-89.61953744	110	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	4	Sand	Pole	SAMPLED	0																												
1062	46.0255746	-89.61880099	108	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	7	Sand	Pole	SAMPLED	2				1					2				1															
1063	46.0255721	-89.61806454	104	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	10	Sand	Pole	SAMPLED	1													1			1												
1064	46.0255696	-89.61732809	100	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	13	Sand	Pole	SAMPLED	0																												
1065	46.0255672	-89.61659164	97	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	17		Rope	SAMPLED	1													1															
1066	46.0255647	-89.61585519	94	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	13	Sand	Pole	SAMPLED	1		1																										
1067	46.0255622	-89.61511874	91	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	12	Sand	Pole	SAMPLED	2		2																										
1068	46.0255597	-89.6143823	88	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	10	Sand	Pole	SAMPLED	1													1															
1069	46.0255573	-89.61364585	83	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	9	Sand	Pole	SAMPLED	0																												
1070	46.0255548	-89.6129094	81	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	7	Sand	Pole	SAMPLED	1		1							1		1																	
1071	46.0255523	-89.61217295	76	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	8	Sand	Pole	SAMPLED	1											1																	
1072	46.0255498	-89.6114365	73	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	6	Sand	Pole	SAMPLED	1				1					1		1																	
1073	46.0255473	-89.61070005	69	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	17		Rope	SAMPLED	0																												
1074	46.0255448	-89.6099636	65	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	13	Rock	Pole	SAMPLED	0																												
1075	46.0255422	-89.60922715	60	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	17		Rope	SAMPLED	0																												
1076	46.0255397	-89.6084907	55	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	14	Rock	Pole	SAMPLED	0																												
1077	46.0255372	-89.60775426	49	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	10	Rock	Pole	SAMPLED	0																												
1078	46.0255347	-89.60701781	44	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	19		Rope	SAMPLED	0																												
1079	46.0255321	-89.60628136	39	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	11	Rock	Pole	SAMPLED	0																												
1080	46.0255296	-89.60554491	35	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	9	Sand	Pole	SAMPLED	0																												

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Bidens beckii	Chara spp.	Elatine minima	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Isoetes spp.	Juncus pelocarpus	Lemna turionifera	Myriophyllum tenellum	Najas flexilis	Nitella spp.	Nymphaea odorata	Persicaria amphibia	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton robbinsii	Ranunculus flammula	Sagittaria graminea	Schoenoplectus acutus	Utricularia vulgaris	Vallisneria americana	Riccia fluitans	Filamentous algae
1081	46.025527	-89.60480846	30	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	7	Sand	Pole	SAMPLED	2		1		1					1		1								1									
1082	46.0255245	-89.60407202	28	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	5	Sand	Pole	SAMPLED	1									1																			
1083	46.0255219	-89.60333557	21	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	3	Sand	Pole	SAMPLED	1											1											1						
1084	46.0260876	-89.61879747	109	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	0			TERRESTRIAL																													
1085	46.0260851	-89.61806101	103	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	5	Sand	Pole	SAMPLED	0																												
1086	46.0260827	-89.61732455	101	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	8	Sand	Pole	SAMPLED	1				1							1																	
1087	46.0260802	-89.6165881	96	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	8	Sand	Pole	SAMPLED	1				1					1		1																	
1088	46.0260777	-89.61585164	95	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	5	Sand	Pole	SAMPLED	0																												
1089	46.0260752	-89.61511518	90	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	4	Sand	Pole	SAMPLED	1									1																			
1090	46.0260728	-89.61437873	89	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	2	Rock	Pole	SAMPLED	0																												
1091	46.0260678	-89.61290582	82	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	3	Sand	Pole	SAMPLED	1					1																							
1092	46.0260653	-89.61216936	75	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	2	Sand	Pole	SAMPLED	1				1																								
1093	46.0260628	-89.6114329	74	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	3	Sand	Pole	SAMPLED	2		1																				2		1				
1094	46.0260603	-89.61069645	68	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	4	Sand	Pole	SAMPLED	2					1																	2						
1095	46.0260578	-89.60995999	66	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	5	Sand	Pole	SAMPLED	2		1		1					1		1	1										1						
1096	46.0260552	-89.60922354	59	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	5	Sand	Pole	SAMPLED	1				1					1																			
1097	46.0260527	-89.60848708	56	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	20		Rope	SAMPLED	0																												
1098	46.0260502	-89.60775063	48	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	20		Rope	SAMPLED	1				1																	1							
1099	46.0260477	-89.60701417	45	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	20		Rope	SAMPLED	0																												
1100	46.0260451	-89.60627772	38	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	14	Sand	Pole	SAMPLED	0																												
1101	46.0260426	-89.60554126	36	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	7	Sand	Pole	SAMPLED	1					1				1		1																	
1102	46.02604	-89.60480481	29	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	4	Sand	Pole	SAMPLED	1					1																							
1103	46.0265957	-89.61732101	102	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	3	Sand	Pole	SAMPLED	1				1	1																	1		1				
1104	46.0265708	-89.60995639	67	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	3	Sand	Pole	SAMPLED	1			1						1																			
1105	46.0265682	-89.60921992	58	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	4	Sand	Pole	SAMPLED	0																												
1106	46.0265657	-89.60848346	57	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	3	Sand	Pole	SAMPLED	2			1		1				1													1						
1107	46.0265632	-89.607747	47	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	10	Muck	Pole	SAMPLED	2		1				1										1					1					1		
1108	46.0265607	-89.60701054	46	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	10	Sand	Pole	SAMPLED	1		1									1	1																
1109	46.0265581	-89.60627408	37	Big Muskellunge	Vilas	7/30/2019	BTB & MMC	6	Sand	Pole	SAMPLED	0																												

Big Muskellunge Lake

Scientific Name	Common Name	LFOO (%)		2010-2019	
		2010	2019	% Change	Direction
Nitella spp.	Stoneworts	6.9	7.9	14.1	▲
Najas flexilis	Slender naiad	0.3	7.2	2224.8	▲
Myriophyllum tenellum	Dwarf watermilfoil	2.3	3.0	29.2	▲
Elodea canadensis	Common waterweed	0.8	3.0	287.5	▲
Eleocharis acicularis	Needle spikerush	0.8	3.0	287.5	▲
Chara spp.	Muskgrasses	0.2	2.8	1740.4	▲
Juncus pelocarpus	Brown-fruited rush	0.2	2.7	1643.6	▲
Vallisneria americana	Wild celery	1.7	1.6	-3.1	▼
Potamogeton robbinsii	Fern-leaf pondweed	0.9	1.8	93.7	▲
Potamogeton berchtoldii	Slender pondweed	0.0	2.1		▲
Nymphaea odorata	White water lily	0.2	1.9	1159.3	▲
Ranunculus flammula	Creeping spearwort	0.0	1.9		▲
Potamogeton amplifolius	Large-leaf pondweed	0.2	1.3	771.8	▲
Eleocharis palustris	Creeping spikerush	0.2	1.3	771.8	▲
Potamogeton gramineus	Variable-leaf pondweed	0.3	0.6	93.7	▲
Elatine minima	Waterwort	0.0	0.6		▲
Schoenoplectus acutus	Hardstem bulrush	0.0	0.4		▲
Eriocaulon aquaticum	Pipewort	0.0	0.4		▲
Bidens beckii	Water marigold	0.2	0.3	93.7	▲
Utricularia vulgaris	Common bladderwort	0.0	0.1		▲
Sagittaria graminea	Grass-leaved arrowhead	0.0	0.1		▲
Riccia fluitans	Slender riccia	0.0	0.1		▲
Potamogeton natans	Floating-leaf pondweed	0.0	0.1		▲
Potamogeton epihydrus	Ribbon-leaf pondweed	0.0	0.1		▲
Persicaria amphibia	Water smartweed	0.0	0.1		▲
Lemna turionifera	Turion duckweed	0.0	0.1		▲
Isoetes spp.	Quillwort spp.	0.0	0.1		▲
Lobelia dortmanna	Water lobelia	0.2	0.0	-100.0	▼

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
1	46.023087	-89.530365	69	Razorback Lake	Vilas	7/31/2019	MFU & MMT	4	Sand	Pole	SAMPLED	2																				2							
2	46.022628	-89.530369	70	Razorback Lake	Vilas	7/31/2019	MFU & MMT	4	Sand	Pole	SAMPLED	1	1										1		1														
3	46.022169	-89.530373	97	Razorback Lake	Vilas	7/31/2019	MFU & MMT	4	Sand	Pole	SAMPLED	1											1																
4	46.021710	-89.530377	98	Razorback Lake	Vilas	7/31/2019	MFU & MMT	2	Sand	Pole	SAMPLED	1															1												
5	46.024461	-89.529695	17	Razorback Lake	Vilas	7/31/2019	MFU & MMT	2	Sand	Pole	SAMPLED	0																											
6	46.024002	-89.529699	42	Razorback Lake	Vilas	7/31/2019	MFU & MMT	2	Sand	Pole	SAMPLED	0																											
7	46.023543	-89.529703	68	Razorback Lake	Vilas	7/31/2019	MFU & MMT	0			NONNAVIGABLE (PLANTS)																												
8	46.023084	-89.529706	67	Razorback Lake	Vilas	7/31/2019	MFU & MMT	5	Sand	Pole	SAMPLED	1													1							1							
9	46.022625	-89.529710	71	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Sand	Pole	SAMPLED	1	1										1		1														
10	46.022166	-89.529714	96	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Sand	Pole	SAMPLED	1	1										1									1							
11	46.021707	-89.529718	99	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Sand	Pole	SAMPLED	1											1																
12	46.021248	-89.529722	238	Razorback Lake	Vilas	7/31/2019	MFU & MMT	3	Sand	Pole	SAMPLED	1	1								1		1										1					1	
13	46.024917	-89.529032	16	Razorback Lake	Vilas	7/31/2019	MFU & MMT	3	Muck	Pole	SAMPLED	0																											
14	46.024458	-89.529036	18	Razorback Lake	Vilas	7/31/2019	MFU & MMT	5	Sand	Pole	SAMPLED	1				1					1		1		1													1	
15	46.023999	-89.529040	41	Razorback Lake	Vilas	7/31/2019	MFU & MMT	4	Sand	Pole	SAMPLED	0																											
16	46.023540	-89.529044	43	Razorback Lake	Vilas	7/31/2019	MFU & MMT	2	Sand	Pole	SAMPLED	1								1	1															1			
17	46.023081	-89.529048	66	Razorback Lake	Vilas	7/31/2019	MFU & MMT	3	Sand	Pole	SAMPLED	1				1				1	1																		
18	46.022622	-89.529051	72	Razorback Lake	Vilas	7/31/2019	MFU & MMT	7	Muck	Pole	SAMPLED	1											1											1					
19	46.022163	-89.529055	95	Razorback Lake	Vilas	7/31/2019	MFU & MMT	7	Muck	Pole	SAMPLED	1	1																										
20	46.021704	-89.529059	100	Razorback Lake	Vilas	7/31/2019	MFU & MMT	7	Sand	Pole	SAMPLED	1											1		1														
21	46.021245	-89.529063	123	Razorback Lake	Vilas	7/31/2019	MFU & MMT	4	Muck	Pole	SAMPLED	0																											
22	46.025374	-89.528369	1	Razorback Lake	Vilas	7/31/2019	MFU & MMT	3	Sand	Pole	SAMPLED	0																											
23	46.024915	-89.528373	15	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Muck	Pole	SAMPLED	1													1									1					
24	46.024456	-89.528377	19	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Muck	Pole	SAMPLED	1	1										1							1									
25	46.023997	-89.528381	40	Razorback Lake	Vilas	7/31/2019	MFU & MMT	7	Sand	Pole	SAMPLED	1																					1						
26	46.023538	-89.528385	44	Razorback Lake	Vilas	7/31/2019	MFU & MMT	5	Sand	Pole	SAMPLED	2																				2							
27	46.023079	-89.528389	65	Razorback Lake	Vilas	7/31/2019	MFU & MMT	2	Sand	Pole	SAMPLED	1									1																		
28	46.022620	-89.528393	73	Razorback Lake	Vilas	7/31/2019	MFU & MMT	5	Rock	Pole	SAMPLED	0																											
29	46.022161	-89.528396	94	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Muck	Pole	SAMPLED	1													1														
30	46.021702	-89.528400	101	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Sand	Pole	SAMPLED	0																											
31	46.021243	-89.528404	122	Razorback Lake	Vilas	7/31/2019	MFU & MMT	4	Sand	Pole	SAMPLED	1									1																		
32	46.025371	-89.527710	2	Razorback Lake	Vilas	7/31/2019	MFU & MMT	5	Sand	Pole	SAMPLED	1				1					1																		
33	46.024912	-89.527714	14	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Muck	Pole	SAMPLED	3											1									3							
34	46.024453	-89.527718	20	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Muck	Pole	SAMPLED	1													1								1						
35	46.023994	-89.527722	39	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Muck	Pole	SAMPLED	1											1		1								1						
36	46.023535	-89.527726	45	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	1											1		1				1										
37	46.023076	-89.527730	64	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Muck	Pole	SAMPLED	1	1										1																
38	46.022617	-89.527734	74	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Sand	Pole	SAMPLED	0																											
39	46.022158	-89.527738	93	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Sand	Pole	SAMPLED	0																											
40	46.021699	-89.527742	102	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Sand	Pole	SAMPLED	1													1														
41	46.021240	-89.527745	121	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Sand	Pole	SAMPLED	0																											
42	46.025368	-89.527051	3	Razorback Lake	Vilas	7/31/2019	MFU & MMT	5	Sand	Pole	SAMPLED	0																											
43	46.024909	-89.527055	13	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Muck	Pole	SAMPLED	0																											
44	46.024450	-89.527059	21	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Muck	Pole	SAMPLED	2											1		1								2						
45	46.023991	-89.527063	38	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Muck	Pole	SAMPLED	1						1							1								1						

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
46	46.023532	-89.527067	46	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	1											1		1				1			1							
47	46.023073	-89.527071	63	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Muck	Pole	SAMPLED	1	1												1														
48	46.022614	-89.527075	75	Razorback Lake	Vilas	7/31/2019	MFU & MMT	11	Muck	Pole	SAMPLED	1											1						1										
49	46.022155	-89.527079	92	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Sand	Pole	SAMPLED	0																											
50	46.021696	-89.527083	103	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Muck	Pole	SAMPLED	1											1	1									1						
51	46.021237	-89.527087	120	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Muck	Pole	SAMPLED	0																											
52	46.020778	-89.527090	125	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Muck	Pole	SAMPLED	0																											
53	46.020319	-89.527094	126	Razorback Lake	Vilas	7/31/2019	MFU & MMT	5	Sand	Pole	SAMPLED	0																											
54	46.019860	-89.527098	127	Razorback Lake	Vilas	7/31/2019	MFU & MMT	2	Sand	Pole	SAMPLED	0																											
55	46.025365	-89.526392	4	Razorback Lake	Vilas	7/31/2019	MFU & MMT	3	Sand	Pole	SAMPLED	1			1				1		1															1			
56	46.024906	-89.526396	12	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Muck	Pole	SAMPLED	1											1									1							
57	46.024447	-89.526400	22	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	1													1								1						
58	46.023988	-89.526404	37	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	1													1														
59	46.023529	-89.526408	47	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	1											1		1								1						
60	46.023070	-89.526412	62	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	1	1												1								1						
61	46.022611	-89.526416	76	Razorback Lake	Vilas	7/31/2019	MFU & MMT	11	Sand	Pole	SAMPLED	0																											
62	46.022152	-89.526420	91	Razorback Lake	Vilas	7/31/2019	MFU & MMT	11	Muck	Pole	SAMPLED	1											1		1														
63	46.021693	-89.526424	104	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Muck	Pole	SAMPLED	1											1																
64	46.021234	-89.526428	119	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	1											1										1						
65	46.020775	-89.526432	131	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Sand	Pole	SAMPLED	0																											
66	46.020316	-89.526436	130	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Sand	Pole	SAMPLED	0																											
67	46.019857	-89.526439	129	Razorback Lake	Vilas	7/31/2019	MFU & MMT	5	Sand	Pole	SAMPLED	0																											
68	46.019398	-89.526443	128	Razorback Lake	Vilas	7/31/2019	MFU & MMT	5	Sand	Pole	SAMPLED	0																											
69	46.025363	-89.525733	5	Razorback Lake	Vilas	7/31/2019	MFU & MMT	4	Sand	Pole	SAMPLED	1				1					1												1						
70	46.024904	-89.525737	11	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	0																											
71	46.024445	-89.525741	23	Razorback Lake	Vilas	7/31/2019	MFU & MMT	11	Muck	Pole	SAMPLED	2						1							2				1										
72	46.023986	-89.525745	36	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Muck	Pole	SAMPLED	1											1									1	1						
73	46.023527	-89.525749	48	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Muck	Pole	SAMPLED	1											1																
74	46.023068	-89.525753	61	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Muck	Pole	SAMPLED	1	1										1		1				1										
75	46.022609	-89.525757	77	Razorback Lake	Vilas	7/31/2019	MFU & MMT	13	Muck	Pole	SAMPLED	0																											
76	46.022150	-89.525761	90	Razorback Lake	Vilas	7/31/2019	MFU & MMT	13	Muck	Pole	SAMPLED	1																	1										
77	46.021691	-89.525765	105	Razorback Lake	Vilas	7/31/2019	MFU & MMT	13	Muck	Pole	SAMPLED	2											1		2														
78	46.021232	-89.525769	118	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Muck	Pole	SAMPLED	1													1														
79	46.020773	-89.525773	132	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Muck	Pole	SAMPLED	1											1		1				1										
80	46.020314	-89.525777	133	Razorback Lake	Vilas	7/31/2019	MFU & MMT	11	Muck	Pole	SAMPLED	1																						1					
81	46.019855	-89.525781	134	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Sand	Pole	SAMPLED	0																											
82	46.019396	-89.525785	135	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Sand	Pole	SAMPLED	1				1																							
83	46.018937	-89.525788	136	Razorback Lake	Vilas	7/31/2019	MFU & MMT	3	Rock	Pole	SAMPLED	0																											
84	46.015724	-89.525816	190	Razorback Lake	Vilas	7/31/2019	MFU & MMT	5	Muck	Pole	SAMPLED	2						1															2	1					
85	46.025360	-89.525075	6	Razorback Lake	Vilas	7/31/2019	MFU & MMT	2	Rock	Pole	SAMPLED	1																	1			1							
86	46.024901	-89.525079	10	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	0																											
87	46.024442	-89.525082	24	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	1											1		1				1				1						
88	46.023983	-89.525086	35	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Muck	Pole	SAMPLED	1											1		1														
89	46.023524	-89.525090	49	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Muck	Pole	SAMPLED	2	2																										
90	46.023065	-89.525094	60	Razorback Lake	Vilas	7/31/2019	MFU & MMT	13	Muck	Pole	SAMPLED	1	1										1						1				1						

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
91	46.022606	-89.525098	78	Razorback Lake	Vilas	7/31/2019	MFU & MMT	14	Muck	Pole	SAMPLED	2											1						2										
92	46.022147	-89.525102	89	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Muck	Pole	SAMPLED	2													2				2										
93	46.021688	-89.525106	106	Razorback Lake	Vilas	7/31/2019	MFU & MMT	15	Sand	Pole	SAMPLED	0																											
94	46.021229	-89.525110	117	Razorback Lake	Vilas	7/31/2019	MFU & MMT	14	Muck	Pole	SAMPLED	0																											
95	46.020770	-89.525114	141	Razorback Lake	Vilas	7/31/2019	MFU & MMT	13	Muck	Pole	SAMPLED	1																	1										
96	46.020311	-89.525118	140	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	2											1		1				2										
97	46.019852	-89.525122	139	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Muck	Pole	SAMPLED	1											1										1					1	
98	46.019393	-89.525126	138	Razorback Lake	Vilas	7/31/2019	MFU & MMT	7	Sand	Pole	SAMPLED	0																											
99	46.018934	-89.525130	137	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Sand	Pole	SAMPLED	0																											
100	46.015721	-89.525157	189	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Muck	Pole	SAMPLED	1																		1			1	1					
101	46.015262	-89.525161	191	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Sand	Pole	SAMPLED	1																										1	
102	46.024898	-89.524420	9	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Muck	Pole	SAMPLED	1											1																
103	46.024439	-89.524424	25	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	1											1										1						
104	46.023980	-89.524427	34	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	2											1										2					1	
105	46.023521	-89.524431	50	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Sand	Pole	SAMPLED	0																											
106	46.023062	-89.524435	59	Razorback Lake	Vilas	7/31/2019	MFU & MMT	13	Muck	Pole	SAMPLED	1	1										1		1														
107	46.022603	-89.524439	79	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	1	1												1				1					1					
108	46.022144	-89.524443	88	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	0																											
109	46.021685	-89.524447	107	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	3													3														
110	46.021226	-89.524451	116	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	2													2														
111	46.020767	-89.524455	142	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	1													1														
112	46.020308	-89.524459	143	Razorback Lake	Vilas	7/31/2019	MFU & MMT	15	Muck	Pole	SAMPLED	0																											
113	46.019849	-89.524463	144	Razorback Lake	Vilas	7/31/2019	MFU & MMT	13	Muck	Pole	SAMPLED	1													1				1										
114	46.019390	-89.524467	145	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Sand	Pole	SAMPLED	0																											
115	46.018931	-89.524471	146	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Sand	Pole	SAMPLED	0																											
116	46.015718	-89.524498	188	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	1											1										1						
117	46.015259	-89.524502	192	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Sand	Pole	SAMPLED	0																											
118	46.024895	-89.523761	8	Razorback Lake	Vilas	7/31/2019	MFU & MMT	7	Sand	Pole	SAMPLED	0																											
119	46.024436	-89.523765	26	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	2													1				1										
120	46.023977	-89.523769	33	Razorback Lake	Vilas	7/31/2019	MFU & MMT	5	Sand	Pole	SAMPLED	0																											
121	46.023518	-89.523773	51	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Sand	Pole	SAMPLED	0																											
122	46.023059	-89.523776	58	Razorback Lake	Vilas	7/31/2019	MFU & MMT	13	Muck	Pole	SAMPLED	2											1		1				1				1						
123	46.022600	-89.523780	80	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	1	1																										
124	46.022141	-89.523784	87	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	2	2																										
125	46.021682	-89.523788	115	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	3													3														
126	46.021223	-89.523792	113	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	2	1												2														
127	46.020764	-89.523796	151	Razorback Lake	Vilas	7/31/2019	MFU & MMT	17		Rope	SAMPLED	1	1																										
128	46.020305	-89.523800	150	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	1	1																										
129	46.019846	-89.523804	149	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	1											1																
130	46.019387	-89.523808	148	Razorback Lake	Vilas	7/31/2019	MFU & MMT	14	Muck	Pole	SAMPLED	0																											
131	46.018928	-89.523812	147	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Sand	Pole	SAMPLED	0																											
132	46.017092	-89.523828	181	Razorback Lake	Vilas	7/31/2019	MFU & MMT	2	Sand	Pole	SAMPLED	0																											
133	46.016633	-89.523832	182	Razorback Lake	Vilas	7/31/2019	MFU & MMT	11	Muck	Pole	SAMPLED	0																											
134	46.016174	-89.523836	186	Razorback Lake	Vilas	7/31/2019	MFU & MMT	11	Muck	Pole	SAMPLED	1																		1									
135	46.015715	-89.523839	187	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
136	46.015256	-89.523843	193	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Muck	Pole	SAMPLED	1											1					1					1					1	
137	46.014797	-89.523847	194	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Muck	Pole	SAMPLED	1																					1					1	
138	46.014338	-89.523851	196	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Rock	Pole	SAMPLED	0																											
139	46.024893	-89.523102	7	Razorback Lake	Vilas	7/31/2019	MFU & MMT	2	Rock	Pole	SAMPLED	0																											
140	46.024434	-89.523106	27	Razorback Lake	Vilas	7/31/2019	MFU & MMT	11	Muck	Pole	SAMPLED	1											1		1								1						
141	46.023975	-89.523110	32	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Sand	Pole	SAMPLED	0																											
142	46.023516	-89.523114	52	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Muck	Pole	SAMPLED	0																											
143	46.023057	-89.523118	57	Razorback Lake	Vilas	7/31/2019	MFU & MMT	13	Muck	Pole	SAMPLED	1											1										1						
144	46.022598	-89.523122	81	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	0																											
145	46.022139	-89.523125	86	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	0																											
146	46.021680	-89.523129	114	Razorback Lake	Vilas	7/31/2019	MFU & MMT	17		Rope	SAMPLED	3													3														
147	46.021221	-89.523133	112	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	3													3														
148	46.020762	-89.523137	152	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	3													3														
149	46.020303	-89.523141	153	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	3													3														
150	46.019844	-89.523145	154	Razorback Lake	Vilas	7/31/2019	MFU & MMT	17		Rope	SAMPLED	0																											
151	46.019385	-89.523149	155	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	1											1																
152	46.018926	-89.523153	156	Razorback Lake	Vilas	7/31/2019	MFU & MMT	13	Rock	Pole	SAMPLED	0																											
153	46.018008	-89.523161	169	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Sand	Pole	SAMPLED	0																											
154	46.017549	-89.523165	170	Razorback Lake	Vilas	7/31/2019	MFU & MMT	15	Sand	Pole	SAMPLED	0																											
155	46.017090	-89.523169	180	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	0																											
156	46.016631	-89.523173	183	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	1																		1								1	
157	46.016172	-89.523177	185	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Sand	Pole	SAMPLED	0																											
158	46.014795	-89.523189	195	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Muck	Pole	SAMPLED	1																					1						
159	46.014336	-89.523193	197	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Muck	Pole	SAMPLED	2																						2					
160	46.013877	-89.523196	198	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Muck	Pole	SAMPLED	0																											
161	46.024431	-89.522447	28	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	0																											
162	46.023972	-89.522451	31	Razorback Lake	Vilas	7/31/2019	MFU & MMT	11	Muck	Pole	SAMPLED	2	1										1		1				1			2							
163	46.023513	-89.522455	53	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Muck	Pole	SAMPLED	2	1										1										2					1	
164	46.023054	-89.522459	56	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Sand	Pole	SAMPLED	1											1						1			1	1						
165	46.022595	-89.522463	82	Razorback Lake	Vilas	7/31/2019	MFU & MMT	13	Muck	Pole	SAMPLED	1	1																										
166	46.022136	-89.522467	85	Razorback Lake	Vilas	7/31/2019	MFU & MMT	14	Sand	Pole	SAMPLED	0																											
167	46.021677	-89.522471	108	Razorback Lake	Vilas	7/31/2019	MFU & MMT	17		Rope	SAMPLED	2													2														
168	46.021218	-89.522474	111	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	1	1																										
169	46.020759	-89.522478	161	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	3													3														
170	46.020300	-89.522482	160	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	3													3														
171	46.019841	-89.522486	159	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	2													2														
172	46.019382	-89.522490	158	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	1													1										2				
173	46.018923	-89.522494	157	Razorback Lake	Vilas	7/31/2019	MFU & MMT	17		Rope	SAMPLED	0																											
174	46.018005	-89.522502	168	Razorback Lake	Vilas	7/31/2019	MFU & MMT	13	Sand	Pole	SAMPLED	0																											
175	46.017546	-89.522506	171	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	0																											
176	46.017087	-89.522510	179	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	0																											
177	46.016169	-89.522518	184	Razorback Lake	Vilas	7/31/2019	MFU & MMT	3	Rock	Pole	SAMPLED	0																											
178	46.014792	-89.522530	204	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	1						1												1									
179	46.014333	-89.522534	203	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Muck	Pole	SAMPLED	1																					1						
180	46.013874	-89.522538	202	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Muck	Pole	SAMPLED	1																		1									

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
181	46.013415	-89.522542	201	Razorback Lake	Vilas	7/31/2019	MFU & MMT	8	Muck	Pole	SAMPLED	0																											
182	46.012956	-89.522546	199	Razorback Lake	Vilas	7/31/2019	MFU & MMT	6	Muck	Pole	SAMPLED	1																					1						
183	46.012497	-89.522550	200	Razorback Lake	Vilas	7/31/2019	MFU & MMT	1	Sand	Pole	SAMPLED	0																											
184	46.024428	-89.521788	29	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Muck	Pole	SAMPLED	0																											
185	46.023969	-89.521792	30	Razorback Lake	Vilas	7/31/2019	MFU & MMT	11	Muck	Pole	SAMPLED	1											1		1							1							
186	46.023510	-89.521796	54	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Muck	Pole	SAMPLED	2	1										2		1								2						
187	46.023051	-89.521800	55	Razorback Lake	Vilas	7/31/2019	MFU & MMT	11	Sand	Pole	SAMPLED	0																											
188	46.022592	-89.521804	83	Razorback Lake	Vilas	7/31/2019	MFU & MMT	11	Sand	Pole	SAMPLED	0																											
189	46.022133	-89.521808	84	Razorback Lake	Vilas	7/31/2019	MFU & MMT	4	Rock	Pole	SAMPLED	0																											
190	46.021674	-89.521812	109	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	0																											
191	46.021215	-89.521816	110	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	3													3														
192	46.020756	-89.521820	162	Razorback Lake	Vilas	7/31/2019	MFU & MMT	19		Rope	SAMPLED	3													3														
193	46.020297	-89.521824	163	Razorback Lake	Vilas	7/31/2019	MFU & MMT	19		Rope	SAMPLED	3	1												3														
194	46.019838	-89.521827	164	Razorback Lake	Vilas	7/31/2019	MFU & MMT	19		Rope	SAMPLED	3													3														
195	46.019379	-89.521831	165	Razorback Lake	Vilas	7/31/2019	MFU & MMT	19		Rope	SAMPLED	1													1														
196	46.018920	-89.521835	166	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	0																											
197	46.018461	-89.521839	167	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Sand	Pole	SAMPLED	0																											
198	46.018002	-89.521843	214	Razorback Lake	Vilas	7/31/2019	MFU & MMT	12	Muck	Pole	SAMPLED	0																											
199	46.017543	-89.521847	213	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	0																											
200	46.017084	-89.521851	212	Razorback Lake	Vilas	7/31/2019	MFU & MMT	17		Rope	SAMPLED	0																											
201	46.016625	-89.521855	178	Razorback Lake	Vilas	7/31/2019	MFU & MMT	9	Rock	Pole	SAMPLED	0																											
202	46.015707	-89.521863	211	Razorback Lake	Vilas	7/31/2019	MFU & MMT	2	Rock	Pole	SAMPLED	0																											
203	46.015248	-89.521867	209	Razorback Lake	Vilas	7/31/2019	MFU & MMT	4	Sand	Pole	SAMPLED	1									1																		
204	46.014789	-89.521871	205	Razorback Lake	Vilas	7/31/2019	MFU & MMT	10	Rock	Pole	SAMPLED	0																											
205	46.025343	-89.521121	17	Razorback Lake	Vilas	7/31/2019	BTB & JLK	5	Sand	Pole	SAMPLED	0																											
206	46.024884	-89.521125	16	Razorback Lake	Vilas	7/31/2019	BTB & JLK	0			TERRESTRIAL																												
207	46.024425	-89.521129	34	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	1													1														
208	46.023966	-89.521133	35	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	2	1										1	1									2						
209	46.023507	-89.521137	55	Razorback Lake	Vilas	7/31/2019	BTB & JLK	12	Muck	Pole	SAMPLED	1																					1						
210	46.023048	-89.521141	56	Razorback Lake	Vilas	7/31/2019	BTB & JLK	7	Rock	Pole	SAMPLED	0																											
211	46.022589	-89.521145	77	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Sand	Pole	SAMPLED	0																											
212	46.022130	-89.521149	78	Razorback Lake	Vilas	7/31/2019	BTB & JLK	13	Muck	Pole	SAMPLED	0																											
213	46.0216714	-89.5211528	84	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Rock	Pole	SAMPLED	0																											
214	46.0212124	-89.5211567	114	Razorback Lake	Vilas	7/31/2019	BTB & JLK	17		Rope	SAMPLED	1													1														
215	46.0207534	-89.5211607	115	Razorback Lake	Vilas	7/31/2019	BTB & JLK	18		Rope	SAMPLED	3													3														
216	46.0202944	-89.5211647	144	Razorback Lake	Vilas	7/31/2019	BTB & JLK	19		Rope	SAMPLED	3													3														
217	46.0198354	-89.5211686	145	Razorback Lake	Vilas	7/31/2019	BTB & JLK	19		Rope	SAMPLED	1													1														
218	46.0193764	-89.5211726	172	Razorback Lake	Vilas	7/31/2019	BTB & JLK	14	Rock	Pole	SAMPLED	0																											
219	46.0189174	-89.5211765	173	Razorback Lake	Vilas	7/31/2019	BTB & JLK	16	Rock	Pole	SAMPLED	0																											
220	46.0184584	-89.5211805	201	Razorback Lake	Vilas	7/31/2019	BTB & JLK	15		Rope	SAMPLED	0																											
221	46.0179994	-89.5211845	215	Razorback Lake	Vilas	7/31/2019	MFU & MMT	20		Rope	SAMPLED	3													3														
222	46.0175404	-89.5211884	216	Razorback Lake	Vilas	7/31/2019	MFU & MMT	19		Rope	SAMPLED	3													3														
223	46.0170814	-89.5211924	217	Razorback Lake	Vilas	7/31/2019	MFU & MMT	19		Rope	SAMPLED	0																											
224	46.0166224	-89.5211964	177	Razorback Lake	Vilas	7/31/2019	MFU & MMT	2	Rock	Pole	SAMPLED	0																											
225	46.0157044	-89.5212043	210	Razorback Lake	Vilas	7/31/2019	MFU & MMT	3	Rock	Pole	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
226	46.0152454	-89.5212082	208	Razorback Lake	Vilas	7/31/2019	MFU & MMT	14	Sand	Pole	SAMPLED	0																											
227	46.0147864	-89.5212122	207	Razorback Lake	Vilas	7/31/2019	MFU & MMT	16		Rope	SAMPLED	0																											
228	46.0143274	-89.5212162	206	Razorback Lake	Vilas	7/31/2019	MFU & MMT	1	Sand	Pole	SAMPLED	0																											
229	46.0124914	-89.521232	7	Razorback Lake	Vilas	7/31/2019	JMB & AMS	4	Muck	Pole	SAMPLED	0																											
230	46.0257996	-89.5204582	3	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Muck	Pole	SAMPLED	2													1								1					2	
231	46.0253406	-89.5204622	15	Razorback Lake	Vilas	7/31/2019	BTB & JLK	7	Muck	Pole	SAMPLED	3						1										1						2				1	
232	46.0248816	-89.5204661	18	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Muck	Pole	SAMPLED	1											1		1				1										
233	46.0244226	-89.5204701	33	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	1						1					1																
234	46.0239636	-89.5204741	36	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	1											1		1							1	1						
235	46.0235046	-89.520478	54	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	1											1	1	1								1						
236	46.0230456	-89.520482	57	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	1											1		1								1						
237	46.0225866	-89.520486	76	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	2											1		1								2						
238	46.0221276	-89.5204899	79	Razorback Lake	Vilas	7/31/2019	BTB & JLK	12	Muck	Pole	SAMPLED	1													1														
239	46.0216686	-89.5204939	85	Razorback Lake	Vilas	7/31/2019	BTB & JLK	7	Rock	Pole	SAMPLED	0																											
240	46.0212096	-89.5204979	113	Razorback Lake	Vilas	7/31/2019	BTB & JLK	15	Rock	Pole	SAMPLED	0																											
241	46.0207506	-89.5205018	116	Razorback Lake	Vilas	7/31/2019	BTB & JLK	16		Rope	SAMPLED	0																											
242	46.0202916	-89.5205058	143	Razorback Lake	Vilas	7/31/2019	BTB & JLK	20		Rope	SAMPLED	3													3														
243	46.0198326	-89.5205098	146	Razorback Lake	Vilas	7/31/2019	BTB & JLK	14		Rope	SAMPLED	0																											
244	46.0193736	-89.5205137	171	Razorback Lake	Vilas	7/31/2019	BTB & JLK	13	Sand	Pole	SAMPLED	0																											
245	46.0189146	-89.5205177	174	Razorback Lake	Vilas	7/31/2019	BTB & JLK	17		Rope	SAMPLED	0																											
246	46.0184556	-89.5205217	200	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	0																											
247	46.0179966	-89.5205256	173	Razorback Lake	Vilas	7/31/2019	MFU & MMT	21		Rope	SAMPLED	3													3														
248	46.0175376	-89.5205296	172	Razorback Lake	Vilas	7/31/2019	MFU & MMT	20		Rope	SAMPLED	2													2														
249	46.0170786	-89.5205336	176	Razorback Lake	Vilas	7/31/2019	MFU & MMT	18		Rope	SAMPLED	0																											
250	46.0157016	-89.5205455	38	Razorback Lake	Vilas	7/31/2019	JMB & AMS	0			TERRESTRIAL																												
251	46.0152426	-89.5205494	37	Razorback Lake	Vilas	7/31/2019	JMB & AMS	20		Rope	SAMPLED	0																											
252	46.0147836	-89.5205534	28	Razorback Lake	Vilas	7/31/2019	JMB & AMS	22		Rope	SAMPLED	0																											
253	46.0143246	-89.5205574	27	Razorback Lake	Vilas	7/31/2019	JMB & AMS	11	Rock	Pole	SAMPLED	0																											
254	46.0138656	-89.5205613	18	Razorback Lake	Vilas	7/31/2019	JMB & AMS	17		Rope	SAMPLED	0																											
255	46.0134066	-89.5205653	17	Razorback Lake	Vilas	7/31/2019	JMB & AMS	11	Sand	Pole	SAMPLED	0																											
256	46.0129476	-89.5205693	8	Razorback Lake	Vilas	7/31/2019	JMB & AMS	6	Rock	Pole	SAMPLED	0																											
257	46.0124886	-89.5205732	6	Razorback Lake	Vilas	7/31/2019	JMB & AMS	8	Sand	Pole	SAMPLED	0																											
258	46.0262559	-89.5197953	2	Razorback Lake	Vilas	7/31/2019	BTB & JLK	6	Muck	Pole	SAMPLED	2				1		1							1													1	
259	46.0257969	-89.5197993	4	Razorback Lake	Vilas	7/31/2019	BTB & JLK	7	Muck	Pole	SAMPLED	1																				1							
260	46.0253379	-89.5198032	14	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Muck	Pole	SAMPLED	2											1										2	1					
261	46.0248789	-89.5198072	19	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	2	1										1					1	1			1	1	1					
262	46.0244199	-89.5198112	32	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	1											1										1						
263	46.0239609	-89.5198152	37	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	2											1	1	1							2	1						
264	46.0235019	-89.5198191	53	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	2	1										1	1									2						
265	46.0230429	-89.5198231	58	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	2	1										2	1									1						
266	46.0225839	-89.5198271	75	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	2	1										1	1	1								2						
267	46.0221249	-89.5198311	80	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	1																										1	
268	46.0216659	-89.519835	86	Razorback Lake	Vilas	7/31/2019	BTB & JLK	14	Sand	Pole	SAMPLED	0																											
269	46.0212069	-89.519839	112	Razorback Lake	Vilas	7/31/2019	BTB & JLK	16		Rope	SAMPLED	0																											
270	46.0207479	-89.519843	117	Razorback Lake	Vilas	7/31/2019	BTB & JLK	17		Rope	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
271	46.0202889	-89.5198469	142	Razorback Lake	Vilas	7/31/2019	BTB & JLK	20		Rope	SAMPLED	1													1														
272	46.0198299	-89.5198509	147	Razorback Lake	Vilas	7/31/2019	BTB & JLK	15	Rock	Pole	SAMPLED	0																											
273	46.0193709	-89.5198549	170	Razorback Lake	Vilas	7/31/2019	BTB & JLK	14	Sand	Pole	SAMPLED	0																											
274	46.0189119	-89.5198589	175	Razorback Lake	Vilas	7/31/2019	BTB & JLK	20		Rope	SAMPLED	0																											
275	46.0184529	-89.5198628	199	Razorback Lake	Vilas	7/31/2019	BTB & JLK	23		Rope	SAMPLED	0																											
276	46.0179939	-89.5198668	225	Razorback Lake	Vilas	7/31/2019	MFU & MMT	21		Rope	SAMPLED	2													2														
277	46.0175349	-89.5198708	226	Razorback Lake	Vilas	7/31/2019	MFU & MMT	22		Rope	SAMPLED	3													3														
278	46.0170759	-89.5198748	233	Razorback Lake	Vilas	7/31/2019	MFU & MMT	0			TEMPORARY OBSTACLE																												
279	46.0166169	-89.5198787	234	Razorback Lake	Vilas	7/31/2019	MFU & MMT	0			TERRESTRIAL																												
280	46.0161579	-89.5198827	46	Razorback Lake	Vilas	7/31/2019	JMB & AMS	14	Sand	Pole	SAMPLED	0																											
281	46.0156989	-89.5198867	39	Razorback Lake	Vilas	7/31/2019	JMB & AMS	21		Rope	SAMPLED	0																											
282	46.0152399	-89.5198906	36	Razorback Lake	Vilas	7/31/2019	JMB & AMS	23		Rope	SAMPLED	2													2														
283	46.0147809	-89.5198946	29	Razorback Lake	Vilas	7/31/2019	JMB & AMS	24		Rope	SAMPLED	0																											
284	46.0143219	-89.5198986	26	Razorback Lake	Vilas	7/31/2019	JMB & AMS	23		Rope	SAMPLED	3													3														
285	46.0138629	-89.5199026	19	Razorback Lake	Vilas	7/31/2019	JMB & AMS	17	Sand	Pole	SAMPLED	0																											
286	46.0134039	-89.5199065	16	Razorback Lake	Vilas	7/31/2019	JMB & AMS	12	Rock	Pole	SAMPLED	0																											
287	46.0129449	-89.5199105	9	Razorback Lake	Vilas	7/31/2019	JMB & AMS	15	Muck	Pole	SAMPLED	0																											
288	46.0124859	-89.5199145	5	Razorback Lake	Vilas	7/31/2019	JMB & AMS	9	Rock	Pole	SAMPLED	0																											
289	46.0262531	-89.5191364	1	Razorback Lake	Vilas	7/31/2019	BTB & JLK	0			TERRESTRIAL																												
290	46.0257941	-89.5191403	5	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Muck	Pole	SAMPLED	1						1										1					1					1	
291	46.0253351	-89.5191443	13	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Muck	Pole	SAMPLED	2						1					1									1	1					2	
292	46.0248761	-89.5191483	20	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	2	1										1									1	1	1					
293	46.0244171	-89.5191523	31	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	1	1										1															1	
294	46.0239581	-89.5191563	38	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	1												1									1	1					
295	46.0234991	-89.5191602	52	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	1	1										1	1					1			1	1						
296	46.0230401	-89.5191642	59	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	2	1										1	1									1						
297	46.0225811	-89.5191682	74	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	2	1										1	1	2														
298	46.0221221	-89.5191722	81	Razorback Lake	Vilas	7/31/2019	BTB & JLK	7	Rock	Pole	SAMPLED	0																											
299	46.0216631	-89.5191762	87	Razorback Lake	Vilas	7/31/2019	BTB & JLK	12	Sand	Pole	SAMPLED	0																											
300	46.0212041	-89.5191801	111	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Rock	Pole	SAMPLED	0																											
301	46.0207451	-89.5191841	118	Razorback Lake	Vilas	7/31/2019	BTB & JLK	16		Rope	SAMPLED	0																											
302	46.0202861	-89.5191881	141	Razorback Lake	Vilas	7/31/2019	BTB & JLK	19		Rope	SAMPLED	0																											
303	46.0198271	-89.5191921	148	Razorback Lake	Vilas	7/31/2019	BTB & JLK	16	Rock	Pole	SAMPLED	0																											
304	46.0193681	-89.519196	169	Razorback Lake	Vilas	7/31/2019	BTB & JLK	13	Rock	Pole	SAMPLED	0																											
305	46.0189091	-89.5192	176	Razorback Lake	Vilas	7/31/2019	BTB & JLK	23		Rope	SAMPLED	0																											
306	46.0184501	-89.519204	198	Razorback Lake	Vilas	7/31/2019	BTB & JLK	22		Rope	SAMPLED	2													2														
307	46.0179911	-89.519208	224	Razorback Lake	Vilas	7/31/2019	MFU & MMT	24		Rope	SAMPLED	1													1														
308	46.0175321	-89.519212	227	Razorback Lake	Vilas	7/31/2019	MFU & MMT	24		Rope	SAMPLED	0																											
309	46.0170731	-89.5192159	232	Razorback Lake	Vilas	7/31/2019	MFU & MMT	23		Rope	SAMPLED	3													3														
310	46.0166141	-89.5192199	235	Razorback Lake	Vilas	7/31/2019	MFU & MMT	19		Rope	SAMPLED	0																											
311	46.0161551	-89.5192239	45	Razorback Lake	Vilas	7/31/2019	JMB & AMS	17	Muck	Pole	SAMPLED	0																											
312	46.0156961	-89.5192279	40	Razorback Lake	Vilas	7/31/2019	JMB & AMS	25		Rope	SAMPLED	0																											
313	46.0152371	-89.5192318	35	Razorback Lake	Vilas	7/31/2019	JMB & AMS	25		Rope	SAMPLED	0																											
314	46.0147781	-89.5192358	30	Razorback Lake	Vilas	7/31/2019	JMB & AMS	24		Rope	SAMPLED	0																											
315	46.0143191	-89.5192398	25	Razorback Lake	Vilas	7/31/2019	JMB & AMS	23		Rope	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
316	46.0138601	-89.5192438	20	Razorback Lake	Vilas	7/31/2019	JMB & AMS	16		Rope	SAMPLED	0																											
317	46.0134011	-89.5192478	15	Razorback Lake	Vilas	7/31/2019	JMB & AMS	17		Rope	SAMPLED	0																											
318	46.0129421	-89.5192517	10	Razorback Lake	Vilas	7/31/2019	JMB & AMS	20		Rope	SAMPLED	0																											
319	46.0124831	-89.5192557	4	Razorback Lake	Vilas	7/31/2019	JMB & AMS	10	Sand	Pole	SAMPLED	0																											
320	46.0257913	-89.5184814	6	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Muck	Pole	SAMPLED	1																1	1			1	1						
321	46.0253323	-89.5184854	12	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Muck	Pole	SAMPLED	1																					1						
322	46.0248733	-89.5184894	21	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	2	1										1	1								2	1						
323	46.0244143	-89.5184934	30	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	2	1										1									1							
324	46.0239553	-89.5184974	39	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	1											1	1					1				1						
325	46.0234963	-89.5185013	51	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	1	1										1		1								1						
326	46.0230373	-89.5185053	60	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	2	1										2	1					1				1						
327	46.0225783	-89.5185093	73	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	1	1											1								1	1						
328	46.0221193	-89.5185133	82	Razorback Lake	Vilas	7/31/2019	BTB & JLK	0			TERRESTRIAL																												
329	46.0216603	-89.5185173	88	Razorback Lake	Vilas	7/31/2019	BTB & JLK	13	Rock	Pole	SAMPLED	0																											
330	46.0212013	-89.5185213	110	Razorback Lake	Vilas	7/31/2019	BTB & JLK	18		Rope	SAMPLED	2													2														
331	46.0207423	-89.5185252	119	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	0																											
332	46.0202833	-89.5185292	140	Razorback Lake	Vilas	7/31/2019	BTB & JLK	18		Rope	SAMPLED	0																											
333	46.0198243	-89.5185332	149	Razorback Lake	Vilas	7/31/2019	BTB & JLK	20		Rope	SAMPLED	0																											
334	46.0193653	-89.5185372	168	Razorback Lake	Vilas	7/31/2019	BTB & JLK	3	Rock	Pole	SAMPLED	0																											
335	46.0189063	-89.5185412	177	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
336	46.0184473	-89.5185452	197	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
337	46.0179883	-89.5185491	223	Razorback Lake	Vilas	7/31/2019	MFU & MMT	26		Rope	SAMPLED	0																											
338	46.0175293	-89.5185531	228	Razorback Lake	Vilas	7/31/2019	MFU & MMT	25		Rope	SAMPLED	0																											
339	46.0170703	-89.5185571	231	Razorback Lake	Vilas	7/31/2019	MFU & MMT	27		Rope	SAMPLED	0																											
340	46.0166113	-89.5185611	236	Razorback Lake	Vilas	7/31/2019	MFU & MMT	25		Rope	SAMPLED	0																											
341	46.0161523	-89.5185651	44	Razorback Lake	Vilas	7/31/2019	JMB & AMS	26		Rope	SAMPLED	0																											
342	46.0156933	-89.5185691	41	Razorback Lake	Vilas	7/31/2019	JMB & AMS	26		Rope	SAMPLED	0																											
343	46.0152343	-89.518573	34	Razorback Lake	Vilas	7/31/2019	JMB & AMS	27		Rope	SAMPLED	0																											
344	46.0147753	-89.518577	31	Razorback Lake	Vilas	7/31/2019	JMB & AMS	26		Rope	SAMPLED	0																											
345	46.0143163	-89.518581	24	Razorback Lake	Vilas	7/31/2019	JMB & AMS	22		Rope	SAMPLED	3													3														
346	46.0138573	-89.518585	21	Razorback Lake	Vilas	7/31/2019	JMB & AMS	22		Rope	SAMPLED	1													1														
347	46.0133983	-89.518589	14	Razorback Lake	Vilas	7/31/2019	JMB & AMS	22		Rope	SAMPLED	3													3														
348	46.0129393	-89.518593	11	Razorback Lake	Vilas	7/31/2019	JMB & AMS	20		Rope	SAMPLED	0																											
349	46.0124803	-89.5185969	3	Razorback Lake	Vilas	7/31/2019	JMB & AMS	4	Rock	Pole	SAMPLED	0																											
350	46.0257886	-89.5178225	7	Razorback Lake	Vilas	7/31/2019	BTB & JLK	6	Rock	Pole	SAMPLED	0																											
351	46.0253296	-89.5178265	11	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	2											1								1		2						
352	46.0248706	-89.5178305	22	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	2											1	1								1	1						
353	46.0244116	-89.5178345	29	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	2						1							1								2						
354	46.0239526	-89.5178385	40	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	2											1	1								2							
355	46.0234936	-89.5178424	50	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	1	1										1																
356	46.0230346	-89.5178464	61	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	1	1										1										1						
357	46.0225756	-89.5178504	72	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	1	1										1	1									1						
358	46.0221166	-89.5178544	83	Razorback Lake	Vilas	7/31/2019	BTB & JLK	2	Rock	Pole	SAMPLED	0																											
359	46.0216576	-89.5178584	89	Razorback Lake	Vilas	7/31/2019	BTB & JLK	14	Rock	Pole	SAMPLED	0																											
360	46.0211986	-89.5178624	109	Razorback Lake	Vilas	7/31/2019	BTB & JLK	19		Rope	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
361	46.0207396	-89.5178664	120	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	3													3														
362	46.0202806	-89.5178704	139	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	1													1														
363	46.0198216	-89.5178744	150	Razorback Lake	Vilas	7/31/2019	BTB & JLK	23		Rope	SAMPLED	2													2														
364	46.0193626	-89.5178784	167	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
365	46.0189036	-89.5178823	178	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
366	46.0184446	-89.5178863	196	Razorback Lake	Vilas	7/31/2019	BTB & JLK	1	Rock	Pole	SAMPLED	1					1																				1		1
367	46.0179856	-89.5178903	222	Razorback Lake	Vilas	7/31/2019	MFU & MMT	3	Rock	Pole	SAMPLED	0																											
368	46.0175266	-89.5178943	229	Razorback Lake	Vilas	7/31/2019	MFU & MMT	23		Rope	SAMPLED	0																											
369	46.0170676	-89.5178983	230	Razorback Lake	Vilas	7/31/2019	MFU & MMT	28		Rope	SAMPLED	0																											
370	46.0166086	-89.5179023	237	Razorback Lake	Vilas	7/31/2019	MFU & MMT	29		Rope	SAMPLED	0																											
371	46.0161496	-89.5179063	43	Razorback Lake	Vilas	7/31/2019	JMB & AMS	29		Rope	SAMPLED	0																											
372	46.0156906	-89.5179103	42	Razorback Lake	Vilas	7/31/2019	JMB & AMS	25		Rope	SAMPLED	0																											
373	46.0152316	-89.5179143	33	Razorback Lake	Vilas	7/31/2019	JMB & AMS	23		Rope	SAMPLED	3													3														
374	46.0147726	-89.5179182	32	Razorback Lake	Vilas	7/31/2019	JMB & AMS	23		Rope	SAMPLED	2													2														
375	46.0143136	-89.5179222	23	Razorback Lake	Vilas	7/31/2019	JMB & AMS	23		Rope	SAMPLED	3													3														
376	46.0138546	-89.5179262	22	Razorback Lake	Vilas	7/31/2019	JMB & AMS	24		Rope	SAMPLED	0																											
377	46.0133956	-89.5179302	13	Razorback Lake	Vilas	7/31/2019	JMB & AMS	23		Rope	SAMPLED	0																											
378	46.0129366	-89.5179342	12	Razorback Lake	Vilas	7/31/2019	JMB & AMS	20		Rope	SAMPLED	0																											
379	46.0124776	-89.5179382	2	Razorback Lake	Vilas	7/31/2019	JMB & AMS	13	Muck	Pole	SAMPLED	0																											
380	46.0120186	-89.5179422	1	Razorback Lake	Vilas	7/31/2019	JMB & AMS	5	Rock	Pole	SAMPLED	1																1											
381	46.0257858	-89.5171636	8	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Muck	Pole	SAMPLED	1	1																										
382	46.0253268	-89.5171676	10	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Muck	Pole	SAMPLED	3						1					1						1		2		1						
383	46.0248678	-89.5171716	24	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	1											1										1						
384	46.0244088	-89.5171756	28	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	1																					1						
385	46.0239498	-89.5171796	41	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	1											1	1								1	1						
386	46.0234908	-89.5171835	49	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	1	1										1	1									1						
387	46.0230318	-89.5171875	62	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	2	1										1									1	1						
388	46.0225728	-89.5171915	71	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Sand	Pole	SAMPLED	2	1										1									2						1	
389	46.0216548	-89.5171995	90	Razorback Lake	Vilas	7/31/2019	BTB & JLK	18		Rope	SAMPLED	0																											
390	46.0211958	-89.5172035	108	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	0																											
391	46.0207368	-89.5172075	121	Razorback Lake	Vilas	7/31/2019	BTB & JLK	22		Rope	SAMPLED	3													3														
392	46.0202778	-89.5172115	138	Razorback Lake	Vilas	7/31/2019	BTB & JLK	23		Rope	SAMPLED	3													3														
393	46.0198188	-89.5172155	151	Razorback Lake	Vilas	7/31/2019	BTB & JLK	26		Rope	SAMPLED	0																											
394	46.0193598	-89.5172195	166	Razorback Lake	Vilas	7/31/2019	BTB & JLK	27		Rope	SAMPLED	0																											
395	46.0189008	-89.5172235	179	Razorback Lake	Vilas	7/31/2019	BTB & JLK	28		Rope	SAMPLED	0																											
396	46.0184418	-89.5172275	195	Razorback Lake	Vilas	7/31/2019	BTB & JLK	16		Rope	SAMPLED	0																											
397	46.0179828	-89.5172315	202	Razorback Lake	Vilas	7/31/2019	BTB & JLK	16		Rope	SAMPLED	0																											
398	46.0175238	-89.5172355	216	Razorback Lake	Vilas	7/31/2019	BTB & JLK	28		Rope	SAMPLED	0																											
399	46.0170648	-89.5172395	217	Razorback Lake	Vilas	7/31/2019	BTB & JLK	31		Rope	SAMPLED	0																											
400	46.0166058	-89.5172435	229	Razorback Lake	Vilas	7/31/2019	BTB & JLK	30		Rope	SAMPLED	0																											
401	46.0161468	-89.5172475	230	Razorback Lake	Vilas	7/31/2019	BTB & JLK	30		Rope	SAMPLED	0																											
402	46.0156878	-89.5172515	245	Razorback Lake	Vilas	7/31/2019	BTB & JLK	28		Rope	SAMPLED	0																											
403	46.0152288	-89.5172555	246	Razorback Lake	Vilas	7/31/2019	BTB & JLK	27		Rope	SAMPLED	0																											
404	46.0147698	-89.5172594	261	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
405	46.0143108	-89.5172634	262	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
406	46.0138518	-89.5172674	274	Razorback Lake	Vilas	7/31/2019	BTB & JLK	24		Rope	SAMPLED	0																											
407	46.0133928	-89.5172714	275	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	1													1														
408	46.0129338	-89.5172754	278	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Rock	Pole	SAMPLED	0																											
409	46.0124748	-89.5172794	277	Razorback Lake	Vilas	7/31/2019	BTB & JLK	0			TERRESTRIAL																												
410	46.025324	-89.5165086	9	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	1																										1	
411	46.024865	-89.5165126	25	Razorback Lake	Vilas	7/31/2019	BTB & JLK	6	Rock	Pole	SAMPLED	0																											
412	46.024406	-89.5165167	27	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Sand	Pole	SAMPLED	1																				1							
413	46.023947	-89.5165207	42	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	0																											
414	46.023488	-89.5165247	48	Razorback Lake	Vilas	7/31/2019	BTB & JLK	12	Muck	Pole	SAMPLED	1	1											1					1										
415	46.023029	-89.5165287	63	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	0																											
416	46.02257	-89.5165327	70	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Rock	Pole	SAMPLED	0																											
417	46.022111	-89.5165367	99	Razorback Lake	Vilas	7/31/2019	BTB & JLK	20		Rope	SAMPLED	2													2														
418	46.021652	-89.5165407	91	Razorback Lake	Vilas	7/31/2019	BTB & JLK	20		Rope	SAMPLED	3													3														
419	46.021193	-89.5165447	107	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	2													2														
420	46.020734	-89.5165487	122	Razorback Lake	Vilas	7/31/2019	BTB & JLK	22		Rope	SAMPLED	0																											
421	46.020275	-89.5165527	137	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	1													1														
422	46.019816	-89.5165567	152	Razorback Lake	Vilas	7/31/2019	BTB & JLK	27		Rope	SAMPLED	0																											
423	46.019357	-89.5165607	165	Razorback Lake	Vilas	7/31/2019	BTB & JLK	29		Rope	SAMPLED	0																											
424	46.018898	-89.5165647	180	Razorback Lake	Vilas	7/31/2019	BTB & JLK	29		Rope	SAMPLED	0																											
425	46.018439	-89.5165687	194	Razorback Lake	Vilas	7/31/2019	BTB & JLK	29		Rope	SAMPLED	0																											
426	46.01798	-89.5165727	203	Razorback Lake	Vilas	7/31/2019	BTB & JLK	30		Rope	SAMPLED	0																											
427	46.017521	-89.5165767	215	Razorback Lake	Vilas	7/31/2019	BTB & JLK	31		Rope	SAMPLED	0																											
428	46.017062	-89.5165807	218	Razorback Lake	Vilas	7/31/2019	BTB & JLK	30		Rope	SAMPLED	0																											
429	46.016603	-89.5165847	228	Razorback Lake	Vilas	7/31/2019	BTB & JLK	30		Rope	SAMPLED	0																											
430	46.016144	-89.5165887	231	Razorback Lake	Vilas	7/31/2019	BTB & JLK	30		Rope	SAMPLED	0																											
431	46.015685	-89.5165927	244	Razorback Lake	Vilas	7/31/2019	BTB & JLK	28		Rope	SAMPLED	0																											
432	46.015226	-89.5165967	247	Razorback Lake	Vilas	7/31/2019	BTB & JLK	27		Rope	SAMPLED	0																											
433	46.014767	-89.5166007	260	Razorback Lake	Vilas	7/31/2019	BTB & JLK	27		Rope	SAMPLED	0																											
434	46.014308	-89.5166047	263	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
435	46.013849	-89.5166087	273	Razorback Lake	Vilas	7/31/2019	BTB & JLK	24		Rope	SAMPLED	0																											
436	46.01339	-89.5166127	276	Razorback Lake	Vilas	7/31/2019	BTB & JLK	20		Rope	SAMPLED	0																											
437	46.012931	-89.5166167	279	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Sand	Pole	SAMPLED	0																											
438	46.0248622	-89.5158537	23	Razorback Lake	Vilas	7/31/2019	BTB & JLK	0			TERRESTRIAL																												
439	46.0244032	-89.5158577	26	Razorback Lake	Vilas	7/31/2019	BTB & JLK	6	Rock	Pole	SAMPLED	1													1											1			
440	46.0239442	-89.5158618	43	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	2	1										1						1										
441	46.0234852	-89.5158658	47	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	2											1									2	1						
442	46.0230262	-89.5158698	64	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	0																											
443	46.0225672	-89.5158738	69	Razorback Lake	Vilas	7/31/2019	BTB & JLK	4	Rock	Pole	SAMPLED	0																											
444	46.0221082	-89.5158778	100	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	2													2														
445	46.0216492	-89.5158818	92	Razorback Lake	Vilas	7/31/2019	BTB & JLK	20		Rope	SAMPLED	3													3														
446	46.0211902	-89.5158858	106	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	3													3														
447	46.0207312	-89.5158898	123	Razorback Lake	Vilas	7/31/2019	BTB & JLK	23		Rope	SAMPLED	0																											
448	46.0202722	-89.5158938	136	Razorback Lake	Vilas	7/31/2019	BTB & JLK	27		Rope	SAMPLED	0																											
449	46.0198132	-89.5158978	153	Razorback Lake	Vilas	7/31/2019	BTB & JLK	28		Rope	SAMPLED	0																											
450	46.0193542	-89.5159018	164	Razorback Lake	Vilas	7/31/2019	BTB & JLK	28		Rope	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
451	46.0188952	-89.5159058	181	Razorback Lake	Vilas	7/31/2019	BTB & JLK	28		Rope	SAMPLED	0																											
452	46.0184362	-89.5159098	193	Razorback Lake	Vilas	7/31/2019	BTB & JLK	30		Rope	SAMPLED	0																											
453	46.0179772	-89.5159138	204	Razorback Lake	Vilas	7/31/2019	BTB & JLK	30		Rope	SAMPLED	0																											
454	46.0175182	-89.5159178	214	Razorback Lake	Vilas	7/31/2019	BTB & JLK	30		Rope	SAMPLED	0																											
455	46.0170592	-89.5159218	219	Razorback Lake	Vilas	7/31/2019	BTB & JLK	30		Rope	SAMPLED	0																											
456	46.0166002	-89.5159258	227	Razorback Lake	Vilas	7/31/2019	BTB & JLK	30		Rope	SAMPLED	0																											
457	46.0161412	-89.5159299	232	Razorback Lake	Vilas	7/31/2019	BTB & JLK	27		Rope	SAMPLED	0																											
458	46.0156822	-89.5159339	243	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
459	46.0152232	-89.5159379	248	Razorback Lake	Vilas	7/31/2019	BTB & JLK	24		Rope	SAMPLED	0																											
460	46.0147642	-89.5159419	259	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
461	46.0143052	-89.5159459	264	Razorback Lake	Vilas	7/31/2019	BTB & JLK	22		Rope	SAMPLED	0																											
462	46.0138462	-89.5159499	272	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Rock	Pole	SAMPLED	0																											
463	46.0129282	-89.5159579	280	Razorback Lake	Vilas	7/31/2019	BTB & JLK	3	Sand	Pole	SAMPLED	1									1					1													
464	46.0124692	-89.5159619	290	Razorback Lake	Vilas	7/31/2019	BTB & JLK	7	Sand	Pole	SAMPLED	0																											
465	46.0120102	-89.5159659	309	Razorback Lake	Vilas	7/31/2019	BTB & JLK	5	Sand	Pole	SAMPLED	1															1		1										
466	46.0115512	-89.5159699	305	Razorback Lake	Vilas	7/31/2019	BTB & JLK	3	Sand	Pole	SAMPLED	1									1						1												
467	46.0110922	-89.5159739	304	Razorback Lake	Vilas	7/31/2019	BTB & JLK	4	Sand	Pole	SAMPLED	0																											
468	46.0106332	-89.5159779	300	Razorback Lake	Vilas	7/31/2019	BTB & JLK	7	Rock	Pole	SAMPLED	0																											
469	46.0101742	-89.5159819	299	Razorback Lake	Vilas	7/31/2019	BTB & JLK	7	Sand	Pole	SAMPLED	0																											
470	46.0239414	-89.5152029	44	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	1																					1	1					
471	46.0234824	-89.5152069	46	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	1						1					1										1						
472	46.0230234	-89.5152109	65	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	1											1																
473	46.0225644	-89.5152149	68	Razorback Lake	Vilas	7/31/2019	BTB & JLK	3	Rock	Pole	SAMPLED	0																											
474	46.0221054	-89.5152189	101	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	3													3														
475	46.0216464	-89.5152229	93	Razorback Lake	Vilas	7/31/2019	BTB & JLK	20		Rope	SAMPLED	2													2														
476	46.0211874	-89.5152269	105	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	0																											
477	46.0207284	-89.5152309	124	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
478	46.0202694	-89.5152349	135	Razorback Lake	Vilas	7/31/2019	BTB & JLK	27		Rope	SAMPLED	0																											
479	46.0198104	-89.515239	154	Razorback Lake	Vilas	7/31/2019	BTB & JLK	29		Rope	SAMPLED	0																											
480	46.0193514	-89.515243	163	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
481	46.0188924	-89.515247	182	Razorback Lake	Vilas	7/31/2019	BTB & JLK	28		Rope	SAMPLED	0																											
482	46.0184334	-89.515251	192	Razorback Lake	Vilas	7/31/2019	BTB & JLK	28		Rope	SAMPLED	0																											
483	46.0179744	-89.515255	205	Razorback Lake	Vilas	7/31/2019	BTB & JLK	29		Rope	SAMPLED	0																											
484	46.0175154	-89.515259	213	Razorback Lake	Vilas	7/31/2019	BTB & JLK	27		Rope	SAMPLED	0																											
485	46.0170564	-89.515263	220	Razorback Lake	Vilas	7/31/2019	BTB & JLK	27		Rope	SAMPLED	0																											
486	46.0165974	-89.515267	226	Razorback Lake	Vilas	7/31/2019	BTB & JLK	23		Rope	SAMPLED	0																											
487	46.0161384	-89.515271	233	Razorback Lake	Vilas	7/31/2019	BTB & JLK	23		Rope	SAMPLED	0																											
488	46.0156794	-89.5152751	242	Razorback Lake	Vilas	7/31/2019	BTB & JLK	24		Rope	SAMPLED	2													2														
489	46.0152204	-89.5152791	249	Razorback Lake	Vilas	7/31/2019	BTB & JLK	23		Rope	SAMPLED	0																											
490	46.0147614	-89.5152831	258	Razorback Lake	Vilas	7/31/2019	BTB & JLK	14		Rope	SAMPLED	0																											
491	46.0143024	-89.5152871	265	Razorback Lake	Vilas	7/31/2019	BTB & JLK	18		Rope	SAMPLED	0																											
492	46.0138434	-89.5152911	271	Razorback Lake	Vilas	7/31/2019	BTB & JLK	18		Rope	SAMPLED	0																											
493	46.0133844	-89.5152951	281	Razorback Lake	Vilas	7/31/2019	BTB & JLK	16		Rope	SAMPLED	0																											
494	46.0129254	-89.5152991	289	Razorback Lake	Vilas	7/31/2019	BTB & JLK	13	Muck	Pole	SAMPLED	0																											
495	46.0124664	-89.5153031	291	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Sand	Pole	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
496	46.0120074	-89.5153071	308	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	1																		1			1						
497	46.0115484	-89.5153111	306	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	1																		1				1					
498	46.0110894	-89.5153152	303	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Muck	Pole	SAMPLED	0																											
499	46.0106304	-89.5153192	301	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Muck	Pole	SAMPLED	1																					1	1				1	
500	46.0234796	-89.514548	45	Razorback Lake	Vilas	7/31/2019	BTB & JLK	6	Sand	Pole	SAMPLED	0																											
501	46.0230206	-89.514552	66	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Muck	Pole	SAMPLED	1																										1	
502	46.0221026	-89.51456	98	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	0																											
503	46.0216436	-89.514564	94	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	0																											
504	46.0211846	-89.5145681	104	Razorback Lake	Vilas	7/31/2019	BTB & JLK	22		Rope	SAMPLED	3													3														
505	46.0207256	-89.5145721	125	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	1													1														
506	46.0202666	-89.5145761	134	Razorback Lake	Vilas	7/31/2019	BTB & JLK	27		Rope	SAMPLED	0																											
507	46.0198076	-89.5145801	155	Razorback Lake	Vilas	7/31/2019	BTB & JLK	27		Rope	SAMPLED	0																											
508	46.0193486	-89.5145841	162	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
509	46.0188896	-89.5145881	183	Razorback Lake	Vilas	7/31/2019	BTB & JLK	29		Rope	SAMPLED	0																											
510	46.0184306	-89.5145922	191	Razorback Lake	Vilas	7/31/2019	BTB & JLK	28		Rope	SAMPLED	0																											
511	46.0179716	-89.5145962	206	Razorback Lake	Vilas	7/31/2019	BTB & JLK	28		Rope	SAMPLED	0																											
512	46.0175126	-89.5146002	212	Razorback Lake	Vilas	7/31/2019	BTB & JLK	27		Rope	SAMPLED	0																											
513	46.0170536	-89.5146042	221	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	0																											
514	46.0165946	-89.5146082	225	Razorback Lake	Vilas	7/31/2019	BTB & JLK	23		Rope	SAMPLED	0																											
515	46.0161356	-89.5146122	235	Razorback Lake	Vilas	7/31/2019	BTB & JLK	26		Rope	SAMPLED	0																											
516	46.0156766	-89.5146163	241	Razorback Lake	Vilas	7/31/2019	BTB & JLK	23		Rope	SAMPLED	0																											
517	46.0152176	-89.5146203	250	Razorback Lake	Vilas	7/31/2019	BTB & JLK	23		Rope	SAMPLED	0																											
518	46.0147586	-89.5146243	257	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	0																											
519	46.0142996	-89.5146283	266	Razorback Lake	Vilas	7/31/2019	BTB & JLK	20		Rope	SAMPLED	0																											
520	46.0138406	-89.5146323	270	Razorback Lake	Vilas	7/31/2019	BTB & JLK	15		Rope	SAMPLED	0																											
521	46.0133816	-89.5146363	282	Razorback Lake	Vilas	7/31/2019	BTB & JLK	14		Rope	SAMPLED	0																											
522	46.0129226	-89.5146403	288	Razorback Lake	Vilas	7/31/2019	BTB & JLK	7	Rock	Pole	SAMPLED	0																											
523	46.0124636	-89.5146444	292	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Rock	Pole	SAMPLED	0																											
524	46.0120046	-89.5146484	310	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Sand	Pole	SAMPLED	0																											
525	46.0115456	-89.5146524	307	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Sand	Pole	SAMPLED	0																											
526	46.0110866	-89.5146564	302	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Sand	Pole	SAMPLED	0																											
527	46.0106276	-89.5146604	298	Razorback Lake	Vilas	7/31/2019	BTB & JLK	6	Muck	Pole	SAMPLED	2						1												1									
528	46.0230178	-89.5138931	67	Razorback Lake	Vilas	7/31/2019	BTB & JLK	4	Muck	Pole	SAMPLED	1								1	1																		
529	46.0220998	-89.5139011	97	Razorback Lake	Vilas	7/31/2019	BTB & JLK	15		Rope	SAMPLED	0																											
530	46.0216408	-89.5139052	95	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	0																											
531	46.0211818	-89.5139092	103	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	3													3														
532	46.0207228	-89.5139132	126	Razorback Lake	Vilas	7/31/2019	BTB & JLK	26		Rope	SAMPLED	0																											
533	46.0202638	-89.5139172	133	Razorback Lake	Vilas	7/31/2019	BTB & JLK	23		Pole	SAMPLED	0																											
534	46.0198048	-89.5139213	156	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
535	46.0193458	-89.5139253	161	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
536	46.0188868	-89.5139293	184	Razorback Lake	Vilas	7/31/2019	BTB & JLK	24		Rope	SAMPLED	0																											
537	46.0184278	-89.5139333	190	Razorback Lake	Vilas	7/31/2019	BTB & JLK	28		Rope	SAMPLED	0																											
538	46.0179688	-89.5139373	207	Razorback Lake	Vilas	7/31/2019	BTB & JLK	26		Rope	SAMPLED	0																											
539	46.0175098	-89.5139414	211	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
540	46.0170508	-89.5139454	222	Razorback Lake	Vilas	7/31/2019	BTB & JLK	22		Rope	SAMPLED	0																											

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
541	46.0165918	-89.5139494	224	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Rock	Pole	SAMPLED	0																											
542	46.0161328	-89.5139534	236	Razorback Lake	Vilas	7/31/2019	BTB & JLK	1	Rock	Pole	SAMPLED	0																											
543	46.0156738	-89.5139574	240	Razorback Lake	Vilas	7/31/2019	BTB & JLK	22		Rope	SAMPLED	0																											
544	46.0152148	-89.5139615	251	Razorback Lake	Vilas	7/31/2019	BTB & JLK	21		Rope	SAMPLED	0																											
545	46.0147558	-89.5139655	256	Razorback Lake	Vilas	7/31/2019	BTB & JLK	15	Rock	Pole	SAMPLED	0																											
546	46.0142968	-89.5139695	267	Razorback Lake	Vilas	7/31/2019	BTB & JLK	12	Sand	Pole	SAMPLED	0																											
547	46.0138378	-89.5139735	269	Razorback Lake	Vilas	7/31/2019	BTB & JLK	6	Rock	Pole	SAMPLED	0																											
548	46.0133788	-89.5139776	283	Razorback Lake	Vilas	7/31/2019	BTB & JLK	2	Sand	Pole	SAMPLED	1									1																		
549	46.0129198	-89.5139816	287	Razorback Lake	Vilas	7/31/2019	BTB & JLK	9	Sand	Pole	SAMPLED	0																											
550	46.0124608	-89.5139856	293	Razorback Lake	Vilas	7/31/2019	BTB & JLK	3	Rock	Pole	SAMPLED	1									1																		
551	46.0120018	-89.5139896	295	Razorback Lake	Vilas	7/31/2019	BTB & JLK	4	Sand	Pole	SAMPLED	3							1		1															1			
552	46.0115428	-89.5139936	296	Razorback Lake	Vilas	7/31/2019	BTB & JLK	7	Sand	Pole	SAMPLED	0																											
553	46.0110838	-89.5139977	297	Razorback Lake	Vilas	7/31/2019	BTB & JLK	5	Sand	Pole	SAMPLED	0																											
554	46.021638	-89.5132463	96	Razorback Lake	Vilas	7/31/2019	BTB & JLK	19		Rope	SAMPLED	0																											
555	46.021179	-89.5132503	102	Razorback Lake	Vilas	7/31/2019	BTB & JLK	8	Rock	Pole	SAMPLED	0																											
556	46.02072	-89.5132543	127	Razorback Lake	Vilas	7/31/2019	BTB & JLK	18		Rope	SAMPLED	0																											
557	46.020261	-89.5132584	132	Razorback Lake	Vilas	7/31/2019	BTB & JLK	20		Rope	SAMPLED	0																											
558	46.019802	-89.5132624	157	Razorback Lake	Vilas	7/31/2019	BTB & JLK	16		Rope	SAMPLED	0																											
559	46.019343	-89.5132664	160	Razorback Lake	Vilas	7/31/2019	BTB & JLK	24		Rope	SAMPLED	0																											
560	46.018884	-89.5132705	185	Razorback Lake	Vilas	7/31/2019	BTB & JLK	25		Rope	SAMPLED	0																											
561	46.018425	-89.5132745	189	Razorback Lake	Vilas	7/31/2019	BTB & JLK	26		Rope	SAMPLED	0																											
562	46.017966	-89.5132785	209	Razorback Lake	Vilas	7/31/2019	BTB & JLK	16		Rope	SAMPLED	0																											
563	46.017507	-89.5132825	210	Razorback Lake	Vilas	7/31/2019	BTB & JLK	4	Rock	Pole	SAMPLED	0																											
564	46.017048	-89.5132866	223	Razorback Lake	Vilas	7/31/2019	BTB & JLK	0			TERRESTRIAL																												
565	46.01613	-89.5132946	234	Razorback Lake	Vilas	7/31/2019	BTB & JLK	0			TERRESTRIAL																												
566	46.015671	-89.5132986	239	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Rock	Pole	SAMPLED	0																											
567	46.015212	-89.5133027	252	Razorback Lake	Vilas	7/31/2019	BTB & JLK	5	Rock	Pole	SAMPLED	0																											
568	46.014753	-89.5133067	255	Razorback Lake	Vilas	7/31/2019	BTB & JLK	3	Rock	Pole	SAMPLED	0																											
569	46.014294	-89.5133107	268	Razorback Lake	Vilas	7/31/2019	BTB & JLK	1	Rock	Pole	SAMPLED	1																									1		
570	46.013376	-89.5133188	284	Razorback Lake	Vilas	7/31/2019	BTB & JLK	1	Muck	Pole	SAMPLED	1															1												
571	46.012917	-89.5133228	286	Razorback Lake	Vilas	7/31/2019	BTB & JLK	6	Sand	Pole	SAMPLED	2									2																		
572	46.012458	-89.5133268	294	Razorback Lake	Vilas	7/31/2019	BTB & JLK	4	Sand	Pole	SAMPLED	1								1	1																		
573	46.0207172	-89.5125955	128	Razorback Lake	Vilas	7/31/2019	BTB & JLK	6	Rock	Pole	SAMPLED	0																											
574	46.0202582	-89.5125995	131	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Sand	Pole	SAMPLED	0																											
575	46.0197992	-89.5126036	158	Razorback Lake	Vilas	7/31/2019	BTB & JLK	5	Rock	Pole	SAMPLED	0																											
576	46.0193402	-89.5126076	159	Razorback Lake	Vilas	7/31/2019	BTB & JLK	17		Rope	SAMPLED	0																											
577	46.0188812	-89.5126116	186	Razorback Lake	Vilas	7/31/2019	BTB & JLK	6	Rock	Pole	SAMPLED	0																											
578	46.0184222	-89.5126157	188	Razorback Lake	Vilas	7/31/2019	BTB & JLK	13	Sand	Pole	SAMPLED	0																											
579	46.0179632	-89.5126197	208	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Sand	Pole	SAMPLED	0																											
580	46.0161272	-89.5126358	237	Razorback Lake	Vilas	7/31/2019	BTB & JLK	2	Sand	Pole	SAMPLED	1		1																									
581	46.0156682	-89.5126398	238	Razorback Lake	Vilas	7/31/2019	BTB & JLK	10	Muck	Pole	SAMPLED	0																											
582	46.0152092	-89.5126439	253	Razorback Lake	Vilas	7/31/2019	BTB & JLK	7	Sand	Pole	SAMPLED	1																1											
583	46.0147502	-89.5126479	254	Razorback Lake	Vilas	7/31/2019	BTB & JLK	4	Sand	Pole	SAMPLED	0																											
584	46.0129142	-89.512664	285	Razorback Lake	Vilas	7/31/2019	BTB & JLK	2	Muck	Pole	SAMPLED	1															1					1							
585	46.0211734	-89.5119326	130	Razorback Lake	Vilas	7/31/2019	BTB & JLK	0			TERRESTRIAL																												

Point Number	Latitude	Longitude	ID	LAKE_NAME	COUNTY	DATE_	FIELD_CREW	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	TRF	Chara spp.	Dulichium arundinaceum	Dulichium arundinaceum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Eriocaulon aquaticum	Juncus pelocarpus	Myriophyllum tenellum	Myriophyllum verticillatum	Najas flexilis	Najas gracillima	Nitella spp.	Nuphar variegata	Nymphaea odorata	Potamogeton amplifolius	Potamogeton berchtoldii	Potamogeton epihydrus	Potamogeton foliosus	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton vaseyi	Ranunculus flammula	Schoenoplectus tabernaemontani	Vallisneria americana	Typha angustifolia
586	46.0207144	-89.5119366	129	Razorback Lake	Vilas	7/31/2019	BTB & JLK	3	Rock	Pole	SAMPLED	0																											
587	46.0184194	-89.5119568	187	Razorback Lake	Vilas	7/31/2019	BTB & JLK	11	Muck	Pole	SAMPLED	0																											

E

APPENDIX E

Fisheries Reports and Data Summaries

WISCONSIN DNR
FISHERIES INFORMATION SHEET

LAKE: STAR **COUNTY:** VILAS **YEAR:** 2005

The Department of Natural Resources surveyed Star Lake, Vilas County, from April 17 through May 31, 2005, to determine the health of its fishery. The survey was designed to assess the lake's walleye and muskellunge populations. Star Lake is a relatively fertile drainage lake with predominantly sand substrate and a moderate-density walleye population. It has a surface area of 1206 acres, 11.7 miles of shoreline and a maximum depth of 68 feet.

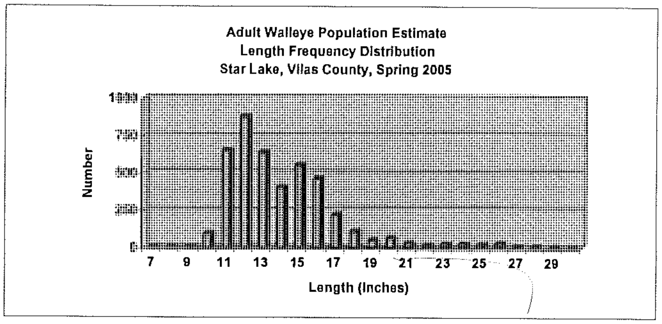


Figure 1. Length frequency distribution of 4295 adult* walleye estimated to be in Star Lake, Vilas County, based on a spring 2005 survey.

* Note: Adult walleye are defined as all sexable walleye and walleye of unknown sex ≥ 15 inches long.

Walleye

We conducted a mark-recapture survey of Star Lake's adult* walleye population from April 17-25, 2005. We captured and marked (fin clipped) 1923 adult walleye in nine days of fyke netting. Two crews sampled Star Lake with electro-fishing boats on April 25th and captured 582 adult walleye. Nearly 46% (266 of 582) of those walleye bore the fin clip given during fyke netting.

Based on those results, we estimated that Star Lake was inhabited by 4295 adult walleye (3.6/acre). Approximately 47% (2032 of 4295) of adult walleye were 14 inches long or larger. The largest walleye we captured was a 29.7-inch female.

Smallmouth Bass

Sampling through May 31st did not produce adequate numbers of smallmouth bass to allow us to estimate the abundance of smallmouth bass in Star Lake. We did capture enough smallmouth bass to get a picture of the size structure of the population inhabiting Star Lake. We captured 54 smallmouth bass, 8-inches or larger, during our fyke netting and electro-fishing sampling. Approximately 57% (31 of 54) of those smallmouth were 14 inches long or larger. The largest smallmouth bass we captured was 19.2 inches long.

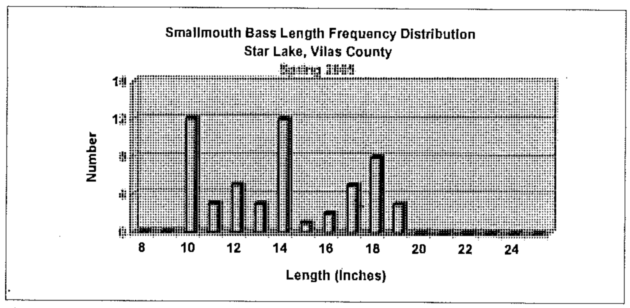


Figure 2. Length frequency distribution of 54 smallmouth bass ≥ 8" captured during a fisheries survey of Star Lake, Vilas County, in spring 2005.

Northern Pike

We captured 52 adult* northern pike in fyke nets fished in Star Lake from April 17-25, 2005. Approximately 94% (49 of 52) of adult northern pike we captured were less than 26 inches long. Only two of the northern pike we captured were 32 inches long or larger. The largest northern pike we captured was a 36.3-inch female.

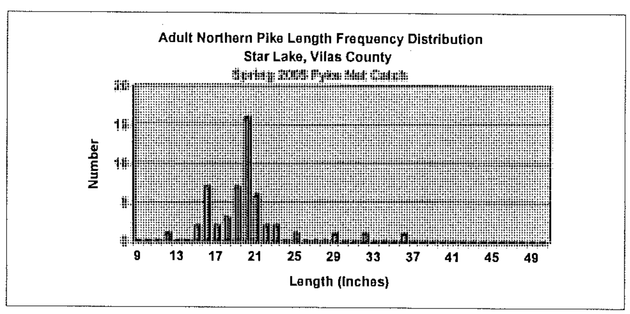


Figure 3. Length frequency distribution of 52 adult* northern pike captured in fyke nets during a fisheries survey of Star Lake, Vilas County, in spring 2005.

* Note: Adult northern pike are defined as all sexable northern pike and northern pike of unknown sex ≥ 12 inches long.

Updated: June 24, 2005
By: Mike Coshun

File: Star_Spring_Summary

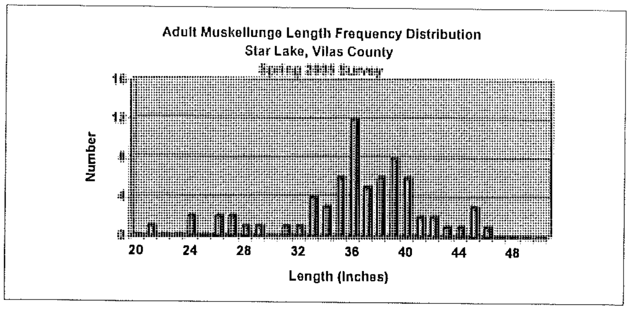


Figure 4. Length frequency distribution of 71 adult* muskellunge captured during a fisheries survey of Star Lake, Vilas County, in spring 2005.

Muskellunge

We captured 71 adult* muskellunge during our fyke netting and electro-fishing sampling of Star Lake. Nearly 79% (56 of 71) of the adult muskellunge we captured were 34 inches long or larger. Approximately 23% (16 of 71) were 40 inches long or larger. The largest muskellunge we captured was a 46.5-inch female.

* Note: Adult muskellunge are defined as all sexable muskellunge and muskellunge of unknown sex ≥ 20 inches long.

Other Species

We captured nine species of fish in our fyke netting and electro-fishing sampling of Star Lake in addition to the game fish mentioned above. Rock bass and yellow perch were abundant in our fyke net catches. We also caught moderate numbers of black bullhead, black crappie, bluegill, burbot, golden shiner, pumpkinseed and white sucker. Young-of-year walleye will be sampled in fall 2005. Additional sampling with fyke nets is planned for spring 2006 to capture muskellunge and complete a population estimate.

We are also conducting a creel (angler harvest) survey on Star Lake this year. Creel clerk Marty Kiepke will count and interview anglers and examine their catch throughout the 2005-06 fishing season.

Table 1. General Fishing Regulations for Star Lake, Vilas County, 2005

FISH SPECIES	OPEN SEASON	DAILY LIMIT	MINIMUM LENGTH
Walleye	May 7 - March 5	3	No minimum, only one over 14"
Largemouth and Smallmouth Bass	May 7 - June 17 (C&R) June 18 - March 5 (Harvest)	None 5 in total	14 inches
Muskellunge	May 28 - Nov. 30	1	34 inches
Northern Pike	May 7 - March 5	5	None

A brief summary of selected fishing regulations for Star Lake is included above (Table 1). While the regulatory information provided was current at the time the surveys were conducted, it is not comprehensive and should not be used as a substitute for the current fishing regulation pamphlet. You may obtain a copy of current fishing regulations when you purchase your fishing license, or download a copy from our web site at:

http://www.dnr.state.wi.us/org/water/fhp/fish/

This report is interim only; data and findings should not be considered final. Results of creel surveys should be available by June 2006. If you are interested in a summary of the creel survey or want an update on this year's fyke netting and electro-fishing survey results, contact:

Mike Coshun, Treaty Fisheries Biologist
Wisconsin Department of Natural Resources
8770 Highway J
Woodruff, WI 54568
(715) 358-9209
Email: Michael.Coshun@dnr.state.wi.us

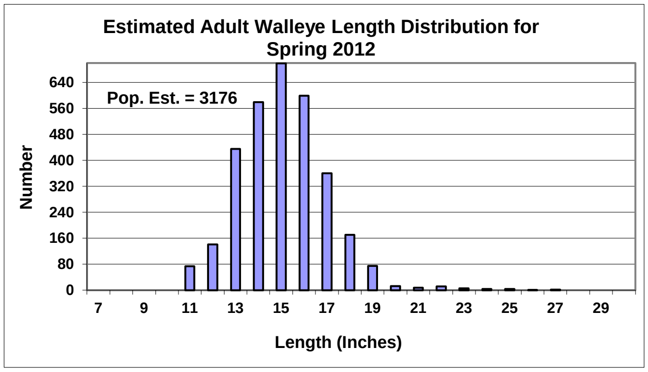
For answers to questions about fisheries management activities and plans for Star Lake, Vilas County, contact:

Stephen Gilbert, Fisheries Biologist
Wisconsin Department of Natural Resources
8770 Highway J
Woodruff, WI 54568
(715) 358-9229
Email: Stephen.Gilbert@dnr.state.wi.us

WISCONSIN DNR
FISHERIES INFORMATION SHEET

LAKE: PLUM **COUNTY:** VILAS **YEAR:** 2012

The Department of Natural Resources surveyed Plum Lake, Vilas County, from March 27 through May 29, 2012, to determine the health of its fishery. The survey was designed to take a comprehensive look at the lake's fishery. Plum Lake is a drainage lake of moderate fertility with substantial areas of gravel substrate and a high quality walleye population. Plum Lake has a surface area of 1033 acres, 14.5 miles of shoreline and a maximum depth of 57 feet.



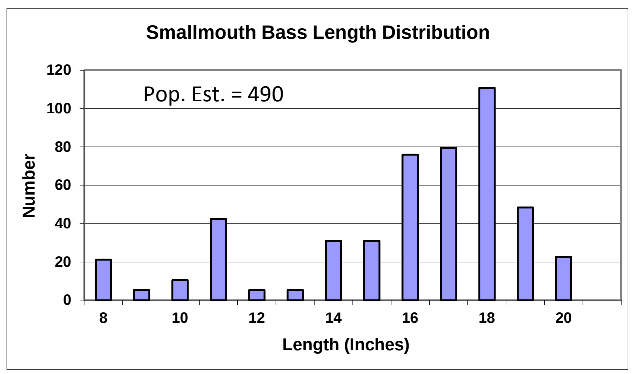
* Note: Adult walleye are defined as all sexable walleye and walleye of unknown sex ≥ 15 inches long.

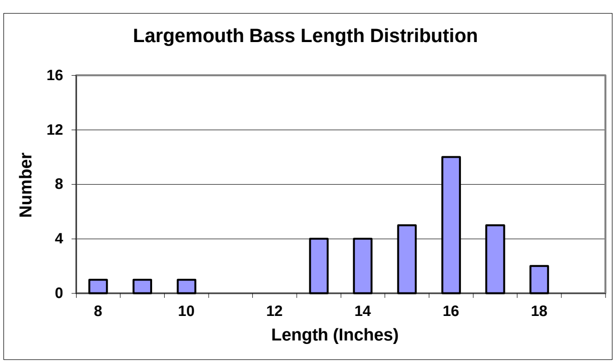
Walleye

A mark-recapture survey of Plum Lake's adult walleye population was conducted from March 27 - April 14, 2012. During 18 days of fyke netting, 1264 adult walleye were captured and marked with a fin clip . On April 14, three crews sampled Plum Lake with electro-fishing boats and captured 290 adult walleye. During electrofishing, 39% (112 of 290) of captured walleye bore the fin clip given during fyke netting. Based on those results, Plum Lake was estimated to contain 3176 adult walleye (3.1 /acre). Approximately 80% (2528 of 3176) of adult walleye were 14 inches long or larger.
The largest walleye captured during the survey was a 27.7-inch female.

Smallmouth Bass

A mark-recapture survey of Plum Lake's smallmouth bass population (fish greater than 8 inches) was conducted from March 27 - May 29, 2012. During sampling, 144 smallmouth bass were captured and marked with a fin clip . On May 29, three crews sampled Plum Lake with electro-fishing boats and captured 38 smallmouth bass. Nine of these bass bore the fin clip given during earlier sampling. Based on those results, Plum Lake was estimated to contain 490 smallmouth bass greater than 8 inches. Within the population an estimated 69% (337 of 490) of the smallmouth bass are greater than 18 inches. The largest smallmouth captured during the survey was 20.7 inches in length.





Largemouth Bass

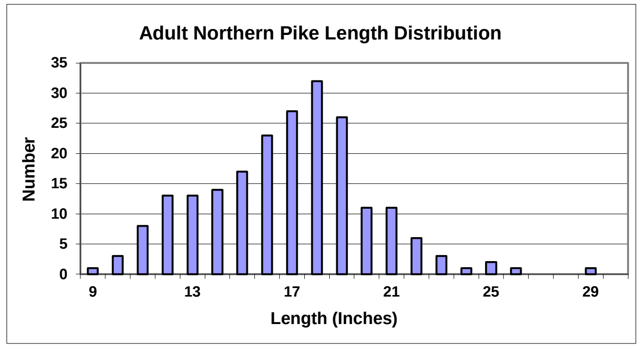
Survey crews were unable to capture and mark a sufficient number of largemouth bass from Plum Lake to estimate the population size. During sampling conducted through April 25, 29 largemouth bass 8 inches or larger were captured . Of those largemouth, 7 percent (2 of 29) were 18 inches long or larger. The largest largemouth captured was 18.0 inches long.

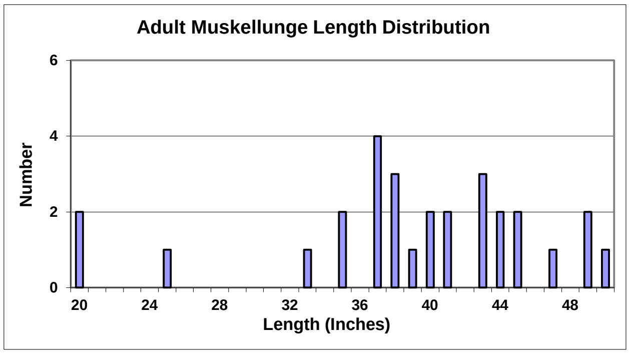
Drafted: May 11, 2012
By: Jonathan Pyatskowit

Northern Pike 

From March 27-April 14, 2012, 213 adult northern pike were captured in fyke nets fished in Plum Lake. Of the adult northern pike captured, 99% (211 of 213) were less than 26 inches long. The largest northern pike captured was a 29.7-inch female.

* Note: Adult northern pike are defined as all sexable northern pike and northern pike of unknown sex ≥ 12 inches long.





Muskellunge 

During our fyke netting and electro-fishing sampling of Plum Lake, 28 adult muskellunge were captured . Of the muskellunge captured, 54% (15 of 28) were 40 inches long or larger. The largest muskellunge captured was a 50.4-inch female.

* Note: Adult muskellunge are defined using PSD stock size as all sexable muskellunge and muskellunge of unknown sex ≥ 20 inches long.

Other Species

In addition to the game fish mentioned above, 11 species of fish were captured during our fyke netting and electro-fishing sampling of Plum Lake . Yellow perch, bluegill and black crappie were common in our fyke net catches. Also caught were moderate numbers of rock bass and pumpkinseeds. Other species sampled included black and yellow bullheads, burbot, brook trout, white sucker, and greater redhorse.

A creel survey will be conducted on Plum Lake throughout the 2012-13 fishing season to get estimates of fishing effort and angler harvest. Creel clerk Lynn Robinson will count and interview anglers and examine their catch. The information gathered will be used to estimate fishing effort and angler harvest.

Table 1. General Fishing Regulations for Plum Lake, Vilas County, 2012-2013

FISH SPECIES	OPEN SEASON	DAILY LIMIT	MINIMUM LENGTH
Walleye	May 5 - March 3	3	No minimum, 14-18" protected slot with only 1 over 18"
Largemouth and Smallmouth Bass	May 5 - June 15 (C&R) June 16 - March 3 (Harvest)	None 1 in total	18 inches
Muskellunge	May 26 - Nov. 30	1	40 inches
Northern Pike	May 5 - March 3	5	None

A brief summary of selected fishing regulations for Plum Lake is included above (Table 1). While the regulatory information provided was current at the time the surveys were conducted, it is not comprehensive and should not be used as a substitute for the current fishing regulation pamphlet. You may obtain a copy of current fishing regulations when you purchase your fishing license, or download a copy from our web site at:

http://dnr.wi.gov/topic/fishing/regulations_index.html

This report is interim only; data and findings should not be considered final. Results of creel surveys should be available by June 2013. Watch for survey summaries at:
http://dnr.wi.gov/fish/nor/northern.html
or contact:

Jonathan Pyatskowit, Treaty Fisheries Biologist
Wisconsin Department of Natural Resources
8770 Highway J
Woodruff, WI 54568
(715) 356-5211 Ext. 209
Email: Jonathan.Pyatskowit@Wisconsin.gov

For answers to questions about fisheries management activities and plans for Plum Lake, Vilas County, contact:

Steve Gilbert, Fisheries Biologist
Wisconsin Department of Natural Resources
8770 Hwy J
Woodruff, WI 54568
(715) 358-9229
Email: Stephen.Gilbert@Wisconsin.gov

WISCONSIN DNR
FISHERIES INFORMATION SHEET

LAKE: PLUM **COUNTY:** VILAS **YEAR:** 2009

The Department of Natural Resources surveyed Plum Lake, Vilas County, from April 24 through June 09, 2009, to determine the health of its fishery. The survey was designed to take a comprehensive look at the lake's fishery. Plum Lake is a drainage lake of moderate fertility with substantial areas of gravel substrate and a high-quality walleye population. Plum Lake has a surface area of 1,033 acres, 14.5 miles of shoreline and a maximum depth of 57 feet.

Walleye

We conducted a mark-recapture survey of Plum Lake's adult walleye population from April 24-29, 2009. We captured and marked (fin clipped) 1,523 adult walleye in six days of fyke netting. Three crews sampled Plum Lake with electro-fishing boats on April 29th and captured 545 adult walleye. Approximately 30% (166 of 545) of those walleye bore the fin clip given during fyke netting.

Based on those results, we estimated that Plum Lake is home to 4,964 adult walleye (4.8/acre). Approximately 53% (2,646 of 4,964) of adult walleye were 14 inches long or larger. The largest walleye we captured was a 27.7-inch female.

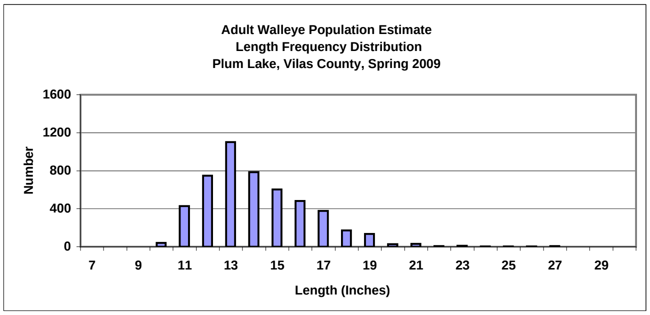


Figure 1. Length frequency distribution of 4964 adult walleye estimated to be in Plum Lake, Vilas County, based on a spring 2009 survey.

* Note: Adult walleye are defined as all sexable walleye and walleye of unknown sex ≥ 15 inches long.

Smallmouth Bass

We also completed a mark-recapture survey of Plum Lake's smallmouth bass population from April 24 through June 9, 2009. We captured and marked 140 smallmouth bass through June 3rd. Three electro-fishing crews captured 83 smallmouth bass on June 9th. Nearly 27% (22 of 83) of those smallmouth had been marked (fin clipped) in previous sampling.

From those results, we estimated that 531 smallmouth bass, 8-inches or larger, inhabited Plum Lake. Almost 83% (440 of 531) of those smallmouth were 14 inches long or larger. Approximately 24 percent (129 of 531) were 18 inches long or larger. The largest smallmouth we captured was 21.5 inches long.

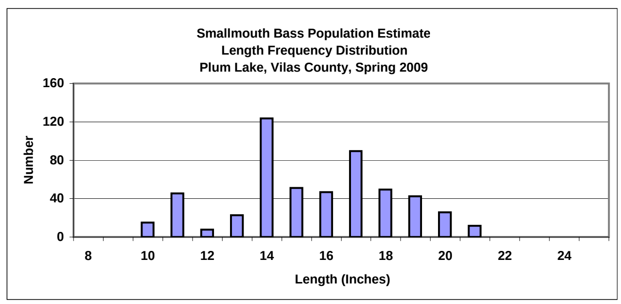


Figure 2. Length frequency distribution of 531 smallmouth bass ≥ 8" estimated to be in Plum Lake, Vilas County, based on a spring 2009 survey.

* Note: All values given above are for smallmouth bass 8 inches long or larger.

Largemouth Bass

We captured 26 largemouth bass, 8 inches or larger, during our fyke netting and electro-fishing sampling of Plum Lake. Approximately 69% (18 of 26) of those largemouth were 14 inches long or larger. The biggest largemouth bass we captured was 18.2 inches long.

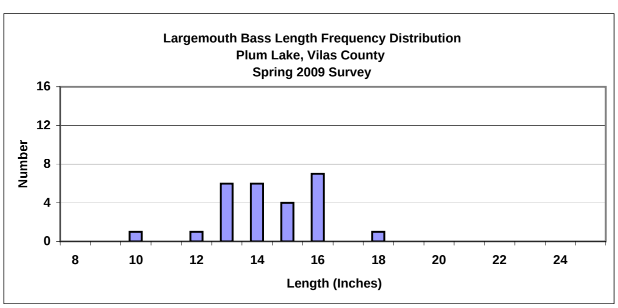


Figure 3. Length frequency distribution of 26 largemouth bass ≥ 8" captured during a fisheries survey of Plum Lake, Vilas County, in spring 2009.

Updated: June 26, 2009
By: Mike Coshun

File: Plum_Spring_Summary_2009

Northern Pike

We captured 163 adult northern pike in fyke nets fished in Plum Lake from April 24-29, 2009. Nearly 99% (161 of 163) of adult northern pike we captured were less than 26 inches long. The largest northern pike we captured was a 27.2-inch female.

> * Note: Adult northern pike are defined as all sexable northern pike and northern pike of unknown sex ≥ 12 inches long.

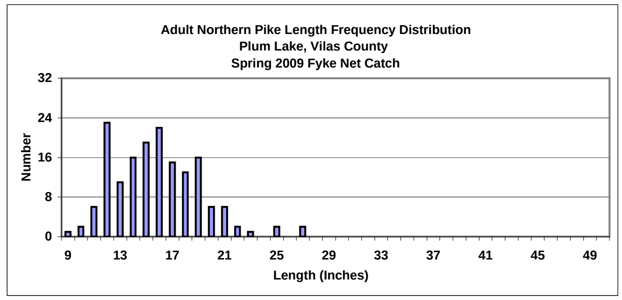


Figure 4. Length frequency distribution of 163 adult northern pike captured in fyke nets during a fisheries survey of Plum Lake, Vilas County, in spring 2009.

Muskellunge

We captured 37 adult muskellunge during our fyke netting and electro-fishing sampling of Plum Lake. Approximately 86% of the adult muskellunge (32 of 37) we captured were 34 inches long or larger. Nearly 38% of muskellunge (14 of 37) were 40 inches long or larger. The largest muskellunge we captured was a 50.6-inch female.

> * Note: Adult muskellunge are defined as all sexable muskellunge and muskellunge of unknown sex ≥ 20 inches long.

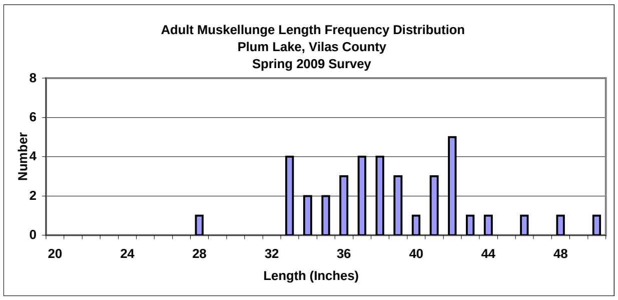


Figure 5. Length frequency distribution of 37 adult muskellunge captured during a fisheries survey of Plum Lake, Vilas County, in spring 2009.

Other Species

We captured 12 species of fish in our fyke netting and electro-fishing sampling of Plum Lake in addition to the game fish mentioned above. Yellow perch were the most common species in our fyke net catches. We caught moderate numbers of black bullhead, bluegill and rock bass. We also captured black crappie, brook trout, burbot, creek chub, pumpkinseed, redhorse spp., white sucker and yellow bullhead. In-water sampling will conclude with a survey of young-of-year walleye in fall 2009.

We are also conducting a creel (angler harvest) survey on Plum Lake this year. Creel clerk Lynn Robison will count and interview anglers and examine their catch throughout the 2009 open-water fishing season.

Table 1. General Fishing Regulations for Plum Lake, Vilas County, 2009

FISH SPECIES	OPEN SEASON	DAILY LIMIT	MINIMUM LENGTH
Walleye	May 2 - March 7	3	No minimum, 14-18" protected slot,
Largemouth and Smallmouth Bass	May 2 - June 19 (C&R) June 20 - March 7 (Harvest)	None 1 in total	18 inches
Muskellunge	May 23 - Nov. 30	1	34 inches
Northern Pike	May 2 - March 7	5	None

A brief summary of selected fishing regulations for Plum Lake is included above (Table 1). While the regulatory information provided was current at the time the surveys were conducted, it is not comprehensive and should not be used as a substitute for the current fishing regulation pamphlet. You may obtain a copy of current fishing regulations when you purchase your fishing license, or download a copy from our web site at:

http://www.dnr.wi.gov/fish/regulations/

This report is interim only; data and findings should not be considered final. Results of creel surveys should be available by June 2010. If you are interested in a summary of the creel survey or want an update on this year's fyke netting and electro-fishing survey results, contact:

Mike Coshun, Treaty Fisheries Biologist
Wisconsin Department of Natural Resources
8770 Highway J
Woodruff, WI 54568
(715) 358-9209
Email: Michael.Coshun@Wisconsin.gov

For answers to questions about fisheries management activities and plans for Plum Lake, Vilas County, contact:

Steve Gilbert, Fisheries Biologist
Wisconsin Department of Natural Resources
8770 Highway J
Woodruff, WI 54568
(715) 358-9229
Email: Stephen.Gilbert@Wisconsin.gov

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
CREEL SURVEY REPORT

BALLARD CHAIN
(Ballard, White Birch and Irving Lakes)

VILAS COUNTY

2011-12

Treaty Fisheries Publication

Compiled by Tim Tobias & Jeff Blonski
Treaty Fisheries Technician

CREEL SURVEY
WISCONSIN DEPARTMENT OF NATURAL RESOURCES

WISCONSIN
DEPT. OF NATURAL RESOURCES

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SUMMARY TABLES

Cover Art: Steve Hilt, Minocqua, WI
Fish Graphics: Virgil Beck, Stevens Point, WI

INTRODUCTION

Fish populations can fluctuate due to natural forces (weather, predation, competition), management actions (stocking, regulations, habitat improvement), inappropriate development (habitat degradation), and harvest impacts. Wisconsin Department of Natural Resources fisheries crews regularly conduct fishery surveys on area lakes and reservoirs to gather the information needed to monitor changes, identify concerns, evaluate past management actions, and to prescribe good fishery management strategies. Netting and electrofishing surveys are used to gather data on the status of fish populations and communities (species composition, population size, reproductive success, size/age distribution, and growth rates). But the other key component of the fishery that we often need to measure is the harvest.

On many lakes in the Ceded Territory of northern Wisconsin, harvest of fish is divided between sport anglers and the six Chippewa tribes who harvest fish under rights granted by federal treaties. The tribes harvest fish mostly using a highly efficient method, spearing, during a relatively short time period in the spring. Every fish in the spear harvest is counted – a complete "census" of the harvest.

We also measure the sport harvest to assess its impact on the fishery. But because it would be highly impractical and very costly to conduct a complete census of every angler who fishes on a lake, we conduct creel surveys.

A creel survey is an assessment tool used to sample the fishing activities of anglers on a body of water and make projections of harvest and other fishery parameters. Creel survey clerks work on randomly-selected days and shifts, forty hours per week during the open season for gamefish from the first Saturday in May through the first Sunday in March, except during the month of November when fishing effort is low and ice conditions are often unsafe. The survey is run during daylight hours, and shift times change from month to month as day length changes.

Creel survey clerks travel their lakes using a boat or snowmobile to count numbers of anglers on a lake at predetermined times, and to interview anglers who have completed their fishing trip to collect data on what species they fished for, catch, harvest, lengths of fish harvested, marks (finclips or tags), and hours of fishing effort. Collecting completed-trip data provides the most accurate assessment of angling activities, and it avoids the need to disturb anglers while they are fishing.

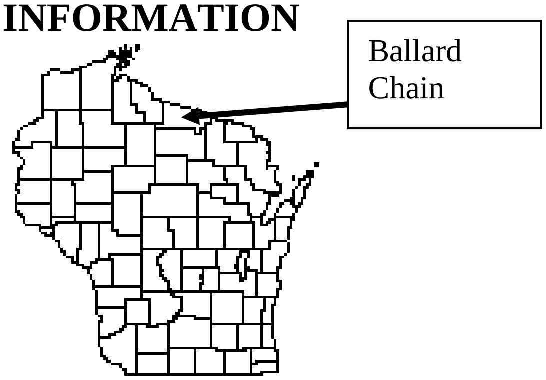
A computer program is used to make projections of total catch and harvest of each species, catch and harvest rates, and total fishing effort, by month and for the year in total. Keep in mind that these are only projections based on the best information available, and not a complete accounting of effort, catch, and harvest. Accurate projections require that we sample a sufficient and representative portion of the angling activity on a lake. The accuracy of creel survey results, therefore, depends on good cooperation and truthful responses by anglers when a creel clerk interviews them.

You may have encountered a DNR creel survey clerk on a recent fishing trip. We appreciate your cooperation during an interview. The survey only takes a moment of your time and it gives the Department valuable information needed for management of the fishery.

This report provides projections of:
1. Overall fishing effort (pressure)
2. Fishing effort directed at each species
3. Catch and harvest rates
4. Numbers of fish caught and harvested

Also included are a physical description of Ballard Chain; discussion of results of the survey; and detailed summaries, by species of fishing effort, catch and harvest.

GENERAL LAKE INFORMATION



Location
Ballard Chain is located in Vilas County in the Town of Star Lake.

Physical Characteristics
Ballard Chain is a 1,025 acre drainage chain with a total of three lakes (Ballard, Irving, and White Birch). Littoral substrate consists primarily of sand, gravel and muck. Lakes of the Ballard Chain can be categorized as moderately fertile, alkaline with relatively clear water.

Seasons Surveyed
The period referred to in this report as the 2011-12 fishing season ran from May 7, 2011 through March 4, 2012. The open water creel survey ran from May 7 through October 31, 2011 and the ice fishing creel survey ran from December 1, 2012 through March 4, 2012.

Weather
Ice-out on Ballard Chain occurred about April 22, 2011. Fishable-ice formed on Ballard Chain in mid December.

Sportfishing Regulations
The following seasons, daily bag limits, and length limits were in place on Ballard Chain during the 2011-12 fishing season:

Largemouth Bass&	5/7-6/17	Catch&Release	
Smallmouth Bass	6/18-3/4	5	14"
Musky	5/28-11/30	1	34"
Northern Pike	5/7-3/4	5	none
Walleye	5/7-3/4	3*	15"
Panfish	year round	25	none
Rock Bass	year round	none	none

* The statewide bag limit was 5 walleye, but due to tribal declarations it was reduced on Ballard Chain.

SPECIES CATCH AND HARVEST INFORMATION

Angling effort, catch, and harvest information is summarized for each species for the entire chain in Table 2 and Figures 1-10. Tables 3, 4 and 5 compare the individual lakes statistics with the previous creel survey. Information presented about species whose fishing season extends beyond March 4 should be considered minimum estimates. Each species page has up to five graphs depicting the following:

1. **PROJECTED FISHING EFFORT**
   Total calculated number of hours during each month that anglers spent fishing for a species.

2. **PROJECTED SPECIFIC CATCH AND HARVEST RATES**
   Calculated number of hours it takes an angler to catch or harvest a fish of the indicated species. Only information from anglers who were

specifically targeting that species is reported.

3. **PROJECTED CATCH AND HARVEST**
Calculated number of fish of the indicated species caught or harvested by all anglers, regardless of targeted species.

4. **LENGTH DISTRIBUTION OF HARVESTED FISH**
All fish of a species that were measured by the clerk during the entire creel survey season.

5. **LARGEST AND AVERAGE LENGTH OF HARVESTED FISH**
Monthly largest and average length of harvested fish of a species. Only those fish measured by the creel survey clerk are reported.

CREEL SURVEY RESULTS AND DISCUSSION

Survey Logistics
The creel survey went well. We encountered no unusual problems conducting the survey or calculating the projections contained in the report. This was the third time the Department has conducted a creel survey of the Ballard Chain. The last creel survey took place in 2001-02.

General Angler Information
Anglers spent 33,244 hours or 32.4 hours per acre fishing Ballard Chain during the 2011-12 season (Table 1). That was less than the Vilas County average of 34.6 hours per acre. July was the most heavily fished month (7.6 hours per acre). Fishing effort was lightest in December (0.8) hours per acre) for those months when the entire month was creeled.

RESULTS BY SPECIES

Walleye (Table 2, Figure 1)
Anglers spent 3,896 hours targeting walleyes. The greatest fishing effort for walleyes was in January (693 hours). October had the least amount of walleye fishing effort (110 hours).

Total catch of walleyes was 694 fish with a harvest of 190 fish. Highest catch (196 fish) occurred in June and harvest (79 fish) occurred in December. Anglers fished 6.4 hours to catch and 21.4 hours to harvest a walleyes during 2011.

The mean length of harvested walleyes was 19.3 inches and the largest walleye measured was a 27.1-inch fish.

Northern Pike (Table 2, Figure 2)
Fishing effort directed at northern pike was 1,806 hours during the 2011 season. Northern pike fishing effort was greatest in January (402 hours).

Total catch of northern pike was 856 fish with a harvest of 156 fish.

The mean length of harvested northern pike was 22.0 inches and the largest northern pike measured was a 32.0-inch fish.

Muskellunge (Table 2, Figure 3)
Anglers spent 12,700 hours targeting muskellunge during the 2011 season. Muskellunge fishing effort was greatest in July (3,121 hours).

Total catch of muskellunge was 301 fish. Highest catch (83 fish) occurred in October. Anglers fished 49.0 hours to catch a muskellunge during 2011.

Smallmouth Bass (Table 2, Figure 4)
Smallmouth bass are only a minor part of the Ballard Chain fishery and only accounted for 35 hours of directed effort.

Most of the 378 smallmouth bass caught were projected from only three angler interviews. Caution should be used in interpreting that catch which is not consistent with our netting and electrofishing results.

Largemouth Bass (Table 2, Figure 5)
Fishing effort directed at largemouth bass was 1,719 hours during the 2011 season. Largemouth bass fishing effort was greatest in August (491 hours).

Total catch of largemouth bass was 6,308 fish with a harvest of 14 fish. Highest catch (2,107 fish) occurred in July. Anglers fished 1.4 hours to catch a largemouth bass during 2011.

Panfish (Table 2, Figures 6-10)
Yellow perch were the most sought after panfish species during the survey. Fishing effort directed at yellow perch was 17,787 hours.

Total catch of yellow perch was 49,743 fish with 17,379 harvested. The mean length of yellow perch harvested was 8.4 inches

Bluegills were the second most sought after panfish species during the survey. Fishing effort directed at bluegills was 15,549 hours.

Total catch of bluegills was 55,155 fish with 8,482 harvested. The mean length of bluegills harvested was 7.7 inches.

Black crappies were the third most sought after panfish species during the survey. Fishing effort directed at black crappies was 3,438 hours.

Anglers caught 1,839 black crappies and harvested 968 fish. The mean length of black crappies harvested was 8.9 inches.

Pumpkinseeds and rock bass were also caught during the 2011 season.

ACKNOWLEDGMENTS

Completion of this survey was possible because of the efforts of the technical staff of the fisheries management and Treaty Fisheries Unit. Treaty staff responsible for ensuring completion of this survey included Jeff Blonski, Joelle Underwood, Marty Kiepke, Jason Halverson, and Tim Tobias. John Logan and Marty Kiepke were the creel clerks on Ballard Chain during the survey period.

We also thank all the anglers who took the time to offer information about their fishing trip to the survey clerk. Without their cooperation the survey would not have been possible.

The Department thanks the cooperators, Doug & Libby Scott and Ben & Mary Cleveland, who generously allowed the Department to keep a boat and snowmobile on their property during this survey.

This creel report was reviewed by, Steve Gilbert and Dennis Scholl of the Wisconsin Department of Natural Resources, Woodruff, Wisconsin.

Additional copies of this report and those covering other local lakes can be obtained from the Woodruff DNR or online at:

http://dnr.wi.gov/fish/ceded/reports.html

Table 1. Sportfishing effort summary, the Ballard Chain, 2011-12 season

Month	Total Angler Hours	Total Angler Hours/Acre	Vilas County Average Hours/Acre	Statewide Average Hours/Acre
May	2425	2.4	5.2	5.8
June	3783	3.7	6.8	6.1
July	7764	7.6	7.5	6.4
August	6680	6.5	6.4	5.4
September	5426	5.3	4.2	3.8
October	2979	2.9	2.0	1.6
December	811	0.8	0.5	1.7
January	1293	1.3	0.8	1.5
February	1898	1.9	1.0	1.3
March	184	0.18	0.2	**
*Summer Total	29058	28.3	32.1	29.1
*Winter Total	4186	4.1	2.5	4.5
Grand Total	33244	32.4	34.6	33.6

*"Summer" is May-October; "Winter" is December-March
**Too few lakes have been surveyed in March to give a meaningful statewide average.

Total Angler Hours is the estimated total number of hours that anglers spent fishing on the Ballard Chain during each month surveyed.

Total Angler Hours/Acre is the total angler hours divided by the area of the lake in acres. This is useful if you wish to compare effort on the Ballard Chain to other lakes.

County Average Hours/Acre is the average angler effort in hours per acre for county lakes that have been surveyed since 1990. This value can be useful in comparisons as well.

Statewide Average Hours/Acre is the average angler effort in hours per acre for inland lakes in the state surveyed between 1990 and 1995. This value can be used to compare the Ballard Chain to other lakes statewide.

Table 2. Comparison of creel survey synopses, Ballard Chain, 2001 and 2011 fishing seasons.

CREEL YEAR: 2011-12

SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish) *	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish) **	MEAN LENGTH OF HARVESTED FISH
Walleye	3896	6.53%	694	6.4	190	21.4	19.3
Northern Pike	1806	3.03%	856	6.9	156	19.3	22.0
Muskellunge	12700	21.28%	301	49.0	8	1663.9	36.2
Smallmouth Bass	35	0.06%	378	13.5	0		
Largemouth Bass	1719	2.88%	6308	1.4	14	215.1	15.5
Yellow Perch	17787	29.81%	49743	0.4	17379	1.0	8.4
Bluegill	15549	26.06%	55155	0.3	8482	1.8	7.7
Pumpkinseed	1090	1.83%	1830	1.2	336	3.3	7.2
Rock Bass	1653	2.77%	3713	1.6	393	4.3	7.4
Black Crappie	3438	5.76%	1839	2.2	968	3.8	8.9

* A blank cell in this column indicates that no fish of a given species were caught by anglers who specifically targeted that species.

** A blank cell in this column indicates that no fish of a given species were harvested by anglers who specifically targeted that species.

CREEL YEAR: 2001-02

SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish)	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish)	MEAN LENGTH OF HARVESTED FISH
Walleye	6604	19.29%	2993	2.2	420	16.2	17.0
Northern Pike	1029	3.01%	766	9.6	29	42.0	23.9
Muskellunge	23242	67.91%	1489	18.5	12	1870.9	35.6
Largemouth Bass	769	2.25%	388	3.7	0		
Bluegill	1454	4.25%	5040	0.3	2174	0.7	6.7
Black Crappie	145	0.42%	22	27.1	9	27.1	10.6
Yellow Perch	984	2.87%	1631	0.6	807	1.3	8.2
Rock Bass	0	0.00%	91		0		

Table 3. Comparison of creel survey synopses, Ballard Lake, 2011-12 and 2001-02 fishing seasons.

CREEL YEAR: 2011-12

SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish) *	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish) **	MEAN LENGTH OF HARVESTED FISH
Walleye	2757	7.25%	600	5.1	151	19.0	19.3
Northern Pike	1307	3.44%	569	11.5	78	46.5	22.4
Muskellunge	7980	20.98%	208	44.4	4	2000.0	37.0
Smallmouth Bass	35	0.09%	245	13.4	0		
Largemouth Bass	1329	3.49%	3724	1.6	9	166.7	15.5
Yellow Perch	10327	27.16%	24450	0.4	6045	1.7	8.3
Bluegill	9428	24.79%	41414	0.2	4839	2.0	7.8
Pumpkinseed	845	2.22%	1136	1.8	58	15.8	7.5
Rock Bass	1385	3.64%	3290	1.4	373	3.8	7.3
Black Crappie	2636	6.93%	1681	1.8	901	3.1	8.9

* A blank cell in this column indicates that no fish of a given species were caught by anglers who specifically targeted that species.

** A blank cell in this column indicates that no fish of a given species were harvested by anglers who specifically targeted that species.

CREEL YEAR: 2001-02

SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish)	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish)	MEAN LENGTH OF HARVESTED FISH
Walleye	3278	14.43%	412	8.3	132	27.3	18.5
Northern Pike	920	4.05%	579	8.9	25	39.4	23.6
Muskellunge	17253	75.95%	967	20.5	0		
Largemouth Bass	47	0.21%	63	1.9	0		
Bluegill	323	1.42%	756	0.4	333	1.0	7.2
Black Crappie	89	0.39%	16	33.7	3	33.7	9.5
Yellow Perch	805	3.54%	1485	0.6	729	1.1	8.0
Rock Bass	0	0.00%	31		0		

Table 4. Comparison of creel survey synopses, Irving Lake, 2011-12 and 2001-02 fishing seasons.

CREEL YEAR: 2011-12

SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish) *	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish) **	MEAN LENGTH OF HARVESTED FISH
Walleye	708	4.28%	78	12.0	26	27.2	17.8
Northern Pike	407	2.46%	276	2.9	74	6.3	21.5
Muskellunge	3092	18.68%	93	38.8	4	833.3	35.3
Smallmouth Bass	0	0.00%	78		0		
Largemouth Bass	390	2.36%	2140	1.1	5		15.4
Yellow Perch	6214	37.55%	22662	0.3	10680	0.6	8.5
Bluegill	4808	29.05%	8632	0.6	2671	1.8	7.6
Pumpkinseed	141	0.85%	78	4.6	25	5.7	7.6
Rock Bass	268	1.62%	123	6.4	20	18.1	8.4
Black Crappie	522	3.15%	90	13.1	32	16.7	8.9

* A blank cell in this column indicates that no fish of a given species were caught by anglers who specifically targeted that species.

** A blank cell in this column indicates that no fish of a given species were harvested by anglers who specifically targeted that species.

CREEL YEAR: 2001-02

SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish)	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish)	MEAN LENGTH OF HARVESTED FISH
Walleye	2981	40.35%	2567	1.2	276	10.8	16.1
Northern Pike	44	0.60%	133	13.9	3		26.0
Muskellunge	3496	47.32%	384	12.2	0		
Largemouth Bass	28	0.38%	33	2.6	0		
Bluegill	622	8.42%	2274	0.3	1229	0.5	6.8
Black Crappie	56	0.76%	3	20.7	3	20.7	10.0
Yellow Perch	161	2.18%	127	1.9	77	2.8	9.8
Rock Bass	0	0.00%	8		0		

Table 5. Comparison of creel survey synopses, White Birch Lake, 2011-12 and 2001-02 fishing seasons.

CREEL YEAR: 2011-12

SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish) *	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish) **	MEAN LENGTH OF HARVESTED FISH
Walleye	431	8.46%	16	30.4	13	36.9	22.9
Northern Pike	92	1.81%	11	13.0	4	89.3	20.7
Muskellunge	1628	31.96%	0		0		
Smallmouth Bass	0	0.00%	55		0		
Largemouth Bass	0	0.00%	444		0		
Yellow Perch	1246	24.46%	2631	0.5	654	2.1	8.4
Bluegill	1313	25.78%	5109	0.3	972	1.3	7.5
Pumpkinseed	104	2.04%	616	0.3	253	0.4	7.1
Rock Bass	0	0.00%	300		0		
Black Crappie	280	5.50%	68	4.4	35	8.1	9.4

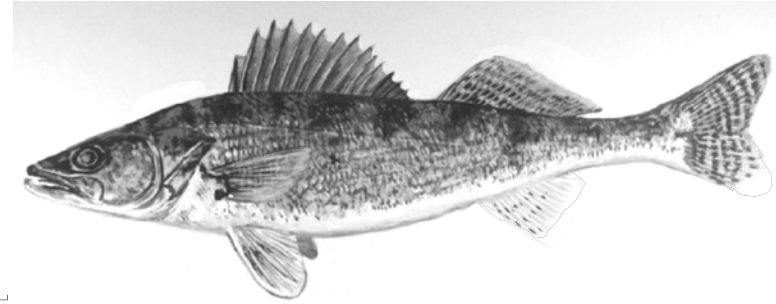
* A blank cell in this column indicates that no fish of a given species were caught by anglers who specifically targeted that species.

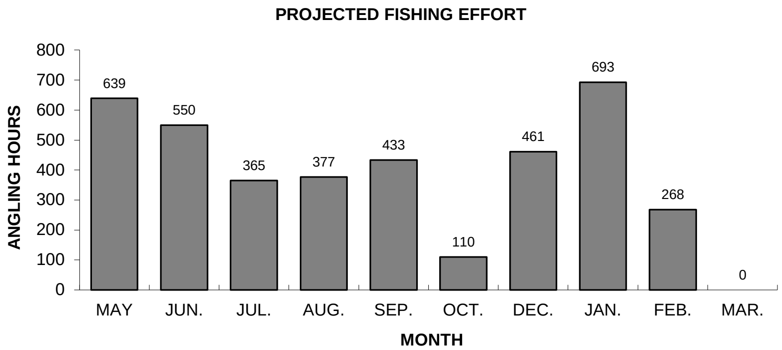
** A blank cell in this column indicates that no fish of a given species were harvested by anglers who specifically targeted that species.

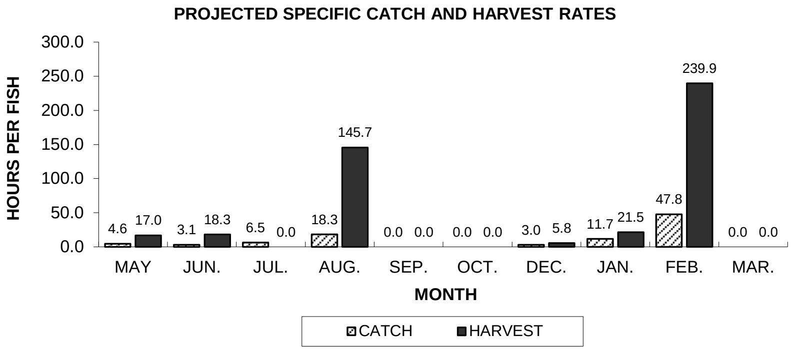
CREEL YEAR: 2001-02

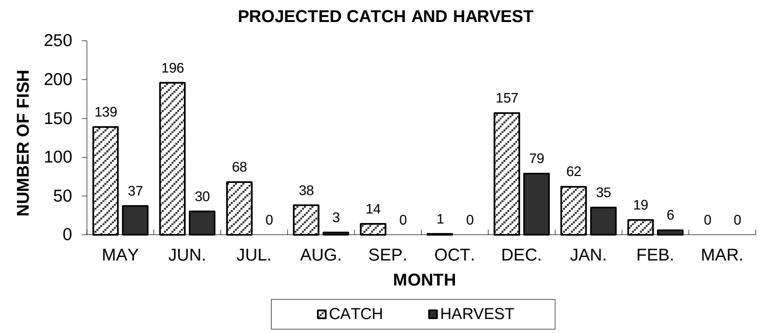
SPECIES	DIRECTED EFFORT (Hours)	PERCENT OF TOTAL	TOTAL CATCH	SPECIFIC CATCH RATE (Hrs/Fish)*	TOTAL HARVEST	SPECIFIC HARVEST RATE (Hrs/Fish)**	MEAN LENGTH OF HARVESTED FISH
Walleye	345	8.37%	14	23.6	12	27.5	21.7
Northern Pike	65	1.58%	54	63.3	1	63.3	24.2
Muskellunge	2493	60.45%	138	19.5	12	200.0	35.6
Largemouth Bass	694	16.83%	292	4.0	0		
Bluegill	509	12.34%	2010	0.3	612	0.8	6.5
Black Crappie	0	0.00%	3		3		12.3
Yellow Perch	18	0.44%	19	0.9	1	17.0	9.1
Rock Bass	0	0.00%	52		0		

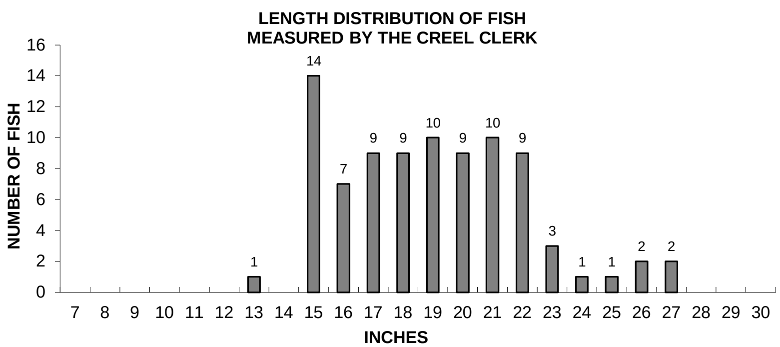
WALLEYE











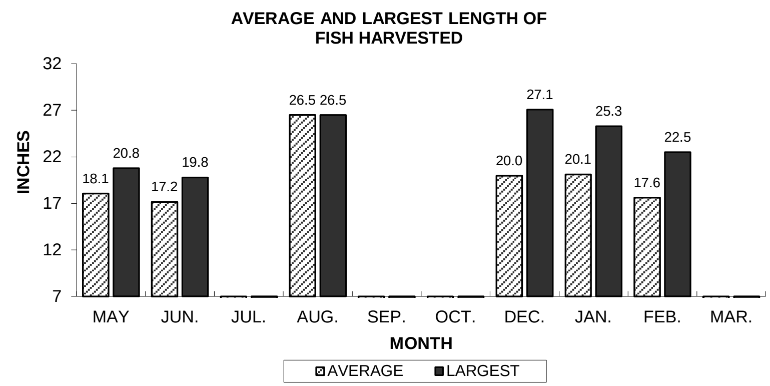


Figure 1. Walleye sportfishing effort, catch, harvest, and length distribution, Ballard Chain, during 2011-12.

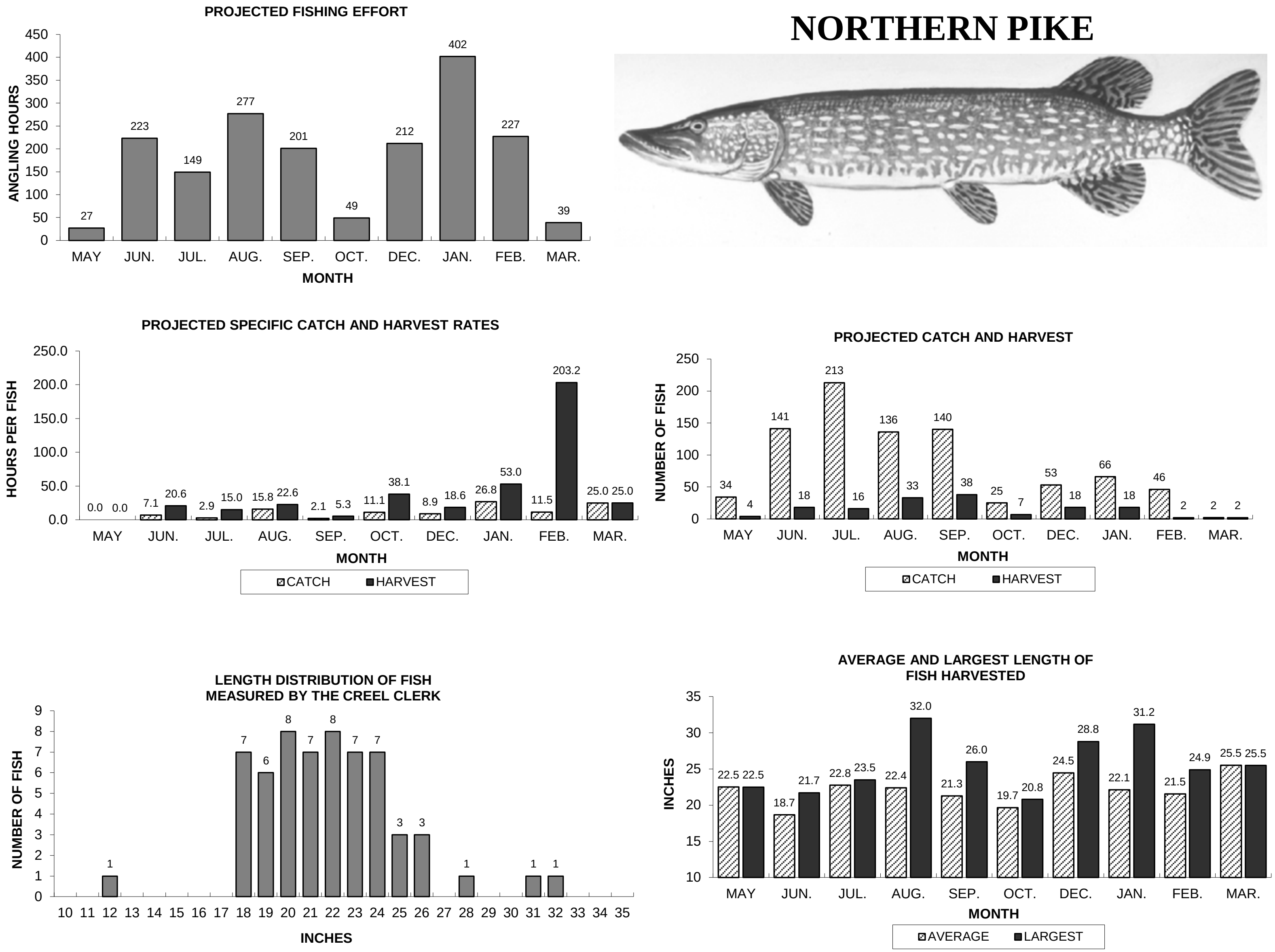
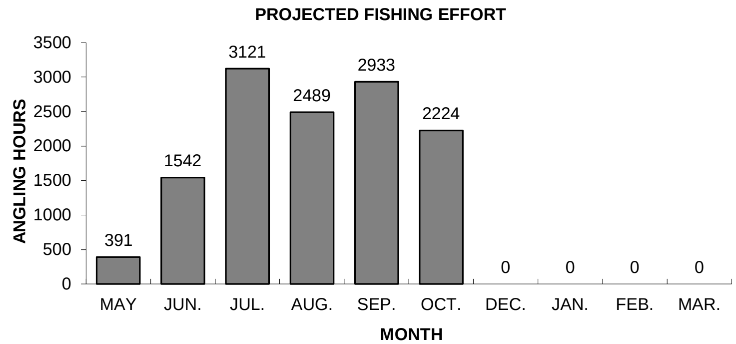
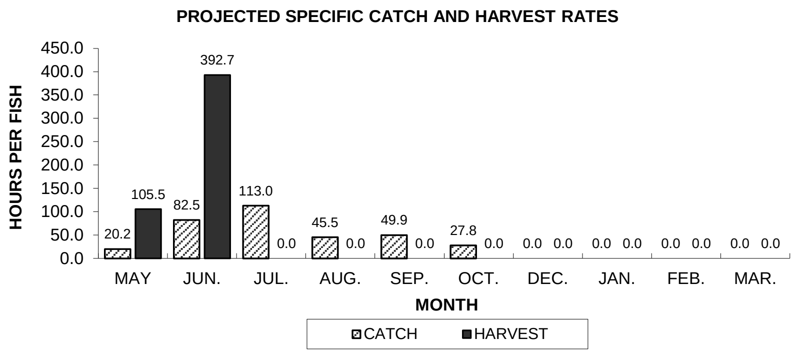
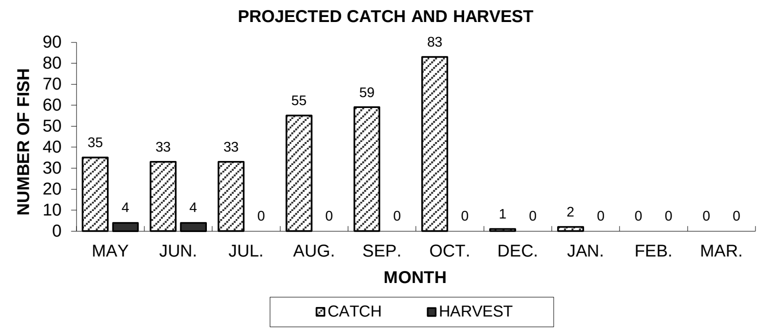


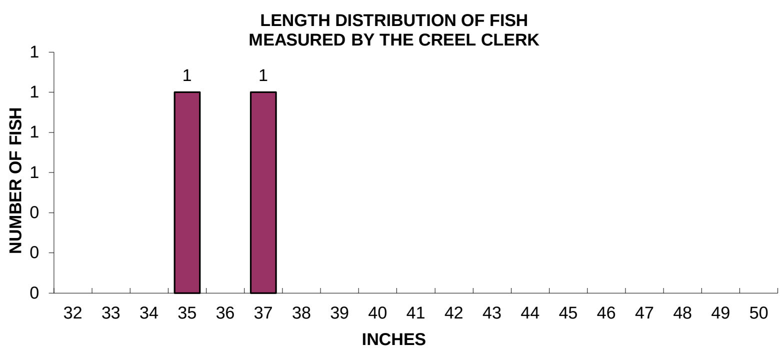
Figure 2. Northern pike sportfishing effort, catch, harvest, and length distribution, Ballard Chain, during 2011-12.

MUSKELLUNGE









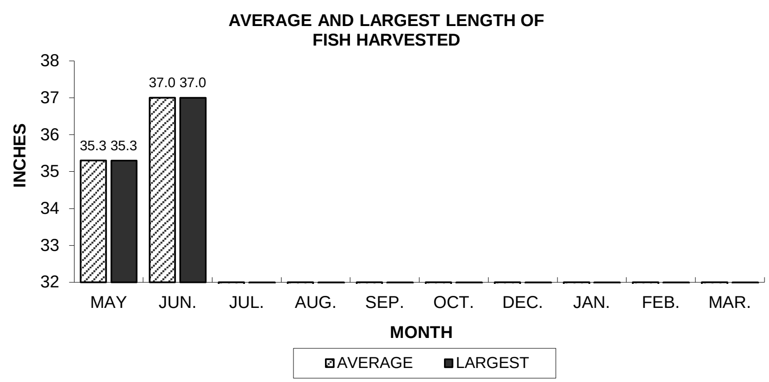
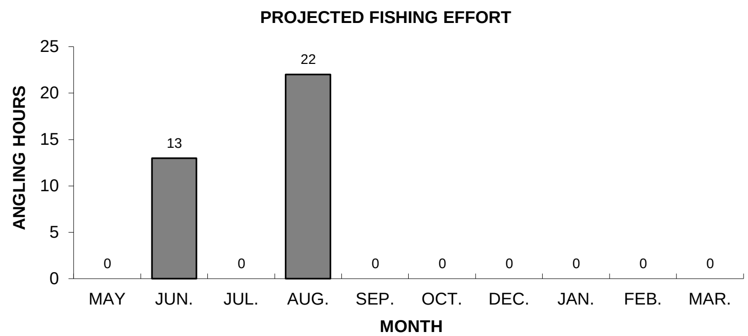
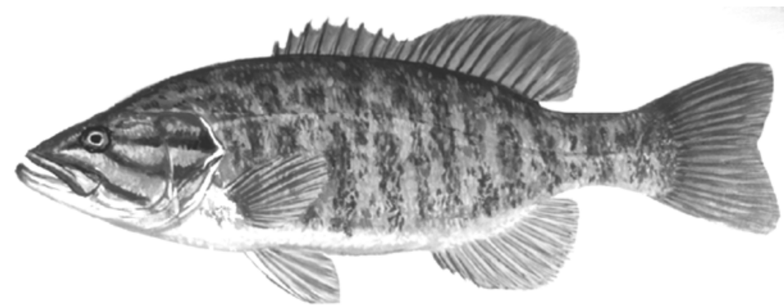
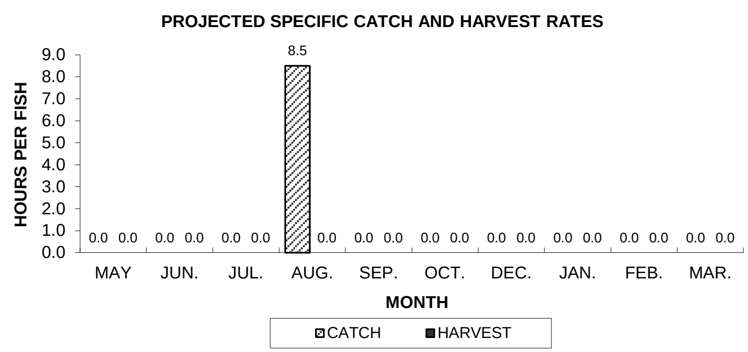


Figure 3. Muskellunge sportfishing effort, catch, harvest, and length distribution, Ballard Chain, during 2011-12.

SMALLMOUTH BASS







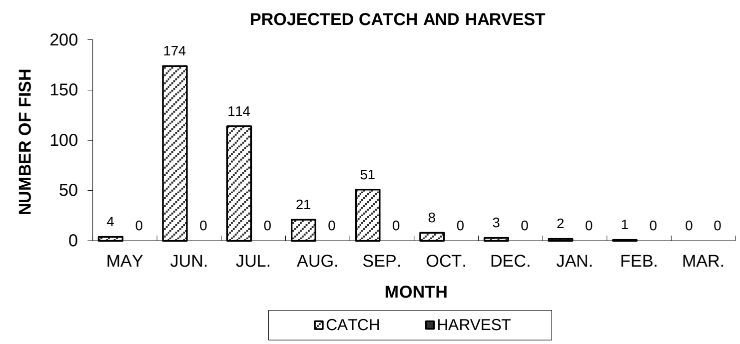


Figure 4. Smallmouth bass sportfishing effort, catch, harvest, and length distribution, Ballard Chain, during 2011-12.

LARGEMOUTH BASS

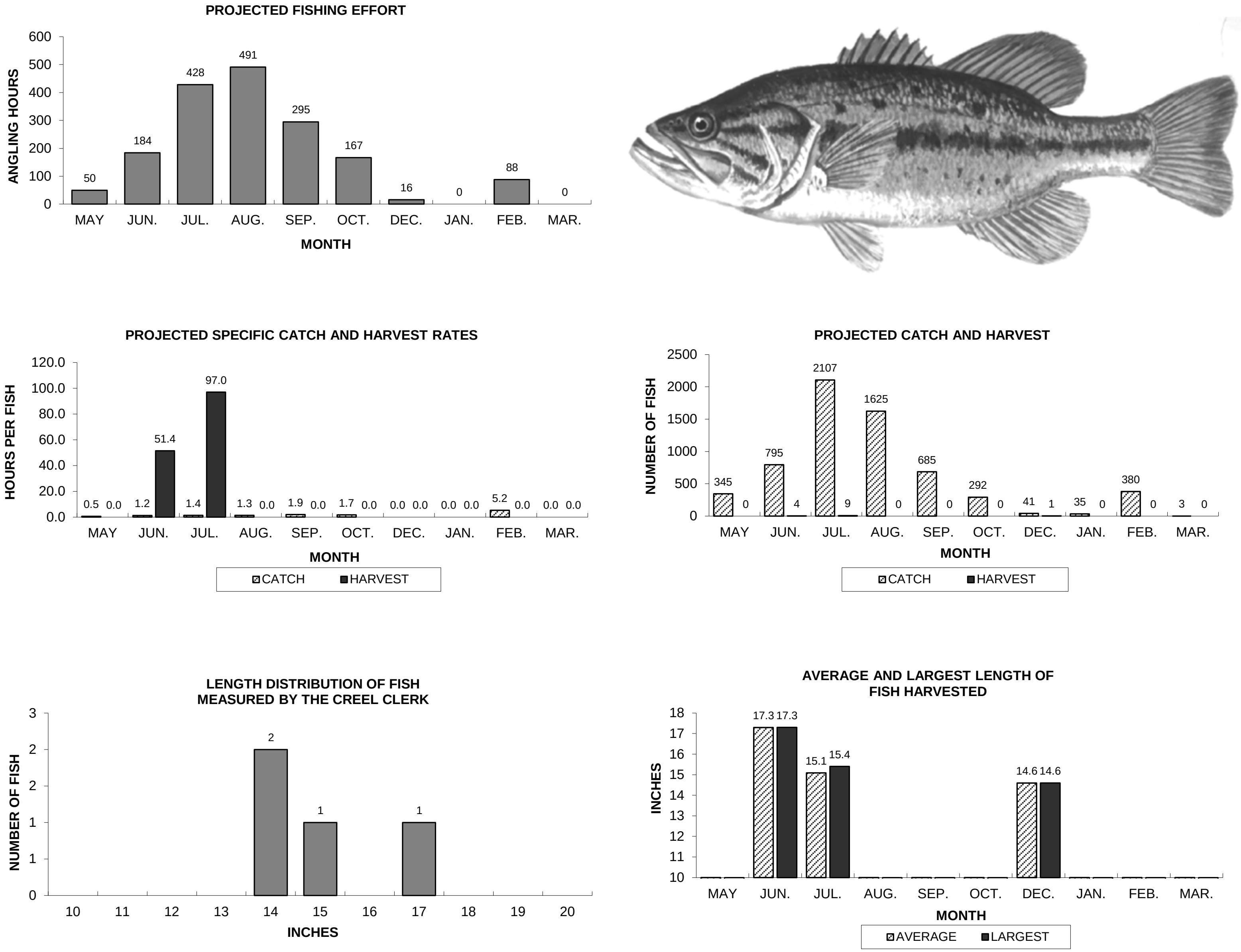
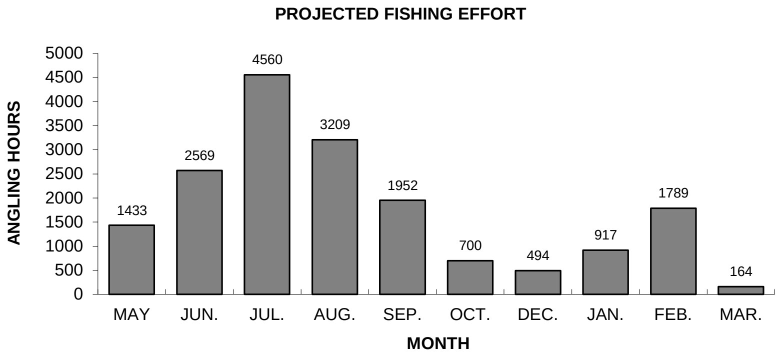
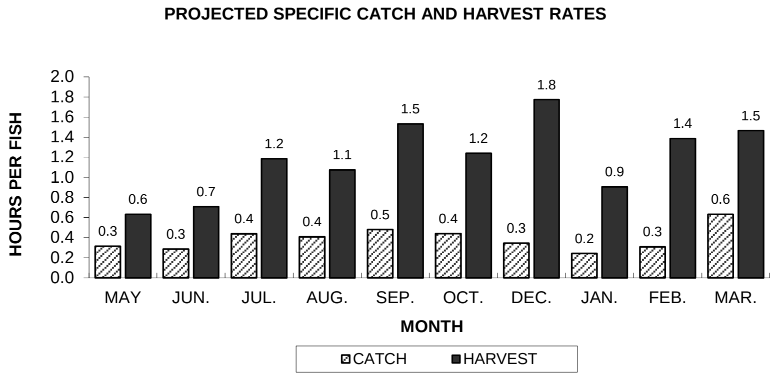
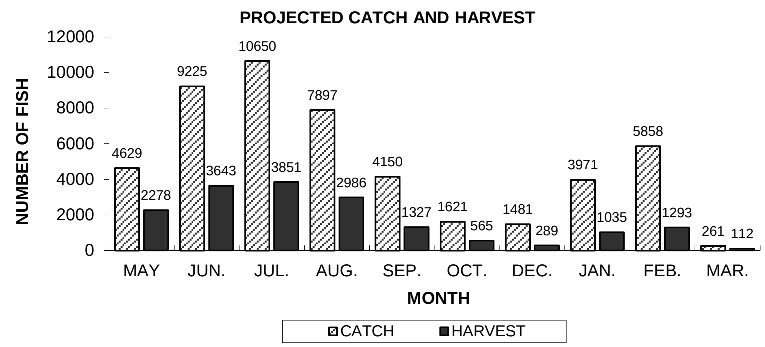


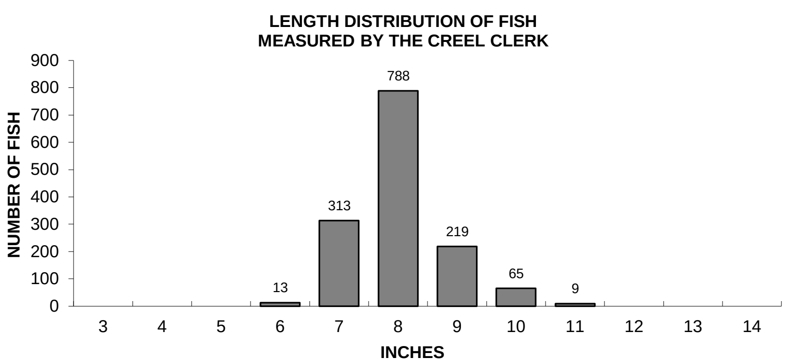
Figure 5. Largemouth bass sportfishing effort, catch, harvest, and length distribution, Ballard Chain, during 2011-12.

YELLOW PERCH









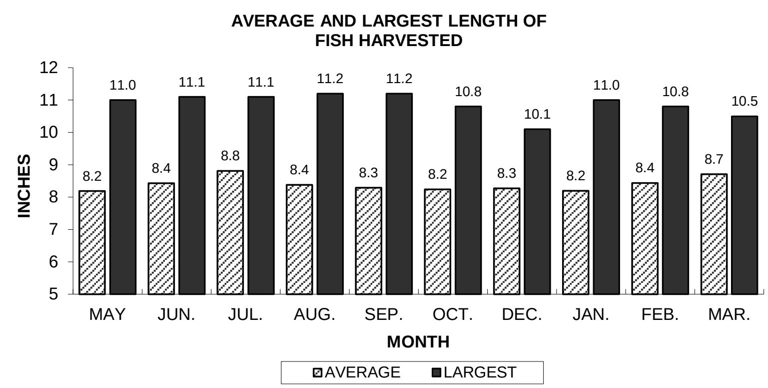
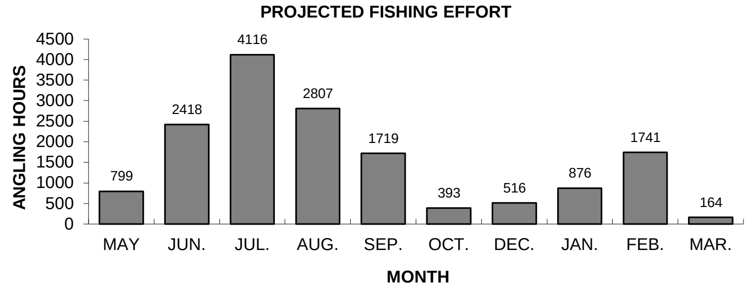
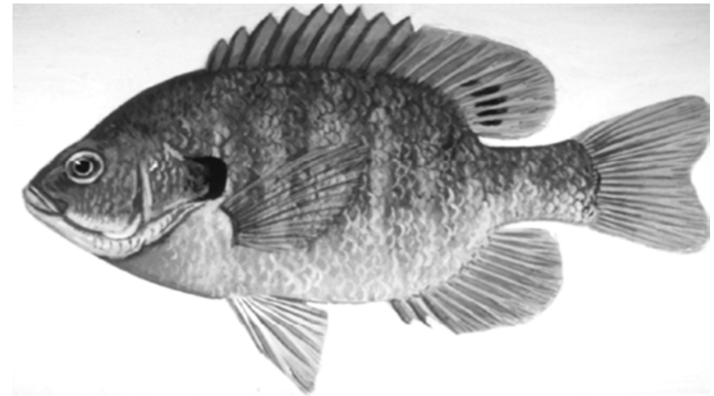
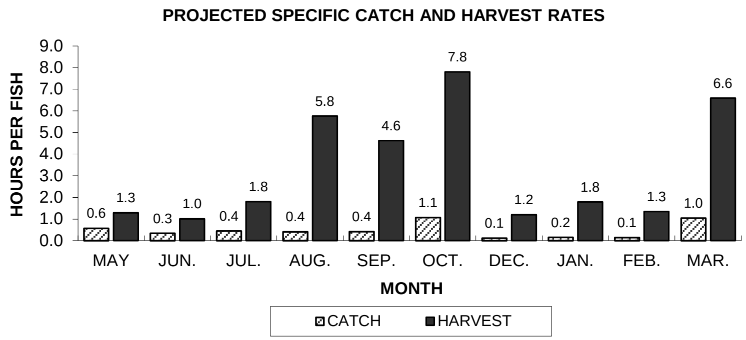


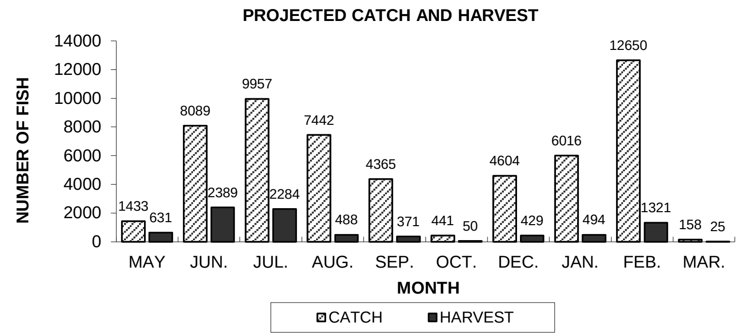
Figure 6. Yellow perch sportfishing effort, catch, harvest, and length distribution, Ballard Chain, during 2011-12.

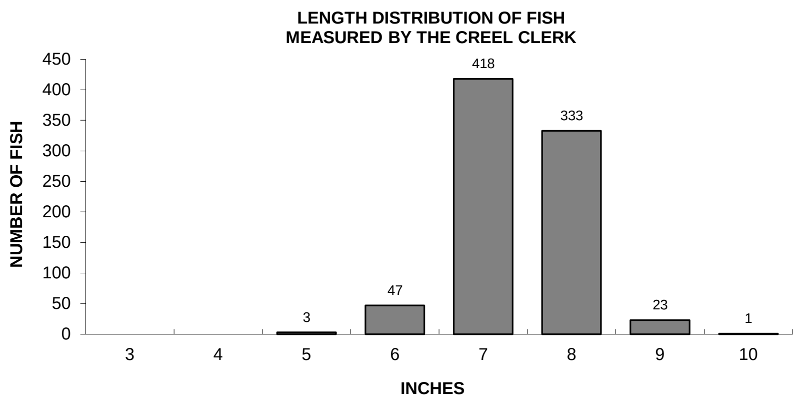
BLUEGILL











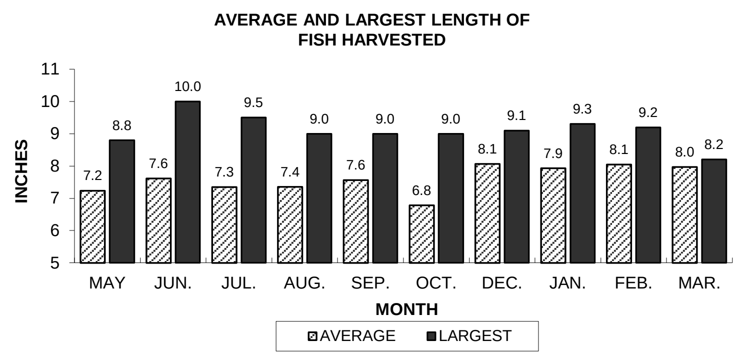
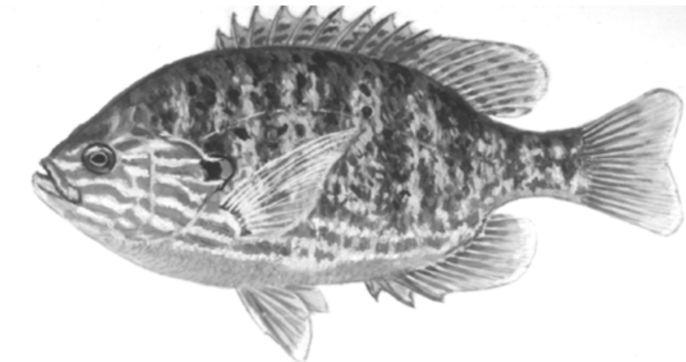
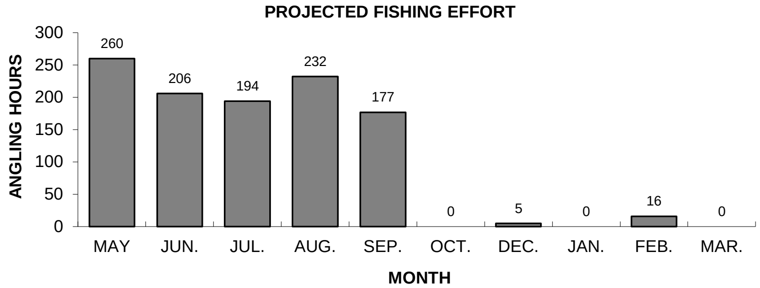
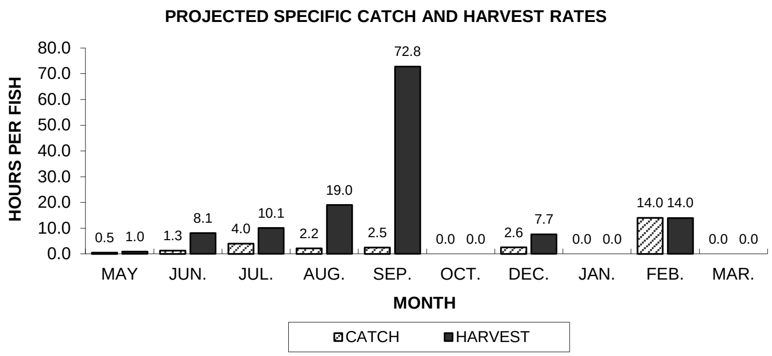


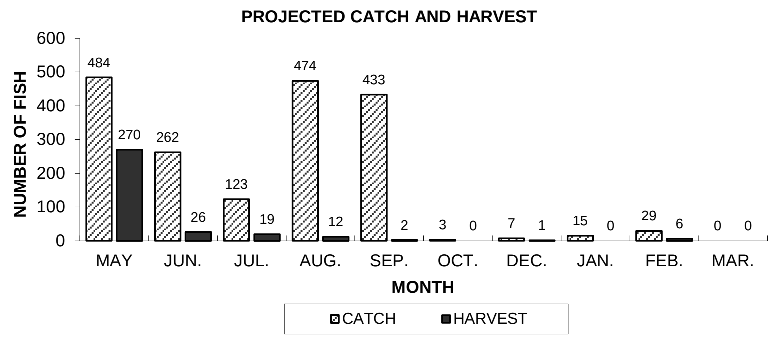
Figure 7. Bluegill sportfishing effort, catch, harvest, and length distribution, Ballard Chain, during 2011-12.

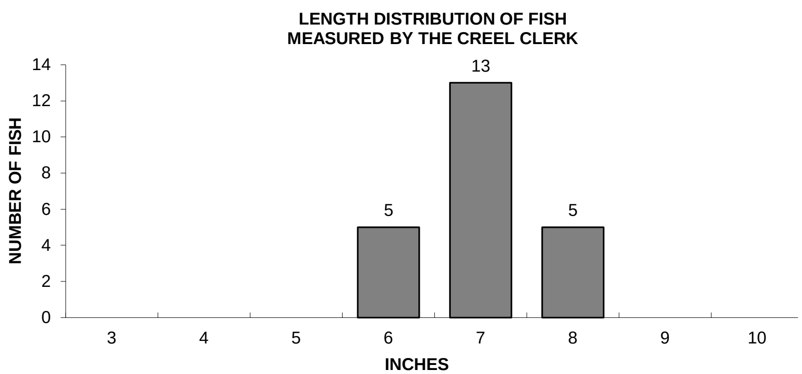
PUMPKINSEED











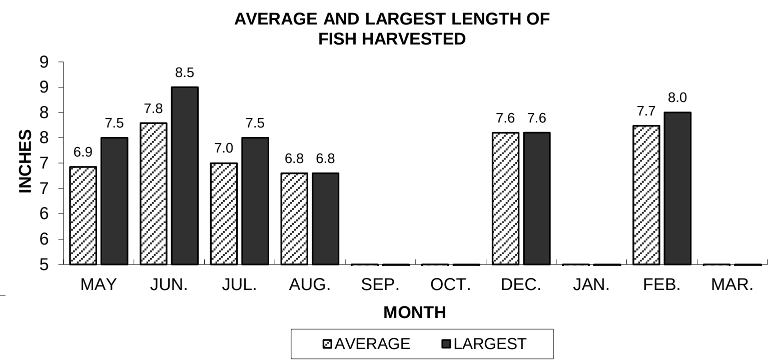
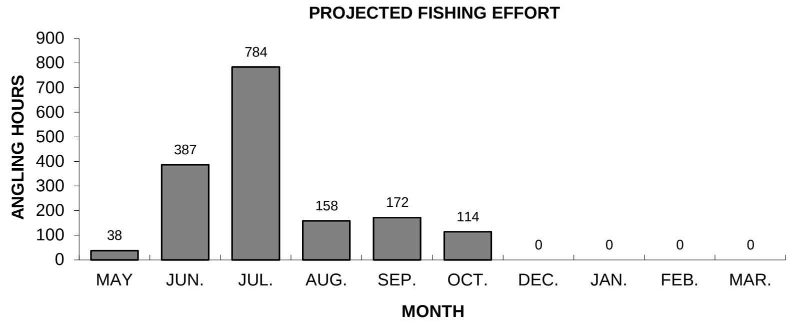
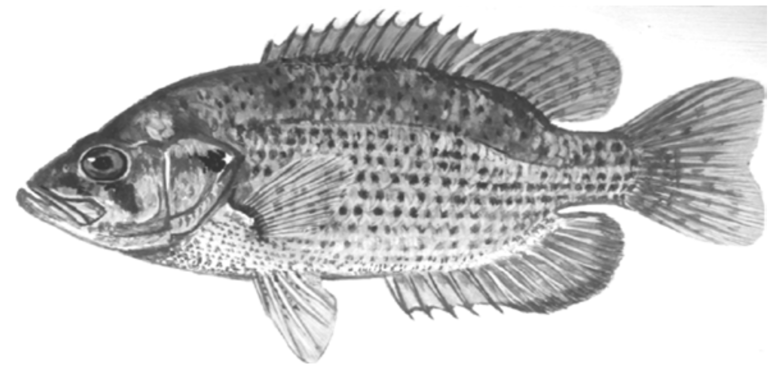
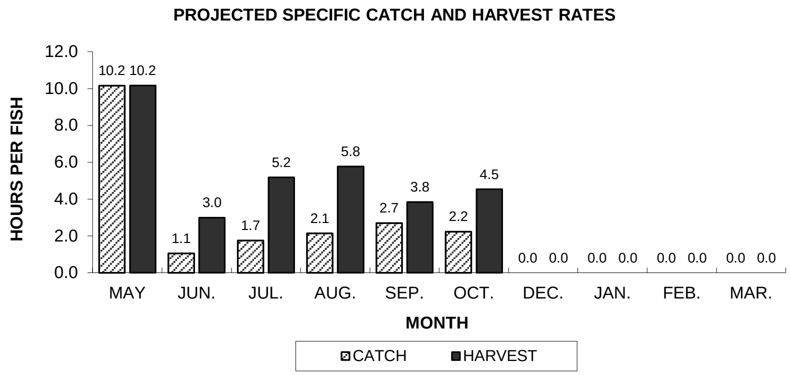


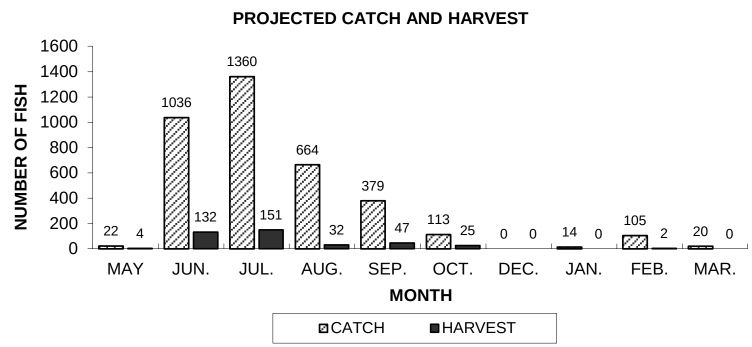
Figure 8. Pumpkinseed sportfishing effort, catch, harvest, and length distribution, Ballard Chain, during 2011-12.

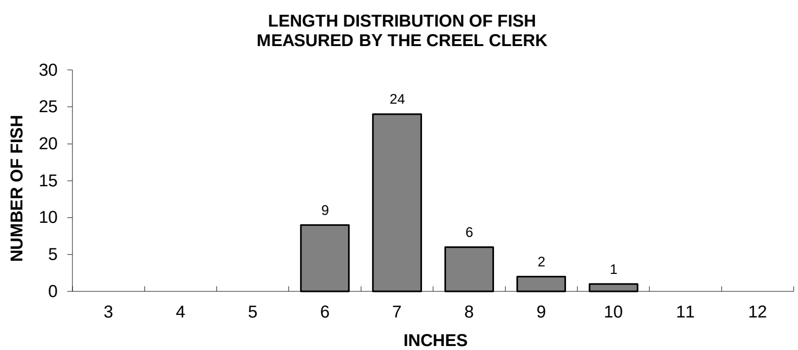
ROCK BASS











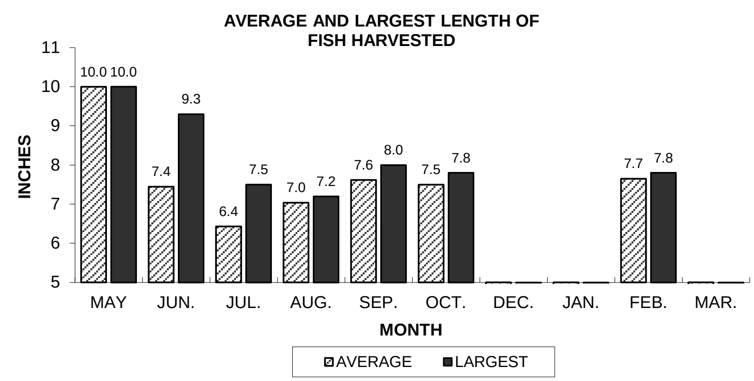


Figure 9. Rock bass sportfishing effort, catch, harvest, and length distribution, Ballard Chain, during 2011-12.

BLACK CRAPPIE

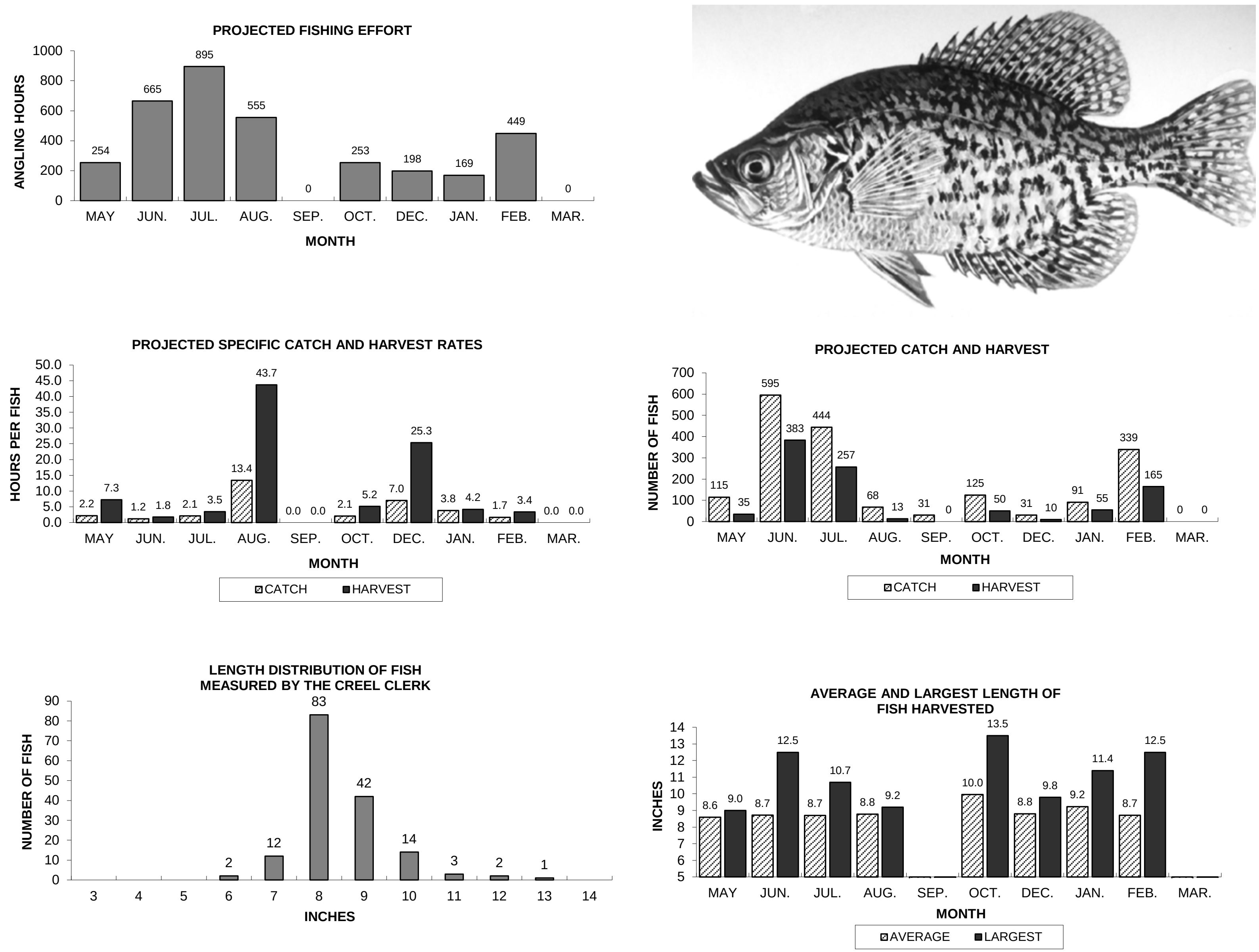


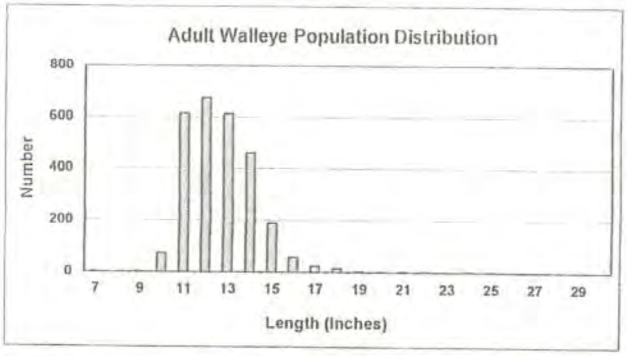
Figure 10. Black crappie sportfishing effort, catch, harvest, and length distribution, Ballard Chain, during 2011-12.

From Bob Jackson
for Lake Laura

WISCONSIN DNR
FISHERIES INFORMATION SHEET

LAKE: LAURA | COUNTY: VILAS | YEAR: 2016

The Department of Natural Resources surveyed Laura Lake, Vilas County, from April 20th through June 7th, in order to assess the status of the walleye and smallmouth bass populations. Laura Lake is a seepage lake with predominantly sand substrates along with some rock and muck. It has a surface area of 628 acres, 4.8 miles of shoreline, and a maximum depth of 43 feet. Laura Lake's walleye and smallmouth bass populations are sustained entirely through natural reproduction.



* Note: Adult walleye are defined as all sexable walleye (regardless of length) and those of unknown sex ≥ 15 inches in length.

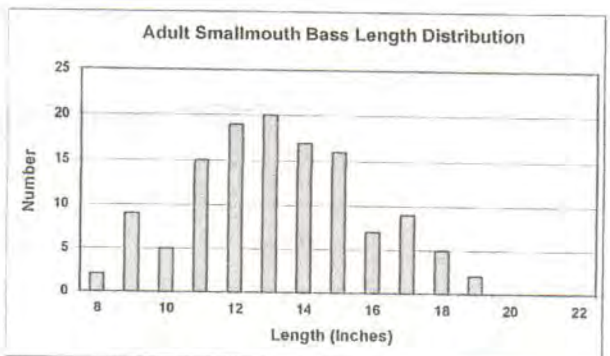
Walleye

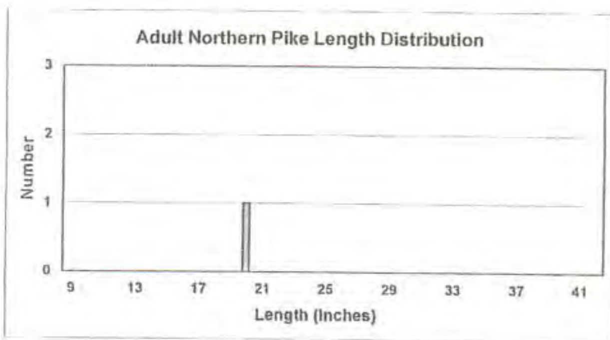
During four days of fyke netting, 1,354 adult walleye were captured and marked with a fin clip. A crew then sampled with an electrofishing boat and captured 640 adult walleye. During electrofishing 49% (313 of 640) of captured walleye bore the fin clip given during fyke netting. The largest walleye we captured was a 25.2-inch female.

Based on those results, Laura Lake was estimated to contain 2,728 adult walleye (4.3/acre). An estimated 11% of adult walleye were 15 inches long or larger.

Smallmouth Bass

Survey crews were able to capture and mark a sufficient number of smallmouth bass from Laura Lake to estimate the population size. During sampling conducted through June 7th, 126 smallmouth bass eight inches or larger were captured. Of those smallmouth captured, 44% were 14 inches long or larger, with the largest measuring 19.9 inches. The smallmouth bass population in Laura Lake (eight inches or larger) was estimated to be 413 fish (0.7/acre). No largemouth bass were captured during our surveys.





Northern Pike

Only one adult northern pike (20.8 inches) was captured during our surveys on Laura Lake.

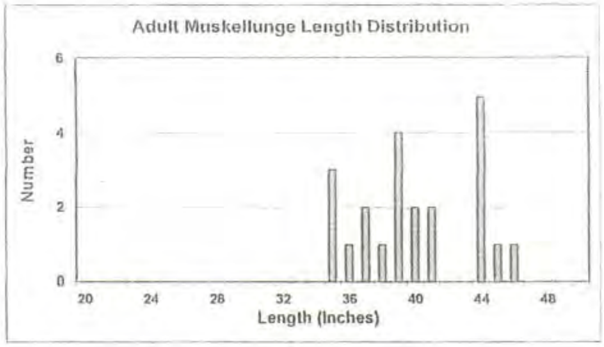
* Note: Adult northern pike are defined as all sexable northern pike and those of unknown sex ≥ 12 inches in length.

Drafted: June 2016
By: Lawrence Eslinger

Muskellunge

During our fyke netting and electrofishing sampling of Laura Lake, 22 adult muskellunge were captured. Of the adults captured, 50% (11 of 22) were 40 inches long or larger, with the largest being a 46.8-inch female. Additionally, nine juvenile muskellunge (10.3" - 25.7") were also captured.

* Note: Adult muskellunge are defined as all sexable muskellunge and those of unknown sex ≥ 30 inches fin length.



Other Species

In addition to the game fish mentioned above, eight species of fish were captured during fyke netting and electrofishing sampling of Laura Lake. Rock bass and white sucker were common in our surveys. Other species sampled in lower numbers included yellow perch, bluegill, pumpkinseed, bluntnose minnow, mimic shiner, and Iowa darter.

A creel survey will be conducted on Laura Lake throughout the 2016-17 fishing season. Creel clerk John Logan will count and interview anglers and examine their catch. The information gathered will be used to estimate fishing effort in addition to angler catch and harvest.

Table 1. General Fishing Regulations for Laura Lake, Vilas County, 2016

FISH SPECIES	OPEN SEASON	DAILY LIMIT	MINIMUM LENGTH
Walleye	May 7 - March 5	3	No minimum length, 1 fish over 14"
Largemouth Bass	May 7 - March 5	5 in total with SMB	14 inches
Smallmouth Bass	May 7 - June 17 (C&R) June 18 - March 5 (Harvest)	5 in total with LMB; harvest season only	14 inches
Muskellunge	May 28 - Nov. 30	1	40 inches
Northern Pike	May 7 - March 5	5	None

A brief summary of selected fishing regulations for Laura Lake is included above (Table 1). While the regulatory information provided was current at the time the surveys were conducted, it is not comprehensive and should not be used as a substitute for the current fishing regulation pamphlet. You may obtain a copy of current fishing regulations when you purchase your fishing license, or download a copy from our web site at:

http://dnr.wi.gov/topic/fishing/regulations/

This report is interim only; Watch for finalized summaries at: http://dnr.wi.gov/topic/fishing/north/trtysprngsrvys.html. Creel survey results should be available by June 2017 at: http://dnr.wi.gov/topic/fishing/north/trtycrlsrvys.html. For questions, contact:

Lawrence Eslinger, Treaty Fisheries Biologist
Wisconsin Department of Natural Resources
8770 Highway J
Woodruff, WI 54568
(715) 356-5211 Ext. 209
Email: lawrence.eslinger@wisconsin.gov

For answers to questions about fisheries management activities and plans for Laura Lake, Vilas County, contact:

Steve Gilbert, Fisheries Biologist
Wisconsin Department of Natural Resources
8770 Highway J
Woodruff, WI 54568
(715) 356-5211 Ext. 229
Email: stephen.gilbert@wisconsin.gov

Drafted: June 2016
By: Lawrence Eslinger

From: Eslinger, Lawrence D - DNR <Lawrence.Eslinger@wisconsin.gov>
To: bvshark <bvshark@aol.com>
Cc: Gilbert, Stephen J - DNR <Stephen.Gilbert@wisconsin.gov>
Subject: Last night's recap E-fishing survey
Date: Tue, Apr 26, 2016 8:21 am
Attachments: Picture (Device Independent Bitmap) 1.jpg (2K), Picture (Device Independent Bitmap) 2.jpg (1010), Picture (Device Independent Bitmap) 3.jpg (1010), Picture (Device Independent Bitmap) 4.jpg (716), Picture (Device Independent Bitmap) 5.jpg (1K), Picture (Device Independent Bitmap) 6.jpg (1014)

Hey Bob -

Got an outstanding catch last night on Laura. Quickly summarized the numbers.....We had 610 total males (296 recaps) and 15 total females (2 recaps). A rough, quick crunch of the PE is:

N=MC/R

N= (1,354*625)/298 = 2,840 adults

2,840/628 acres = 4.5/acre

Like we discussed, the acreage is lower than 628, but that's what's in my files for now.....doesn't matter for setting Safe Harvest, just affects the density estimate, less acreage would increase the density estimate obviously. Might be a TWG discussion :)

Off to Trout Lake!

Lawrence

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Lawrence Eslinger
Fisheries Biologist
Bureau of Fisheries Management - Treaty Fisheries Assessment Team
Wisconsin Department of Natural Resources
8770 Highway J
Woodruff, WI 54568
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lawrence.eslinger@wisconsin.gov<mailto:lawrence.eslinger@wisconsin.gov>

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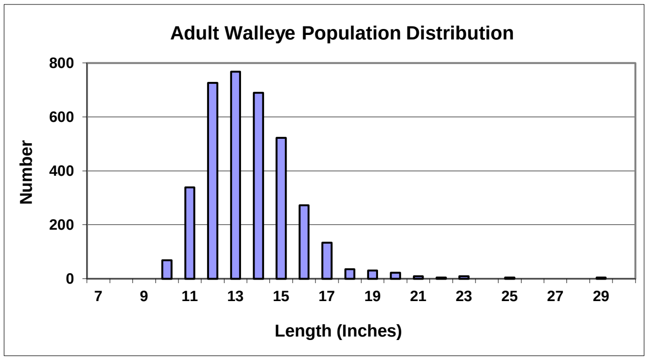
<http://www.flickr.com/photos/widnr/> <http://www.youtube.com/user/WIDNRTV>
<http://dnr.wi.gov/rss/>

6 Attached Images

WISCONSIN DNR
FISHERIES INFORMATION SHEET

LAKE: BIG MUSKELLUNGE **COUNTY:** VILAS **YEAR:** 2016

The Department of Natural Resources surveyed Big Muskellunge Lake, Vilas County, from April 19th through June 13th, in order to assess the status of the walleye, muskellunge, and smallmouth bass populations. Big Muskellunge Lake is a seepage lake with predominantly sand substrates along with some rock and muck. It has a surface area of 930 acres, 10.2 miles of shoreline, and a maximum depth of 70 feet. Big Muskellunge Lake's walleye and smallmouth bass populations are sustained soley through natural reproduction, while the muskellunge population is maintained by natural reproduction and supplemental stocking.



* Note: Adult walleye are defined as all sexable walleye (regardless of length) and those of unknown sex ≥ 15 inches in length.

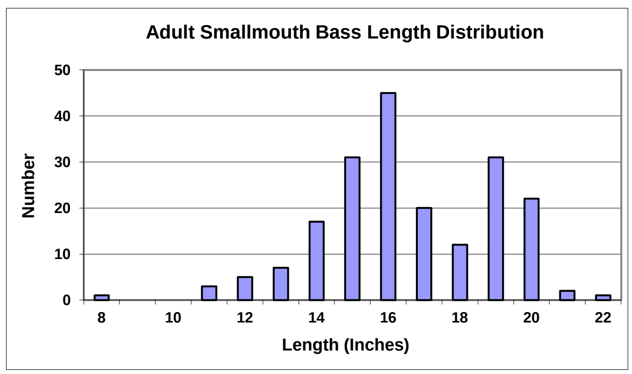
Walleye

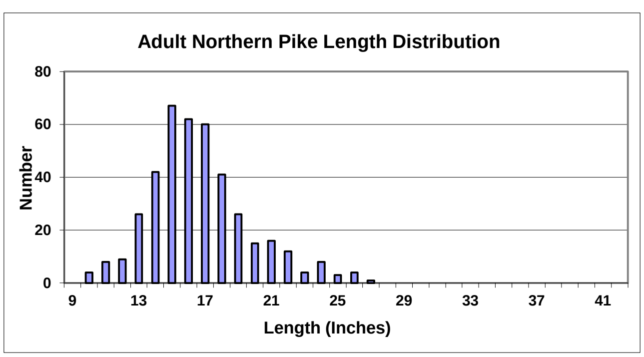
During five days of fyke netting, 909 adult walleye were captured and marked with a fin clip. Two crews then sampled with electrofishing boats and captured 469 adult walleye. During electrofishing 25% (115 of 469) of captured walleye bore the fin clip given during fyke netting. The largest walleye captured was a 29.2-inch female.

Based on those results, Big Muskellunge Lake was estimated to contain 3,634 adult walleye (3.9/acre). An estimated 29% of adult walleye were 15 inches long or larger.

Smallmouth Bass

Survey crews were able to capture and mark a sufficient number of smallmouth bass from Big Muskellunge Lake to estimate the population size. During sampling conducted through June 13th, 197 smallmouth bass eight inches or larger were captured. Of those smallmouth captured, 92% were 14 inches long or larger, with the largest measuring 22.8 inches. The smallmouth bass population in Big Muskellunge Lake (eight inches or larger) was estimated to be 286 fish (0.3/acre). Only two largemouth bass (12.2 and 20.9 inches) were captured during the survey.





Northern Pike

408 adult northern pike were captured during our surveys prior to the May 7th fishing opener. Of those pike captured, 99% were less than 26 inches long. The largest northern pike captured was 27.2-inches long.

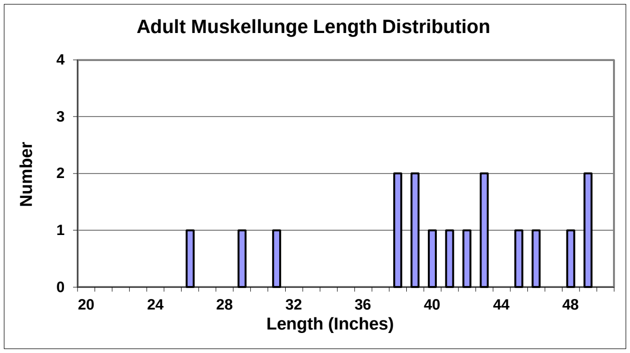
* Note: Adult northern pike are defined as all sexable northern pike and those of unknown sex ≥ 12 inches in length.

Drafted: June 2016
By: Lawrence Eslinger

Muskellunge 

During our fyke netting and electrofishing sampling of Big Muskellunge Lake, 17 adult muskellunge were captured. Of the muskelluge captured, 59% (10 of 17) were 40 inches long or larger, with the largest being a 49.7-inch female. Additionally, five juvenile muskellunge (12.0 - 17.3 inches) were also captured.

* Note: Adult muskellunge are defined as all sexable muskellunge and those of unknown sex ≥ 30 inches lin length.



Other Species

In addition to the game fish mentioned above, eight species of fish were captured during fyke netting and electrofishing sampling of Big Muskellunge Lake. Rock bass, white sucker, and yellow perch were common in our surveys. Other species sampled in lower numbers included bluegill, pumpkinseed, black crappie, burbot, and mimic shiner.

A creel survey will be conducted on Big Muskellunge Lake throughout the 2016-17 fishing season. Creel clerk Doug Day will count and interview anglers and examine their catch. The information gathered will be used to estimate fishing effort in addition to angler catch and harvest.

Table 1. General Fishing Regulations for Big Muskellunge Lake, Vilas County, 2016

FISH SPECIES	OPEN SEASON	DAILY LIMIT	MINIMUM LENGTH
Walleye	May 7 - March 5	3	No minimum length, 1 fish over 14"
Largemouth Bass	May 7 - March 5	1 in total with SMB	18 inches
Smallmouth Bass	May 7 - June 17 (C&R) June 18 - March 5 (Harvest)	1 in total with LMB; harvest season only	18 inches
Muskellunge	May 28 - Nov. 30	1	40 inches
Northern Pike	May 7 - March 5	5	None

A brief summary of selected fishing regulations for Big Muskellunge Lake is included above (Table 1). While the regulatory information provided was current at the time the surveys were conducted, it is not comprehensive and should not be used as a substitute for the current fishing regulation pamphlet. You may obtain a copy of current fishing regulations when you purchase your fishing license, or download a copy from our web site at:

http://dnr.wi.gov/topic/fishing/regulations/

This report is interim only; Watch for finalized summaries at: http://dnr.wi.gov/topic/fishing/north/trtysprngsrvys.html. Creel survey results should be available by June 2017 at: http://dnr.wi.gov/topic/fishing/north/trtycrlsrvys.html. For questions, contact:

Lawrence Eslinger, Treaty Fisheries Biologist
Wisconsin Department of Natural Resources
8770 Highway J
Woodruff, WI 54568
(715) 356-5211 Ext. 209
Email: lawrence.eslinger@wisconsin.gov

For answers to questions about fisheries management activities and plans for Big Muskellunge Lake, Vilas County, contact:

Steve Gilbert, Fisheries Biologist
Wisconsin Department of Natural Resources
8770 Highway J
Woodruff, WI 54568
(715) 356-5211 Ext. 229
Email: stephen.gilbert@wisconsin.gov

Drafted: June 2016
By: Lawrence Eslinger

WISCONSIN DNR
FISHERIES INFORMATION SHEET

LAKE: Razorback Lake **COUNTY:** Vilas **YEAR:** 2014

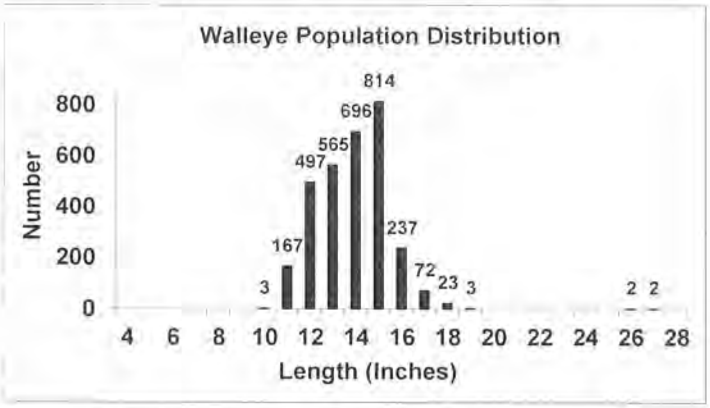
A comprehensive fishery survey was conducted of Razorback Lake, Vilas County, from May 9 through May 27 to determine the health of this fishery. The primary goal was to evaluate the status of walleye, bass and muskellunge populations. Razorback is a moderately fertile drainage lake with predominantly hard (sand, gravel and muck) substrate. It has a surface area of 362 acres, 7.3 miles of shoreline and a maximum depth of 35 feet.

Walleye

A mark-recapture survey of Razorback Lake was conducted to estimate the number of adult* walleye present. We captured and marked (fin clipped) 1,095 adult walleye in 3 days of netting and captured 217 adult walleyes during one night of electrofishing.

Based on these results, Razorback Lake was estimated to contain 3,082 adult walleye (8.5/acre). Approximately 37% of the adult walleye were legal-size, 15 inches long or larger. These numbers do not reflect the entire walleye population present in Razorback Lake. Smaller juvenile walleye, are not part of this estimate.

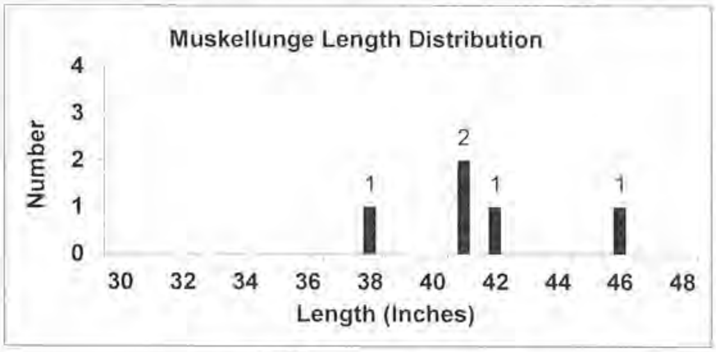
The average length of an adult walleye captured in Razorback Lake was 14.2 inches. The largest walleye handled was a 27.7 inch long female.



* Note: Adult walleye are defined as all sexable walleye and walleye of unknown sex ≥ 15 inches long.

Muskellunge

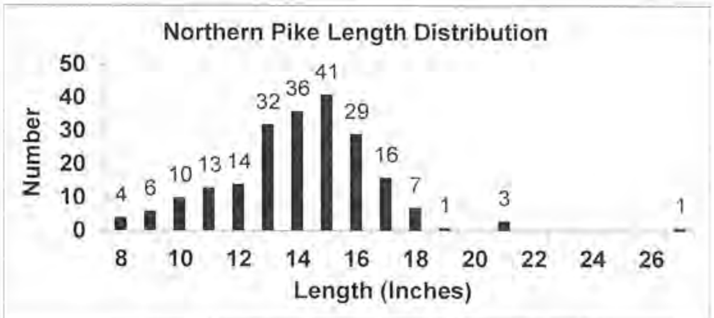
During the survey only 5 muskellunge were captured and marked (fin clipped). The largest fish captured was a 46.8 inch long female.



Northern Pike

Northern pike are common in Razorback Lake. A total of 213 were captured during this survey. There was no attempt to make a population estimate of this species.

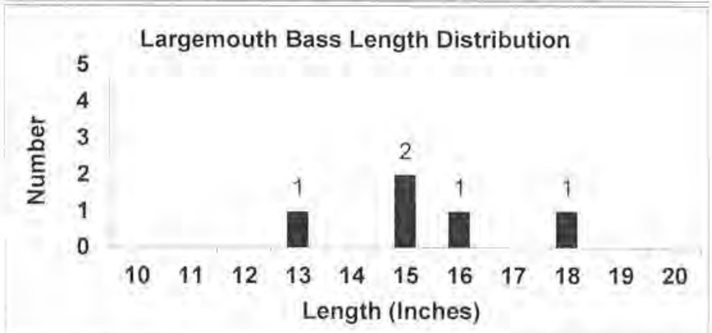
The average length of the northern pike captured was poor and only 2% were greater than 20 inches in length. The largest pike captured was 28.1 inches long.



Largemouth Bass

Largemouth bass are not common in Razorback Lake. There was no attempt to calculate a population estimate for this species.

Survey crews captured only 6 largemouth bass during sampling of Razorback Lake.



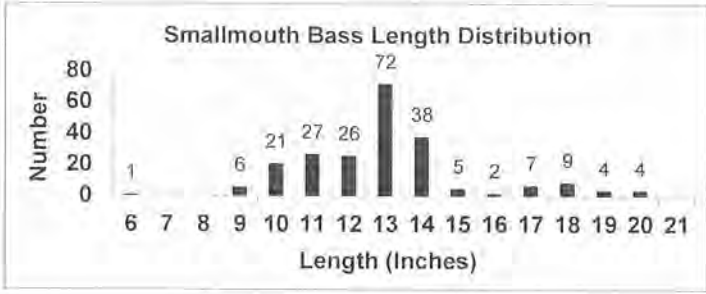
Drafted: July 7, 2015
By: Steve Gilbert

File: Razorback Summary 2014.xls

Smallmouth Bass

Smallmouth bass are common in Razorback Lake. There was no attempt to calculate a population estimate for this species.

Survey crews captured 222 smallmouth bass during sampling of Razorback Lake. 31 percent of the smallmouth bass were 14 inches or greater in length. The largest smallmouth bass captured was 20.6 inches long.

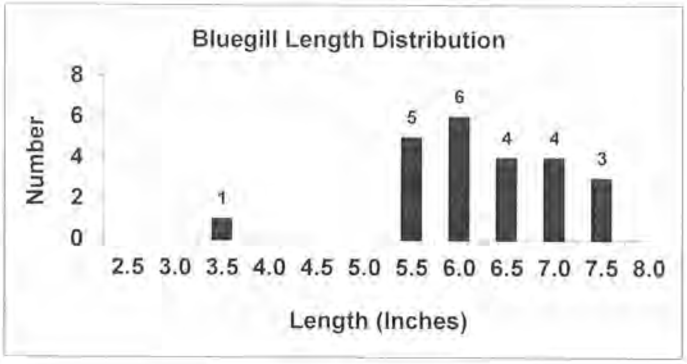


PANFISH

Panfish were collected from two randomly selected 0.5 mile electrofishing shoreline transects. Information provided below comes from this single night of effort on May 27th.

Bluegill

Only 24 bluegills were captured during the electrofishing run on Razorback Lake. Few quality bluegill were captured in this survey. Seven fish in our sample were equal to or greater than 7 inches in length. The largest bluegill captured during the survey measured 7.7 inches long.



Other Fish Species

Other fish species captured or observed during this survey but in lower numbers were: rock bass, yellow perch, white sucker and burbot.

Table 1. General Fishing Regulations for Razorback lake, Vilas County, 2014

FISH SPECIES	OPEN SEASON	DAILY LIMIT	MINIMUM LENGTH
Walleye	May 3 - March 1	3	15 inches
Smallmouth Bass	May 3 - June 20	0	Catch and Release
	June 21 - March 1	5 in total w/ LMB	14 inches
Largemouth Bass	May 3 - March 1	5 in total w/ SMB	14 inches
Muskellunge	May 24 - Nov. 30	1	40 inches
Northern Pike	May 3 - March 1	5	No minimum length

A brief summary of selected fishing regulations for Razorback Lake is included above (Table 1). You may obtain a copy of current fishing regulations when you purchase your fishing license, or download a copy from our web site at:

http://www.dnr.state.wi.us/fish/regulations

For answers to questions about fisheries management activities and plans for Razorback Lake, Vilas County, contact:

Steve Gilbert, Fisheries Biologist
Wisconsin Department of Natural Resources
8770 Highway J
Woodruff, WI 54568
Phone: (715) 356-5211 Ext 229
Email: Stephen.Gilbert@Wisconsin.gov

F

APPENDIX F

Wisconsin Depart. of Natural Resources and Other Agency Comments

Phase I

From: Gauthier Sr, Kevin J - DNR
Sent: Monday, February 24, 2020 1:39 PM
To: Tim Hoyman

Hi Tim (and all),

Thanks for sending along the draft plans and your efforts in collecting data and putting together the plans. Overall, it looks like lots of good data was collected and we thank you for that.

We have just a couple of comments for you, mostly general in nature for these plans and future efforts:

- The lakes in Plum Lake are of generally high quality, so protecting high quality areas and/or areas that could become high quality areas and making any improvements in habitat and storm water management are a high priority:
    - For protection – Could also highlight "high" quality areas and how important stewardship of these areas is, so that current landowners in these areas are either recognized for their already good practices in place and/or are encouraged to take steps to keep and protect them. These could include large % of buffer area intact and/or the 3 layers of shoreland (grasses/shrubs/canopy), species diversity from point intercept (PI) surveys (check out the APM APP attached below that Ali created), lots of wood, others….?
    - For improving – just encourage everyone to keep promoting and finding folks to actually take on improvement/protection/healthy lakes projects. A lot of the maps from the shoreland surveys provide clues on where to start looking…Vilas County Land and Water is looking for folks to work with and will plan and potentially sponsor projects. I also would encourage lake leaders/lake association board members from each lake to take a close look at their properties and sponsor projects where appropriate as demonstration projects.
        - Could also encourage a pledge of sorts by property owners to keep their shoreland areas healthy also – i.e., no mow, weed whack, leaf blowing, picking up sticks, other? And in these areas, keep a record of plants and animals found over time.
    - In the future you could use the State shoreland protocol to help identify high quality and improvement areas.
    - Would be glad to discuss any or all of this with you if you would like.
- APM APP from Ali
    - http://34.223.230.186:3838/mikula/AquaticPlantDataExplorer/
    - Once the PI data gets to Michelle/Ali – it is uploaded into this APP. Take a look at it – lots of good info/maps in it for all of the WI PI data that we have received. Note – I know Tim is aware of this APP, not sure if everyone else on this email is though - pretty neat and useful.

- Stakeholder survey and responses - The data has been interpreted incorrectly and is currently ascribed "majority" to what is actually the modal response. "Majority" means greater than 50%; "modal" is the most frequent response (ex, 39% could be the modal response, but it is not a majority). Please review and correct. Let me and/or Jordan know if you have any questions.

I look forward to receiving updated reporting.

Thanks again.

Kevin

From: Tim Hoyman
Sent: Monday, March 09, 2020 2:33 PM
To: Gauthier Sr, Kevin J - DNR

Good afternoon Kevin,

I have looked over the comments below. I appreciate the time you and Carol have taken to look over the draft management plan. We also appreciate your assistance with the Town's submittal of grant applications for Little Spider Lake (AIS-EDR) and Plum Lake (Lake Protection Grant). Other than the issue with the stakeholder survey results wording, I do not see other changes to the draft being needed. Once that correction is made, will that suffice to finalize this phase of the project? Below are some general notes to consider:

- I apologize for letting the word "majority" to be used incorrectly again! It keeps sneaking into the writing through the multiple templates we utilize to create the reports. We are working to correct the issue.
- We are looking into how we can more effectively utilize Ali's application in our reporting.
- Based upon our discussions last month, we are implementing the use of the WDNR shoreland assessment protocol in several of our projects this year. We will also include verbiage about its use for the next assessments completed within the Town of Plum Lakes waterbodies. See below regarding the Phase III project.
- We are currently assembling the Phase II Implementation Plan for that planning committee's review. Following their approval, we will send out that document for your comments.
- The primary objective of the Phase III planning process will be to develop a town-wide implementation plan. I see the information below being useful in those discussions and ultimately being included in the plan.

Thanks again,

Tim

Tim Hoyman

From: Gauthier Sr, Kevin J - DNR <Kevin.GauthierSr@wisconsin.gov>
Sent: Monday, March 15, 2021 3:32 PM
To: Tim Hoyman
Cc: Joe Heitz; Bob Jackson; Sharon Brooker (office@townofplumlake.com); JOHN RICHTER; stroh2941@gmail.com; Gauthier Sr, Kevin J - DNR
Subject: RE: Town of Plum Lake Management Planning Project, Phase II - Official First Draft - Email 1 of 2

Hi Tim,

I had a chance to look at the plans and don't have any further comments/questions. I would say the comments we provided during the first phase regarding the high quality nature of these lakes applies to the phase 2 lakes also.

Let me know if you have any questions. Thanks.

Kevin

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Kevin Gauthier
Phone: (715) 356-5211 EXT 214
Email: Kevin.GauthierSr@wisconsin.gov

From: Tim Hoyman <THoyman@onterra-eco.com>
Sent: Monday, January 04, 2021 9:38 AM
To: Gauthier Sr, Kevin J - DNR <Kevin.GauthierSr@wisconsin.gov>
Cc: Joe Heitz <joehgts@gmail.com>; Bob Jackson <bvshark@aol.com>; Sharon Brooker (office@townofplumlake.com) <office@townofplumlake.com>; JOHN RICHTER <ajr5@aol.com>; stroh2941@gmail.com
Subject: RE: Town of Plum Lake Management Planning Project, Phase II - Official First Draft - Email 1 of 2

Thank you Kevin,

Tim

Tim Hoyman, CLM
Lead Aquatic Ecologist
Onterra, LLC
815 Prosper St.
De Pere, WI
Voice: 920.338.8860
Email: thoyman@onterra-eco.com
Web: www.onterra-eco.com
Find us on FaceBook

From: Gauthier Sr, Kevin J - DNR <Kevin.GauthierSr@wisconsin.gov>
Sent: Monday, January 4, 2021 9:02 AM
To: Tim Hoyman <THoyman@onterra-eco.com>
Cc: Joe Heitz <joehgts@gmail.com>; Bob Jackson <bvshark@aol.com>; Sharon Brooker (office@townofplumlake.com) <office@townofplumlake.com>; JOHN RICHTER <ajr5@aol.com>; stroh2941@gmail.com; Gauthier Sr, Kevin J - DNR <Kevin.GauthierSr@wisconsin.gov>
Subject: RE: Town of Plum Lake Management Planning Project, Phase II - Official First Draft - Email 1 of 2

Hi Tim,

Thanks for sending along the draft second phase for review – we will start our review and follow-up with any questions/comments.

Happy New Year also!

Kevin

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Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Kevin Gauthier
Phone: (715) 356-5211 EXT 214
Email: Kevin.GauthierSr@wisconsin.gov

From: Tim Hoyman <THoyman@onterra-eco.com>
Sent: Thursday, December 31, 2020 1:23 PM
To: Gauthier Sr, Kevin J - DNR <Kevin.GauthierSr@wisconsin.gov>
Cc: Joe Heitz <joehgts@gmail.com>; Bob Jackson <bvshark@aol.com>; Sharon Brooker (office@townofplumlake.com) <office@townofplumlake.com>; JOHN RICHTER <ajr5@aol.com>; stroh2941@gmail.com
Subject: Town of Plum Lake Management Planning Project, Phase II - Official First Draft - Email 1 of 2

Hi Kevin,

I hope the holidays have been good for you and your family. We have completed the first official draft of the second phase of the Town of Plum Lake Management Plan. This phase of the project includes Laura, Irving, Ballard, and White Birch lakes. As you know, the Phase I project is complete. This draft includes updated report sections the encompass all three phases of the project and updated implementation plan through the second phase, and all individual lake sections for phases I – III. I will send the Phase II maps in a subsequent email.

As always, would appreciate seeing your comments.

Happy New Year!

Tim

Tim Hoyman, CLM
Lead Aquatic Ecologist

Lakes Committee of the Town of Plum Lake
Revisions to Lakes Management Plan – September 2021

Page 95

✓In table for Razorback: Replace 3 years with "Annual."

✓In the paragraph following the table: Strike the following language at the end of the sentence "Smaller lakes, like West Plum and Little Star, would collect water quality every 3rd year~~, as would minimally developed lake like Razorback~~."

Bottom of Page 96 and top of Page 97

✓Replace italicized section with: The Lakes Committee of the Town will maintain a list of trained volunteers and will schedule these volunteers as needed to sample lakes in the town program each year.

Page 101

✓In Description section-replace "installed four I-Lids cameras" with "installed seven I-LIDS cameras."

✓Replace "I-Lids" with "I-LIDS" wherever it appears in the document.

✓Replace "Three of these installations are on landings in the Northern…" with "Six of these installations are on landings in the Northern…"

✓Add to the second to last paragraph the following: "The audio is currently disabled at the landing on Razorback Lake."

Page 102

✓In Action Steps replace Number 1 with the following new Number 1:

1. The Town Lakes Committee will continue to monitor the effectiveness of the I-LIDS cameras already installed and consider whether installation on smaller town lakes is appropriate with funding from the WDNR.

✓After the write-up on "pale-yellow Iris" insert the following:
Phragmites This invasive has recently been discovered in Big Muskellunge Lake. This invasive is also controlled through physical removal.
We have also added verbiage related to the Big Muskellunge Phargmites in table 3.6-1 and the Big Muskellunge individual lake section, as well.

Page 113

✓Strike italicized section.

Page 115

✓In contacts table, replace “(Matt Meade, 715.329.0615)” with “(Chris Bartelt, 715.892.0695).”

Tim Hoyman

From: Mathes, Madeline M - DNR <madeline.mathes@wisconsin.gov>
Sent: Thursday, April 7, 2022 10:55 AM
To: Tim Hoyman; Town of Plum Lake
Cc: Gauthier Sr, Kevin J - DNR
Subject: Town of Plum draft plan

Hi all,

I just wanted to give an update on the review of the Town of Plum Draft Management Plan. At this time, we don't have any concerns/questions-everything looks good! We look forward to receiving the final draft. That can be send to Kevin via email whenever its ready. In the meantime, feel free to reach out with any questions or concerns.

Thanks,
Madeline Mathes

Madeline Mathes
Water Resource Management Specialist
Wisconsin Department of Natural Resources
8770 Hwy J
Woodruff, WI 54568
Phone: (715) 661-8175
Email: Madeline.mathes@wisconsin.gov

dnr.wi.gov