A

APPENDIX A

Public Participation Materials.

Three Lakes Waterfront Association

Three Lakes Chain
Management Planning Project Update
July 23, 2011

Tim Hoyman, CLM
Onterra LLC
Lake Management Planning

Presentation Outline

- **Overview of Three Lakes Chain Projects**
  - Eagle River Channel EWM Control & Monitoring
  - Chain-wide Management Planning Project
    - Long Lake (ERC Channel) Management Plan update
    - Phase I Lakes (Big, Whitefish, Thoroughfare, Virgin)
    - Phase II Lakes (Big Stone, Crystal, Deer, Dog, Laurel)

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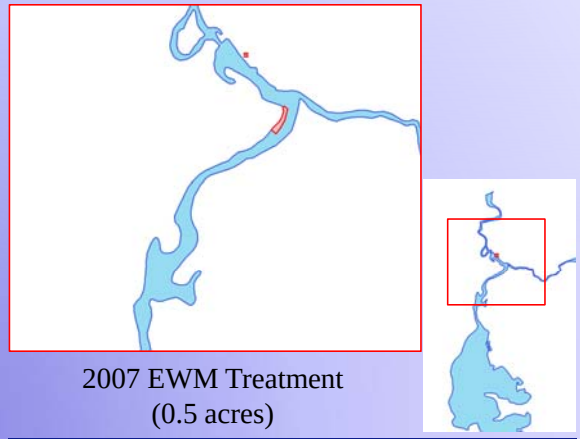
Eagle River Channel EWM Control & Monitoring



2007 EWM Treatment
(0.5 acres)

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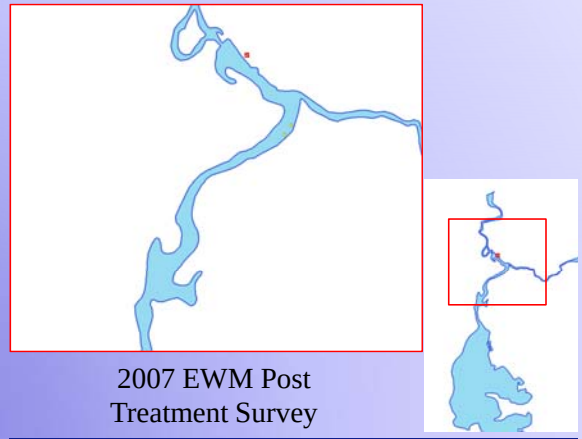
Eagle River Channel EWM Control & Monitoring



2007 EWM Post
Treatment Survey

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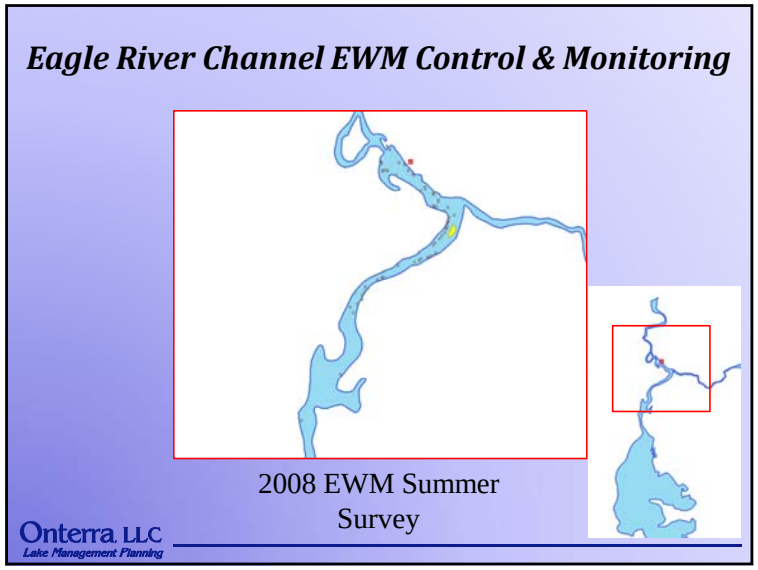
Eagle River Channel EWM Control & Monitoring
2008 EWM Summer Survey
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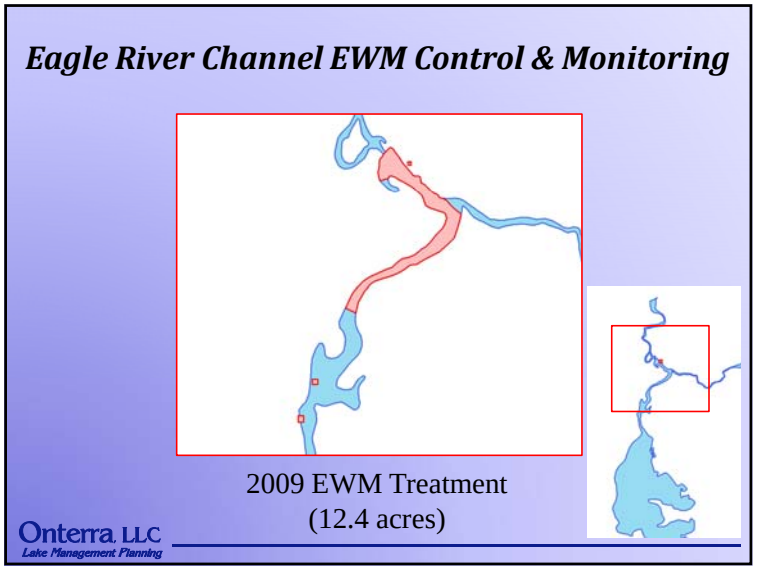
Eagle River Channel EWM Control & Monitoring
2009 EWM Treatment (12.4 acres)
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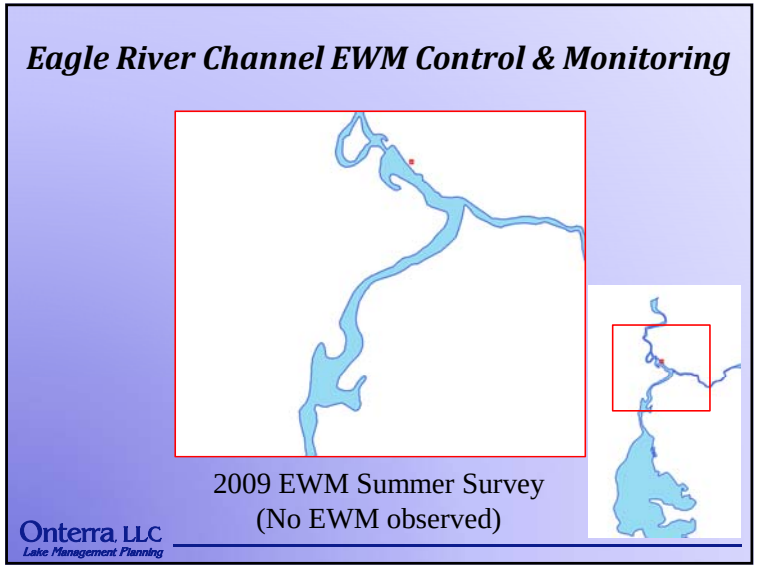
Eagle River Channel EWM Control & Monitoring
2009 EWM Summer Survey (No EWM observed)
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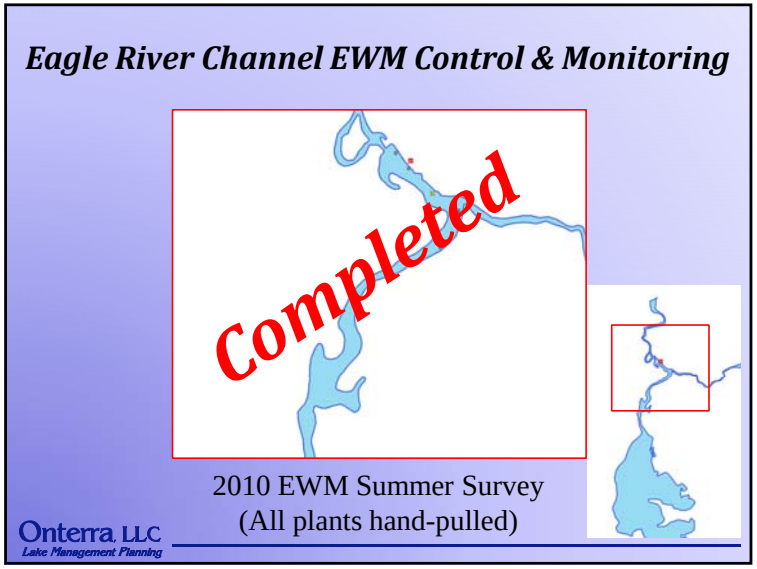
Eagle River Channel EWM Control & Monitoring
Completed
2010 EWM Summer Survey (All plants hand-pulled)
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Elements of an Effective Lake Management Planning Project

- **Data and Information Gathering**
  - *Environmental & Sociological*
- **Planning Process**
  - *Brings it all together*

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Data and information gathering

- Study Components
  - Water Quality Analysis
  - Watershed Assessment
  - Shoreline Assessment
  - Aquatic Plant Surveys
  - Fisheries Data Integration
  - Stakeholder Survey

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Long Lake Management Plan

- Water quality is as expected for the final lake in a large chain with a large watershed.
  - Lake is moderately productive and healthy.
- Overall watershed is in good condition.
  - Land cover in chain watershed exports minimal phosphorus and upstream lakes act as sedimentation basins for Long Lake.
  - High flushing rate helps keep Long productivity down.
  - Largest, *controllable* contributor is likely shoreland properties.

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Long Lake Management Plan

- Aquatic plant community
  - Based upon standard analysis, native community is of moderate quality and indicative of a disturbed system.
  - Eurasian water milfoil has been found in small quantities in channel. Herbicide and hand-removal control efforts have been successful. Continued monitoring and control should be completed.

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Long Lake Management Plan

- **Implementation Plan Goals**
  - *Increase communication with stakeholders*
    - Education committee
  - *Facilitate partnerships with other entities*
    - State of Wisconsin
    - County and County-wide Associations
    - Honey Rock Camp
    - Unified Lower Eagle River Chain of Lakes Commission

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Long Lake Management Plan

- **Implementation Plan Goals**
  - *Maintain current water quality conditions.*
    - Monitor water quality through CLMN
    - Complete shoreland condition assessment
    - Reduce pollutant loads form shoreland watershed
  - *Improve fishery resource and fishing.*
    - Work with fisheries manager to enhance walleye fishery

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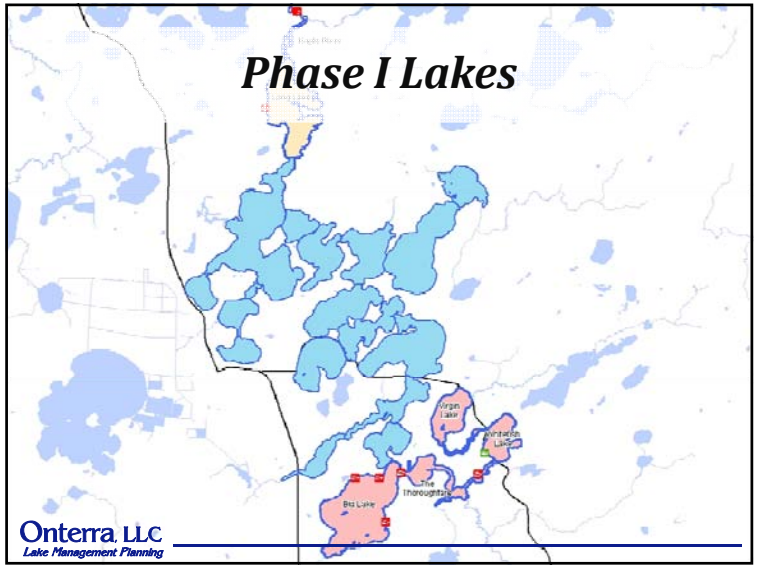
Phase I Lakes



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Phase I Lakes

- **Project Update**
  - All field studies completed
  - Data analysis nearly complete
  - Meet with Planning Committee Winter 2011/2012
  - Virgin Lake EWM discovery

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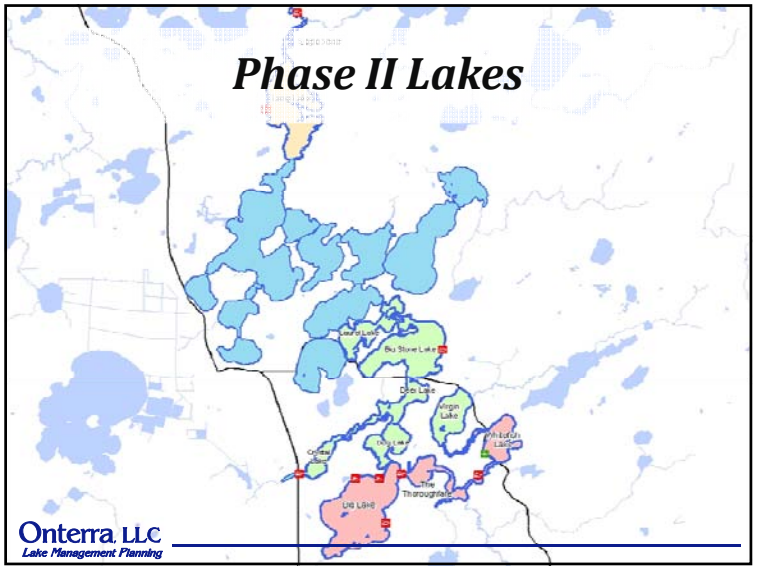

Phase II Lakes

- **Project Update**
  - Project began with spring water quality sampling
  - CLP surveys completed
    - No AIS found during surveys
  - Virgin Lake EWM control strategy
    - Hand harvesting in July

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Virgin Lake EWM Hand-Removal

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Phase II Lakes

- **Project Update**
  - Project has begun
  - CLP surveys completed
    - No AIS found during surveys
  - Virgin Lake EWM control strategy
    - Hand harvesting in July
    - Whole lake survey in August
  - Two changes to original scope of work:
    - Entire watershed to be delineated
    - Chain-wide stakeholder survey this summer/fall (not including Long Lake and ER channel)

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Thank You

Many of the graphics used in this presentation were supplied by:

Wisconsin Lakes Partnership

UW Extension

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Lake Management Planning

Presentation Outline

- Current Project Overview / Update
  - Planning Process
  - Phase I and II Lakes Study Results
    - Watershed
    - Water Quality
    - Aquatic Plants
- Next Steps

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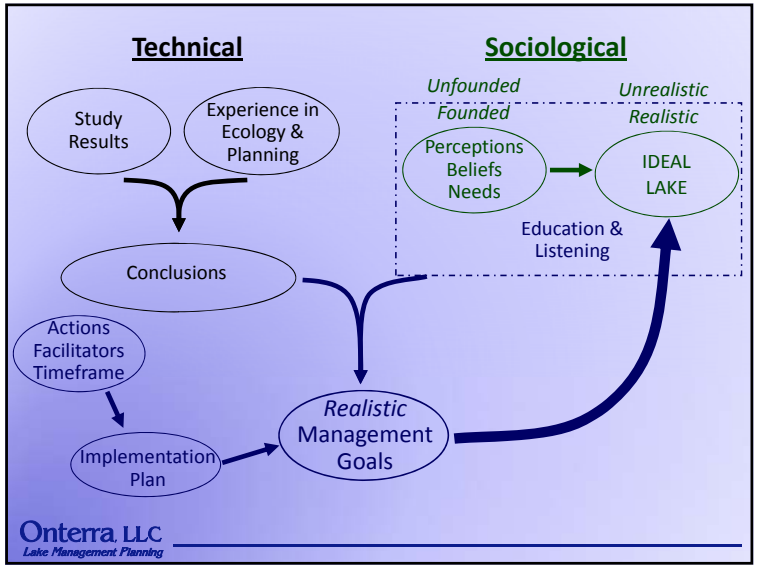

Three Lakes Chain Management Planning Process

- Chain-wide project brings on unique situation
  - Cost savings are great
  - Providing attention to individual lakes can be difficult
- Lake representatives
  - Communication link between stakeholders from individual lakes and Planning Committee
- Stakeholder survey information is important

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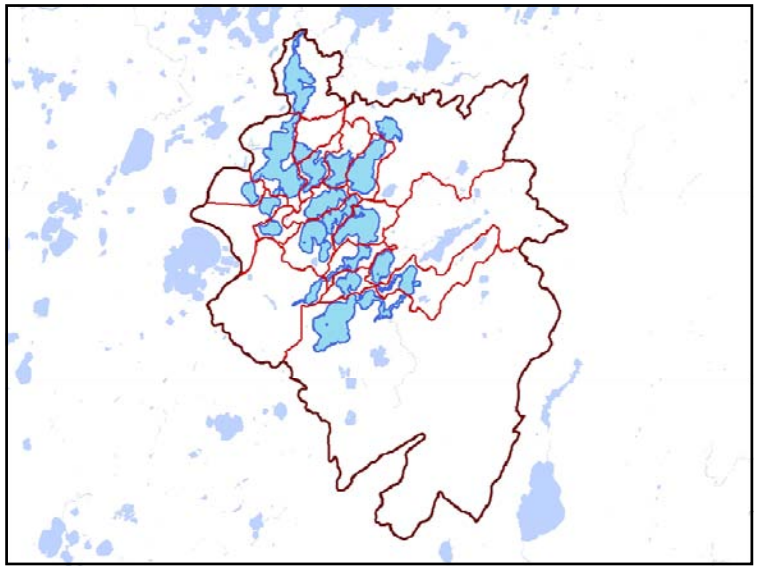
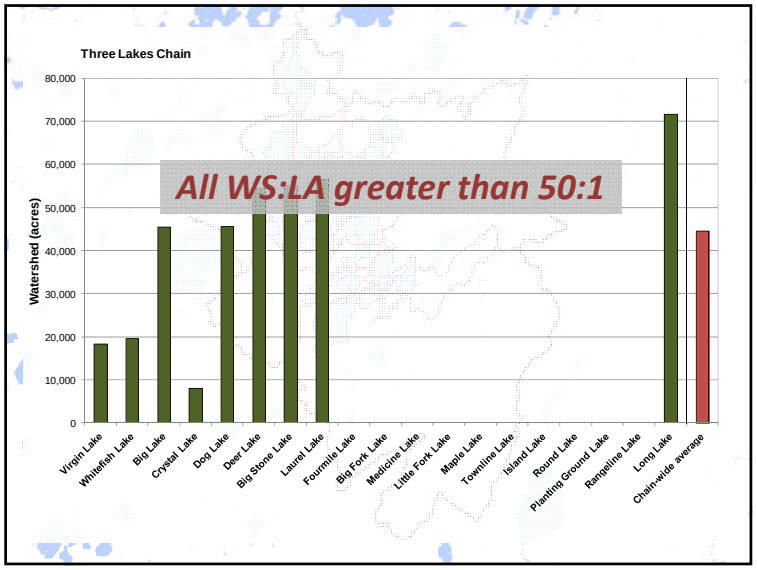
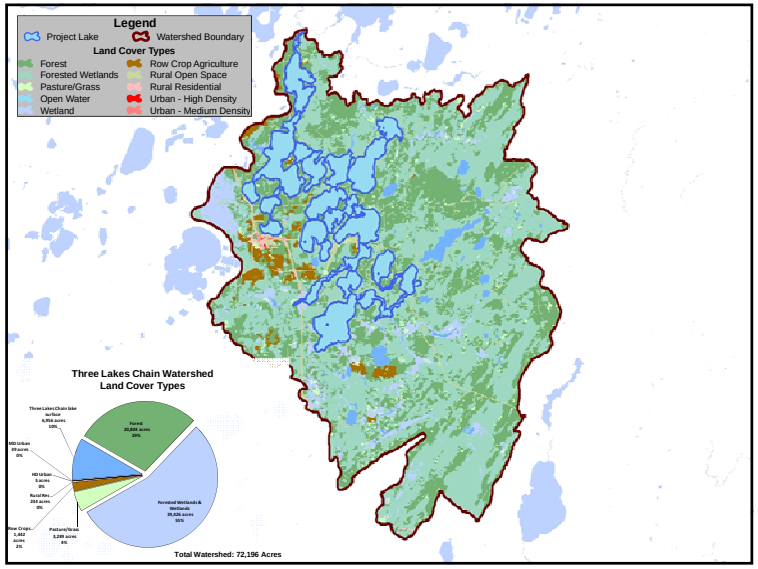
Lake Management Planning




Three Lakes Chain
Watershed (acres)
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
All WS:LA greater than 50:1
Virgin Lake
Whitefish Lake
Big Lake
Crystal Lake
Dog Lake
Deer Lake
Big Stone Lake
Laurel Lake
Fourmile Lake
Big Fork Lake
Medicine Lake
Little Fork Lake
Maple Lake
Townline Lake
Island Lake
Round Lake
Planting Ground Lake
Rangeline Lake
Long Lake
Chain-wide average


Legend
Project Lake
Watershed Boundary
Land Cover Types
Forest
Forested Wetlands
Pasture/Grass
Open Water
Wetland
Row Crop Agriculture
Rural Open Space
Rural Residential
Urban - High Density
Urban - Medium Density
Three Lakes Chain Watershed
Land Cover Types
Total Watershed: 72,196 Acres


Shoreland Assessment
Shoreland area is important for buffering runoff and provides valuable habitat for aquatic and terrestrial wildlife.
It does not look at lake shoreline on a property-by-property basis.
Assessment ranks shoreland area from shoreline back 35 feet
Urbanized
Natural
Range
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Shoreline Assessment Category Descriptions

More Natural Habitat

Urbanized | Developed-Unnatural | Developed-Semi-Natural | Developed-Natural | Natural/Undeveloped

Greater Need for Restoration

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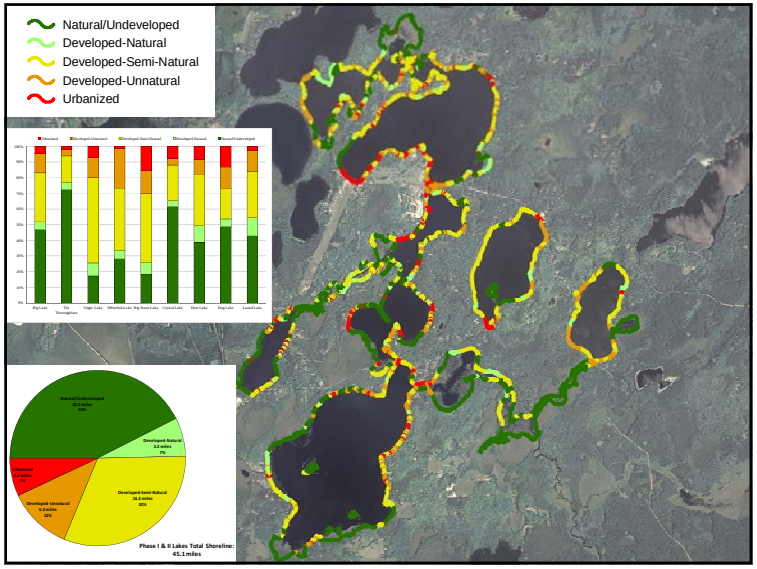
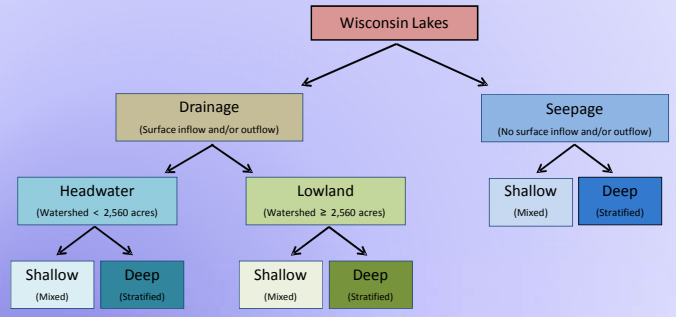


*Wisconsin Lakes Classification**



Big
Crystal
Dog
Deer

Long
Virgin
Whitefish
Big Stone
Laurel

*Phase I & II Lakes

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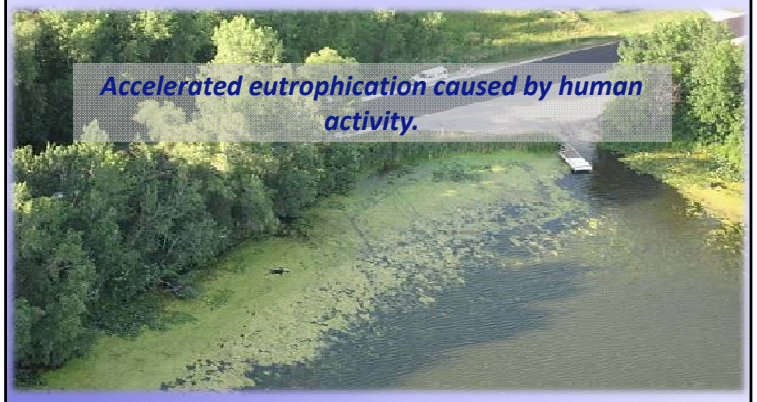
Cultural Eutrophication



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Water Quality

- ↑ Phosphorus (Limiting Plant Nutrient)
- ↑ Chlorophyll-*a* (Algal Abundance)
- ↓ Water Clarity (Secchi Disk)

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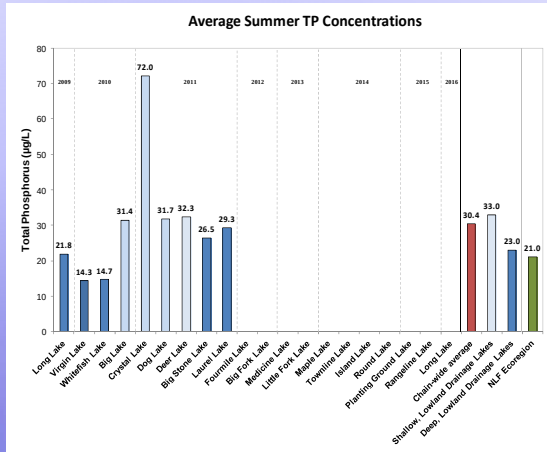

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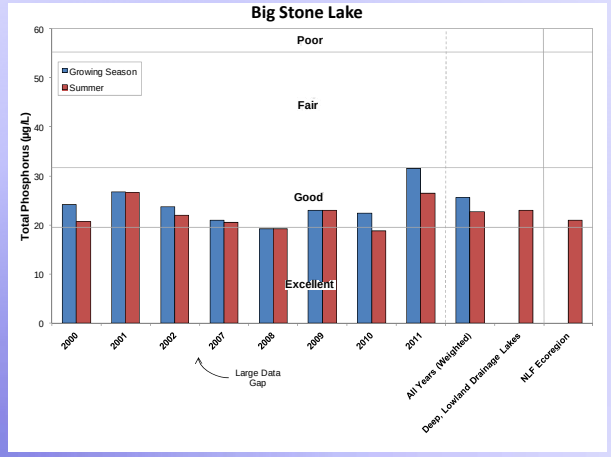

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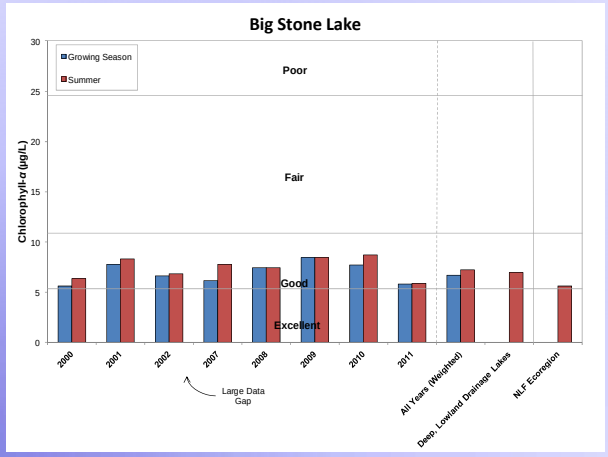

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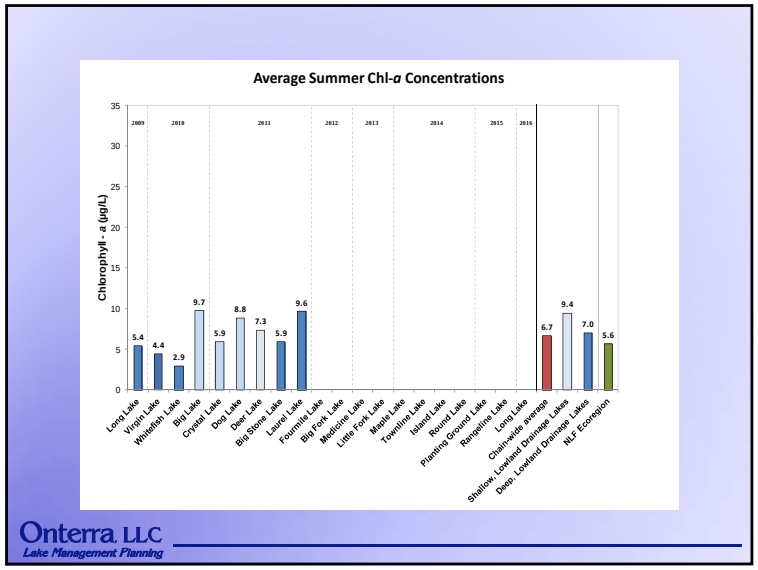
Average Summer Chl-a Concentrations
Chlorophyll- a (µg/L)
Long Lake
Virgin Lake
Whitefish Lake
Big Lake
Crystal Lake
Dog Lake
Deer Lake
Big Stone Lake
Laurel Lake
Fourmile Lake
Big Fork Lake
Medicine Lake
Little Fork Lake
Maple Lake
Townline Lake
Island Lake
Round Lake
Planting Ground Lake
Rangeline Lake
Long Lake
Chain-wide average
Shallow, Lowland Drainage Lakes
Deep, Lowland Drainage Lakes
NLF Ecoregion
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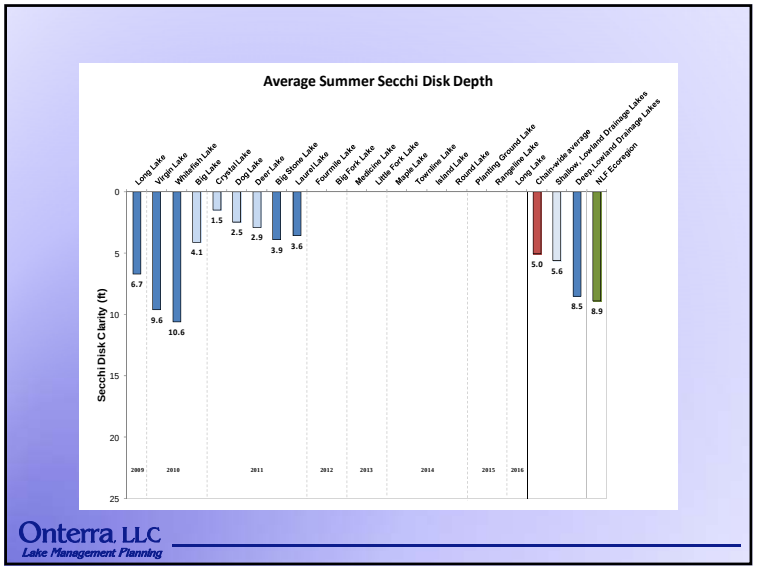
Average Summer Secchi Disk Depth
Secchi Disk Clarity (ft)
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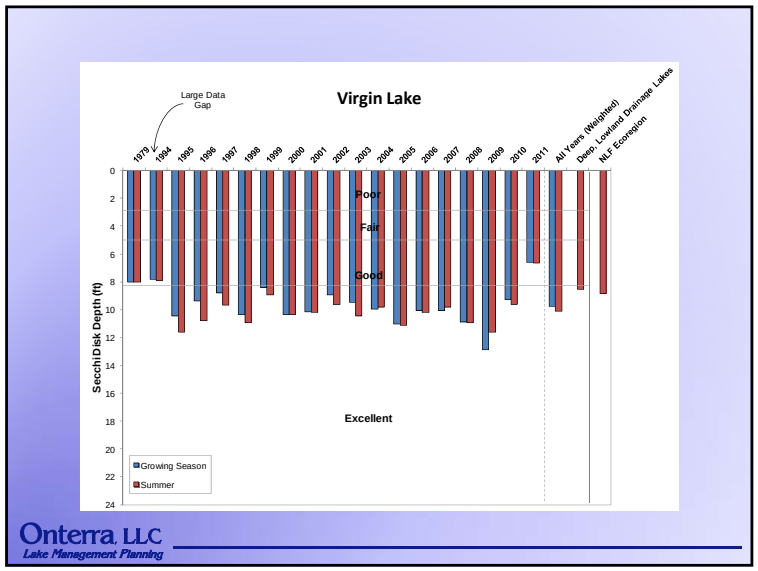
Virgin Lake
Large Data Gap
Secchi Disk Depth (ft)
Poor
Fair
Good
Excellent
Growing Season
Summer
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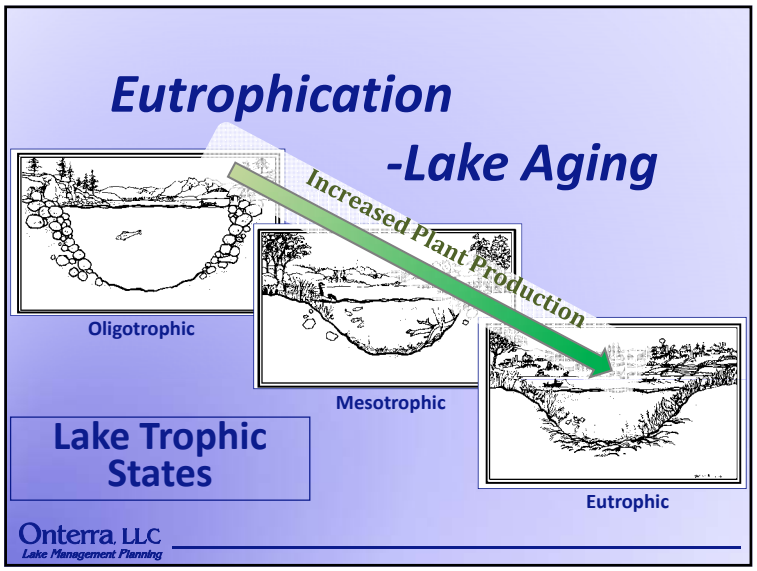
Eutrophication
-Lake Aging
Increased Plant Production
Oligotrophic
Mesotrophic
Eutrophic
Lake Trophic States
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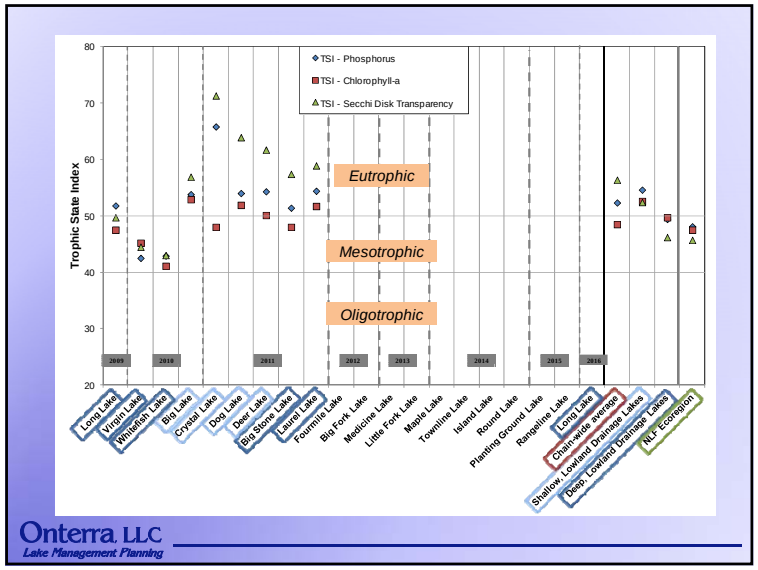

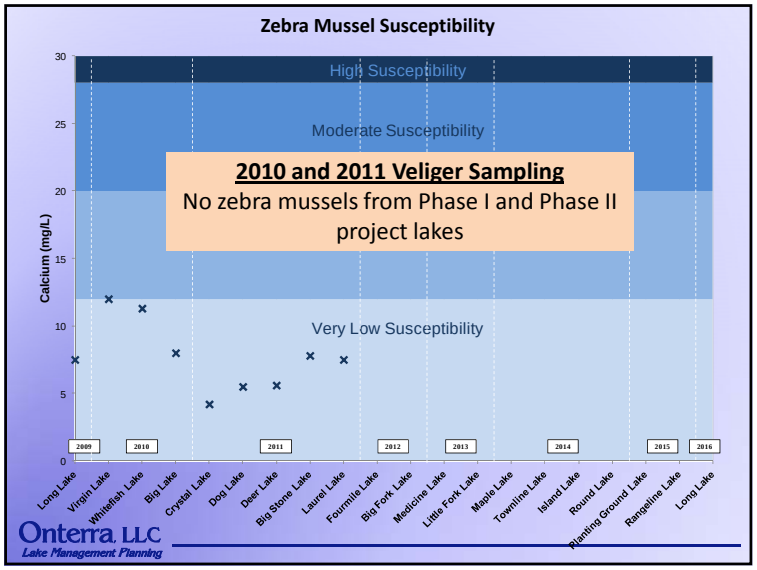

Aquatic Plant Surveys

- Concerned with both native and non-native plants
- Multiple surveys used in assessment
  - Curly-leaf pondweed survey
  - Point-intercept survey
    - Systematic Sampling Method
    - Can compare lakes within same ecoregion
  - Plant community mapping
    - Accurately map floating-leaf & emergent communities
    - May compare to future surveys

NONE FOUND

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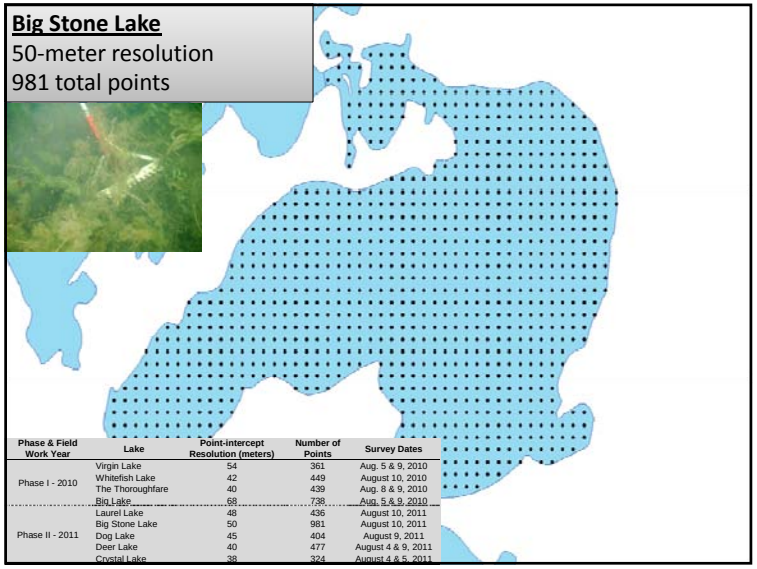

Phase & Field Work Year	Lake	Point-intercept Resolution (meters)	Number of Points	Survey Dates
Phase I - 2010	Virgin Lake	54	361	Aug. 5 & 9, 2010
	Whitefish Lake	42	449	August 10, 2010
	The Thoroughfare	40	439	Aug. 8 & 9, 2010
	Big Lake	68	738	Aug. 5 & 9, 2010
Phase II - 2011	Laurel Lake	48	436	August 10, 2011
	Big Stone Lake	50	981	August 10, 2011
	Dog Lake	45	404	August 9, 2011
	Deer Lake	40	477	August 4 & 9, 2011
	Crystal Lake	38	324	August 4 & 5, 2011

Plant Data Overview

- 88 Native plants
  - 42 Submergent
  - 30 Emergent
  - 5 Floating-leaf
  - 4 Floating-leaf/Emergent
  - 4 Submergent/Emergent
  - 3 Free-floating
- 4 Non-native plant species
  - Eurasian water milfoil (*Long & Virgin Lake*)
  - Purple loosestrife (*Laurel, Long, Big Stone & Big Lakes*)
  - Hybrid cattail (*Long Lake*)
  - Amur silver grass (*Big Lake*)

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Aquatic Plants

Wisconsin Ecoregions

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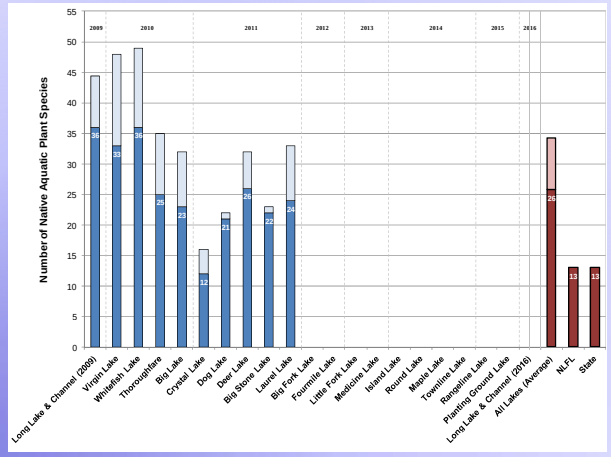
Species Richness



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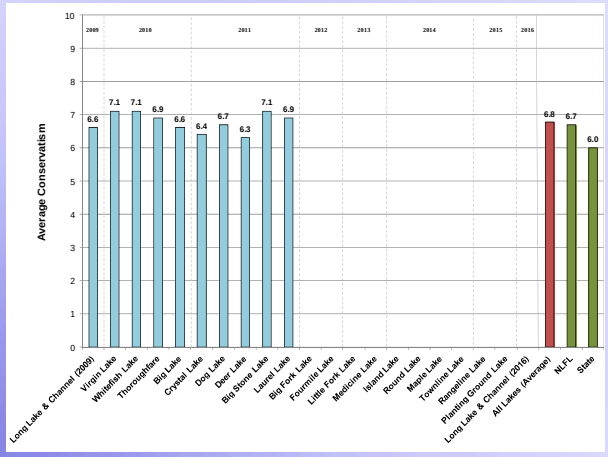
Average Conservatism



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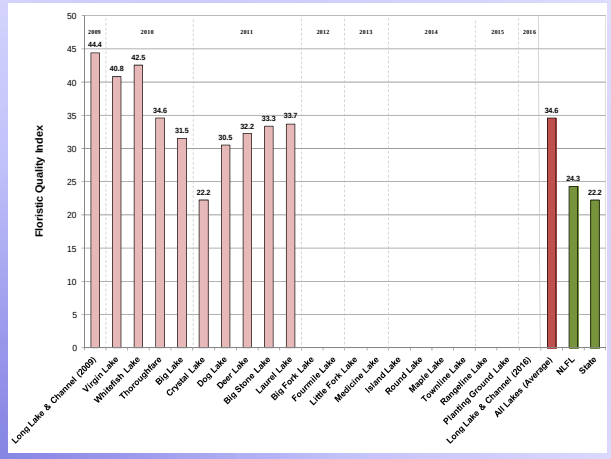
Floristic Quality



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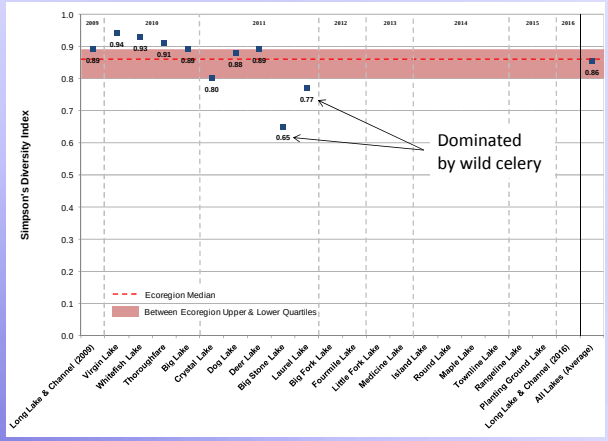
Simpson's Diversity



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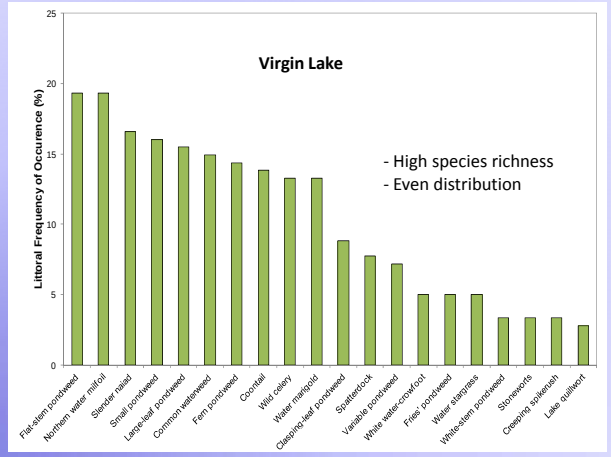
Simpson's Diversity



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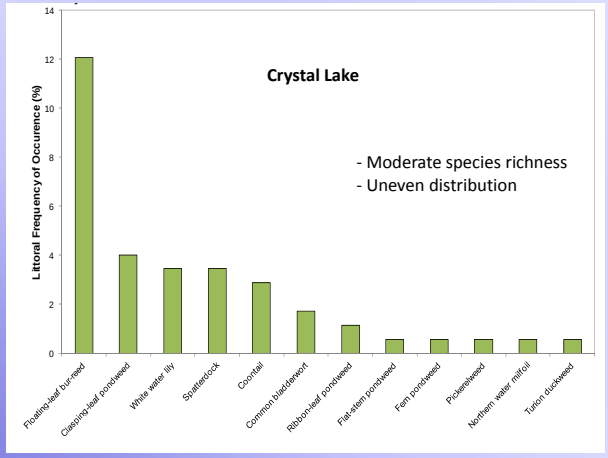

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Aquatic Invasive Species

Eurasian water milfoil overview:

Long Lake

- Summer 2006: EWM discovered ¼ mile upstream of Burnt Rollways Dam
- 2007: 0.5 acre EWM treatment occurs in channel (May), no plants observed in follow-up survey (Aug)
- Sept 2008: Onterra maps 11.8 acres of EWM
- May 2009: 11.8 acre treatment occurs , no EWM seen in follow-up survey
- Oct 2010: Onterra hand removes ~10 plants from channel
- Sept 2011: Onterra hand removes several plants from channel

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Aquatic Invasive Species

Eurasian water milfoil overview:

Virgin Lake

- Aug 2010: EWM first discovered within lake
- July 2011: Onterra staff hand removes ~50 to 70 plants from colony
- Sept 2011: Onterra staff returns and pulls ~35 plants from colony
- Summer 2012: Site will be revisited, course of action determined

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Conclusions

- Watershed is in great condition
  - Land cover is of high quality
  - Large size of watershed responsible for stained waters
  - Watershed feeding Crystal Lake may need additional assessment
- Water quality is good
  - Higher than normal phosphorus concentrations in Crystal Lake
    - May not be of concern because 2011 was an odd year
- Aquatic plant community
  - Based upon standard analysis, native community is of high quality
  - Some lakes show symptoms of moderate disturbance
  - AIS discovered on several lakes
    - Continued monitoring of Long Lake, Virgin Lake in 2012

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Next Steps…

1. **Assemble Phase I & II Planning Committee**
2. **Distribute Information**
   - Chain-wide Report
   - Individual Lake Reports
   - Maps
   - Stakeholder Survey Results (whole chain & break-outs)
3. **Lake Reps Review Reports, etc.**
4. **Planning Meeting II**
   - Questions/Answers and Discussion
   - Develop Management Goals and Actions Framework
5. **Create Management Plans**
   - Version 1 Chain-Wide Management Plan
   - Individual Management Plans for Phase I & II Lakes

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Presentation Outline

Current Project Overview / Update

- Planning Process
- Phase I and II Lakes Study Results
  - Watershed
  - Water Quality
  - Aquatic Plants
- AIS Update – Long Lake Channel and Virgin Lake

Next Steps

- Chain-wide and Individual Lake Goals Discussion

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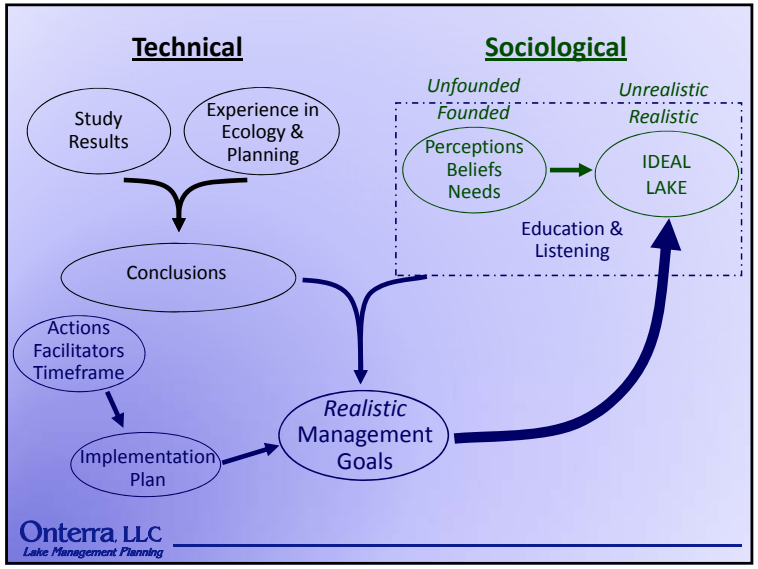

Three Lakes Chain Management Planning Process

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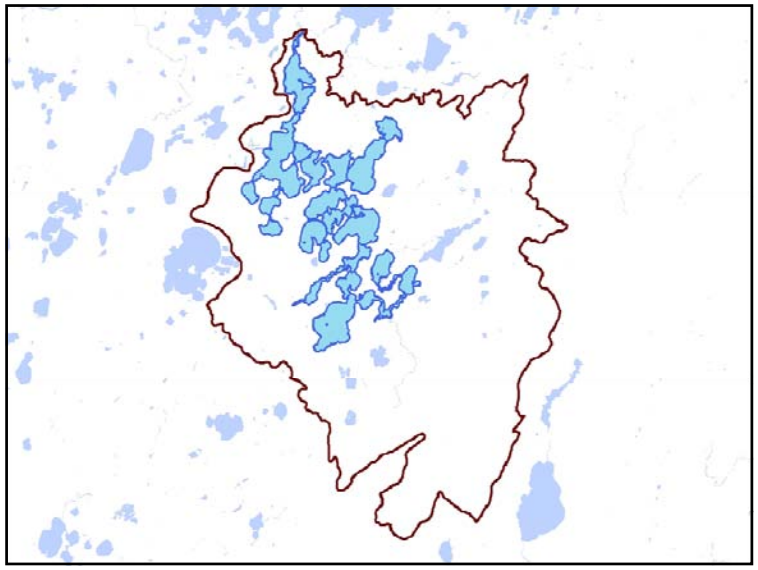
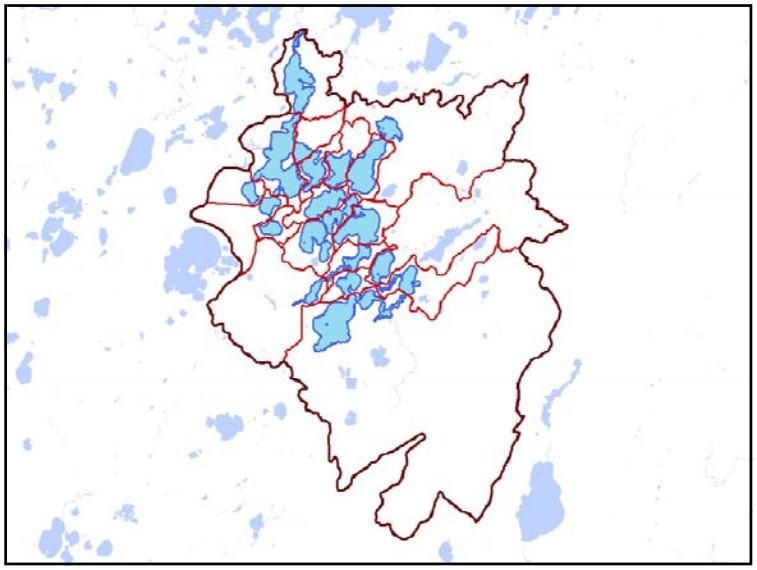
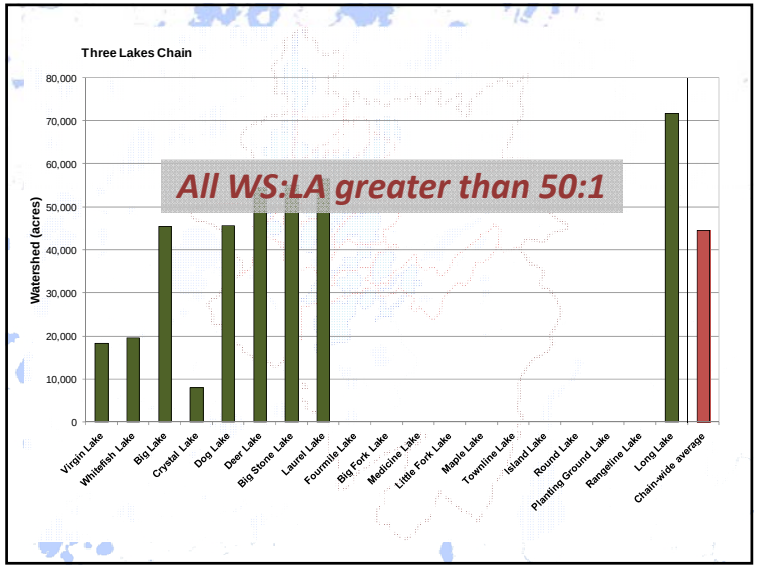
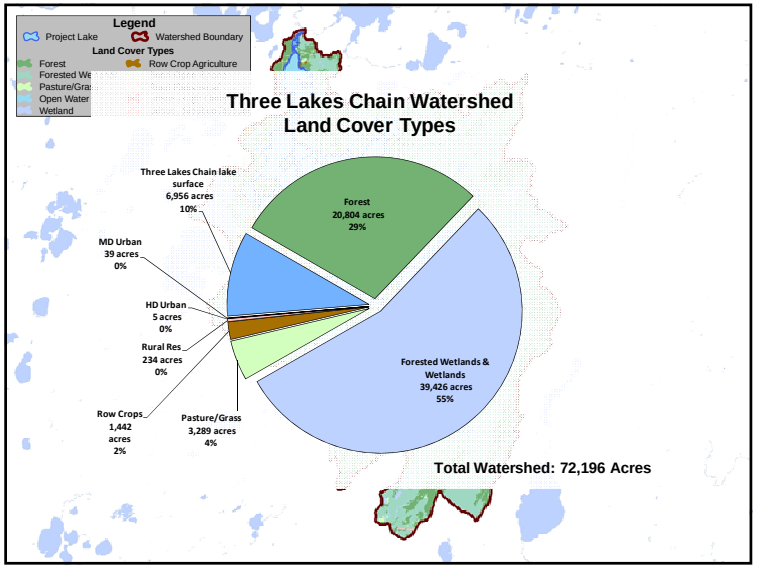
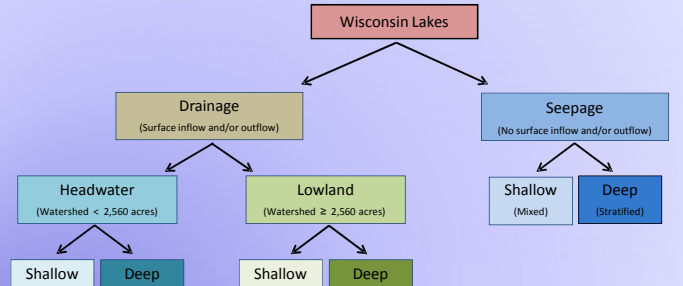





Three Lakes Chain
Watershed (acres)
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
All WS:LA greater than 50:1
Virgin Lake
Whitefish Lake
Big Lake
Crystal Lake
Dog Lake
Deer Lake
Big Stone Lake
Laurel Lake
Fourmile Lake
Big Fork Lake
Medicine Lake
Little Fork Lake
Maple Lake
Townline Lake
Island Lake
Round Lake
Planting Ground Lake
Rangeline Lake
Long Lake
Chain-wide average


Legend
Project Lake
Watershed Boundary
Land Cover Types
Forest
Row Crop Agriculture
Forested We
Pasture/Gra
Open Water
Wetland
Three Lakes Chain Watershed
Land Cover Types
Three Lakes Chain lake surface
6,956 acres
10%
Forest
20,804 acres
29%
MD Urban
39 acres
0%
HD Urban
5 acres
0%
Rural Res
234 acres
0%
Forested Wetlands & Wetlands
39,426 acres
55%
Row Crops
1,442 acres
2%
Pasture/Grass
3,289 acres
4%
Total Watershed: 72,196 Acres

*Wisconsin Lakes Classification**



Big
Crystal
Dog
Deer

Long
Virgin
Whitefish
Big Stone
Laurel

**Phase I & II Lakes*

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Water Quality

- Phosphorus (Limiting Plant Nutrient)
- Chlorophyll-*a* (Algal Abundance)
- Water Clarity (Secchi Disk)

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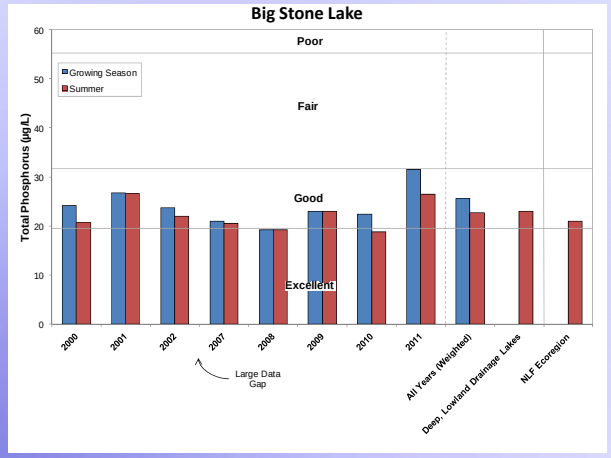
Lake Management Planning



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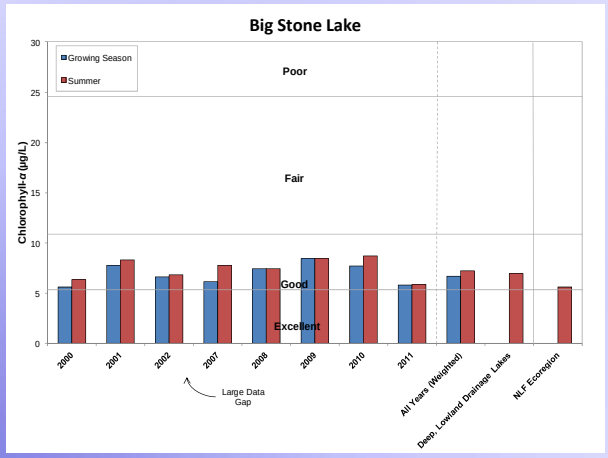
Lake Management Planning



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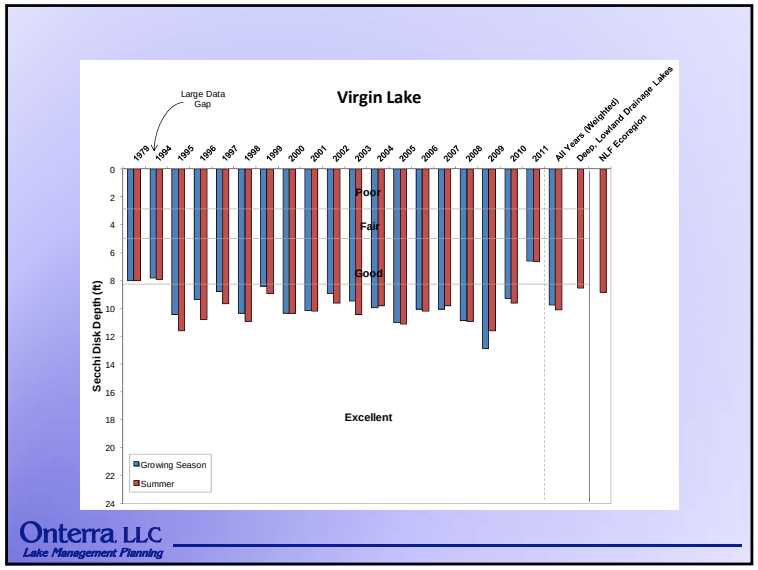
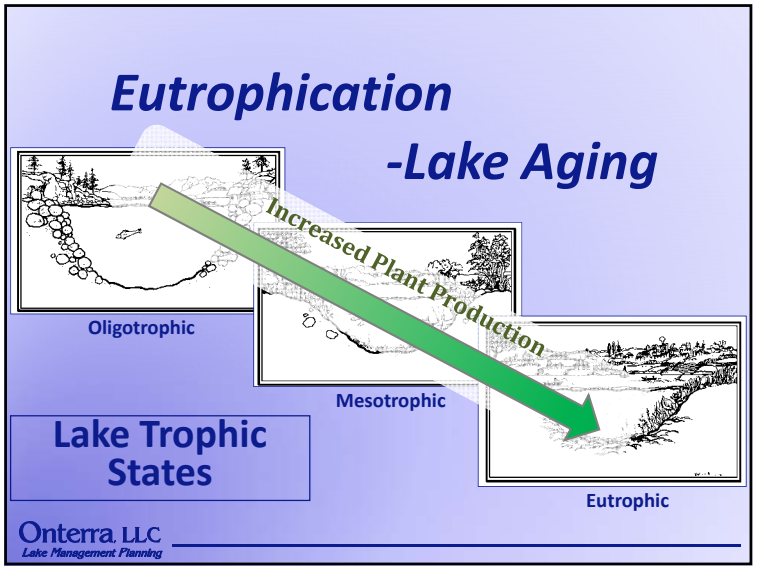
Lake Management Planning





Aquatic Plant Surveys

- Concerned with both native and non-native plants
- Multiple surveys used in assessment
  - Curly-leaf pondweed survey — NONE FOUND
  - Point-intercept survey
    - Systematic sampling method
    - Can compare lakes within same ecoregion
  - Plant community mapping
    - Accurately map floating-leaf & emergent communities
    - May compare to future surveys

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Plant Data Overview

- 88 Native plants
  - 42 Submergent
  - 30 Emergent
  - 5 Floating-leaf
  - 4 Floating-leaf/Emergent
  - 4 Submergent/Emergent
  - 3 Free-floating
- 4 Non-native plant species
  - Eurasian water milfoil (*Long & Virgin Lake*)
  - Purple loosestrife (*Laurel, Long, Big Stone & Big Lakes*)
  - Hybrid cattail (*Long Lake*)
  - Amur silver grass (*Big Lake*)

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Aquatic Plants

Wisconsin Ecoregions

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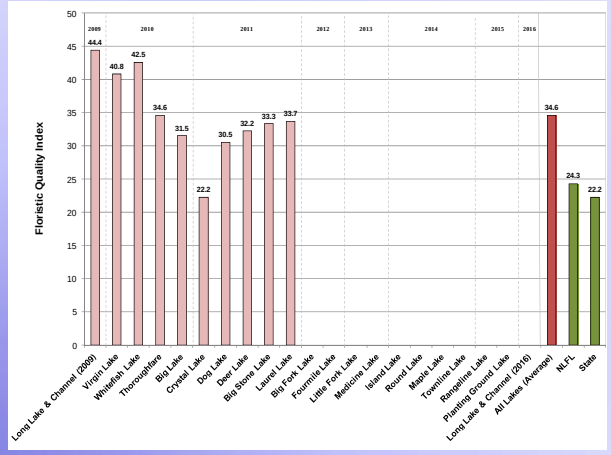
Floristic Quality



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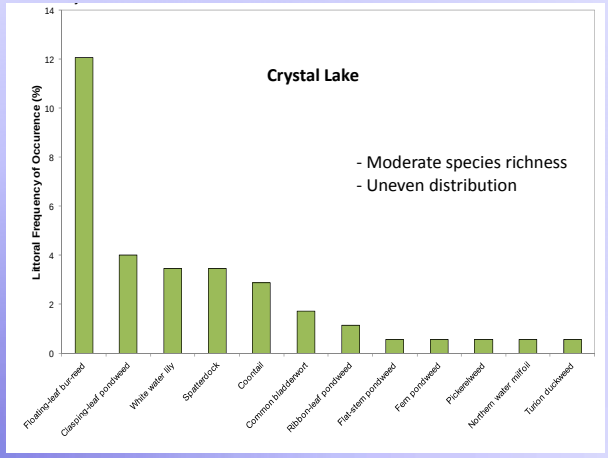
Simpson's Diversity



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Aquatic Invasive Species

Eurasian water milfoil background – Long Lake

- Summer 2006: EWM discovered ¼ mile upstream of Burnt Rollways Dam
- 2007: 0.5 acre EWM treatment occurs in channel (May), no plants observed in follow-up survey (Aug)
- Sept 2008: Onterra maps 11.8 acres of EWM
- May 2009: 11.8 acre treatment occurs , no EWM seen in follow-up survey
- Oct 2010: Onterra hand removes ~10 plants from channel
- Sept 2011: Onterra hand removes several plants from channel

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2012 AIS Monitoring Actions

Long Lake Channel 2012 Update

- Onterra staff examines EWM areas spotted by TWLA members on 7/31/12.
- Onterra revisits channel 8/21/12 to map EWM located by TWLA volunteers

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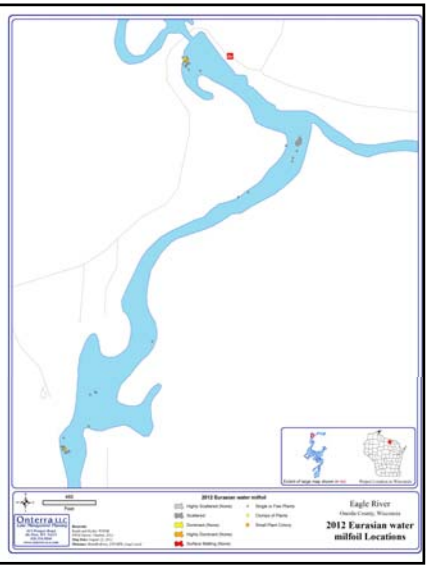
2012 AIS Monitoring Actions

Long Lake Channel 2012 Update

Next Step: Plan 2013 Herbicide Treatment



Aquatic Invasive Species

Eurasian water milfoil background – Virgin Lake

- Aug 2010: EWM first discovered within lake
- July 2011: Onterra staff hand removes ~50 to 70 plants from colony
- Sept 2011: Onterra staff returns and pulls ~35 plants from colony
- Summer 2012: Site will be revisited, course of action determined

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2012 AIS Monitoring Actions

Virgin Lake 2012 Update

- Onterra visits 7/3/12 to conduct whole-lake EWM survey and hand remove plants with SCUBA.
- Survey determines site has expanded, plants are too numerous to address via hand-removal.
- Following discussions between Onterra, WDNR and TLWA, an herbicide treatment targeting the 0.9 acre EWM colony is conducted on 8/14/12

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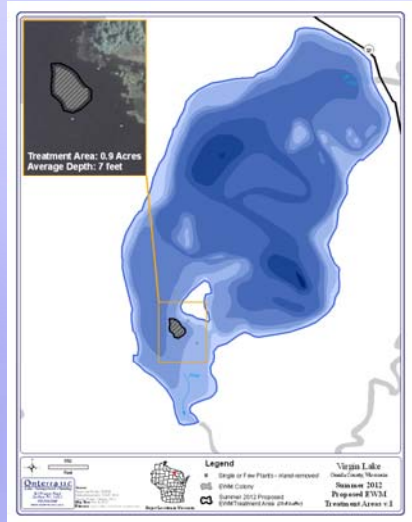
Next Step: Monitoring in 2013 and Possible Spring Herbicide Treatment



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Conclusions

- Watershed is in great condition
  - Land cover is of high quality
  - Large size of watershed responsible for stained waters
  - Watershed feeding Crystal Lake may need additional assessment
- Water quality is good
  - Higher than normal phosphorus concentrations in Crystal Lake
    - May not be of concern because 2011 was an odd year
- Aquatic plant community
  - Based upon standard analysis, native community is of high quality
  - Some lakes show symptoms of moderate disturbance
  - AIS discovered on several lakes
    - Continued monitoring of Long Lake, Virgin Lake in 2012

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Lake Management Planning

Management Plan Frame-work

Planning Committee Meetings

Study Results (including a stakeholder survey)
Conclusions & Initial Recommendations
Management Goals
Management Actions
Timeframe
Facilitator(s)

↓

Implementation Plan

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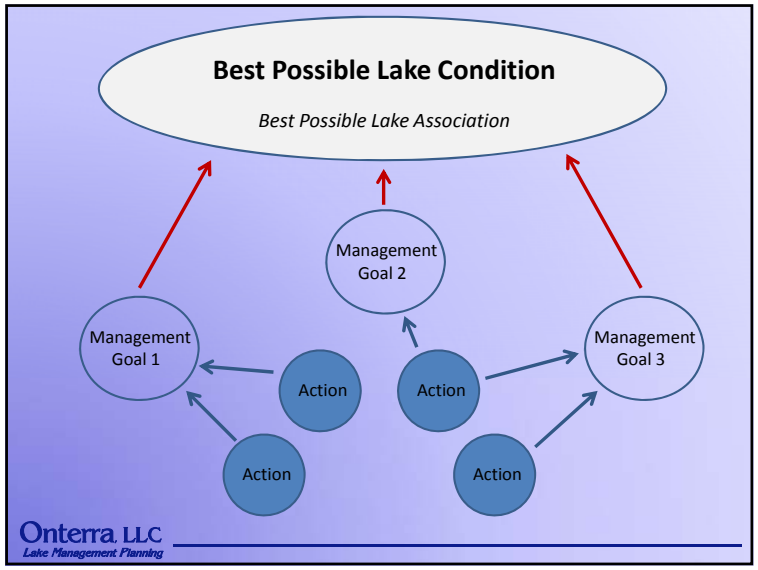

Chain-wide Management Goals from Long Lake Management Plan

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Management Goal 1:
Continue to Control Eurasian Water Milfoil and Prevent Other Aquatic Invasive Species Infestations on the Three Lakes Chain of Lakes

Management Actions

1. Continue Clean Boats/Clean Waters watercraft inspections at Burnt Rollways boat lift and other Three Lakes Chain public access locations.
2. Continue monitoring for Aquatic Invasive Species through continuation of Adopt-A-Shoreline program.

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Management Goal 2:
Increase the Three Lakes Waterfront Association's Capacity to Communicate with and Educate Lake Stakeholders

Management Actions

1. Support an Education Committee to promote safe boating, water quality, public safety and quality of life on the Three Lakes Chain.

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Management Goal 3:
Facilitate Partnerships with Other Management Entities and Stakeholders

Management Actions

1. Enhance TLWA's involvement with other entities that have a hand in managing or otherwise utilizing the Three Lakes Chain.

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Management Goal 4:
Maintain Current Water Quality Conditions

Management Actions

1. Monitor water quality through WDNR Citizens Lake Monitoring Network.
2. Reduce phosphorus and sediment loads from shoreland watershed to the Three Lakes Chain.

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Management Goal 5:
Improve Fishery Resource and Fishing

Management Actions

1. Work with fisheries managers to enhance the walleye fishery on the Three Lakes Chain.

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Thank You

Many of the graphics used in this presentation were supplied by:

Wisconsin Lakes Partnership

UW Extension

Wisconsin Dept. of Natural Resources

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Lake Management Planning

B

APPENDIX B

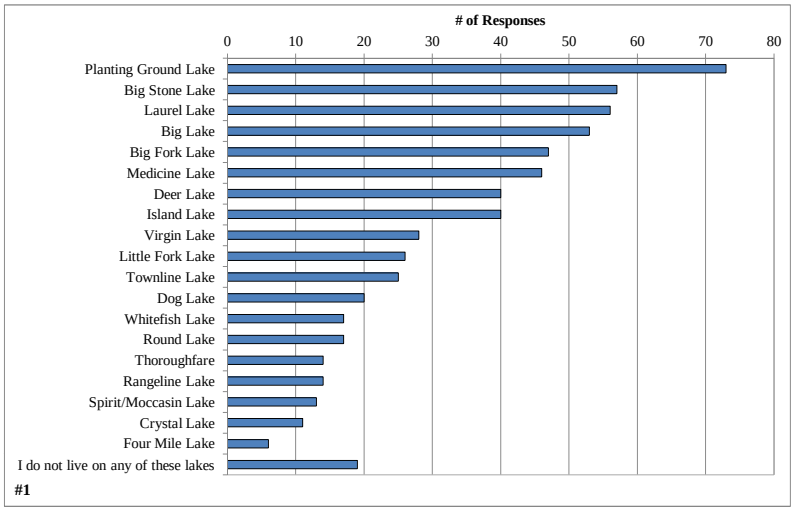
Stakeholder Survey Response Charts and Comments.

Returned Surveys	615
Sent Surveys	1694
Response Rate (%)	36.3

THREE LAKES CHAIN PROPERTY

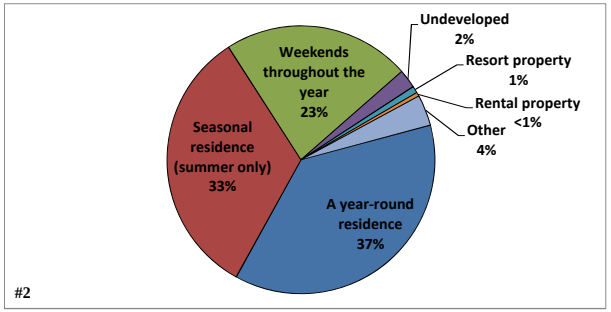
#1 On which lake is your Three Lakes property located?

	Total	%
Planting Ground Lake	73	*11.7*
Big Stone Lake	57	*9.2*
Laurel Lake	56	*9.0*
Big Lake	53	*8.5*
Big Fork Lake	47	*7.6*
Medicine Lake	46	*7.4*
Deer Lake	40	*6.4*
Island Lake	40	*6.4*
Virgin Lake	28	*4.5*
Little Fork Lake	26	*4.2*
Townline Lake	25	*4.0*
Dog Lake	20	*3.2*
Whitefish Lake	17	*2.7*
Round Lake	17	*2.7*
Thoroughfare	14	*2.3*
Rangeline Lake	14	*2.3*
Spirit/Moccasin Lake	13	*2.1*
Crystal Lake	11	*1.8*
Four Mile Lake	6	*1.0*
I do not live on any of these lakes	19	*3.1*
	622	*100.0*



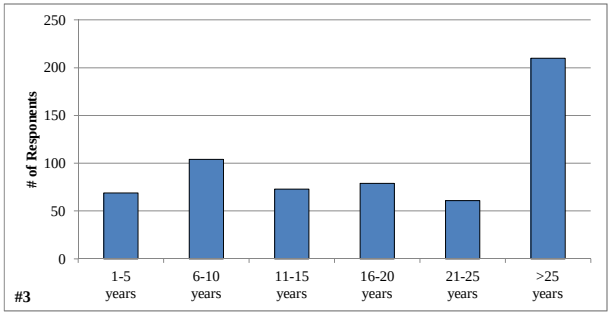
#2 What type of property do you own on or near the Three Lakes Chain?

	Total	%
A year-round residence	230	*37.2*
Seasonal residence (summer only)	203	*32.8*
Weekends throughout the year	140	*22.7*
Undeveloped	14	*2.3*
Resort property	5	*0.8*
Rental property	3	*0.5*
Other	23	*3.7*
	618	*100.0*



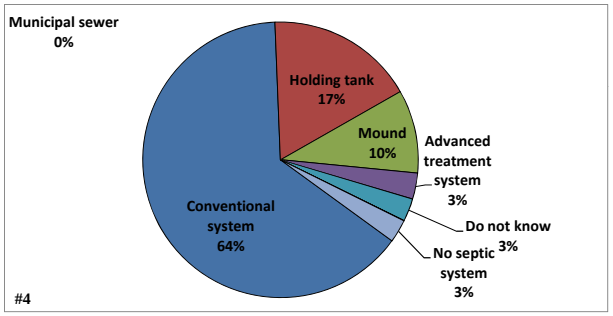
#3 How long have you owned your property on the Three Lakes Chain?

	Total	%
1-5 years	69	*11.6*
6-10 years	104	*17.4*
11-15 years	73	*12.2*
16-20 years	79	*13.3*
21-25 years	61	*10.2*
>25 years	210	*35.2*
	596	*100.0*



#4 What type of septic system does your property utilize?

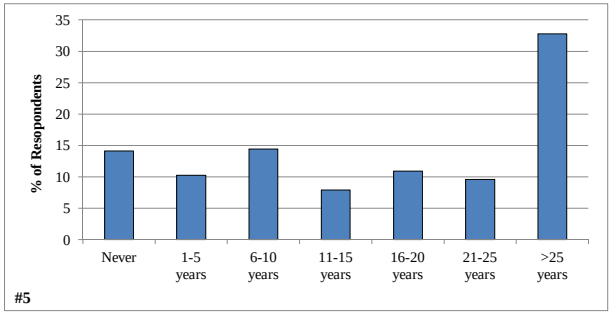
	Total	%
Conventional system	381	*64.4*
Holding tank	103	*17.4*
Mound	58	*9.8*
Advanced treatment system	18	*3.0*
Do not know	16	*2.7*
Municipal sewer	0	*0.0*
No septic system	16	*2.7*
	592	*100.0*



RECREATIONAL USE

#5 For how many years have you fished your lake?

	Total	%
Never	84	*14.1*
1-5 years	61	*10.3*
6-10 years	86	*14.5*
11-15 years	47	*7.9*
16-20 years	65	*10.9*
21-25 years	57	*9.6*
>25 years	195	*32.8*
	595	*100.0*

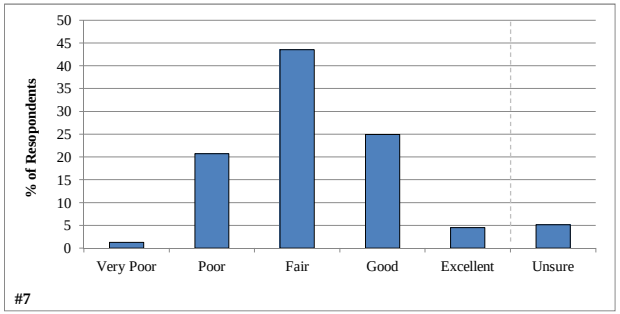


#6 Have you personally fished on your lake in the past 3 years?

	Total	%
Yes	438	*79.8*
No	111	*20.2*
	549	*100.0*

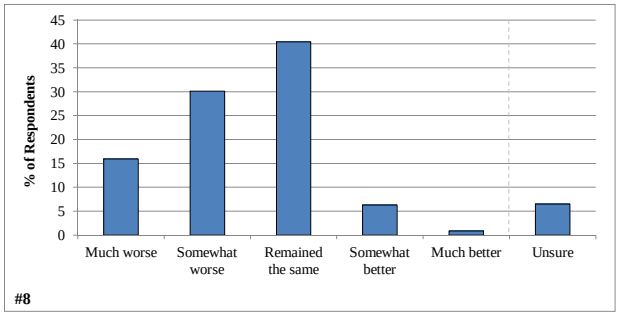
#7 How would you describe the current quality of fishing on your lake?

	Total	%
Very Poor	6	*1.3*
Poor	97	*20.7*
Fair	204	*43.5*
Good	117	*24.9*
Excellent	21	*4.5*
Unsure	24	*5.1*
	469	*100.0*



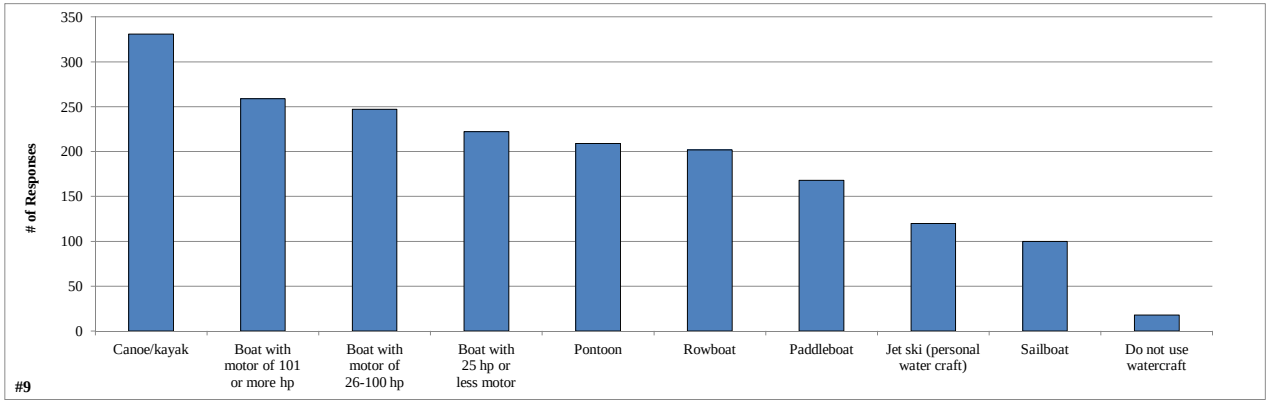
#8 How has the quality of fishing changed on your lake since you have started fishing the lake?

	Total	%
Much worse	74	*15.9*
Somewhat worse	140	*30.1*
Remained the Same	188	*40.4*
Somewhat better	29	*6.2*
Much better	4	*0.9*
Unsure	30	*6.5*
	465	*100.0*



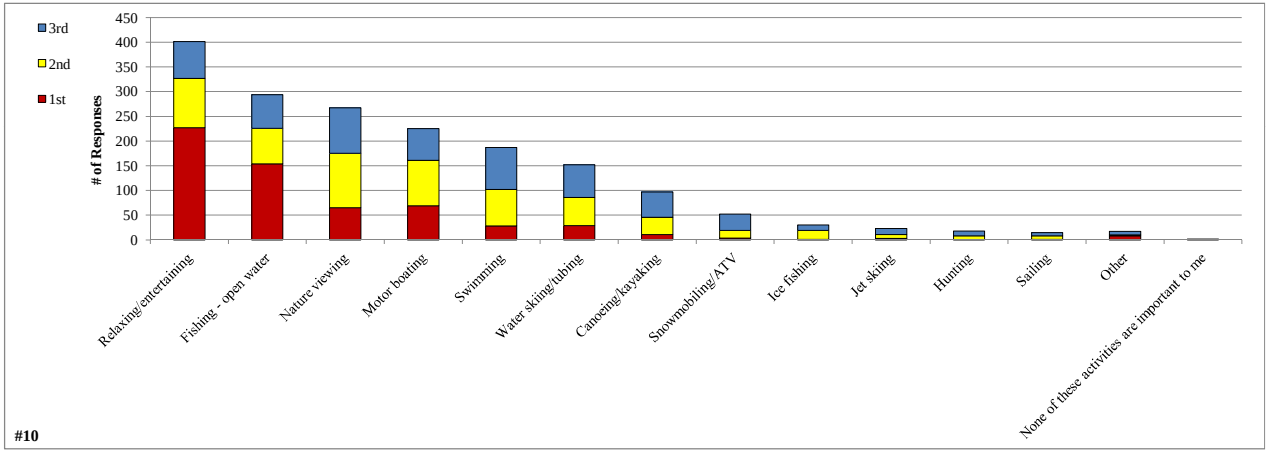
#9 What types of watercraft do you (or others that use your property) use on the lake?

	Total
Canoe/kayak	331
Boat with motor of 101 or more hp	259
Boat with motor of 26-100 hp	247
Boat with 25 hp or less motor	222
Pontoon	209
Rowboat	202
Paddleboat	168
Jet ski (personal water craft)	120
Sailboat	100
Do not use watercraft	18



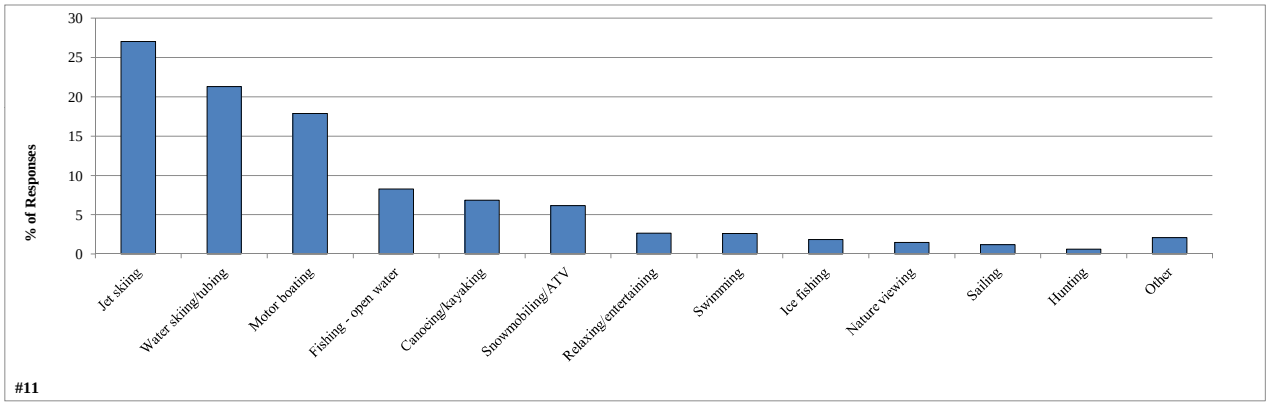
#10 Please rank up to three activities that are important reasons for owning your property on or near the lake.

	1st	2nd	3rd	*% ranked*
Relaxing/entertaining	227	100	74	*22.5*
Fishing - open water	154	72	68	*16.5*
Nature viewing	65	110	92	*15.0*
Motor boating	69	92	64	*12.6*
Swimming	28	74	85	*10.5*
Water skiing/tubing	29	57	66	*8.5*
Canoeing/kayaking	11	35	51	*5.4*
Snowmobiling/ATV	4	15	33	*2.9*
Ice fishing	1	18	11	*1.7*
Jet skiing	3	8	12	*1.3*
Hunting	0	8	10	*1.0*
Sailing	1	7	7	*0.8*
Other	8	2	7	*1.0*
None of these activities are important to me	2	0	0	*0.1*
	602	598	580	*100.0*



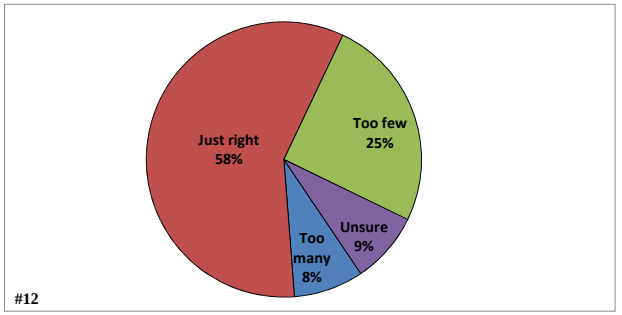
#11 What types of recreation would you say have increased on your lake since you have obtained your property?

	Total	%
Jet skiing	438	*27.0*
Water skiing/tubing	345	*21.3*
Motor boating	290	*17.9*
Fishing - open water	134	*8.3*
Canoeing/kayaking	111	*6.9*
Snowmobiling/ATV	100	*6.2*
Relaxing/entertaining	43	*2.7*
Swimming	42	*2.6*
Ice fishing	30	*1.9*
Nature viewing	24	*1.5*
Sailing	19	*1.2*
Hunting	10	*0.6*
Other	34	*2.1*
	1620	*100.0*



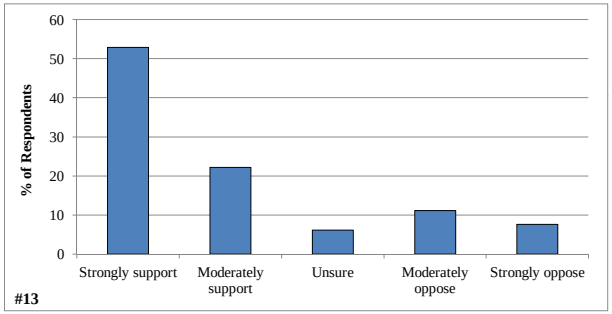
#12 What is your opinion of the number of slow-no-wake areas on the entire Three Lakes Chain?

	Total	%
Too many	49	*8.2*
Just right	348	*58.3*
Too few	150	*25.1*
Unsure	50	*8.4*
	597	*100.0*



#13 Do you support or oppose the Wisconsin boating regulation prohibiting boaters from operating their boats at speeds greater than slow-no-wake 100 feet from shore and/or structures?

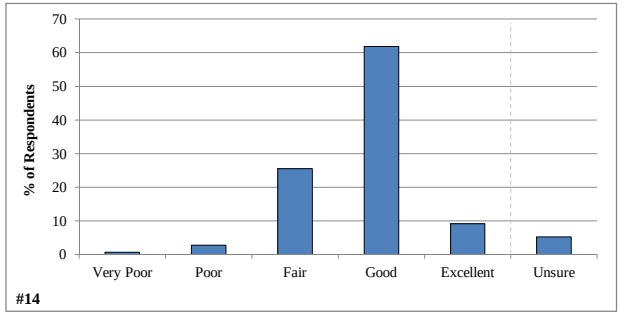
	Total	%
Strongly support	317	*52.8*
Moderately support	133	*22.2*
Unsure	37	*6.2*
Moderately oppose	67	*11.2*
Strongly oppose	46	*7.7*
	600	*100.0*



CURRENT AND HISTORIC CONDITION, HEALTH, AND MANAGEMENT

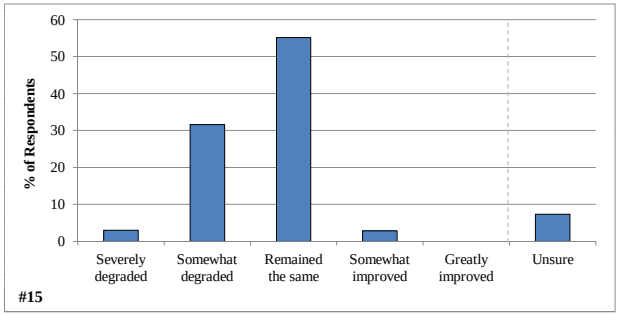
#14 How would you describe the current water quality of your lake?

	Total	%
Very Poor	4	*0.7*
Poor	16	*2.8*
Fair	145	*25.5*
Good	352	*61.9*
Excellent	52	*9.1*
Unsure	30	*5.3*
	569	*100.0*



#15 How has the water quality changed in your lake since you obtained your property?

	Total	%
Severely degraded	18	*3.0*
Somewhat degraded	189	*31.6*
Remained the same	330	*55.2*
Somewhat improved	17	*2.8*
Greatly improved	0	*0.0*
Unsure	44	*7.4*
	598	*100.0*



#16 Have you ever heard of aquatic invasive species?

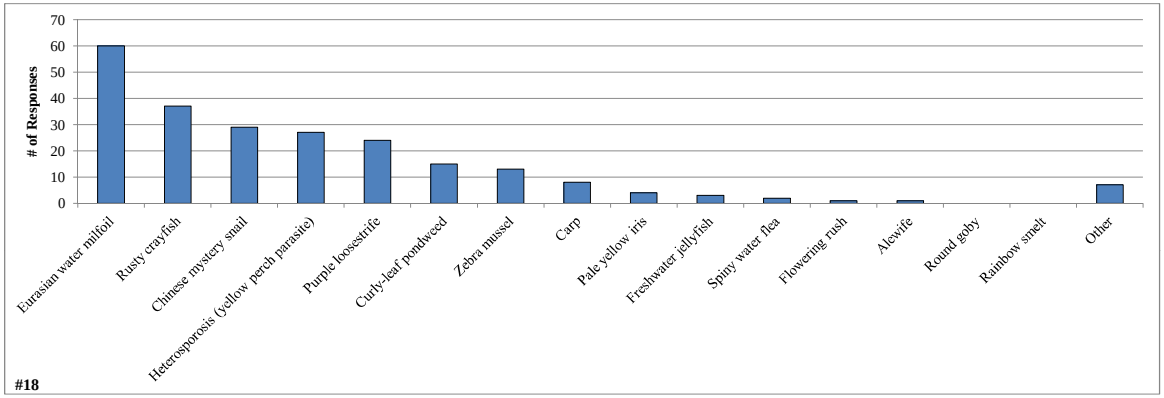
	Total	%
Yes	598	*98.5*
No	9	*1.5*
	607	*100.0*

#17 Are you aware of aquatic invasive species in your lake?

	Total	%
Yes	127	*21.8*
No	456	*78.2*
	583	*100.0*

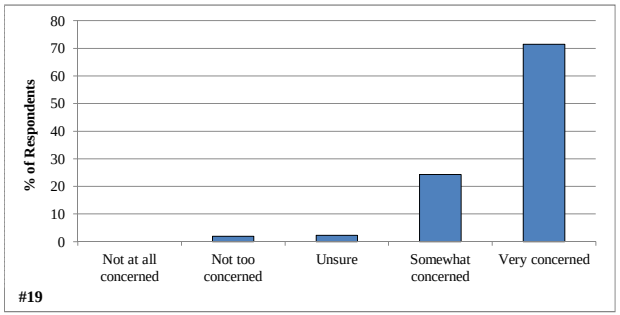
#18 Which aquatic invasive species are you aware of in your lake?

	Total
Eurasian water milfoil	60
Rusty crayfish	37
Chinese mystery snail	29
Heterosporosis (yellow perch parasite)	27
Purple loosestrife	24
Curly-leaf pondweed	15
Zebra mussel	13
Carp	8
Pale yellow iris	4
Freshwater jellyfish	3
Spiny water flea	2
Flowering rush	1
Alewife	1
Round goby	0
Rainbow smelt	0
Other	7



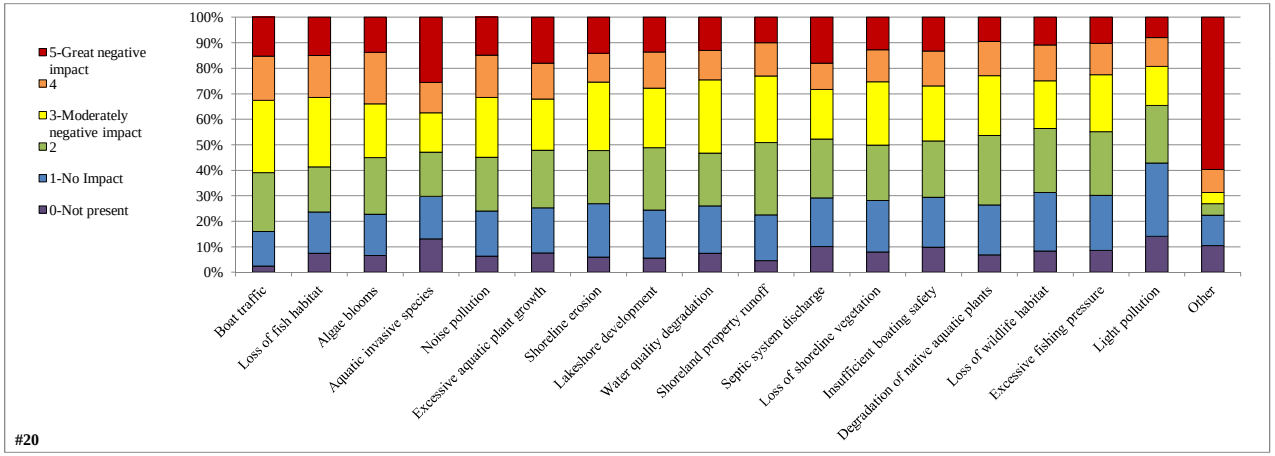
#19 How concerned are you, if at all, about the spread of aquatic invasive species to your lake?

	Total	%
Not at all concerned	0	*0.0*
Not too concerned	12	*2.0*
Unsure	14	*2.3*
Somewhat concerned	147	*24.3*
Very concerned	433	*71.5*
	606	*100.0*



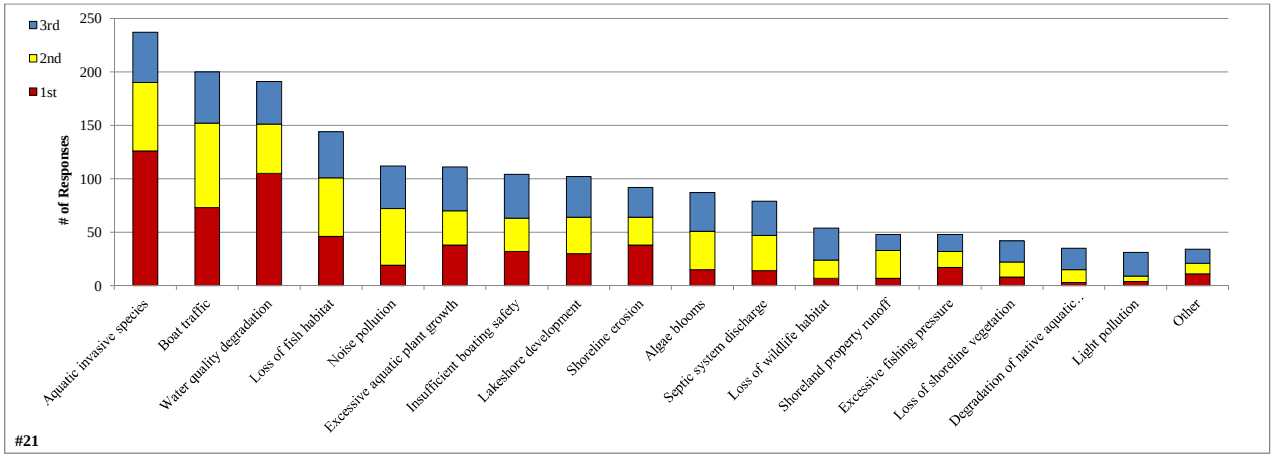
#20 To what level do you believe each of the following factors may be negatively impacting your lake?

	0-Not present	1-No Impact	2	3-Moderately negative impact	4	5-Great negative impact	*Total*	*Average*
Boat traffic	14	76	131	160	98	86	*551*	*3.0*
Loss of fish habitat	41	88	97	149	90	82	*506*	*2.7*
Algae blooms	36	88	121	115	110	75	*509*	*2.7*
Aquatic invasive species	70	89	92	82	64	136	*463*	*2.7*
Noise pollution	35	99	118	131	93	83	*524*	*2.7*
Excessive aquatic plant growth	41	96	123	109	76	98	*502*	*2.7*
Shoreline erosion	33	115	115	148	62	78	*518*	*2.6*
Lakeshore development	31	105	136	130	79	76	*526*	*2.6*
Water quality degradation	41	101	113	157	63	71	*505*	*2.6*
Shoreland property runoff	25	98	156	143	71	55	*523*	*2.6*
Septic system discharge	55	105	126	107	56	99	*493*	*2.5*
Loss of shoreline vegetation	43	109	118	134	68	69	*498*	*2.5*
Insufficient boating safety	55	109	123	120	76	74	*502*	*2.5*
Degradation of native aquatic plants	37	107	149	128	73	52	*509*	*2.5*
Loss of wildlife habitat	46	127	139	103	78	60	*507*	*2.4*
Excessive fishing pressure	47	119	137	123	68	56	*503*	*2.4*
Light pollution	76	156	122	83	61	43	*465*	*2.0*
Other	7	8	3	3	6	40	*60*	*3.7*



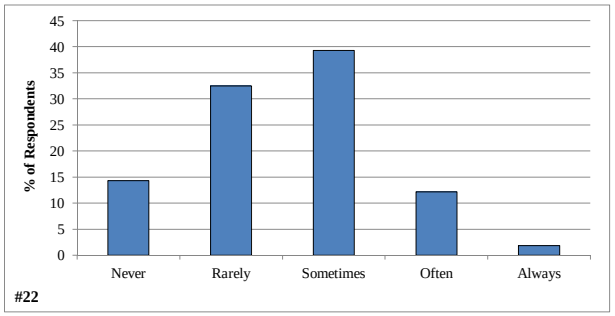
#21 From the list below, please rank your top three concerns regarding the lake.

	1st	2nd	3rd	*% Ranked*
Aquatic invasive species	126	64	47	*13.5*
Boat traffic	73	79	48	*11.4*
Water quality degradation	105	46	40	*10.9*
Loss of fish habitat	46	55	43	*8.2*
Noise pollution	19	53	40	*6.4*
Excessive aquatic plant growth	38	32	41	*6.3*
Insufficient boating safety	32	31	41	*5.9*
Lakeshore development	30	34	38	*5.8*
Shoreline erosion	38	26	28	*5.3*
Algae blooms	15	36	36	*5.0*
Septic system discharge	14	33	32	*4.5*
Loss of wildlife habitat	7	17	30	*3.1*
Shoreland property runoff	7	26	15	*2.7*
Excessive fishing pressure	17	15	16	*2.7*
Loss of shoreline vegetation	8	14	20	*2.4*
Degradation of native aquatic plants	3	12	20	*2.0*
Light pollution	4	5	22	*1.8*
Other	11	10	13	*1.9*
	593	588	570	*100.0*



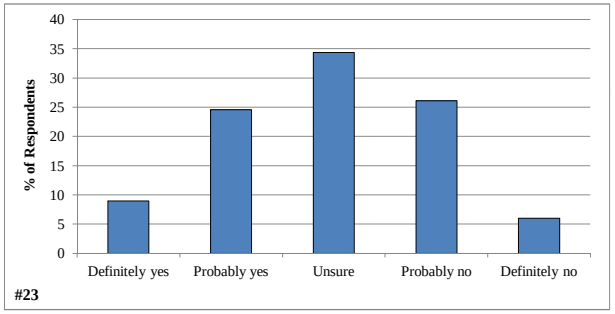
#22 During open water season how often does aquatic plant growth, including algae, negatively impact your enjoyment of the lake?

	Total	%
Never	86	*14.3*
Rarely	195	*32.4*
Sometimes	236	*39.3*
Often	73	*12.1*
Always	11	*1.8*
	601	*100.0*



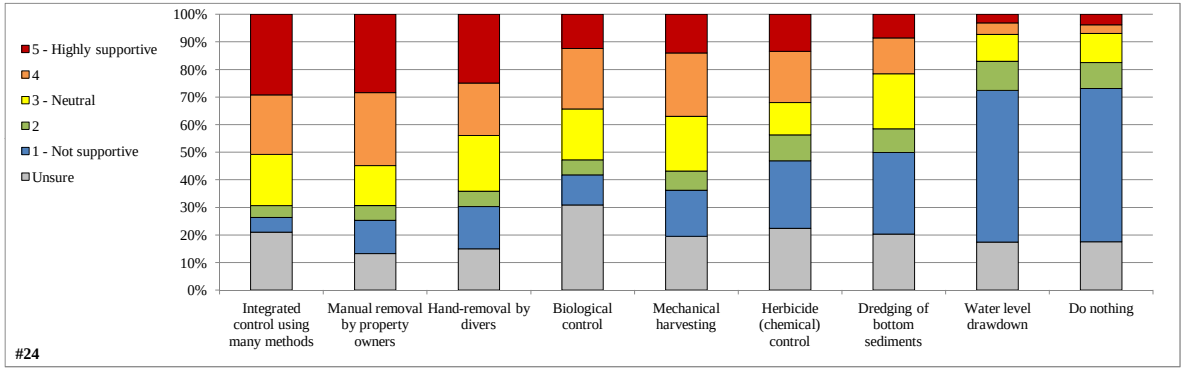
#23 Considering your answer to the question above, do you believe aquatic plant control is needed on the lake?

	Total	%
Definitely yes	54	*9.0*
Probably yes	148	*24.6*
Unsure	207	*34.4*
Probably no	157	*26.1*
Definitely no	36	*6.0*
	602	*100.0*



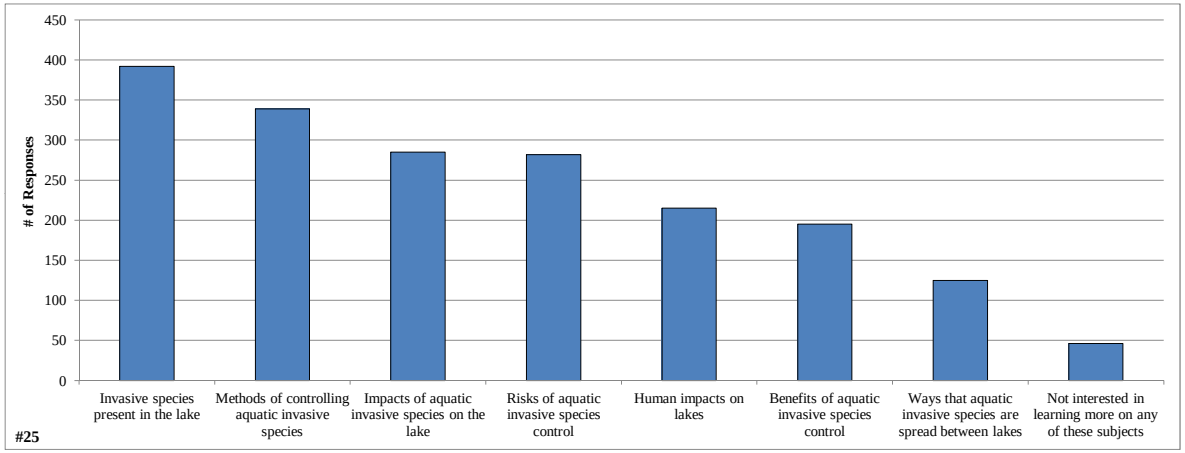
#24 What is your level of support for the responsible use of the following techniques on the lake?

	1 - Not supportive	2	3 - Neutral	4	5 - Highly supportive	Unsure	Total	Average
Integrated control using many methods	30	24	104	121	164	118	*443*	*3.8*
Manual removal by property owners	68	30	81	149	159	74	*487*	*3.6*
Hand-removal by divers	85	31	112	106	138	83	*472*	*3.4*
Biological control	60	30	101	121	68	170	*380*	*3.3*
Mechanical harvesting	92	38	109	126	77	107	*442*	*3.1*
Herbicide (chemical) control	135	52	65	103	74	124	*429*	*2.8*
Dredging of bottom sediments	163	47	110	72	47	112	*439*	*2.5*
Water level drawdown	303	58	54	23	17	96	*455*	*1.7*
Do nothing	289	49	55	16	20	91	*429*	*1.7*



#25 Which of these subjects would you like to learn more about?

	Total
Invasive species present in the lake	392
Methods of controlling aquatic invasive species	339
Impacts of aquatic invasive species on the lake	285
Risks of aquatic invasive species control	282
Human impacts on lakes	215
Benefits of aquatic invasive species control	195
Ways that aquatic invasive species are spread between lakes	125
Not interested in learning more on any of these subjects	46



THREE LAKES WATERFRONT ASSOCIATION

#26 Before receiving this mailing, have you ever heard of the Three Lakes Waterfront Association?

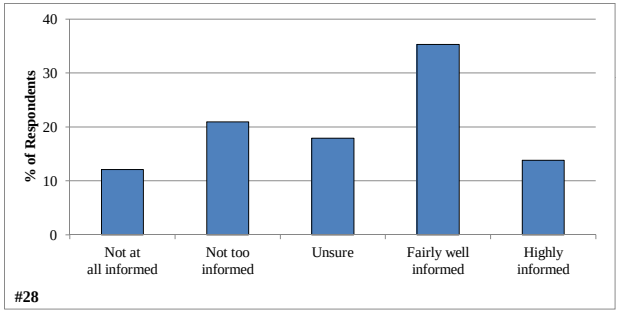
	Total	%
Yes	582	*96.0*
No	24	*4.0*
	606	*100.0*

#27 What is your membership status with the Three Lakes Waterfront Association?

	Total	%
Current member	345	*59.6*
Former member	82	*14.2*
Never been a member	152	*26.3*
	579	*100.0*

#28 How informed has the Three Lakes Waterfront Association kept you regarding issues with <u>your lake</u> and its management?

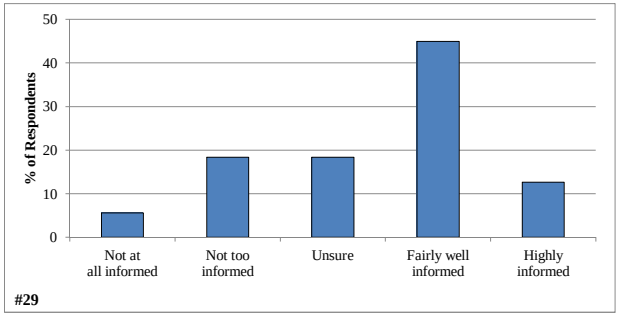
	Total	%
Not at all informed	71	*12.1*
Not too informed	123	*21.0*
Unsure	105	*17.9*
Fairly well informed	207	*35.3*
Highly informed	81	*13.8*
	587	*100.0*



#28

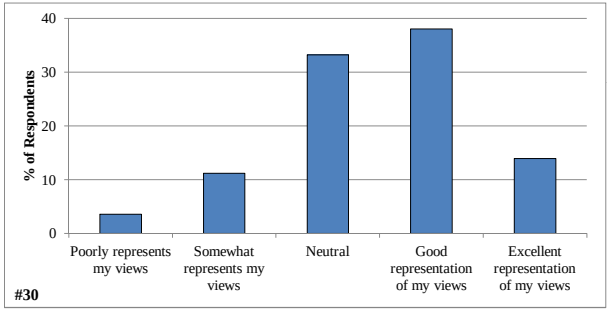
#29 How informed has the Three Lakes Waterfront Association kept you regarding issues with the rest of the Three Lakes Chain and its management?

	Total	%
Not at all informed	33	*5.6*
Not too informed	108	*18.4*
Unsure	108	*18.4*
Fairly well informed	264	*45.0*
Highly informed	74	*12.6*
	587	*100.0*



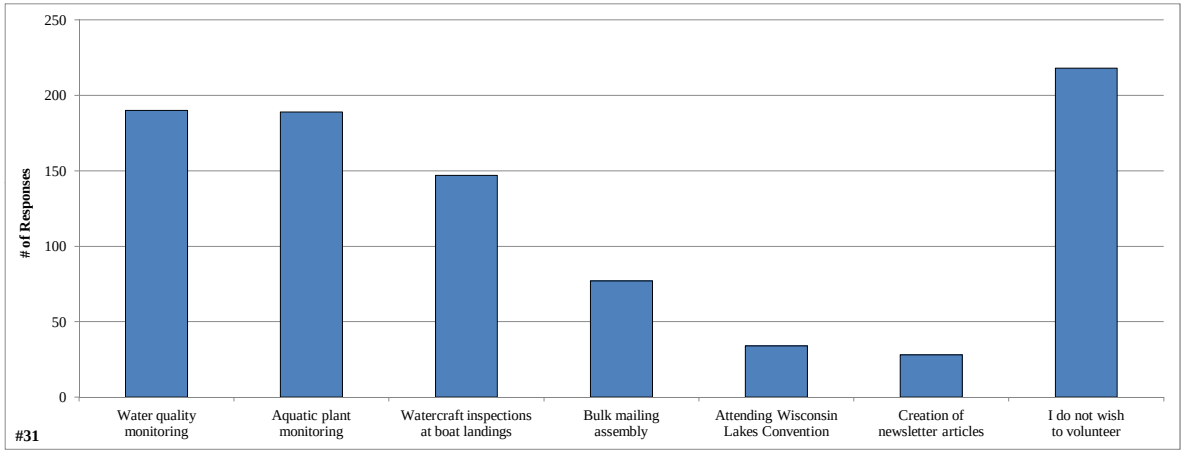
#30 How well do you believe the Three Lakes Waterfront Association represents your views for lake management?

	Total	%
Poorly represents my views	21	*3.6*
Somewhat represents my views	65	*11.2*
Neutral	193	*33.2*
Good representation of my views	221	*38.0*
Excellent representation of my views	81	*13.9*
	581	*100.0*



#31 Please circle the activities you would be willing to participate in if the Three Lakes Waterfront Association requires additional assistance.

	Total
Water quality monitoring	190
Aquatic plant monitoring	189
Watercraft inspections at boat landings	147
Bulk mailing assembly	77
Attending Wisconsin Lakes Convention	34
Creation of newsletter articles	28
I do not wish to volunteer	218



Survey #	Lake	Question 2g	Question 10m	Question 11m	Question 18p	Question 20r	Question 21r	Question 32 and other comments
4	Big					spearing		
11	Big					Excessive fishing pressure-spearing		
20	Big							Historic-are friends of Gramma & Grampa Schultz so we have the history from a-z. Our main concern is shore line erosion, all that can be done is to watch and repair as needed. As far as fishing is concerned, we are not big fishermen, but have noticed a definite decline in action the past 2 years. This year not one bite, even in areas where in the past you caught small fish-no action.
64	Big			All about same				Only new or information I see regarding Three lakes Chain is in Three lakes paper. From a quote from T.L. Waterfront person…never received anything on Big Lake or T.L. waterfront directly.
69	Big							Thank you for sending this brochure. There are many issues that need addressing. This is a beautiful chain of lakes, the reason we bought our property and built our home. We absolutely love cruising the lakes in the warm weather! God's wonderful creation!!!
70	Big				Not sure			
87	Big					Spearing		
99	Big			Entertaining friends				
137	Big		Investment	The same				I have a lot on Big Lake come up to the lake 2 times year & stay with relatives. Bear that in mind when reading me response. Thank You.
161	Big							To the extent that a part-time vacationer can do so.
167	Big							Q#30-If I don't know what they are doing, how would I know if they represent my views? Q#32-When the "Northern Aire" project was first in the making, I was asked to join the association. I did and was kept pretty well informed. After the "battle" was lost, I no longer heard from the assocation nor was I reminded of my dues. I thought, perhaps, the association was disbanded. I am retired now and spend just about my entire summer, from May –Oct., in Three Lakes. I would not mind rejoining, if the association is active and volunteering some of my time. My biggest concern at this time are the new wakeboard boats that create huge wakes. I am literally watching my shoreline being washed away. I have neighbors who repeatedly boat, pull skiers and wakeboarder much too close to shore.
168	Big						None of above	
177	Big					Jet ski usage		
182	Big					Ruden ess		
189	Big					Oneida Co. zoning decisions		Aquatic health of the Three Lakes Chain of Lakes is directly proportional to man's development of the related shorelines, and somewhat related to man's use of the waterways. The decisions made by the Oneida Co. Zoning Board are directly responsible for shoreline development. As long as an increasing tax base fueled by additional shoreland development is their primary objective, aquatic health of our waterways will continue to diminish.
242	Big					Uncontrolled wild rice has invaded lake-lowers water depth		Q#1-we own part of peninsula between Dog & Big-Each lake is different. Q#32-Thank you for your invasive species efforts. It is time to start treating wild rice as an invasive species. It has invaded the lake and is prolierating quickly. You could see yearly changes. Rice in thoroughfare and Dog Lake is lowering water depth and effecting navigation. I have talked with the Native American Ricing Chief & he said they haven't harvested for at least 15 years. He agrees with managing the rice, but they have no $. Suggest you share info on lake by lake basis. Concerned about jet ski proliferation.
252	Big							Q24-not sure if needs to be managed dur to lack of invasive species.
263	Big							For us, the single most significant negative change affecting use of our property is high usage of PWCS, with their attendant noise, high speed, and tendency to operate near shore at speed. Also, PWCS ability to operate in very shallow water is significant negative- we feel this is negatively impacting both wildlife and some shorelines. Too many property owners try to manicure their yards right down to the lake edge and there is much too high of an incidence of lawsns – owners should let lakeshore properties revert to native plants. My personal involvement in TWA would be dependent on whether or not TWA represents and actively supports my opinions & philosophies of lake property ownership.
272	Big							Do not make decisions without consulting members/setting new rules or policies for example the no wake zones being increased. Did not receive until Nov. 7th
286	Big			Off road vehicle traffic-4 wheelers-old cars on their own property				Q#22-late summer algae. Q#32-Now that I've retired, I'll seek membership.
370	Big					Q#20j-Indians fishing		Q#31-Financial support
383	Big					Litter tossed in lake or left on ice.		Keep up the good work and inform the people of any changes in the quality of the water on the Three Lakes Chain.
390	Big							More enforcement of slow-no-wake within 100' of shoreline and structures. Approval to add natural means (rocks) to shoreline to eliminate shoreline erosion. Our wave action is incredible. We have boats racing by our dock 10' away & the waves are incredible.
432	Big							Eliminate lawns that come down to the waters edge. No fertilizers on lawns. Increase, restore, & protect shoreline buffer areas. Put brush in shoreline waters & leave down trees in the water.
449	Big	Open all year						Our concern is the jet skis that drive in circles making big waves to jump over. They make a lot of noise, are sometimes inconsiderate iof skiers and are a big nuisance. Several boats come down the shore well within the 100 ft limit.
463	Big					Speed limit on wave runners/enforcement		Thanks for all you do for our lakes.

Survey #	Lake	Question 2g	Question 10m	Question 11m	Question 18p	Question 20r	Question 21r	Question 32 and other comments
479	Big		All activities change as you and property age.					Age & health prohibit our participation, however we feel your group is on a positive track!
512	Big							No wake zone on Laurel Lake where deadly accident occurred a few summers ago. Enforcing jet skis traveling too close to shoreline.
526	Big							Q#31-not at this time-at a later date
44	Big Fork							We are currently a seasonal owner with a year round home. Once retired we willhave more time.Thank you for all you do.
73	Big Fork							Good to know you are and are doing all you can to protect our lakes.
123	Big Fork							Q#13-should be local decision
183	Big Fork		Family time.					Q#8-Flanders much worse by landing, somewhat worse by our house. We are summer & occasional holiday residents. I'll volunteer when I retire. Suggestions: (1) The main way most people get their news is TV. Young people are bein g trained to use TV, ipads and computers. (2) The main speaker at the last 2 summer meetings was just terrific. The Town Chairman's intro was a powerful endorsement of the TLWA. (3) The best way to inform & educate members and everyone else is to use You Tube. Get an enterprising honors media student &/or attendee to videotape the annual summer meeting, then post it to You Tube. Other ideas: (a) The regular You Tube of less than 10 minutes is free. (b) Our excellent speaker might give a general summary recorded at his office as a basic 10 minut4e background to inform & entice further viewings. (c) Then port links on website, mention in newsletter. (d) The process is so simple nowadays, happens millions of times per day done by high school students.
187	Big Fork	2c-Use weekends throughout the year.		Larger & faster boats.				Put a buoy at the point on the east side of the lake indicating shallow water off the point.
199	Big Fork							I thank you for doing an excellent job! I will be happy to volunteer for anything after I retire. No extra time now. Sorry.
237	Big Fork			Airplane traffic		Trash dumping		We have found over the decades that most people, our neighbors as well as tourists, value the lake and the many pleasures it offers, but the actions of a few are incredible and difficult to manage. All day barge parties in what they believe to be uninhabited coves, with on-shore treks to empty grills, potties & picnic trash, and the noise continues into the night. Jet ski sprints close to shore and THROUGH families of little ducks. Water ski practices close to shore, early in AM, and right through areas where people are fishing. Please watch the insideous wetland reclamation—a board walk here, a little landfill there. Next year the boardwalk is wider and the landfill goes a bit further.
239	Big Fork							Please publish entire compiled results in a future newsletter noting any trends from previous questionaires. Thanks for your work!
271	Big Fork							Q#10-wanted to rankmore-water,shore, woods and people are all important. I know the lake height, vegetation, fishing, and color/clarity have changed since the 50's, but do not know if it is good or bad. I realize the importance of water front owners to the economy of Three Lakes. I do not know if that importance translates to political power, especially with the DNR
335	Big Fork		Boating, mostly at idle	Wakeboarding		Wakeboard boats within 300 ft. of shore		Our location on Big Fork Lake encourages too many people to "round the Point" by cutting too close to shore and swim rafts. Some form of control by ordinance would help. It as been successful on the Madison lakes where homeowners have fragile shorelines. I would guess that the vast majority of 3 Lakes owners are concerned about damage causd by boat wakes. In the last 5 years, the increase in wakeboard boats has exacerbated the problem and clear degradation is visible on many parts of Big Fork shorelines. The Madison solution is as follows: I would fully support both education and regulation on skiing, tubing and wakeboarding within 300 ft. of any shoreline.
340	Big Fork					Jet skis	Jet skis	Q#4-$20,000 screw up from the great state of WI. Q#19-Lake average is too deep for most weeds. More weeds would improve fishing. Q#32-Need to educate ski boat-jet ski operators on boater etiquette.
353	Big Fork							In the last 5-6 years I have noticed a green scum along the shoreline which extends about 20-30 feet into the lake when it is calm. I was wondering what caused this.
379	Big Fork							Regulation of PWC of all types. Shoreline erosion is a major problem. Boating safety should be stressed. Slow no wake zones should be enforced.
411	Big Fork		View.			Spring spearing	Spring spearing	Q#2-In family since 1943. Q#8-Indian spearing. Q#31-Work full time Q#32-Stop the spearing!
439	Big Fork					The issue exists in the chain but not on Big Fork yet		Q#31-too old
441	Big Fork					Confusing-questions misleading		This survey is too long & confusing on some questions.
502	Big Fork							I appreciate the efforts of this group. However, we need to rejuvenate the fish in our lakes. That starts with negotiations to stop spear fishing during spawning. In exchange the lake owners work together to start a restocking program. We need to bring back the walleyes, perch, & bluegills by less emphasis on Mukies. The decrease in fish is not an aquatic issue.
515	Big Fork	April-Nov					Indian spring spearing	
525	Big Fork							TLWA efforts at AIS control and water quality maintenance are excellent. Believe TLWA has lost some support due to its efforts at increasing no wake zones and boating restrictions. We are a recreational area for all water activities.
529	Big Fork						Native American spearing	

Survey #	Lake	Question 2g	Question 10m	Question 11m	Question 18p	Question 20r	Question 21r	Question 32 and other comments
549	Big Fork							Laurel lake Channel should have more slow no wake (buoys). No water skiinig in that area. This is not a safe area at higher speeds.
576	Big Fork							Q#14-don't know about quality-I can only speak to clarity. I have not had the water tested for quality. Q#15-Clarity worse this year.
594	Big Fork							Please request the water patrol monitor unsafe and illegal boating on Big Fork Lake i.e. too close to shore, water skiing without observer, too close to nonmotorized boats and large wakes, noisy high speed boats.
8	Big Stone			None-all are down in my opinion			Lower water levels	The condition and events I know about the Chain of Lakes comes from the Three lakes Newspaper. My sense is that the Three Lakes Waterfront Association is supportive of more regulations on the chain. I am opposed to that. I do not want a slow no wake on Laurel Lake in the "S's". I do appreciate your efforts for aquatic plant monitoring at the boat launches, however I think that is mostly a waster of time. It does make the public aware of the risks, which is good.
31	Big Stone							I appreciate all you are doing to keep our waterways safe and healthy for us and our future generations. Thank You.
76	Big Stone					rookies		1. Improve fishing 2. Educate boaters on how to sight see, without creating a wake.
120	Big Stone							1-The Association should not be involved with septic syste issues-this is local government responsibility. 2-The Association should not be involved with water safety issues, i.e. "Slow no wake issues". The Association should not take position on this w/local government. 3-The Association should publish individual lake reports, i.e. AIS infestations, water quality reports, volunteer activities and status of Onterra Lake Planning. 4-The Association should partner with the Oneida County AIS Coordinator. The Association is not looked favorably upon by many local residents. This must be fixed if the Association wants more support and success. Survey received on Nov. 8, 2011. When did you mail this?
122	Big Stone				Have not seen any or heard of in Big Stone		EPA intrusion-over regulation	
127	Big Stone							Cannot volunteer as we are not there but weekends and not scheduled.
151	Big Stone	Seasonal-summer, fall, winter	Biking				21 f- (Big) 30 ft + (r)Last years loss of 4 foot of water level due to dam water to Eagle River	1-water levels were down 1 year ago updates on what we can do to "stop" this from happening. 2-what does speed boat racing on Big Stone Lake do to water quality & wildlife? 3-what aquatic algae that is invasive, been found & to what degree on the 3 Lakes Chain?
159	Big Stone	Multi family use mostly summer but some in spring, fall, winter		Don't know		I just do not know	I think Big Stone is one of the less used of the lakes	We are 37.5% owners-our son in law & daughter are majority owners. Q#4- not sure but no problems. Q#9-none because our front is reedy- 50-60 yards of plant vegetation from shoreline. Q#22-wish we had a beach but we can't really use our waterfront, too veggie. Q#24-some one more skilled needs to answer this. It would be nice to have some beach. Q#31- I am there so little. Q#32-our cabin is well built and can be used year round. It is probably under used with a little use in fall, winter and spring and not always used in the summer. We all still work. The only negative I see is the plant infested waterfront which makes it virtually unuseable but my wife and I are not there that much-maybe no more than 6 weeks a year- me only about 2 or 3.
163	Big Stone			Race shoot out prep		Be careful what you call safety PD is not the answer		Q#12-question of law and whose laws under current Act13 ----for small craft with motorboats not covered. Q#13-on an equal base for all boaters the split of PWC changest the mix and is unsafe.
171	Big Stone			Loud, faster boats				
181	Big Stone	Months throughout the year. Rental property & own some Northern Aire Condos.			b-I think.			
230	Big Stone	Summer/Winter						
233	Big Stone							Grandparents & uncles talk about how these lakes had abundant fish 30+ years ago. It is truly a shame that constraints such as mandatory catch & release cannot be implemented for a period of time (3 years) then move to a slot limit of some sort. This will allow the fish populations to regenerate and provide better results per outing. The obvious issues would be enforcement and the local guide services would most likely have concerns, but in the long run the local businesses would benefit. Just a thought.
238	Big Stone		Water activities. Family property & Honey Rock Camp nearby.			Not sure about these.		
268	Big Stone			Have notice change				Thank you for working to make the lakes cleaner for all.
301	Big Stone	Summer & weekends throughout year.						The booths at community events are great! That is where I get most up to date information. Your volunteers are very knowledgeable.
313	Big Stone							Q#23-If algae bloom is beneficial to the lakes, so be it. If it's bad for the lakes, what can be done?
319	Big Stone							Focus regulations and controls on the high impact threats and egrgious violations, not routine marginal violations. Example: boat safety. Prosecute vigourouly a 3 time offender involved in a boat fatality. Don't restrict the tourtine boating activity of the other 99.9% of lake users. Prosecute someone intentionally dumping oil or gas in the lake. Don't outlaw well maintained old motors. They will decline as a % of motors on their own schedule. Regulate carefully, don't kill the goose that lays the eggs.

Survey #	Lake	Question 2g	Question 10m	Question 11m	Question 18p	Question 20r	Question 21r	Question 32 and other comments
361	Big Stone			Speed boats		Spearing pressure		Q#23&24-Algae only. Q#32-Water too dark to support plant life in Big Stone. More attention to things that negatively input residents would be appreciated such as excess noise/danger of speed boats—too much of what is done in the area is to make sure (*name removed)* sells more dinners without regard to taxpaying seasonal residents concerns who are disenfranchised. So much excitement about me and my minnow bucket to inspect the bilge water in the ocean going freighters in Lake Michigan. How about a fine or two for them. Since most/all of it has come from there and now that it is here like CWD probably will continue to spread no matter what we do.
378	Big Stone							Appreciate your efforts in regards to invasive species very much.
381	Big Stone							I would like to see more education of resorters & out of state weekenders re: boating rules & regulations. We have too many boats coming too close to our pier and swimming area, not giving anchored fishing boats enough distance, skiing past sundown, etc. Bit Stone gets a lot of traffic on holidays & weekends. We're used to that and generally keep our boats in the lift unless we have guests that want to ski & tube. We know that the lake patrol has too much area and not enough time to be on top of everything. They are a good bunch of kids, but are never around when the most annoying violations are happening! Thanks for your good work keeping up with the population explosion!
396	Big Stone					Renters behaving badly.		I would like to see 2 meetings—one like the current meeting and one that is more interactive. By the time the board has given their reports, the attendees are ready to leave. Guest speakers are great as well. This is probably one of the most important groups. Why do more people not attend? We did not receive this until 10/28/11.
442	Big Stone							This survey is an excellent start. Follow up with results.
495	Big Stone			Big time cigar boats		Noise polution during shoot out	Septic system discharge from mobile homes on Halverson Rd.	Q#31-Age is a factor. Q#32-Move the shoot out to other lakes on the chain and give those residents a chance to experience the noise, racing in off hours starting on Thursday night and running through the following Monday. There has been no evidence of patrolling Big Stone during this time. We do support the work ethic of the Fire Dept.
501	Big Stone							We have owned property on Big Stone Lake since 1980. The fishing used to be fair. It has been very poor for the last 10-15 years. Please, no more Musky Tournaments! Can the native Americans please spear fish someplace else!
510	Big Stone					Indian spearing		Why do some property owners get to "Bend" the zoning rules when they build and others have to follow the zoning requirement to the letter of the law? It seems to depend on who the contractor is.
519	Big Stone							Leave the buoys and no wake zones the way they are. The 100' from shoreline no wake would make negatively impact boating
521	Big Stone							Articles in the newspaper are well received and informative.
527	Big Stone						Staganate runoff water	Tubing & wave boarding are producing huge waves that crash into the shores. This is bad for the land (erosion etc) and for home owners physical property. i.e. boats, piers, etc. I don't have a solution for this problem.
563	Big Stone							Q#13 Bad question-too many variables to answer.
564	Big Stone							I do not use a jet ski-but the law making them go no wake in the S curve while boats are on plane is very dangerous. Jet skis should be allowed to keep up with boat traffic. The "Danger" buoys in the S curve only confuse boaters. It makes no sense. Visitors to the lake think it is no wake and I have been yelled at for being on plane while new visitors to the lake thought I was breaking the law.
572	Big Stone							I would like to see the Burnt Rollaway Boat hoist shut down permanently due to the spread of Eaurasian Water milfoil on the Three lakes side of the dam. I feel that the TLWA has stepped up their efforts to educate the public as I have seen some of the volunteers working at some of the boat ramps. I applaud their efforts. However, in my opinion I don't think the "average" property owner cares enough to try to make a differenece. I see many raking leaves into the lakes instead of disposing them in a different manner. People use the lakes as their ash tray by throwing cigarette butts in the water as well as other debris that washes ashore. I would like to see more law enforecement pressure on the chainn as I have witnessed several boating and PWC laws being broken. Education is one thing but compliance is the real issue.
591	Big Stone						Boat traffic from nearby resort	Water police discrimination to jet skiers. Discriminating rules/laws for jet skiers. Power boaters rules enables them to over take jet skiers when jet skiers have a "no wake" rule! This creates very dangerous conditions for the jet skiers safety! If it is a "no wake" area for jet skiing it should also be a "no wake" area for high speed power boats. A jet skier is going to be run over & killed by power boats!! Please get this discrimination "no wake for jet skiers" rule changed to include power boats.
602	Big Stone							Q31b- not sure what it entails. Q32- it would be great if people stopped clear cutting shoreline to build. Not sure how people are getting permits to do so.
615	Big Stone							Q#4-cited on primary reply. Q#32-this is a secondary submittal. Our cabin is on Spirit and that submittal should control; however our property extends to shoreline on Big Stone for which we have slightly differing observations based on 66 years of experience.
178	Big Stone, Laurel, Spirit, Moccasin & Medicine	Summer, weekends, holidays				g-From Hwy. 32		As a member of the Three Lakes Rod & Gun Club, I own a cottage on Spirit Lake but am 1/25th owner of our property on Spirit, Moccasin, Laurel, Big Stone & Medicine Lake. On Spirit Lake we (my family) are concerned with the water quality. We have had what I feel is excessive aquatic plant growth for some years now. More recently a lot of snails making swimming (walking in and out of the lake) tricky along with an unpleasant smell. It is hard for me to prioritize concerns when I am unsure of what is or are the causes for these problems. If I knew to what degree runoff, septic, etc. cuased our problems I would certainly list them as a higher concern. No more no wake zones! Thanks for all the hard work.
21	Crystal							#28-30- only what I read in the paper as I am not a member of TLWA, however need to inquire about joining.
162	Crystal							Need a no wake zone between Big Stone and Laurel lakes
300	Crystal							Q#31-too old

Survey #	Lake	Question 2g	Question 10m	Question 11m	Question 18p	Question 20r	Question 21r	Question 32 and other comments
344	Crystal							I believe that the no wake on Crystal Creek is too long. I believe it could be shortened on each end and still be effective.
406	Crystal					Jet skis		
455	Crystal			About the same				
555	Crystal, Spirit & Moccasin	2F-Spirit Lake undeveloped lot 2G-landing w/ piers Crystal	Shore fishing	All have decreased		Starks TV Tower Strobes	This is based on current lake population. Crystal is a long narrow lake-5 boats skiing is a crowd. Activity has been down in past 5 years.	Q#19-We believe the Burnt Rollaways Boat Lift should be closed to protect our lakes. All we are doint with it open is planting seeds for the future and having to Chemically treat our lakes with something we know is not good for the environment. What's the impact if we keep it closed, a few sad toursits. If we keep it open, disaster over time. We don't need Eagle River's problem in 3 Lakes. Q#22-Lake is shallow-max 7' depth. Q#25-have enough info currently and appreciate your additional efforts. Q#32-We have property on Crystal Lake. Crystal Lake is a max of 7' depp. It is very dark which help[s protect the fish. The boating impact is moderate, we have the folks that live on the lake, which for the most part are considerate. A few nature viewers coming through, however being on the end of the raod, having darker shallower water and a lot of wetland frontage reduces traffic. Our fishing has stayed about the same over the years, however our fish spawning quality & FISHING QUALITY IS HIGHLY IMPACTED WHEN THE WATER LEVEL IS DROPPED AND DOES NOT RECOVER TIL June. Crystal is only 7' deep in the deepest spot. So you take away 1' of water, you take away precious spawning habitat. Water level consistency would be my #1 concern in Crystal Lake. The
43	Deer						Speeding through no wake	We are busy yet with construction of our home, but will be willing to help in the future.
61	Deer							In the western area, going into the crystal channel, the weed growth has taken over a large area that 10-15 years ago, people could canoe or fish in this area. Now, you can't canoe in this area because the week growth is too thick. The concern is from the cranberry farms draining into the lakes with fertilizers causing excessive weed growth and silt.
75	Deer							I believe ice fishing pressure and fishing pressure overall is too strong. I think the DNR needs to monitor how many fish are being taken out of our lakes especially in winter when guys sometimes fish every day! Creel surveys could tell us how many fish are being taken and we could stock if harvest numbers are too high. I have noticed a HUGE drop in crappie size and population in the past 5 years. I hope we can work together as property owners to improve pan-fishing for our future (our children). Thank You!
80	Deer					Boat racing		I (we) are concerned with the impact of the new Northernaire Resord on Deer lake. Clear cutting the forest-installed a large septic system for resort instead of a sewer line to town. Boat traffic and uneducated and rude boat operators. Also concerned with high powered boat racing on Dog-Deer Lakes. Noise and safety. Someone will be killed because this is allowed.
101	Deer							Crystal Creek is overrun in vegetation at this time due to the no wake. Before this 12 years ago the creek was wide and properties frontage was clear. Now it's like a jungle and that can't help property values at all. Take out No Wake on Crystal Creek (all). Crystal Creek end of Deer Lake needs to be dredged along with Crystal Creek. Better red and green markers (replace when missing). Too many lily pads. Somehow make homeowners keep up shore stations and piers. Naver-Never-Never let lake levels go down.
154	Deer						Jet skis	Too many jet skis going too fast & destroying quality of life in the lakes. Wild rice is overtaking shore areas. Fishing on the chain is getting poorer & poorer. Where are any pan fish even in the chain? If fishing keeps getting poorer & poorer the area will eventually lose its appeal.
207	Deer							The rule which treats boats & jet skis differently is dangerous and a disaster through Laurel Lake. Jet skis no wake, boats can have a wake. Plus most people don't know what the rule is. Thanks.
219	Deer							Please note I own a vacant lot as an investment. I don't visit regularly.
243	Deer			Wake boarding				
277	Deer							We own an undeveloped lot. Unfortunately, we therefore do not use the lake (or chain) for fishing or other recreational activities. We have no plans to build a home on our property. Sorry we can't be more helpful with your survey.
279	Deer					Boat high speeds	Excessive use, speed & noise by non owner users of lakes!	I would support water skiing-hour of day regulation. We have water skking in front of our property until nearly dark. I would support water spped limits. We have boats racing in front of our property at speeds in excess of 70 mph with deafening noise.
299	Deer					#20h-especially where development has occurred. #20m-discharge/runoff from golf course?		Q#14-no apparent problem. Q#15-more lots have been developed. Q#22-I live adjacent to a shallow bay. Q#32-I am unable to participate in projects due to the limited time I am able to spend visiting Three lakes.
310	Deer					Q#20j-Indians Q#20r-Spearing	Spearing	We used to be very supportive of the TLWA and especially the efforts against the spread of milfoil. Unfortunately I can no longer support your efforts after your radical stance on the no wake zones. I was completely disgusted by your efforts to influence the town board while suppressing other positions that didn't align with yours. I am pleased that your underhanded efforts were exposed and the feelings of the majority of lake property owners prevailed. You may represent the wishes of a few senior citizens but not much beyond that. Stick to battling invasives and don't mess with how people use the lake!!!
339	Deer							Q#13-Why does someone need to go so fast so close to a shoreline? Q#22-We get rice growth. Q#32-Dredging of lake to remove muck—(years of accumulated debris from trees) will help remove a lot of the aquatic plant life—such as rice plants & animals that like muck (as opposed to sand). Q#32-Dredging of lake to remove muck—(years of accumulated debris from trees) will help remove a lot of the aquatic plant life—such as rice plants & animals that like muck (as opposed to sand).

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392	Deer					Number of piers at Northernaire.		Q#12-Too many for jet skis, too few for boats on Laurel Lake. Q#32-I really feel the current situation on Laurel Lake regarding no wake for PWC's but not boaters is very dangerous. The regulations should be the same for both watercrafts and waterskiing/tubing should not be allowed in the Laurel Lake area. Also, more informed notice of meetings and information is needed from the Water Association. For example, I received this packet Oct. 29 and it needed to be mailed by Oct. 31. Pretty short response time.
392	Deer							We received this Oct. 28. Please allow more time for responding. Had to do this in a hurry.
420	Deer					Need more fishing cribs		If in the area I would volunteer making more fishing cribs to increase fishing habitat. Most of the cribs are over 20 years old. Concern of noise polution. Loud, large parties (weddings) after sunset with loud bands & speakers aiming toward lake. Water carries sound!
443	Deer	North condo						
470	Deer					Indian spearing		
477	Deer							As I remember Deer Lake back in the 1930's, there was a large island on the west side of Deer Lake with large trees, underbrush, wild life, deer, bullfrogs & animals. Now this island is approximately half its original size because of slow moving power boats making huge waves to put water skiers and children on tubes to make by waves going round and round Deer Lake causing washing away unprotected shoreline and upheaving private piers. Without stoning the east shoreline in time there will be no island and where will the debris and floating bogs float to? What if anthing is the answer or let nature and man take its course.
480	Deer			Wakeboarding		Wakeboarding	Wakeboarding—impact on shorelines	I am greatly concerned about shoreline destruction recently begun by wakeboard tow boats and have expressed my concerns to interested bodies in writing. Hopefully the issue will be deliberated and taken seriously.
488	Deer			Wakeboarding		Wakeboard boats	From wakeboard boats	Condo development and additional boat slips are degrading this lake. Wake board boats (wake size) are reoding the lakeshore. Almost swamped my boat twice this past year—inconsiderate wake boarders within 50 ft. of boat/50 ft. of dock. We understand right to use lake for all. How about no wake til 9 am & after 7pm? Noise polution. Address certain size wakeboard boats eroding shoreline. Thank you for your efforts!
522	Deer							Against large wake skiing & wake boarding boats (blader boats)
543	Deer							Q#13- but not enforced
17	Dog							Does the Association have any information on who and why the waterlevels of the upper chain are changed? Is there a requirement to allow a certain amount of water to flow through the dam no matter how much the upper lakes drop?
48	Dog							Water clarity-a few years ago I bought an underwater camera-on the nearby lakes you could easily seethe bottom-then Big lake started getting cloudy. Then in the next year or so you couldn't see bottom very much. Then it was the same in Dog, Deer and Big Stone. Didn't fish further north but talked to others further up the chain with the same problem. Now you can't see the bottom with the camera laying on the bottom. Drop you bait in the water and see how far you can see it. Not very far.
84	Dog							Did not receive survey until 11-3-11
98	Dog							I realize I'm returning the survey late, but I just received it 3 days ago from my brother. For us non year round residents 2 weeks return time just doesn't allow enough time to respond.
100	Dog							The channel running from our property out to the lake is in serious need of dredging-the water level is low & the silt has built up so much over the years that getting a boat or pontoon out on to the lake is no l onger enjoyable. The motor touches the bottom.
223	Dog						Over regulation.	
330	Dog							We have a beautiful boat landing on N. Big Lake Loop that cannot be used by many of us because sand has come in and made it too shallow a couple seasons ago. It needs to be dredged so your boat can be released off the trailer at the pier.
405	Dog							Q#13-Very poorly worded.
408	Dog		I am 89 years old widow.					
503	Dog			Wakeboarding	In recent years there are more snails at times. Don't know if this is what they are.	Boat traffic noticed during 4th of July week especially.	Don't know of problems but wouldn't want it.	Q#13-appreciate that jet skis don't come close to the shore at high speed anymore. Q#23-so far we've been fortunate. Q#24- chemical control as used in Long Lake & the Thoroughfare to the dam. Q#30-We were not for more slow no wake areas as was being proposed earlier. Our chain is great for boating compared to Eagle River's side. The only time our side gets too busy is during the weeks around the 4th July. Q#31-husband does this now. Q#32- Perhaps boating safety could cover this problem that we have noticed. A new owner on our lake has several children. They use their boat to take the kids water boarding. The seem to "plow" instead of getting up on plain which causes a large wake-which ultimately causes large waves that erode into the shoreline. They seem to go around & around in the lake instead of spreading their impact out into other lakes. This goes on for the 2 weeks they are here. We had never had that problem until the last 2 years. Because we are near the beginning of the chain we don't have a huge traffic impact problem other than this new neighbor. We have a hig performance boat which is often used to go slowly along the lakes, but we do enjoy getting to a destination quickly. We appreciate all the
13	Dog & Deer					Drunken, careless behavior		Because my age & health issues force me to spend less time in my haven, I doubt I will be able to volunteer much of anything. However, hopefully in time other family members will take my place. Thanks for your dedication.
259	Four Mile							Q#4-not sure, maybe holding tank. Re: Four Mile Lake: I no longer see otters and rarely see loons, both of which I would see in years past. Maybe the introduction of jet skis has something to do with this
398	Four Mile	Weekends in fall & winter plus summer residence.						We would like to see a lake management plan done for Four Mile Lake.
581	Four Mile							Only present a few weeks each summer.
24	Island							Enforce the no wake zone 100 feet from shore. 2. More control of jet skis within 100 feet of shore (i.e. slow speed in this area)

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71	Island		Also snowmobiling	New huge boats going to & from watercraft		Boat traffic great negative impact on weekends.		Personal watercraft too close to shore in our bay. Do not wish to volunteer, never know when we come & go.
133	Island							Would like to help but live out of state.
184	Island					20f-High speed boats. 20r-Loss of trees, trash in lake.		Q#9-Canoe & rowboat , both with 10hp. Q#27- Would like to be member. Q#32- Need to know why do people buy on the lakes for the woods, the lake & the wildlife, then as my neighbors do cut down all the trees, plant grass, misuse the lake & shoreline, drive off the wildlife (they do however feed the deer) & put in dusk to dawn lights that stay on even when they are not there. Just wondering. Why do jet ski & high speed boats need to be next to shoreline & buzz the island (which is ½ the size as it was 30 yrs. Ago) at top speed. This is not good for our shore. Also due to high speed & poor boating safety I can not let my kids swim to the island & back, not any more. I used to sail. Not any more. Boats will not slow down for sailboats, canoes or kayaks. In fact, some will cross your bow without slowing down. Jet skiing is of most concern. Conservation people talk the talk, few walk the walk. Runoff from loss of trees, grass fertilizers, septic systems, pesticides are used by people who talk conservation. We also are seeing a ten fold increase in hard surfaces around the lakes. Natural shorelines are going fast. I have a large natural shoreline and take heat for it "looks bad". Will anything be done? No! Do not want to unset the big spenders!
193	Island							Love to but can't.
206	Island							Unsure—due to the ages of our children, we are not here that often.
293	Island			Unsure				
329	Island					Indian spearing	Indian spearing	What is the exact impact that Indian spearing has done to the Three Lakes chain? The party we purchased our home from said that fishing was so much better before the Indians were practicing their tribal rights?
388	Island					Large boats/fishing tournaments		Q#4-In ground pressure system Q#32-As a long term property owner & lifetime visitor I have noticed a change in water color. We used to call the lakes "root beer cola" now they a mare grey. Also, weed growth and type has changed over the years. I am opposed to fishing tournaments. I do not appreciate the very loud boats.
389	Island							The bay area of Island Lake needs to be looked at. The different weeds are so bad that I have trouble getting a small boat out. Fishing used to be great off the pier but that's not something that can be done. The weeds are so bad. I don't know how the animals (fish, frogs, duck) can get through. At one time a lot of frogs could be seen or heard. This has been goind down for years. Have seen many rusty crayfish in the last few years in bay also by islands, sandbars. I reported this. This letter was dated 10/17/11. It got to my out of state address on the 2d[h]. You might want to think about snail mail when you put a deadline on things if you really care to count the response. Have a good day.
414	Island							Short notice on the mail by date
445	Island							Spring spearing by native Americans has had a significant impact on fishing and lake recreation. Really appreciate the efforts of TLWA!
448	Island	3 season residence						A monthly newsletter from May thru August
491	Island							Keep the water levels up going into the spring.
517	Island	All seasons		Water skiing major decline		Not qualified to give opinion on many of below items		Q#15-more algae every year. Q#31-we are moving away from management positions. Q#32-the last new home on Island Lake has grass the entire waterfront. How and why does this occur-the entire chain has more grass waterfront than ever. Especially in new construction the ultimate shoreline vegetation should be dictated as part of the permit process.
603	Island							I strongly support the WI boating regulations. The concern I have as a Three lakes chain property owner is total lack of compliance to the WI no wake regulations. It seems to be as much of an education issue as enforcement. It also seems to be all ages, so education alone is not the answer. Either no wake buoys are being relocated or are not anchored correctly.
117	Island & Round		Boating			Party boats on sand bars	Party boats on sand bars	
16	Laurel							Disband-We do not need any additional people-Associations or Agencies imposing their views or ideas on the people of this town, County or State. Quit trying to protect or represent people that do not want it
23	Laurel							Laurel Lake S curve area needs to be slow no wake.
74	Laurel							The traffic on the lake seems to be less than in previous years, probably due to high gas prices. There are more boats now that have been modified to make as much noise as possible. The operators of large boats seem to think that small boats & canoes don't belong on the lakes.
88	Laurel							As you can tell by my answers the noise from the large boats and jet skis are most annoying. There could very nicely have a no wake zone in the channels entering the little Laurels but of course then boaters would immediately rev up their engines. I also believe there are many boaters/jet skiers who do not respect other boaters and the rules they should be following or don't know the rules of good boating and staying away from piers. But bottom line where are on earth can you find a more desirable place to be able to enjoy God's mighty land. I hope it can be kept that way.
103	Laurel	3 day weekend-4 times per year						
106	Laurel		Caretaking					I question why the no wake was taken off the channel between Laurel Lake and Big Stone Lake. It wasn't too long after an accident when someone was I believe killed that it was changed. The speeds of watercraft are beyond comprehension thru this body of water. I'm glad we live adjacent to, and not in the channel, besides the danger, the noise is very bad. The booklet you sent was very appreciated

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156	Laurel		Upkeeping my property			20J-indian spearing (5)		Help apply the WDNR Rule "slow no wake" 100' from piers & shorelines. The problem is the town of 3 Lakes selectively applies this rule on Laurel Lake and PG this has allowed boats (not PWC) to travel at high speeds through the S curve channel on Laurel Lake and Planting Ground/Long Lake Channel. Channel markers have become merely a "slolum" course for skiers, tuberrs, and PWC's. The speed and amount of boats & PWD's in places like these described above have now become spots "highly likely" for a disaster. It's not asking too much to "No wake" 2 locations. When you think about potential loss of life. I serve in the military and understand safety and loss of life.
164	Laurel							I have been a weekend warrior my entire life. Laurel Lake feels more like home than my primary residence. Overall I think the waterfront association is doing a good job. I'm not a big fan of no wake zones as a way to make the waterways safe. I'm a huge fan of good old fashioned common sense. I have been boatin gon these lakes my whole life, so I have a good understanding of when a watercraft is being driven safely. There are so many variables that I fully appreciate how difficult it is to create good rules & regulations. I would like to see tickets handed to boaters for simply driving too fast for conditions. That would mean that if you're driving on a crowded lake, and an officer determines that you are putting yourself or others at a high risk of getting into an accident, you get pulled over. Here's the part where I get creative. Rather than simply paying a fine, I would suggest requiring a driving class with the watercraft they were driving when ticketed. During the class they would be required to drive an obstacle course so they would get a better understanding of how well their watercraft turns and how long it takes the boat to stop when driving at different speeds. They would also have to pay the instructor to time & materials. Thank you.
176	Laurel	Weekends, holidays, summer						
186	Laurel					Excess speed		I am concerned by lack of following state laws & guidelines for AIS control, jet skis in East Laurel Lake channel & noise above state limit. Controlling AIS milfoil after the fact is not cost effective in cash short budgets. Close all but 1 or 2 landings & have total control at them, not partial control like now. Shut down dam lift on boats going south. Boats north of dam have milfoil. By law, a boat coming from there needs to be out of water 5 days, not 5 minutes on lift. Jet skis come well within 100 ft. of passing boats on East Laurel channel—against law. Open exh on rack type boats easily exceed noise law limits but no one does anything about it. Three Lakes Chain only has one asset worth fighting for—clean water.
201	Laurel							Police monitoring on Laurel Lake is excessive. They need to "sit" in the "S" curve to control traffic, not in the bay across the campground. We are afraid to even let our kids/guests go out for they will be stopped, many times to just check , while busy, others violate as they pass. I'm all for safety, but……
211	Laurel							Q#31g-But will donate.
254	Laurel						Foreign objects put in water people don't care	We love living on the chain, but wish people would show more respect for the water. We see way too much trash in the water, put there of course by people that don't care. But it happens all around the world. We try to clean up what we can, wish it was done by more landowners.
266	Laurel							When I write that Laurel Lake is slightly degraded I'm referring to the increase in seaweed. It is my hope that the TLWA maintains a blanced outlook of the issues and feeds that cooperation through education is much preferable to reams of regulation.
275	Laurel					Boats without underwater exhaust		My major concern relates to the volume of high speed boats- safety of same- the noise generated and subsequent shoreline wave action erosion. Received 11-5-11.
280	Laurel			11g-ducks				Q15-shoreline
283	Laurel				Mpt sure but strange weeds completely choked out fishing & boating in the south bay.			Q#31-only there in summer but would help in any way we can. We are 70 years old. Q#32-Our bay on the south end of Laurel used to be good for fishing. A person could row around the whole bay. Every year the weeds got worse. We took week samples to the DNR in Rhinelander and told them our problems. They said they might get to our lake in about 14 years. Now the bay is completely over run with weeds-you can 't get a boat anywhere in the bay. So the panfish, bass, northern and musky are unattainable. We only kept panfish but now you can't get back to fish for them and the weeds are going out further into the lake.
295	Laurel							The Three lakes Waterfront Association should be less biased against recreational boating and skiing on the chain.
302	Laurel							Q#27-former member will renew. Q#31-not at this time.
327	Laurel							Q#4-Aerobic digester. Q#32-I think that the TLWA is doing a fine job. We are not visiting on a regular basis, monthly roughly.
397	Laurel					Oversized boats.		
454	Laurel							The promotion of high speed, high noise boats to our area has been extremely negative! There are better ways to raise money and preserve the natural beauty (peacefulness & quietness) of our lakes.
461	Laurel	Full residence in summer, weekends during fall, winter & spring		Same, have only had 2 years				Q#29-Probably because we're not active members, but we would like to be. Q#32-We have only been property owners for under 2 years on Laurel Lake. We have not become members of the Waterfront Assoc. yet, but would like to join and be active members. We spend the majority of the summer at our residence, as well as weekends throught the year and are very interested in maintaining and improving the quality of Laurel Lake and the entire chain.

Survey #	Lake	Question 2g	Question 10m	Question 11m	Question 18p	Question 20r	Question 21r	Question 32 and other comments
469	Laurel					Limited enforcement of laws on shoreline & lake bed alterations.		In over 40 years on the chain, I've noticed an increase in "slime" on shoreline rocks & a hug increase in the number of snails in the lake. This leads me to believe that the water quality is declining. The Assoc. should be putting efforts into preventing fertilized lawns near the shoreline & maintenance of septic systems. I'm glad to see the efforts being put into control of invasive species & feel that the focus of the Waterfront Assoc. should be on water quality not on restricting lake use. Lately there seems to be an effort from the Assoc. leadership moving in the direction of more restrictions on the chain. In this effort, they often express their own opinion giving the impression they are speaking for all waterfront property owners. Most people I talk with prefer to limit further restrictions on the chain. I know quite a few people that have dropped their TLWA membership out of frustration with this.
475	Laurel	Part time summer and winter						
484	Laurel							Q#31-When we retire we will be able to help out. No time now. Sorry. Q#32-Please do not make a bunch of rules and regulations regarding boating times, etc. ie: speeds and a lot of no wake sections. I feel things are great right now and people have to be responsible boaters without more rules and need to be able to make good decisions.
508	Laurel							The Lake Waterfront Association I believe has a important role inmonitoring the quality of the lakes. My time is limited however if I can be assistance with your efforts please contact me. One comment I do have is that the 10ft rule from property owner to another ref:placement of docks is not enforced both of my neighbors are approx. ½ of distance from my property which makes it difficult to get my boat in to my dock. This dock is within the 10ft rule for 30 years. However new people in area do not respect that rule. They want as much lake room and when they don't have enough they break the rules and make it difficult for others on the lake. You try to uphold the lake rules.
551	Laurel							The buoys placed in the center of Laurel Lk have caused more confusion for boaters. Over the entire chain the buoys should all be illuminated, or not. 50% lit causes hazards.. The Laurel lk boat accident of 2006 had nothing to do with the S turns. It happened in the lake away from the turns-the boats drifted west twoards the turns-bot boat drivers were drunk over the legal limit.
614	Laurel						A large portion of our land has been swamped by the artificially maintained high water level and is no longer useable or accessible. It amy become good wetland?	Q#4- included on primary submittal Q#32- This is a secondary submittal in accordance with your instructions on Q#1 Our primary submittal is for Spirit Lake; but we have slightly different observations regarding Laurel (where I lived for 35 years) If you cannot consider this additional input, please disregard, but do consider our Spirit Lake survey.
78	Little Fork							I currently do not live at the above residence my mother does and maybe she would be willing to partake in the above circled activities.
82	Little Fork							#4-redone/New 1999. I believe there should be a noise level (decibels) limit on boats allowed on the chain. Possibly a horsepower limit also. A speed limit also needs to be considered.
86	Little Fork							TLWA does an outstanding job. Boats are bigger & faster every year. Safety is an issue on the chain. More slow no wake zones are needed not only for safety reasons, but also to protect native aquatic plants & shorelines. It is sad that TLWA has a 50% membership level. Property owners who are not members should be embarrassed. The town should opt-in to the provisions of Act 31 regarding slow no wake.
107	Little Fork							Good survey! Lousy timing! Your letter dated 10/17 Just recvd. 11/11. Have 2 other properties: 1 survey! No envvelope.
160	Little Fork		Boating	Loud racing boats		Noise pollution terrible		Q#13-we have had some close calls-we use a swim dock to protect us. Q#32- 1. Control decibel level of motors-noise pollution. 2-racing boats at high speeds-need to be curtailed. 3-more evening patrol needed on the water. 4-please keep up the good work. 5- I have been trying to purchase Joe Pie Weed and other native plants for the shoreline. Where can I get them at a reasonable cost?
180	Little Fork					Jet boat		Watch the jet ski traffic
196	Little Fork							I strongly disagree with the association taking a position for or supporting any additional no-wake zones on the chain.
205	Little Fork							We are gravely concerned about the impact of Native American spearing, and we are dismayed to note that this survey did not address the issue.
298	Little Fork	Monthly visits					All channels should be no wake zones not just select few.	
376	Little Fork					Walleye spearing	Walleye spearing	
492	Little Fork						Spearing	
545	Little Fork					Jet skis		I don't know it's just me. But I don't think so, My problem is friends come up and would just love to catch a nice mess of pan fish and for a chain of lakes as beautiful as it is this becomes harder & harder to do. Fishing has gone way down over the years. All the emphasis is on muskie and walleye. As we all know the walleye is a species we can no longer do much about (spearing). But I just wish someone would take a survey and I am sure the greater percentage of visitors would tell them they would rather catch a nice bunch of panfish rather than a muskie.
566	Little Fork							Need for control of boat motors that produce excessive noise. Some can be heard more than a mile away. Boats are getting too big and too fast for our chain of lakes. Boats all go tto fast thru the narrow channels. Airplanes produce too much noise pollution by flying too low over the lakes.
7	Medicine							Pamphlet on aquatic invasive would be helpful

Survey #	Lake	Question 2g	Question 10m	Question 11m	Question 18p	Question 20r	Question 21r	Question 32 and other comments
14	Medicine			Racing boats very noisy				In the last couple of years, racing boats have started racing on our lake. Three or four at a time go back & forth at very high speeds & very, very loud motors. It's hard to converse inside our cottage when they're racing! We noted that sometimes they're out there between 8&9 pm-not conducive to enjoying the natural beauty surrounding us!! Some restrictions should be in place to monitor those boaters.
95	Medicine				Increase in snails at times-not sure if these or banded	20g-cut grass/fertilizer? Only seems a few use it on out lake fortunately-potential for great negative impact. 20n-septic discharge doesn't seem problem on our lake	Really don't see problem-but am particularly concerned about maintaining the ones I indicated. No choice for no concerns-Medicine Lake seems to be functioning well-sertainly concerns on some other lakes. Of course, we want to prevent concerns.	We'd like to see more emphasis on natural landscaping. Lawns, raking leaves in to the lakes, fertilizing, over-cutting trees should be eliminated eventually . Thanks for the board's effort & work! The pamphlet is a great tool to owners for education.
104	Medicine							My greatest concern on the Three Lakes Chain is the use of wake board boats-specifically uninformed or inconsiderate drivers who use these boats too close to the shoreline. I think there should be a significantly greater distance requirement for them since they are intentionally creating large wakes.
116	Medicine							The noise level of the racing boats is terrible-Don;'t know why they've been invited to race in our lakes & think they should be curbed.
118	Medicine							1-better information to baoters regarding the danger of sudden storms, particularly storms with gusting or sheering winds. 2-heavier promotion of catch & release. 3-most fishermen do not know the best way to handlea fish that has swallowed the hook, if they wish to release it. 4-heavy, heavy fines for throwing anything foreign into our lakes, similar to Lake Erie. 5-similar to "Adopt a Highway", how about an adopt a shoreline program.
155	Medicine							This survey was very well done. Thank you.
212	Medicine							Less management by committee, more local involvement, fewer regulations, more decisions (well thought through).
229	Medicine							We think that all boater should be watched closely for violating the laws—not just the personal watercraft. Regular boats are alwys too close to shorelines and docks at speeds greater than slow no wake. We are VERY concerned about shoreline erosion and damage to docks and boats tied to docks.
251	Medicine	2b-but could be year around has heat/AC						
255	Medicine					Possibility of invasive species	Enforcement of slow no wake near shorelines from ski, tubers and jet ski's creating damage to piers/boats and safety	Q#31- because of age 81 Q#32-very satisfied with their efforts!
273	Medicine	On & off all year						
274	Medicine		Every single one is equally important! 10m-Pine trees				Matches above list #20	Q#13-skiing requires speed-avoiding boats, jet skis etc and dropping skiers, picking up fallen skiers so they don't get run over left bobbing in the water. Q#24-Are the aquatic plants referenced-natural to the lakes? Or, are they invasive? Q#32-Please do not use this survey and its collective results for expanding your mandate into areas not covered within your original by-laws. You have done a commendable job on the invasive species front. However, boat speeds and light and noise pollution and slow no wake are not within your area to lobby for change. I plan to rejoin the organization(TLWA)to stay informed but that does not imply agreement with the decisions of the board of directors nor concensus unless the membership is consulted on each specific issue. General meetings are impossible for most folks who are seasonal to attend. The TLWA does work very hard. However, "less is more" when looking at the chain. Water quality and preserving the native plants and wildlife are an important task. Landowners choices regarding recreation and lifestyle should be left to their discretion.
306	Medicine				Some kind of snail			We are not full-time summer people. Last year we were there five times, once for a week, the rest of the time 3-5 days.
347	Medicine							Q#25b-Eagles
357	Medicine							Given the short time spent during the year, I am not sure what efforts I could participate in.
391	Medicine					Excessive boat speeds.		Excessive speed of boats on the lake in general. Far too fast in operating boats inside 100' of shorelines & structures. Excessive noise & speed of boats on lake. Too fast in marked channels is unsafe. I am unable very often to sit and fish from my dock due to boats speeding and acting in an unsafe manner near my dock. I have lost tackle, bobbers, baits etc. due to unsafe operation of boats at and off my pier. People use boat landing on Medicine Lake as their personal bathroom as well as for pets, etc. Garbage is thrown everywhere and I spend my time at lease once a week to collect garbage of all types from the landing, parking areas and boat landing road in general.
395	Medicine					Indian spearing	Indian spearing	
400	Medicine							Q#31- My age 89

Survey #	Lake	Question 2g	Question 10m	Question 11m	Question 18p	Question 20r	Question 21r	Question 32 and other comments
516	Medicine							If possible, I would love to stay informed about any reports or condition updates regarding mylake. For example, as a fisherman I would like to know if studies show an improvement or decline in fish populations and more specifically, which species are doing well and which are struggling.
553	Medicine							Q31-have helped in past-can't now but soon. Q#32-It was very hard to say in #21 what we are most concerned about because we don't really know which are genuine concerns. The overall quality of the lake is TOP PRIORITY for us.We value the natural eco system however that is best stabilized. What is essential is good communication so homeowners can support what is necessary to keep it the beautiful place it is.
579	Medicine							In recent years have seen more & more aquatic plants (weeds) appearing in front of my property
590	Medicine							Q#19-it seems like its everywhere else, especially in S.E. Wisconsin with mobility it's a real danger. Q#22-not on Medicine Lake Yet.Q#24-whatever it takes to preserve what we have-so we are not like Pewaukee Lake in Milwaukee. Biological control if not affect fishing. Q#25- the problem is with ignorant mobile tourists. Q#31- I am not there often to do much of this-mostly weekends. Q#32-Since 1960 our family has enjoyed Medicine Lake. Mainly fishing, swi mming, & skiing. It has been a place where the best memories are/were made. With the spreading of the invasive species, it will be a tremendous shame if it were to overtake the lakes of 3 Lakes. The mobile tourists I think are the biggest threats in the spread of this. There are so many unmonitored landings and so many ignorant people that just don't get it. Everything needs to be done to insure that the future enjoyment is equal to the memories of the past.
595	Medicine					#20b-loss of fish habitat-native American spearing!	Native American spear fishing.	
597	Medicine							Not sure if this sighting was a native American right, but the first week in October I saw in front of my property at night two boats with high power lights harvesting fish with nets and ? Could have been a DNR study, but thought if it was in fact fish harvesting at a very high level it can't have been good for our fishery. This year is the first in 20 years of owning our property that the weed growth exploded to the point we were uncomfortable swimming. At no point in the past had we experienced this.
601	Medicine			Wakeboarding				Would like to get info about the pumping of water out of the lakes to water lawns. Is this practice legal, if not can it be enforced.
613	Medicine							Q#3- ? 66 years summer resident. Q#4- included for count on Primary Submittal Q#32- This is a secondary submittal in accordance with your instruction on Q#1) Our primary submittal is for Spirit Lake; but we have slightly different observations regarding M edicine Lake based on 66 years experience. If you cannot consider this additional input, please disregard; but, do consider our Spirit Lake survey.
318	Medicine, Spirit & Moccasin							Living on the Three Lakes side of the chain was the best decision my wife & I made when considering which side of the chain we should live on. I DO NOT want to see the numerous no wake zones in between lakes like they have on the Eagle River chain. I like the reduced boat traffice & resort occupancy on our chain vs. the Eagle River chain and would hate to see any more of an increase in either. With that said, I do believe we need more options for lakeside restaurants & entertainment. For 18 lakes & the size of our chain, 2-3 eating establishments is NOT nearly enough. I also think the annual spear fishing period for Native Americans that is allowed by the state has severely hurt the game fishing population in our chain & other lakes in the surrounding area. It is my opinion if this is allowed to occur indefinitely, our game fish population will continue to decline to the point of permanent damage. We cannot allow thousands of fish to be removed every year from our lakes & expect it not to have the negative impact that it already has!
421	Not specified							Since the unjust Supreme Court ruling on Indian rights to spear fish years ago the natural reproduction of game species has greatly diminished. Buying a fishing license is almost worthless. Walleye, perch, etc. populations are depleted. Very frustrated. Paying taxes without proper representation. Unfair. High school taxes. Also need to stop escalating—terrible. Thanks.
110	Other			N/A owned 1 year				
134	Other					Lonestone Lake		Q#14-Not on the chain-Lonestone Lake. Q#15-Lake has more weeds. We have learned that the owners of thenumerous cottages on the eastern shore of Lonestone, who own no lake frontage (it is owned by Three lakes) have led many in Three lakes to believe they speak for all owners of property on Lonestone. They DO NOT! Others besides us worry about wter quality, septic tank leakage, loon and wildlife habitat, jet ski noise and weed disturbance, over abundance of weeds which deter swimming, shoreline erosion and more!
169	Other							Maple Lake
220	Other							Q#1-Lone Stone Lake.
224	Other					Not on chain.		I support the Three Lakes Waterfront Association because it appears the chain has some problems. My lake is not on the chain, however the chain is important for my full enjoyment of the Northwoods. My family and guests have spent a great deal of time in the Three Lakes area for over 40 years/ Quality of the area is of great concern. Keep up the good work.
241	Other			Don't live there				Q#19-don't live at/on these lakes Q#-32 have always lived more than an hour away from these lakes
265	Other							Q#1- I have a place near Lone Stone Lake i.e. I'm not on the chain. However, I greatly appreciate the Three lakes area & your efforts to keep things nice. Best Wishes to you. Q#5- I don't fish, I use the lake for swimming.

Survey #	Lake	Question 2g	Question 10m	Question 11m	Question 18p	Question 20r	Question 21r	Question 32 and other comments
291	Other		Peace & quiet-if only.	Gun fire. High volume agricultural pumping.		This is for Crooked lake (feeds the chain). Massive weed issue that never existed before (some years, esp. '05, '10). Q#20g-from Frito Lay		Q#9-antique boat Thompson boat. Q#14-our lake is spring fed and very different from chain. Q#19-I am mostly concerned re:another weed problem we have, see attached photos. Q#22-usually late summer-major issue. Q#25-more concerned with major alteration of domestic weed-see photos. Q#31-like to, but 900 miles away most of year. Q#32-Something has begun in the past decade that we've never seen before (me58 years, family 80+). Especially in August, worse certain years (e.g. '05, '10) Massive amounts of celery weed grow to huge lengths, uproot, and accumulate in our bay/side of lake. The DNR came out in '05, agreed that they'd never seen anything like it. Strands 6-7 ft. long, with excessive seed pods that burst open releasing millinos of "seeds". Evidently a duck mostly in Western WI likes this weed. DNR did not see it as an issue although in their experience, never seen it before. Decreases value of property, cannot get boat out, etc. Picture attached. We've fought Frito-Lay (neighbors to south) over noise pollution for years (pump) and they won't take even simple measures. We believe this weed problem relates to action at their "experimental" farm (State Farm Road) but…they are a big gorilla in the room up there. I am distraught over this, all they care about are invasives when I have a real week problem though not invasive so no one cares. Shoreline erosion has taken many of our birch and large white pines, believe keep higher for Frito Lay pumping activities.
380	Other							Although Lake Julia is not "technically" on the chain, for purposes of this survey it should be considered to be on the chain because it is connected via the creek to Virgin Lake.
457	Other				2nd type of crayfish, not the rusty			Q#1-Cranberry Lake Q#32-Although Cranberry Lake is not part of the Three Lakes chain, it is part of Three Lakes Township. My tax bill is taken by the Three Lakes town. I often feel "left out" or forgotten. Our room tax is also collected by Three Lakes. The boat traffic has increased a lot the last 15 years by larger, more horse power and faster boats. I feel as though drivers are often less informed or inexperienced boaters. And I gues the new "me" generation knows little about lake etiquette. Tubers have replaced water skiers which by itself seems irrevalent however skiers get tired and stop but tubers go around & around and do not get tired! Making lakes more busy! It seems few people know or care much about invasive species. The WI DNR thinks education is the key but all the education on the effcts of smoking & tobacco has not stopped its use! So I gues we'll have to get used to having invasive species!!
468	Other							Better control of Seven Mile Lake water level—during the last five years no water should have been let out. Last year Seven Mile Lake level was the best it has been in 4 years. Seven Mile Lake is used as a water supply for the Three Lakes chain—its care and water supply from Hay Meadow & Shay Lakes are not kept open. Since Seven Mile Lake has been so low the weeds are becoming a problem.
12	Planting Ground					Excessive fishing pressure-spearing		
36	Planting Ground			Water skiing/tubing annoying because they don't obey rules of feet away from docks		Noise pollution just from neighbor		
39	Planting Ground					Excessive fishing pressure spearing.	Spearing	Biggest threat to our fishing is spearing, also ice fishinig.
83	Planting Ground							#4 replaced septic 8 years ago
119	Planting Ground			Have not noticed any major increase				This survey did not get to me until November 8th, so returning it by 10-31 was not possible.
128	Planting Ground							We are very pleased to have an organization like this representing the interests of our lakes, their health & their future. As non-premanent residents we are not able to get actively involved but do appreciate your efforts. Thank you.
146	Planting Ground					20j-Indians		
150	Planting Ground			none				Q#19-Asian Carp. Thank you so much for your survey. We are so happy to have our life goal of cabin ownership on the chain come true last year when we purchased our cabin on Planting Ground. After coming up to the Three lakes area for 30 years and renting, our purchase is a dream come true. We are both instructors of over 70 years combined teaching. (Jaon-English/Me-Agriculture/Shop) We will be coming to Three lakes off and on each year from our permanent home and farm in Central Illinois (4oo miles south). We want to be involved in whatever way we can to help conserve, protect, and enchance our 3 Lakes Chain. Please keep us informed and let us know how we can ehlp our second home and community. Our lakes are our wealth and future. Sorry for delay in survey but we just got it on 11/3/11. (see survey for contact info)
153	Planting Ground							I feel there are too many muskies & pike in our lake. Because of feeding habits the small fish nveer have a chance to growclearly this reduces the population of other sizeable fish you would like to catch
173	Planting Ground							Q#27-If not, I will pay dues.
190	Planting Ground		Beauty of the lake.					

Survey #	Lake	Question 2g	Question 10m	Question 11m	Question 18p	Question 20r	Question 21r	Question 32 and other comments
208	Planting Ground							Q#4f-Holding tank and second tank a spreading field. Q#32-My wife and I are mid-80's and we are not really able to participate in any options in 31 above. We feel fortunate that our property is on Wick's Rd. facing west and since this part of Planting Ground Lake is basically a cul de-sac, we have seen very little increase in boat traffic over the years. Even the number of new lakeshore homes is minimal. Even though we get regular information re: invasive aquatic species, my knowledge is limited. Thank you for your excellent work.
240	Planting Ground	Year-round home, not primary residence.						Q#30-I am not always sure. I am not present when policy is decided. Q#32-Safety: Buoy management.A. Buoys should remain in water until Nov. 1. B. Buoys should be checked for proper placement/position immediately after periods of high wind.
256	Planting Ground					Jet skis		I am always glad to see the 3 Lakes Waterfront Association at boat landings. I am greatly interested in helping prevent the spread of quatic species. I used the information from 3 Lakes Waterfront Association for a presentation in Biolog class. Great info!
282	Planting Ground					20f-speed		
285	Planting Ground							Close Burnt Rollways Dam. Enforce 100' law on west shore of Planting Ground. Limit jet ski hours.
287	Planting Ground							I am all for aquatic plant management. I am very much against more regulations impeding traffic flow on the chain, in other words, no more slow no wake zones. I don't know what kind of impact the TLWA can have on fishing regulatins but I am pro-walleye and whatever can be done to help walleye populations would be great. Less Indian spearing and lower musky size limits, for example.
297	Planting Ground					Lawns & fertilizer		The association needs to get a law past banning lawns, fertilizer, and herbicides.
312	Planting Ground	Q#2b-Some of fall & a little spring			Q#18a-Not in our lake yet! Q#18c-Not seen yet!	Respect for "no wake" zones.	Respect for "no wake" zones.	Q#24d-Would be very supportive with ample education! Q#28&29-Local paper reports extensively on Vilas Co. projects but little on Oneida Co. Q#31b-Do this already. Q#32-Work with local paper to produce Oneida Co./Three Lakes reporting (if that's possible). Also, do all you can to emphasize the need to respect "no wake" zones. That action will help with shoreline erosion problems and disturbance of wildlife!
323	Planting Ground	Year round home used throughout the year		Q#11m-People anchoring their boat off shore & spending the day				Q#12-I'm all for protecting shoreline. I will abide by no wake areas no matter how many. Q#32-I love Three Lakes & Planting Ground Lake. I have not been involved mostly because of other time commitments and sporatic times * am at the property. I come North to host for family & friends and take care of my property. Thank you for your work to keep the lakes in good order. I received this mailing 10/28/11. This is a very short response time. Mailings can be a very limited way to get a response as a survey method. More time would have been appreciated.
342	Planting Ground	Cabin #4 Russell Wood Resort Condominium						We really appreciate your concerns, involvement & efforts in monitoring and leadership in protecting this "string of pearls"! We see our Planting Ground Lake (cabin) as our Lake Geneva perhaps 40-50 years ago. Thank you, thank you.
346	Planting Ground			Fishing tournaments				
371	Planting Ground							We do not live in Three Lakes so it is very hard to volunteer. Please keep up your good work. It is so very important to our chain of lakes.
372	Planting Ground			All are the same since we have only owned the property 3 years				Q#24-I believe Planting Ground has a healthy population of native plants. Control would only be warranted if invasives appear. Not supportive unless to control invasives.
374	Planting Ground			Pontoon cruising				
377	Planting Ground							Fishing on our lake rapidly deteriorated after the courts allowed Indian spearing. This was very noticable. This has appeared to affect fishing much more than the other factors addressed in the questionaire. Appreciated the booklet you sent.
394	Planting Ground							We're retiring to Three Lakes in about 8 years. I plan on volunteering more towards retirement. Right now we're seldom in Three Lakes.
407	Planting Ground	Year round capacity, used mostly in summer						
416	Planting Ground							I would like to see boater regulations posted at boat landings, along with pictures of the aquatic invasive species. Many thank to the active members of the TLWA.
419	Planting Ground							Q#31g-Monetary help
422	Planting Ground					Reckless boating		Years ago our water was brown, allergenic & poorly transparent, due to logs in water. Since then it has become steadily clearer, purer and less ellergenic despite huge increases in development. Loss of habitat due to development and shoreline clearing has been severe. Many wetlands were filled, others damaged by boating and erosion. Most land dwelling animals other than deer have disappeared. Deer are too abundant and eat all undergrowth, impairing forest growth. Since deer have no predators, hunting should be strongly encouraged—even subsidized to feed the poor.
447	Planting Ground					Reckless PWC traffic	Reckless PWC	Force rapid septic inspections of chain properties. Many have failed and the county refuses to expedite inspections. I'm told the 3 yr inspection goal to have all properties inspected will take 3-5 years!
452	Planting Ground					Indian spearing	Indian spearing	
498	Planting Ground					Spring walleye spearing		

Survey #	Lake	Question 2g	Question 10m	Question 11m	Question 18p	Question 20r	Question 21r	Question 32 and other comments
509	Planting Ground							Former members of Associations standing a few years back on no-wake zones. Did not ask for consent or any kind of support from members. Leadership took steps without consent.
511	Planting Ground							Too many 4th of July fireworks both before 7 after especially after the 4th
533	Planting Ground					Jet skis		My lake is greatly affected by skiiing, tubing, jet skiing, etc. In particular by the large boats that create waves that are very damaging to the shoreline.Much erosion has occurred due to these activities. Also, lawn fertilizing has promoted weed growth to a great degree. Swimming is not nearly as enjoyable as it once was.
537	Planting Ground							I believe the endless dragging of kids on tubes by high powered ski boats and pontoon boats during the summer with no regard for others. Pontoon boats going too slow between channels make for acciden ready to happen boating. No hi powered stereos on boats making too much noise. The Eagle River chain allows large billboards on the shoreline for businesses off water. I hope the Three Lakes chain restricts shoreline signs for advertising. Thank you for all the work you do to protect our lakes.
589	Planting Ground							My wife and I appreciate all efforts on the part of the TLWA
598	Planting Ground						Drawing down the water level too far	
166	Rangeline						Canadian geese on shore	Arrived in our mail box on 11/1
269	Rangeline							We are on Rangeline, the water is becoming more murky. Do the cranberry bogs that drain into our lake contribute to this?
384	Rangeline							The canal between Range Line Lake & Planting Grould could use to be deeper. The bridge could also be done to make it better for more boats to go through.
417	Rangeline						Lake water for springly	Q#24b-Channel
474	Rangeline							Drainage from Rice Lake swamp into Rangeline cuases dark color of water. Are there other issues in lake?
532	Rangeline							Initiate a slow no wake ordinance from dawn until 9am. That way people and fishermen could enjoy some peace and the locals that water /jet ski could still do it after work. Nothing sucks more than going fishing at 7am and still get bounced around by jet skiers and water skiers who have no consideration for others
567	Rangeline			Camp Luther activities				Q#24B-dredging of causeway between Rangeline & Planting Ground is a must! Q#31-wish to volunteer at a later date. Q#32-Dredging of causeway between Rangeline & Planting Ground. New bridge so boats can appreciate the entire chain of lakes. Buoys keeping skiers & speed boats away from shorelines.
138	Round			Hiking & running				
249	Round							Q#24-response is for normal aquatic plants, not AIS
325	Round		Q#10c-Pontoon					Q#4-W/lift up a hill.
343	Round							For fishing purposes I was extremely disappointed that the large lily pads disappeared.
504	Round							Curtail hours for water skiers, tubers, jet skiers or strictly enforce current state law as other Northwoods Lake Communities do, such as Boot, Muskellunge, etc.
574	Round							Please let me know if & when I can help- part time resident
114	Spirit & Moccasin							We have a lot of snails and the trees are dying between the lake and the road.
115	Spirit & Moccasin							There are a lot of snails in Spirit Lake-we scoop them up and throw them in the woods. They are hard and when shells break, the shells are very sharp. We are also very concerned about the loss of trees between Hwy 32 and the lake. It seems that many trees have no deep roots. We have an area where there is a “cave” between the lake bed and the tree rootballs. It seems the trees don’t have deep roots. The “cave” goes under the trees for several feet. We are not experts, but wonder if the roots have rotted because of the high water level-the roots are always in water. There has also been ice heave.
284	Spirit & Moccasin					20(0)-& exhaust from Hwy 32	Truck traffic along Hwy 32-impacting all trees along Spirit Lake	Q#8-no fish. Q#15-snails.
303	Spirit & Moccasin				18c-on N. Shore informed RHI	Salt runoff from Hwy 32-roads should be sanded!	Salt runoff	Q#13-This is not applied fairly. I agree but should be the same for personal watercraft. Q#25-I have taken classes, seminars on all-and have literature on all. Q#31b-already do this. Q#32-Help the town water police to instruct offenders, not ticket, they harass jet skiiers. Many times they use no common sense, and give false information out, i.e.must have life jacket zipped. I have heard many complaints about the water police being rude, aggressive, just looking for something that may or maynot be correct. They break laws going after would be offenders. If a motor boat gets too close to a jst ski and swamps it-the jet ski gets the ticket-They are over zealous towards jet skis. NOTE: the only boating accidents on T.L. Chain were involving motor boats and alcohol! We witnessed a father and child on a P.W. in Island lake going from Round by the channel and a fast motor boat made him have to change course closer to shore- The water police stopped him! He was just trying to be safe and get out of the way of the power boat (ski boat).
399	Spirit & Moccasin						Road runoff—salt and polutants.	One area of concern is boater education. I see a lot of power boating close to shore in shallow water—wintin 300’ of shore in 5-6 ft. depth. There is good weed growth and habitat in these areas that is destroyed by this activity. The cut weeds end up along shore and decompose. Not sure why people boat and ski in shallow water. Perhaps safety reasons if an accident does occur? When we ski on the chain we do so in deeper water well away from shore.

Survey #	Lake	Question 2g	Question 10m	Question 11m	Question 18p	Question 20r	Question 21r	Question 32 and other comments
612	Spirit & Moccasin			Fly fish from shore in waders	Spotted knapweed-though not invasive this has recently shown up.			Our family prepared this response to consolidate our observations. Please consider the attached commment-Erosion due to artificially maintained high water levels in winter causes serious environmental degradation to Spirit Lake! 1. Since buying our cabin 30 yrs ago, the shoreline (ordinary high water line-ohwl) has moved 2' to 3' closer to the cabin. This results in disapprobation by both the DNR and Oneida County Panning Dept that is not whole within my control. 2. In that time, the lake bottom has silted up at least 1"-6". In 1980, one could dive off the dock. Now, at typical high water level, we can barely get a canoe alongside the dock. We have shortened the dock legs by this amount, so this is not an imagined issue. I believe the erosion is caused by artificially maintained high water levels during the Fall, Winter & Spring season and the resultant is silting up the lake. I'm sure this is in the interest of the paper mills' current administration and the WI Dept. of Commerce, but when the reservoir is silted up and they are all dead and gone, neither their stockholders nor my grandchildren will appreciate the profligate management of our resources. 3. I believe the shore encroachment on Hwy 32 and the high water level are the primary cause of vegetation and tree dye-off between the hwy and the lake. The root saturation kills the plants more than the road salts and asphalt off-gasing. 4. I believe all this was anticipated in 1958 when they raised the dam. At that time, the paper mills (called the WI Valley Improvement Corp) gave assurances that they would lower the water level early in the Fall before the freeze. They followed that practice through the 1980's and 1990's, but have discontinued doing so for the past few years. Maintaining the water level at high during storm seasons exacerbates the erosion. 5. Spirit Lake will be seriousl y impacted when there is no longer any vegetation between the State Hwy and the lake to buffer pollution. This does not even consider the pressure that will be placed on the community to appropriate more of our land to displace the roadway from the encroaching shoreline. This process would be appreciable slowed if the WI Valley Impr. Corp. were required to draw down the water levels as they originally agreed. Additionally, these artificially hig water levels allow facilitate access to invasive species from which Spirit and Moccassin Lakes were protected when they were connected to the chain only by a shallow (and sometimes normally dry) outflow as inmy childhood. It's nive to let fishermen boat in without the effort it took in my youth, but this is at the expense of the pristine water quality and good fishing we enjoyed before raising the dam in 1958.
40	Thoroughfare							Being on Crystal creek thoroughfare, we have seen an expunential growth of shallow water emergent vegetation in the last 10 years. It nearly chokes off any route to my pier at times. Can this be managed?
260	Thoroughfare	3 season now, maybe year round later						Q#25D-Spirit-Big-White Fish-The 3 lakes I fish most
348	Thoroughfare		Cross country skiing					Thank you for all you do. We support your efforts.
367	Thoroughfare		Quiet living					I really appreciate your efforts to control AIS. I am also concerned about zoning issues—measures that will protect the natural beauty of the shoreline.
387	Thoroughfare							The lake is just east of Big Lake. In the 1950's & 1960's the shoreline was always clear. For the past 40 years it is filling with mud & has so much wild rice that a boat cannot be rowed through it. The mud would have to be dredged not just removing the wild rice. The water is only 4" deep near the shore in many locations. I realize the indians don't want the wild rice removed and I know the larvae from dragon flies live in that mud. Wish my taxes were reduced because I don't really own "lake front" property. I do not use any of the fertilizers mentioned in this document or other included documents.
548	Thoroughfare							Repair existing no wake markers and additional no wake markers on Crystal Creek Thoroughfare.
38	Townline							None of the survey questions addressed the level of the water. The lake I am on has a lower level. I have been at the property prior to my ownership, the water used to hit the shoreline. Today it is 2 feet from the shoreline of my property.
139	Townline							Hard to answer questions about fishing quality as it fluctuates over the years. We have taken over ownership from parents. I'm not sure if they were members of Association. I answered for myself only.
175	Townline							Would like to volunteer but other issues prohibit me at this time. Sorry this is late.
236	Townline				Muskie planted by the WI DNR in the 1960's and snails mistakenly dropped out of a bucket when fish were being planted.	Planting of hybrid muskie by WI DNR.		Q#13-Should be 200 feet. Q#32-We are on the lake at least every other day. Do Secchi readings, Northwoods Loon Protection, ambhibian & bat studies. (a) Townline Lake-Catch & release of muskie has caused game fish like walleye to be severely impacted. In the 1960's you could catch your limit. Today it is very rare to do so. (b) Personal watercraft-The patrol seldom comes to our lake. Jet skis routinely come closer to boats/shorelines than routes allow, single seat capacities are exceeded by extra riders, they tow inflatables & don't have capacity to pick up riders of towables, are out on lake after dark. (c) 1960-70's algae growth not a problem. This year it was so bad you wouldn't want to swim along the shoreline all of August-Sept. (d) Fluctuating water levels have caused loon nesting sites to fail in last 2 years.
322	Townline							Control the unsafe use of large boats pulling skiers/tubers. Control use of PWC. More police presence. Reduce erosion caused by skiers close to shore – (Kendell).
334	Townline							This year Townline Lake had a very strong green algae bloom Aug.-Sept. that was not noticed the previous year. Shifting of winds and water movement caused it to disappear in a couple of weeks. Don't know if this was a general occurance on the Three Lakes Chain.
356	Townline			Public launch		Boat launch being enlarged		Move the boat launch to a bigger lake. Fishermen go max speed between channel and boat launch, sometimes after dark.
404	Townline	Condo (seasonal)-spring, summer, fall						
440	Townline							Q#4-portable toilets

Survey #	Lake	Question 2g	Question 10m	Question 11m	Question 18p	Question 20r	Question 21r	Question 32 and other comments
483	Townline	Spring, summer & fall	Hiking/walking in woods					First, I would like to thank you folks for all your hard work in protecting a fragile but beautiful chain of lakes. There are a few on Townline Lake who feel the lake is their private playground and have no regard to others who use and also enjoy the lake and all that it has to offer. The use of jet skis and high powered boats that just continue to go around the lake compromise the quality of the lake by uprooting vegetation, adding to noise polution & sometimes with disregard to birds and others who are enjoying the lake. The last couple of years there has been a major problem with algae lasting months on Townline Lake. There has been a major problem with the amount of snails present. There is no longer any bluegills, perch or rock bass that are caught that don't have the black spots or parasites throughout the fish. Keep up the good work. Thank you.
487	Townline		Golfing					
585	Townline							Quality weed growth has greatly diminished. Water clarity is very poor. Increase fishing pressure has reduced varietites and numbers of quality fish. Revised bag limits would have an impact along with more monitoring.
25	Virgin	Occassional summer use but type is year round house						
126	Virgin							Not possible to volunteer as we are only there on weekends, and no specific schedule of when we will or will not be there.
203	Virgin							Waterfront Association does a great job. Please renew my membership. (*Name omitted*)
317	Virgin					Q#20f-Jet skis	Q#21f-Jet skis	Q#19-But you removed it this past spring. Thanks! Q#32-Nice brochure! Next time include membership information—I reglected to renew—sorry. Thanks for all you do!
337	Virgin							South end of lake very weedy in summer—now has some invasive species. Ski/jet ski boat traffic sometimes affects fishing—they should stay to North side if island. Julia Creek on south end extremely weedy.
345	Virgin					Road too close to lake	Road too close to lake	Hwy. 32 too close to too many lakes.
382	Virgin							When first came to the property lots of crayfish—they are all gone? Any ideas why?
425	Virgin					Q20n-otherwise a 5 if it exists anywhere Q20r-allowing aquatic vegetation to get out of hand over the last 8 year draught		Q#23-nativie & invasive Q#24f-unless it in no way promotes growth. Q#24g-this has worsened the problem. Q#25- manage native species as well since they have expanded greatly in the last 18 years. Q#30-We will see. It seems to be headed in the right direction with this survey. Q#32-18 years ago there were much fewer "weeds" (aquatic vegetation) I believe they have expanded greatly mostly due to a recent 8 yr drought along with earlier low water level years and mild winter with one even being ice free in January and several had open water in March so vegetation got very early growing starts. This is especially worsened when the WVIC lowers lake levels & we suffer a low precip spring and summer. So it is crucial for the TLWA to curb and work to eliminate invasives and out of control native aquatic vegetation along with ALL invasive aquatic fawna. Thanks for the opportunity for input!!!
482	Virgin							Thank you for your service.
489	Virgin							I would like to find a way to plant a natural sound barrier along Highway 32. The truck & Harley traffic can ruin the lakes natural peace & quiet.
496	Virgin						Not greatly concerned	Thank you for all you do. Keep up the good work. After retirement in 3 years we will become more actively involved.
497	Virgin							Q#31-Give $ support. Q#32-It seems to be drawn down too often. I love our lake with the loons.
539	Virgin							Though I live in 3 Lakes I work in Appleton and come back for the weekend. I find it very difficult at this time to volunteer for these activities because by the time I get up here I have just enough time to take care of myhouse & property.
540	Virgin			Pontoon boating				
588	Virgin							Q#30- unsure as to your positions.
606	Virgin		It all depends on the time of year. I and my family do a lot of different activities all year.	All of the above				Q#23-non-invasive species. Q#24- only invasive species. Q#32-I have monitored the water clarity level for the DNR for the last 20 years. The water has fluctuated with the level of rainfall. The water clairty level is clearer in draught conditions and browner in wet conditions. The water clarity level allows for more weeds in dry conditions and less weed growth in wet conditions. The lake has more shoreline weeds now than in the past. This is probably caused by additional fertilizer and septic tank discharge. Yes the lake has changed in my lifetime, there are three times as many homes now then back in the fifties. Development never does a lake any good! Why doesn't the town tax vacant lake frontage at a lower rate? It doesn't cost local government anything to maintain. With the high value of lake frontage assessment some home owners cannot afford the taxes on vacant land, so they have to sell which increases the development which the lake has to absorb.
609	Virgin	When we feel like going up 3 months per year.						

C

APPENDIX C

Act 31 Committee Report

Report of Recommendations from the Three Lakes Act 31 Advisory Committee

The Three Lakes Act 31 Advisory Committee was charged with the responsibility of making recommendations to the Three Lakes Board of Supervisors pertaining to the lakes within the jurisdiction of the Town of Three Lakes. The Committee was comprised of individuals with differing backgrounds, experiences, history of on-water usage, personal skill sets, opinions and motivations. Interestingly, as diverse as the Committee was in terms of personalities, all "votes" (further described below) with the sole exception of one, (dealing with the Laurel Lake "S" Curve issue) were unanimous by the Committee members.

As a starting point, the Committee dedicated a good deal of time clearly defining the general responsibility and role of the Committee as it had been presented and charged to the group. After consensus was reached on the role of the Committee, it was further agreed to affirmatively define the Committee's specific goals in undertaking this study with ultimate recommendations to the Town Board. This decision led to the creation of a written mission statement by the Committee for the purpose of maintaining the Committee's collective focus on the project at hand.

Of particular note and importance to the Committee was the fact that so many Three Lakes constituents (both seasonal and permanent residents) had weighed in offering their personal insights, experiences and opinions regarding potential impacts to the lakes from the enactment of Act 31 or other potentially restrictive changes that might be considered. Admittedly the constituent input was realistically focused on the Chain and generally involved two primary concerns and several lesser concerns. The two most prominent concerns for the Chain were boating safety and an overwhelming concern of permanently altering the Chain with more buoys and adding new slow-no-wake areas where they presently do not exist. Necessarily much of the focus from the public's view involved the Laurel Lake "S" Curve, which has become something of a symbol for safety advocates as well as those wanting minimal, intrusive impacts to this precious resource we all value, albeit from differing perspectives.

From the public input it became obvious that the majority of people responding were primarily concerned with the potential imposition of dramatic changes to the entire Chain resulting directly from two, specific boating incidents, both in close proximity to the Laurel Lake "S" Curve.

Because public input favored little or no changes specifically to the Chain of lakes, the Committee included language in the mission statement expressing the intent of the Committee's recommendations being "minimally intrusive" and "maintaining Northwoods ambiance". Having acknowledged the public input, the Committee then further agreed that safety was and remains the Committee's other primary consideration, in addition to environmental impacts for the lakes. For clarity in understanding the Committee's perceived directive, the specific mission statement reads:

Three Lakes Act 31 Advisory Committee Mission Statement

The mission of the Three Lakes Act 31 Advisory Committee is to make recommendations to the Three Lakes Town Board of Supervisors that will promote on-water safety in the Township.

In formulating those recommendations, the Committee will be guided by the following tenets:

- **A minimally intrusive approach will be used as much as possible in formulating recommendations to maintain the Northwoods ambiance.**
- **Safety is the Committee's overriding consideration, though it is recognized that other issues relative to aquatic wildlife, shoreline maintenance and water quality are also important.**

With the completed mission statement acting as our "marching orders" the Committee moved on to study, ponder, examine and discuss the bodies of water affected. This scholastic and reasonably scientific approach attempted and did remove much of the emotional residue from the deliberations by breaking down the issues into manageable areas. The Committee also interviewed Chief Scott Lea to gain his insights to boating, safety and the best approaches to incorporating education for the public at large.

As a result the Committee gave considerations to both general issues, plus specific recommendations, all of which are delineated below.

General Issues:

ACT-31

- The Town of Three Lakes opted out of Act 31 because of the potential, negative impact to every lake within Three Lakes' jurisdiction, especially the lakes of the Chain which became the overriding cause and issue for this study to be performed by the Act 31 Advisory Committee. While non-Chain lakes are important and were also considered and evaluated, without question, the Chain was most profoundly affected by the potential imposition of Act 31 mandates. Negative impacts anticipated from Act 31 for the Chain had the town not "opted out" included:
    - Creating slow-no-wake zones at the entrance/exits to every lake on the Chain;
    - Larger wakes created by starting and stopping prior to entering every lake could create additional problems including increased shore erosion;
    - Decreased visibility from coming off of and going up on plane in a boat at every lake by all watercraft resulting in a perceived safety hazards, especially with a mix of watercraft of varying sizes, speeds and wakes.

Education & Increased Tourism

- Given the unique nature of the Three Lakes Chain specifically as a "destination", the Committee viewed the Town as having an unusual opportunity to enhance tourism AND dramatically improve safety through increased education of the local boating population in addition to visitors. The Committee believes this could be accomplished via a targeted, colorful, folded, map-brochure to be distributed as widely as possible during the entire boating season at the Chamber, boat landings, restaurants, local stores including bait shops as well as distributed by the invasive species volunteer inspectors. This type of visual depiction and visual aid would have the potential of enhancing the Chain's safety by more clearly defining the local boating expectations. An example to promote such creative thinking is enclosed as Addendum # 1.

  This map-brochure could potentially include both written descriptions and visually defined distinctive colors to diminish common misunderstandings of:
  - "Areas of Caution" (i.e. areas of potentially restricted vision or known, marked shallow water danger zones as found in Island Lake) on a Chain map
  - Existing slow-no-wake zones
  - Public boat landings
  - Brief, bullet-point descriptions of existing, critical boating laws that pre-date Act 31. The intent of such descriptions is to educate the public especially pertaining to the most common existing rules/laws being broken, most frequently because of a lack of education and knowledge. Examples include:
    - All PWC's within 200' from shore must be at S-N-W
    - All boats must be S-N-W within 100' from piers/rafts
    - Types & number of approved life preservers required on every craft
    - Required distances from anchored fishing boats
    - Fishing boats prohibited from blocking marked channels
    - Proper methods for navigating marked, buoy lanes or similar markings
  - Known, unmarked shallow areas (i.e. Four Mile Lake)
  - Potential "Silent Sports" zones (further described below in this report)

  The intent of using bulleted examples of the laws most frequently broken is not to "reinvent the wheel", rather it is purely intended to remind the public in another fashion of the legal requirements for safe boating on the Three Lakes Chain.

Silent Sports Initiative

- It's clear that the sport of canoeing and particularly kayaking is growing in popularity. According to NMMA (National Marine Manufacturers Association) figures, over a quarter million kayaks were sold in 2009.

  As the Chain experiences increases in motor boat traffic volumes operating at ever higher speeds, the "paddle people" face a dilemma; either hug the shore or face increased risk or go elsewhere. Alternatively we think the Chain has much to offer as a shared resource.

  The ACT 31 Advisory Committee recommends that in order to assure on-water safety, maximize pleasure for silent aquatic sports enthusiasts and promote increased tourism, specific areas of the Chain should be identified as "canoe and kayak friendly".

This concept dovetails perfectly with the Three Eagle Trail biking concept by promoting shared water resource use, but with guidance and encouragement to keep kayakers and canoers operating in areas more harmonious to their sport, rather than "fighting" motorized boats of all description on the open lakes.

Three Lakes can make a defined and special effort to solicit and welcome this group of people by preparing a print-piece that would map and clearly describe appropriate areas, best points of access, habitat and expected wildlife to be enjoyed on those defined, scenic routes where motor boats cannot even operate. This effort would provide a sensational and relatively safe paddling experience by encouraging silent sports enthusiasts to use areas not generally even known to the public and certainly not presently reflected on area maps.

An essential component of each defined area or venue should include a description of direct access to a boat ramp or other launching opportunities plus parking. Directions and compelling descriptions of such recreational opportunities would be very useful in maximizing the experience. A map illustrating the concept has been provided by the committee as a "thought starter" and is attached as Addendum # 2

On-water, Police Water Patrol Enforcement

- Of considerable importance to the Committee was the recommendation that the Town of Three Lakes consider increased Police water patrols, especially during the busiest times during the boating season. We believe this should involve more than a single Police boat on the Chain going forward. As a further point in the enhanced Police presence is the recommendation that Police water patrols take a decidedly tougher position with boating offenders by writing more warnings and citations. If Three Lakes is prepared to begin educating the boating public to the unique aspects of our Chain to enhance safety and multiple boating usages (fishing, skiing, tubing, kayaking, pontooning, canoeing, speed boating, sailing, etc.), then the public in turn should be held responsible for applying this knowledge and being punished if offenders choose to openly ignore safety requirements.

Buoy Maintenance

- The Act 31 Committee first physically inspected most of the existing buoys on the Chain, then discussed those findings at length and ultimately and unanimously agreed that the present system of buoy maintenance appears nearly non-existent. Buoys frequently drift following wind events, are subject to vandalism and need to be checked with regularity, probably weekly or semi-weekly during the prime boating season. The Committee knows of no existing Town mandated formal plan that requires responsibility for inspection and correction of buoy issues. Whether recurring inspection is provided by the Police water patrols or by the Town maintenance crews does not matter providing responsibility for the corrections is regular, on-going and mandated by the Town Board. The lack of on-going, routine buoy maintenance is a large contributor to:
    - Confusion by the boating public, especially visitors to the Chain
    - Potential danger with boaters becoming confused by errant buoy placement

Specific Issues & Recommendations:

The Committee included as part of its study a physical, on-water inspection of the known areas of concern on the Chain. As a result of that inspection, the following specific observations and recommendations are included as part of this study:

1. ***Long Lake to Burnt Rollways dam***
    a. S-N-W buoys in place. No further action required.
2. ***Long Lake to Planting Ground***
    a. Recommend removing wooden pilings from former O'Neils Bridge as a safety issue. This was agreed to by the DNR (See Addendum #3). Removal does not require any permit or further permission.
    b. Recommend moving/extending existing buoys in the Lighthouse Lodge channel to encourage traffic to make a larger "swing" to enhance better boater visibility before entering the narrow portion of the channel towards Long Lake
3. ***Log in channel from Russelwood side of Planting Ground channel to Townline Lake***
    a. Recommend town consider removing the log potentially blocking part of the channel that informally gets marked with floating milk cartons
4. ***Wading area adjacent to channel near northern island in Island Lake***
    a. Add area to "caution area" on proposed map to be distributed by town
    b. Recommend including reminder warnings regarding adjacent "private property"
5. ***Raft off Kings Point (Koenig property)across from island nearest Blue Ribbon Bridge***
    a. Committee was concerned about existing raft encroaching on channel.
    b. Chief Scott Lea confirmed raft was "legal" in its present location, no further action recommended
6. ***Slow No Wake area past Watercraft***
    a. Existing S-N-W buoys surrounding Watercraft are performing as needed; No further action recommended or considered
7. ***Little Fork to Medicine Lake channel***
    a. Red, middle buoy completely missing
    b. Recommend widening all buoys to maintain a uniform distance, of at least 30'
8. ***Medicine to Laurel Lake channel (main channel by Denby Residence)***
    a. Recommend adding one set of buoys on Medicine Lake side to improve line of sight line, create a clearly marked channel "lane" and increase visibility of oncoming boat traffic coming from Laurel into Medicine.
    b. Move buoys on Laurel Lake side to increase line of sight for approaching boats who are partially blocked from view by Denby Island residence.
9. ***Laurel to Big Stone "S" Curve***
    a. See comments below

10. ***Big Stone Lake to Deer Lake at the Northernaire/Rt. 32 bridge***
    a. No specific recommendation needed other than buoy maintenance
11. ***Deer Lake to Crystal Lake channel***
    a. Recommend buoys be maintained at present locations
    b. Replace/maintain buoys in Crystal channel which appear not touched in years
12. ***Buoys between Dog Lake & Big Lake***
    a. No action recommended other than buoy maintenance

Laurel Lake "S" Curve Issue

The Committee was equally split on what actions, if any, would be appropriate to recommend for the Laurel Lake "S" Curve. That stretch of water seemed to become the entire focus of the Act 31 discussion from the very beginning. The Committee agreed to make their recommendations on this issue separately for the purpose of bringing clarity to the discussion between the Committee members as well as to the Board of Supervisors. Ultimately the Committee divided into two separate recommendations for the Board of Supervisors to consider in their responsibility of making the final decisions.

Narrative from those NOT in favor of making the "S" Curve Slow No Wake:

Half of the Committee (3 members) favored a measured "incrementally staged" treatment to the Laurel Lake "S" turn. The reason for this approach resulted from the overwhelming public input desiring minimal changes to the existing Chain including Laurel Lake. The two accidents that occurred in proximity to the "S" Curve over the last several decades appear to have been caused by stupidity and actions that would not have been precluded or avoided by turning the "S" Curve into a slow no wake zone.

To that end, half the Committee believes the "S" Curve, with whatever danger presently exists, can be adequately and prudently managed with the end goal of creating/maintaining a safe area that also maintains the status quo. This is referred to as "incrementally staged" with the intent of taking one step at a time as needed with oversight by the Police water patrol who can fairly judge whether the initial minimal actions are having a positive effect on the boating public. If the boating public does not positively respond to the initial, specific educational efforts with increased Police patrols, followed by increased warnings & citations, then further consideration can be given to the obvious step of creating this area as a new slow no wake zone for the Chain.

This half of the Committee also believes that the Police water patrol ought to have a craft present most of the time on the busiest, three weekends of the year during the prime boating season. That presence alone has the automatic effect of boats slowing down the moment they see the Police boat. We also believe that the existing channel lane marking "caution" buoys have resulted in improved traffic through the area as witnessed by some of the people that live in proximity to the "S" Curve.

The entire Committee did reach a consensus with agreement by Chief Lea that boating speed limits were not practical, were unenforceable and were not a viable solution anywhere on the Three Lakes Chain in an attempt to foster increased safety.

Narrative from those IN FAVOR of making the "S" Curve Slow No Wake:

The other half of the Committee (3 members) favored proceeding to make the "S" Curve slow no wake. Their rationale follows:

It might be useful to note this is the second attempt by a citizens' advisory committee to address the issue of safety on the "S" Curve. The previous committee recommended SNW. (See the September 22, 2010 letter from Terry Mc Closkey, Captain, U.S. Navy - Retired.)

Definition of Terms:

"S" Curve: *The committee agreed the "S" Curve, by definition, is located from the red and green safe channel marker buoy near the large rock at the north end of Big Stone Lake through the last hazard buoy located near Ken Klein's point on Laurel Lake.*

Terms and operating conditions as found in the Wisconsin DNR's 2010 Wisconsin Boating Regulations and Handbook:

SNW:
A speed at which a vessel moves as slowly as possible while still maintaining steerage control.

Excessive Speed:
Vessel speeds that exceed that which allow operators adequate time and distance to stop or change course to avoid an accident

Personal Watercraft:
A PWC may not be operated at a faster than slow-no-wake speed within:

- *100 feet of any other vessel*
- *100 feet of a dock, pier, raft or restricted area on any lake*
- *200 feet of shore on any lake*

Distance While Operating a Vessel: Operate a vessel within 100 feet of any dock, raft, pier or restricted area on a lake at greater than Slow-No-Wake speed

Dangerous "S" Curve

The fact that the "S" Curve is the single most dangerous water on the chain is universally accepted:

- the channel is narrow
- the width of the channel varies and changes shape
- the channel twists and changes direction
- sight lines are compromised by land mass and trees
- the channel runs mainly east / west, visibility at sunrise and sunset can be extremely compromised
- mid-chain location produces higher than normal traffic volumes
- inexperienced boaters / uninformed boaters pose increased risk
- inappropriate skiing and tubing

It is within the law for a single boat to negotiate the “S” Curve at a relatively high rate of speed and not exceed safe and reasonable limits providing it is the only boat in the channel. The safety issue arises when suddenly the speeding boat is confronted with sudden loss of visibility, an unforeseen other boat, or waterskiing or tubing traffic. That is the accident waiting to happen.

On - the - Water - Reality
A serious problem occurs the moment any other vessel is present while a craft is negotiating the “S” Curve, ie:

- a PWC obeying the 200' SNW law
- an oncoming or overtaking power boat
- a kayak, canoe or rowboat paddling the channel
- a water-skier or tube loaded with children

A perfect example occurred while the whole committee was on the water reviewing the14 danger areas on the chain. After a long 4 hours, and seeing only 10 or so other boats during that quiet weekday afternoon, we ended up on the “S” Curve. Our pontoon boat was cruising through the channel when we were passed by a fast moving powerboat that was clearly inside the 100' from the ends of piers and docks law.

Because of the physical configuration of the “S” Curve, it takes only one other boat to cause a potentially serious problem and to most certainly break one or more laws.

Clash of Speeds
A number of vessels, boating activities and operator capabilities in the vortex of the “S” Curve is predictive of serious problems:

- PWCs cannot legally run the S-curve without dropping down to SNW
- Boats have their own 100' law and can maintain speed
- Two common reactions to the current center channel and hazard buoys is to maintain speed while passing on either right or left of the buoy or in the case of confused boaters, slow down or even stop.
- Sailboats, rowboats, canoes and kayaks are slow moving and have their own right of way laws.

In a large body of open water the chaos of an array of vessels, any number of on-going boating and swimming activities, and differing operator capabilities can work itself out. The “S” Curve presents a real challenge that can be simply alleviated by SNW buoys.

Simplify Law Enforcement
SNW buoys are easily understood, clearly visible and common. The learning curve is diminished and watercraft operators generally know what to do when one is encountered. Compliance is predictable and routine. Infractions are easily spotted and judgment calls on the part of the officer is minimized.

Law enforcement would be simplified if the “S” Curve were SNW, according to Chief Scott Lea.

Increased Boat Traffic
While draught conditions, weather and the economy all impact the volume of traffic, there is wide agreement there has been a substantial increase in chain boating activity over the past several years and that is likely a trend for the future.

Technology
There are those who harken back to earlier times when arguing for uncontrolled speeds on the "S" Curve. Earlier times, however, didn't have the abundance of 200+ hp boats, PWC's, or wave producing wakeboard craft. Technology has changed but the dimensions and the configuration of the "S" Curve has not. It's interesting that some well known go-fast boaters on the chain, representing a wide span of ages, habitually travel the "S" Curve at SNW. When asked, most readily agree that a SNW policy should be adopted and enforced.

Waterskiing / Tubing
A small minority of residents persist in the dangerous practice of waterskiing the "S" Curve. They oppose the recommendation of SNW and do so in order to continue this dangerous behavior which frequently involves children. This minority has also proposed a 20 mph speed limit; a transparent attempt to continue skiing the "S" Curve. An informed boating majority vigorously oppose skiing or tubing the constricted channel. Until the "S" Curve is defined as a SNW area, skiing will continue to be legal regardless of the hazard. Anyone who opposes the SNW recommendation is by default, sanctioning this practice.

Cost Effective Safety
The stated goal is to slow boat speeds in the "S" Curve. The placement of a handful of buoys would work 24/7 through the entire boating season. Some have suggested concentrating law enforcement assets on the "S" Curve. This would be a costly band aid, limited only to peak times and ignoring law enforcement requirements for the remainder of our very large chain.

Time on the Chain
Any time spent on our beautiful Three Lakes Chain of Lakes is a gift. Timed runs of 35mph and SNW have proven the additional elapsed time to negotiate the "S" Curve to be just over 4 minutes. This is still time on the water and time in our spectacular Three Lakes environment and an investment in the safety of all those on the water.

Conclusion
This committee strived from the onset to provide the best possible recommendations in response to our charged responsibilities. To reach that goal required and achieved a professional level of dialog, thoughtful discourse and ultimately in the case of Laurel Lake, the agreement to respectfully disagree. The Act 31 Advisory Committee hopes this report can lend additional, meaningful information and input to the further consideration of on-water issues on which the Board of Supervisors can make whatever decisions the entire Board deems appropriate. The Act 31 Advisory Committee collectively thanks the Town Board of Supervisors for the chance to assist in studying these issues and ultimately providing this input. We view the time commitment and effort we made on this committee as having been well worth the effort. We hope you do as well.

Respectfully submitted November 19, 2010

Jim Leatzow, Committee Chairman
Paul Aschenbrenner, Committee Member
Ken Klein, Committee Member
Norris Ross, Committee Member
Bruce Renquist, Committee Member
Pat Volk, Committee Member

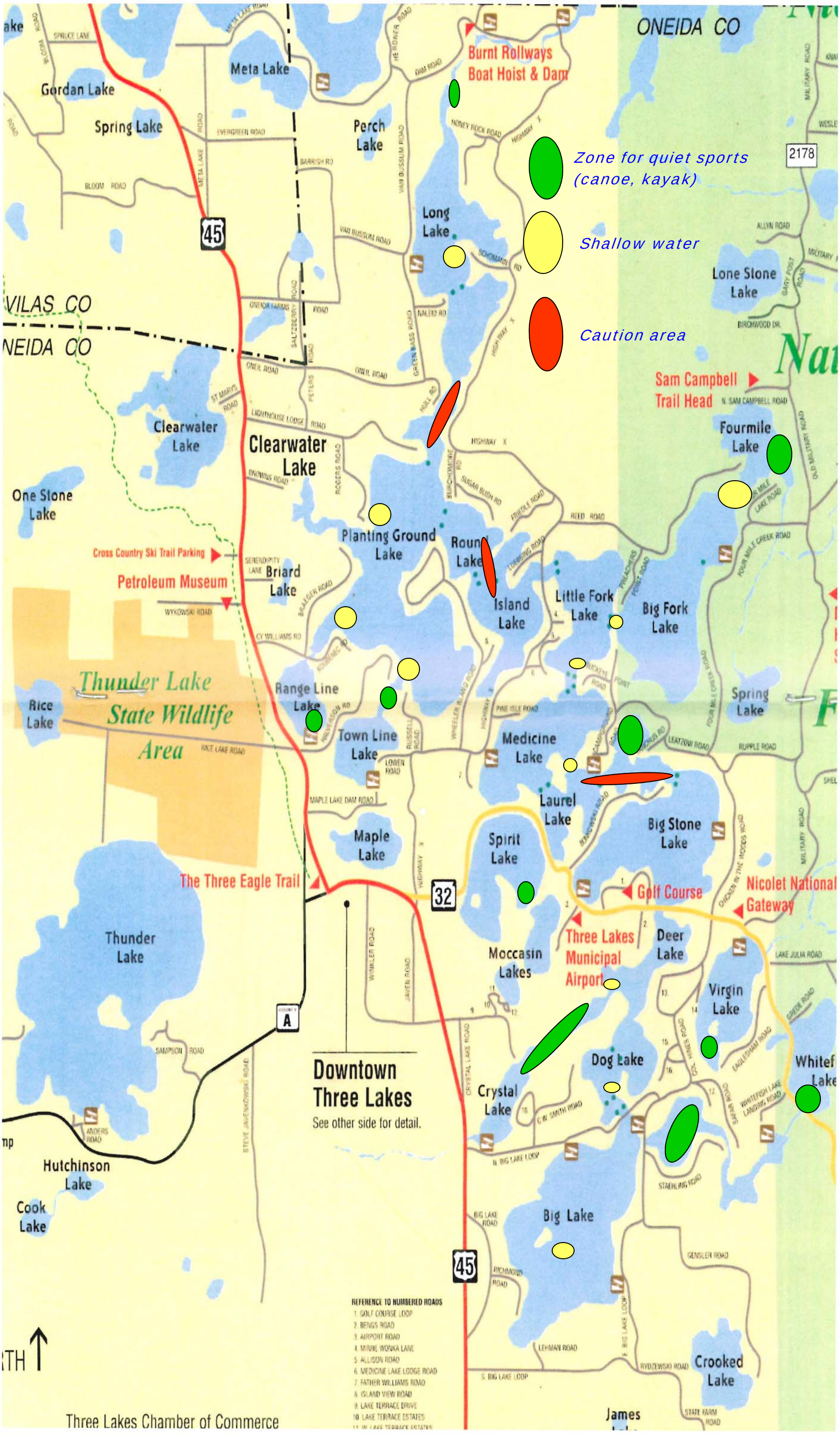
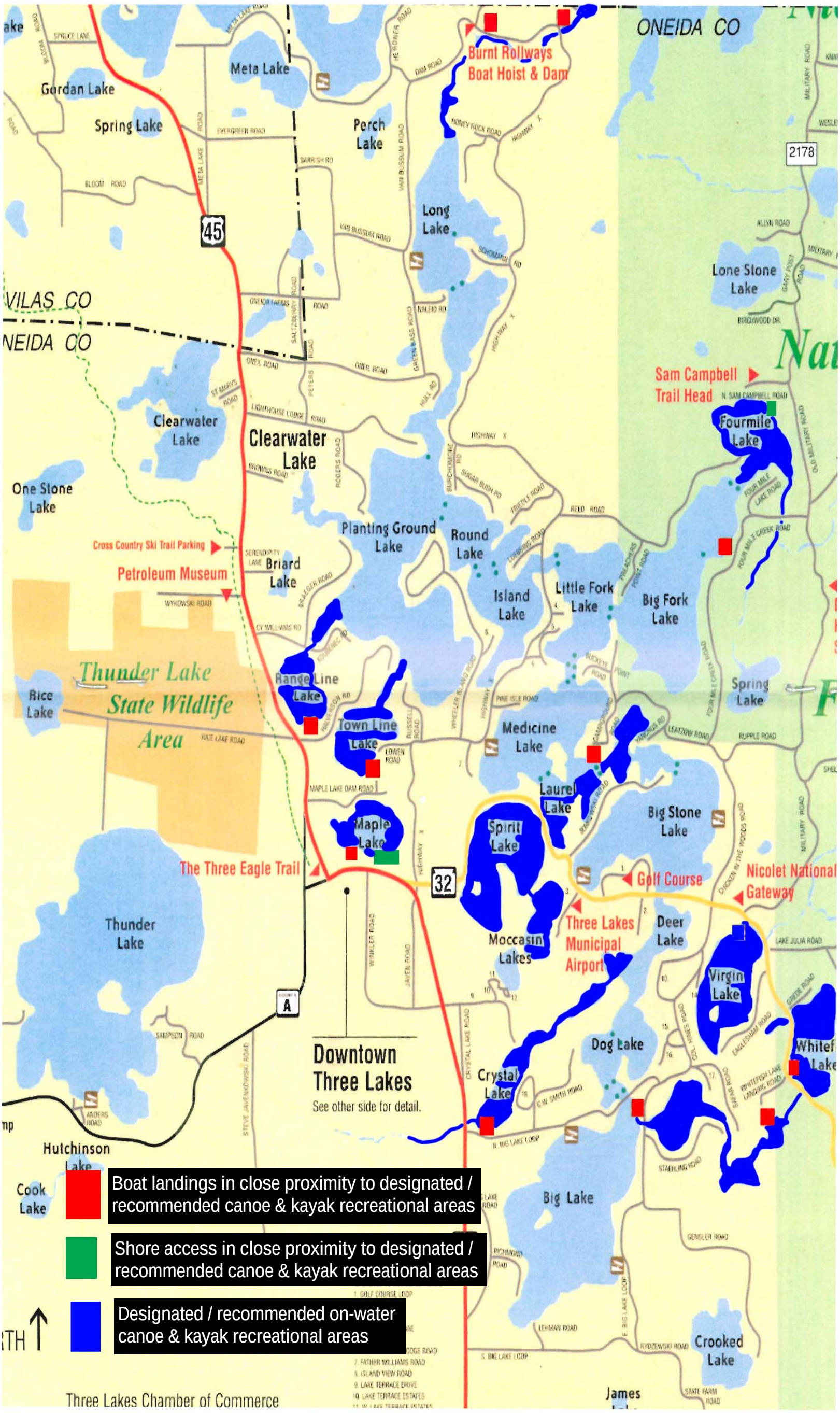

ONEIDA CO
VILAS CO
ONEIDA CO
Burnt Rollways
Boat Hoist & Dam
Zone for quiet sports
(canoe, kayak)
Shallow water
Caution area
Meta Lake
Gordan Lake
Spring Lake
Perch Lake
Long Lake
Lone Stone Lake
Sam Campbell
Trail Head
Clearwater Lake
Clearwater Lake
One Stone Lake
Fourmile Lake
Cross Country Ski Trail Parking
Petroleum Museum
Planting Ground Lake
Round Lake
Briard Lake
Island Lake
Little Fork Lake
Big Fork Lake
Thunder Lake
State Wildlife
Area
Rice Lake
Range Line Lake
Town Line Lake
Medicine Lake
Spring Lake
Laurel Lake
Maple Lake
Spirit Lake
Big Stone Lake
The Three Eagle Trail
Golf Course
Nicolet National
Gateway
Three Lakes
Municipal
Airport
Moccasin Lakes
Deer Lake
Virgin Lake
Dog Lake
Crystal Lake
Whitef Lake
Thunder Lake
Hutchinson Lake
Cook Lake
Big Lake
Crooked Lake
James
Downtown
Three Lakes
See other side for detail.
REFERENCE TO NUMBERED ROADS
1. GOLF COURSE LOOP
2. BENGS ROAD
3. AIRPORT ROAD
4. MINNIE WONKA LANE
5. ALLISON ROAD
6. MEDICINE LAKE LODGE ROAD
7. FATHER WILLIAMS ROAD
8. ISLAND VIEW ROAD
9. LAKE TERRACE DRIVE
10. LAKE TERRACE ESTATES
Three Lakes Chamber of Commerce

Exhibit #1


ONEIDA CO
VILAS CO
ONEIDA CO
Burnt Rollways
Boat Hoist & Dam
Meta Lake
Gordan Lake
Spring Lake
Perch Lake
Long Lake
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Sam Campbell
Trail Head
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Golf Course
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Municipal
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Moccasin Lakes
Virgin Lake
Thunder Lake
Dog Lake
Downtown
Three Lakes
See other side for detail.
Crystal Lake
Whitefish
Lake
Hutchinson Lake
Cook Lake
Big Lake
Crooked Lake
James
Boat landings in close proximity to designated / recommended canoe & kayak recreational areas
Shore access in close proximity to designated / recommended canoe & kayak recreational areas
Designated / recommended on-water canoe & kayak recreational areas
Three Lakes Chamber of Commerce

Exhibit #2

Addendum # 3

-----Original Message-----
From: Grafelman, James F - DNR [James.Grafelman@wisconsin.gov]
Sent: Tuesday, October 12, 2010 8:30 AM
To: Jim Leatzow
Cc: Bruce Renquist; Novesky, Patrick C - DNR
Subject: RE: Wood Pilings

To Jim Leatzow, Chairman, Three Lakes Act 31 Committee.

The removal of wooden pilings from the waterway between Planting Ground Lake and Long Lake on the Three Lakes Chain will not require any permits from the Department of Natural Resources. The pilings, while from an old bridge, are an impediment to navigation and should be removed. If the Town of Three Lakes is willing to remove them, the DNR will not require permits. We only ask that the pilings be removed as completely as possible or to the stream bed, whichever is more practicable. In my experience, cutting them off at the stream bed using an underwater saw is the normally the easiest. Some can be pulled using a back hoe, this however, may require the use of a barge large enough to hold the machinery, unless the work can be done in the winter over the ice.

I ask that you let me know when this to be done, so I can answer any questions from the public, if any should come up.

Thanks for contacting me on this issue.

James Grafelman
Water Management Specialist
Oneida and Forest Counties
107 Sutliff Avenue
Rhinelander, WI 54501
Phone 715-365-8991, Fax 715-365-8932

D

APPENDIX D

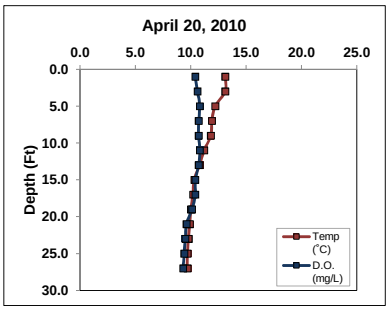
Water Quality Data

Virgin Lake

Date: 4/20/2010
Time: 11:30
Weather: 95% sun, 60°F
Entry: TWH

Max Depth: 29.7
VLS Depth (ft): 3.0
VLB Depth (ft): 27.0
Secchi Depth (ft): 11.9

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	13.1	10.4		
3.0	13.1	10.6		
5.0	12.2	10.8		
7.0	11.9	10.7		
9.0	11.8	10.7		
11.0	11.2	10.8		
13.0	10.8	10.7		
15.0	10.3	10.4		
17.0	10.2	10.4		
19.0	10.0	10.1		
21.0	9.9	9.6		
23.0	9.8	9.5		
25.0	9.7	9.4		
27.0	9.7	9.3		



Parameter	VLS	VLB
Total P (µg/L)	14.000	20.000
Dissolved P (µg/L)	ND	ND
Chl-*a* (µg/L)	2.40	
TKN (µg/L)	500.00	510.00
$NO_3 + NO_2$-N (µg/L)	21.000	ND
NH_3-N (µg/L)	ND	ND
Total N (µg/L)	500.00	510.00
Lab Cond. (µS/cm)	114	114
Lab pH	7.93	7.62
Alkalinity (mg/L $CaCO_3$)	49	49
Total Susp. Solids (mg/L)	ND	2
Calcium (mg/L)	12.0	

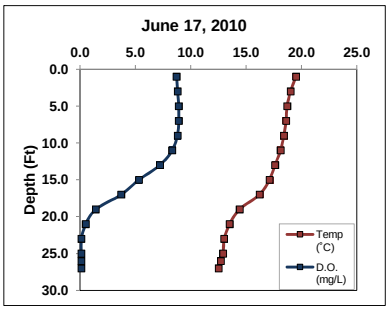
Data collected by EJH and TAH (Onterra)
Note: Moved GPS point.

Virgin Lake

Date: 06-17-10
Time: 9:20
Weather: 60% clouds, sunny, 65°F
Entry: TWH

Max Depth: 28.1
VLS Depth (ft): 3.0
VLB Depth (ft): 26.0
Secchi Depth (ft): 8.3

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	19.5	8.7		
3.0	19.0	8.8		
5.0	18.7	8.9		
7.0	18.6	8.9		
9.0	18.4	8.8		
11.0	18.1	8.3		
13.0	17.6	7.2		
15.0	17.1	5.3		
17.0	16.2	3.7		
19.0	14.4	1.4		
21.0	13.5	0.5		
23.0	13.0	0.1		
25.0	12.9	0.1		
26.0	12.7	0.1		
27.0	12.5	0.1		



Parameter	VLS	VLB
Total P (µg/L)	11.000	30.000
Dissolved P (µg/L)		
Chl-*a* (µg/L)	5.18	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	<2.5	<10.0
Calcium (mg/L)		

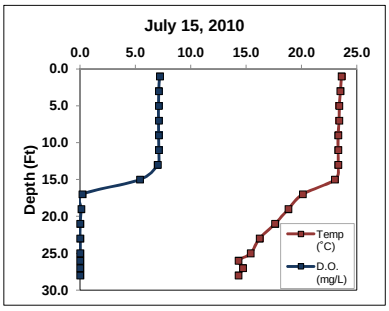
Data collected by DAC and TWH (Onterra)

Virgin Lake

Date: 07-15-10
Time: 9:17
Weather: 10% clouds, 73°F
Entry: TWH

Max Depth: 29.3
VLS Depth (ft): 3.0
VLB Depth (ft): 26.0
Secchi Depth (ft): 7.6

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	23.6	7.2		
3.0	23.5	7.1		
5.0	23.4	7.1		
7.0	23.4	7.1		
9.0	23.3	7.1		
11.0	23.3	7.1		
13.0	23.3	7.0		
15.0	23.0	5.4		
17.0	20.1	0.2		
19.0	18.8	0.1		
21.0	17.6	0.0		
23.0	16.2	0.0		
25.0	15.4	0.0		
26.0	14.3	0.0		
27.0	14.7	0.0		
28.0	14.3	0.0		



Parameter	VLS	VLB
Total P (µg/L)	18.000	31.000
Dissolved P (µg/L)	ND	6.000
Chl-*a* (µg/L)	3.74	
TKN (µg/L)	530.00	820.00
$NO_3 + NO_2$-N (µg/L)	ND	33.000
NH_3-N (µg/L)	ND	291.000
Total N (µg/L)	530.00	820.00
Lab Cond. (µS/cm)	112	145
Lab pH	7.76	7.31
Alkalinity (mg/L $CaCO_3$)	48	67
Total Susp. Solids (mg/L)	ND	6
Calcium (mg/L)		

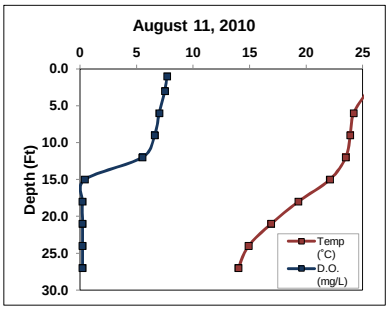
Data collected by TWH amd KSH (Onterra)

Virgin Lake

Date: 08-11-10
Time: 13:44
Weather: 70% clouds
Entry: TWH

Max Depth: 31.6
VLS Depth (ft): 3.0
VLB Depth (ft): 27.0
Secchi Depth (ft): 7.6

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	25.9	7.7	8.1	111
3.0	25.4	7.5	8.1	111
6.0	24.2	7.0	7.8	111
9.0	23.9	6.6	7.6	110
12.0	23.5	5.5	7.4	111
15.0	22.1	0.4	6.9	114
18.0	19.3	0.2	7.0	139
21.0	16.9	0.2	7.3	164
24.0	14.9	0.2	7.4	170
27.0	14.0	0.2	7.5	175



Parameter	VLS	VLB
Total P (µg/L)	14.000	76.000
Dissolved P (µg/L)		
Chl-*a* (µg/L)	4.41	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	2	6
Calcium (mg/L)		

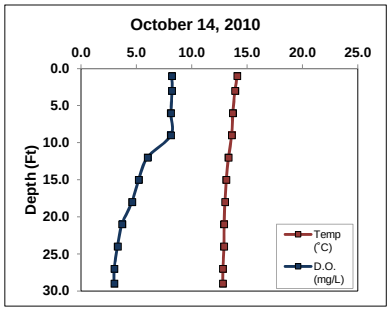
Data collected by TAH amd EJH (Onterra)

Virgin Lake

Date: 10-14-10
Time: 12:00
Weather: 50°F little breeze
Entry: TWH

Max Depth: 30.0
VLS Depth (ft): 3.0
VLB Depth (ft): 27.0
Secchi Depth (ft): 3.1

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	14.1	8.2		
3.0	13.9	8.2		
6.0	13.7	8.1		
9.0	13.6	8.1		
12.0	13.3	6.0		
15.0	13.1	5.2		
18.0	13.0	4.6		
21.0	12.9	3.7		
24.0	12.9	3.3		
27.0	12.8	3.0		
29.0	12.8	3.0		



Parameter	VLS	VLB
Total P (µg/L)	26.000	43.000
Dissolved P (µg/L)		
Chl-*a* (µg/L)	8.86	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	2	3
Calcium (mg/L)		

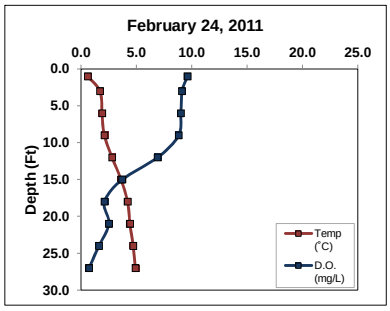
Data collected by TAH and DAC (Onterra)

Virgin Lake

Date: 02-24-11
Time: 10:40
Weather: light snow, slight wind, 26°F
Entry: TWH

Max Depth: 28.5
VLS Depth (ft): 3.0
VLB Depth (ft): 26.0
Secchi Depth (ft): 4.3

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	0.6	9.6		
3.0	1.7	9.1		
6.0	1.9	9.0		
9.0	2.1	8.8		
12.0	2.8	6.9		
15.0	3.6	3.7		
18.0	4.2	2.1		
21.0	4.4	2.5		
24.0	4.7	1.6		
27.0	4.9	0.7		



Parameter	VLS	VLB
Total P (µg/L)	16.000	20.000
Dissolved P (µg/L)	ND	3.000
Chl-*a* (µg/L)		
TKN (µg/L)	600.00	590.00
$NO_3 + NO_2$-N (µg/L)	156.000	260.000
NH_3-N (µg/L)	17.000	87.000
Total N (µg/L)	600.00	590.00
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	ND	4
Calcium (mg/L)		

Data collected by TAH and DAC (Onterra)

Water Quality Data

2010/2011	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	7.1	NA	NA
Total P (µg/L)	6	16.5	6	36.7
Dissolved P (µg/L)	3	ND	3	4.5
Chl a (µg/L)	5	4.9	0	NA
TKN (µg/L	3	543.3	3	640.0
NO3+NO2-N (µg/L)	3	88.5	3	146.5
NH3-N (µg/L)	3	17.0	3	189.0
Total N (µg/L)	3	543.3	3	640.0
Lab Cond. (µS/cm)	2	113.0	2	129.5
Lab pH	2	7.8	2	7.5
Alkal (mg/l CaCO3)	2	48.2	2	57.5
Total Susp Sol (mg/l)	5	2.0	5	4.2
Calcium (µg/L)	1	12.0	0	NA

Trophic State Index (WTSI)

Year	TP	Chl-a	Secchi
1979			47.2
1994			47.3
1995			41.8
1996			42.8
1997			44.4
1998			42.6
1999			45.6
2000			43.4
2001			43.6
2002			44.5
2003			43.3
2004			44.2
2005			42.4
2006			43.6
2007			44.2
2008			42.7
2009			41.8
2010	42.5	45.2	44.5
2011			49.8
All Years (Weight	42.5	45.2	43.8
Deep, Lowland Drainag	49.4	49.7	46.2
NLF Ecoregior	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	8.0	1	8.0								
1994	12	7.8	6	7.9								
1995	26	10.4	14	11.6								
1996	22	9.4	12	10.8								
1997	23	8.8	13	9.7								
1998	26	10.4	13	10.9								
1999	24	8.4	12	8.9								
2000	25	10.3	12	10.4								
2001	22	10.1	12	10.2								
2002	16	8.9	10	9.6								
2003	18	9.5	12	10.4								
2004	17	10.0	10	9.8								
2005	18	11.1	11	11.1								
2006	19	10.1	12	10.2								
2007	19	10.1	12	9.8								
2008	17	10.9	13	10.9								
2009	18	12.9	12	11.6								
2010	21	9.3	12	9.6	5	4.9	3	4.4	5	16.6	3.0	14.3
2011	14	6.6	11	6.7								
All Years (Weighted)		9.8		10.1		4.9		4.4		16.6		14.3
Deep, Lowland Drainage Lakes				8.5				7.0				23.0
NLF Ecoregion				8.9				5.6				21.0

Summer 2010 N: 543.3
Summer 2010 P: 14.3

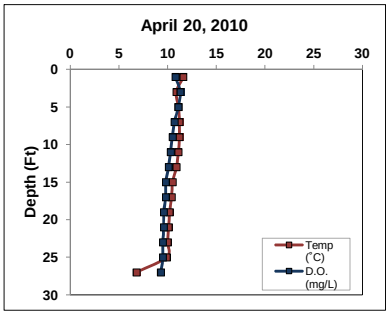
Summer 2011 N:P 38 :1

Whitefish Lake

Date: 04-20-10
Time: 9:35
Weather: 100% sun, 56°F
Entry: TWH

Max Depth: 28.8
WFLS Depth (ft): 3.0
WFLB Depth (ft): 26.0
Secchi Depth (ft): 8.4

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	11.6	10.8		
3.0	10.9	11.3		
5.0	11.1	11.1		
7.0	11.2	10.7		
9.0	11.2	10.5		
11.0	11.1	10.3		
13.0	10.9	10.1		
15.0	10.5	9.8		
17.0	10.4	9.8		
19.0	10.2	9.6		
21.0	10.1	9.6		
23.0	10.0	9.5		
25.0	9.9	9.5		
27.0	6.8	9.3		



Parameter	WFLS	WFLB
Total P (µg/L)	15.000	18.000
Dissolved P (µg/L)	ND	ND
Chl-*a* (µg/L)	3.44	
TKN (µg/L)	500.00	520.00
NO_3 + NO_2-N (µg/L)	ND	ND
NH_3-N (µg/L)	ND	ND
Total N (µg/L)	500.00	520.00
Lab Cond. (µS/cm)	114	114
Lab pH	7.85	7.64
Alkalinity (mg/L $CaCO_3$)	45	45
Total Susp. Solids (mg/L)	ND	2
Calcium (mg/L)	11.3	

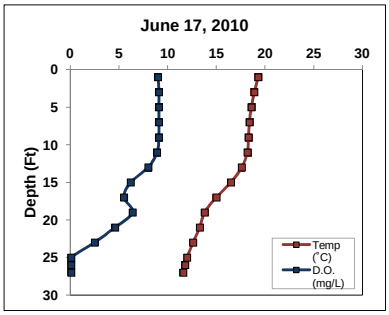
Data collected by EJH and TAH (Onterra)

Whitefish Lake

Date: 06-17-10
Time: 10:52
Weather: 75% clouds, 65°F
Entry: TWH

Max Depth: 28.8
WFLS Depth (ft): 3.0
WFLB Depth (ft): 26.0
Secchi Depth (ft): 8.0

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	19.3	9.0		
3.0	18.9	9.1		
5.0	18.6	9.1		
7.0	18.4	9.1		
9.0	18.3	9.1		
11.0	18.2	8.9		
13.0	17.6	8.0		
15.0	16.5	6.2		
17.0	15.0	5.5		
19.0	13.8	6.4		
21.0	13.3	4.6		
23.0	12.6	2.5		
25.0	12.0	0.1		
26.0	11.8	0.1		
27.0	11.6	0.1		



Parameter	WFLS	WFLB
Total P (µg/L)	11.000	27.000
Dissolved P (µg/L)		
Chl-*a* (µg/L)	4.30	
TKN (µg/L)		
NO_3 + NO_2-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	<2.5	<10.0
Calcium (mg/L)		

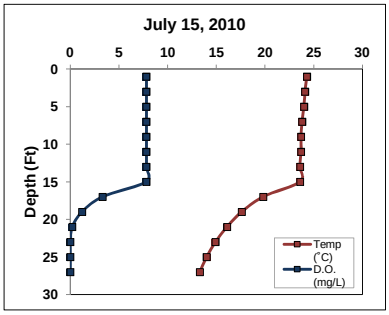
Data collected by DAC and TWH (Onterra)

Whitefish Lake

Date: 07-15-10
Time: 11:12
Weather: 100% sun 76°F
Entry: TWH

Max Depth: 28.4
WFLS Depth (ft): 3.0
WFLB Depth (ft): 25.0
Secchi Depth (ft): 9.1

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	24.3	7.8		
3.0	24.1	7.8		
5.0	24.0	7.8		
7.0	23.8	7.8		
9.0	23.7	7.8		
11.0	23.7	7.8		
13.0	23.6	7.8		
15.0	23.6	7.8		
17.0	19.8	3.3		
19.0	17.6	1.2		
21.0	16.1	0.2		
23.0	14.9	0.0		
25.0	14.0	0.0		
27.0	13.3	0.0		



Parameter	WFLS	WFLB
Total P (µg/L)	18.000	20.000
Dissolved P (µg/L)	ND	ND
Chl-*a* (µg/L)	2.75	
TKN (µg/L)	480.00	380.00
$NO_3 + NO_2$-N (µg/L)	24.000	ND
NH_3-N (µg/L)	ND	15.000
Total N (µg/L)	480.00	380.00
Lab Cond. (µS/cm)	111	122
Lab pH	7.89	7.22
Alkalinity (mg/L $CaCO_3$)	44	50
Total Susp. Solids (mg/L)	ND	3
Calcium (mg/L)		

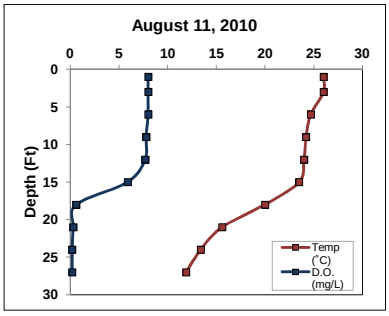
Data collected by TWH and KSH (Onterra)

Whitefish Lake

Date: 08-11-10
Time: 15:15
Weather: 90% clouds, 80°F
Entry: TWH

Max Depth: 30.6
WFLS Depth (ft): 3.0
WFLB Depth (ft): 28.0
Secchi Depth (ft): 8.2

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	26.0	8.0	8.3	110
3.0	26.0	8.0	8.4	110
6.0	24.7	8.0	8.3	109
9.0	24.2	7.8	8.2	109
12.0	24.0	7.7	7.9	109
15.0	23.5	5.9	7.3	109
18.0	20.0	0.6	6.9	121
21.0	15.6	0.3	6.9	127
24.0	13.4	0.2	6.8	132
27.0	11.9	0.2	7.1	164



Parameter	WFLS	WFLB
Total P (µg/L)	16.000	69.000
Dissolved P (µg/L)		
Chl-*a* (µg/L)	1.97	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	ND	6
Calcium (mg/L)		

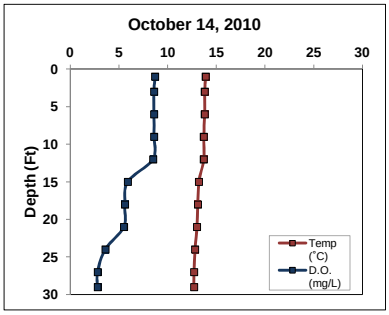
Data collected by EJH and TAH (Onterra)

Whitefish Lake

Date: 10-14-10
Time: 13:15
Weather: 100% clouds, 53°F
Entry: TWH

Max Depth: 30.3
WFLS Depth (ft): 3.0
WFLB Depth (ft): 27.0
Secchi Depth (ft): 5.1

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	13.9	8.7		
3.0	13.8	8.6		
6.0	13.8	8.6		
9.0	13.7	8.6		
12.0	13.7	8.5		
15.0	13.2	5.9		
18.0	13.1	5.6		
21.0	13.0	5.5		
24.0	12.8	3.6		
27.0	12.7	2.8		
29.0	12.7	2.8		



Parameter	WFLS	WFLB
Total P (µg/L)	21.000	44.000
Dissolved P (µg/L)		
Chl-*a* (µg/L)	6.05	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	2	3
Calcium (mg/L)		

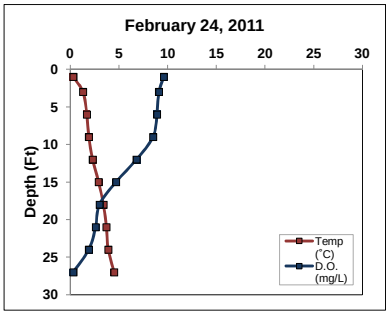
Data collected by TWH (Onterra)

Whitefish Lake

Date: 02-24-11
Time: 11:30
Weather: 100% clouds light breeze, 26°F
Entry: TWH

Max Depth: 27.7
WFLS Depth (ft): 3.0
WFLB Depth (ft): 25.0
Secchi Depth (ft): 6.7

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	0.3	9.6		
3.0	1.3	9.1		
6.0	1.7	8.9		
9.0	1.9	8.5		
12.0	2.3	6.8		
15.0	2.9	4.7		
18.0	3.4	3.0		
21.0	3.7	2.6		
24.0	3.9	1.9		
27.0	4.5	0.3		



Parameter	WFLS	WFLB
Total P (µg/L)	17.000	22.000
Dissolved P (µg/L)	ND	ND
Chl-*a* (µg/L)		
TKN (µg/L)	580.00	590.00
$NO_3 + NO_2$-N (µg/L)	147.000	165.000
NH_3-N (µg/L)	ND	38.000
Total N (µg/L)	580.00	590.00
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	ND	3
Calcium (mg/L)		

Data collected by TAH and DAC (Onterra)

Water Quality Data

2010	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	7.6	NA	NA
Total P (µg/L)	6	16.3	6	33.3
Dissolved P (µg/L)	3	ND	3	ND
Chl a (µg/L)	5	3.7	0	NA
TKN (µg/L	3	520.0	3	496.7
NO3+NO2-N (µg/L)	3	85.5	3	165.0
NH3-N (µg/L)	3	ND	3	26.5
Total N (µg/L)	3	520.0	3	496.7
Lab Cond. (µS/cm)	2	112.5	2	118.0
Lab pH	2	7.9	2	7.4
Alkal (mg/l CaCO3)	2	44.5	2	47.6
Total Susp Sol (mg/l)	5	2.0	5	3.4
Calcium (µg/L)	1	11.3	0	NA

Trophic State Index (WTSI)

Year	TP	Chl-a	Secchi
1979		51.6	51.3
1993			46.9
1995			45.9
1996			45.1
2000	44.1	40.7	42.5
2001	45.6	45.2	41.9
2002	45.0	41.8	
2006			44.3
2007	42.7	42.4	43.5
2008	44.1	40.2	44.2
2009	47.1	43.6	43.2
2010	42.9	41.1	43.0
2011	45.2	50.4	47.9
All Years (Weight	44.5	44.4	44.7
Deep, Lowland Drainag	49.4	49.7	46.2
NLF Ecoregion	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	6.0	1	6.0	1	8.5	1	8.5				
1993	5	7.5	3	8.2								
1995	4	8.3	3	8.8								
1996	1	9.3	1	9.3								
2000	4	9.8	3	11.0	4	3.9	3	2.8	4	17.0	3.0	16.0
2001	1	11.5	1	11.5	4	4.8	3	4.4	4	18.5	3.0	17.7
2002					4	4.1	3	3.1	4	20.5	3.0	17.0
2006	6	9.1	2	9.8								
2007	8	10.5	4	10.3	3	5.4	2	3.3	3	15.0	2.0	14.5
2008	5	8.7	3	9.8	2	3.5	1	2.7	3	20.3	1.0	16.0
2009	6	11.3	3	10.5	3	3.8	3	3.8	4	20.5	3.0	19.7
2010	8	9.4	5	10.6	10	3.6	7	2.9	11	16.5	7.0	14.7
2011	7	7.4	5	7.6	5	7.1	4	7.5	6	19.7	4.0	17.3
All Years (Weighted)		9.2		9.5		4.6		4.1		18.2		16.5
Deep, Lowland Drainage Lakes				8.5				7.0				23.0
NLF Ecoregion				8.9				5.6				21.0

Summer 2010 N: 520.0
Summer 2010 P: 14.7

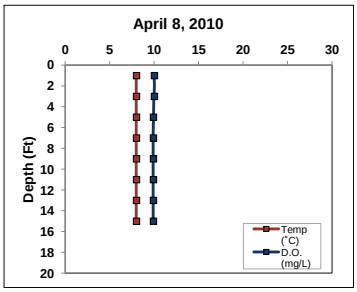
Summer 2011 N:P 35 :1

Big Lake

Date: 4/8/2010
Time: 12:24
Weather: light snow, breezy 100% clouds, 31°F
Entry: TWH

Max Depth: 18.2
BLS Depth (ft): 3.0
BLB Depth (ft): 16.0
Secchi Depth (ft): 3.5

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	8.0	10.0	7.3	
3.0	8.0	10.0	7.3	
5.0	8.0	9.9	7.3	
7.0	8.0	9.9	7.3	
9.0	8.0	9.9	7.3	
11.0	8.0	9.9	7.3	
13.0	8.0	9.9	7.3	
15.0	8.0	9.9	7.3	



Parameter	BLS	BLB
Total P (µg/L)	17.000	18.000
Dissolved P (µg/L)	3.000	2.000
Chl-a (µg/L)	6.81	
TKN (µg/L)	790.00	700.00
$NO_3 + NO_2$-N (µg/L)	ND	ND
NH_3-N (µg/L)	ND	ND
Total N (µg/L)	790.00	700.00
Lab Cond. (µS/cm)	78	78
Lab pH	7.30	7.35
Alkalinity (mg/L $CaCO_3$)	24	24
Total Susp. Solids (mg/L)	3	3
Calcium (mg/L)	8.0	

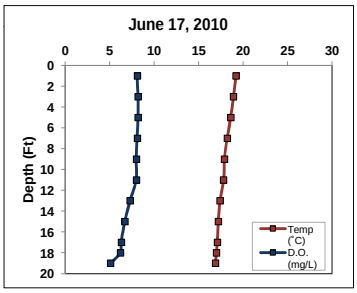
Data collected by DAC and TWH (Onterra)

Big Lake

Date: 06-17-10
Time: 12:00
Weather: 50% sun, windy 26°c
Entry: TWH

Max Depth: 19.3
BLS Depth (ft): 3.0
BLB Depth (ft): 16.0
Secchi Depth (ft): 4.0

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	19.2	8.1		
3.0	18.9	8.2		
5.0	18.6	8.2		
7.0	18.2	8.1		
9.0	17.9	8.0		
11.0	17.8	8.0		
13.0	17.4	7.3		
15.0	17.2	6.7		
17.0	17.1	6.3		
18.0	17.0	6.2		
19.0	16.9	5.1		



Parameter	BLS	BLB
Total P (µg/L)	20.000	24.000
Dissolved P (µg/L)		
Chl-a (µg/L)	8.26	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	<5.0	<5.0
Calcium (mg/L)		

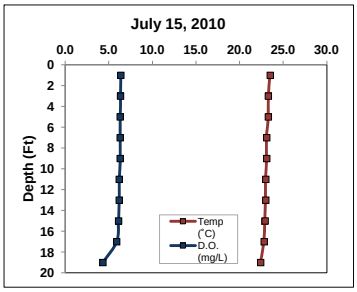
Data collected by DAC and TWH (Onterra)

Big Lake

Date: 07-15-10
Time: 10:14
Weather: 100% sun, 75°F
Entry: TWH

Max Depth: 20.2
BLS Depth (ft): 3.0
BLB Depth (ft): 17.0
Secchi Depth (ft): 2.1

Depth (ft)	Temp (°C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	23.5	6.4		
3.0	23.3	6.3		
5.0	23.3	6.3		
7.0	23.1	6.3		
9.0	23.1	6.3		
11.0	23.0	6.2		
13.0	23.0	6.2		
15.0	22.9	6.1		
17.0	22.8	5.9		
19.0	22.4	4.3		



Parameter	BLS	BLB
Total P (µg/L)	32.000	31.000
Dissolved P (µg/L)	ND	3.000
Chl-*a* (µg/L)	5.00	
TKN (µg/L)	1020.00	1010.00
$NO_3 + NO_2$-N (µg/L)	35.000	36.000
NH_3-N (µg/L)	75.000	120.000
Total N (µg/L)	1020.00	1010.00
Lab Cond. (µS/cm)	77	78
Lab pH	7.29	7.18
Alkalinity (mg/L $CaCO_3$)	24	24
Total Susp. Solids (mg/L)	2	2
Calcium (mg/L)		

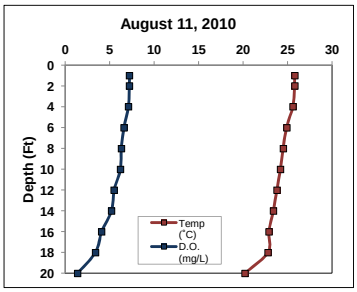
Data collected by TWH and KSH (Onterra)

Big Lake

Date: 08-11-10
Time:
Weather: 80% clouds
Entry: TWH

Max Depth: 22.0
BLS Depth (ft): 3.0
BLB Depth (ft): 18.0
Secchi Depth (ft): 2.8

Depth (ft)	Temp (°C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	25.8	7.2	7.3	75
2.0	25.8	7.2	7.3	75
4.0	25.6	7.1	7.2	75
6.0	24.9	6.6	7.1	75
8.0	24.5	6.3	7.0	75
10.0	24.2	6.2	7.0	75
12.0	23.8	5.5	6.9	75
14.0	23.4	5.2	6.8	76
16.0	22.9	4.1	6.7	77
18.0	22.8	3.4	6.7	79
20.0	20.2	1.4	6.7	84



Parameter	BLS	BLB
Total P (µg/L)	36.000	49.000
Dissolved P (µg/L)		
Chl-*a* (µg/L)	8.96	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH	7.30	6.70
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	4	3
Calcium (mg/L)		

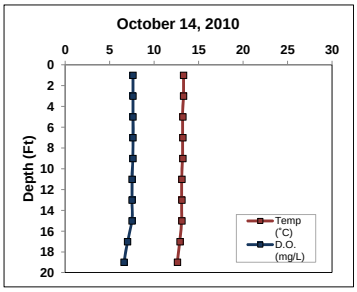
Data collected by TAH and EJH (Onterra)

Big Lake

Date: 10-14-10
Time: 15:00
Weather: 75% clouds 55°F
Entry: TWH

Max Depth: 20.1
BLS Depth (ft): 3.0
BLB Depth (ft): 17.0
Secchi Depth (ft): 1.9

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	13.3	7.6		
3.0	13.3	7.6		
5.0	13.2	7.6		
7.0	13.2	7.6		
9.0	13.2	7.6		
11.0	13.1	7.5		
13.0	13.1	7.5		
15.0	13.1	7.5		
17.0	12.9	7.0		
19.0	12.6	6.6		



Parameter	BLS	BLB
Total P (µg/L)	45.000	46.000
Dissolved P (µg/L)		
Chl-*a* (µg/L)	4.49	
TKN (µg/L)		
NO_3 + NO_2-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	ND	2
Calcium (mg/L)		

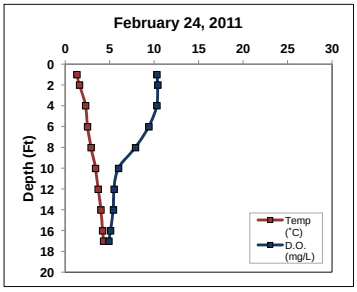
Data collected by TWH (Onterra)

Big Lake

Date: 02-24-11
Time: 12:30
Weather: 100% clouds, light breeze, 26°F
Entry: TWH

Max Depth: 17.6
BLS Depth (ft): 3.0
BLB Depth (ft): 15.0
Secchi Depth (ft): 2.0

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1.0	1.3	10.3		
2.0	1.6	10.4		
4.0	2.3	10.3		
6.0	2.5	9.4		
8.0	2.9	7.9		
10.0	3.4	6.0		
12.0	3.7	5.5		
14.0	4.0	5.4		
16.0	4.2	5.1		
17.0	4.3	4.9		



Parameter	BLS	BLB
Total P (µg/L)	35.000	45.000
Dissolved P (µg/L)	8.000	14.000
Chl-*a* (µg/L)		
TKN (µg/L)	1050.00	1060.00
NO_3 + NO_2-N (µg/L)	174.000	223.000
NH_3-N (µg/L)	29.000	36.000
Total N (µg/L)	1050.00	1060.00
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)		

Data collected by TAH and DAC (Onterra) Note: Water is very stained, root beer coloring. Ice depth 1.7'

Water Quality Data

2010	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	2.7	NA	NA
Total P (µg/L)	6	30.8	6	35.5
Dissolved P (µg/L)	3	5.5	3	6.3
Chl a (µg/L)	5	6.7	0	NA
TKN (µg/L	3	953.3	3	923.3
NO3+NO2-N (µg/L)	3	104.5	3	129.5
NH3-N (µg/L)	3	52.0	3	78.0
Total N (µg/L)	3	953.3	3	923.3
Lab Cond. (µS/cm)	2	77.5	2	78.0
Lab pH	3	7.3	3	7.1
Alkal (mg/l CaCO3)	2	24.0	2	24.2
Total Susp Sol (mg/l)	5	3.0	5	2.5
Calcium (µg/L)	1	8.0	0	NA

Trophic State Index (WTSI)

Year	TP	Chl-a	Secchi
1979		57.0	57.1
1990			53.2
1994			54.4
2000	52.5	46.5	56.6
2001	52.9	50.1	50.8
2002	50.9	48.2	
2005			50.1
2006	51.9	54.8	53.2
2007	52.2	57.8	53.9
2008	56.2	58.8	57.1
2009	50.6	50.9	55.4
2010	53.8	52.9	56.9
2011	53.5	49.5	59.5
All Years (Weight	53.1	53.0	54.8
Shallow, Lowland Drain	54.6	52.6	52.4
NLF Ecoregion	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	4.0	1	4.0	1	14.7	1	14.7				
1990	6	5.3	6	5.3								
1994	5	4.8	3	4.8								
2000	4	4.7	3	4.2	4	5.0	3	5.0	4	30.5	3.0	28.7
2001	3	6.2	3	6.2	4	6.8	3	7.3	4	29.8	3.0	29.3
2002					4	7.2	3	6.0	4	28.5	3.0	25.7
2005	5	6.4	4	6.5								
2006	5	5.1	4	5.3	4	12.5	3	11.8	4	29.0	3.0	27.3
2007	4	5.0	3	5.0	3	16.0	3	16.0	4	31.5	3.0	28.0
2008	4	4.3	3	4.0	3	17.7	3	17.7	4	33.5	3.0	37.0
2009	3	4.7	2	4.5	3	8.1	2	7.9	3	24.0	2.0	25.0
2010	13	4.2	9	4.1	13	8.7	10	9.7	15	31.4	11.0	31.4
2011	7	3.5	6	3.4	6	7.2	5	6.8	6	31.7	5.0	30.6
All Years (Weighted)		4.7		4.7		9.4		9.8		30.5		29.9
Shallow, Lowland Drainage Lakes				5.6				9.4				33.0
NLF Ecoregion				8.9				5.6				21.0

Summer 2010 N: 953.3
Summer 2010 P: 30.8

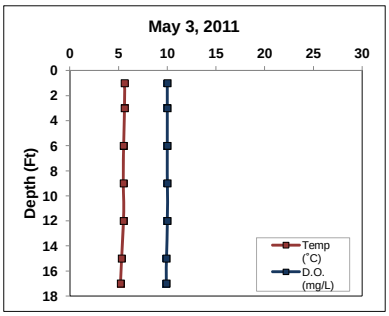
Summer 2011 N:P 31 :1

Dog Lake

Date: 5/3/2011
Time: 12:15
Weather: 100% clouds, no wind, 33°F
Entry: TWH

Max Depth: 17.7
DGLS Depth (ft): 3.0
DGLB Depth (ft): 15.0
Secchi Depth (ft): 2.4

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	5.6	10.0	6.7	49.0
3	5.6	10.0	6.8	49.0
6	5.5	10.0	6.9	49.0
9	5.5	10.0	6.9	49.0
12	5.5	10.0	6.9	49.0
15	5.3	9.9	7.0	48.0
17	5.2	9.9	7.0	48.0



Parameter	DGLS	DGLB
Total P (µg/L)	34.00	36.00
Dissolved P (µg/L)	4.00	3.00
Chl-*a* (µg/L)	5.77	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)	89.00	89.00
NH_3-N (µg/L)	41.00	29.00
Total N (µg/L)	840.00	790.00
Lab Cond. (µS/cm)	51.00	51.00
Lab pH	6.87	6.98
Alkalinity (mg/L $CaCO_3$)	16.00	16.10
Total Susp. Solids (mg/L)	ND	2.00
Calcium (mg/L)	5.50	

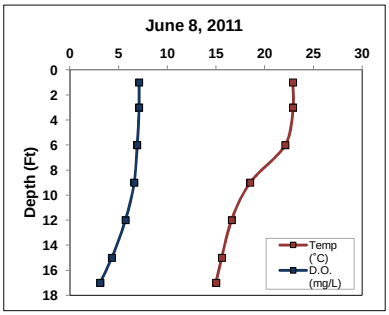
Data collected by TAH (Onterra)
Note: Moved WQ point. Water very stained.

Dog Lake

Date: 6/8/2011
Time: 9:30
Weather: 100% sun, light breeze, 80°F
Entry: TWH

Max Depth: 17.6
DGLS Depth (ft): 3.0
DGLB Depth (ft): 15.0
Secchi Depth (ft): 2.7

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	22.9	7.1	7.6	57.0
3	22.9	7.1	7.5	56.0
6	22.1	6.9	7.4	56.0
9	18.5	6.6	7.3	55.0
12	16.6	5.7	7.1	54.0
15	15.6	4.3	7.0	56.0
17	15.0	3.1	6.9	59.0



Parameter	DGLS	DGLB
Total P (µg/L)	25.00	48.00
Dissolved P (µg/L)		
Chl-*a* (µg/L)	2.42	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)		

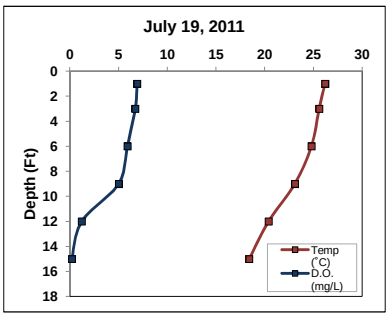
Data collected by TWH, MMF and EEC (Onterra)

Dog Lake

Date: 7/19/2011
Time: 12:10
Weather: 85˚F lite breeze and 90% clouds
Entry: MMF

Max Depth: 16.8
DGLS Depth (ft): 3.0
DGLB Depth (ft): 14.0
Secchi Depth (ft): 2.2

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	26.2	6.9	7.8	57.0
3	25.6	6.7	7.6	56.0
6	24.8	5.9	7.4	57.0
9	23.1	5.0	7.2	58.0
12	20.4	1.2	7.0	64.0
15	18.4	0.2	6.9	73.0



Parameter	DGLS	DGLB
Total P (µg/L)	33.00	54.00
Dissolved P (µg/L)	4.00	7.00
Chl-a (µg/L)	8.10	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)	59.00	ND
NH_3-N (µg/L)	37.00	300.00
Total N (µg/L)	950.00	1210.00
Lab Cond. (µS/cm)	58.00	74.00
Lab pH	7.14	6.84
Alkalinity (mg/L $CaCO_3$)	19.10	26.80
Total Susp. Solids (mg/L)	2.00	8.00
Calcium (mg/L)		

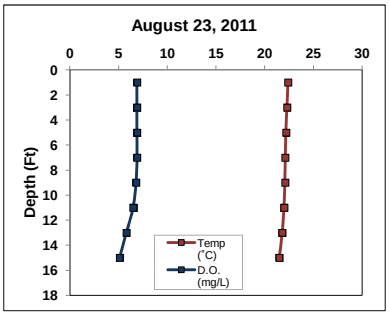
Collected by TAH, MJH, and MKH (Onterra) Water stained.

Dog Lake

Date: 8/23/2011
Time: 11:28
Weather: 100% clouds, breezy, 73°
Entry: TWH

Max Depth: 17
DGLS Depth (ft): 3
DGLB Depth (ft): 14
Secchi Depth (ft): 2.6

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	22.4	6.9		
3	22.3	6.9		
5	22.2	6.9		
7	22.1	6.9		
9	22.1	6.8		
11	22	6.5		
13	21.8	5.8		
15	21.5	5.1		



Parameter	DGLS	DGLB
Total P (µg/L)	37.00	51.00
Dissolved P (µg/L)		
Chl-a (µg/L)	15.80	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	3.00	3.00
Calcium (mg/L)		

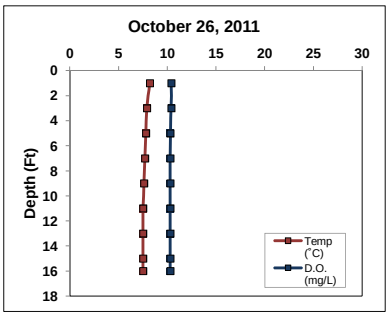
Data collected by TAH (Onterra)

Dog Lake

Date: 10/26/2011
Time: 13:11
Weather: 70% clouds, 46°F
Entry: TWH

Max Depth: 17.4
DGLS Depth (ft): 3
DGLB Depth (ft): 15
Secchi Depth (ft): 2.6

Depth (ft)	Temp (°C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	8.2	10.4		
3	7.9	10.4		
5	7.8	10.3		
7	7.7	10.3		
9	7.6	10.3		
11	7.5	10.3		
13	7.5	10.3		
15	7.5	10.3		
16	7.5	10.3		



Parameter	DGLS	DGLB
Total P (µg/L)	44.00	43.00
Dissolved P (µg/L)		
Chl-a (µg/L)	8.11	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	2.00	ND
Calcium (mg/L)		

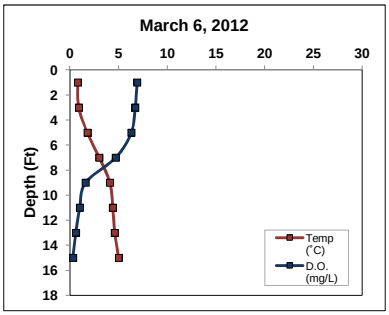
Data collected by TWH (Onterra)

Dog Lake

Date: 3/6/2012
Time: 13:15
Weather:
Entry: TWH

Max Depth: 17.1
DGLS Depth (ft): 3
DGLB Depth (ft): 14
Secchi Depth (ft): 2.8

Depth (ft)	Temp (°C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	0.8	6.9		
3	0.9	6.7		
5	1.8	6.3		
7	3	4.7		
9	4.1	1.6		
11	4.4	1		
13	4.6	0.6		
15	5	0.3		



Parameter	DGLS	DGLB
Total P (µg/L)		
Dissolved P (µg/L)		
Chl-a (µg/L)		
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)		
Calcium (mg/L)		

Data collected by TAH and TWH (Onterra) Ice depth: 1.5ft

Water Quality Data

2011	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	2.6	NA	NA
Total P (µg/L)	5	34.6	5	46.4
Dissolved P (µg/L)	2	4.0	2	5.0
Chl a (µg/L)	5	8.0	0	NA
TKN (µg/L	0	NA	0	NA
NO3+NO2-N (µg/L)	2	74.0	2	89.0
NH3-N (µg/L)	2	39.0	2	164.5
Total N (µg/L)	2	895.0	2	1000.0
Lab Cond. (µS/cm)	2	54.5	2	62.5
Lab pH	2	7.0	2	6.9
Alkal (mg/l CaCO3)	2	17.6	2	21.5
Total Susp Sol (mg/l)	5	2.3	5	4.3
Calcium (µg/L)	1	5.5	0	NA

Trophic State Index (WTSI)

Year	TP	Chl-a	Secchi
1979	58.4	43.1	57.1
1990			53.5
1991			61.3
1994			56.5
1995			55.2
1996			55.6
2011	54.0	51.9	63.9
All Years (Weight	55.2	50.3	56.7
Shallow, Lowland Draina	54.6	52.6	52.4
NLF Ecoregion	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	4.0	1	4.0	1	3.6	1	3.6	1	43.0	1.0	43.0
1990	5	5.2	5	5.2								
1991	6	3.0	6	3.0								
1994	6	4.2	4	4.2								
1995	8	4.6	8	4.6								
1996	11	4.3	8	4.4								
2011	5	2.5	3	2.5	5	8.0	3	8.8	5	34.6	3.0	31.7
All Years (Weighted)		4.0		4.1		7.3		7.5		36.0		34.5
Shallow, Lowland Drainage Lakes				5.6				9.4				33.0
NLF Ecoregion				8.9				5.6				21.0

Summer 2011 N: 950.0
Summer 2011 P: 31.7

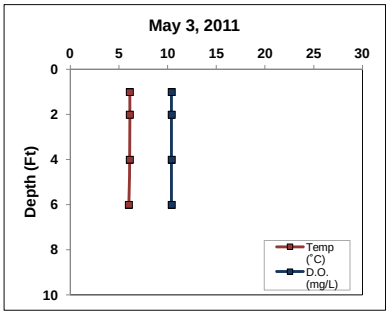
Summer 2011 N:P 30 :1

Crystal (Mud) Lake

Date: 5/3/2011
Time: 15:15
Weather: 75% clouds, breezy, 36°F
Entry: TWH

Max Depth: 8.2
CMLS Depth (ft): 3.0
CMLB Depth (ft): N/A
Secchi Depth (ft): 1.8

Depth (ft)	Temp (°C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	6.1	10.4	7.2	39.0
2	6.1	10.4	7.1	39.0
4	6.1	10.4	7.1	39.0
6	6.0	10.4	7.1	39.0



Parameter	CMLS	CMLB
Total P (µg/L)	51.00	
Dissolved P (µg/L)	10.00	
Chl-*a* (µg/L)	17.50	
TKN (µg/L)	830.00	
NO_3 + NO_2-N (µg/L)	23.00	
NH_3-N (µg/L)	ND	
Total N (µg/L)	830.00	
Lab Cond. (µS/cm)	41.00	
Lab pH	6.73	
Alkalinity (mg/L $CaCO_3$)	12.50	
Total Susp. Solids (mg/L)	3.00	
Calcium (mg/L)	4.20	

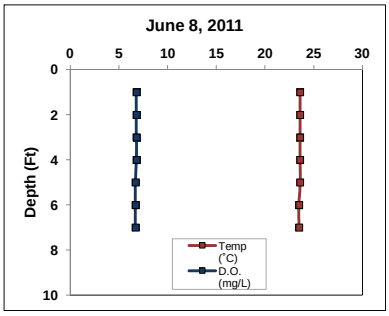
Data collected by TAH (Onterra)
Note: Only surface sample taken.

Crystal (Mud) Lake

Date: 6/8/2011
Time: 8:35
Weather: 100% sun, 80°F
Entry: TWH

Max Depth: 7.8
CMLS Depth (ft): 3.0
CMLB Depth (ft): NA
Secchi Depth (ft): 1.5

Depth (ft)	Temp (°C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	23.6	6.8	7.3	49.0
2	23.6	6.8	7.3	49.0
3	23.6	6.8	7.3	49.0
4	23.6	6.8	7.3	49.0
5	23.6	6.7	7.2	49.0
6	23.5	6.7	7.2	49.0
7	23.5	6.7	7.2	49.0



Parameter	CMLS	CMLB
Total P (µg/L)	50.00	
Dissolved P (µg/L)		
Chl-*a* (µg/L)	8.26	
TKN (µg/L)		
NO_3 + NO_2-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	5.00	
Calcium (mg/L)		

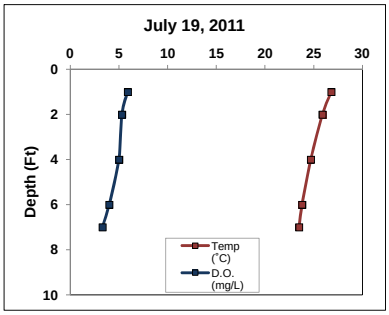
Data collected by TWH, MMF, EEC (Onterra)

Crystal (Mud) Lake

Date: 7/19/2011
Time: 12:50
Weather: 85˚F with a light breeze 90% clouds
Entry: MMF

Max Depth: 8.0
CMLS Depth (ft): 3.0
CMLB Depth (ft): N/A
Secchi Depth (ft): 1.6

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	26.8	5.9	7.8	60.0
2	25.9	5.3	7.4	60.0
4	24.7	5.0	7.2	60.0
6	23.8	4.0	7.0	62.0
7	23.5	3.3	6.9	64.0



Parameter	CMLS	CMLB
Total P (µg/L)	66.00	
Dissolved P (µg/L)	23.00	
Chl-*a* (µg/L)	1.89	
TKN (µg/L)	1160.00	
NO_3 + NO_2-N (µg/L)	43.00	
NH_3-N (µg/L)	132.00	
Total N (µg/L)	1160.00	
Lab Cond. (µS/cm)	62.00	
Lab pH	6.81	
Alkalinity (mg/L $CaCO_3$)	19.30	
Total Susp. Solids (mg/L)	2.00	
Calcium (mg/L)		

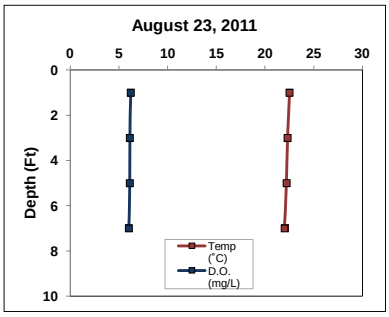
Collected by TAH, MKH,and MJH (Onterra) Water very stained.

Crystal (Mud) Lake

Date: 8/23/2011
Time: 12:12
Weather: 100% clouds, breezy, 75°
Entry: TWH

Max Depth: 7.5
CMLS Depth (ft): 3
CMLB Depth (ft):
Secchi Depth (ft): 1.4

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	22.5	6.2		
3	22.3	6.1		
5	22.2	6.1		
7	22	6		



Parameter	CMLS	CMLB
Total P (µg/L)	100.00	
Dissolved P (µg/L)		
Chl-*a* (µg/L)	7.45	
TKN (µg/L)		
NO_3 + NO_2-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	2.00	
Calcium (mg/L)		

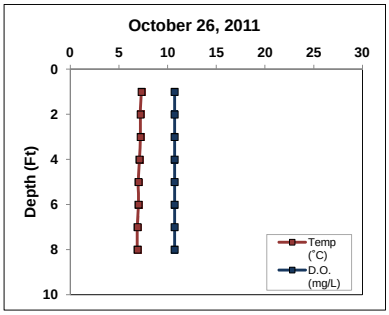
Data collected by TAH (Onterra)

Crystal (Mud) Lake

Date: 10/26/2011
Time: 13:55
Weather: 50% clouds, light breeze, 46°F
Entry: TWH

Max Depth: 8.1
CMLS Depth (ft): 3
CMLB Depth (ft): N/A
Secchi Depth (ft): 1.7

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	7.3	10.7		
2	7.2	10.7		
3	7.2	10.7		
4	7.1	10.7		
5	7	10.7		
6	7	10.7		
7	6.9	10.7		
8	6.9	10.7		



Parameter	CMLS	CMLB
Total P (µg/L)	87.00	
Dissolved P (µg/L)		
Chl-*a* (µg/L)	3.69	
TKN (µg/L)		
NO_3 + NO_2-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	2.00	
Calcium (mg/L)		

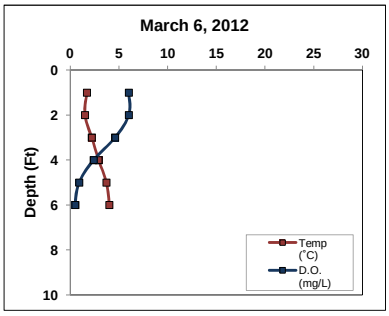
Data collected by TWH (Onterra)

Crystal (Mud) Lake

Date: 3/6/2012
Time: 12:30
Weather: 50% clouds, light breeze, 46°F
Entry: TWH

Max Depth: 7
CMLS Depth (ft): 3
CMLB Depth (ft): N/A
Secchi Depth (ft): 1.4

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	1.7	6		
2	1.5	6		
3	2.2	4.6		
4	2.9	2.4		
5	3.7	0.9		
6	4	0.5		



Parameter	CMLS	CMLB
Total P (µg/L)		
Dissolved P (µg/L)		
Chl-*a* (µg/L)		
TKN (µg/L)		
NO_3 + NO_2-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)		
Calcium (mg/L)		

Data collected by TAH and TWH (Onterra) Ice depth: 1.6ft

Water Quality Data

2011	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	1.6	NA	NA
Total P (µg/L)	5	70.8	0	NA
Dissolved P (µg/L)	2	16.5	0	NA
Chl a (µg/L)	5	7.8	0	NA
TKN (µg/L	2	995.0	0	NA
NO3+NO2-N (µg/L)	2	33.0	0	NA
NH3-N (µg/L)	2	132.0	0	NA
Total N (µg/L)	2	995.0	0	NA
Lab Cond. (µS/cm)	2	51.5	0	NA
Lab pH	2	6.8	0	NA
Alkal (mg/l CaCO3)	2	15.9	0	NA
Total Susp Sol (mg/l)	5	2.8	0	NA
Calcium (µg/L)	1	4.2	0	NA

Trophic State Index (WTSI)

Year	TP	Chl-a	Secchi
1979	41.1	46.8	71.3
2011	65.8	48.0	71.3
All Years (Weight	62.5	47.7	71.3
Shallow, Lowland Drain	54.6	52.6	52.4
NLF Ecoregion	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	1.5	1	1.5	1	5.2	1	5.2	1	13.0	1.0	13.0
2011	5	1.6	3	1.5	5	7.8	3	5.9	5	70.8	3.0	72.0
All Years (Weighted)		1.6		1.5		7.3		5.7		61.2		57.3
Shallow, Lowland Drainage Lakes				5.6				9.4				33.0
NLF Ecoregion				8.9				5.6				21.0

Summer 2011 N: 1160.0
Summer 2011 P: 72.0

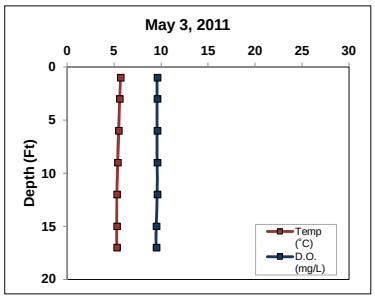
Summer 2011 N:P 16 :1

Deer Lake

Date: 5/3/2011
Time: 12:45
Weather: 100% clouds, little wind, 33°F
Entry: TWH

Max Depth: 18.2
DRLS Depth (ft): 3.0
DRLB Depth (ft): 15.0
Secchi Depth (ft): 2.2

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	5.7	9.6	6.9	50.0
3	5.6	9.6	6.9	50.0
6	5.5	9.6	6.9	50.0
9	5.4	9.6	6.9	49.0
12	5.3	9.6	6.9	50.0
15	5.3	9.5	7.0	50.0
17	5.3	9.5	7.0	50.0



Parameter	DRLS	DRLB
Total P (µg/L)	36.00	34.00
Dissolved P (µg/L)	5.00	6.00
Chl-*a* (µg/L)	9.46	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)	80.00	83.00
NH_3-N (µg/L)	39.00	48.00
Total N (µg/L)	85.00	83.00
Lab Cond. (µS/cm)	54.00	53.00
Lab pH	6.83	6.94
Alkalinity (mg/L $CaCO_3$)	17.10	16.50
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)	5.60	

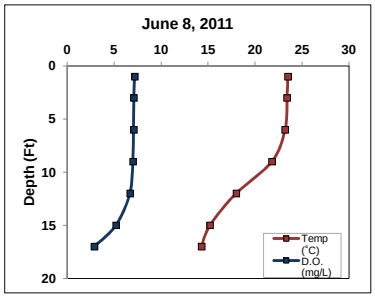
Data collected by TAH (Onterra)

Deer Lake

Date: 6/8/2011
Time: 9:57
Weather: 100% sun, light breeze, 80°F
Entry: TWH

Max Depth: 18.2
DRLS Depth (ft): 3.0
DRLB Depth (ft): 15.0
Secchi Depth (ft): 2.4

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	23.5	7.2	7.5	55.0
3	23.4	7.1	7.4	56.0
6	23.2	7.1	7.4	55.0
9	21.8	7.0	7.3	57.0
12	18.0	6.7	7.2	56.0
15	15.2	5.2	7.0	56.0
17	14.3	2.9	6.9	59.0



Parameter	DRLS	DRLB
Total P (µg/L)	27.00	41.00
Dissolved P (µg/L)		
Chl-*a* (µg/L)	2.86	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)		

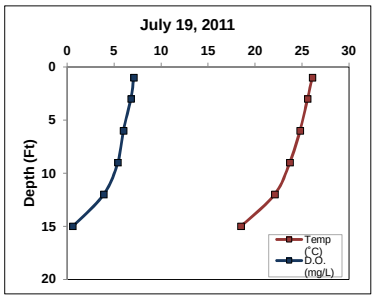
Data collected by TWH, MMF and EEC (Onterra)

Deer Lake

Date: 7/19/2011
Time: 11:28
Weather: light breeze 87°F 90% clouds
Entry: MMF

Max Depth: 18.6
DRLS Depth (ft): 3.0
DRLB Depth (ft): 15.0
Secchi Depth (ft): 2.6

Depth (ft)	Temp (°C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	26.1	7.1	7.5	57.0
3	25.6	6.8	7.4	57.0
6	24.8	6.0	7.3	57.0
9	23.7	5.4	7.2	58.0
12	22.1	3.9	7.0	60.0
15	18.5	0.6	6.9	66.0



Parameter	DRLS	DRLB
Total P (µg/L)	30.00	74.00
Dissolved P (µg/L)	5.00	18.00
Chl-*a* (µg/L)	4.40	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)	70.00	ND
NH_3-N (µg/L)	53.00	354.00
Total N (µg/L)	860.00	1290.00
Lab Cond. (µS/cm)	59.00	67.00
Lab pH	7.14	6.78
Alkalinity (mg/L $CaCO_3$)	19.10	23.40
Total Susp. Solids (mg/L)	ND	6.00
Calcium (mg/L)		

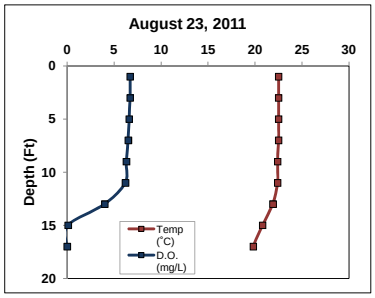
Collected by TAH, MKH, and MJH (Onterra) Water very stained.

Deer Lake

Date: 8/23/2011
Time: 10:55
Weather: 100% clouds, breezy, 69°
Entry: TWH

Max Depth: 18
DRLS Depth (ft): 3
DRLB Depth (ft): 15
Secchi Depth (ft): 2.7

Depth (ft)	Temp (°C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	22.5	6.7		
3	22.5	6.7		
5	22.5	6.6		
7	22.5	6.5		
9	22.4	6.3		
11	22.4	6.2		
13	21.9	4		
15	20.8	0.1		
17	19.8	0		



Parameter	DRLS	DRLB
Total P (µg/L)	40.00	90.00
Dissolved P (µg/L)		
Chl-*a* (µg/L)	14.70	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	3.00	6.00
Calcium (mg/L)		

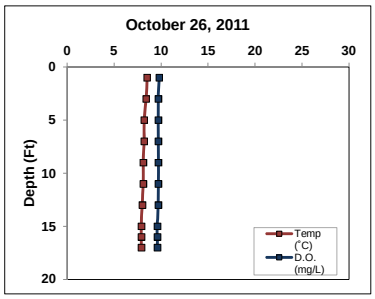
Data collected by TAH (Onterra)

Deer Lake

Date: 10/26/2011
Time: 12:45
Weather: 80% clouds, light breeze, 45°F
Entry: TWH

Max Depth: 18.8
DRLS Depth (ft): 3
DRLB Depth (ft): 16
Secchi Depth (ft): 3.1

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	8.5	9.8		
3	8.4	9.7		
5	8.2	9.7		
7	8.2	9.7		
9	8.1	9.7		
11	8.1	9.7		
13	8	9.7		
15	7.9	9.6		
16	7.9	9.6		
17	7.9	9.6		



Parameter	DRLS	DRLB
Total P (µg/L)	49.00	47.00
Dissolved P (µg/L)		
Chl-a (µg/L)	6.71	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	ND	<2.5
Calcium (mg/L)		

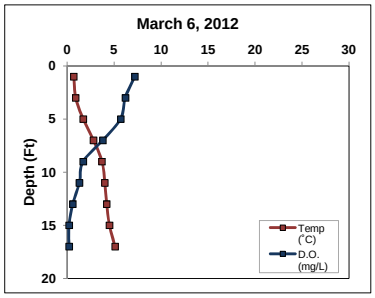
Data collected by TWH (Onterra)

Deer Lake

Date: 3/6/2012
Time: 13:50
Weather:
Entry: TWH

Max Depth: 17.2
DRLS Depth (ft): 3
DRLB Depth (ft): 14
Secchi Depth (ft): 3

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	0.7	7.2		
3	0.9	6.2		
5	1.7	5.7		
7	2.8	3.8		
9	3.7	1.7		
11	4	1.3		
13	4.2	0.6		
15	4.5	0.2		
17	5.1	0.2		



Parameter	DRLS	DRLB
Total P (µg/L)		
Dissolved P (µg/L)		
Chl-a (µg/L)		
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)		
Calcium (mg/L)		

Data collected by TAH and TWH (Onterra) Ice depth: 1.7ft

Water Quality Data

2011	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	2.7	NA	NA
Total P (µg/L)	5	36.4	5	57.2
Dissolved P (µg/L)	2	5.0	2	12.0
Chl a (µg/L)	5	7.6	0	NA
TKN (µg/L	0	NA	0	NA
NO3+NO2-N (µg/L)	2	75.0	2	83.0
NH3-N (µg/L)	2	46.0	2	201.0
Total N (µg/L)	2	472.5	2	686.5
Lab Cond. (µS/cm)	2	56.5	2	60.0
Lab pH	2	7.0	2	6.9
Alkal (mg/l CaCO3)	2	18.1	2	20.0
Total Susp Sol (mg/l)	5	3.0	4	6.0
Calcium (µg/L)	1	5.6	0	NA

Trophic State Index (WTSI)

Year	TP	Chl-a	Secchi
1979	49.4	60.9	62.3
1988			52.4
1989			53.8
1990			53.4
1991			60.1
1993			62.5
1994			60.5
1995			60.7
1996			61.7
1997			63.2
1998			59.1
2006			61.6
2007			53.2
2008			55.4
2009			54.2
2010			61.9
2011	54.3	50.1	61.7
All Years (Weight	53.2	54.1	57.6
Shallow, Lowland Draina	54.6	52.6	52.4
NLF Ecoregion	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	2.8	1	2.8	1	21.8	1	21.8	1	23.0	1.0	23.0
1986												
1987												
1988	7	5.5	6	5.5								
1989	8	5.0	7	5.0								
1990	5	5.2	5	5.2								
1991	6	3.3	6	3.3								
1992												
1993	7	2.5	3	2.8								
1994	12	3.0	9	3.2								
1995	10	2.9	6	3.1								
1996	8	2.9	6	2.9								
1997	9	2.5	6	2.6								
1998	6	3.5	4	3.5								
2006	6	2.8	4	2.9								
2007	8	5.2	7	5.3								
2008	10	4.5	9	4.5								
2009	7	4.9	7	4.9								
2010	4	2.9	4	2.9								
2011	11	2.8	7	2.9	5	7.6	3	7.3	5	36.4	3.0	32.3
All Years (Weighted)		3.6		3.9		10.0		11.0		34.2		30.0
Shallow, Lowland Drainage Lakes				5.6				9.4				33.0
NLF Ecoregion				8.9				5.6				21.0

Summer 2011 N: 860.0
Summer 2011 P: 32.3

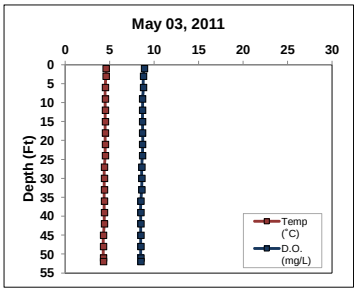
Summer 2011 N:P 27 :1

Big Stone Lake

Date: 5/3/2011
Time: 13:15
Weather: 75% clouds, breezy, 36°F
Entry: TWH

Max Depth: 52.9
BSLS Depth (ft): 3.0
BSLB Depth (ft): 50.0
Secchi Depth (ft): 2.4

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	4.6	8.9	7.0	67.0
3	4.6	8.8	7.0	67.0
6	4.5	8.8	7.0	67.0
9	4.5	8.7	7.0	67.0
12	4.5	8.7	7.0	67.0
15	4.5	8.7	7.0	67.0
18	4.5	8.7	7.0	67.0
21	4.5	8.7	7.0	67.0
24	4.5	8.7	7.0	67.0
27	4.4	8.6	7.0	67.0
30	4.4	8.6	7.0	67.0
33	4.4	8.6	7.0	67.0
36	4.4	8.5	7.0	67.0
39	4.4	8.5	7.0	68.0
42	4.4	8.5	7.0	68.0
45	4.3	8.5	7.0	69.0
48	4.3	8.5	7.0	68.0
51	4.3	8.5	7.0	68.0
52	4.3	8.5	7.0	68.0



Parameter	BSLS	BSLB
Total P (µg/L)	38.00	36.00
Dissolved P (µg/L)	7.00	6.00
Chl-*a* (µg/L)	4.74	
TKN (µg/L)	770.00	810.00
$NO_3 + NO_2$-N (µg/L)	163.00	163.00
NH_3-N (µg/L)	35.00	33.00
Total N (µg/L)	770.00	810.00
Lab Cond. (µS/cm)	71.00	72.00
Lab pH	6.84	7.10
Alkalinity (mg/L $CaCO_3$)	23.30	23.40
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)	7.80	

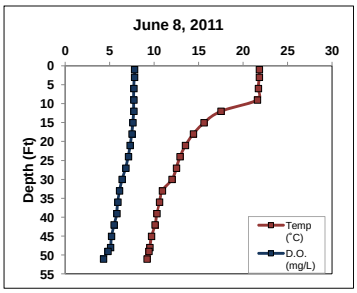
Data collected by TAH (Onterra)

Big Stone Lake

Date: 6/8/2011
Time: 10:19
Weather: 100% sun, light breeze, 80°F
Entry: TWH

Max Depth: 52.5
BSLS Depth (ft): 3.0
BSLB Depth (ft): 49.0
Secchi Depth (ft): 2.6

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	21.8	7.8	7.6	60.0
3	21.8	7.8	7.6	60.0
6	21.7	7.7	7.5	60.0
9	21.6	7.7	7.5	60.0
12	17.5	7.7	7.4	60.0
15	15.6	7.6	7.3	60.0
18	14.4	7.5	7.2	60.0
21	13.5	7.3	7.1	61.0
24	12.9	7.1	7.1	61.0
27	12.5	6.8	7.0	61.0
30	12.0	6.4	7.0	62.0
33	10.9	6.1	6.9	62.0
36	10.6	5.9	6.9	63.0
39	10.3	5.8	6.9	63.0
42	10.1	5.5	6.9	63.0
45	9.7	5.2	6.9	64.0
48	9.5	5.1	6.8	64.0
49	9.4	4.8	6.8	64.0
51	9.2	4.3	6.8	65.0



Parameter	BSLS	BSLB
Total P (µg/L)	31.00	108.00
Dissolved P (µg/L)		
Chl-*a* (µg/L)	2.56	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	ND	2.00
Calcium (mg/L)		

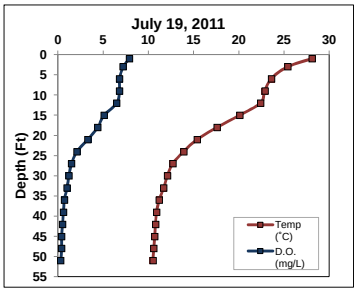
Data collected by TWH, MMF and EEC (Onterra)

Big Stone Lake

Date: 7/19/2011
Time: 10:40
Weather: 85˚F light breeze and 90% cloud cover
Entry: MMF

Max Depth: 52.4
BSLS Depth (ft): 3.0
BSLB Depth (ft): 49.0
Secchi Depth (ft): 3.2

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	28.1	7.9	7.9	59.0
3	25.4	7.2	7.7	59.0
6	23.6	6.8	7.5	59.0
9	22.9	6.8	7.4	59.0
12	22.4	6.5	7.4	59.0
15	20.1	5.1	7.2	60.0
18	17.6	4.4	7.0	61.0
21	15.4	3.3	6.9	62.0
24	13.9	2.1	6.8	64.0
27	12.7	1.5	6.8	66.0
30	12.1	1.2	6.7	66.0
33	11.7	1	6.7	66.0
36	11.2	0.7	6.7	67.0
39	10.9	0.6	6.7	67.0
42	10.8	0.5	6.7	68.0
45	10.7	0.4	6.7	68.0
48	10.6	0.4	6.7	68.0
51	10.5	0.3	6.7	68.0



Parameter	BSLS	BSLB
Total P (µg/L)	26.00	117.00
Dissolved P (µg/L)	4.00	46.00
Chl-*a* (µg/L)	7.59	
TKN (µg/L)	710.00	820.00
NO_3 + NO_2-N (µg/L)	100.00	214.00
NH_3-N (µg/L)	39.00	46.00
Total N (µg/L)	710.00	820.00
Lab Cond. (µS/cm)	61.00	73.00
Lab pH	7.23	6.61
Alkalinity (mg/L $CaCO_3$)	19.20	23.50
Total Susp. Solids (mg/L)	ND	4.00
Calcium (mg/L)		

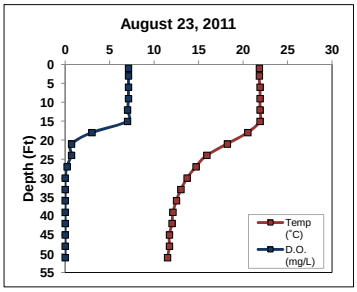
Collected by TAH, MJH, and MKH (Onterra) Water stained.

Big Stone Lake

Date: 8/23/2011
Time: 10:15
Weather: 100% clouds, breezy, 69°
Entry: TWH

Max Depth: 52.2
BSLS Depth (ft): 3
BSLB Depth (ft): 49
Secchi Depth (ft): 3.2

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	21.8	7.1		
3	21.8	7.1		
6	21.9	7.1		
9	21.9	7.1		
12	21.9	7		
15	21.9	7		
18	20.5	3		
21	18.2	0.7		
24	15.9	0.7		
27	14.7	0.2		
30	13.7	0		
33	13	0		
36	12.5	0		
39	12.1	0		
42	12	0		
45	11.7	0		
48	11.7	0		
51	11.5	0		



Parameter	BSLS	BSLB
Total P (µg/L)	22.00	98.00
Dissolved P (µg/L)		
Chl-*a* (µg/L)	7.06	
TKN (µg/L)		
NO_3 + NO_2-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	ND	6.00
Calcium (mg/L)		

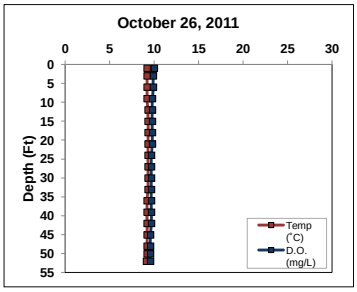
Data collected by TAH (Onterra)

Big Stone Lake

Date: 10/26/2011
Time: 12:08
Weather: 75% clouds, light breeze, 45°
Entry: TWH

Max Depth: 53.5
BSLS Depth (ft): 3
BSLB Depth (ft): 50
Secchi Depth (ft): 3

Depth (ft)	Temp (°C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	9.2	10		
3	9.2	9.9		
6	9.2	9.9		
9	9.2	9.8		
12	9.3	9.8		
15	9.3	9.8		
18	9.3	9.8		
21	9.3	9.8		
24	9.3	9.7		
27	9.3	9.7		
30	9.3	9.7		
33	9.3	9.7		
36	9.2	9.7		
39	9.2	9.7		
42	9.2	9.7		
45	9.2	9.6		
48	9.2	9.6		
50	9.2	9.6		
52	9.1	9.6		



Parameter	BSLS	BSLB
Total P (µg/L)	45.00	45.00
Dissolved P (µg/L)		
Chl-*a* (µg/L)	6.07	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	2.00	ND
Calcium (mg/L)		

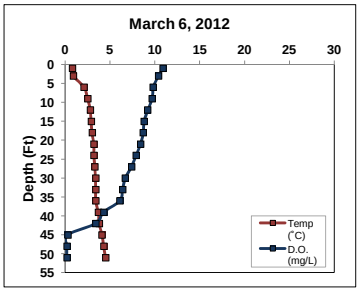
Data collected by TWH (Onterra)

Big Stone Lake

Date: 3/6/2012
Time: 14:25
Weather:
Entry: TWH

Max Depth: 51.8
BSLS Depth (ft): 3
BSLB Depth (ft): 48
Secchi Depth (ft): 3

Depth (ft)	Temp (°C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	0.8	10.9		
3	0.9	10.4		
6	2.1	9.8		
9	2.5	9.7		
12	2.8	9.2		
15	2.9	8.8		
18	3	8.7		
21	3.2	8.4		
24	3.2	7.9		
27	3.3	7.4		
30	3.4	6.7		
33	3.4	6.4		
36	3.4	6.1		
39	3.7	4.3		
42	3.8	3.4		
45	4.1	0.3		
48	4.3	0.2		
51	4.5	0.2		



Parameter	BSLS	BSLB
Total P (µg/L)		
Dissolved P (µg/L)		
Chl-*a* (µg/L)		
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)		
Calcium (mg/L)		

Data collected by TAH and TWH (Onterra) Ice depth: 1.5ft

Water Quality Data

2011	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	2.9	NA	NA
Total P (µg/L)	5	32.4	5	80.8
Dissolved P (µg/L)	2	5.5	2	26.0
Chl a (µg/L)	5	5.6	0	NA
TKN (µg/L	2	740.0	2	815.0
NO3+NO2-N (µg/L)	2	131.5	2	188.5
NH3-N (µg/L)	2	37.0	2	39.5
Total N (µg/L)	2	740.0	2	815.0
Lab Cond. (µS/cm)	2	66.0	2	72.5
Lab pH	2	7.0	2	6.9
Alkal (mg/l CaCO3)	2	21.3	2	23.5
Total Susp Sol (mg/l)	5	2.0	5	4.0
Calcium (µg/L)	1	7.8	0	NA

Wisconsin Trophic State Index (WTSI)

Year	TP	Chl-a	Secchi
1993			52.6
2000	47.8	48.7	51.8
2001	51.5	51.4	53.2
2002	48.7	49.4	
2006			54.9
2007	47.7	50.7	50.4
2008	46.9	50.3	50.6
2009	49.4	51.5	49.8
2010	46.5	51.8	50.0
2011	51.4	48.0	57.4
All Years (Weight	52.5	49.6	52.0
Deep, Lowland Drainag	52.5	49.4	46.2
NLF Ecoregion	51.8	47.7	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
1993	3	5.2	2	5.5								
2000	4	5.9	3	5.8	4	5.6	3	6.3	4	24.3	3.0	20.7
2001	1	5.2	1	5.2	4	7.8	3	8.3	4	26.8	3.0	26.7
2002					4	6.6	3	6.8	4	23.8	3.0	22.0
2006	6	4.7	4	4.7								
2007	8	6.4	7	6.4	3	6.2	2	7.8	3	21.0	2.0	20.5
2008	8	6.3	7	6.3	3	7.5	3	7.5	3	19.3	3.0	19.3
2009	7	6.6	7	6.6	3	8.4	3	8.4	3	23.0	3.0	23.0
2010	8	6.2	7	6.6	6	7.7	5	8.7	6	22.5	5.0	18.8
2011	13	3.7	9	3.9	12	5.9	9	5.9	12	31.5	8.0	26.5
All Years (Weighted)		5.5		5.7		6.7		7.2		25.7		22.7
Deep, Lowland Drainage Lakes				8.5				7.0				23.0
NLF Ecoregion				8.9				5.6				21.0

Summer 2011 N: 710.0
Summer 2011 P: 32.4

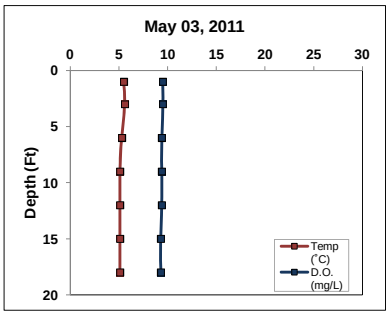
Summer 2011 N:P 22 :1

Laurel Lake

Date: 5/3/2011
Time: 11:15
Weather: 75% clouds, no wind, 33°F
Entry: TWH

Max Depth: 19.1
LLS Depth (ft): 3.0
LLB Depth (ft): 16.0
Secchi Depth (ft): 2.8

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	5.5	9.5	6.7	67.0
3	5.6	9.5	6.7	67.0
6	5.3	9.4	6.8	67.0
9	5.1	9.4	6.8	67.0
12	5.1	9.4	6.9	67.0
15	5.1	9.3	6.9	67.0
18	5.1	9.3	6.9	67.0



Parameter	LLS	LLB
Total P (µg/L)	37.00	35.00
Dissolved P (µg/L)	7.00	7.00
Chl-*a* (µg/L)	9.68	
TKN (µg/L)	850.00	830.00
NO_3 + NO_2-N (µg/L)	151.00	151.00
NH_3-N (µg/L)	19.00	17.00
Total N (µg/L)	850.00	830.00
Lab Cond. (µS/cm)	71.00	70.00
Lab pH	7.06	6.95
Alkalinity (mg/L $CaCO_3$)	23.10	22.90
Total Susp. Solids (mg/L)	3.00	3.00
Calcium (mg/L)	7.50	

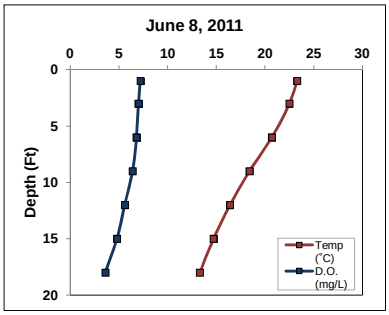
Data collected by TAH (Onterra)
Note: Water very stained.

Laurel Lake

Date: 6/8/2011
Time: 11:10
Weather: 100% sun, light breeze, 80°F
Entry: TWH

Max Depth: 20.2
LLS Depth (ft): 3.0
LLB Depth (ft): 18.0
Secchi Depth (ft): 2.6

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	23.3	7.2	7.6	67.0
3	22.5	7.0	7.5	67.0
6	20.7	6.8	7.4	67.0
9	18.4	6.4	7.3	67.0
12	16.4	5.6	7.2	67.0
15	14.7	4.8	7.1	68.0
18	13.3	3.6	7.0	70.0



Parameter	LLS	LLB
Total P (µg/L)	26.00	139.00
Dissolved P (µg/L)		
Chl-*a* (µg/L)	3.16	
TKN (µg/L)		
NO_3 + NO_2-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH	7.50	7.00
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	nd	14.00
Calcium (mg/L)		

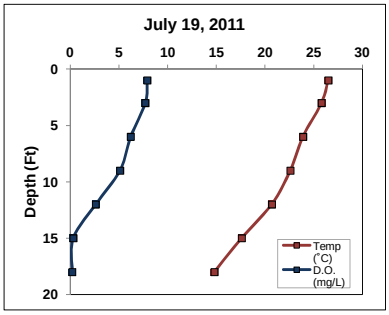
Data collected by TWH, MMF and EEC (Onterra)

Laurel Lake

Date: 7/19/2011
Time: 9:45
Weather: 85˚F clear and little breeze
Entry: MMF

Max Depth: 19.7
LLS Depth (ft): 3.0
LLB Depth (ft): 17.0
Secchi Depth (ft): 3.0

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	26.5	7.9	7.8	64.0
3	25.8	7.7	7.8	64.0
6	23.9	6.2	7.5	64.0
9	22.6	5.1	7.3	66.0
12	20.7	2.6	7.1	69.0
15	17.6	0.3	6.9	73.0
18	14.8	0.2	7.1	93.0



Parameter	LLS	LLB
Total P (µg/L)	32.00	74.00
Dissolved P (µg/L)	3.00	10.00
Chl-*a* (µg/L)	13.30	
TKN (µg/L)	1010.00	1260.00
$NO_3 + NO_2$-N (µg/L)	32.00	nd
NH_3-N (µg/L)	23.00	423.00
Total N (µg/L)	1010.00	1260.00
Lab Cond. (µS/cm)	66.00	86.00
Lab pH		
Alkalinity (mg/L $CaCO_3$)	21.10	31.70
Total Susp. Solids (mg/L)	3.00	7.00
Calcium (mg/L)		

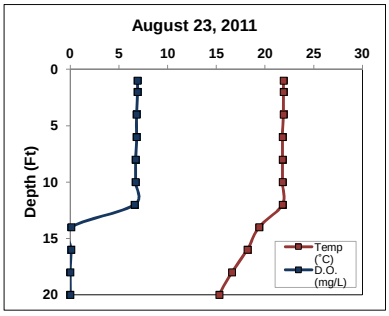
Collected by TAH, MKH, and MJH (Onterra) Water stained.

Laurel Lake

Date: 8/23/2011
Time: 9:36
Weather: 100% clouds, breezy, 69°
Entry: TWH

Max Depth: 21
LLS Depth (ft): 3
LLB Depth (ft): 18
Secchi Depth (ft): 3

Depth (ft)	Temp (˚C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	21.9	6.9		
2	21.9	6.9		
4	21.9	6.8		
6	21.8	6.8		
8	21.8	6.7		
10	21.8	6.7		
12	21.8	6.6		
14	19.4	0.1		
16	18.2	0.1		
18	16.6	0		
20	15.3	0		



Parameter	LLS	LLB
Total P (µg/L)	30.00	74.00
Dissolved P (µg/L)		
Chl-*a* (µg/L)	12.40	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	3.00	6.00
Calcium (mg/L)		

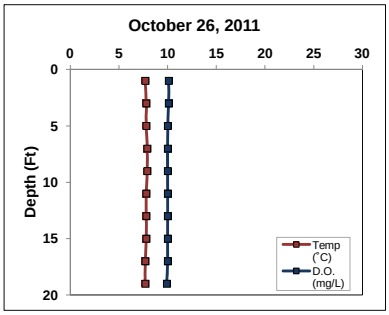
Data collected by TAH (Onterra)

Laurel Lake

Date: 10/26/2011
Time: 11:30
Weather: 90% clouds, light breeze, 43°F
Entry: TWH

Max Depth: 19.8
LLS Depth (ft): 3
LLB Depth (ft): 17
Secchi Depth (ft): 3.8

Depth (ft)	Temp (°C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)
1	7.7	10.1		
3	7.8	10.1		
5	7.8	10		
7	7.9	10		
9	7.9	10		
11	7.8	10		
13	7.8	10		
15	7.8	10		
17	7.7	10		
19	7.7	9.9		



Parameter	LLS	LLB
Total P (µg/L)	30.00	30.00
Dissolved P (µg/L)		
Chl-*a* (µg/L)	4.38	
TKN (µg/L)		
$NO_3 + NO_2$-N (µg/L)		
NH_3-N (µg/L)		
Total N (µg/L)		
Lab Cond. (µS/cm)		
Lab pH		
Alkalinity (mg/L $CaCO_3$)		
Total Susp. Solids (mg/L)	ND	ND
Calcium (mg/L)		

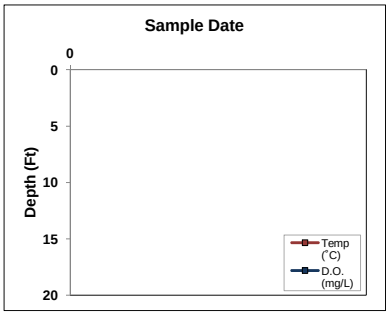
Data collected by TWH (Onterra)

Laurel Lake

Date: 3/6/2012
Time: 15:30
Weather:
Entry: TWH

Max Depth: 15.2
LLS Depth (ft): 3
LLB Depth (ft): 12
Secchi Depth (ft): 1.8

Depth (ft)	Temp (°C)	D.O. (mg/L)	pH	Sp. Cond. (µS/cm)



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

Data collected by TAH and TWH (Onterra) Data collected at new WQ point due to inaccessibility of existing point from on-ice conditions. No temp/DO profile taken due to probe failure. Ice depth: 1.6ft.

Water Quality Data

2011/2012	Surface		Bottom	
Parameter	Count	Mean	Count	Mean
Secchi Depth (feet)	6	2.8	NA	NA
Total P (µg/L)	5	31.0	5	70.4
Dissolved P (µg/L)	2	5.0	2	8.5
Chl a (µg/L)	5	8.6	0	NA
TKN (µg/L	2	930.0	2	1045.0
NO3+NO2-N (µg/L)	2	91.5	2	151.0
NH3-N (µg/L)	2	21.0	2	220.0
Total N (µg/L)	2	930.0	2	1045.0
Lab Cond. (µS/cm)	2	68.5	2	78.0
Lab pH	2	7.3	2	7.0
Alkal (mg/l CaCO3)	2	22.1	2	27.3
Total Susp Sol (mg/l)	5	3.0	5	7.5
Calcium (µg/L)	1	7.5	0	NA

Wisconsin Trophic State Index (WTSI)

Year	TP	Chl-a	Secchi
1979			55.1
1993			59.1
1994			55.2
2006			55.4
2007			50.0
2008			53.1
2009			49.1
2010			50.6
2011	54.4	51.7	58.9
All Years (Weight	54.4	51.7	53.2
Deep, Lowland Drainag	52.5		46.2
NLF Ecoregion	51.8		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	4.6	1	4.6								
1993	4	3.5	4	3.5								
1994	7	4.4	4	4.6								
2006	6	4.4	4	4.5								
2007	8	6.5	7	6.6								
2008	9	5.4	8	5.3								
2009	7	7.0	7	7.0								
2010	4	6.3	4	6.3								
2011	10	3.4	7	3.6	5	8.6	3	9.6	5	31.0	3.0	29.3
All Years (Weighted)		5.1		5.3		8.6		9.6		31.0		29.3
Deep, Lowland Drainage Lakes				8.5				7.0				23.0
NLF Ecoregion				8.9				5.6				21.0

Summer 2011 N: 1010.0
Summer 2011 P: 29.3

Summer 2011 N:P 34 :1

E

APPENDIX E

Watershed Analysis WiLMS Results

(*To be included at the conclusion of this phased project*)

F

APPENDIX F

Aquatic Plant Survey Data

Point Number	Latitude	Longitude	Depth (ft)	Dominant sediment type (M=muck, S=Sand, R=Rock	Rope (R); Pole (P); Visual (V)	Notes	Myriophyllum sibiricum	Potamogeton zosteriformis	Najas flexilis	Potamogeton pusillus	Elodea canadensis	Potamogeton amplifolius	Potamogeton robbinsii	Ceratophyllum demersum	Megalodonta beckii	Vallisneria americana	Potamogeton richardsonii	Nuphar variegata	Potamogeton gramineus	Heteranthera dubia	Potamogeton friesii	Ranunculus aquatilis	Eleocharis palustris	Nitella sp.	Potamogeton praelongus	Isoetes lacustris	Potamogeton foliosus	Sagittaria sp. (rosette)	Potamogeton vaseyi	Chara spp.	Eleocharis acicularis	Nymphaea odorata	Schoenoplectus acutus	Eriocaulon aquaticum	Juncus pelocarpus	Pontederia cordata	Potamogeton epihydrus	Potamogeton spirillus	Ranunculus flammula
1	45.78483436	-89.09328605	2	S	P	No Vegetation																																	
2	45.78434838	-89.09329393	6	S	P			1					1		1																								
3	45.7838624	-89.09330181	14	S	P	No Vegetation																																	
4	45.78337643	-89.09330969	15		R					1																													
5	45.78289045	-89.09331757	15		R	No Vegetation																																	
6	45.78240448	-89.09332545	14	M	P																			1															
7	45.7819185	-89.09333332	9	S	P		1										1																					
8	45.78143252	-89.0933412	5	S	P		1					1				1			1	1		1																
9	45.78094655	-89.09334908	5	S	P				1		1	1								1		1								1								
10	45.78046057	-89.09335696	3	S	P																					1		1						1	1			1
11	45.77948862	-89.0933727	2	M	P		1	1	1	1	1	1	1	1	1	1	1	1		1	1						1	1	1			1			1		1	
12	45.78531482	-89.09258356	3	S	P			1	1			1			1	1																					
13	45.78482884	-89.09259144	12	S	P														1																			
14	45.78434287	-89.09259933	16		R	No Vegetation																																	
15	45.78385689	-89.09260721	15		R	No Vegetation																																	
16	45.78337091	-89.0926151	15		R	No Vegetation																																	
17	45.78288494	-89.09262298	15		R						1																												
18	45.78239896	-89.09263087	15		R	No Vegetation																																	
19	45.78191298	-89.09263875	15		R	No Vegetation																																	
20	45.78142701	-89.09264664	15		R																			1														
21	45.78094103	-89.09265452	14		R						1																												
22	45.78045506	-89.0926624	14	M	P																			1														
23	45.77996908	-89.09267029	11	M	P					1	2																												
24	45.7794831	-89.09267817	9	M	P		1			1			1							1																		
25	45.77899713	-89.09268605	3	S	P				1									1								1												
26	45.78676723	-89.09186527	3	S	P				1							1																						
27	45.78628125	-89.09187316	4	S	P					1		1	1			1			1																			
28	45.78579527	-89.09188105	7	S	P				1	1		1								1																		
29	45.7853093	-89.09188895	16		R	No Vegetation																																	
30	45.78482332	-89.09189684	16		R	No Vegetation																																	
31	45.78433735	-89.09190473	15		R	No Vegetation																																	
32	45.78385137	-89.09191262	15		R	No Vegetation																																	
33	45.78336539	-89.09192051	15		R	No Vegetation																																	
34	45.78287942	-89.0919284	15		R	No Vegetation																																	
35	45.78239344	-89.09193629	15		R	No Vegetation																																	
36	45.78190747	-89.09194418	14	M	P																			1														
37	45.78142149	-89.09195207	12	M	P					1																												
38	45.78093551	-89.09195996	12	M	P					1	1																											
39	45.78044954	-89.09196785	12	M	P					1																												
40	45.77996356	-89.09197574	12	M	P	No Vegetation																																	
41	45.77947759	-89.09198363	12	M	P					1	1													1														
42	45.77899161	-89.09199152	10	M	P		2			1																												
43	45.77850563	-89.09199941	2	S	P													1														1						
44	45.78773365	-89.09115484	3	S	P				1									1								1												
45	45.78724768	-89.09116274	4	S	P				1			1				1	1																					
46	45.7867617	-89.09117064	6	S	P		1								3	1				1		1																
47	45.78627573	-89.09117854	15		R																																	
48	45.78578975	-89.09118643	17		R	No Vegetation																																	
49	45.78530378	-89.09119433	16		R	No Vegetation																																	
50	45.7848178	-89.09120223	15		R	No Vegetation																																	
51	45.78433182	-89.09121013	8	S	P	No Vegetation																																	
52	45.78384585	-89.09121802	14		R	No Vegetation																																	
53	45.78335987	-89.09122592	14		R	No Vegetation																																	
54	45.7828739	-89.09123382	14		R	No Vegetation																																	
55	45.78238792	-89.09124171	9	S	P	No Vegetation																																	
56	45.78190194	-89.09124961	8	S	P	No Vegetation																																	
57	45.78141597	-89.0912575	4	S	P				1			1	1																										
58	45.78092999	-89.0912654	3	M	P			1		1		1	1	1	1	1												1										
59	45.78044402	-89.0912733	11	M	P		1				1																											
60	45.77995804	-89.09128119	9	M	P		3	1						1		1	1																					
61	45.77947206	-89.09128909	9	M	P		1	1					1	1			1																					
62	45.77898609	-89.09129698	8	M	P		1	1						2			1									1												
63	45.77850011	-89.09130488	9	M	P		2	1		1				1																								
64	45.77801413	-89.09131277	6	S	P			1					1		1	1										1												
65	45.78870008	-89.09044439	4	S	P											2	1	1			1																
66	45.7882141	-89.09045229	6	M	P			1					1		1											1												
67	45.78772813	-89.0904602				Unreachable																																	
68	45.78724215	-89.0904681	16		R	No Vegetation																																	
69	45.78675617	-89.09047601				Unreachable																																	
70	45.7862702	-89.09048391				Unreachable																																	
71	45.78578422	-89.09049181				Unreachable																																	
72	45.78529825	-89.09049972	14	R	P	No Vegetation																																	
73	45.78481227	-89.09050762	5	R	P	No Vegetation																																	
74	45.7843263	-89.09051552	11	R	P	No Vegetation																																	
75	45.78384032	-89.09052343	15		R	No Vegetation																																	
76	45.78335434	-89.09053133	14	M	P	No Vegetation																																	
77	45.78286837	-89.09053923	7	R	P	No Vegetation																																	
78	45.78238239	-89.09054714	6	S	P		1			1	1	1									1																
79	45.78189642	-89.09055504	2	S	P																		1														
80	45.78092447	-89.09057084	2	M	P				3						1				1									1										
81	45.78043849	-89.09057874	6	M	P		1	1				1		2																								
82	45.77995251	-89.09058664	6	M	P		1	1						3			1																					
83	45.77946654	-89.09059454	5	M	P			1	1				2	1	1											1												
84	45.77898056	-89.09060245	5	M	P			1				1	1	1	1	1																					
85	45.77849458	-89.09061035	6	M	P			1				1		1	1																							
86	45.77800861	-89.09061825	5	M	P		1					1	1		1											1												
87	45.77752263	-89.09062615	3	S	P				1				1			1		1									1											
88	45.77703666	-89.09063405	3	S	P				1							1			1													1						
89	45.78966649	-89.08973391	3	S	P				1							1																					
90	45.78918052	-89.08974182	13	S	P	No Vegetation																																	
91	45.78869454	-89.08974973				Unreachable																																	
92	45.78820857	-89.08975764				Unreachable																																	
93	45.78772259	-89.08976555				Unreachable																																	
94	45.78723662	-89.08977347				Unreachable																																	
95	45.78675064	-89.08978138				Unreachable																																	
96	45.78626467	-89.08978929				Unreachable																																	
97	45.78577869	-89.0897972				Unreachable																																	
98	45.78529272	-89.0898051	16		R	No Vegetation																																	
99	45.78480674	-89.08981301	16		R	No Vegetation																																	
100	45.78432076	-89.08982092	16		R	No Vegetation																																	
101	45.78383479	-89.08982883	16		R	No Vegetation																																	
102	45.78334881	-89.08983674	11	R	P	No Vegetation																																	
103	45.78286284	-89.08984465	8	R	P	No Vegetation																																	
104	45.78237686	-89.08985256	1	R	P			1	1				1								1		1														
105	45.78091893	-89.08987628	1	M	P				1		1														1								1					
106	45.78043296	-89.08988419	3	M	P								1	1	1	1		1			1	1															
107	45.77994698	-89.0898921	6	M	P		1		1	1			1	1	1	1				1		1					1										
108	45.77946101	-89.0899	7	M	P								1		1																						
109	45.77897503	-89.08990791	6	M	P			1				1	2		1	1																					
110	45.77848905	-89.08991582	5	M	P								2									1															
111	45.77800308	-89.08992372	4	M	P			1	1	3	1			1																						
112	45.78966096	-89.08903924	4	S	P							1				1																					
113	45.78917498	-89.08904716				Unreachable																																	
114	45.78868901	-89.08905508				Unreachable																																	
115	45.78820303	-89.08906299				Unreachable																																	

Point Number	Latitude	Longitude	Depth (ft)	Dominant sediment type (M=muck, S=Sand, R=Rock	Rope (R); Pole (P); Visual (V)	Notes	Myriophyllum sibiricum	Potamogeton zosteriformis	Najas flexilis	Potamogeton pusillus	Elodea canadensis	Potamogeton amplifolius	Potamogeton robbinsii	Ceratophyllum demersum	Megaledonta beckii	Vallisneria americana	Potamogeton richardsonii	Nuphar variegata	Potamogeton gramineus	Heteranthera dubia	Potamogeton friesii	Ranunculus aquatilis	Eleocharis palustris	Nitella sp.	Potamogeton praelongus	Isoetes lacustris	Potamogeton foliosus	Sagittaria sp. (rosette)	Potamogeton vaseyi	Chara spp.	Eleocharis acicularis	Nymphaea odorata	Schoenoplectus acutus	Eriocaulon aquaticum	Juncus pelocarpus	Pontederia cordata	Potamogeton epihydrus	Potamogeton spirillus	Ranunculus flammula
116	45.78771706	-89.08907091				Unreachable																																	
117	45.78723108	-89.08907883				Unreachable																																	
118	45.78674511	-89.08908674				Unreachable																																	
119	45.78625913	-89.08909466				Unreachable																																	
120	45.78577316	-89.08910258				Unreachable																																	
121	45.78528718	-89.08911049				Unreachable																																	
122	45.7848012	-89.08911841	16		R	No Vegetation																																	
123	45.78431523	-89.08912632				Unreachable																																	
124	45.78382925	-89.08913424	13	R	P	No Vegetation																																	
125	45.78334328	-89.08914215	13	R	P	No Vegetation																																	
126	45.7828573	-89.08915007	4	R	P	No Vegetation																																	
127	45.78237133	-89.08915798	3	S	P				1																														
128	45.78188535	-89.0891659	4	S	P		1	1		1	1	1	1																								1		
129	45.78139938	-89.08917381	4	S	P		1		1	1		1								1	1																	
130	45.7809134	-89.08918172	2	S	P													1					1															
131	45.78042742	-89.08918964	3	M	P			1				1	1		1																							
132	45.77994145	-89.08919755	2	S	P		1		1		1					1		1			1							1										
133	45.77945547	-89.08920546				Unreachable																																	
134	45.77848352	-89.08922129	4	M	P								1		1			1			1	1																
135	45.78965542	-89.08834458	3	S	P				2			1				1						1																
136	45.78916944	-89.0883525				Unreachable																																	
137	45.78868347	-89.08836042				Unreachable																																	
138	45.78819749	-89.08836835				Unreachable																																	
139	45.78771152	-89.08837627				Unreachable																																	
140	45.78722554	-89.08838419				Unreachable																																	
141	45.78673957	-89.08839211				Unreachable																																	
142	45.78625359	-89.08840003				Unreachable																																	
143	45.78576762	-89.08840796				Unreachable																																	
144	45.78528164	-89.08841588				Unreachable																																	
145	45.78479566	-89.0884238				Unreachable																																	
146	45.78430969	-89.08843172				Unreachable																																	
147	45.78382371	-89.08843964				Unreachable																																	
148	45.78333774	-89.08844756	9	R	P	No Vegetation																																	
149	45.78285176	-89.08845548	7	R	P	No Vegetation																																	
150	45.78236579	-89.0884634	8	R	P	No Vegetation																																	
151	45.78187981	-89.08847132	11	S	P	No Vegetation																																	
152	45.78139384	-89.08847924	9	S	P	No Vegetation																																	
153	45.78090786	-89.08848716	8	S	P	No Vegetation																																	
154	45.78042188	-89.08849508	7	R	P	No Vegetation																																	
155	45.78964987	-89.08764991	4	S	P										1					1		1								1								
156	45.7891639	-89.08765784				Too Deep																																	
157	45.78867792	-89.08766577				Unreachable																																	
158	45.78819195	-89.0876737				Unreachable																																	
159	45.78770597	-89.08768163				Unreachable																																	
160	45.78722	-89.08768955				Too Deep																																	
161	45.78673402	-89.08769748				Too Deep																																	
162	45.78624805	-89.08770541				Too Deep																																	
163	45.78576207	-89.08771334				Too Deep																																	
164	45.7852761	-89.08772127				Too Deep																																	
165	45.78479012	-89.08772919				Too Deep																																	
166	45.78430415	-89.08773712				Too Deep																																	
167	45.78381817	-89.08774505				Too Deep																																	
168	45.78333219	-89.08775297				Too Deep																																	
169	45.78284622	-89.0877609	16		R	No Vegetation																																	
170	45.78236024	-89.08776883				Too Deep																																	
171	45.78187427	-89.08777675				Too Deep																																	
172	45.78138829	-89.08778468				Too Deep																																	
173	45.78090232	-89.08779261	12	S	P	No Vegetation																																	
174	45.78041634	-89.08780053	4	R	P	No Vegetation																																	
175	45.7901303	-89.0869731	2	S	P	No Vegetation																																	
176	45.78964432	-89.08695524	5	S	P				1			1							1			1																
177	45.78915835	-89.08696318				Too Deep																																	
178	45.78867237	-89.08697111				Unreachable																																	
179	45.7881864	-89.08697905				Unreachable																																	
180	45.78770042	-89.08698698				Unreachable																																	
181	45.78721445	-89.08699492				Unreachable																																	
182	45.78672847	-89.08700285				Unreachable																																	
183	45.7862425	-89.08701079				Unreachable																																	
184	45.78575652	-89.08701872				Unreachable																																	
185	45.78527055	-89.08702665				Unreachable																																	
186	45.78478457	-89.08703459				Unreachable																																	
187	45.7842986	-89.08704252				Unreachable																																	
188	45.78381262	-89.08705045				Unreachable																																	
189	45.78332665	-89.08705839				Too Deep																																	
190	45.78284067	-89.08706632				Too Deep																																	
191	45.7823547	-89.08707425				Too Deep																																	
192	45.78186872	-89.08708218				Too Deep																																	
193	45.78138274	-89.08709012				Too Deep																																	
194	45.78089677	-89.08709805	11	S	P	No Vegetation																																	
195	45.79012474	-89.08625263	3	S	P		1											1																				
196	45.78963877	-89.08626058	13		R	No Vegetation																																	
197	45.78915279	-89.08626852				Unreachable																																	
198	45.78866682	-89.08627646				Unreachable																																	
199	45.78818084	-89.0862844				Unreachable																																	
200	45.78769487	-89.08629234				Unreachable																																	
201	45.78720889	-89.08630028				Unreachable																																	
202	45.78672292	-89.08630822				Unreachable																																	
203	45.78623694	-89.08631616				Unreachable																																	
204	45.78575097	-89.0863241				Unreachable																																	
205	45.78526499	-89.08633204				Unreachable																																	
206	45.78477902	-89.08633998				Unreachable																																	
207	45.78429304	-89.08634792				Unreachable																																	
208	45.78380707	-89.08635586				Unreachable																																	
209	45.78332109	-89.0863638				Unreachable																																	
210	45.78283512	-89.08637174				Unreachable																																	
211	45.78234914	-89.08637967				Unreachable																																	
212	45.78186317	-89.08638761				Too Deep																																	
213	45.78137719	-89.08639555				Too Deep																																	
214	45.78089122	-89.08640349				Too Deep																																	
215	45.78040524	-89.08641143	5	S	P		1	1	1	1		1																										
216	45.79060516	-89.08555001	3	S	P				3										1																				
217	45.79011919	-89.08555796	15		R	No Vegetation																																	
218	45.78963321	-89.08556591	16		R	No Vegetation																																	
219	45.78914724	-89.08557386				Unreachable																																	
220	45.78866126	-89.0855818				Unreachable																																	
221	45.78817529	-89.08558975				Unreachable																																	
222	45.78768931	-89.0855977				Unreachable																																	
223	45.78720334	-89.08560564				Unreachable																																	
224	45.78671736	-89.08561359				Unreachable																																	
225	45.78623139	-89.08562154				Unreachable																																	
226	45.78574541	-89.08562948				Unreachable																																	
227	45.78525944	-89.08563743				Unreachable																																	
228	45.78477346	-89.08564537				Unreachable																																	
229	45.78428749	-89.08565332				Unreachable																																	
230	45.78380151	-89.08566126				Unreachable																																	

Point Number	Latitude	Longitude	Depth (ft)	Dominant sediment type (M=muck, S=Sand, R=Rock	Rope (R); Pole (P); Visual (V)	Notes	Myriophyllum sibiricum	Potamogeton zosteriformis	Najas flexilis	Potamogeton pusillus	Elodea canadensis	Potamogeton amplifolius	Potamogeton robbinsii	Ceratophyllum demersum	Megaledonta beckii	Vallisneria americana	Potamogeton richardsonii	Nuphar variegata	Potamogeton gramineus	Heteranthera dubia	Potamogeton friesii	Ranunculus aquatilis	Eleocharis palustris	Nitella sp.	Potamogeton praelongus	Isoetes lacustris	Potamogeton foliosus	Sagittaria sp. (rosette)	Potamogeton vaseyi	Chara spp.	Eleocharis acicularis	Nymphaea odorata	Schoenoplectus acutus	Eriocaulon aquaticum	Juncus pelocarpus	Pontederia cordata	Potamogeton epihydrus	Potamogeton spirillus	Ranunculus flammula
231	45.78331554	-89.08566921				Unreachable																																	
232	45.78282956	-89.08567715				Unreachable																																	
233	45.78234359	-89.0856851				Unreachable																																	
234	45.78185761	-89.08569304				Unreachable																																	
235	45.78137164	-89.08570099				Unreachable																																	
236	45.78088566	-89.08570893				Too Deep																																	
237	45.78039969	-89.08571687	3	S	P													1					1			1												
238	45.79108557	-89.08484738	6	S	P		1		1	1	1	1	1		1	1	2	1																			
239	45.7905996	-89.08485533	16		R	No Vegetation																															
240	45.79011362	-89.08486329	16		R	No Vegetation																															
241	45.78962765	-89.08487124				Unreachable																															
242	45.78914167	-89.0848792				Unreachable																															
243	45.7886557	-89.08488715				Unreachable																															
244	45.78816972	-89.0848951				Unreachable																															
245	45.78768375	-89.08490306	10	S	P		1			2																											
246	45.78719778	-89.08491101				Unreachable																															
247	45.7867118	-89.08491896				Unreachable																															
248	45.78622583	-89.08492691				Unreachable																															
249	45.78573985	-89.08493486				Unreachable																															
250	45.78525388	-89.08494282				Unreachable																															
251	45.7847679	-89.08495077				Unreachable																															
252	45.78428193	-89.08495872				Unreachable																															
253	45.78379595	-89.08496667				Unreachable																															
254	45.78330998	-89.08497462				Unreachable																															
255	45.782824	-89.08498257				Unreachable																															
256	45.78233803	-89.08499052				Unreachable																															
257	45.78185205	-89.08499847				Unreachable																															
258	45.78136608	-89.08500642				Unreachable																															
259	45.7808801	-89.08501437				Too Deep																															
260	45.78039413	-89.08502232	2	S	P				1														1														
261	45.79156598	-89.08414474	10	M	P		1	1			1		1	1			2																				
262	45.79108001	-89.0841527	14		R	No Vegetation																															
263	45.79059403	-89.08416066	16		R	No Vegetation																															
264	45.79010806	-89.08416862				Unreachable																															
265	45.78962208	-89.08417658				Unreachable																															
266	45.78913611	-89.08418454				Unreachable																															
267	45.78865013	-89.0841925				Unreachable																															
268	45.78816416	-89.08420045	5	S	P	No Vegetation																															
269	45.78767818	-89.08420841	14		R																			1													
270	45.78719221	-89.08421637				Unreachable																															
271	45.78670624	-89.08422433				Unreachable																															
272	45.78622026	-89.08423229				Unreachable																															
273	45.78573429	-89.08424025				Unreachable																															
274	45.78524831	-89.0842482				Unreachable																															
275	45.78476234	-89.08425616				Unreachable																															
276	45.78427636	-89.08426412				Unreachable																															
277	45.78379039	-89.08427208				Unreachable																															
278	45.78330441	-89.08428003				Unreachable																															
279	45.78281844	-89.08428799				Unreachable																															
280	45.78233246	-89.08429595				Unreachable																															
281	45.78184649	-89.0843039				Unreachable																															
282	45.78136051	-89.08431186				Unreachable																															
283	45.78087454	-89.08431982				Too Deep																															
284	45.79156041	-89.08345005	10	M	P		1	3						2			1																				
285	45.79107443	-89.08345801	14		R	No Vegetation																															
286	45.79058846	-89.08346598	16		R	No Vegetation																															
287	45.79010249	-89.08347394				Too Deep																															
288	45.78961651	-89.08348191				Too Deep																															
289	45.78913054	-89.08348988				Too Deep																															
290	45.78864456	-89.08349784	16		R	No Vegetation																															
291	45.78815859	-89.08350581	7	M	P		3	1				1			1		1																				
292	45.78767261	-89.08351377	9	S	P		1	1				1		1	1		1																				
293	45.78718664	-89.08352174				Too Deep																															
294	45.78670067	-89.0835297				Too Deep																															
295	45.78621469	-89.08353766				Too Deep																															
296	45.78572872	-89.08354563				Too Deep																															
297	45.78524274	-89.08355359				Too Deep																															
298	45.78475677	-89.08356156				Too Deep																															
299	45.78427079	-89.08356952				Too Deep																															
300	45.78378482	-89.08357748	8	R	P	No Vegetation																															
301	45.78329884	-89.08358545				Too Deep																															
302	45.78281287	-89.08359341				Too Deep																															
303	45.78232689	-89.08360137				Too Deep																															
304	45.78184092	-89.08360933				Unreachable																															
305	45.78135494	-89.0836173	6	S	P							2			1																						
306	45.78086897	-89.08362526	3	S	P																		1														
307	45.79155483	-89.08275536	5	S	P		1	1					1	1					1																		
308	45.79106886	-89.08276333	12		R					1	1			1																							
309	45.79058289	-89.0827713	15		R																																
310	45.79009691	-89.08277927	17			Too Deep																															
311	45.78961094	-89.08278724	17			Too Deep																															
312	45.78912496	-89.08279522	16		R	No Vegetation																															
313	45.78863899	-89.08280319	15		R	No Vegetation																															
314	45.78815301	-89.08281116	14		R	No Vegetation																															
315	45.78766704	-89.08281913	6	M	P		2		1											1																	
316	45.78718107	-89.0828271	13		R		1																														
317	45.78669509	-89.08283507	19			Too Deep																															
318	45.78620912	-89.08284304				Too Deep																															
319	45.78572314	-89.08285101				Too Deep																															
320	45.78523717	-89.08285898				Too Deep																															
321	45.78475119	-89.08286695				Too Deep																															
322	45.78426522	-89.08287492	5	R	P	No Vegetation																															
323	45.78377924	-89.08288289	3	R	P	No Vegetation																															
324	45.78329327	-89.08289086	4	R	P	No Vegetation																															
325	45.78280729	-89.08289883	5	S	P						1																										
326	45.78232132	-89.0829068	6	S	P	No Vegetation																															
327	45.78183534	-89.08291477	5	R	P				1																												
328	45.79106328	-89.08206865	8	M	P		3	1					1	3																							
329	45.79057731	-89.08207662	14		R	No Vegetation																															
330	45.79009133	-89.0820846	15		R	No Vegetation																															
331	45.78960536	-89.08209258	15		R	No Vegetation																															
332	45.78911938	-89.08210056	15		R	No Vegetation																															
333	45.78863341	-89.08210853	15		R	No Vegetation																															
334	45.78814744	-89.08211651	13		R	No Vegetation																															
335	45.78766146	-89.08212449	4	S	P																													1			
336	45.78717549	-89.08213247	4	S	P																													1			
337	45.78668951	-89.08214044	10		R	No Vegetation																															
338	45.78620354	-89.08214842	17		R	No Vegetation																															
339	45.78571756	-89.08215639	15		R	No Vegetation																															
340	45.7910577	-89.08137396	3	S	P																																
341	45.79057172	-89.08138195	6	M	P		3	3						1			1																				
342	45.79008575	-89.08138993	10		R	No Vegetation																															
343	45.78959977	-89.08139791	11		R						1			1																							
344	45.7891138	-89.0814059	11		R					3	1			1															1								
345	45.78862783	-89.08141388	12		R			1			1																										

Point Number	Latitude	Longitude	Depth (ft)	Dominant sediment type (M=muck, S=Sand, R=Rock)	Rope (R); Pole (P); Visual (V)	Notes	Myriophyllum sibiricum	Potamogeton zosteriformis	Najas flexilis	Potamogeton pusillus	Elodea canadensis	Potamogeton amplifolius	Potamogeton robbinsii	Ceratophyllum demersum	Megalodonta beckii	Vallisneria americana	Potamogeton richardsonii	Nuphar variegata	Potamogeton gramineus	Heteranthera dubia	Potamogeton friesii	Ranunculus aquatilis	Eleocharis palustris	Nitella sp.	Potamogeton praelongus	Isoetes lacustris	Potamogeton foliosus	Sagittaria sp. (rosette)	Potamogeton vaseyi	Chara spp.	Eleocharis acicularis	Nymphaea odorata	Schoenoplectus acutus	Eriocaulon aquaticum	Juncus pelocarpus	Pontederia cordata	Potamogeton epihydrus	Potamogeton spirillus	Ranunculus flammula
346	45.78814185	-89.08142186	12		R		1	1			1						1																						
347	45.78765588	-89.08142985	10	M	P					3																			1										
348	45.7871699	-89.08143783	11		R	No Vegetation																																		
349	45.79056614	-89.08068727	4	S	P						1					1																								
350	45.79008016	-89.08069526	5	S	P			1								1			1																				
351	45.78959419	-89.08070325	6	M	P									1					1																				
352	45.78910821	-89.08071124	11		R			1		2	1			1																								
353	45.78862224	-89.08071923	11		R			1		3																	1											
354	45.78813627	-89.08072722	10	M	P			1		1	1																											
355	45.78765029	-89.08073521	9	M	P					3																												
356	45.78716432	-89.08074319	2	S	P		1			1	1								1																			
357	45.7895886	-89.08000858	2	S	P		1																															
358	45.78910262	-89.08001658	2	S	P						1						1	1	1																			
359	45.78861665	-89.08002457	4	S	P							2			1																							
360	45.78813067	-89.08003257	5	S	P			1				1																										
361	45.7876447	-89.08004057	3	S	P				1		1																											

Point Number	Latitude	Longitude	Depth (ft)	Dominant sediment type (M=muck, S=Sand, R=Rock	Rope (R), Pole (P), Visual (V)	Notes	Vallisneria americana	Elodea canadensis	Najas flexilis	Myriophyllum sibiricum	Ceratophyllum demersum	Potamogeton pusillus	Potamogeton amplifolius	Potamogeton zosteriformis	Potamogeton robbinsii	Potamogeton freisii	Potamogeton richardsonii	Megalodonta beckii	Nuphar variegata	Potamogeton gramineus	Chara sp.	Nymphaea odorata	Isoetes lacustris	Potamogeton praelongus	Heteranthera dubia	Utricularia vulgaris	Eleocharis acicularis	Nitella sp.	Pontederia cordata	Potamogeton robbinsii	Zizania palustris	Sparganium fluctuans	Potamogeton obtusifolius	Schoenoplectus subterminalis	Sagittaria sp. (rosette)	Utricularia intermedia	Potamogeton illinoensis	Potamogeton spirillus	Ranunculus aquatilis	Sparganium angustifolium	Sparganium emersum	Typha spp.	Freshwater Sponge	Filamentous algae
1	45.7775199	-89.07467489	2	R	P		1	1		1	1		1																														
2	45.777142	-89.07468114	5	S	P		1		1		1	1	1	1																													
3	45.776764	-89.07468739	6	S	P		1	1		1		1	1					1										1														
4	45.776386	-89.07469365	8	S	P		1	1			1	1	1				1	1										1														
5	45.776008	-89.0746999	14		R	No Vegetation																																				
6	45.77563	-89.07470615				Unreachable																																				
7	45.7752521	-89.0747124	8	S	P		1		1				1	1	1									1																		
8	45.7748741	-89.07471865	6	S	P		1	1	1			1				1	1								1																	
9	45.7778936	-89.07412846	6	S	P					1																																
10	45.7775156	-89.07413471	9	S	P			1																								1									
11	45.7771376	-89.07414097	15		R	No Vegetation																																				
12	45.7767596	-89.07414722				Unreachable																																				
13	45.7763816	-89.07415348				Unreachable																																				
14	45.7760037	-89.07415974				Unreachable																																				
15	45.7756257	-89.07416599				Unreachable																																				
16	45.7752477	-89.07417225				Unreachable																																				
17	45.7748697	-89.0741785				Unreachable																																				
18	45.7744917	-89.07418476	7	S	P			1	1	1		1	1	1	1	1	1		1																						
19	45.780913	-89.07353819	3	S	P			1	1		1								1			1							1					1	1						
20	45.7797791	-89.07355697	3	S	P		1		1													1																			
21	45.7786451	-89.07357576	9	S	P					1																															
22	45.7782672	-89.07358202	11	S	P	No Vegetation																																				
23	45.7778892	-89.07358828				Unreachable																																				
24	45.7775112	-89.07359454				Unreachable																																				
25	45.7771332	-89.07360079				Unreachable																																				
26	45.7767552	-89.07360705				Unreachable																																				
27	45.7763773	-89.07361331				Unreachable																																				
28	45.7759993	-89.07361957				Unreachable																																				
29	45.7756213	-89.07362583				Unreachable																																				
30	45.7752433	-89.07363209				Unreachable																																				
31	45.7748653	-89.07363835				Unreachable																																				
32	45.7744874	-89.07364461	10	S	P		1			1	1	1	1			1																									
33	45.7812866	-89.07299172	3	S	P		1	1	1					1					1			1				1			1					1		1				
34	45.7809086	-89.07299798	5	S	P													1	1	1		1				1		1	1					1		1				
35	45.7805306	-89.07300425	4	S	P				1										1																					
36	45.7801527	-89.07301051	5	S	P		1	1					1					1																						1	
37	45.7797747	-89.07301678	9	S	P		2	1		1	1		1				1																							
38	45.7793967	-89.07302304	7	S	P		1	1		1			1	1																										
39	45.7790187	-89.0730293	4	R	P	No Vegetation																																				
40	45.7786407	-89.07303557	12	S	P	No Vegetation																																				
41	45.7782628	-89.07304183	9	R	P	No Vegetation																																				
42	45.7778848	-89.07304809				Unreachable																																				
43	45.7775068	-89.07305436				Unreachable																																				
44	45.7771288	-89.07306062				Unreachable																																				
45	45.7767509	-89.07306688				Unreachable																																				
46	45.7763729	-89.07307315				Unreachable																																				
47	45.7759949	-89.07307941				Unreachable																																				
48	45.7756169	-89.07308567				Unreachable																																				
49	45.7752389	-89.07309194				Unreachable																																				
50	45.774861	-89.0730982				Unreachable																																				
51	45.774483	-89.07310446	11	S	P					1	1	1	2	1			1																							
52	45.774105	-89.07311072	4	S	P			1												1		1											1							
53	45.7816602	-89.0724524	2	S	P		1	1													1																			
54	45.7812822	-89.0724515	4	S	P				1		1					1	1	1	1			1											1							
55	45.7809042	-89.07245777	5	S	P		1	1		1	1	1	1	1	1				1			1				1												1	
56	45.7805263	-89.07246404	10	S	P		1			2	1																												
57	45.7801483	-89.07247031	11	M	P			2	1		1	1																											
58	45.7797703	-89.07247658	10	S	P		1		1		1	1																											
59	45.7793923	-89.07248284	8	R	P	No Vegetation																																			
60	45.7790143	-89.07248911	16		R	No Vegetation																																			
61	45.7786364	-89.07249538	13		R	No Vegetation																																			
62	45.7782584	-89.07250165				Unreachable																																			
63	45.7778804	-89.07250791				Unreachable																																			
64	45.7775024	-89.07251418				Unreachable																																			
65	45.7771244	-89.07252045				Unreachable																																			
66	45.7767465	-89.07252671				Unreachable																																			
67	45.7763685	-89.07253298				Unreachable																																			
68	45.7759905	-89.07253925				Unreachable																																			
69	45.7756125	-89.07254551				Unreachable																																			
70	45.7752345	-89.07255178				Unreachable																																			
71	45.7748566	-89.07255805				Unreachable																																			
72	45.7744786	-89.07256431	10	S	P					1									1					1																
73	45.7741006	-89.07257058	5	S	P		1	1			1		1							1																			
74	45.7824118	-89.0718924				Unreachable																																			
75	45.7820338	-89.07189875	3	S	P		1		1							1	1				1																			
76	45.7816558	-89.0719050	6	M	P		1			2	3			1																									
77	45.7812778	-89.07191129	10	M	P			1	1		1	1		1																									
78	45.7808999	-89.07191756	14		R	No Vegetation																																			
79	45.7805219	-89.07192384	14		R	No Vegetation																																			
80	45.7801439	-89.07193011	15		R	No Vegetation																																			
81	45.7797659	-89.07193638	16		R	No Vegetation																																			
82	45.7793879	-89.07194265				Unreachable																																			
83	45.77901	-89.07194892				Unreachable																																			
84	45.778632	-89.07195519	10	S	P			1																																	
85	45.778254	-89.07196146				Unreachable																																			
86	45.777876	-89.07196773				Unreachable																																			
87	45.777498	-89.071974				Unreachable																																			
88	45.7771201	-89.07198027				Unreachable																																			
89	45.7767421	-89.07198654				Unreachable																																			
90	45.7763641	-89.07199282				Unreachable																																			
91	45.7759861	-89.07199909				Unreachable																																			
92	45.7756081	-89.07200536				Unreachable																																			
93	45.7752302	-89.07201163				Unreachable																																			
94	45.7748522	-89.0720179				Unreachable																																			
95	45.7744742	-89.07202416				Unreachable																																			
96	45.7740962	-89.07203043	5	S	P		1	1		1	1	1	1					1																					
97	45.7737182	-89.0720367	3	S	P				1							1			1														V							
98	45.7824074	-89.07135225	3	S	P		1		1				1			1																								
99	45.7820294	-89.07135853	10	S	P		2	1	1			1				1		1																						
100	45.7816514	-89.0713648	10	M	P		1			3				1																									
101	45.7812734	-89.07137108	15		R	No Vegetation																																			
102	45.7808955	-89.07137735	16		R	No Vegetation																																			
103	45.7805175	-89.07138363				Unreachable																																			
104	45.7801395	-89.0713899	16		R	No Vegetation																																			
105	45.7797615	-89.07139618				Unreachable																																			
106	45.7793835	-89.07140245				Unreachable																																			
107	45.7790056	-89.07140873				Unreachable																																			
108	45.7786276	-89.071415				Unreachable																																			
109	45.7782496	-89.07142128				Unreachable																																			
110	45.7778716	-89.07142755				Unreachable																																			
111	45.7774937	-89.07143383				Unreachable																																			
112	45.7771157	-89.0714401				Unreachable																																			
113	45.7767377	-89.07144638				Unreachable																																			
114	45.7763597	-89.07145265				Unreachable																																			
115	45.7759817	-89.07145892				Unreachable																																			
116	45.7756038	-89.0714652				Unreachable																																			
117	45.7752258	-89.07147147				Unreachable																																			
118	45.7748478	-89.07147774				Unreachable																																			
119	45.7744698	-89.07148402				Too Deep																																			
120	45.7740918	-89.07149029	8	S	P							1																												
121	45.7737139	-89.07149656	4	S	P		1	1				1																											
122	45.782403	-89.07081203	4	S	P		1		1							1	1	1																					
123	45.782025	-89.07081831	10	S	P		1					1																				1							
124	45.781647	-89.07082459	9	S	P			1		2				1		1																		1					
125	45.7812691	-89.07083087				Unreachable																																			
126	45.7808911	-89.07083714				Unreachable																																			
127	45.7805131	-89.07084342				Unreachable																																			
128	45.7801351	-89.0708497				Unreachable																																			
129	45.7797571	-89.07085598				Unreachable																																			
130	45.7793792	-89.07086226				Unreachable																																			
131	45.7790012	-89.07086854				Unreachable																																			
132	45.7786232	-89.07087482				Unreachable																																			
133	45.7782452	-89.07088109				Unreachable																																			

Point Number	Latitude	Longitude	Depth (ft)	Dominant sediment type (M=muck, S=Sand, R=Rock)	Rope (R), Pole (P), Visual (V)	Notes	Vallisneria americana	Elodea canadensis	Najas flexilis	Myriophyllum sibiricum	Ceratophyllum demersum	Potamogeton pusillus	Potamogeton amplifolius	Potamogeton zosteriformis	Potamogeton robbinsii	Potamogeton freisii	Potamogeton richardsonii	Megalodonta beckii	Nuphar variegata	Potamogeton gramineus	Chara sp.	Nymphaea odorata	Isoetes lacustris	Potamogeton praelongus	Heteranthera dubia	Utricularia vulgaris	Eleocharis acicularis	Nitella sp.	Pontederia cordata	Potamogeton natans	Zizania palustris	Sparganium fluctuans	Potamogeton obtusifolius	Schoenoplectus subterminalis	Sagittaria sp. (rosette)	Utricularia intermedia	Potamogeton illinoensis	Potamogeton spirillus	Ranunculus aquatilis	Sparganium angustifolium	Sparganium emersum	Typha spp.	Freshwater Sponge	Filamentous algae
134	45.7778672	-89.07088737				Unreachable																																					
135	45.7774893	-89.07089365				Unreachable																																					
136	45.7771113	-89.07089993				Unreachable																																					
137	45.7767333	-89.07090621				Unreachable																																					
138	45.7763553	-89.07091248				Unreachable																																					
139	45.7759773	-89.07091876				Unreachable																																					
140	45.7755994	-89.07092504				Unreachable																																					
141	45.7752214	-89.07093132				Unreachable																																					
142	45.7748434	-89.07093759				Unreachable																																					
143	45.7744654	-89.07094387	22			Too Deep																																					
144	45.7740874	-89.07095015	20			Too Deep																																					
145	45.7737095	-89.07095642	17			Too Deep																																					
146	45.7733315	-89.0709627	10	S	P		1			3				1																													
147	45.7729535	-89.07096898	4	S	P												1			1	1		1				1				1												
148	45.7831546	-89.07025924	2	S	P	No Vegetation																																					
149	45.7827766	-89.07026552	4	S	P				1																																	
150	45.7823986	-89.0702718	7	S	P								1					1																									
151	45.7820206	-89.07027809				Too Deep																																					
152	45.7816426	-89.07028437				Too Deep																																					
153	45.7812647	-89.07029065				Unreachable																																					
154	45.7808867	-89.07029693				Unreachable																																					
155	45.7805087	-89.07030322				Unreachable																																					
156	45.7801307	-89.0703095				Unreachable																																					
157	45.7797527	-89.07031578				Unreachable																																					
158	45.7793748	-89.07032206				Unreachable																																					
159	45.7789968	-89.07032835				Unreachable																																					
160	45.7786188	-89.07033463				Unreachable																																					
161	45.7782408	-89.07034091				Unreachable																																					
162	45.7778628	-89.07034719				Unreachable																																					
163	45.7774849	-89.07035347				Unreachable																																					
164	45.7771069	-89.07035976				Unreachable																																					
165	45.7767289	-89.07036604				Unreachable																																					
166	45.7763509	-89.07037232				Unreachable																																					
167	45.7759729	-89.0703786				Unreachable																																					
168	45.775595	-89.07038488				Unreachable																																					
169	45.775217	-89.07039116				Unreachable																																					
170	45.774839	-89.07039744				Unreachable																																					
171	45.774461	-89.07040372				Unreachable																																					
172	45.774083	-89.07041				Too Deep																																					
173	45.7737051	-89.07041628	20		R	No Vegetation																																					
174	45.7733271	-89.07042256	18		R	No Vegetation																																					
175	45.7729491	-89.07042884	9	S	P			1	1			1																												1			
176	45.7725711	-89.07043512	4	M	P		1	1		1			1	1	1			1		1					1																1	
177	45.7835281	-89.06971272	2	S	P		1		1								1																									
178	45.7831502	-89.06971901	6	S	P		1		2		1		1																													
179	45.7827722	-89.06972529	13		R	No Vegetation																																					
180	45.7823942	-89.06973158	16			Too Deep																																					
181	45.7820162	-89.06973787				Unreachable																																					
182	45.7816382	-89.06974415				Unreachable																																					
183	45.7812603	-89.06975044				Too Deep																																					
184	45.7808823	-89.06975673	22			Too Deep																																					
185	45.7805043	-89.06976301	20			Too Deep																																					
186	45.7801263	-89.0697693				Too Deep																																					
187	45.7797483	-89.06977558				Unreachable																																					
188	45.7793704	-89.06978187				Unreachable																																					
189	45.7789924	-89.06978816				Too Deep																																					
190	45.7786144	-89.06979444				Too Deep																																					
191	45.7782364	-89.06980073				Too Deep																																					
192	45.7778584	-89.06980701				Too Deep																																					
193	45.7774805	-89.0698133				Unreachable																																					
194	45.7771025	-89.06981958				Unreachable																																					
195	45.7767245	-89.06982587				Unreachable																																					
196	45.7763465	-89.06983215				Unreachable																																					
197	45.7759686	-89.06983844				Unreachable																																					
198	45.7755906	-89.06984472				Unreachable																																					
199	45.7752126	-89.06985101				Unreachable																																					
200	45.7748346	-89.06985729				Unreachable																																					
201	45.7744566	-89.06986358				Unreachable																																					
202	45.7740787	-89.06986986				Unreachable																																					
203	45.7737007	-89.06987614				Too Deep																																					
204	45.7733227	-89.06988243	16		R	No Vegetation																																					
205	45.7729447	-89.06988871	6	S	P		1	1					1	1	1			2																									
206	45.7725667	-89.06989499	4	S	P		1								1							1										1								1			
207	45.7835237	-89.06917248	9	S	P		2	1		1	1	1																														
208	45.7831458	-89.06917877	17			Too Deep																																					
209	45.7827678	-89.06918506	19			Too Deep																																					
210	45.7823898	-89.06919136	22			Too Deep																																					
211	45.7820118	-89.06919765				Unreachable																																					
212	45.7816338	-89.06920394				Unreachable																																					
213	45.7812559	-89.06921023				Too Deep																																					
214	45.7808779	-89.06921652	21			Too Deep																																					
215	45.7804999	-89.06922281	14	S	P	No Vegetation																																					
216	45.7801219	-89.0692291	10	S	P					1				1																													
217	45.7797439	-89.06923539				Too Deep																																					
218	45.779366	-89.06924168				Too Deep																																					
219	45.778988	-89.06924796				Too Deep																																					
220	45.77861	-89.06925425				Too Deep																																					
221	45.778232	-89.06926054	12	S	P	No Vegetation																																					
222	45.777854	-89.06926683				Unreachable																																					
223	45.7774761	-89.06927312	26			Too Deep																																					
224	45.7770981	-89.0692794				Unreachable																																					
225	45.7767201	-89.0692857				Unreachable																																					
226	45.7763421	-89.06929199				Unreachable																																					
227	45.7759642	-89.06929828				Unreachable																																					
228	45.7755862	-89.06930456				Unreachable																																					
229	45.7752082	-89.06931085				Unreachable																																					
230	45.7748302	-89.06931714				Unreachable																																					
231	45.7744522	-89.06932343				Unreachable																																					
232	45.7740743	-89.06932972				Unreachable																																					
233	45.7736963	-89.069336				Unreachable																																					
234	45.7733183	-89.06934229	20			Too Deep																																					
235	45.7729403	-89.06934858	10	S	P		2	1	1	1				1												1																
236	45.7725623	-89.06935487	4	S	P		1					1	1		1	1				1												1										
237	45.7838973	-89.06862595	6	S	P		2																																				
238	45.7835193	-89.06863225	18			Too Deep																																					
239	45.7831414	-89.06863854	22			Too Deep																																					
240	45.7827634	-89.06864484				Unreachable																																					
241	45.7823854	-89.06865113				Unreachable																																					
242	45.7820074	-89.06865743				Unreachable																																					
243	45.7816294	-89.06866372				Unreachable																																					
244	45.7812515	-89.06867001				Unreachable																																					
245	45.7808735	-89.06867631	18			Too Deep																																					
246	45.7804955	-89.0686826	16			Too Deep																																					
247	45.7801175	-89.06868889	15		R	No Vegetation																																					
248	45.7797395	-89.06869519	4	S	P		1	1		1					1						1																			1		
249	45.7793616	-89.06870148	16		R	No Vegetation																																					
250	45.7789836	-89.06870777	7	S	P		1	1		1	1			1			1																									
251	45.7786056	-89.06871407	7	S	P		3	1		1	1		1	1			1																									
252	45.7782276	-89.06872036	5	S	P		1	1					1												1																
253	45.7778496	-89.06872665				Unreachable																																					
254	45.7774717	-89.06873295	25			Too Deep																																					
255	45.7770937	-89.06873924				Unreachable																																					
256	45.7767157	-89.06874553				Unreachable																																					
257	45.7763377	-89.06875182				Unreachable																																					
258	45.7759598	-89.06875811				Unreachable																																					
259	45.7755818	-89.06876441				Unreachable																																					
260	45.7752038	-89.0687707				Unreachable																																					
261	45.7748258	-89.06877699				Unreachable																																					
262	45.7744478	-89.06878328				Unreachable																																					
263	45.7740699	-89.06878957				Unreachable																																					
264	45.7736919	-89.06879586				Unreachable																																					
265	45.7733139	-89.06880216	20			Too Deep																																					
266	45.7729359	-89.06880845	8	S	P		2	1			1			1				1							1																	

Point Number	Latitude	Longitude	Depth (ft)	Dominant sediment type (M=muck, S=Sand, R=Rock)	Rope (R), Pole (P), Visual (V)	Notes	Vallisneria americana	Elodea canadensis	Najas flexilis	Myriophyllum sibiricum	Ceratophyllum demersum	Potamogeton pusillus	Potamogeton amplifolius	Potamogeton zosteriformis	Potamogeton robbinsii	Potamogeton fresii	Potamogeton richardsonii	Megalodonta beckii	Nuphar variegata	Potamogeton gramineus	Chara sp.	Nymphaea odorata	Isoetes lacustris	Potamogeton praelongus	Heteranthera dubia	Utricularia vulgaris	Eleocharis acicularis	Nitella sp.	Pontederia cordata	Potamogeton robbinsii	Zizania palustris	Sparganium fluctuans	Potamogeton obtusifolius	Schoenoplectus subterminalis	Sagittaria sp. (rosette)	Utricularia intermedia	Potamogeton illinoensis	Potamogeton spirillus	Ranunculus aquatilis	Sparganium angustifolium	Sparganium emersum	Typha spp.	Freshwater Sponge	Filamentous algae
267	45.7725579	-89.06881474	3	S	P		1							1									1					1																
268	45.7842709	-89.06807942	5	S	P		2	1		1			1																														
269	45.7838929	-89.06808572	9	M	P			1		2							1																										
270	45.7835149	-89.06809201				Unreachable																																					
271	45.7831369	-89.06809831				Unreachable																																					
272	45.782759	-89.06810461				Unreachable																																					
273	45.782381	-89.06811091				Unreachable																																					
274	45.782003	-89.06811721				Unreachable																																					
275	45.781625	-89.0681235				Unreachable																																					
276	45.7812471	-89.0681298				Unreachable																																					
277	45.7808691	-89.0681361	20			Too Deep																																					
278	45.7804911	-89.0681424	17			Too Deep																																					
279	45.7801131	-89.06814869	6	S	P		3	1		2	1		1																													
280	45.7797351	-89.06815499	4	S	P		1		1												1																				1	
281	45.7793572	-89.06816129	12	S	P		1	1																																	
282	45.7789792	-89.06816758	16		R	No Vegetation																																					
283	45.7786012	-89.06817388	6	S	P		2	2	1	1			1																												1	
284	45.7782232	-89.06818018	5	S	P		1			1			1	1		1		1		1																						
285	45.7778452	-89.06818647				Too Deep																																					
286	45.7774673	-89.06819277	26			Too Deep																																					
287	45.7770893	-89.06819907	29			Too Deep																																					
288	45.7767113	-89.06820536	25			Too Deep																																					
289	45.7763333	-89.06821166				Unreachable																																					
290	45.7759553	-89.06821795				Unreachable																																					
291	45.7755774	-89.06822425				Unreachable																																					
292	45.7751994	-89.06823054				Unreachable																																					
293	45.7748214	-89.06823684				Unreachable																																					
294	45.7744434	-89.06824313				Unreachable																																					
295	45.7740654	-89.06824943				Unreachable																																					
296	45.7736875	-89.06825572				Unreachable																																					
297	45.7733095	-89.06826202	20			Too Deep																																					
298	45.7729315	-89.06826831	12	S	P		1				1			1																												
299	45.7846445	-89.06753287	3	S	P		1		1																																	
300	45.7842665	-89.06753918	12	S	P					1		1																														
301	45.7838885	-89.06754548				Too Deep																																					
302	45.7835105	-89.06755178				Unreachable																																					
303	45.7831325	-89.06755808				Unreachable																																					
304	45.7827546	-89.06756438				Unreachable																																					
305	45.7823766	-89.06757069				Unreachable																																					
306	45.7819986	-89.06757699				Unreachable																																					
307	45.7816206	-89.06758329				Unreachable																																					
308	45.7812426	-89.06758959				Unreachable																																					
309	45.7808647	-89.06759589	21			Too Deep																																					
310	45.7804867	-89.06760219	18			Too Deep																																					
311	45.7801087	-89.06760849	6	S	P		3	1		1	1		1					1																								
312	45.7797307	-89.06761479	16			Too Deep																																					
313	45.7793528	-89.06762109	9	S	P		2	1	1		1	1					1											1		1												
314	45.7789748	-89.06762739	8	S	P			3																																		
315	45.7785968	-89.06763369	5	S	P			1			1		2	1				1						1																		
316	45.7782188	-89.06763999	6	S	P			1	1					1				1						1																		
317	45.7778408	-89.06764629	6	S	P		1		1	1		1				1	1								1																	
318	45.7774629	-89.06765259	7	S	P		1			2		1																						1				1			1	
319	45.7770849	-89.06765889	10	S	P		1			1		1					1																									
320	45.7767069	-89.06766519	14			No Vegetation																																					
321	45.7763289	-89.06767149	21			Too Deep																																					
322	45.7759509	-89.06767779	25			Too Deep																																					
323	45.775573	-89.06768409	21			Too Deep																																					
324	45.775195	-89.06769039	22			Too Deep																																					
325	45.774817	-89.06769669				Too Deep																																					
326	45.774439	-89.06770299				Too Deep																																					
327	45.774061	-89.06770929				Unreachable																																					
328	45.7736831	-89.06771559				Unreachable																																					
329	45.7733051	-89.06772188	20			Too Deep																																					
330	45.7729271	-89.06772818	2	S	P														1									1										1	1			
331	45.78464	-89.06699263	5	M	P		2	1	1	1				1			1																								
332	45.7842621	-89.06699893	13		R	No Vegetation																																					
333	45.7838841	-89.06700524				Too Deep																																					
334	45.7835061	-89.06701155				Unreachable																																					
335	45.7831281	-89.06701785				Unreachable																																					
336	45.7827502	-89.06702416				Unreachable																																					
337	45.7823722	-89.06703046				Unreachable																																					
338	45.7819942	-89.06703677				Unreachable																																					
339	45.7816162	-89.06704307				Unreachable																																					
340	45.7812382	-89.06704938				Unreachable																																					
341	45.7808603	-89.06705568	19			Too Deep																																					
342	45.7804823	-89.06706199	18			Too Deep																																					
343	45.7801043	-89.06706829	17			Too Deep																																					
344	45.7797263	-89.06707459	20			Too Deep																																					
345	45.7793483	-89.0670809				Too Deep																																					
346	45.7789704	-89.0670872	11	S	P																																					1
347	45.7785924	-89.06709351	4	S	P		1		1			1	1								1																					
348	45.7782144	-89.06709981	5	S	P				1			1	1			1				1																						
349	45.7763245	-89.06713133	3	S	P																		1					1									1					
350	45.7759465	-89.06713763	3	S	P		1		1			1	1																													
351	45.7755686	-89.06714393	4	S	P		1		1				1								1																					
352	45.7751906	-89.06715024	14		R	No Vegetation																																					
353	45.7748126	-89.06715654	12		R				2			1																														
354	45.7744346	-89.06716284	16		R	No Vegetation																																					
355	45.7740566	-89.06716914	20			Too Deep																																					
356	45.7736787	-89.06717545	19			Too Deep																																					
357	45.7733007	-89.06718175	11	S	P		1				1																														
358	45.7846356	-89.06645238	4	M	P		1		1					2																												
359	45.7842577	-89.06645869	11	M	P					1	1	2		1			1																									
360	45.7838797	-89.066465	14		R	No Vegetation																																					
361	45.7835017	-89.06647131				Too Deep																																					
362	45.7831237	-89.06647762				Unreachable																																					
363	45.7827457	-89.06648393				Unreachable																																					
364	45.7823678	-89.06649024				Unreachable																																					
365	45.7819898	-89.06649655				Unreachable																																					
366	45.7816118	-89.06650286				Unreachable																																					
367	45.7812338	-89.06650916				Unreachable																																					
368	45.7808558	-89.06651547	13	S	P	No Vegetation																																					
369	45.7804779	-89.06652178	19			Too Deep																																					
370	45.7800999	-89.06652809	18			Too Deep																																					
371	45.7797219	-89.0665344	20			Too Deep																																					
372	45.7793439	-89.0665407	18			Too Deep																																					
373	45.778966	-89.06654701	5	S	P		1		1	1						1				1																						
374	45.778588	-89.06655332	2	S	P			1	3		1																															
375	45.7763201	-89.06659116	2	S	P				1										1			1							1		1		1	1							
376	45.7748082	-89.06661639	1	S	P			1	1			1				1							1																		
377	45.7744302	-89.06662269	5	S	P		1						1	1	2	1																						1			
378	45.7740522	-89.066629	4	S	P				1								1				2	1		1																	
379	45.7736742	-89.06663531	8	S	P		3	1		1	1			1																											
380	45.7732963	-89.06664161	4	S	P		1	1	1												1		1																	
381	45.7846312	-89.06591214	1	S	P	No Vegetation																																				
382	45.7842532	-89.06591845	6	M	P		1				3			1										1																	
383	45.7838753	-89.06592477	11	M	P			2			1																														
384	45.7834973	-89.06593108	14		R	No Vegetation																																				
385	45.7831193	-89.0659739				Unreachable																																				
386	45.7827413	-89.0659437				Unreachable																																				
387	45.7823633	-89.06595002				Unreachable																																				
388	45.7819854	-89.06595633				Unreachable																																				
389	45.7816074	-89.06596264				Unreachable																																				
390	45.7812294	-89.06596895				Too Deep																																				
391	45.7808514	-89.06597526	8	S	P				2	1															1																
392	45.7804735	-89.06598158	7	S	P		1		1			1					1																								
393	45.7800955	-89.06598789	13			No Vegetation																																				
394	45.7797175	-89.0659942	16			Too Deep																																				
395	45.7793395	-89.06600051	15		R	No Vegetation																																				
396	45.7789615	-89.06600682	3	S	P		1		1							1																								
397	45.7763157	-89.066051	3	M	P		2	2	1	1	1				1											1														
398	45.7842488	-89.06537821	3	S	P				1		1																														
399	45.7838708	-89.06538453	9	S	P		2			1	1	1																													

Point Number	Latitude	Longitude	Depth (ft)	Dominant sediment type (M=muck, S=Sand, R=Rock)	Rope (R), Pole (P), Visual (V)	Notes	Vallisneria americana	Elodea canadensis	Najas flexilis	Myriophyllum sibiricum	Ceratophyllum demersum	Potamogeton pusillus	Potamogeton amplifolius	Potamogeton zosteriformis	Potamogeton robbinsii	Potamogeton freisii	Potamogeton richardsonii	Megalodonta beckii	Nuphar variegata	Potamogeton gramineus	Chara spp.	Nymphaea odorata	Isoetes lacustris	Potamogeton praelongus	Heteranthera dubia	Utricularia vulgaris	Eleocharis acicularis	Nitella sp.	Pontederia cordata	Potamogeton foliosus	Zizania palustris	Sparganium fluctuans	Potamogeton obtusifolius	Schoenoplectus subterminalis	Sagittaria sp. (rosette)	Utricularia intermedia	Potamogeton illinoensis	Potamogeton spirillus	Ranunculus aquatilis	Sparganium angustifolium	Sparganium emersum	Typha spp.	Freshwater Sponge	Filamentous algae
400	45.7834929	-89.06539084	14		R			1				1																															
401	45.7831149	-89.06539716	17			Too Deep																																					
402	45.7827369	-89.06540348				Unreachable																																					
403	45.7823589	-89.06540979				Unreachable																																					
404	45.7819809	-89.06541611				Too Deep																																					
405	45.781603	-89.06542242				Too Deep																																					
406	45.781225	-89.06542874	6	S	P		1		1	1						1																									
407	45.780847	-89.06543506	4	S	P		1		1	1		1		1																											
408	45.780469	-89.06544137	4	S	P			1	1			1				1				1																					
409	45.7800911	-89.06544769	3	S									1	1																											
410	45.7797131	-89.065454	3	S			1		1														1																		
411	45.7793351	-89.06546032	2	S	P	No Vegetation																																			
412	45.7766892	-89.06550452	3	M	P		3	1														1																		
413	45.7763113	-89.06551083	3	M	P		1				1																													
414	45.7838664	-89.06484429	4	S	P		1		1																														
415	45.7834884	-89.06485061	7	S	P		1		1							1				1																				
416	45.7831105	-89.06485693	14		R							1																												
417	45.7827325	-89.06486325	15		R	No Vegetation																																			
418	45.7823545	-89.06486957				Too Deep																																			
419	45.7819765	-89.06487589	10	S	P		1		2											1	1																			
420	45.7815985	-89.06488221	1	S	P	No Vegetation																																			
421	45.7770628	-89.06495803	3	M	P		3	1									1																							
422	45.7766848	-89.06496435	3	M	P		1								2																									
423	45.7763068	-89.06497067	3	M	P		1	1				1																												
424	45.783484	-89.06431038	2	S	P				1																														
425	45.783106	-89.0643167	5	S	P		1		1				1			1				1																				
426	45.7827281	-89.06432302	8	S	P		1		2					1				1																						
427	45.7823501	-89.06432935	9	S	P					1																														1
428	45.7819721	-89.06433567	2	S	P		1		1		1	1				1	1	1																						
429	45.7774364	-89.06441154	3	M	P			2							1																									
430	45.7770584	-89.06441786	3	M	P		3								1																									
431	45.7766804	-89.06442418	3	M	P										2																									
432	45.7763024	-89.06443051	3	M	P		2	1	1	1					2		1																							
433	45.7774319	-89.06387137	3	M	P		1	1		1					1		1																							
434	45.777054	-89.06387769	3	M	P		3	1	1						1																									
435	45.776676	-89.06388402	3	M	P						1				2																									
436	45.776298	-89.06389034	3	M	P		1	2	1						1					1		1																	
437	45.7778055	-89.06332486	3	M	P		2	1																															
438	45.7774275	-89.06333119	3	M	P		3	1		1					1																									
439	45.7770495	-89.06333752	3	M	P										2																									
440	45.7766716	-89.06334385	3	M	P		3								2																									
441	45.7762936	-89.06335018	3	M	P		1	1	1		3								1			1				1													
442	45.7778011	-89.06278468	3	M	P		1	1							1				1																				
443	45.7774231	-89.06279102	3	M	P		1	3		1					1																									
444	45.7770451	-89.06279735	3	M	P		2	2		1					1																									
445	45.7766671	-89.06280368	3	M	P			1		1					1																									
446	45.7777966	-89.0622445	3	M	P			1			1				1				1			1																	
447	45.7774186	-89.06225084	3	M	P		1								3				1																				
448	45.7770407	-89.06225718	3	M	P			1							2																									
449	45.7766627	-89.06226351	3	M	P		1	2							1																									

Point Number	Latitude	Longitude	Depth (ft)	Dominant sediment type (M=muck, S=Sand, R=Rock)	Rope (R); Pole (P); Visual (V)	Notes	*Zizania palustris*	*Ceratophyllum demersum*	*Spirodela polyrhiza*	*Nuphar variegata*	*Utricularia vulgaris*	*Nymphaea odorata*	*Potamogeton natans*	*Vallisneria americana*	*Potamogeton richardsonii*	*Potamogeton robbinsii*	*Potamogeton zosteriformis*	*Myriophyllum verticillatum*	*Elodea canadensis*	*Sparganium fluctuans*	*Pontederia cordata*	*Potamogeton gramineus*	*Lemna trisulca*	*Lemna turionifera*	*Megalodonta beckii*	*Potamogeton epihydrus*	*Sagittaria graminea*	*Eleocharis palustris*	*Potamogeton praelongus*	*Sagittaria latifolia*	*Sagittaria cuneata*
1	45.7695273	-89.10472013	8	M	P																										
2	45.7691674	-89.10472589				Unreachable																									
3	45.7695233	-89.10420574	8	M	P	No Vegetation																									
4	45.7691633	-89.10421151				Unreachable																									
5	45.7695193	-89.10369136	5	D	P																										
6	45.7691593	-89.10369712				Unreachable																									
7	45.7695152	-89.10317697	7	M	P			1	2			1			1																
8	45.7691553	-89.10318274	4	M	P			1			1	1		1	1			1													
9	45.7695112	-89.10266259	3	M	P					1															1					1	
10	45.7691512	-89.10266836	6	M	P	No Vegetation																									
11	45.772027	-89.10210777				Unreachable																									
12	45.7695072	-89.1021482				Unreachable																									
13	45.7691472	-89.10215398	5	M	P			1			1				1																
14	45.7687872	-89.10215975	6	M	P																										
15	45.7684272	-89.10216553				Unreachable																									
16	45.7698631	-89.10162804				Unreachable																									
17	45.7695031	-89.10163382				Unreachable																									
18	45.7691431	-89.1016396	5	M	P						1	1	1		1																
19	45.7687831	-89.10164538	11	M	P	No Vegetation																									
20	45.7684232	-89.10165115				Unreachable																									
21	45.7680632	-89.10165693				Unreachable																									
22	45.7677032	-89.10166271				Unreachable																									
23	45.770579	-89.10110208				Unreachable																									
24	45.770219	-89.10110787				Unreachable																									
25	45.7698591	-89.10111365				Unreachable																									
26	45.7694991	-89.10111943	5	M	P												1	1													1
27	45.7691391	-89.10112521	4	M	P	No Vegetation																									
28	45.7687791	-89.101131	4	M	P			1	3	1		1					1			1				1	1						
29	45.7684191	-89.10113678				Unreachable																									
30	45.7680591	-89.10114256				Unreachable																									
31	45.7676991	-89.10114834				Unreachable																									
32	45.7673392	-89.10115413				Unreachable																									
33	45.7669792	-89.10115991				Unreachable																									
34	45.7712949	-89.10057611				Unreachable																									
35	45.770935	-89.1005819				Unreachable																									
36	45.770575	-89.10058769				Unreachable																									
37	45.770215	-89.10059347				Unreachable																									
38	45.769855	-89.10059926				Unreachable																									
39	45.769495	-89.10060505	7	M	P	No Vegetation													1												
40	45.769135	-89.10061083	4	M	P	No Vegetation																									
41	45.7687751	-89.10061662	3	M	P			1					1						1												
42	45.7684151	-89.10062241				Unreachable																									
43	45.7680551	-89.10062819				Unreachable																									
44	45.7676951	-89.10063398				Unreachable																									
45	45.7673351	-89.10063976				Unreachable																									
46	45.7669751	-89.10064555				Unreachable																									
47	45.7666151	-89.10065133				Unreachable																									
48	45.7716509	-89.10005592				Unreachable																									
49	45.7712909	-89.10006171				Unreachable																									
50	45.7709309	-89.1000675				Unreachable																									
51	45.7705709	-89.10007329				Unreachable																									
52	45.7702109	-89.10007908				Unreachable																									
53	45.769851	-89.10008487				Unreachable																									
54	45.769491	-89.10009066	4	M	P				1																						
55	45.769131	-89.10009645	6	M	P																										
56	45.768771	-89.10010224	4	M	P			1	3			1					1	1													
57	45.768411	-89.10010803				Unreachable																									
58	45.768051	-89.10011382	3	M	P			1	1				1					1									1				
59	45.767691	-89.10011961				Unreachable																									
60	45.7673311	-89.1001254				Unreachable																									
61	45.7669711	-89.10013119	3	D	P			1									1										1				
62	45.7666111	-89.10013697				Unreachable																									
63	45.7720068	-89.09953573				Unreachable																									
64	45.7716468	-89.09954152				Unreachable																									
65	45.7712868	-89.09954731				Unreachable																									
66	45.7702069	-89.09956469				Unreachable																									
67	45.7698469	-89.09957049				Unreachable																									
68	45.7694869	-89.09957628				Unreachable																									
69	45.7691269	-89.09958207				Unreachable																									
70	45.7687669	-89.09958786	8	M	P	No Vegetation																									
71	45.768407	-89.09959366																													
72	45.768047	-89.09959945	7	M	P	No Vegetation																									
73	45.767687	-89.09960524	8	M	P	No Vegetation																									
74	45.767327	-89.09961103	9	M	P	No Vegetation																									
75	45.766967	-89.09961682	6	M	P																										
76	45.766607	-89.09962262				Unreachable																									
77	45.7662471	-89.09962841				Unreachable																									
78	45.7734427	-89.09899813				Unreachable																									
79	45.7730827	-89.09900393				Unreachable																									
80	45.7727227	-89.09900972				Unreachable																									
81	45.7723627	-89.09901552				Unreachable																									
82	45.7720027	-89.09902132				Unreachable																									
83	45.7716428	-89.09902712				Unreachable																									
84	45.7709228	-89.09903871				Unreachable																									
85	45.7705628	-89.0990445				Unreachable																									
86	45.7702028	-89.0990503				Unreachable																									
87	45.7698428	-89.0990561				Unreachable																									
88	45.7694829	-89.09906189	4	M	P				1										1												
89	45.7691229	-89.09906769				Unreachable																									
90	45.7687629	-89.09907349	7	M	P	No Vegetation																									
91	45.7684029	-89.09907928	5	M	P										1																

Point Number	Latitude	Longitude	Depth (ft)	Dominant sediment type (M=muck, S=Sand, R=Rock)	Rope (R); Pole (P); Visual (V)	Notes	*Zizania palustris*	*Ceratophyllum demersum*	*Spirodela polyrhiza*	*Nuphar variegata*	*Utricularia vulgaris*	*Nymphaea odorata*	*Potamogeton natans*	*Vallisneria americana*	*Potamogeton richardsonii*	*Potamogeton robbinsii*	*Potamogeton zosteriformis*	*Myriophyllum verticillatum*	*Elodea canadensis*	*Sparganium fluctuans*	*Pontederia cordata*	*Potamogeton gramineus*	*Lemna trisulca*	*Lemna turionifera*	*Megalodonta beckii*	*Potamogeton epihydrus*	*Sagittaria graminea*	*Eleocharis palustris*	*Potamogeton praelongus*	*Sagittaria latifolia*	*Sagittaria cuneata*
92	45.7680429	-89.09908508	8	M	P	No Vegetation																									
93	45.7676829	-89.09909087				Unreachable																									
94	45.767323	-89.09909667				Unreachable																									
95	45.766963	-89.09910246	9	M	P	No Vegetation																									
96	45.766603	-89.09910826				Unreachable																									
97	45.766243	-89.09911405				Unreachable																									
98	45.7734386	-89.09848371				Unreachable																									
99	45.7730786	-89.09848951				Unreachable																									
100	45.7727187	-89.09849531				Unreachable																									
101	45.7723587	-89.09850111				Unreachable																									
102	45.7719987	-89.09850691				Unreachable																									
103	45.7716387	-89.09851271				Unreachable																									
104	45.7712787	-89.09851851				Unreachable																									
105	45.7709187	-89.09852431				Unreachable																									
106	45.7705588	-89.09853011				Unreachable																									
107	45.7701988	-89.09853591				Unreachable																									
108	45.7698388	-89.09854171	4	M	P			V	1																						
109	45.7694788	-89.09854751	4	M	P	No Vegetation																									
110	45.7691188	-89.09855331	8	D	P	No Vegetation																									
111	45.7687588	-89.09855911	4	M	P			1	2			1				1	1														
112	45.7683989	-89.09856491				Unreachable																									
113	45.7680389	-89.09857071	10	M	P	No Vegetation																									
114	45.7676789	-89.09857651				Unreachable																									
115	45.7673189	-89.0985823				Unreachable																									
116	45.7669589	-89.0985881	10	M	P	No Vegetation																									
117	45.7665989	-89.0985939				Unreachable																									
118	45.7734346	-89.09796929				Unreachable																									
119	45.7730746	-89.09797509				Unreachable																									
120	45.7727146	-89.0979809				Unreachable																									
121	45.7723546	-89.0979867				Unreachable																									
122	45.7719946	-89.0979925				Unreachable																									
123	45.7716346	-89.09799831				Unreachable																									
124	45.7712747	-89.09800411				Unreachable																									
125	45.7709147	-89.09800991				Unreachable																									
126	45.7705547	-89.09801572	4	M	P				2								2														
127	45.7701947	-89.09802152	5	M	P	No Vegetation																									
128	45.7698347	-89.09802732	6	M	P																										
129	45.7694747	-89.09803313	5	M	P				3																						
130	45.7691148	-89.09803893	3	M	P				V								3	1													
131	45.7687548	-89.09804473				Unreachable																									
132	45.7683948	-89.09805053				Unreachable																									
133	45.7680348	-89.09805634	10	M	P	No Vegetation																									
134	45.7676748	-89.09806214				Unreachable																									
135	45.7673148	-89.09806794				Unreachable																									
136	45.7669549	-89.09807374	6	M	P	No Vegetation																									
137	45.7665949	-89.09807954				Unreachable																									
138	45.7734305	-89.09745487				Unreachable																									
139	45.7730705	-89.09746068				Unreachable																									
140	45.7727105	-89.09746648				Unreachable																									
141	45.7723505	-89.09747229				Unreachable																									
142	45.7719906	-89.0974781				Unreachable																									
143	45.7716306	-89.0974839				Unreachable																									
144	45.7712706	-89.09748971	5	M	P			V	3								1			1											
145	45.7709106	-89.09749552	6	M	P	No Vegetation																									
146	45.7705506	-89.09750132	5	M	P	No Vegetation																									
147	45.7701906	-89.09750713	4	M	P	No Vegetation																									
148	45.7698307	-89.09751294	3	M	P			1	1							1	1		1												
149	45.7694707	-89.09751874				Unreachable																									
150	45.7691107	-89.09752455				Unreachable																									
151	45.7687507	-89.09753035				Unreachable																									
152	45.7683907	-89.09753616				Unreachable																									
153	45.7680307	-89.09754196	10	M	P	No Vegetation																									
154	45.7676708	-89.09754777	12			Too Deep																									
155	45.7673108	-89.09755358	8	M	P	No Vegetation																									
156	45.7669508	-89.09755938				Unreachable																									
157	45.7737864	-89.09693464				Unreachable																									
158	45.7734264	-89.09694045				Unreachable																									
159	45.7730665	-89.09694626				Unreachable																									
160	45.7727065	-89.09695207				Unreachable																									
161	45.7723465	-89.09695788				Unreachable																									
162	45.7719865	-89.09696369				Unreachable																									
163	45.7716265	-89.0969695				Unreachable																									
164	45.7712665	-89.09697531	7	M	P	No Vegetation																									
165	45.7709066	-89.09698112	4	M	P											1								1							
166	45.7705466	-89.09698693	4	M	P	No Vegetation		V																							
167	45.7701866	-89.09699274	3	M	P				2		V																				
168	45.7698266	-89.09699855				Unreachable																									
169	45.7694666	-89.09700436				Unreachable																									
170	45.7691066	-89.09701017				Unreachable																									
171	45.7687466	-89.09701598				Unreachable																									
172	45.7683867	-89.09702178				Unreachable																									
173	45.7680267	-89.09702759	5	M	P	No Vegetation																									
174	45.7676667	-89.0970334	6	M	P	No Vegetation																									
175	45.7673067	-89.09703921				Unreachable																									
176	45.7669467	-89.09704502				Unreachable																									
177	45.7737824	-89.09642021				Unreachable																									
178	45.7734224	-89.09642603				Unreachable																									
179	45.7730624	-89.09643184	4	M	P			V	2	1																					
180	45.7727024	-89.09643766				Unreachable																									
181	45.7723424	-89.09644347				Unreachable																									
182	45.7719824	-89.09644928	4	M	P				1										1												

Point Number	Latitude	Longitude	Depth (ft)	Dominant sediment type (M=muck, S=Sand, R=Rock)	Rope (R); Pole (P); Visual (V)	Notes	*Zizania palustris*	*Ceratophyllum demersum*	*Spirodela polyrhiza*	*Nuphar variegata*	*Utricularia vulgaris*	*Nymphaea odorata*	*Potamogeton natans*	*Vallisneria americana*	*Potamogeton richardsonii*	*Potamogeton robbinsii*	*Potamogeton zosteriformis*	*Myriophyllum verticillatum*	*Elodea canadensis*	*Sparganium fluctuans*	*Pontederia cordata*	*Potamogeton gramineus*	*Lemna trisulca*	*Lemna turionifera*	*Megalodonta beckii*	*Potamogeton epihydrus*	*Sagittaria graminea*	*Eleocharis palustris*	*Potamogeton praelongus*	*Sagittaria latifolia*	*Sagittaria cuneata*
183	45.7716225	-89.0964551	5	M	P	No Vegetation																									
184	45.7712625	-89.09646091	6	M	P	No Vegetation																									
185	45.7709025	-89.09646672	3	M	P			1																							
186	45.7705425	-89.09647253				Unreachable																									
187	45.7701825	-89.09647835	3	M	P			V				1		1									1								
188	45.7698225	-89.09648416				Unreachable																									
189	45.7694625	-89.09648997				Unreachable																									
190	45.7691026	-89.09649579				Unreachable																									
191	45.7687426	-89.0965016				Unreachable																									
192	45.7683826	-89.09650741				Unreachable																									
193	45.7680226	-89.09651322				Unreachable																									
194	45.7676626	-89.09651904				Unreachable																									
195	45.7673026	-89.09652485				Unreachable																									
196	45.7737783	-89.09590579				Unreachable																									
197	45.7734183	-89.09591161	7	M	P	No Vegetation																									
198	45.7730583	-89.09591742	10	M	P	No Vegetation																									
199	45.7726983	-89.09592324	9	M	P	No Vegetation													1												
200	45.7723383	-89.09592906	5	M	P																										
201	45.7719784	-89.09593488	7	M	P			V					1																		
202	45.7716184	-89.09594069	5	M	P	No Vegetation																									
203	45.7712584	-89.09594651	4	M	P	No Vegetation																									
204	45.7708984	-89.09595232				Unreachable																									
205	45.7705384	-89.09595814				Unreachable																									
206	45.7701784	-89.09596396				Unreachable																									
207	45.7698185	-89.09596977				Unreachable																									
208	45.7694585	-89.09597559				Unreachable																									
209	45.7690985	-89.09598141				Unreachable																									
210	45.7687385	-89.09598722				Unreachable																									
211	45.7683785	-89.09599304				Unreachable																									
212	45.7680185	-89.09599885				Unreachable																									
213	45.7676586	-89.09600467				Unreachable																									
214	45.7737742	-89.09539137	4	M	P			V	3	1			V																		
215	45.7734142	-89.09539719	8	M	P	No Vegetation																									
216	45.7730542	-89.09540301				Unreachable																									
217	45.7726943	-89.09540883				Unreachable																									
218	45.7723343	-89.09541465	7	M	P	No Vegetation																									
219	45.7719743	-89.09542047	4	M	P			V	2			1				1					1		1								
220	45.7716143	-89.09542629				Unreachable																									
221	45.7712543	-89.09543211	4	M	P			V	1			1	1																		
222	45.7708943	-89.09543793				Unreachable																									
223	45.7705344	-89.09544375				Unreachable																									
224	45.7694544	-89.09546121				Unreachable																									
225	45.7690944	-89.09546703				Unreachable																									
226	45.7687344	-89.09547284				Unreachable																									
227	45.7683745	-89.09547866				Unreachable																									
228	45.7680145	-89.09548448				Unreachable																									
229	45.7737701	-89.09487694	4	S	P			V			1					1															
230	45.7734102	-89.09488277	10	M	P	No Vegetation																									
231	45.7730502	-89.09488859				Unreachable																									
232	45.7726902	-89.09489441				Unreachable																									
233	45.7723302	-89.09490024	6	M	P	No Vegetation																									
234	45.7719702	-89.09490606	4	M	P			V	2			1	1																		
235	45.7716102	-89.09491189				Unreachable																									
236	45.7712503	-89.09491771	4	M	P			V		1			1																		
237	45.7708903	-89.09492353				Unreachable																									
238	45.7705303	-89.09492935				Unreachable																									
239	45.7701703	-89.09493518				Unreachable																									
240	45.7698103	-89.094941				Unreachable																									
241	45.7694503	-89.09494682				Unreachable																									
242	45.7690904	-89.09495264				Unreachable																									
243	45.7687304	-89.09495847				Unreachable																									
244	45.7683704	-89.09496429				Unreachable																									
245	45.7737661	-89.09436252	5	M	P			V	1	1	1		1																		
246	45.7734061	-89.09436835	9	M	P	No Vegetation																									
247	45.7730461	-89.09437417				Unreachable																									
248	45.7726861	-89.09438				Unreachable																									
249	45.7723261	-89.09438583	8	M	P	No Vegetation																									
250	45.7719661	-89.09439166	5	M	P	No Vegetation																									
251	45.7716062	-89.09439748	4	M	P			V	3			1	1																		
252	45.7712462	-89.09440331	5	M	P			V	1				1																		
253	45.7708862	-89.09440913				Unreachable																									
254	45.7705262	-89.09441496				Unreachable																									
255	45.7698062	-89.09442661				Unreachable																									
256	45.7694463	-89.09443244				Unreachable																									
257	45.7690863	-89.09443826				Unreachable																									
258	45.773762	-89.0938481	5	M	P			V	1		1	1																			
259	45.773402	-89.09385393	7	M	P	No Vegetation							V																		
260	45.773042	-89.09385976	9	M	P	No Vegetation																									
261	45.772682	-89.09386559	9	M	P	No Vegetation																									
262	45.772322	-89.09387142	4	M	P																										
263	45.7719621	-89.09387725				Unreachable																									
264	45.7716021	-89.09388308	7	M	P	No Vegetation																									
265	45.7712421	-89.09388891				Unreachable																									
266	45.7708821	-89.09389474				Unreachable																									
267	45.7737579	-89.09333367				Unreachable																									
268	45.7733979	-89.09333951	4	M	P						1					1															
269	45.7730379	-89.09334534	5	S	P						1																				
270	45.7726779	-89.09335118	4	M	P			V			1	1	1																		
271	45.772318	-89.09335701	3	M	P			1	1			2	1																		
272	45.771238	-89.09337451	7	M	P	No Vegetation																									
273	45.770878	-89.09338034				Unreachable																									

Point Number	Latitude	Longitude	Depth (ft)	Dominant sediment type (M=muck, S=Sand, R=Rock)	Rope (R); Pole (P); Visual (V)	Notes	*Zizania palustris*	*Ceratophyllum demersum*	*Spirodela polyrhiza*	*Nuphar variegata*	*Utricularia vulgaris*	*Nymphaea odorata*	*Potamogeton natans*	*Vallisneria americana*	*Potamogeton richardsonii*	*Potamogeton robbinsii*	*Potamogeton zosteriformis*	*Myriophyllum verticillatum*	*Elodea canadensis*	*Sparganium fluctuans*	*Pontederia cordata*	*Potamogeton gramineus*	*Lemna trisulca*	*Lemna turionifera*	*Megalodonta beckii*	*Potamogeton epihydrus*	*Sagittaria graminea*	*Eleocharis palustris*	*Potamogeton praelongus*	*Sagittaria latifolia*	*Sagittaria cuneata*
274	45.7712339	-89.09286011	2	M	P			V		1																1					
275	45.770874	-89.09286595	3	M	P			V					1	1																	
276	45.7712298	-89.09234571				Unreachable																									
277	45.7708699	-89.09235155	3	M	P			V	3	1	1				1																
278	45.7705099	-89.09235739				Unreachable																									
279	45.7611503	-89.09250918				Unreachable																									
280	45.7712258	-89.09183131				Unreachable																									
281	45.7708658	-89.09183715	5	M	P			V			1			1																	
282	45.7705058	-89.091843				Unreachable																									
283	45.7615062	-89.09198903				Unreachable																									
284	45.7708617	-89.09132276	5	M	P			V		1				V				1													
285	45.7705017	-89.0913286	5	M	P			1	3	1	1		1							1											
286	45.7701417	-89.09133445	5	M	P	No Vegetation																									
287	45.7708576	-89.09080836	4	M	P			V		1				1							1		1								
288	45.7704976	-89.09081421	4	M	P						1																				
289	45.761858	-89.09095456				Unreachable																									
290	45.7708535	-89.09029397	4	M	P			V		1						1															
291	45.7704935	-89.09029982	3	M	P			V		1				1																	
292	45.7622139	-89.0904344				Unreachable																									
293	45.7708494	-89.08977957				Unreachable																									
294	45.7704894	-89.08978543				Unreachable																									
295	45.7622098	-89.08992008				Unreachable																									
296	45.7708453	-89.08926517				Unreachable																									
297	45.7704853	-89.08927103	3	M	P			V	1		1										1										
298	45.7701253	-89.08927689				Unreachable																									
299	45.7622057	-89.08940577				Unreachable																									
300	45.7704812	-89.08875664	3	S	P				1																						
301	45.7701212	-89.0887625				Unreachable																									
302	45.7661614	-89.08882698				Unreachable																									
303	45.7658014	-89.08883285				Unreachable																									
304	45.7654415	-89.08883871				Unreachable																									
305	45.7629216	-89.08887973				Unreachable																									
306	45.7625616	-89.08888559				Unreachable																									
307	45.7622016	-89.08889145				Unreachable																									
308	45.7701171	-89.08824812	4	M	P			V		1																					
309	45.7697571	-89.08825398	4	M	P			V	1	1		1						1													
310	45.7668773	-89.0883009				Unreachable																									
311	45.7665173	-89.08830677	3	M	P			V		1	1																				
312	45.7661573	-89.08831263				Unreachable																									
313	45.7657973	-89.0883185				Unreachable																									
314	45.7654374	-89.08832436				Unreachable																									
315	45.7650774	-89.08833023	4	M	P			V		1														1							
316	45.7647174	-89.08833609	6	M	P																										
317	45.7643574	-89.08834195	3	M	P			V	2				1																		
318	45.7639974	-89.08834782				Unreachable																									
319	45.7636374	-89.08835368				Unreachable																									
320	45.7632775	-89.08835955	4	M	P			V	3	1																1					
321	45.7629175	-89.08836541				Unreachable																									
322	45.7625575	-89.08837127				Unreachable																									
323	45.7621975	-89.08837714				Unreachable																									
324	45.769753	-89.0877396	5	S	P	No Vegetation																									
325	45.7693931	-89.08774546				Unreachable																									
326	45.7672332	-89.08778068				Unreachable																									
327	45.7668732	-89.08778654	6	M	P			V	1	1	1			1																	
328	45.7665132	-89.08779241	4	M	P			V		1		1		1							1	V									
329	45.7661532	-89.08779828				Unreachable																									
330	45.7657932	-89.08780415				Unreachable																									
331	45.7654333	-89.08781002				Unreachable																									
332	45.7650733	-89.08781588				Unreachable																									
333	45.7647133	-89.08782175				Unreachable																									
334	45.7643533	-89.08782762				Unreachable																									
335	45.7639933	-89.08783349	3	M	P					1	1																				
336	45.7636333	-89.08783935				Unreachable																									
337	45.7632734	-89.08784522				Unreachable																									
338	45.7621934	-89.08786282				Unreachable																									
339	45.7697489	-89.08722521				Unreachable																									
340	45.769389	-89.08723108	4	M	P			V		1	1				1	1															
341	45.769029	-89.08723696	4	M	P			V		1				1																	
342	45.768669	-89.08724283	3	M	P			V		1				1																	
343	45.768309	-89.0872487				Unreachable																									
344	45.767949	-89.08725457				Unreachable																									
345	45.767589	-89.08726044				Unreachable																									
346	45.7672291	-89.08726631	4	M	P			V	1			1		1																	
347	45.7668691	-89.08727219	3	D	P			V		1				1														1			
348	45.7665091	-89.08727806	3	M	P			V	1	1		1		1							1	1	1					1			
349	45.7661491	-89.08728393	4	M	P			V	1		1																				
350	45.7657891	-89.0872898				Unreachable																									
351	45.7654291	-89.08729567				Unreachable																									
352	45.7650692	-89.08730154				Unreachable																									
353	45.7647092	-89.08730741				Unreachable																									
354	45.7643492	-89.08731328				Unreachable																									
355	45.7639892	-89.08731915				Unreachable																									
356	45.7636292	-89.08732502				Unreachable																									
357	45.7632692	-89.08733089				Unreachable																									
358	45.7690249	-89.08672258				Unreachable																									
359	45.7686649	-89.08672845	4	M	P			V	1	1										1											
360	45.7683049	-89.08673433	5	M	P			V	1	1						1															
361	45.7679449	-89.0867402	4	M	P			V	1																						
362	45.7675849	-89.08674608				Unreachable																									
363	45.7672249	-89.08675195	4	M	P			V		1				1																	
364	45.766865	-89.08675783				Unreachable																									

Point Number	Latitude	Longitude	Depth (ft)	Dominant sediment type (M=muck, S=Sand, R=Rock)	Rope (R); Pole (P); Visual (V)	Notes	*Zizania palustris*	*Ceratophyllum demersum*	*Spirodela polyrhiza*	*Nuphar variegata*	*Utricularia vulgaris*	*Nymphaea odorata*	*Potamogeton natans*	*Vallisneria americana*	*Potamogeton richardsonii*	*Potamogeton robbinsii*	*Potamogeton zosteriformis*	*Myriophyllum verticillatum*	*Elodea canadensis*	*Sparganium fluctuans*	*Pontederia cordata*	*Potamogeton gramineus*	*Lemna trisulca*	*Lemna turionifera*	*Megalodonta beckii*	*Potamogeton epihydrus*	*Sagittaria graminea*	*Eleocharis palustris*	*Potamogeton praelongus*	*Sagittaria latifolia*	*Sagittaria cuneata*
365	45.766505	-89.0867637				Unreachable																									
366	45.766145	-89.08676958				Unreachable																									
367	45.765785	-89.08677545	3	S	P			1																							
368	45.7643451	-89.08679895	3	M	P			1							1																
369	45.7639851	-89.08680482				Unreachable																									
370	45.7636251	-89.0868107				Unreachable																									
371	45.7632651	-89.08681657				Unreachable																									
372	45.7679408	-89.08622583				Unreachable																									
373	45.7675808	-89.08623171				Unreachable																									
374	45.7672208	-89.08623759				Unreachable																									
375	45.7668609	-89.08624347				Unreachable																									
376	45.764341	-89.08628461				Unreachable																									
377	45.763981	-89.08629049				Unreachable																									
378	45.763621	-89.08629637				Unreachable																									
379	45.763261	-89.08630224				Unreachable																									
380	45.762901	-89.08630812				Unreachable																									
381	45.7646968	-89.0857644	5	S	P	No Vegetation		V																							
382	45.7643369	-89.08577028	4	M	P			1	1		1	1										V				1					
383	45.7639769	-89.08577616				Unreachable																									
384	45.7636169	-89.08578204				Unreachable																									
385	45.7632569	-89.08578792				Unreachable																									
386	45.7628969	-89.0857938				Unreachable																									
387	45.7650527	-89.08524417				Unreachable																									
388	45.7646927	-89.08525006	5	M	P			V	2	1	1	1		1																	
389	45.7643327	-89.08525594				Unreachable																									
390	45.7639728	-89.08526183	3	M	P			1	1		1		1		1																
391	45.7636128	-89.08526771				Unreachable																									
392	45.7632528	-89.08527359				Unreachable																									
393	45.7628928	-89.08527948				Unreachable																									
394	45.7654086	-89.08472394				Unreachable																									
395	45.7650486	-89.08472983	4	M	P			1			1			1								1									
396	45.7646886	-89.08473572				Unreachable																									
397	45.7643286	-89.08474161	4	M	P			V	1			1		1	1																
398	45.7639686	-89.08474749				Unreachable																									
399	45.7636087	-89.08475338				Unreachable																									
400	45.7632487	-89.08475927				Unreachable																									
401	45.7650445	-89.08421549				Unreachable																									
402	45.7646845	-89.08422138				Unreachable																									
403	45.7643245	-89.08422727	4	M	P			V	1	1	1	1																			
404	45.7639645	-89.08423316				Unreachable																									
405	45.7636045	-89.08423905				Unreachable																									
406	45.7632446	-89.08424494				Unreachable																									
407	45.7650403	-89.08370115				Unreachable																									
408	45.7646804	-89.08370704				Unreachable																									
409	45.7643204	-89.08371294				Unreachable																									
410	45.7639604	-89.08371883				Unreachable																									
411	45.7636004	-89.08372472				Unreachable																									
412	45.7632404	-89.08373062				Unreachable																									
413	45.7628804	-89.08373651				Unreachable																									
414	45.7653962	-89.08318091				Unreachable																									
415	45.7650362	-89.08318681				Unreachable																									
416	45.7646762	-89.08319271				Unreachable																									
417	45.7643162	-89.0831986				Unreachable																									
418	45.7639563	-89.0832045				Unreachable																									
419	45.7635963	-89.0832104				Unreachable																									
420	45.7632363	-89.08321629				Unreachable																									
421	45.7628763	-89.08322219				Unreachable																									
422	45.7653921	-89.08266657				Unreachable																									
423	45.7650321	-89.08267247				Unreachable																									
424	45.7646721	-89.08267837	6	S	P	No Vegetation																									
425	45.7643121	-89.08268427	3	M	P	No Vegetation		V		V																					
426	45.7639521	-89.08269017				Unreachable																									
427	45.7635922	-89.08269607				Unreachable																									
428	45.7632322	-89.08270197	6	M	P	No Vegetation																									
429	45.7628722	-89.08270787				Unreachable																									
430	45.7625122	-89.08271377				Unreachable																									
431	45.764668	-89.08216403				Unreachable																									
432	45.764308	-89.08216993				Unreachable																									
433	45.763948	-89.08217584				Unreachable																									
434	45.763588	-89.08218174				Unreachable																									
435	45.763228	-89.08218764				Unreachable																									
436	45.7628681	-89.08219355				Unreachable																									
437	45.7625081	-89.08219945				Unreachable																									
438	45.7632239	-89.08167332				Unreachable																									
439	45.7628639	-89.08167923	4	M	P			1																					1		

Point Number	Latitude	Longitude	Depth (ft)	Sediment type (M=muck, S=Sand, R=Rock)	Rope (R); Pole (P); Visual (V)	Notes	Ceratophyllum demersum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes echinospora	Lemna trisulca	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nitella sp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton spirillus	Potamogeton strictifolius	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania palustris	Aquatic moss	Freshwater sponge	Filamentous algae
1	45.76182892	-89.13333282	3	D	P						1							1		V							1	1				
2	45.76121694	-89.1333423	4	D	P											1										V		1				
3	45.76060496	-89.13335177	5	D	P	No Vegetation																										
4	45.75999298	-89.13336125	4	M	P					1						1						1				1		1				
5	45.759381	-89.13337072	4	M	P													V										1			1	
6	45.75876902	-89.1333802	4	M	P													1										1	V		1	
7	45.75815704	-89.13338967	4	D	P										1											1		1	V			
8	45.75754506	-89.13339915	4	D	P													V								1		1	V			
9	45.75693308	-89.13340862				Unreachable																										
10	45.74897735	-89.13353175				Unreachable																										
11	45.74836537	-89.13354122				Unreachable																										
12	45.76182228	-89.13245848	4	S	P									1												1		1				
13	45.7612103	-89.13246796	5	D	P										1																	
14	45.76059832	-89.13247745	5	S	P					1				1	1															1		
15	45.75998635	-89.13248693	6	M	P																							3				
16	45.75937437	-89.13249642	6	M	P												1															
17	45.75876239	-89.1325059	6	M	P	No Vegetation																										
18	45.75815041	-89.13251539	5	D	P													1														
19	45.75753843	-89.13252487	4	D	P							1											1									
20	45.75692645	-89.13253435	5	D	P													V								1		1	V			
21	45.75631447	-89.13254384	4	D	P									1								1				1		1				
22	45.74958269	-89.13264813				Unreachable																										
23	45.74897071	-89.13265761				Unreachable																										
24	45.74835873	-89.13266709				Unreachable																										
25	45.74774675	-89.13267657				Unreachable																										
26	45.76181564	-89.13158414	5	M	P	No Vegetation																										
27	45.76120366	-89.13159363	6	M	P	No Vegetation																										
28	45.76059168	-89.13160313	6	M	P	No Vegetation																										
29	45.7599797	-89.13161262	7	M	P	No Vegetation																										
30	45.75936772	-89.13162212	8	M	P	No Vegetation																										
31	45.75875575	-89.13163161	8	M	P	No Vegetation																										
32	45.75814377	-89.1316411	8	M	P	No Vegetation																										
33	45.75753179	-89.1316506	8	M	P	No Vegetation																										
34	45.75691981	-89.13166009	7	M	P	No Vegetation																										
35	45.75630783	-89.13166958	5	D	P	No Vegetation																										
36	45.75569585	-89.13167907	4	S	P											1						1						1				
37	45.74957605	-89.13177398				Unreachable																										
38	45.74896407	-89.13178347	3	M	P		3						1	1					1							1			V	1		
39	45.74835209	-89.13179296				Unreachable																										
40	45.74774011	-89.13180245				Unreachable																										
41	45.76242097	-89.13070029	3	S	P																					1				1		
42	45.76180899	-89.1307098	5	S	P																										1	
43	45.76119701	-89.1307193	5	S	P	No Vegetation																										

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44	45.76058503	-89.13072881	6	M	P	No Vegetation																										
45	45.75997305	-89.13073831	7	M	P	No Vegetation																										
46	45.75936108	-89.13074781	7	M	P	No Vegetation																										
47	45.7587491	-89.13075732	8	M	P	No Vegetation																										
48	45.75813712	-89.13076682	9	M	P	No Vegetation																										
49	45.75752514	-89.13077632	9	M	P	No Vegetation																										
50	45.75691316	-89.13078582	8	M	P	No Vegetation																										
51	45.75630118	-89.13079533	7	M	P	No Vegetation																										
52	45.7556892	-89.13080483	4	R	P													1				1				1			1			
53	45.75140535	-89.13087133				Unreachable																										
54	45.75079337	-89.13088083	5	M	P	No Vegetation																							V			
55	45.75018139	-89.13089033	6	M	P	No Vegetation																										
56	45.74956941	-89.13089983	5	M	P		1																						V	1		
57	45.74895743	-89.13090933				Unreachable																										
58	45.74834545	-89.13091883				Unreachable																										
59	45.74773347	-89.13092832				Unreachable																										
60	45.76241431	-89.12982594	3	S	P																					1	1					
61	45.76180233	-89.12983546	5	S	P	No Vegetation																										
62	45.76119036	-89.12984497	5	S	P	No Vegetation																										
63	45.76057838	-89.12985448	6	M	P	No Vegetation																										
64	45.7599664	-89.129864	7	M	P	No Vegetation																										
65	45.75935442	-89.12987351	8	M	P	No Vegetation																										
66	45.75874244	-89.12988302	8	M	P	No Vegetation																										
67	45.75813046	-89.12989254	8	M	P	No Vegetation																										
68	45.75751848	-89.12990205	9	M	P	No Vegetation																										
69	45.75690651	-89.12991156	9	M	P	No Vegetation																										
70	45.75629453	-89.12992107	9	M	P	No Vegetation																										
71	45.75568255	-89.12993058	9	M	P	No Vegetation																										
72	45.75507057	-89.12994009	4	S	P																					3						
73	45.75201067	-89.12998765	6	M	P	No Vegetation																										
74	45.75139869	-89.12999715	7	M	P	No Vegetation																										
75	45.75078671	-89.13000666	7	M	P	No Vegetation																										
76	45.75017473	-89.13001617	7	M	P																	1										
77	45.74956275	-89.13002568	6	M	P																	1										
78	45.74895077	-89.13003519	5	M	P																								1			
79	45.74833879	-89.1300447				Unreachable																										
80	45.76240765	-89.12895159	3	S	P							1						1					1			1						
81	45.76179567	-89.12896112	3	S	P											1						1				2						
82	45.76118369	-89.12897064	6	S	P	No Vegetation																										
83	45.76057172	-89.12898016	6	S	P	No Vegetation																										
84	45.75995974	-89.12898969	7	M	P	No Vegetation																										
85	45.75934776	-89.12899921	7	M	P	No Vegetation																										
86	45.75873578	-89.12900873	7	M	P	No Vegetation																										

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87	45.7581238	-89.12901825	8	M	P	No Vegetation																										
88	45.75751182	-89.12902777	9	M	P																									2		
89	45.75689984	-89.1290373	10	M	P	No Vegetation																										
90	45.75628786	-89.12904682	10	M	P	No Vegetation																										
91	45.75567589	-89.12905634	10	M	P	No Vegetation																										
92	45.75506391	-89.12906586	7	M	P	No Vegetation																										
93	45.75445193	-89.12907538	3	S	P																	1										
94	45.75261599	-89.12910394	7	M	P													1														
95	45.75200401	-89.12911346	8	S	P	No Vegetation																										
96	45.75139203	-89.12912298	8	S	P	No Vegetation																										
97	45.75078005	-89.12913249	8	S	P	No Vegetation																										
98	45.75016807	-89.12914201	8	S	P	No Vegetation																										
99	45.74955609	-89.12915153	6	S	P	No Vegetation																										
100	45.74894411	-89.12916105	5	S	P	No Vegetation																										
101	45.74833213	-89.12917057	4	S	P																				1							
102	45.76301296	-89.12806771	2	S	P											1							1							1		
103	45.76240098	-89.12807724	2	S	P																									1		
104	45.761789	-89.12808678	3	S	P							1				2						1	1			1						
105	45.76117702	-89.12809631	3	S	P																										1	
106	45.76056505	-89.12810584	6	M	P	No Vegetation																										
107	45.75995307	-89.12811537	7	M	P	No Vegetation																										
108	45.75934109	-89.12812491	7	M	P	No Vegetation																										
109	45.75872911	-89.12813444	3	S	P	No Vegetation																										
110	45.75811713	-89.12814397	3	S	P																	3										
111	45.75750515	-89.1281535	7	S	P	No Vegetation																										
112	45.75689318	-89.12816303	10	M	P	No Vegetation																										
113	45.7562812	-89.12817256	11	M	P	No Vegetation																										
114	45.75566922	-89.12818209	11	M	P	No Vegetation																										
115	45.75505724	-89.12819162	11	M	P	No Vegetation																										
116	45.75444526	-89.12820115	11	M	P	No Vegetation																										
117	45.75383328	-89.12821068	8	S	P	No Vegetation																										
118	45.7532213	-89.12822021	8	M	P	No Vegetation																										
119	45.75260932	-89.12822974	9	M	P	No Vegetation																										
120	45.75199734	-89.12823927	9	M	P	No Vegetation																										
121	45.75138537	-89.1282488	9	M	P	No Vegetation																										
122	45.75077339	-89.12825833	9	M	P	No Vegetation																										
123	45.75016141	-89.12826785	9	M	P	No Vegetation																										
124	45.74954943	-89.12827738	4	S	P											1							1								1	
125	45.74893745	-89.12828691	5	D	P	No Vegetation																										
126	45.74832547	-89.12829644	4	S	P													1								1			1			
127	45.74771349	-89.12830596				Unreachable																										
128	45.76300628	-89.12719335	2	S	P																								1		1	
129	45.7623943	-89.12720289	3	S	P							1				2															1	

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130	45.76178233	-89.12721244	3	S	P											2						1	1		1				1			
131	45.76117035	-89.12722198	5	S	P																										1	
132	45.76055837	-89.12723152	7	M	P																									1	1	
133	45.75994639	-89.12724106	6	M	P	No Vegetation																										
134	45.75933441	-89.1272506	4	S	P													1				1				3					1	
135	45.75872244	-89.12726015	3	S	P							1																			1	
136	45.75811046	-89.12726969	2	R	P							1				1																
137	45.75749848	-89.12727923	9	M	P	No Vegetation																										
138	45.7568865	-89.12728877	11	M	P	No Vegetation																										
139	45.75627452	-89.12729831	11	M	P	No Vegetation																										
140	45.75566254	-89.12730785	11	M	P	No Vegetation																										
141	45.75505056	-89.12731739	11	M	P	No Vegetation																										
142	45.75443859	-89.12732693	11	M	P	No Vegetation																										
143	45.75382661	-89.12733647	11	S	P	No Vegetation																										
144	45.75321463	-89.12734601	10	S	P	No Vegetation																										
145	45.75260265	-89.12735555	10	S	P	No Vegetation																										
146	45.75199067	-89.12736508	10	S	P	No Vegetation																										
147	45.75137869	-89.12737462	9	S	P	No Vegetation																										
148	45.75076671	-89.12738416	9	S	P	No Vegetation																										
149	45.75015473	-89.1273937	5	S	P																							1				
150	45.74954275	-89.12740323	5	S	P	No Vegetation																										
151	45.74893077	-89.12741277	5	M	P	No Vegetation																				V			V			
152	45.7483188	-89.12742231				Unreachable																										
153	45.76422355	-89.12629988	3	S	P														1		1						1				1	
154	45.76361158	-89.12630944	3	S	P													1				1										
155	45.7629996	-89.12631899	2	S	P											1						1				1		1				
156	45.76238762	-89.12632854	3	S	P													1					1								2	
157	45.76177564	-89.1263381	3	S	P																	2				1						
158	45.76116367	-89.12634765	3	S	P							1				1										1					1	
159	45.76055169	-89.1263572	3	S	P							1				1						1				1						
160	45.75993971	-89.12636675	3	S	P							1											1								1	
161	45.75932773	-89.1263763	3	S	P											1		1				1								1		
162	45.75810378	-89.12639541	3	S	P				1												1											
163	45.7574918	-89.12640496	11	M	P	No Vegetation																										
164	45.75687982	-89.12641451	11	M	P	No Vegetation																										
165	45.75626784	-89.12642406	11	M	P	No Vegetation																										
166	45.75565586	-89.12643361	11	M	P	No Vegetation																										
167	45.75504388	-89.12644315	12	M	P	No Vegetation																										
168	45.75443191	-89.1264527	12	M	P	No Vegetation																										
169	45.75381993	-89.12646225	12	M	P	No Vegetation																										
170	45.75320795	-89.1264718	10	M	P	No Vegetation																										
171	45.75259597	-89.12648135	11	M	P	No Vegetation																										
172	45.75198399	-89.1264909	11	M	P	No Vegetation																										

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173	45.75137201	-89.12650044	7	S	P	No Vegetation																										
174	45.75076003	-89.12650999	6	S	P	No Vegetation																										
175	45.75014805	-89.12651954	5	S	P																										1	
176	45.74953607	-89.12652908	6	S	P	No Vegetation																										
177	45.74892409	-89.12653863				Unreachable																										
178	45.76482884	-89.12541594	5	S	P											1						1	1			1						
179	45.76421686	-89.12542551	5	S	P											1		1				2	1			1			1			
180	45.76360489	-89.12543507	5	S	P											1						1						2				
181	45.76299291	-89.12544463	3	S	P											1							1									
182	45.76238093	-89.12545419	3	S	P							1																			1	
183	45.76176895	-89.12546376	3	S	P																	1				1					1	
184	45.76115698	-89.12547332	3	S	P											1						1				1						
185	45.760545	-89.12548288	3	S	P											1		1				1				1						
186	45.75993302	-89.12549244	4	S	P																					1						
187	45.75809709	-89.12552112	3	S	P											1		1				1										
188	45.75748511	-89.12553068	11	M	P	No Vegetation																										
189	45.75687313	-89.12554024	12	M	P	No Vegetation																										
190	45.75626115	-89.1255498	12	M	P	No Vegetation																										
191	45.75564917	-89.12555936	12	M	P	No Vegetation																										
192	45.7550372	-89.12556892	12	M	P	No Vegetation																										
193	45.75442522	-89.12557848	13	M	P	No Vegetation																										
194	45.75381324	-89.12558804	13	M	P	No Vegetation																										
195	45.75320126	-89.1255976	11	M	P	No Vegetation																										
196	45.75258928	-89.12560715	11	M	P	No Vegetation																										
197	45.7519773	-89.12561671	11	M	P	No Vegetation																										
198	45.75136532	-89.12562627	9	M	P	No Vegetation																										
199	45.75075335	-89.12563582	8	M	P	No Vegetation																										
200	45.75014137	-89.12564538	6	M	P	No Vegetation																										
201	45.74952939	-89.12565494	1	R	P							1																				
202	45.76665808	-89.12451283	2	S	P																	1										
203	45.7660461	-89.12452241	7	S	P	No Vegetation																										
204	45.76543412	-89.12453198	8	S	P	No Vegetation																										
205	45.76482214	-89.12454156	13		R																									1		
206	45.76421017	-89.12455113	9	M	P	No Vegetation																										
207	45.76359819	-89.1245607	8	M	P	No Vegetation																										
208	45.76298621	-89.12457027	8	M	P	No Vegetation																										
209	45.76237424	-89.12457985	8	S	P	No Vegetation																										
210	45.76176226	-89.12458942	6	S	P	No Vegetation																										
211	45.76115028	-89.12459899	5	S	P																									1	1	
212	45.7605383	-89.12460856	4	S	P			1				1												1		1					1	
213	45.75992632	-89.12461813	4	S	P											1						1										
214	45.75931435	-89.1246277	4	S	P	No Vegetation																										
215	45.75809039	-89.12464684	2	S	P											1		1				1				1		1				

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216	45.75747841	-89.12465641	11	M	P	No Vegetation																										
217	45.75686644	-89.12466598	12	M	P	No Vegetation																										
218	45.75625446	-89.12467555	12	M	P	No Vegetation																										
219	45.75564248	-89.12468512	12	M	P	No Vegetation																										
220	45.7550305	-89.12469469	12	M	P	No Vegetation																										
221	45.75441852	-89.12470426	13	M	P	No Vegetation																										
222	45.75380654	-89.12471382	13	M	P	No Vegetation																										
223	45.75319457	-89.12472339	11	M	P	No Vegetation																										
224	45.75258259	-89.12473296	11	M	P	No Vegetation																										
225	45.75197061	-89.12474252	10	M	P	No Vegetation																										
226	45.75135863	-89.12475209	9	S	P	No Vegetation																										
227	45.75074665	-89.12476166	8	M	P	No Vegetation																										
228	45.75013467	-89.12477122	4	M	P							1				1																
229	45.76726335	-89.12362884	4	S	P							1						1				2										
230	45.76665137	-89.12363842	11	M	P																									1		
231	45.76603939	-89.123648	16		R	No Vegetation																										
232	45.76542742	-89.12365759	16		R	No Vegetation																										
233	45.76481544	-89.12366717	16		R	No Vegetation																										
234	45.76420346	-89.12367675				No Vegetation																										
235	45.76359149	-89.12368633	11	S	P	No Vegetation																										
236	45.76297951	-89.12369592	13	M	P	No Vegetation																										
237	45.76236753	-89.1237055	13	M	P	No Vegetation																										
238	45.76175555	-89.12371508	11	S	P	No Vegetation																										
239	45.76114358	-89.12372466	9	S	P	No Vegetation																										
240	45.7605316	-89.12373424	8	S	P	No Vegetation																										
241	45.75991962	-89.12374382	6	S	P	No Vegetation																										
242	45.75930764	-89.1237534	6	S	P																										1	
243	45.75869567	-89.12376298	4	S	P							1				1						1						1		1	1	
244	45.75808369	-89.12377256	5	S	P							1									1										1	
245	45.75747171	-89.12378214	7	S	P	No Vegetation																										
246	45.75685973	-89.12379172	11	S	P	No Vegetation																										
247	45.75624776	-89.1238013	12	M	P	No Vegetation																										
248	45.75563578	-89.12381088	12	M	P	No Vegetation																										
249	45.7550238	-89.12382045	12	M	P	No Vegetation																										
250	45.75441182	-89.12383003	12	M	P	No Vegetation																										
251	45.75379984	-89.12383961	12	M	P	No Vegetation																										
252	45.75318787	-89.12384919	11	S	P	No Vegetation																										
253	45.75257589	-89.12385876	10	M	P	No Vegetation																										
254	45.75196391	-89.12386834	10	M	P	No Vegetation																										
255	45.75135193	-89.12387791	9	M	P	No Vegetation																										
256	45.75073995	-89.12388749	6	S	P	No Vegetation																										
257	45.75012797	-89.12389707	3	S	P													1														
258	45.76786861	-89.12274482	1	S	P													V														

Point Number	Latitude	Longitude	Depth (ft)	Sediment type (M=muck, S=Sand, R=Rock)	Rope (R); Pole (P); Visual (V)	Notes	Ceratophyllum demersum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes echinospora	Lemna trisulca	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nitella sp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton spirillus	Potamogeton strictifolius	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania palustris	Aquatic moss	Freshwater sponge	Filamentous algae
259	45.76725664	-89.12275441	12	M	P	No Vegetation																										
260	45.76664466	-89.122764	17		R	No Vegetation																										
261	45.76603268	-89.1227736	17		R	No Vegetation																										
262	45.76542071	-89.12278319				Too Deep																										
263	45.76480873	-89.12279278				Too Deep																										
264	45.76419675	-89.12280238				Too Deep																										
265	45.76358478	-89.12281197				Too Deep																										
266	45.7629728	-89.12282156				Too Deep																										
267	45.76236082	-89.12283115				Too Deep																										
268	45.76174885	-89.12284074				Too Deep																										
269	45.76113687	-89.12285033				Too Deep																										
270	45.76052489	-89.12285992				Too Deep																										
271	45.75991291	-89.12286951	13	M	P	No Vegetation																										
272	45.75930094	-89.1228791	10	S	P	No Vegetation																										
273	45.75868896	-89.12288869	7	S	P	No Vegetation																										
274	45.75807698	-89.12289828	4	R	P				1														1									
275	45.757465	-89.12290787	4	S	P							1				1						1	1									1
276	45.75685303	-89.12291746	9	M	P	No Vegetation																										
277	45.75624105	-89.12292704	12	M	P	No Vegetation																										
278	45.75562907	-89.12293663	12	M	P	No Vegetation																										
279	45.75501709	-89.12294622	12	M	P	No Vegetation																										
280	45.75440511	-89.12295581	12	M	P	No Vegetation																										
281	45.75379314	-89.12296539	11	S	P	No Vegetation																										
282	45.75318116	-89.12297498	7	S	P	No Vegetation																										
283	45.75256918	-89.12298457	6	S	P	No Vegetation																										
284	45.7519572	-89.12299415	7	S	P	No Vegetation																										
285	45.75134522	-89.12300374	6	S	P	No Vegetation																										
286	45.75073324	-89.12301332	4	S	P	No Vegetation																										
287	45.75012127	-89.12302291	3	S	P															1						1		1				
288	45.7678619	-89.12187038	6	S	P																	1										
289	45.76724992	-89.12187999	16		R											1																
290	45.76663794	-89.12188959	18		R	No Vegetation																										
291	45.76602597	-89.12189919	18		R	No Vegetation																										
292	45.76541399	-89.1219088				Too Deep																										
293	45.76480201	-89.1219184				Too Deep																										
294	45.76419004	-89.121928				Too Deep																										
295	45.76357806	-89.1219376				Too Deep																										
296	45.76296608	-89.1219472				Too Deep																										
297	45.76235411	-89.1219568				Too Deep																										
298	45.76174213	-89.1219664				Too Deep																										
299	45.76113015	-89.121976				Too Deep																										
300	45.76051817	-89.1219856				Too Deep																										
301	45.7599062	-89.1219952				Too Deep																										

Point Number	Latitude	Longitude	Depth (ft)	Sediment type (M=muck, S=Sand, R=Rock)	Rope (R); Pole (P); Visual (V)	Notes	Ceratophyllum demersum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes echinospora	Lemna trisulca	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nitella sp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton spirillus	Potamogeton strictifolius	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania palustris	Aquatic moss	Freshwater sponge	Filamentous algae
302	45.75929422	-89.1220048				Too Deep																										
303	45.75868224	-89.1220144				Too Deep																										
304	45.75807027	-89.122024	10	S	P	No Vegetation																										
305	45.75745829	-89.1220336	7	S	P	No Vegetation																										
306	45.75684631	-89.1220432	8	S	P	No Vegetation																										
307	45.75623433	-89.12205279	12	S	P	No Vegetation																										
308	45.75562236	-89.12206239				No Vegetation																										
309	45.75501038	-89.12207199				No Vegetation																										
310	45.7543984	-89.12208158	8	S	P	No Vegetation																										
311	45.75378642	-89.12209118	6	S	P																							1				
312	45.75317444	-89.12210078	6	S	P													1				1				1		1				
313	45.75256247	-89.12211037	7	S	P	No Vegetation																										
314	45.75195049	-89.12211997	7	S	P	No Vegetation																										
315	45.75133851	-89.12212956	5	S	P											1	1											1			1	
316	45.76846715	-89.12098634	3	S	P			1																								
317	45.76785517	-89.12099595	10	S	P	No Vegetation																										
318	45.7672432	-89.12100556	13	S	P	No Vegetation																										
319	45.76663122	-89.12101518	18		R	No Vegetation																										
320	45.76601924	-89.12102479				Too Deep																										
321	45.76540727	-89.1210344				Too Deep																										
322	45.76479529	-89.12104401	17		R	No Vegetation																										
323	45.76418331	-89.12105362	11	S	P	No Vegetation																										
324	45.76357134	-89.12106323	14		R	No Vegetation																										
325	45.76295936	-89.12107284	14		R	No Vegetation																										
326	45.76234738	-89.12108245				Too Deep																										
327	45.76173541	-89.12109206				Too Deep																										
328	45.76112343	-89.12110167				Too Deep																										
329	45.76051145	-89.12111128				Too Deep																										
330	45.75989948	-89.12112089				Too Deep																										
331	45.7592875	-89.1211305				Too Deep																										
332	45.75867552	-89.12114011				Too Deep																										
333	45.75806354	-89.12114972				Too Deep																										
334	45.75745157	-89.12115933				Too Deep																										
335	45.75683959	-89.12116893	11	S	P	No Vegetation																										
336	45.75622761	-89.12117854	4	S	P											2	1											1				1
337	45.75561563	-89.12118815	10	S	P	No Vegetation																										
338	45.75500366	-89.12119775	11	S	P	No Vegetation																										
339	45.75439168	-89.12120736	10	S	P	No Vegetation																										
340	45.7537797	-89.12121697	7	S	P	No Vegetation																										
341	45.75316772	-89.12122657	5	S	P	No Vegetation																										
342	45.75255574	-89.12123618	5	S	P																							1				
343	45.75194377	-89.12124578	6	S	P	No Vegetation																										
344	45.75133179	-89.12125539	5	R	P											1												1			1	

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345	45.75071981	-89.12126499	4	R	P																							1				
346	45.76846042	-89.1201119	3	S	P	No Vegetation																										
347	45.76784844	-89.12012152	9	S	P	No Vegetation																										
348	45.76723647	-89.12013114	13		R	No Vegetation																										
349	45.76662449	-89.12014076				Too Deep																										
350	45.76601251	-89.12015038				Too Deep																										
351	45.76540054	-89.12016001				Too Deep																										
352	45.76478856	-89.12016963	13	S	P	No Vegetation																										
353	45.76417658	-89.12017925	11	S	P	No Vegetation																										
354	45.76356461	-89.12018887	14		R	No Vegetation																										
355	45.76295263	-89.12019849				Too Deep																										
356	45.76234065	-89.12020811				Too Deep																										
357	45.76172868	-89.12021773				Too Deep																										
358	45.7611167	-89.12022735				Too Deep																										
359	45.76050472	-89.12023697				Too Deep																										
360	45.75989275	-89.12024658				Too Deep																										
361	45.75928077	-89.1202562				Too Deep																										
362	45.75866879	-89.12026582				Too Deep																										
363	45.75805681	-89.12027544				Too Deep																										
364	45.75744484	-89.12028506				Too Deep																										
365	45.75683286	-89.12029467				Too Deep																										
366	45.75622088	-89.12030429				Too Deep																										
367	45.75560891	-89.12031391				Too Deep																										
368	45.75499693	-89.12032352	12	S	P	No Vegetation																										
369	45.75438495	-89.12033314	13	M	P	No Vegetation																										
370	45.75377297	-89.12034275	9	S	P	No Vegetation																										
371	45.753161	-89.12035237	4	S	P							1																1			1	
372	45.75254902	-89.12036198	5	S	P	No Vegetation																										
373	45.75193704	-89.1203716	5	S	P	No Vegetation																										
374	45.75132506	-89.12038121	4	S	P	No Vegetation																										
375	45.76845368	-89.11923745	4	S	P			1				1				1	1	1				1						1				
376	45.7678417	-89.11924709	11	S	P	No Vegetation																										
377	45.76722973	-89.11925672	14		R	No Vegetation																										
378	45.76661775	-89.11926635				Too Deep																										
379	45.76600578	-89.11927598				Too Deep																										
380	45.7653938	-89.11928561				Too Deep																										
381	45.76478182	-89.11929524	8	S	P	No Vegetation																										
382	45.76416985	-89.11930487	11	S	P	No Vegetation																										
383	45.76355787	-89.1193145				Too Deep																										
384	45.76294589	-89.11932413				Too Deep																										
385	45.76233392	-89.11933376				Too Deep																										
386	45.76172194	-89.11934339				Too Deep																										
387	45.76110996	-89.11935302				Too Deep																										

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388	45.76049799	-89.11936265				Too Deep																										
389	45.75988601	-89.11937228				Too Deep																										
390	45.75927403	-89.1193819				Too Deep																										
391	45.75866206	-89.11939153				Too Deep																										
392	45.75805008	-89.11940116				Too Deep																										
393	45.7574381	-89.11941079				Too Deep																										
394	45.75682613	-89.11942041				Too Deep																										
395	45.75621415	-89.11943004				Too Deep																										
396	45.75560217	-89.11943966				Too Deep																										
397	45.75499019	-89.11944929				Too Deep																										
398	45.75437822	-89.11945892	11	S	P	No Vegetation																										
399	45.75376624	-89.11946854	12	M	P	No Vegetation																										
400	45.75315426	-89.11947817	4	S	P							1					1					1										
401	45.75254228	-89.11948779	3	R	P	No Vegetation																										
402	45.75193031	-89.11949741	5	S	P	No Vegetation																										
403	45.75131833	-89.11950704	5	S	P	No Vegetation																										
404	45.76844693	-89.11836301	7	S	P											1						1						1				
405	45.76783496	-89.11837265				Too Deep																										
406	45.76722298	-89.11838229				Too Deep																										
407	45.76661101	-89.11839194				Too Deep																										
408	45.76599903	-89.11840158				Too Deep																										
409	45.76538706	-89.11841122	14		R	No Vegetation																										
410	45.76477508	-89.11842086	14		R	No Vegetation																										
411	45.7641631	-89.1184305	14		R	No Vegetation																										
412	45.76355113	-89.11844014				Too Deep																										
413	45.76293915	-89.11844978				Too Deep																										
414	45.76232717	-89.11845942				Too Deep																										
415	45.7617152	-89.11846905				Too Deep																										
416	45.76110322	-89.11847869				Too Deep																										
417	45.76049124	-89.11848833				Too Deep																										
418	45.75987927	-89.11849797				Too Deep																										
419	45.75926729	-89.11850761				Too Deep																										
420	45.75865531	-89.11851724				Too Deep																										
421	45.75804334	-89.11852688				Too Deep																										
422	45.75743136	-89.11853652				Too Deep																										
423	45.75681938	-89.11854615				Too Deep																										
424	45.75620741	-89.11855579				Too Deep																										
425	45.75559543	-89.11856542				Too Deep																										
426	45.75498345	-89.11857506				Too Deep																										
427	45.75437147	-89.11858469				Too Deep																										
428	45.7537595	-89.11859433	13	M	P	No Vegetation																										
429	45.75314752	-89.11860396	4	S	P											1											1	1				
430	45.75253554	-89.1186136	3	S	P				1							1											1	1				

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431	45.75192356	-89.11862323	5	S	P	No Vegetation																										
432	45.76905216	-89.11747892	1	S	P			1																								
433	45.76844018	-89.11748857	9	S	P	No Vegetation																										
434	45.76782821	-89.11749822				Too Deep																										
435	45.76721623	-89.11750787				Too Deep																										
436	45.76660426	-89.11751752				Too Deep																										
437	45.76599228	-89.11752717				Too Deep																										
438	45.7653803	-89.11753682	13	S	P	No Vegetation																										
439	45.76476833	-89.11754647	14		R	No Vegetation																										
440	45.76415635	-89.11755612				Too Deep																										
441	45.76354438	-89.11756577				Too Deep																										
442	45.7629324	-89.11757542				Too Deep																										
443	45.76232042	-89.11758507				Too Deep																										
444	45.76170845	-89.11759472				Too Deep																										
445	45.76109647	-89.11760437				Too Deep																										
446	45.76048449	-89.11761401				Too Deep																										
447	45.75987252	-89.11762366				Too Deep																										
448	45.75926054	-89.11763331				Too Deep																										
449	45.75864857	-89.11764295				Too Deep																										
450	45.75803659	-89.1176526				Too Deep																										
451	45.75742461	-89.11766225				Too Deep																										
452	45.75681263	-89.11767189				Too Deep																										
453	45.75620066	-89.11768154				Too Deep																										
454	45.75558868	-89.11769118				Too Deep																										
455	45.7549767	-89.11770083				Too Deep																										
456	45.75436473	-89.11771047				Too Deep																										
457	45.75375275	-89.11772012	11	S	P	No Vegetation																										
458	45.75314077	-89.11772976	2	R	P											1							1									
459	45.75191682	-89.11774905	5	S	P	No Vegetation																										
460	45.76843343	-89.11661413	7	S	P											1																
461	45.76782145	-89.11662379				Too Deep																										
462	45.76720947	-89.11663345				Too Deep																										
463	45.7665975	-89.11664311				Too Deep																										
464	45.76598552	-89.11665277				Too Deep																										
465	45.76537355	-89.11666243				Too Deep																										
466	45.76476157	-89.11667209				Too Deep																										
467	45.7641496	-89.11668175				Too Deep																										
468	45.76353762	-89.11669141				Too Deep																										
469	45.76292564	-89.11670107				Too Deep																										
470	45.76231367	-89.11671072				Too Deep																										
471	45.76170169	-89.11672038				Too Deep																										
472	45.76108972	-89.11673004				Too Deep																										
473	45.76047774	-89.1167397				Too Deep																										

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474	45.75986576	-89.11674935				Too Deep																										
475	45.75925379	-89.11675901				Too Deep																										
476	45.75864181	-89.11676867				Too Deep																										
477	45.75802983	-89.11677832				Too Deep																										
478	45.75741786	-89.11678798				Too Deep																										
479	45.75680588	-89.11679763				Too Deep																										
480	45.7561939	-89.11680729				Too Deep																										
481	45.75558193	-89.11681694				Too Deep																										
482	45.75496995	-89.1168266				Too Deep																										
483	45.75435797	-89.11683625				Too Deep																										
484	45.75374599	-89.1168459				Too Deep																										
485	45.75313402	-89.11685556	7	S	P											1																
486	45.75252204	-89.11686521	3	S	P				1												1									1		
487	45.75191006	-89.11687486	5	S	P	No Vegetation																										
488	45.76842666	-89.11573969	4	S	P											2		1														
489	45.76781469	-89.11574936	14		R	No Vegetation																										
490	45.76720271	-89.11575903				Too Deep																										
491	45.76659073	-89.1157687				Too Deep																										
492	45.76597876	-89.11577837				Too Deep																										
493	45.76536678	-89.11578804				Too Deep																										
494	45.76475481	-89.11579771				Too Deep																										
495	45.76414283	-89.11580737				Too Deep																										
496	45.76353086	-89.11581704				Too Deep																										
497	45.76291888	-89.11582671				Too Deep																										
498	45.7623069	-89.11583638				Too Deep																										
499	45.76169493	-89.11584605				Too Deep																										
500	45.76108295	-89.11585571				Too Deep																										
501	45.76047098	-89.11586538				Too Deep																										
502	45.759859	-89.11587505				Too Deep																										
503	45.75924702	-89.11588471				Too Deep																										
504	45.75863505	-89.11589438				Too Deep																										
505	45.75802307	-89.11590404				Too Deep																										
506	45.75741109	-89.11591371				Too Deep																										
507	45.75679912	-89.11592337				Too Deep																										
508	45.75618714	-89.11593304				Too Deep																										
509	45.75557516	-89.1159427				Too Deep																										
510	45.75496319	-89.11595237				Too Deep																										
511	45.75435121	-89.11596203				Too Deep																										
512	45.75373923	-89.11597169				Too Deep																										
513	45.75312726	-89.11598136	10	S	P	No Vegetation																										
514	45.75251528	-89.11599102	6	S	P	No Vegetation																										
515	45.7519033	-89.11600068	6	S	P	No Vegetation																										
516	45.75129133	-89.11601034	1	S	P	No Vegetation																										

Point Number	Latitude	Longitude	Depth (ft)	Sediment type (M=muck, S=Sand, R=Rock)	Rope (R); Pole (P); Visual (V)	Notes	Ceratophyllum demersum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes echinospora	Lemna trisulca	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nitella sp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton spirillus	Potamogeton strictifolius	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania palustris	Aquatic moss	Freshwater sponge	Filamentous algae
517	45.76841989	-89.11486525	3	S	P	No Vegetation																										
518	45.76780791	-89.11487493	10	S	P	No Vegetation																										
519	45.76719594	-89.11488461				Too Deep																										
520	45.76658396	-89.11489429				Too Deep																										
521	45.76597199	-89.11490396				Too Deep																										
522	45.76536001	-89.11491364				Too Deep																										
523	45.76474804	-89.11492332				Too Deep																										
524	45.76413606	-89.114933				Too Deep																										
525	45.76352409	-89.11494268				Too Deep																										
526	45.76291211	-89.11495236				Too Deep																										
527	45.76230013	-89.11496203				Too Deep																										
528	45.76168816	-89.11497171				Too Deep																										
529	45.76107618	-89.11498139				Too Deep																										
530	45.76046421	-89.11499106				Too Deep																										
531	45.75985223	-89.11500074	14		R	No Vegetation																										
532	45.75924025	-89.11501041				Too Deep																										
533	45.75862828	-89.11502009				Too Deep																										
534	45.7580163	-89.11502976				Too Deep																										
535	45.75740433	-89.11503944				Too Deep																										
536	45.75679235	-89.11504911				Too Deep																										
537	45.75618037	-89.11505879				Too Deep																										
538	45.7555684	-89.11506846				Too Deep																										
539	45.75495642	-89.11507814				Too Deep																										
540	45.75434444	-89.11508781				Too Deep																										
541	45.75373247	-89.11509748				Too Deep																										
542	45.75312049	-89.11510715	10	S	P	No Vegetation																										
543	45.75250851	-89.11511683	9	S	P	No Vegetation																										
544	45.75189654	-89.1151265	6	S	P	No Vegetation																										
545	45.76841311	-89.11399081				Unreachable																										
546	45.76780114	-89.1140005	8	S	P	No Vegetation																										
547	45.76718916	-89.11401018	13	S	P	No Vegetation																										
548	45.76657719	-89.11401987				Too Deep																										
549	45.76596521	-89.11402956				Too Deep																										
550	45.76535324	-89.11403925				Too Deep																										
551	45.76474126	-89.11404894				Too Deep																										
552	45.76412928	-89.11405863				Too Deep																										
553	45.76351731	-89.11406831				Too Deep																										
554	45.76290533	-89.114078				Too Deep																										
555	45.76229336	-89.11408769				Too Deep																										
556	45.76168138	-89.11409737				Too Deep																										
557	45.76106941	-89.11410706				Too Deep																										
558	45.76045743	-89.11411675				Too Deep																										
559	45.75984545	-89.11412643	10	R	P	No Vegetation																										

Point Number	Latitude	Longitude	Depth (ft)	Sediment type (M=muck, S=Sand, R=Rock)	Rope (R); Pole (P); Visual (V)	Notes	Ceratophyllum demersum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes echinospora	Lemna trisulca	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nitella sp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton spirillus	Potamogeton strictifolius	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania palustris	Aquatic moss	Freshwater sponge	Filamentous algae
560	45.75923348	-89.11413612	14		R	No Vegetation																										
561	45.7586215	-89.1141458				Too Deep																										
562	45.75800953	-89.11415549				Too Deep																										
563	45.75739755	-89.11416517				Too Deep																										
564	45.75678557	-89.11417485				Too Deep																										
565	45.7561736	-89.11418454				Too Deep																										
566	45.75556162	-89.11419422				Too Deep																										
567	45.75494964	-89.1142039				Too Deep																										
568	45.75433767	-89.11421359				Too Deep																										
569	45.75372569	-89.11422327				Too Deep																										
570	45.75311371	-89.11423295	9	S	P	No Vegetation																										
571	45.75250174	-89.11424263	12	M	P	No Vegetation																										
572	45.75188976	-89.11425232	9	S	P	No Vegetation																										
573	45.76779435	-89.11312607	7	S	P											1		1				1						1				
574	45.76718238	-89.11313576	10	S	P	No Vegetation																										
575	45.7665704	-89.11314546				Too Deep																										
576	45.76595843	-89.11315516				Too Deep																										
577	45.76534645	-89.11316486				Too Deep																										
578	45.76473448	-89.11317456				Too Deep																										
579	45.7641225	-89.11318425				Too Deep																										
580	45.76351053	-89.11319395				Too Deep																										
581	45.76289855	-89.11320365				Too Deep																										
582	45.76228657	-89.11321334				Too Deep																										
583	45.7616746	-89.11322304				Too Deep																										
584	45.76106262	-89.11323274	14		R	No Vegetation																										
585	45.76045065	-89.11324243	10	S	P	No Vegetation																										
586	45.75983867	-89.11325213	7	R	P	No Vegetation																										
587	45.7592267	-89.11326182	10	S	P	No Vegetation																										
588	45.75861472	-89.11327151				Too Deep																										
589	45.75800274	-89.11328121				Too Deep																										
590	45.75739077	-89.1132909				Too Deep																										
591	45.75677879	-89.1133006				Too Deep																										
592	45.75616682	-89.11331029				Too Deep																										
593	45.75555484	-89.11331998				Too Deep																										
594	45.75494286	-89.11332968				Too Deep																										
595	45.75433089	-89.11333937				Too Deep																										
596	45.75371891	-89.11334906	8	R	P	No Vegetation																										
597	45.75310693	-89.11335875	6	S	P	No Vegetation																										
598	45.75249496	-89.11336844	7	S	P	No Vegetation																										
599	45.75188298	-89.11337813	9	M	P	No Vegetation																										
600	45.76778756	-89.11225164	3	S	P	No Vegetation																										
601	45.76717559	-89.11226134	9	S	P	No Vegetation																										
602	45.76656361	-89.11227105				Too Deep																										

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603	45.76595164	-89.11228076				Too Deep																										
604	45.76533966	-89.11229047				Too Deep																										
605	45.76472769	-89.11230017				Too Deep																										
606	45.76411571	-89.11230988				Too Deep																										
607	45.76350374	-89.11231959				Too Deep																										
608	45.76289176	-89.11232929				Too Deep																										
609	45.76227978	-89.112339				Too Deep																										
610	45.76166781	-89.1123487				Too Deep																										
611	45.76105583	-89.11235841	11	S	P	No Vegetation																										
612	45.76044386	-89.11236812	5	S	P											1												2				
613	45.75983188	-89.11237782	5	S	P											2												1				
614	45.75921991	-89.11238752	6	S	P											1																
615	45.75860793	-89.11239723	8	S	P	No Vegetation																										
616	45.75799596	-89.11240693	13	S	P	No Vegetation																										
617	45.75738398	-89.11241664	14		R	No Vegetation																										
618	45.756772	-89.11242634	14		R	No Vegetation																										
619	45.75616003	-89.11243604	14		R	No Vegetation																										
620	45.75554805	-89.11244574	14		R	No Vegetation																										
621	45.75493607	-89.11245545				No Vegetation																										
622	45.7543241	-89.11246515	8	S	P	No Vegetation																										
623	45.75371212	-89.11247485	6	R	P																							1				
624	45.75310015	-89.11248455	9	M	P	No Vegetation																										
625	45.75248817	-89.11249425	9	M	P	No Vegetation																										
626	45.75187619	-89.11250395	8	R	P	No Vegetation																										
627	45.76839274	-89.11136749	3	S	P													1								1		2				
628	45.76778076	-89.11137721	5	S	P											1												2				
629	45.76716879	-89.11138692	9	S	P	No Vegetation																										
630	45.76655681	-89.11139664				Too Deep																										
631	45.76594484	-89.11140636				Too Deep																										
632	45.76533286	-89.11141608				Too Deep																										
633	45.76472089	-89.11142579				Too Deep																										
634	45.76410891	-89.11143551				Too Deep																										
635	45.76349694	-89.11144522				Too Deep																										
636	45.76288496	-89.11145494				Too Deep																										
637	45.76227299	-89.11146466				Too Deep																										
638	45.76166101	-89.11147437	14		R	No Vegetation																										
639	45.76104904	-89.11148409	8	S	P	No Vegetation																										
640	45.75798916	-89.11153265				Unreachable																										
641	45.75737718	-89.11154237	5	R	P											2																
642	45.75676521	-89.11155208	7	S	P	No Vegetation																										
643	45.75615323	-89.11156179	7	S	P	No Vegetation																										
644	45.75554126	-89.1115715	6	R	P	No Vegetation																										
645	45.75492928	-89.11158122	5		P											2																

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646	45.7543173	-89.11159093	2	R	P											1																
647	45.75370533	-89.11160064	5	S	P											1																
648	45.75309335	-89.11161035	8	M	P	No Vegetation																										
649	45.75248137	-89.11162006	8	M	P	No Vegetation																										
650	45.7518694	-89.11162977	3	M	P											1		1														
651	45.77022186	-89.11046386	6	S	P													1														
652	45.76960988	-89.11047359	7	S	P	No Vegetation																										
653	45.76899791	-89.11048332	5	S	P																1					1		1				
654	45.76838593	-89.11049305	10	S	P	No Vegetation																										
655	45.76777396	-89.11050278	13	S	P	No Vegetation																										
656	45.76716198	-89.1105125				Too Deep																										
657	45.76655001	-89.11052223				Too Deep																										
658	45.76593803	-89.11053196				Too Deep																										
659	45.76532606	-89.11054168				Too Deep																										
660	45.76471408	-89.11055141				Too Deep																										
661	45.76410211	-89.11056114				Too Deep																										
662	45.76349014	-89.11057086				Too Deep																										
663	45.76287816	-89.11058059				Too Deep																										
664	45.76226618	-89.11059031				Too Deep																										
665	45.76165421	-89.11060004	9	S	P	No Vegetation																										
666	45.76104223	-89.11060976	3	R	P											1										1		1				
667	45.7543105	-89.11071671	3	M	P		1			1				1					1			1					1	1	1			
668	45.75369853	-89.11072643	6	D	P	No Vegetation																										
669	45.75308655	-89.11073615	6	S	P	No Vegetation																										
670	45.75247457	-89.11074587	3	S	P																							1				
671	45.77143899	-89.10956992	7	M	P	No Vegetation																										
672	45.77082702	-89.10957966	8	M	P	No Vegetation																										
673	45.77021504	-89.10958939	9	M	P	No Vegetation																										
674	45.76960307	-89.10959913	10	S	P	No Vegetation																										
675	45.7689911	-89.10960887	11	S	P	No Vegetation																										
676	45.76837912	-89.10961861	14		R	No Vegetation																										
677	45.76776715	-89.10962835				Too Deep																										
678	45.76715517	-89.10963808				Too Deep																										
679	45.7665432	-89.10964782				Too Deep																										
680	45.76593122	-89.10965756				Too Deep																										
681	45.76531925	-89.10966729				Too Deep																										
682	45.76470727	-89.10967703				Too Deep																										
683	45.7640953	-89.10968676				Too Deep																										
684	45.76348332	-89.1096965				Too Deep																										
685	45.76287135	-89.10970623				Too Deep																										
686	45.76225937	-89.10971597	9	S	P	No Vegetation																										
687	45.7616474	-89.1097257	4	S	P											1												2				
688	45.77204415	-89.10868568	7	M	P	No Vegetation																										

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689	45.77143217	-89.10869543	9	M	P	No Vegetation																										
690	45.7708202	-89.10870518	10	M	P	No Vegetation																										
691	45.77020823	-89.10871493	11	M	P	No Vegetation																										
692	45.76959625	-89.10872468	11	M	P	No Vegetation																										
693	45.76898428	-89.10873442	13	M	P	No Vegetation																										
694	45.7683723	-89.10874417	14		R	No Vegetation																										
695	45.76776033	-89.10875392				Too Deep																										
696	45.76714835	-89.10876366				Too Deep																										
697	45.76653638	-89.10877341				Too Deep																										
698	45.76592441	-89.10878316				Too Deep																										
699	45.76531243	-89.1087929				Too Deep																										
700	45.76470046	-89.10880265				Too Deep																										
701	45.76408848	-89.10881239				Too Deep																										
702	45.76347651	-89.10882214				Too Deep																										
703	45.76286453	-89.10883188	7	S	P	No Vegetation																										
704	45.76225256	-89.10884163	5	S	P																	1						2				
705	45.77203732	-89.10781119	9	S	P	No Vegetation																										
706	45.77142535	-89.10782095	10	S	P	No Vegetation																										
707	45.77081337	-89.1078307	11	S	P	No Vegetation																										
708	45.7702014	-89.10784046	6	S	P	No Vegetation																										
709	45.76958943	-89.10785022	5	S	P																							1				
710	45.76897745	-89.10785998	11	S	P	No Vegetation																										
711	45.76836548	-89.10786973	12	S	P	No Vegetation																										
712	45.7677535	-89.10787949	12	S	P	No Vegetation																										
713	45.76714153	-89.10788925	6	S	P	No Vegetation																										
714	45.76652956	-89.107899	6	S	P	No Vegetation																										
715	45.76591758	-89.10790876	8	S	P	No Vegetation																										
716	45.76530561	-89.10791851				Too Deep																										
717	45.76469363	-89.10792827				Too Deep																										
718	45.76408166	-89.10793802	7	S	P	No Vegetation																										
719	45.76346968	-89.10794778	6	S	P																							1				
720	45.76285771	-89.10795753	4	S	P							1									1							2				
721	45.77203049	-89.10693669	6	S	P																	1				1						
722	45.77141852	-89.10694646	9	S	P	No Vegetation																										
723	45.77080654	-89.10695623	8	S	P	No Vegetation																										
724	45.77019457	-89.10696599	3	S	P	No Vegetation																										
725	45.76958259	-89.10697576	4	S	P																							1				
726	45.76897062	-89.10698553	7	S	P	No Vegetation																										
727	45.76835865	-89.10699529	3	S	P	No Vegetation																										
728	45.76774667	-89.10700506	4	S	P																							1				
729	45.7671347	-89.10701483	4	R	P	No Vegetation																										
730	45.76652272	-89.10702459				Unreachable																										
731	45.76591075	-89.10703436	4	S	P							1									1							1				

Point Number	Latitude	Longitude	Depth (ft)	Sediment type (M=muck, S=Sand, R=Rock)	Rope (R); Pole (P); Visual (V)	Notes	Ceratophyllum demersum	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes echinospora	Lemna trisulca	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nitella sp.	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton gramineus	Potamogeton richardsonii	Potamogeton spirillus	Potamogeton strictifolius	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania palustris	Aquatic moss	Freshwater sponge	Filamentous algae
732	45.76529878	-89.10704412	5	S	P																							2				
733	45.7646868	-89.10705389	5	S	P																	1						2				
734	45.76407483	-89.10706365	5	S	P																							1				
735	45.77141168	-89.10607197	6	S	P														1									1				
736	45.7707997	-89.10608175	3	S	P													1														
737	45.76957576	-89.1061013	3	S	P																2											
738	45.76896378	-89.10611108	7	S	P	No Vegetation																										

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes sp.	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Carex_Sp 1
1	45.771226	-89.113228	0			NONNAVIGABLE (PLANTS)																						
2	45.771221	-89.112649	0			NONNAVIGABLE (PLANTS)																						
3	45.771217	-89.112070	0			NONNAVIGABLE (PLANTS)																						
4	45.771631	-89.113221	0			NONNAVIGABLE (PLANTS)																						
5	45.771626	-89.112643	0			NONNAVIGABLE (PLANTS)																						
6	45.771622	-89.112064	0			NONNAVIGABLE (PLANTS)																						
7	45.771617	-89.111485	0			NONNAVIGABLE (PLANTS)																						
8	45.772031	-89.112636	2	Muck	Pole									1	1									1			1	
9	45.772027	-89.112057	3	Muck	Pole									1										1				
10	45.772022	-89.111479	0			NONNAVIGABLE (PLANTS)																						
11	45.772018	-89.110900	0			NONNAVIGABLE (PLANTS)																						
12	45.772432	-89.112051	4	Sand	Pole																	1		1				
13	45.772427	-89.111472	4	Muck	Pole															1				1				
14	45.772423	-89.110894	4	Muck	Pole									1						1				2				
15	45.772418	-89.110315	0			NONNAVIGABLE (PLANTS)																						
16	45.772841	-89.112623	4	Sand	Pole								1											1				
17	45.772837	-89.112045	5	Sand	Pole																			1				
18	45.772832	-89.111466	5	Sand	Pole																							
19	45.772828	-89.110887	5	Sand	Pole																			1				
20	45.772823	-89.110308	4	Sand	Pole								1											1				
21	45.772819	-89.109730	5	Sand	Pole																			1				
22	45.772814	-89.109151	5	Sand	Pole																			1				
23	45.772810	-89.108572	4	Sand	Pole														1								2	
24	45.773246	-89.112617	5	Sand	Pole																			1				
25	45.773242	-89.112038	6	Sand	Pole																							
26	45.773237	-89.111459	7	Muck	Pole																							
27	45.773233	-89.110881	7	Sand	Pole																							
28	45.773228	-89.110302	6	Sand	Pole																							
29	45.773224	-89.109723	5	Sand	Pole																							
30	45.773651	-89.112610	6	Muck	Pole																							
31	45.773647	-89.112032	7	Sand	Pole																							
32	45.773642	-89.111453	7	Sand	Pole																							
33	45.773638	-89.110874	7	Sand	Pole																							
34	45.773633	-89.110295	6	Sand	Pole																							
35	45.774061	-89.113183	2	Sand	Pole								1										1				1	
36	45.774056	-89.112604	5	Sand	Pole																							
37	45.774052	-89.112025	7	Sand	Pole																							
38	45.774047	-89.111447	2	Sand	Pole																			1				
39	45.774038	-89.110289	0			TERRESTRIAL																						
40	45.774470	-89.113755	4	Muck	Pole															1					1		1	
41	45.774466	-89.113176	4	Sand	Pole								1						1									
42	45.774461	-89.112598	6	Sand	Pole																							
43	45.774457	-89.112019	7	Sand	Pole																							
44	45.774452	-89.111440	5	Sand	Pole																							
45	45.774880	-89.114327	0			NONNAVIGABLE (PLANTS)																						
46	45.774875	-89.113749	4	Muck	Pole								1											1				

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes sp.	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Carex_Sp 1
47	45.774871	-89.113170	5	Sand	Pole								1															
48	45.774866	-89.112591	6	Sand	Pole																							
49	45.774862	-89.112012	7	Sand	Pole																							
50	45.774857	-89.111434	5	Sand	Pole																							
51	45.774821	-89.106804	0			NO INFORMATION																						
52	45.774817	-89.106225	2	Sand	Pole																			1		1		
53	45.774812	-89.105646	0			TERRESTRIAL																						
54	45.775285	-89.114321	3	Sand	Pole								1											1				
55	45.775280	-89.113742	5	Sand	Pole																							
56	45.775276	-89.113163	5	Sand	Pole																							
57	45.775271	-89.112585	7	Sand	Pole																							
58	45.775267	-89.112006	7	Sand	Pole																							
59	45.775262	-89.111427	5	Sand	Pole																							
60	45.775258	-89.110848	2	Sand	Pole						1	1	1														1	
61	45.775235	-89.107955	2	Sand	Pole																							
62	45.775231	-89.107376	4	Sand	Pole																							
63	45.775226	-89.106797	4	Sand	Pole																							
64	45.775222	-89.106219	4	Sand	Pole																							
65	45.775217	-89.105640	3	Sand	Pole																							
66	45.775694	-89.114893	0			NONNAVIGABLE (PLANTS)																						
67	45.775690	-89.114315	5	Sand	Pole																							
68	45.775685	-89.113736	6	Sand	Pole																							
69	45.775681	-89.113157	7	Sand	Pole																							
70	45.775676	-89.112578	7	Sand	Pole																							
71	45.775672	-89.112000	7	Sand	Pole																							
72	45.775667	-89.111421	6	Sand	Pole																							
73	45.775663	-89.110842	6	Sand	Pole																							
74	45.775658	-89.110263	2	Sand	Pole			1					1				1							1				
75	45.775640	-89.107948	2	Muck	Pole								1											1		1		
76	45.775636	-89.107370	5	Sand	Pole																							
77	45.775631	-89.106791	5	Sand	Pole														1									
78	45.775627	-89.106212	5	Sand	Pole																					1		
79	45.775622	-89.105633	2	Sand	Pole		1																					
80	45.775618	-89.105055	2	Sand	Pole																					1		
81	45.776099	-89.114887	5	Sand	Pole																							
82	45.776095	-89.114308	7	Sand	Pole																							
83	45.776090	-89.113729	7	Sand	Pole																							
84	45.776086	-89.113151	8	Muck	Pole																							
85	45.776081	-89.112572	8	Muck	Pole																							
86	45.776077	-89.111993	7	Sand	Pole																							
87	45.776072	-89.111414	7	Sand	Pole																							
88	45.776068	-89.110836	7	Sand	Pole																							
89	45.776063	-89.110257	5	Sand	Pole																							
90	45.776045	-89.107942	2	Sand	Pole				2									1										
91	45.776041	-89.107363	8	Sand	Pole																							
92	45.776036	-89.106784	0			DEEP																						

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes sp.	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Carex_Sp 1
93	45.776032	-89.106206	0			DEEP																						
94	45.776027	-89.105627	0			DEEP																						
95	45.776023	-89.105048	8	Sand	Pole																							
96	45.776018	-89.104469	5	Sand	Pole																					1		
97	45.776522	-89.117195	2	Sand	Pole																							
98	45.776518	-89.116617	2	Sand	Pole								1														1	1
99	45.776513	-89.116038	4	Sand	Pole																			2				
100	45.776509	-89.115459	6	Sand	Pole																							
101	45.776504	-89.114880	8	Muck	Pole																							
102	45.776500	-89.114302	0			DEEP																						
103	45.776495	-89.113723	0			DEEP																						
104	45.776491	-89.113144	9	Muck	Pole																							
105	45.776486	-89.112565	7	Sand	Pole																							
106	45.776482	-89.111987	7	Sand	Pole																							
107	45.776477	-89.111408	7	Muck	Pole																							
108	45.776473	-89.110829	7	Sand	Pole																							
109	45.776468	-89.110250	6	Sand	Pole																							
110	45.776464	-89.109672	3	Sand	Pole											2										1		
111	45.776450	-89.107935	7	Sand	Pole																							
112	45.776446	-89.107357	0			DEEP																						
113	45.776441	-89.106778	0			DEEP																						
114	45.776437	-89.106199	0			DEEP																						
115	45.776432	-89.105620	0			DEEP																						
116	45.776428	-89.105042	0			DEEP																						
117	45.776423	-89.104463	0			DEEP																						
118	45.776418	-89.103884	5	Sand	Pole																					1		
119	45.776932	-89.117768	4	Sand	Pole								1						2					1				
120	45.776927	-89.117189	5	Sand	Pole																			1				
121	45.776923	-89.116610	6	Sand	Pole																							
122	45.776918	-89.116032	9	Sand	Pole																							
123	45.776914	-89.115453	0			DEEP																						
124	45.776909	-89.114874	0			DEEP																						
125	45.776905	-89.114295	0			DEEP																						
126	45.776900	-89.113717	0			DEEP																						
127	45.776896	-89.113138	0			DEEP																						
128	45.776891	-89.112559	0			DEEP																						
129	45.776887	-89.111980	8	Muck	Pole																							
130	45.776882	-89.111401	7	Muck	Pole																							
131	45.776878	-89.110823	7	Sand	Pole																							
132	45.776873	-89.110244	8	Muck	Pole																							
133	45.776869	-89.109665	6	Sand	Pole																							
134	45.776855	-89.107929	0			DEEP																						
135	45.776851	-89.107350	0			DEEP																						
136	45.776846	-89.106771	0			DEEP																						
137	45.776842	-89.106193	0			DEEP																						
138	45.776837	-89.105614	0			DEEP																						

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes sp.	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Carex_Sp 1
139	45.776832	-89.105035	0			DEEP																						
140	45.776828	-89.104456	0			DEEP																						
141	45.776823	-89.103878	0			DEEP																						
142	45.777337	-89.117761	6	Sand	Pole																							
143	45.777332	-89.117183	0			DEEP																						
144	45.777328	-89.116604	0			DEEP																						
145	45.777323	-89.116025	0			DEEP																						
146	45.777319	-89.115446	0			DEEP																						
147	45.777314	-89.114868	0			DEEP																						
148	45.777310	-89.114289	0			DEEP																						
149	45.777305	-89.113710	0			DEEP																						
150	45.777301	-89.113131	0			DEEP																						
151	45.777296	-89.112553	0			DEEP																						
152	45.777292	-89.111974	0			DEEP																						
153	45.777287	-89.111395	8	Muck	Pole																							
154	45.777283	-89.110816	6	Sand	Pole																							
155	45.777278	-89.110238	6	Sand	Pole																							
156	45.777274	-89.109659	6	Muck	Pole																							
157	45.777269	-89.109080	2	Sand	Pole																							
158	45.777265	-89.108501	6	Sand	Pole																							
159	45.777260	-89.107922	0			DEEP																						
160	45.777256	-89.107344	0			DEEP																						
161	45.777251	-89.106765	0			DEEP																						
162	45.777247	-89.106186	0			DEEP																						
163	45.777242	-89.105607	0			DEEP																						
164	45.777237	-89.105029	0			DEEP																						
165	45.777233	-89.104450	0			DEEP																						
166	45.777228	-89.103871	0			DEEP																						
167	45.777224	-89.103292	8	Sand	Pole																							
168	45.777741	-89.117755	8	Muck	Pole																							
169	45.777737	-89.117176	0			DEEP																						
170	45.777733	-89.116598	0			DEEP																						
171	45.777728	-89.116019	0			DEEP																						
172	45.777724	-89.115440	0			DEEP																						
173	45.777719	-89.114861	0			DEEP																						
174	45.777715	-89.114282	0			DEEP																						
175	45.777710	-89.113704	0			DEEP																						
176	45.777706	-89.113125	0			DEEP																						
177	45.777701	-89.112546	0			DEEP																						
178	45.777697	-89.111967	0			DEEP																						
179	45.777692	-89.111389	6	Sand	Pole																							
180	45.777688	-89.110810	3	Sand	Pole														1									
181	45.777683	-89.110231	3	Sand	Pole		1				1		1												1	2		
182	45.777679	-89.109652	0			DEEP																						
183	45.777674	-89.109074	6	Sand	Pole																							
184	45.777670	-89.108495	0			DEEP																						

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes sp.	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Carex_Sp 1
185	45.7776651	-89.107916	0			DEEP																						
186	45.7776606	-89.1073372	0			DEEP																						
187	45.777656	-89.1067585	0			DEEP																						
188	45.7776515	-89.1061797	0			DEEP																						
189	45.777647	-89.1056009	0			DEEP																						
190	45.7776425	-89.1050222	0			DEEP																						
191	45.7776379	-89.1044434	0			DEEP																						
192	45.7776334	-89.1038646	0			DEEP																						
193	45.7776288	-89.1032859	0			DEEP																						
194	45.7776243	-89.1027071	5	Sand	Pole																					1		
195	45.7781465	-89.1177487	7	Sand	Pole																							
196	45.778142	-89.1171699	0			DEEP																						
197	45.7781375	-89.1165912	0			DEEP																						
198	45.7781331	-89.1160124	0			DEEP																						
199	45.7781286	-89.1154336	0			DEEP																						
200	45.7781241	-89.1148548	0			DEEP																						
201	45.7781196	-89.1142761	0			DEEP																						
202	45.7781151	-89.1136973	0			DEEP																						
203	45.7781106	-89.1131185	0			DEEP																						
204	45.7781061	-89.1125397	0			DEEP																						
205	45.7781016	-89.111961	10	Muck	Pole																							
206	45.7780971	-89.1113822	5	Sand	Pole																					1		
207	45.7780881	-89.1102246	4	Sand	Pole								1													1		
208	45.7780836	-89.1096459	0			DEEP																						
209	45.7780791	-89.1090671	0			DEEP																						
210	45.7780746	-89.1084883	0			DEEP																						
211	45.7780701	-89.1079095	0			DEEP																						
212	45.7780656	-89.1073308	0			DEEP																						
213	45.778061	-89.106752	0			DEEP																						
214	45.7780565	-89.1061732	0			DEEP																						
215	45.778052	-89.1055945	0			DEEP																						
216	45.7780474	-89.1050157	0			DEEP																						
217	45.7780429	-89.1044369	0			DEEP																						
218	45.7780384	-89.1038581	0			DEEP																						
219	45.7780338	-89.1032794	0			DEEP																						
220	45.7780293	-89.1027006	8	Sand	Pole																							
221	45.7785515	-89.1177423	5	Sand	Pole																							
222	45.778547	-89.1171635	0			DEEP																						
223	45.7785425	-89.1165848	0			DEEP																						
224	45.778538	-89.116006	0			DEEP																						
225	45.7785336	-89.1154272	0			DEEP																						
226	45.7785291	-89.1148484	0			DEEP																						
227	45.7785246	-89.1142696	0			DEEP																						
228	45.7785201	-89.1136909	0			DEEP																						
229	45.7785156	-89.1131121	0			DEEP																						
230	45.7785111	-89.1125333	0			DEEP																						

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes sp.	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Carex_Sp 1
231	45.7785066	-89.1119545	7	Sand	Pole																							
232	45.7785021	-89.1113758	0			TERRESTRIAL																						
233	45.7784976	-89.110797	5	Sand	Pole																							
234	45.7784931	-89.1102182	0			DEEP																						
235	45.7784886	-89.1096394	0			DEEP																						
236	45.7784841	-89.1090606	0			DEEP																						
237	45.7784796	-89.1084819	0			DEEP																						
238	45.7784751	-89.1079031	0			DEEP																						
239	45.7784705	-89.1073243	0			DEEP																						
240	45.778466	-89.1067455	0			DEEP																						
241	45.7784615	-89.1061668	0			DEEP																						
242	45.778457	-89.105588	0			DEEP																						
243	45.7784524	-89.1050092	0			DEEP																						
244	45.7784479	-89.1044304	0			DEEP																						
245	45.7784434	-89.1038517	0			DEEP																						
246	45.7784388	-89.1032729	0			DEEP																						
247	45.7784343	-89.1026941	7	Sand	Pole																							
248	45.778952	-89.1171571	7	Sand	Pole																							
249	45.7789475	-89.1165784	0			DEEP																						
250	45.778943	-89.1159996	0			DEEP																						
251	45.7789385	-89.1154208	0			DEEP																						
252	45.7789341	-89.114842	0			DEEP																						
253	45.7789296	-89.1142632	0			DEEP																						
254	45.7789251	-89.1136844	0			DEEP																						
255	45.7789206	-89.1131057	0			DEEP																						
256	45.7789161	-89.1125269	0			DEEP																						
257	45.7789116	-89.1119481	2	Sand	Pole							2				1										1		
258	45.7789026	-89.1107905	0			DEEP																						
259	45.7788981	-89.1102118	0			DEEP																						
260	45.7788936	-89.109633	0			DEEP																						
261	45.7788891	-89.1090542	0			DEEP																						
262	45.7788846	-89.1084754	0			DEEP																						
263	45.77888	-89.1078966	0			DEEP																						
264	45.7788755	-89.1073178	0			DEEP																						
265	45.778871	-89.1067391	0			DEEP																						
266	45.7788665	-89.1061603	0			DEEP																						
267	45.7788619	-89.1055815	0			DEEP																						
268	45.7788574	-89.1050027	0			DEEP																						
269	45.7788529	-89.1044239	0			DEEP																						
270	45.7788483	-89.1038452	0			DEEP																						
271	45.7788438	-89.1032664	0			DEEP																						
272	45.7788392	-89.1026876	4	Sand	Pole																					1		
273	45.7788347	-89.1021088	1	Sand	Pole					1																		
274	45.7793525	-89.116572	7	Sand	Pole																							
275	45.779348	-89.1159932	0			DEEP																						
276	45.7793435	-89.1154144	0			DEEP																						

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes sp.	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Carex_Sp 1
277	45.779339	-89.1148356	0			DEEP																						
278	45.7793346	-89.1142568	0			DEEP																						
279	45.7793301	-89.113678	0			DEEP																						
280	45.7793256	-89.1130992	0			DEEP																						
281	45.7793211	-89.1125205	6	Sand	Pole																							
282	45.7793121	-89.1113629	7	Sand	Pole																							
283	45.7793076	-89.1107841	0			DEEP																						
284	45.7793031	-89.1102053	0			DEEP																						
285	45.7792986	-89.1096265	0			DEEP																						
286	45.7792941	-89.1090477	0			DEEP																						
287	45.7792895	-89.108469	0			DEEP																						
288	45.779285	-89.1078902	0			DEEP																						
289	45.7792805	-89.1073114	0			DEEP																						
290	45.779276	-89.1067326	0			DEEP																						
291	45.7792715	-89.1061538	0			DEEP																						
292	45.7792669	-89.105575	0			DEEP																						
293	45.7792624	-89.1049962	0			DEEP																						
294	45.7792579	-89.1044175	0			DEEP																						
295	45.7792533	-89.1038387	0			DEEP																						
296	45.7792488	-89.1032599	7	Sand	Pole																							
297	45.7792442	-89.1026811	5	Sand	Pole																					2		
298	45.7792397	-89.1021023	0			NONNAVIGABLE (PLANTS)																						
299	45.779753	-89.1159868	2	Sand	Pole		1					2														1		
300	45.7797485	-89.115408	2	Sand	Pole			1				1														1		
301	45.779744	-89.1148292	4	Sand	Pole							1												1				
302	45.7797395	-89.1142504	5	Sand	Pole																							
303	45.7797351	-89.1136716	6	Sand	Pole																							
304	45.7797306	-89.1130928	3	Sand	Pole							2									1							
305	45.7797171	-89.1113565	7	Sand	Pole																							
306	45.7797126	-89.1107777	9	Muck	Pole																							
307	45.7797081	-89.1101989	0			DEEP																						
308	45.7797035	-89.1096201	0			DEEP																						
309	45.779699	-89.1090413	0			DEEP																						
310	45.7796945	-89.1084625	0			DEEP																						
311	45.77969	-89.1078837	0			DEEP																						
312	45.7796855	-89.1073049	0			DEEP																						
313	45.779681	-89.1067261	0			DEEP																						
314	45.7796764	-89.1061473	0			DEEP																						
315	45.7796719	-89.1055686	0			DEEP																						
316	45.7796674	-89.1049898	0			DEEP																						
317	45.7796628	-89.104411	0			DEEP																						
318	45.7796583	-89.1038322	8	Muck	Pole																							
319	45.7796538	-89.1032534	8	Sand	Pole																							
320	45.7796492	-89.1026746	6	Sand	Pole																					1		
321	45.7796447	-89.1020958	3	Sand	Pole																					1		
322	45.780122	-89.11135	7	Sand	Pole																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes sp.	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Carex_Sp 1
323	45.7801175	-89.1107712	8	Muck	Pole																							
324	45.780113	-89.1101924	9	Muck	Pole																							
325	45.7801085	-89.1096136	0			DEEP																						
326	45.780104	-89.1090348	0			DEEP																						
327	45.7800995	-89.108456	0			DEEP																						
328	45.780095	-89.1078773	0			DEEP																						
329	45.7800905	-89.1072985	0			DEEP																						
330	45.7800859	-89.1067197	0			DEEP																						
331	45.7800814	-89.1061409	0			DEEP																						
332	45.7800769	-89.1055621	0			DEEP																						
333	45.7800724	-89.1049833	0			DEEP																						
334	45.7800678	-89.1044045	0			DEEP																						
335	45.7800633	-89.1038257	7	Sand	Pole																							
336	45.7800587	-89.1032469	6	Sand	Pole																							
337	45.7800542	-89.1026681	2	Muck	Pole								1								1			1		2		
338	45.780527	-89.1113436	4	Sand	Pole								1															
339	45.7805225	-89.1107648	8	Sand	Pole																							
340	45.780518	-89.110186	9	Muck	Pole																							
341	45.7805135	-89.1096072	0			DEEP																						
342	45.780509	-89.1090284	0			DEEP																						
343	45.7805045	-89.1084496	0			DEEP																						
344	45.7805	-89.1078708	0			DEEP																						
345	45.7804954	-89.107292	0			DEEP																						
346	45.7804909	-89.1067132	0			DEEP																						
347	45.7804864	-89.1061344	0			DEEP																						
348	45.7804819	-89.1055556	0			DEEP																						
349	45.7804773	-89.1049768	6	Sand	Pole																							
350	45.7804728	-89.104398	5	Sand	Pole																					1		
351	45.7804683	-89.1038192	5	Sand	Pole																					1		
352	45.7804637	-89.1032404	2	Sand	Pole																							
353	45.780932	-89.1113371	0			TERRESTRIAL																						
354	45.7809275	-89.1107583	8	Sand	Pole																							
355	45.780923	-89.1101795	9	Muck	Pole																							
356	45.7809185	-89.1096007	0			DEEP																						
357	45.780914	-89.1090219	0			DEEP																						
358	45.7809095	-89.1084431	0			DEEP																						
359	45.7809049	-89.1078643	0			DEEP																						
360	45.7809004	-89.1072855	0			DEEP																						
361	45.7808959	-89.1067067	0			DEEP																						
362	45.7808914	-89.1061279	10	Muck	Pole																							
363	45.7808868	-89.1055491	9	Sand	Pole																							
364	45.7808823	-89.1049703	4	Sand	Pole														1							2		
365	45.7808778	-89.1043915	4	Sand	Pole																					1		
366	45.7808732	-89.1038127	0			NONNAVIGABLE (PLANTS)																						
367	45.7813325	-89.1107519	5	Sand	Pole																							
368	45.781328	-89.1101731	8	Muck	Pole																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Eleocharis acicularis	Eleocharis palustris	Elodea canadensis	Equisetum fluviatile	Isoetes sp.	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium eurycarpum	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Carex_Sp 1
369	45.7813235	-89.1095943	9	Muck	Pole																							
370	45.781319	-89.1090155	9	Muck	Pole																							
371	45.7813144	-89.1084367	10	Muck	Pole																							
372	45.7813099	-89.1078579	10	Muck	Pole																							
373	45.7813054	-89.1072791	10	Muck	Pole																							
374	45.7813009	-89.1067003	10	Muck	Pole																							
375	45.7812964	-89.1061215	9	Muck	Pole																							
376	45.7812918	-89.1055427	4	Sand	Pole																					2		
377	45.7812873	-89.1049638	3	Sand	Pole								1													2		
378	45.781733	-89.1101667	8	Sand	Pole																							
379	45.7817285	-89.1095878	9	Muck	Pole																							
380	45.7817239	-89.109009	9	Muck	Pole																							
381	45.7817194	-89.1084302	9	Muck	Pole																							
382	45.7817149	-89.1078514	10	Muck	Pole																							
383	45.7817104	-89.1072726	10	Muck	Pole																							
384	45.7817059	-89.1066938	9	Muck	Pole																							
385	45.7817013	-89.106115	8	Sand	Pole																							
386	45.7816968	-89.1055362	2	Sand	Pole						1						1											
387	45.7821334	-89.1095814	8	Sand	Pole																							
388	45.7821289	-89.1090026	9	Muck	Pole																							
389	45.7821244	-89.1084238	9	Muck	Pole																							
390	45.7821199	-89.107845	10	Muck	Pole																							
391	45.7821154	-89.1072661	8	Muck	Pole																							
392	45.7821108	-89.1066873	8	Sand	Pole																							
393	45.7821063	-89.1061085	8	Sand	Pole																							
394	45.7821018	-89.1055297	2	Sand	Pole							1									1					1		
395	45.7825384	-89.109575	4	Sand	Pole												1				1			1		2		
396	45.7825339	-89.1089961	8	Sand	Pole																							
397	45.7825294	-89.1084173	10	Muck	Pole																							
398	45.7825249	-89.1078385	6	Sand	Pole																							
399	45.7825204	-89.1072597	2	Rock	Pole												1				1							
400	45.7825158	-89.1066809	3	Muck	Pole								1				1		1							1		
401	45.7825113	-89.106102	1	Sand	Pole																							
402	45.7829389	-89.1089897	3	Sand	Pole							1	1								1			1		1		
403	45.7829344	-89.1084109	8	Sand	Pole																							
404	45.7829299	-89.107832	5	Sand	Pole																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Lemna turionifera	Myriophyllum sibiricum	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Aquatic Moss	Freshwater Sponge
1	45.768794	-89.137829	4	Muck	Pole					V				1					1	
2	45.768791	-89.137340	5	Muck	Pole						V									
3	45.768787	-89.136851	5	Muck	Pole															
4	45.769140	-89.138312	4	Muck	Pole					1				1						
5	45.769136	-89.137823	5	Muck	Pole															
6	45.769133	-89.137335	6	Muck	Pole															
7	45.769129	-89.136846	6	Muck	Pole															
8	45.769125	-89.136357	6	Muck	Pole															
9	45.769122	-89.135869	6	Muck	Pole															
10	45.769493	-89.139773	3	Muck	Pole		1													
11	45.769489	-89.139284	4	Muck	Pole									1						
12	45.769486	-89.138795	4	Muck	Pole												1			
13	45.769482	-89.138307	4	Muck	Pole															
14	45.769478	-89.137818	5	Muck	Pole															
15	45.769475	-89.137329	6	Muck	Pole															
16	45.769471	-89.136841	7	Muck	Pole															
17	45.769467	-89.136352	6	Muck	Pole															
18	45.769464	-89.135863	7	Muck	Pole															
19	45.769460	-89.135375	7	Sand	Pole															
20	45.769456	-89.134886	6	Sand	Pole															
21	45.769842	-89.140745	3	Muck	Pole		1	1			1									
22	45.769839	-89.140256	3	Muck	Pole		1													
23	45.769835	-89.139768	3	Muck	Pole												1			
24	45.769831	-89.139279	5	Muck	Pole															
25	45.769828	-89.138790	6	Muck	Pole		1												1	
26	45.769824	-89.138302	5	Muck	Pole															
27	45.769820	-89.137813	5	Muck	Pole															
28	45.769817	-89.137324	7	Muck	Pole															
29	45.769813	-89.136836	8	Muck	Pole															
30	45.769809	-89.136347	8	Muck	Pole															
31	45.769806	-89.135858	8	Muck	Pole															
32	45.769802	-89.135370	8	Muck	Pole															
33	45.769798	-89.134881	7	Muck	Pole															

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Lemna turionifera	Myriophyllum sibiricum	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Aquatic Moss	Freshwater Sponge
34	45.769794	-89.134392	7	Muck	Pole															
35	45.770192	-89.141717	3	Muck	Pole		1		1		V					1				
36	45.770188	-89.141228	4	Muck	Pole															
37	45.770184	-89.140740	5	Muck	Pole						V									
38	45.770173	-89.139274	5	Muck	Pole															
39	45.770170	-89.138785	6	Muck	Pole															
40	45.770166	-89.138296	5	Muck	Pole															
41	45.770162	-89.137808	6	Muck	Pole															
42	45.770159	-89.137319	8	Muck	Pole															
43	45.770155	-89.136830	8	Muck	Pole															
44	45.770151	-89.136342	8	Muck	Pole															
45	45.770148	-89.135853	8	Muck	Pole															
46	45.770144	-89.135364	8	Muck	Pole															
47	45.770140	-89.134876	8	Muck	Pole															
48	45.770136	-89.134387	8	Muck	Pole															
49	45.770133	-89.133898	8	Muck	Pole															
50	45.770129	-89.133410	6	Sand	Pole															
51	45.770512	-89.138780	7	Muck	Pole									1						
52	45.770508	-89.138291	6	Muck	Pole															
53	45.770504	-89.137802	7	Muck	Pole															
54	45.770501	-89.137314	8	Muck	Pole															
55	45.770497	-89.136825	8	Muck	Pole															
56	45.770493	-89.136336	8	Muck	Pole															
57	45.770490	-89.135848	9	Muck	Pole															
58	45.770486	-89.135359	8	Muck	Pole															
59	45.770482	-89.134870	8	Muck	Pole															
60	45.770478	-89.134382	8	Muck	Pole															
61	45.770475	-89.133893	8	Muck	Pole															
62	45.770471	-89.133404	8	Muck	Pole															
63	45.770467	-89.132916	0			TEMPORARY OBSTACLE														
64	45.770857	-89.139263	4	Muck	Pole												1			
65	45.770854	-89.138774	7	Muck	Pole						V			1						
66	45.770850	-89.138286	7	Muck	Pole															

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Lemna turionifera	Myriophyllum sibiricum	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Aquatic Moss	Freshwater Sponge
67	45.770846	-89.137797	7	Muck	Pole															
68	45.770843	-89.137308	8	Muck	Pole															
69	45.770839	-89.136820	8	Muck	Pole															
70	45.770835	-89.136331	8	Muck	Pole															
71	45.770832	-89.135842	9	Muck	Pole															
72	45.770828	-89.135354	8	Muck	Pole															
73	45.770824	-89.134865	9	Muck	Pole															
74	45.770820	-89.134376	8	Muck	Pole															
75	45.770817	-89.133888	8	Muck	Pole															
76	45.770813	-89.133399	8	Muck	Pole															
77	45.770809	-89.132910	7	Muck	Pole															
78	45.770806	-89.132422	3	Sand	Pole					1							1			
79	45.771199	-89.139258	5	Muck	Pole												1			
80	45.771196	-89.138769	6	Muck	Pole														1	1
81	45.771192	-89.138280	7	Muck	Pole															
82	45.771188	-89.137792	8	Muck	Pole															
83	45.771185	-89.137303	8	Muck	Pole															
84	45.771181	-89.136814	8	Muck	Pole															
85	45.771177	-89.136326	8	Muck	Pole															
86	45.771173	-89.135837	9	Muck	Pole															
87	45.771170	-89.135348	9	Muck	Pole															
88	45.771166	-89.134860	8	Muck	Pole															
89	45.771162	-89.134371	8	Muck	Pole															
90	45.771159	-89.133882	8	Muck	Pole															
91	45.771155	-89.133394	8	Muck	Pole															
92	45.771151	-89.132905	7	Muck	Pole															
93	45.771148	-89.132416	4	Sand	Pole															
94	45.771538	-89.138764	5	Muck	Pole															
95	45.771534	-89.138275	7	Muck	Pole															
96	45.771530	-89.137787	8	Muck	Pole															
97	45.771527	-89.137298	8	Muck	Pole															
98	45.771523	-89.136809	8	Muck	Pole															
99	45.771519	-89.136320	8	Muck	Pole															

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Lemna turionifera	Myriophyllum sibiricum	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Aquatic Moss	Freshwater Sponge
100	45.771515	-89.135832	8	Muck	Pole															
101	45.771512	-89.135343	9	Muck	Pole															
102	45.771508	-89.134854	9	Muck	Pole															
103	45.771504	-89.134366	8	Muck	Pole															
104	45.771501	-89.133877	8	Muck	Pole															
105	45.771497	-89.133388	7	Muck	Pole															
106	45.771493	-89.132900	6	Muck	Pole															
107	45.771490	-89.132411	3	Sand	Pole					V							2			
108	45.771880	-89.138759	6	Muck	Pole															
109	45.771876	-89.138270	7	Muck	Pole															
110	45.771872	-89.137781	8	Muck	Pole															
111	45.771869	-89.137293	8	Muck	Pole															
112	45.771865	-89.136804	9	Muck	Pole															
113	45.771861	-89.136315	9	Muck	Pole															
114	45.771857	-89.135827	9	Muck	Pole															
115	45.771854	-89.135338	9	Muck	Pole															
116	45.771850	-89.134849	9	Muck	Pole															
117	45.771846	-89.134360	8	Muck	Pole															
118	45.771843	-89.133872	8	Muck	Pole															
119	45.771839	-89.133383	7	Muck	Pole															
120	45.771835	-89.132894	5	Sand	Pole									1						
121	45.772218	-89.138265	6	Muck	Pole															
122	45.772214	-89.137776	7	Muck	Pole															
123	45.772211	-89.137287	8	Muck	Pole															
124	45.772207	-89.136799	9	Muck	Pole															
125	45.772203	-89.136310	9	Muck	Pole															
126	45.772199	-89.135821	9	Muck	Pole															
127	45.772196	-89.135333	8	Muck	Pole															
128	45.772192	-89.134844	9	Muck	Pole															
129	45.772188	-89.134355	8	Muck	Pole															
130	45.772185	-89.133866	8	Muck	Pole															
131	45.772181	-89.133378	5	Muck	Pole															
132	45.772177	-89.132889	3	Sand	Pole												V			

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Lemna turionifera	Myriophyllum sibiricum	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Aquatic Moss	Freshwater Sponge
133	45.772556	-89.137771	5	Muck	Pole															
134	45.772553	-89.137282	7	Muck	Pole															
135	45.772549	-89.136793	8	Muck	Pole															
136	45.772545	-89.136305	8	Muck	Pole															
137	45.772541	-89.135816	7	Muck	Pole															
138	45.772538	-89.135327	8	Muck	Pole															
139	45.772534	-89.134839	7	Muck	Pole															
140	45.772530	-89.134350	7	Muck	Pole															
141	45.772527	-89.133861	6	Muck	Pole															1
142	45.772523	-89.133372	6	Muck	Pole															
143	45.772519	-89.132884	3	Muck	Pole					V							1			
144	45.772895	-89.137277	5	Muck	Pole												V			
145	45.772891	-89.136788	6	Muck	Pole															
146	45.772887	-89.136299	7	Muck	Pole															
147	45.772883	-89.135811	7	Muck	Pole															
148	45.772880	-89.135322	7	Muck	Pole															
149	45.772876	-89.134833	7	Muck	Pole															
150	45.772872	-89.134345	6	Muck	Pole															
151	45.772869	-89.133856	6	Muck	Pole															
152	45.772865	-89.133367	5	Muck	Pole															
153	45.772861	-89.132878	4	Muck	Pole												1			
154	45.773229	-89.136294	6	Sand	Pole															
155	45.773225	-89.135805	6	Muck	Pole															
156	45.773222	-89.135317	6	Muck	Pole															
157	45.773218	-89.134828	8	Muck	Pole															
158	45.773214	-89.134339	8	Muck	Pole															
159	45.773211	-89.133851	7	Muck	Pole															
160	45.773207	-89.133362	7	Muck	Pole															
161	45.773203	-89.132873	6	Muck	Pole															
162	45.773199	-89.132384	4	Muck	Pole												1			
163	45.773571	-89.136289	3	Sand	Pole					V							2			
164	45.773567	-89.135800	6	Muck	Pole									1			1			
165	45.773564	-89.135311	7	Muck	Pole															

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Lemna turionifera	Myriophyllum sibiricum	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Aquatic Moss	Freshwater Sponge
166	45.773560	-89.134823	9	Muck	Pole															
167	45.773556	-89.134334	8	Muck	Pole															
168	45.773553	-89.133845	7	Muck	Pole															
169	45.773549	-89.133357	6	Muck	Pole															
170	45.773545	-89.132868	7	Muck	Pole															
171	45.773541	-89.132379	5	Muck	Pole															
172	45.773538	-89.131890	0			OTHER														
173	45.773906	-89.135306	4	Sand	Pole												1			
174	45.773902	-89.134817	7	Muck	Pole															
175	45.773898	-89.134329	7	Muck	Pole															
176	45.773895	-89.133840	7	Muck	Pole															
177	45.773891	-89.133351	7	Muck	Pole															
178	45.773887	-89.132863	8	Muck	Pole															
179	45.773883	-89.132374	7	Muck	Pole															
180	45.773880	-89.131885	4	Sand	Pole					V							1			
181	45.774248	-89.135301	5	Sand	Pole												1			
182	45.774244	-89.134812	7	Muck	Pole															
183	45.774240	-89.134323	7	Muck	Pole															
184	45.774237	-89.133835	8	Muck	Pole															
185	45.7742329	-89.133346	8	Muck	Pole															
186	45.7742292	-89.1328573	8	Muck	Pole															
187	45.7742255	-89.1323685	8	Muck	Pole															
188	45.7742217	-89.1318798	4	Sand	Pole															
189	45.774218	-89.1313911	1	Sand	Pole					V							V			
190	45.7745934	-89.1357842	2	Muck	Pole															
191	45.7745897	-89.1352955	5	Muck	Pole						V									
192	45.774586	-89.1348068	7	Muck	Pole															
193	45.7745823	-89.1343181	7	Muck	Pole															
194	45.7745786	-89.1338294	8	Muck	Pole															
195	45.7745749	-89.1333407	8	Muck	Pole															
196	45.7745712	-89.132852	8	Muck	Pole															
197	45.7745674	-89.1323632	8	Muck	Pole															
198	45.7745637	-89.1318745	9	Muck	Pole															

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Lemna turionifera	Myriophyllum sibiricum	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Aquatic Moss	Freshwater Sponge
199	45.77456	-89.1313858	5	Sand	Pole															
200	45.7749317	-89.1352902	5	Muck	Pole															
201	45.774928	-89.1348015	6	Muck	Pole															
202	45.7749243	-89.1343128	7	Muck	Pole															
203	45.7749206	-89.1338241	8	Muck	Pole															
204	45.7749169	-89.1333354	8	Muck	Pole															
205	45.7749131	-89.1328467	8	Muck	Pole															
206	45.7749094	-89.1323579	8	Muck	Pole															
207	45.7749057	-89.1318692	8	Muck	Pole															
208	45.774902	-89.1313805	9	Muck	Pole															
209	45.7748983	-89.1308918	5	Sand	Pole															
210	45.7752737	-89.135285	5	Muck	Pole						V									
211	45.77527	-89.1347962	6	Muck	Pole															
212	45.7752663	-89.1343075	7	Muck	Pole															
213	45.7752625	-89.1338188	7	Muck	Pole															
214	45.7752588	-89.1333301	8	Muck	Pole															
215	45.7752551	-89.1328414	8	Muck	Pole															
216	45.7752514	-89.1323526	8	Muck	Pole															
217	45.7752477	-89.1318639	8	Muck	Pole															
218	45.775244	-89.1313752	8	Muck	Pole															
219	45.7752403	-89.1308865	9	Muck	Pole															
220	45.7752366	-89.1303978	1	Sand	Pole					V			1				1			
221	45.7756156	-89.1352797	4	Sand	Pole						V						1			
222	45.7756119	-89.1347909	6	Muck	Pole															
223	45.7756082	-89.1343022	7	Muck	Pole															
224	45.7756045	-89.1338135	8	Muck	Pole															
225	45.7756008	-89.1333248	8	Muck	Pole															
226	45.7755971	-89.1328361	8	Muck	Pole															
227	45.7755934	-89.1323473	8	Muck	Pole															
228	45.7755897	-89.1318586	8	Muck	Pole															
229	45.775586	-89.1313699	9	Muck	Pole															
230	45.7755823	-89.1308812	9	Muck	Pole															
231	45.7755785	-89.1303924	5	Sand	Pole															

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Lemna turionifera	Myriophyllum sibiricum	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Aquatic Moss	Freshwater Sponge
232	45.7759576	-89.1352744	2	Muck	Pole					V	V						V			
233	45.7759539	-89.1347857	5	Muck	Pole															1
234	45.7759502	-89.1342969	7	Muck	Pole															
235	45.7759465	-89.1338082	7	Muck	Pole															
236	45.7759428	-89.1333195	8	Muck	Pole															
237	45.7759391	-89.1328308	8	Muck	Pole															
238	45.7759354	-89.132342	8	Muck	Pole															
239	45.7759317	-89.1318533	8	Muck	Pole															
240	45.775928	-89.1313646	9	Muck	Pole															
241	45.7759243	-89.1308758	9	Muck	Rope															
242	45.7759205	-89.1303871	6	Muck	Pole															
243	45.7759168	-89.1298984	2	Sand	Pole					V					1		V			
244	45.7762959	-89.1347804	3	Muck	Pole					V							V	1		
245	45.7762922	-89.1342916	5	Muck	Pole															
246	45.7762885	-89.1338029	7	Muck	Pole															
247	45.7762848	-89.1333142	8	Muck	Pole															
248	45.7762811	-89.1328255	8	Muck	Pole															
249	45.7762774	-89.1323367	8	Muck	Pole															
250	45.7762737	-89.131848	8	Muck	Pole															
251	45.77627	-89.1313593	8	Muck	Pole															
252	45.7762662	-89.1308705	8	Muck	Pole															
253	45.7762625	-89.1303818	8	Muck	Pole															
254	45.7762588	-89.1298931	0			TEMPORARY OBSTACLE														
255	45.7766342	-89.1342863	3	Sand	Pole					1							1			
256	45.7766305	-89.1337976	6	Sand	Pole															
257	45.7766268	-89.1333089	8	Muck	Pole															
258	45.7766231	-89.1328202	9	Muck	Pole															
259	45.7766194	-89.1323314	9	Muck	Pole															
260	45.7766157	-89.1318427	9	Muck	Pole															
261	45.7766119	-89.131354	9	Muck	Pole															
262	45.7766082	-89.1308652	9	Muck	Pole															
263	45.7766045	-89.1303765	8	Muck	Pole															
264	45.7766008	-89.1298878	6	Sand	Pole															

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Lemna turionifera	Myriophyllum sibiricum	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Aquatic Moss	Freshwater Sponge
265	45.7769688	-89.1333036	5	Sand	Pole															
266	45.7769651	-89.1328148	7	Muck	Pole															
267	45.7769614	-89.1323261	8	Muck	Pole															
268	45.7769576	-89.1318374	8	Muck	Pole															
269	45.7769539	-89.1313486	8	Muck	Pole															
270	45.7769502	-89.1308599	8	Muck	Pole															
271	45.7769465	-89.1303712	8	Muck	Pole															
272	45.7769428	-89.1298824	8	Muck	Pole															
273	45.7769391	-89.1293937	0			DOCK														
274	45.7773071	-89.1328095	7	Muck	Pole															
275	45.7773033	-89.1323208	8	Muck	Pole															
276	45.7772996	-89.1318321	8	Muck	Pole															
277	45.7772959	-89.1313433	9	Muck	Pole															
278	45.7772922	-89.1308546	9	Muck	Pole															
279	45.7772885	-89.1303659	8	Muck	Pole															
280	45.7772848	-89.1298771	8	Muck	Pole															
281	45.777281	-89.1293884	6	Sand	Pole															
282	45.777649	-89.1328042	5	Muck	Pole						V									
283	45.7776453	-89.1323155	8	Muck	Pole															
284	45.7776416	-89.1318268	8	Muck	Pole															
285	45.7776379	-89.131338	8	Muck	Pole															
286	45.7776342	-89.1308493	8	Muck	Pole															
287	45.7776305	-89.1303605	8	Muck	Pole															
288	45.7776267	-89.1298718	8	Muck	Pole															
289	45.777623	-89.1293831	6	Sand	Pole															
290	45.7779873	-89.1323102	4	Muck	Pole															
291	45.7779836	-89.1318215	5	Muck	Pole															
292	45.7779799	-89.1313327	6	Muck	Pole															
293	45.7779762	-89.130844	6	Muck	Pole															
294	45.7779725	-89.1303552	8	Muck	Pole															
295	45.7779687	-89.1298665	8	Muck	Pole															
296	45.777965	-89.1293777	5	Sand	Pole															
297	45.7783144	-89.1303499	3	Sand	Pole					1							1			

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Lemna turionifera	Myriophyllum sibiricum	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Aquatic Moss	Freshwater Sponge
298	45.7783107	-89.1298612	7	Muck	Pole															
299	45.778307	-89.1293724	2	Muck	Pole															
300	45.7786527	-89.1298558	5	Muck	Pole															
301	45.778649	-89.1293671	5	Muck	Pole															
302	45.7786453	-89.1288783	5	Muck	Pole					V							1			
303	45.7786415	-89.1283896	3	Muck	Pole												V			
304	45.7789947	-89.1298505	4	Muck	Pole												2			
305	45.778991	-89.1293618	5	Muck	Pole															
306	45.7789872	-89.128873	6	Muck	Pole															
307	45.7789835	-89.1283843	4	Muck	Pole					1										
308	45.7789798	-89.1278955	3	Muck	Pole												1			
309	45.7789761	-89.1274068	0			TERRESTRIAL														
310	45.7789723	-89.126918	0			TERRESTRIAL														
311	45.7789686	-89.1264293	0			TERRESTRIAL														
312	45.7789648	-89.1259405	0			TERRESTRIAL														
313	45.779333	-89.1293564	5	Muck	Pole															
314	45.7793292	-89.1288677	5	Muck	Pole															
315	45.7793255	-89.1283789	5	Muck	Pole															
316	45.7793218	-89.1278902	4	Muck	Pole						1							1		
317	45.779318	-89.1274014	3	Muck	Pole					1	1									
318	45.7793143	-89.1269127	1	Muck	Pole						1	1	1							
319	45.7796638	-89.1278849	4	Muck	Pole						1							1		
320	45.77966	-89.1273961	4	Muck	Pole						1						V			
321	45.7796563	-89.1269073	5	Muck	Pole															
322	45.7796526	-89.1264186	4	Muck	Pole															
323	45.7796488	-89.1259298	5	Muck	Pole															
324	45.7796451	-89.1254411	5	Muck	Pole															

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea nuttallii	Isoetes sp.	Lemna trisulca	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium fluctuans	Typha spp.	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Freshwater Sponge	RIC_SP	Juncus effusus
1	45.779041	-89.124140	2	Muck	Pole		1									1	1																		
2	45.779405	-89.124649	6	Muck	Pole																														
3	45.779401	-89.124135	3	Muck	Pole		1									1																			
4	45.779765	-89.124644	0			NONNAVIGABLE (PLANTS)																														
5	45.779761	-89.124129	4	Muck	Pole											1																			
6	45.779757	-89.123615	0			NONNAVIGABLE (PLANTS)																														
7	45.780121	-89.124123	5	Muck	Pole																														
8	45.780481	-89.124118	4	Muck	Pole		1									1																			
9	45.780477	-89.123603	2	Muck	Pole		1									1													1						
10	45.780837	-89.123598	5	Muck	Pole																														
11	45.780833	-89.123083	5	Muck	Pole											1																			
12	45.780829	-89.122569	5	Muck	Pole																														
13	45.780825	-89.122054	5	Muck	Pole		1																												
14	45.781197	-89.123592	0			NONNAVIGABLE (PLANTS)																														
15	45.781193	-89.123078	0			NONNAVIGABLE (PLANTS)																														
16	45.781189	-89.122563	2	Muck	Pole		2									1						1	1												
17	45.781185	-89.122049	2	Muck	Pole		1								1	1																			
18	45.781181	-89.121534	3	Muck	Pole		1									1										1									
19	45.781545	-89.122043	1	Muck	Pole		1		1	1					V	1												V							
20	45.781541	-89.121528	3	Muck	Pole		1								V	1					1														
21	45.781537	-89.121014	0			NONNAVIGABLE (PLANTS)																														
22	45.781905	-89.122037	1	Muck	Pole		1								V	1	1		1									1							
23	45.781901	-89.121523	5	Muck	Pole																														
24	45.781893	-89.120494	4	Muck	Pole		1									1																			
25	45.781889	-89.119979	5	Muck	Pole																														
26	45.781885	-89.119465	4	Muck	Pole		1									1																			
27	45.782261	-89.121517	5	Muck	Pole											1																			
28	45.782257	-89.121003	3	Muck	Pole											1																			
29	45.782253	-89.120488	3	Muck	Pole											1																			
30	45.782241	-89.118945	5	Muck	Pole																														
31	45.782617	-89.120997	4	Muck	Pole											1							1												
32	45.782597	-89.118424	3	Muck	Pole																										1				
33	45.782957	-89.118419	4	Muck	Pole																														
34	45.782953	-89.117904	3	Sand	Pole																						1		1						
35	45.783313	-89.117899	4	Muck	Pole											1													1						
36	45.783309	-89.117384	4	Muck	Pole		1																							1					
37	45.783305	-89.116870	4	Muck	Pole											1																			
38	45.783301	-89.116355	5	Muck	Pole																														
39	45.783297	-89.115841	3	Muck	Pole		1						1		1	1	V																		
40	45.783293	-89.115326	2	Muck	Pole										V	1	V																		
41	45.783237	-89.108123	0			DEEP																													
42	45.783233	-89.107608	6	Sand	Pole																														
43	45.783229	-89.107094	5	Sand	Pole											1											1			1					
44	45.783225	-89.106579	4	Sand	Pole																						1			1					
45	45.783673	-89.117893	1	Muck	Pole								1			1	V		1								1							1	1
46	45.783669	-89.117378	2	Muck	Pole										1	1	V		1																
47	45.783665	-89.116864	3	Muck	Pole		2									1										1			1					
48	45.783661	-89.116349	4	Muck	Pole											1																			
49	45.783657	-89.115835	4	Muck	Pole		1								1	1																			
50	45.783653	-89.115320	0			NONNAVIGABLE (PLANTS)																														
51	45.783649	-89.114806	0			NONNAVIGABLE (PLANTS)																														
52	45.783645	-89.114291	0			NONNAVIGABLE (PLANTS)																														
53	45.783597	-89.108117	6	Sand	Pole																														
54	45.783593	-89.107603	0			DEEP																													

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea nuttallii	Isoetes sp.	Lemna trisulca	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium fluctuans	Typha spp.	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Freshwater Sponge	RIC_SP	Juncus effusus
55	45.783589	-89.107088	0			DEEP																													
56	45.783585	-89.106574	11	Muck	Pole																														
57	45.783581	-89.106059	4	Sand	Pole																						1								
58	45.784021	-89.116344	4	Muck	Pole											1	V																		
59	45.784017	-89.115829	4	Muck	Pole		2								V	1																			
60	45.784013	-89.115315	4	Muck	Pole											V																			
61	45.784009	-89.114800	0			NONNAVIGABLE (PLANTS)																														
62	45.784005	-89.114286	3	Muck	Pole		1									1																			
63	45.783981	-89.111198	0			SHALLOW																													
64	45.783957	-89.108111	3	Sand	Pole																						1			1					
65	45.783953	-89.107597	0			DEEP																													
66	45.783949	-89.107082	0			DEEP																													
67	45.783945	-89.106568	0			DEEP																													
68	45.783941	-89.106053	8	Sand	Pole																														
69	45.784373	-89.115309	2	Muck	Pole		1						1		1	1													1				1		
70	45.784369	-89.114794	4	Muck	Pole																											1			
71	45.784365	-89.114280	3	Muck	Pole								V			1													1						
72	45.784361	-89.113765	0			TERRESTRIAL																													
73	45.784353	-89.112736	0			TEMPORARY OBSTACLE																														
74	45.784337	-89.110678	3	Muck	Pole																						1								
75	45.784313	-89.107591	0			DEEP																													
76	45.784309	-89.107077	0			DEEP																													
77	45.784305	-89.106562	0			DEEP																													
78	45.784301	-89.106047	0			DEEP																													
79	45.784297	-89.105533	6	Sand	Pole																														
80	45.784733	-89.115303	0			NONNAVIGABLE (PLANTS)																														
81	45.784729	-89.114789	0			NONNAVIGABLE (PLANTS)																														
82	45.784725	-89.114274	4	Muck	Pole											1													1						
83	45.784721	-89.113760	4	Muck	Pole		1																												
84	45.784717	-89.113245	4	Muck	Pole																														
85	45.784713	-89.112731	0			TEMPORARY OBSTACLE																														
86	45.784709	-89.112216	3	Muck	Pole																														
87	45.784693	-89.110158	3	Muck	Pole																													1	
88	45.784673	-89.107585	11	Muck	Pole																														
89	45.784669	-89.107071	0			DEEP																													
90	45.784665	-89.106556	0			DEEP																													
91	45.784661	-89.106042	0			DEEP																													
92	45.784657	-89.105527	11	Muck	Pole																														
93	45.784653	-89.105013	2	Sand	Pole																									1					
94	45.785093	-89.115298	0			NONNAVIGABLE (PLANTS)																														
95	45.785089	-89.114783	0			NONNAVIGABLE (PLANTS)																														
96	45.785085	-89.114268	0			NONNAVIGABLE (PLANTS)																														
97	45.785081	-89.113754	2	Muck	Pole		1						1		V	V													1						
98	45.785077	-89.113239	0			DOCK																													
99	45.785073	-89.112725	0			TERRESTRIAL																													
100	45.785069	-89.112210	3	Muck	Pole										V																				
101	45.785065	-89.111696	3	Muck	Pole																														
102	45.785037	-89.108094	4	Sand	Pole																									2					
103	45.785033	-89.107580	12	Muck	Pole																														
104	45.785029	-89.107065	0			DEEP																													
105	45.785025	-89.106551	0			DEEP																													
106	45.785021	-89.106036	0			DEEP																													
107	45.785017	-89.105521	0			DEEP																													
108	45.785013	-89.105007	6	Sand	Pole																														

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea nuttallii	Isoetes sp.	Lemna trisulca	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium fluctuans	Typha spp.	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Freshwater Sponge	RIC_SP	Juncus effusus
109	45.785429	-89.112205	3	Muck	Pole										V	V																			
110	45.785425	-89.111690	4	Sand	Pole																														
111	45.785409	-89.109632	3	Muck	Pole										1												1				1				
112	45.785401	-89.108603	8	Muck	Pole																														
113	45.785397	-89.108088	10	Muck	Pole																														
114	45.785393	-89.107574	0			DEEP																													
115	45.785389	-89.107059	0			DEEP																													
116	45.785385	-89.106545	0			DEEP																													
117	45.785381	-89.106030	0			DEEP																													
118	45.785377	-89.105516	0			DEEP																													
119	45.785373	-89.105001	10	Muck	Pole																														
120	45.785369	-89.104487	3	Sand	Pole									2		1				1										1					
121	45.785789	-89.112199	3	Muck	Pole										V	V																			
122	45.785785	-89.111684	4	Muck	Pole										V	1																			
123	45.785781	-89.111170	4	Muck	Pole																														
124	45.785765	-89.109112	6	Muck	Pole																														
125	45.785761	-89.108597	9	Muck	Pole																														
126	45.785757	-89.108083	11	Muck	Pole																														
127	45.785753	-89.107568	0			DEEP																													
128	45.785749	-89.107054	0			DEEP																													
129	45.785745	-89.106539	0			DEEP																													
130	45.785741	-89.106024	0			DEEP																													
131	45.785737	-89.105510	0			DEEP																													
132	45.785733	-89.104995	0			DEEP																													
133	45.785729	-89.104481	6	Sand	Pole																														
134	45.786149	-89.112193	0			NONNAVIGABLE (PLANTS)							V																								
135	45.786145	-89.111679	0			NONNAVIGABLE (PLANTS)																															
136	45.786141	-89.111164	5	Muck	Pole																		1												
137	45.786137	-89.110650	4	Muck	Pole																														
138	45.786129	-89.109620	4	Muck	Pole										1																1				
139	45.786125	-89.109106	6	Muck	Pole																														
140	45.786121	-89.108591	9	Muck	Pole																														
141	45.786117	-89.108077	0			DEEP																													
142	45.786113	-89.107562	0			DEEP																													
143	45.786109	-89.107048	0			DEEP																													
144	45.786105	-89.106533	0			DEEP																													
145	45.786101	-89.106019	0			DEEP																													
146	45.786097	-89.105504	0			DEEP																													
147	45.786093	-89.104990	0			DEEP																													
148	45.786089	-89.104475	7	Sand	Pole																														
149	45.786509	-89.112187	0			NONNAVIGABLE (PLANTS)																															
150	45.786505	-89.111673	0			NONNAVIGABLE (PLANTS)																															
151	45.786501	-89.111158	3	Muck	Pole											V		1	1								V								
152	45.786497	-89.110644	4	Muck	Pole																														
153	45.786493	-89.110129	5	Muck	Pole																														
154	45.786489	-89.109615	6	Muck	Pole																														
155	45.786485	-89.109100	6	Muck	Pole																														
156	45.786481	-89.108586	6	Muck	Pole																														
157	45.786477	-89.108071	8	Muck	Pole																														
158	45.786473	-89.107557	0			DEEP																													
159	45.786469	-89.107042	0			DEEP																													
160	45.786465	-89.106528	0			DEEP																													
161	45.786461	-89.106013	0			DEEP																													
162	45.786457	-89.105498	0			DEEP																													

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea nuttallii	Isoetes sp.	Lemna trisulca	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium fluctuans	Typha spp.	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Freshwater Sponge	RIC_SP	Juncus effusus
163	45.786453	-89.104984	0			DEEP																													
164	45.786449	-89.104469	10	Sand	Pole																														
165	45.786873	-89.112696	0			NONNAVIGABLE (PLANTS)																													
166	45.786869	-89.112182	0			NONNAVIGABLE (PLANTS)																													
167	45.786865	-89.111667	2	Muck	Pole		2						1		V	V								1									1		
168	45.786861	-89.111153	5	Muck	Pole		2								V	V								1											
169	45.786857	-89.110638	4	Muck	Pole		1																												
170	45.786853	-89.110124	4	Muck	Pole										V	V																			
171	45.786849	-89.109609	4	Muck	Pole										1	1																			
172	45.786845	-89.109094	5	Muck	Pole																														
173	45.786841	-89.108580	6	Muck	Pole																														
174	45.786837	-89.108065	7	Muck	Pole																														
175	45.786833	-89.107551	0			DEEP																													
176	45.786829	-89.107036	0			DEEP																													
177	45.786825	-89.106522	0			DEEP																													
178	45.786821	-89.106007	0			DEEP																													
179	45.786817	-89.105493	0			DEEP																													
180	45.786813	-89.104978	0			DEEP																													
181	45.786809	-89.104464	0			DEEP																													
182	45.787233	-89.112691	0			NONNAVIGABLE (PLANTS)																													
183	45.787229	-89.112176	0			NONNAVIGABLE (PLANTS)																													
184	45.787225	-89.111661	3	Muck	Pole		1								V	V																			
187	45.7872133	-89.1101179	4	Muck	Pole		2								V	1																			
188	45.7872012	-89.1085742	7	Muck	Pole																														
189	45.7871972	-89.1080597	9	Muck	Pole																														
190	45.7871932	-89.1075451	10	Muck	Pole																														
191	45.7871892	-89.1070306	0			DEEP																													
192	45.7871852	-89.106516	0			DEEP																													
193	45.7871811	-89.1060015	0			DEEP																													
194	45.7871771	-89.1054869	0			DEEP																													
195	45.7871731	-89.1049724	0			DEEP																													
196	45.787169	-89.1044578	0			DEEP																													
197	45.7875933	-89.1126849	2	Muck	Pole		1								V	V	V												1		V				
198	45.7875893	-89.1121703	3	Muck	Pole		2								V	V																			
199	45.7875853	-89.1116558	3	Muck	Pole		1								V	V			1			1					1								
202	45.7875733	-89.1101121	3	Muck	Pole		2								V	1											1								
203	45.7875692	-89.1095976	3	Muck	Pole		1									1						1									1				
204	45.7875612	-89.1085685	7	Muck	Pole																														
205	45.7875572	-89.1080539	9	Muck	Pole																														
206	45.7875532	-89.1075394	9	Muck	Pole																														
207	45.7875492	-89.1070248	11	Muck	Pole																														
208	45.7875451	-89.1065103	0			DEEP																													
209	45.7875411	-89.1059957	0			DEEP																													
210	45.7875371	-89.1054812	0			DEEP																													
211	45.7875331	-89.1049666	0			DEEP																													
212	45.787529	-89.1044521	0			DEEP																													
213	45.7879572	-89.1131937	2	Muck	Pole		1								V	V	V										1				1				
214	45.7879533	-89.1126792	2	Muck	Pole												V																		
215	45.7879493	-89.1121646	2	Muck	Pole										V	V													1		V				
216	45.7879453	-89.1116501	2	Muck	Pole										V	V											1	1	1		V				
219	45.7879332	-89.1101064	2	Muck	Pole		1									1			1								1		1						
220	45.7879292	-89.1095918	3	Muck	Pole		1									1																			
221	45.7879212	-89.1085627	6	Muck	Pole																														
222	45.7879172	-89.1080482	8	Muck	Pole																														

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea nuttallii	Isoetes sp.	Lemna trisulca	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium fluctuans	Typha spp.	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Freshwater Sponge	RIC_SP	Juncus effusus
223	45.7879132	-89.1075336	9	Muck	Pole																														
224	45.7879092	-89.1070191	10	Muck	Pole																														
225	45.7879051	-89.1065045	0			DEEP																													
226	45.7879011	-89.10599	0			DEEP																													
227	45.7878971	-89.1054754	0			DEEP																													
228	45.787893	-89.1049608	0			DEEP																													
229	45.787889	-89.1044463	0			DEEP																													
230	45.787885	-89.1039317	8	Sand	Pole																														
231	45.7883172	-89.113188	0			NONNAVIGABLE (PLANTS)																															
232	45.7883132	-89.1126735	2	Muck	Pole										V	V										1					V				
233	45.7883092	-89.1121589	2	Muck	Pole										V	1															V				
234	45.7883052	-89.1116443	1	Muck	Pole										V	V												1			V				
235	45.7882932	-89.1101007	0			NONNAVIGABLE (PLANTS)																															
236	45.7882892	-89.1095861	3	Muck	Pole										1	1			2																	
237	45.7882852	-89.1090715	3	Muck	Pole						1					1																				
238	45.7882812	-89.108557	4	Muck	Pole																									1	1				
239	45.7882772	-89.1080424	5	Muck	Pole																									1					
240	45.7882732	-89.1075279	6	Sand	Pole																														
241	45.7882691	-89.1070133	8	Sand	Pole																														
242	45.7882651	-89.1064988	9	Muck	Pole																														
243	45.7882611	-89.1059842	9	Sand	Pole																														
244	45.7882571	-89.1054696	0			DEEP																													
245	45.788253	-89.1049551	0			DEEP																													
246	45.788249	-89.1044405	0			DEEP																													
247	45.788245	-89.103926	0			DEEP																													
248	45.7882409	-89.1034114	0			DEEP																													
249	45.7886772	-89.1131823	0			NONNAVIGABLE (PLANTS)																															
250	45.7886732	-89.1126677	0			TERRESTRIAL																													
251	45.7886692	-89.1121532	0			NONNAVIGABLE (PLANTS)																															
252	45.7886652	-89.1116386	0			NONNAVIGABLE (PLANTS)																															
253	45.7886532	-89.1100949	0			NONNAVIGABLE (PLANTS)																															
254	45.7886251	-89.106493	0			DOCK																													
255	45.7886211	-89.1059784	2	Rock	Pole																														
256	45.788617	-89.1054639	6	Sand	Pole																														
257	45.788613	-89.1049493	0			DEEP																													
258	45.788609	-89.1044348	0			DEEP																													
259	45.7886049	-89.1039202	0			DEEP																													
260	45.7886009	-89.1034056	0			DEEP																													
261	45.7885969	-89.1028911	11	Sand	Pole																														
262	45.7885928	-89.1023765	9	Sand	Pole																														
263	45.788973	-89.1049436	10	Sand	Pole																														
264	45.788969	-89.104429	0			DEEP																													
265	45.7889649	-89.1039144	0			DEEP																													
266	45.7889609	-89.1033999	0			DEEP																													
267	45.7889569	-89.1028853	0			DEEP																													
268	45.7889528	-89.1023707	0			DEEP																													
269	45.7889488	-89.1018562	0			DEEP																													
270	45.7889447	-89.1013416	12	Sand	Pole																														
271	45.789333	-89.1049378	1	Rock	Pole															1																
272	45.7893289	-89.1044232	10	Sand	Pole																														
273	45.7893249	-89.1039087	0			DEEP																													
274	45.7893209	-89.1033941	0			DEEP																													
275	45.7893168	-89.1028795	0			DEEP																													
276	45.7893128	-89.102365	0			DEEP																													

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea nuttallii	Isoetes sp.	Lemna trisulca	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium fluctuans	Typha spp.	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Freshwater Sponge	RIC_SP	Juncus effusus
277	45.7893087	-89.1018504	0			DEEP																													
278	45.7893047	-89.1013358	0			DEEP																													
279	45.7893007	-89.1008213	9	Sand	Pole																														
280	45.7892966	-89.1003067	6	Sand	Pole																														
281	45.7892926	-89.0997921	6	Sand	Pole																														
282	45.7892804	-89.0982484	8	Sand	Pole																														
283	45.7892763	-89.0977339	13	Sand	Pole																														
284	45.7892723	-89.0972193	0			DEEP																													
285	45.7892682	-89.0967047	0			DEEP																													
286	45.7892641	-89.0961902	2	Sand	Pole																									2					
287	45.7896889	-89.1044175	3	Sand	Pole									1	1															1					
288	45.7896849	-89.1039029	7	Sand	Pole																														
289	45.7896809	-89.1033883	0			DEEP																													
290	45.7896768	-89.1028738	0			DEEP																													
291	45.7896728	-89.1023592	0			DEEP																													
292	45.7896687	-89.1018446	0			DEEP																													
293	45.7896647	-89.10133	0			DEEP																													
294	45.7896606	-89.1008155	0			DEEP																													
295	45.7896566	-89.1003009	0			DEEP																													
296	45.7896525	-89.0997863	0			DEEP																													
297	45.7896485	-89.0992718	0			DEEP																													
298	45.7896444	-89.0987572	0			DEEP																													
299	45.7896404	-89.0982426	0			DEEP																													
300	45.7896363	-89.097728	0			DEEP																													
301	45.7896322	-89.0972135	0			DEEP																													
302	45.7896282	-89.0966989	0			DEEP																													
303	45.7896241	-89.0961843	0			DEEP																													
304	45.78962	-89.0956698	1	Sand	Pole									1																					
305	45.7900408	-89.1033825	6	Sand	Pole																														
306	45.7900368	-89.102868	0			DEEP																													
307	45.7900328	-89.1023534	0			DEEP																													
308	45.7900287	-89.1018388	0			DEEP																													
309	45.7900247	-89.1013243	0			DEEP																													
310	45.7900206	-89.1008097	0			DEEP																													
311	45.7900166	-89.1002951	0			DEEP																													
312	45.7900125	-89.0997805	0			DEEP																													
313	45.7900085	-89.099266	0			DEEP																													
314	45.7900044	-89.0987514	0			DEEP																													
315	45.7900003	-89.0982368	0			DEEP																													
316	45.7899963	-89.0977222	0			DEEP																													
317	45.7899922	-89.0972077	0			DEEP																													
318	45.7899881	-89.0966931	0			DEEP																													
319	45.7899841	-89.0961785	0			DEEP																													
320	45.78998	-89.095664	8	Sand	Pole																														
321	45.7904008	-89.1033768	5	Sand	Pole									1																					
322	45.7903968	-89.1028622	9	Sand	Pole																														
323	45.7903927	-89.1023476	0			DEEP																													
324	45.7903887	-89.101833	0			DEEP																													
325	45.7903847	-89.1013185	0			DEEP																													
326	45.7903806	-89.1008039	0			DEEP																													
327	45.7903766	-89.1002893	0			DEEP																													
328	45.7903725	-89.0997747	0			DEEP																													
329	45.7903684	-89.0992602	0			DEEP																													
330	45.7903644	-89.0987456	0			DEEP																													

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea nuttallii	Isoetes sp.	Lemna trisulca	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium fluctuans	Typha spp.	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Freshwater Sponge	RIC_SP	Juncus effusus
331	45.7903603	-89.098231	0			DEEP																													
332	45.7903563	-89.0977164	0			DEEP																													
333	45.7903522	-89.0972019	0			DEEP																													
334	45.7903481	-89.0966873	0			DEEP																													
335	45.7903441	-89.0961727	0			DEEP																													
336	45.79034	-89.0956581	6	Sand	Pole																														
337	45.7907608	-89.103371	2	Sand	Pole			1																			1								
338	45.7907568	-89.1028564	7	Sand	Pole																														
339	45.7907527	-89.1023418	0			DEEP																													
340	45.7907487	-89.1018273	0			DEEP																													
341	45.7907446	-89.1013127	0			DEEP																													
342	45.7907406	-89.1007981	0			DEEP																													
343	45.7907365	-89.1002835	0			DEEP																													
344	45.7907325	-89.0997689	0			DEEP																													
345	45.7907284	-89.0992544	0			DEEP																													
346	45.7907244	-89.0987398	0			DEEP																													
347	45.7907203	-89.0982252	0			DEEP																													
348	45.7907162	-89.0977106	0			DEEP																													
349	45.7907122	-89.097196	0			DEEP																													
350	45.7907081	-89.0966815	0			DEEP																													
351	45.790704	-89.0961669	0			DEEP																													
352	45.7907	-89.0956523	3	Sand	Pole																		1		1					1					
353	45.7911167	-89.1028506	6	Sand	Pole																														
354	45.7911127	-89.1023361	8	Sand	Pole																														
355	45.7911087	-89.1018215	0			DEEP																													
356	45.7911046	-89.1013069	0			DEEP																													
357	45.7911006	-89.1007923	0			DEEP																													
358	45.7910965	-89.1002777	0			DEEP																													
359	45.7910925	-89.0997631	0			DEEP																													
360	45.7910884	-89.0992486	0			DEEP																													
361	45.7910843	-89.098734	0			DEEP																													
362	45.7910803	-89.0982194	0			DEEP																													
363	45.7910762	-89.0977048	0			DEEP																													
364	45.7910722	-89.0971902	0			DEEP																													
365	45.7910681	-89.0966756	0			DEEP																													
366	45.791064	-89.0961611	10	Sand	Pole																														
367	45.79106	-89.0956465	2	Sand	Pole															1															
368	45.7914767	-89.1028449	6	Sand	Pole																														
369	45.7914727	-89.1023303	9	Sand	Pole																														
370	45.7914686	-89.1018157	0			DEEP																													
371	45.7914646	-89.1013011	0			DEEP																													
372	45.7914606	-89.1007865	0			DEEP																													
373	45.7914565	-89.1002719	0			DEEP																													
374	45.7914524	-89.0997573	0			DEEP																													
375	45.7914484	-89.0992428	0			DEEP																													
376	45.7914443	-89.0987282	0			DEEP																													
377	45.7914403	-89.0982136	0			DEEP																													
378	45.7914362	-89.097699	0			DEEP																													
379	45.7914321	-89.0971844	0			DEEP																													
380	45.7914281	-89.0966698	0			DEEP																													
381	45.791424	-89.0961552	0			DEEP																													
382	45.7914199	-89.0956407	2	Sand	Pole																														
383	45.7918327	-89.1023245	6	Sand	Pole																														
384	45.7918286	-89.1018099	0			DEEP																													

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea nuttallii	Isoetes sp.	Lemna trisulca	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosteriformis	Sparganium fluctuans	Typha spp.	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Freshwater Sponge	RIC_SP	Juncus effusus
385	45.7918246	-89.1012953	0			DEEP																													
386	45.7918205	-89.1007807	0			DEEP																													
387	45.7918165	-89.1002661	0			DEEP																													
388	45.7918124	-89.0997516	0			DEEP																													
389	45.7918084	-89.099237	0			DEEP																													
390	45.7918043	-89.0987224	0			DEEP																													
391	45.7918003	-89.0982078	0			DEEP																													
392	45.7917962	-89.0976932	0			DEEP																													
393	45.7917921	-89.0971786	0			DEEP																													
394	45.7917881	-89.096664	0			DEEP																													
395	45.791784	-89.0961494	0			DEEP																													
396	45.7917799	-89.0956348	5	Sand	Pole																								1						
397	45.7921886	-89.1018041	12	Sand	Pole																														
398	45.7921846	-89.1012895	0			DEEP																													
399	45.7921805	-89.1007749	0			DEEP																													
400	45.7921765	-89.1002604	0			DEEP																													
401	45.7921724	-89.0997458	0			DEEP																													
402	45.7921684	-89.0992312	0			DEEP																													
403	45.7921643	-89.0987166	0			DEEP																													
404	45.7921602	-89.098202	0			DEEP																													
405	45.7921562	-89.0976874	0			DEEP																													
406	45.7921521	-89.0971728	0			DEEP																													
407	45.792148	-89.0966582	0			DEEP																													
408	45.792144	-89.0961436	0			DEEP																													
409	45.7921399	-89.095629	7	Sand	Pole																														
410	45.7925526	-89.1023129	5	Sand	Pole																														
411	45.7925486	-89.1017983	0			DEEP																													
412	45.7925445	-89.1012838	0			DEEP																													
413	45.7925405	-89.1007692	0			DEEP																													
414	45.7925364	-89.1002546	0			DEEP																													
415	45.7925324	-89.09974	0			DEEP																													
416	45.7925283	-89.0992254	0			DEEP																													
417	45.7925243	-89.0987108	0			DEEP																													
418	45.7925202	-89.0981962	0			DEEP																													
419	45.7925162	-89.0976816	0			DEEP																													
420	45.7925121	-89.097167	0			DEEP																													
421	45.792508	-89.0966524	7	Sand	Pole																														
422	45.792504	-89.0961378	10	Sand	Pole																														
423	45.7924999	-89.0956232	3	Sand	Pole							1																							
424	45.7924958	-89.0951086	2	Sand	Pole																									1					
425	45.7929126	-89.1023072	0			DEEP																													
426	45.7929086	-89.1017926	0			DEEP																													
427	45.7929045	-89.101278	0			DEEP																													
428	45.7929005	-89.1007634	0			DEEP																													
429	45.7928964	-89.1002488	0			DEEP																													
430	45.7928924	-89.0997342	0			DEEP																													
431	45.7928883	-89.0992196	0			DEEP																													
432	45.7928843	-89.098705	0			DEEP																													
433	45.7928802	-89.0981904	0			DEEP																													
434	45.7928761	-89.0976758	9	Sand	Pole																														
435	45.7928721	-89.0971612	6	Sand	Pole																									1					
436	45.7928639	-89.096132	5	Sand	Pole																			1											
437	45.7928599	-89.0956174	4	Sand	Pole				1																	1									
438	45.7932726	-89.1023014	0			DEEP																													

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Eleocharis palustris	Elodea nuttallii	Isoetes sp.	Lemna trisulca	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton natans	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton zosterformis	Sparganium fluctuans	Typha spp.	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Freshwater Sponge	RIC_SP	Juncus effusus
439	45.7932686	-89.1017868	0			DEEP																												
440	45.7932645	-89.1012722	0			DEEP																												
441	45.7932605	-89.1007576	0			DEEP																												
442	45.7932564	-89.100243	0			DEEP																												
443	45.7932524	-89.0997284	0			DEEP																												
444	45.7932483	-89.0992138	0			DEEP																												
445	45.7932442	-89.0986992	0			DEEP																												
446	45.7932402	-89.0981846	9	Sand	Pole																													
447	45.7932361	-89.09767	0			TERRESTRIAL																												
448	45.7932239	-89.0961261	2	Sand	Pole										1												2							
449	45.7932198	-89.0956115	3	Sand	Pole										1												1							
450	45.7936326	-89.1022956	11	Sand	Pole																													
451	45.7936285	-89.101781	0			DEEP																												
452	45.7936245	-89.1012664	0			DEEP																												
453	45.7936204	-89.1007518	0			DEEP																												
454	45.7936164	-89.1002372	0			DEEP																												
455	45.7936123	-89.0997226	0			DEEP																												
456	45.7936083	-89.099208	0			DEEP																												
457	45.7936042	-89.0986934	0			DEEP																												
458	45.7936002	-89.0981788	3	Sand	Pole																									1				
459	45.7939926	-89.1022898	0			DEEP																												
460	45.7939885	-89.1017752	0			DEEP																												
461	45.7939845	-89.1012606	11	Sand	Pole																													
462	45.7939804	-89.100746	0			DEEP																												
463	45.7939764	-89.1002314	0			DEEP																												
464	45.7939723	-89.0997168	0			DEEP																												
465	45.7939683	-89.0992022	13	Sand	Pole																													
466	45.7939642	-89.0986876	2	Sand	Pole																													
467	45.7943526	-89.102284	7	Sand	Pole																													
468	45.7943485	-89.1017694	3	Sand	Pole																		1				1							
469	45.7943404	-89.1007402	2	Sand	Pole									1	1								1		1		1			1		1		
470	45.7943364	-89.1002256	4	Sand	Pole															1			1							1				
471	45.7943323	-89.099711	3	Sand	Pole															1										2				
472	45.7947125	-89.1022783	10	Sand	Pole																													
473	45.7947085	-89.1017636	6	Sand	Pole																													
474	45.7947044	-89.101249	0			TERRESTRIAL																												
475	45.7950725	-89.1022725	4	Sand	Pole																									2				
476	45.7950685	-89.1017579	0			TERRESTRIAL																												
477	45.7950644	-89.1012432	0			TERRESTRIAL																												
185	45.7872213	-89.1111469	0			NONNAVIGABLE (PLANTS)																												
186	45.7872173	-89.1106324	0			NONNAVIGABLE (PLANTS)																												
200	45.7875813	-89.1111412	0			NONNAVIGABLE (PLANTS)																												
201	45.7875773	-89.1106267	0			NONNAVIGABLE (PLANTS)																												
217	45.7879413	-89.1111355	0			NONNAVIGABLE (PLANTS)																												
218	45.7879372	-89.1106209	0			NONNAVIGABLE (PLANTS)																												

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
1	45.795926	-89.116753	5	Sand	Pole																				1				
2	45.795921	-89.116110	5	Sand	Pole																								
3	45.795815	-89.102601	3	Sand	Pole							1													**2**				
4	45.795810	-89.101957	6	Sand	Pole																								
5	45.795805	-89.101314	0			DEEP																							
6	45.795800	-89.100671	0																										
7	45.795795	-89.100028	0			DEEP																							
8	45.795790	-89.099384	10	Sand	Pole																								
9	45.795785	-89.098741	8	Sand	Pole																								
10	45.795780	-89.098098	6	Sand	Pole																				1				
11	45.795775	-89.097454	5	Sand	Pole											1									1				
12	45.796386	-89.118032	3	Sand	Pole																								
13	45.796381	-89.117389	0			DEEP																							
14	45.796376	-89.116746	0			DEEP																							
15	45.796371	-89.116103	0			DEEP																							
16	45.796366	-89.115459	6	Sand	Pole																								
17	45.796265	-89.102593	5	Sand	Pole																				1				
18	45.796260	-89.101950	6	Sand	Pole																				1				
19	45.796255	-89.101307	0			DEEP																							
20	45.796250	-89.100664	0			DEEP																							
21	45.796245	-89.100020	0			DEEP																							
22	45.796240	-89.099377	0																										
23	45.796235	-89.098734	0																										
24	45.796230	-89.098090	0			DEEP																							
25	45.796225	-89.097447	9	Sand	Pole																								
26	45.796220	-89.096804	6	Sand	Pole																				1				
27	45.796215	-89.096161	5	Sand	Pole																				1				
28	45.796840	-89.118669	2	Rock	Pole						1														1				
29	45.796835	-89.118025	0			DEEP																							
30	45.796831	-89.117382	0			DEEP																							
31	45.796826	-89.116739	0			DEEP																							
32	45.796821	-89.116095	0			DEEP																							
33	45.796816	-89.115452	0			DEEP																							
34	45.796811	-89.114809	6	Sand	Pole																				1				
35	45.796715	-89.102586	5	Sand	Pole																				1				
36	45.796710	-89.101943	6	Sand	Pole																								
37	45.796705	-89.101300	0			DEEP																							
38	45.796700	-89.100656	0			DEEP																							
39	45.796695	-89.100013	0			DEEP																							
40	45.796690	-89.099370	0			DEEP																							
41	45.796685	-89.098726	0			DEEP																							
42	45.796680	-89.098083	0			DEEP																							
43	45.796675	-89.097440	0			DEEP																							
44	45.796670	-89.096797	0			DEEP																							
45	45.796665	-89.096153	8	Sand	Pole																								
46	45.796659	-89.095510	7	Sand	Pole																				1				

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
47	45.796654	-89.094867	1	Sand	Pole																								
48	45.796644	-89.093580	4	Sand	Pole																				1				
49	45.796639	-89.092937	2	Rock	Pole						1														1				
50	45.797290	-89.118662	0			DEEP																							
51	45.797285	-89.118018	0			DEEP																							
52	45.797281	-89.117375	0			DEEP																							
53	45.797276	-89.116732	0			DEEP																							
54	45.797271	-89.116088	0			DEEP																							
55	45.797266	-89.115445	0			DEEP																							
56	45.797261	-89.114802	0			DEEP																							
57	45.797256	-89.114158	7	Sand	Pole																				1				
58	45.797165	-89.102579	3	Sand	Pole						1												V		1				
59	45.797160	-89.101936	7	Sand	Pole																								
60	45.797155	-89.101292	0			DEEP																							
61	45.797150	-89.100649	0			DEEP																							
62	45.797145	-89.100006	0			DEEP																							
63	45.797140	-89.099363	0			DEEP																							
64	45.797135	-89.098719	0			DEEP																							
65	45.797130	-89.098076	0			DEEP																							
66	45.797125	-89.097433	0			DEEP																							
67	45.797120	-89.096789	0			DEEP																							
68	45.797115	-89.096146	0			DEEP																							
69	45.797109	-89.095503	8	Sand	Pole																								
70	45.797104	-89.094859	6	Sand	Pole																				1				
71	45.797099	-89.094216	2	Sand	Pole																								
72	45.797094	-89.093573	5	Sand	Pole																				2				
73	45.797089	-89.092930	4	Sand	Pole																								
74	45.797084	-89.092286	2	Muck	Pole																								
75	45.797079	-89.091643	0			NONNAVIGABLE (PLANTS)																							
76	45.797745	-89.119298	8	Muck	Pole																								
77	45.797740	-89.118654	0			DEEP																							
78	45.797735	-89.118011	0			DEEP																							
79	45.797730	-89.117368	0			DEEP																							
80	45.797726	-89.116725	0			DEEP																							
81	45.797721	-89.116081	0			DEEP																							
82	45.797716	-89.115438	0			DEEP																							
83	45.797711	-89.114795	0			DEEP																							
84	45.797706	-89.114151	0			DEEP																							
85	45.797701	-89.113508	3	Sand	Pole																								
86	45.797610	-89.101929	5	Sand	Pole																								
87	45.797605	-89.101285	0			DEEP																							
88	45.797600	-89.100642	0			DEEP																							
89	45.797595	-89.099999	0			DEEP																							
90	45.797590	-89.099355	0			DEEP																							
91	45.797585	-89.098712	0			DEEP																							
92	45.797580	-89.098069	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
93	45.797575	-89.097425	0			DEEP																							
94	45.797570	-89.096782	0			DEEP																							
95	45.797565	-89.096139	0			DEEP																							
96	45.797559	-89.095495	0			DEEP																							
97	45.797554	-89.094852	8	Sand	Pole																								
98	45.797549	-89.094209	5	Sand	Pole																				1				
99	45.797544	-89.093566	4	Sand	Pole				1		1														1				
100	45.797539	-89.092922	5	Sand	Pole																				2				
101	45.797534	-89.092279	3	Rock	Pole																				1				
102	45.797529	-89.091636	1	Sand	Pole						1		1																
103	45.797524	-89.090992	0																										
104	45.798195	-89.119291	0			DEEP																							
105	45.798190	-89.118647	0			DEEP																							
106	45.798185	-89.118004	0			DEEP																							
107	45.798180	-89.117361	0			DEEP																							
108	45.798175	-89.116717	0			DEEP																							
109	45.798171	-89.116074	0			DEEP																							
110	45.798166	-89.115431	0			DEEP																							
111	45.798161	-89.114788	0			DEEP																							
112	45.798156	-89.114144	0			DEEP																							
113	45.798151	-89.113501	0			DEEP																							
114	45.798146	-89.112858	5	Sand	Pole																				1				
115	45.798060	-89.101921	5	Sand	Pole																				1				
116	45.798055	-89.101278	0			DEEP																							
117	45.798050	-89.100635	0			DEEP																							
118	45.798045	-89.099991	0			DEEP																							
119	45.798040	-89.099348	0			DEEP																							
120	45.798035	-89.098705	0			DEEP																							
121	45.798030	-89.098061	0			DEEP																							
122	45.798025	-89.097418	0			DEEP																							
123	45.798020	-89.096775	0			DEEP																							
124	45.798014	-89.096132	0			DEEP																							
125	45.798009	-89.095488	0			DEEP																							
126	45.798004	-89.094845	0			DEEP																							
127	45.797999	-89.094202	8	Sand	Pole																								
128	45.797994	-89.093558	5	Muck	Pole																				2				
129	45.797989	-89.092915	1	Sand	Pole																								
130	45.797984	-89.092272	3	Muck	Pole			1			1														1				
131	45.797979	-89.091628	2	Muck	Pole		1					1													1		1		
132	45.797974	-89.090985	0			NONNAVIGABLE (PLANTS)																							
133	45.798645	-89.119284	0			DEEP																							
134	45.798640	-89.118640	0			DEEP																							
135	45.798635	-89.117997	0			DEEP																							
136	45.798630	-89.117354	0			DEEP																							
137	45.798625	-89.116710	0			DEEP																							
138	45.798620	-89.116067	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
139	45.798616	-89.115424	0			DEEP																							
140	45.798611	-89.114780	0			DEEP																							
141	45.798606	-89.114137	0			DEEP																							
142	45.798601	-89.113494	0			DEEP																							
143	45.798596	-89.112850	7	Sand	Pole																								
144	45.798591	-89.112207	4	Sand	Pole						1												1						
145	45.798510	-89.101914	6	Sand	Pole																								
146	45.798505	-89.101271	0			DEEP																							
147	45.798500	-89.100627	0			DEEP																							
148	45.798495	-89.099984	0			DEEP																							
149	45.798490	-89.099341	0			DEEP																							
150	45.798485	-89.098697	0			DEEP																							
151	45.798480	-89.098054	0			DEEP																							
152	45.798475	-89.097411	0			DEEP																							
153	45.798470	-89.096768	0			DEEP																							
154	45.798464	-89.096124	0			DEEP																							
155	45.798459	-89.095481	0			DEEP																							
156	45.798454	-89.094838	0			DEEP																							
157	45.798449	-89.094194	0			DEEP																							
158	45.798444	-89.093551	8	Sand	Pole																								
159	45.798439	-89.092908	1	Sand	Pole																								
160	45.798429	-89.091621	0			NONNAVIGABLE (PLANTS)																							
161	45.798424	-89.090978	0			NONNAVIGABLE (PLANTS)																							
162	45.799095	-89.119277	5	Sand	Pole																				2				
163	45.799090	-89.118633	0			DEEP																							
164	45.799085	-89.117990	0			DEEP																							
165	45.799080	-89.117347	0			DEEP																							
166	45.799075	-89.116703	0			DEEP																							
167	45.799070	-89.116060	0			DEEP																							
168	45.799065	-89.115417	0			DEEP																							
169	45.799061	-89.114773	0			DEEP																							
170	45.799056	-89.114130	0			DEEP																							
171	45.799051	-89.113487	0			DEEP																							
172	45.799046	-89.112843	0			DEEP																							
173	45.799041	-89.112200	7	Sand	Pole																								
174	45.798965	-89.102550	5	Sand	Pole																				1				
175	45.798960	-89.101907	10	Sand	Pole																								
176	45.798955	-89.101264	0			DEEP																							
177	45.798950	-89.100620	0			DEEP																							
178	45.798945	-89.099977	0			DEEP																							
179	45.798940	-89.099334	0			DEEP																							
180	45.798935	-89.098690	0			DEEP																							
181	45.798930	-89.098047	0			DEEP																							
182	45.798925	-89.097404	0			DEEP																							
183	45.798920	-89.096760	0			DEEP																							
184	45.798914	-89.096117	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton ephydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
185	45.7989094	-89.0954736	0			DEEP																							
186	45.7989043	-89.0948303	0			DEEP																							
187	45.7988992	-89.094187	0			DEEP																							
188	45.7988941	-89.0935437	0			DEEP																							
189	45.798889	-89.0929004	6	Sand	Pole																								
190	45.7995403	-89.1186261	5	Sand	Pole						1														1				
191	45.7995354	-89.1179828	0			DEEP																							
192	45.7995304	-89.1173394	0			DEEP																							
193	45.7995254	-89.1166961	0			DEEP																							
194	45.7995205	-89.1160528	0			DEEP																							
195	45.7995155	-89.1154095	0			DEEP																							
196	45.7995105	-89.1147661	0			DEEP																							
197	45.7995055	-89.1141228	0			DEEP																							
198	45.7995005	-89.1134795	0			DEEP																							
199	45.7994955	-89.1128361	0			DEEP																							
200	45.7994905	-89.1121928	0			DEEP																							
201	45.7994855	-89.1115495	3	Sand	Pole																								
202	45.7994605	-89.1083329	5	Sand	Pole																								
203	45.7994554	-89.1076895	6	Sand	Pole																								
204	45.7994504	-89.1070462	8	Sand	Pole																								
205	45.7994454	-89.1064029	3	Sand	Pole																								
206	45.7994202	-89.1031862	3	Sand	Pole																				1				
207	45.7994151	-89.1025429	0			DEEP																							
208	45.7994101	-89.1018996	0			DEEP																							
209	45.799405	-89.1012563	0			DEEP																							
210	45.7994	-89.1006129	0			DEEP																							
211	45.7993949	-89.0999696	0			DEEP																							
212	45.7993898	-89.0993263	0			DEEP																							
213	45.7993848	-89.098683	0			DEEP																							
214	45.7993797	-89.0980396	0			DEEP																							
215	45.7993746	-89.0973963	0			DEEP																							
216	45.7993695	-89.096753	0			DEEP																							
217	45.7993644	-89.0961097	0			DEEP																							
218	45.7993593	-89.0954663	0			DEEP																							
219	45.7993542	-89.094823	0			DEEP																							
220	45.7993491	-89.0941797	0			DEEP																							
221	45.799344	-89.0935364	0			DEEP																							
222	45.7993389	-89.0928931	6	Sand	Pole																								
223	45.7999854	-89.1179757	5	Sand	Pole																								
224	45.7999804	-89.1173323	0			DEEP																							
225	45.7999754	-89.116689	0			DEEP																							
226	45.7999704	-89.1160457	0			DEEP																							
227	45.7999655	-89.1154023	0			DEEP																							
228	45.7999605	-89.114759	0			DEEP																							
229	45.7999555	-89.1141157	0			DEEP																							
230	45.7999505	-89.1134723	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton ephydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
231	45.7999455	-89.112829	0			DEEP																							
232	45.7999405	-89.1121857	0			DEEP																							
233	45.7999355	-89.1115423	0			DEEP																							
234	45.7999305	-89.110899	8	Sand	Pole																								
235	45.7999255	-89.1102557	3	Sand	Pole																				1				
236	45.7999205	-89.1096123	4	Sand	Pole																								
237	45.7999155	-89.108969	6	Sand	Pole																								
238	45.7999104	-89.1083257	8	Sand	Pole																								
239	45.7999054	-89.1076823	0			DEEP																							
240	45.7999004	-89.107039	0			DEEP																							
241	45.7998954	-89.1063957	0			DEEP																							
242	45.7998903	-89.1057523	8	Sand	Pole																								
243	45.7998702	-89.103179	5	Sand	Pole																								
244	45.7998651	-89.1025357	0			DEEP																							
245	45.7998601	-89.1018924	0			DEEP																							
246	45.799855	-89.101249	0			DEEP																							
247	45.7998499	-89.1006057	0			DEEP																							
248	45.7998449	-89.0999624	0			DEEP																							
249	45.7998398	-89.099319	0			DEEP																							
250	45.7998347	-89.0986757	0			DEEP																							
251	45.7998297	-89.0980324	0			DEEP																							
252	45.7998246	-89.0973891	0			DEEP																							
253	45.7998195	-89.0967457	0			DEEP																							
254	45.7998144	-89.0961024	0			DEEP																							
255	45.7998093	-89.0954591	0			DEEP																							
256	45.7998042	-89.0948157	0			DEEP																							
257	45.7997991	-89.0941724	0																										
258	45.799794	-89.0935291	9	Rock	Pole																								
259	45.7997889	-89.0928858	7	Sand	Pole																								
260	45.8004304	-89.1173252	0			DEEP																							
261	45.8004254	-89.1166819	0			DEEP																							
262	45.8004204	-89.1160386	0			DEEP																							
263	45.8004154	-89.1153952	0			DEEP																							
264	45.8004105	-89.1147519	0			DEEP																							
265	45.8004055	-89.1141085	0			DEEP																							
266	45.8004005	-89.1134652	0			DEEP																							
267	45.8003955	-89.1128219	0			DEEP																							
268	45.8003905	-89.1121785	0			DEEP																							
269	45.8003855	-89.1115352	0			DEEP																							
270	45.8003805	-89.1108918	0			DEEP																							
271	45.8003755	-89.1102485	9	Sand	Pole																								
272	45.8003705	-89.1096052	8	Sand	Pole																								
273	45.8003654	-89.1089618	0			DEEP																							
274	45.8003604	-89.1083185	0			DEEP																							
275	45.8003554	-89.1076752	0			DEEP																							
276	45.8003504	-89.1070318	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
277	45.8003453	-89.1063885	0			DEEP																							
278	45.8003403	-89.1057451	0			DEEP																							
279	45.8003353	-89.1051018	0			DEEP																							
280	45.8003302	-89.1044585	7	Rock	Pole																								
281	45.8003201	-89.1031718	6	Rock	Pole																								
282	45.8003151	-89.1025285	0			DEEP																							
283	45.80031	-89.1018851	0			DEEP																							
284	45.800305	-89.1012418	0			DEEP																							
285	45.8002999	-89.1005985	0			DEEP																							
286	45.8002948	-89.0999551	0			DEEP																							
287	45.8002898	-89.0993118	0			DEEP																							
288	45.8002847	-89.0986685	0			DEEP																							
289	45.8002796	-89.0980251	0			DEEP																							
290	45.8002745	-89.0973818	0			DEEP																							
291	45.8002695	-89.0967385	0			DEEP																							
292	45.8002644	-89.0960951	0			DEEP																							
293	45.8002593	-89.0954518	0			DEEP																							
294	45.8002542	-89.0948085	0			DEEP																							
295	45.8002491	-89.0941651	0			DEEP																							
296	45.800244	-89.0935218	0			DEEP																							
297	45.8002389	-89.0928785	0			DEEP																							
298	45.8002338	-89.0922351	2	Rock	Pole																								
299	45.8008803	-89.1173181	3	Sand	Pole															1					1				
300	45.8008754	-89.1166748	0			DEEP																							
301	45.8008704	-89.1160314	0			DEEP																							
302	45.8008654	-89.1153881	0			DEEP																							
303	45.8008604	-89.1147447	0			DEEP																							
304	45.8008554	-89.1141014	0			DEEP																							
305	45.8008505	-89.1134581	0			DEEP																							
306	45.8008455	-89.1128147	0			DEEP																							
307	45.8008405	-89.1121714	0			DEEP																							
308	45.8008355	-89.111528	0			DEEP																							
309	45.8008305	-89.1108847	0			DEEP																							
310	45.8008255	-89.1102413	0			DEEP																							
311	45.8008204	-89.109598	0			DEEP																							
312	45.8008154	-89.1089547	0			DEEP																							
313	45.8008104	-89.1083113	0			DEEP																							
314	45.8008054	-89.107668	0			DEEP																							
315	45.8008004	-89.1070246	0			DEEP																							
316	45.8007953	-89.1063813	0			DEEP																							
317	45.8007903	-89.1057379	0			DEEP																							
318	45.8007853	-89.1050946	0			DEEP																							
319	45.8007802	-89.1044513	0			DEEP																							
320	45.8007752	-89.1038079	0			DEEP																							
321	45.8007701	-89.1031646	9	Sand	Pole																								
322	45.8007651	-89.1025212	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
323	45.80076	-89.1018779	0			DEEP																							
324	45.800755	-89.1012346	0			DEEP																							
325	45.8007499	-89.1005912	0			DEEP																							
326	45.8007448	-89.0999479	0			DEEP																							
327	45.8007398	-89.0993045	0			DEEP																							
328	45.8007347	-89.0986612	0			DEEP																							
329	45.8007296	-89.0980179	0			DEEP																							
330	45.8007245	-89.0973745	0			DEEP																							
331	45.8007194	-89.0967312	0			DEEP																							
332	45.8007144	-89.0960878	0			DEEP																							
333	45.8007093	-89.0954445	0			DEEP																							
334	45.8007042	-89.0948012	0			DEEP																							
335	45.8006991	-89.0941578	0			DEEP																							
336	45.800694	-89.0935145	0			DEEP																							
337	45.8006889	-89.0928711	0			DEEP																							
338	45.8006837	-89.0922278	7	Sand	Pole																								
339	45.8013254	-89.1166677	6	Sand	Pole																				1				
340	45.8013204	-89.1160243	6	Sand	Pole																								
341	45.8013154	-89.115381	9	Sand	Pole																								
342	45.8013104	-89.1147376	0			DEEP																							
343	45.8013054	-89.1140943	0			DEEP																							
344	45.8013004	-89.1134509	0			DEEP																							
345	45.8012954	-89.1128076	0			DEEP																							
346	45.8012904	-89.1121642	0			DEEP																							
347	45.8012854	-89.1115209	0			DEEP																							
348	45.8012804	-89.1108775	0			DEEP																							
349	45.8012754	-89.1102342	0			DEEP																							
350	45.8012704	-89.1095908	0			DEEP																							
351	45.8012654	-89.1089475	0			DEEP																							
352	45.8012604	-89.1083041	0			DEEP																							
353	45.8012554	-89.1076608	0			DEEP																							
354	45.8012503	-89.1070174	0			DEEP																							
355	45.8012453	-89.1063741	0			DEEP																							
356	45.8012403	-89.1057307	0			DEEP																							
357	45.8012352	-89.1050874	0			DEEP																							
358	45.8012302	-89.1044441	0			DEEP																							
359	45.8012251	-89.1038007	0			DEEP																							
360	45.8012201	-89.1031574	0			DEEP																							
361	45.801215	-89.102514	0			DEEP																							
362	45.80121	-89.1018707	0			DEEP																							
363	45.8012049	-89.1012273	0			DEEP																							
364	45.8011999	-89.100584	0			DEEP																							
365	45.8011948	-89.0999406	0			DEEP																							
366	45.8011897	-89.0992973	0			DEEP																							
367	45.8011847	-89.0986539	0			DEEP																							
368	45.8011796	-89.0980106	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
369	45.8011745	-89.0973673	0			DEEP																							
370	45.8011694	-89.0967239	0			DEEP																							
371	45.8011643	-89.0960806	0			DEEP																							
372	45.8011592	-89.0954372	0			DEEP																							
373	45.8011541	-89.0947939	0			DEEP																							
374	45.801149	-89.0941505	0			DEEP																							
375	45.8011439	-89.0935072	0			DEEP																							
376	45.8011388	-89.0928638	0			DEEP																							
377	45.8011337	-89.0922205	0			DEEP																							
378	45.8011286	-89.0915772	7	Sand	Pole																								
379	45.8011235	-89.0909338	3	Sand	Pole					1						1									1				
380	45.8017704	-89.1160172	4	Rock	Pole						1			1								1			1				
381	45.8017654	-89.1153738	3	Sand	Pole					2												1							
382	45.8017604	-89.1147305	0			DEEP																							
383	45.8017554	-89.1140871	0			DEEP																							
384	45.8017504	-89.1134438	0			DEEP																							
385	45.8017454	-89.1128004	0			DEEP																							
386	45.8017404	-89.1121571	0			DEEP																							
387	45.8017354	-89.1115137	0			DEEP																							
388	45.8017304	-89.1108704	0			DEEP																							
389	45.8017254	-89.110227	0			DEEP																							
390	45.8017204	-89.1095837	0			DEEP																							
391	45.8017154	-89.1089403	0			DEEP																							
392	45.8017104	-89.108297	0			DEEP																							
393	45.8017053	-89.1076536	0			DEEP																							
394	45.8017003	-89.1070103	0			DEEP																							
395	45.8016953	-89.1063669	0			DEEP																							
396	45.8016902	-89.1057235	0			DEEP																							
397	45.8016852	-89.1050802	0			DEEP																							
398	45.8016802	-89.1044368	0			DEEP																							
399	45.8016751	-89.1037935	0			DEEP																							
400	45.8016701	-89.1031501	0			DEEP																							
401	45.801665	-89.1025068	0			DEEP																							
402	45.80166	-89.1018634	0			DEEP																							
403	45.8016549	-89.1012201	0			DEEP																							
404	45.8016498	-89.1005767	0			DEEP																							
405	45.8016448	-89.0999334	0			DEEP																							
406	45.8016397	-89.09929	0			DEEP																							
407	45.8016346	-89.0986467	0			DEEP																							
408	45.8016296	-89.0980033	0			DEEP																							
409	45.8016245	-89.09736	0			DEEP																							
410	45.8016194	-89.0967166	0			DEEP																							
411	45.8016143	-89.0960733	0			DEEP																							
412	45.8016092	-89.0954299	0			DEEP																							
413	45.8016041	-89.0947866	0			DEEP																							
414	45.801599	-89.0941432	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton ephydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
415	45.8015939	-89.0934999	0			DEEP																							
416	45.8015888	-89.0928565	0			DEEP																							
417	45.8015837	-89.0922132	0			DEEP																							
418	45.8015786	-89.0915698	8	Sand	Pole																								
419	45.8015735	-89.0909265	5	Sand	Pole																				1				
420	45.8022104	-89.1147234	5	Sand	Pole													1							2				
421	45.8022054	-89.11408	0			DEEP																							
422	45.8022004	-89.1134366	0			DEEP																							
423	45.8021954	-89.1127933	0			DEEP																							
424	45.8021904	-89.1121499	0			DEEP																							
425	45.8021854	-89.1115066	0			DEEP																							
426	45.8021804	-89.1108632	0			DEEP																							
427	45.8021754	-89.1102199	0			DEEP																							
428	45.8021704	-89.1095765	0			DEEP																							
429	45.8021654	-89.1089331	0			DEEP																							
430	45.8021603	-89.1082898	0			DEEP																							
431	45.8021553	-89.1076464	0			DEEP																							
432	45.8021503	-89.1070031	0			DEEP																							
433	45.8021453	-89.1063597	0			DEEP																							
434	45.8021402	-89.1057163	0			DEEP																							
435	45.8021352	-89.105073	0			DEEP																							
436	45.8021301	-89.1044296	0			DEEP																							
437	45.8021251	-89.1037863	0			DEEP																							
438	45.8021201	-89.1031429	0			DEEP																							
439	45.802115	-89.1024996	0			DEEP																							
440	45.8021099	-89.1018562	0			DEEP																							
441	45.8021049	-89.1012129	0			DEEP																							
442	45.8020998	-89.1005695	0			DEEP																							
443	45.8020948	-89.0999261	0			DEEP																							
444	45.8020897	-89.0992828	0			DEEP																							
445	45.8020846	-89.0986394	0			DEEP																							
446	45.8020795	-89.0979961	0			DEEP																							
447	45.8020745	-89.0973527	0			DEEP																							
448	45.8020694	-89.0967094	0			DEEP																							
449	45.8020643	-89.096066	0			DEEP																							
450	45.8020592	-89.0954227	0			DEEP																							
451	45.8020541	-89.0947793	0			DEEP																							
452	45.802049	-89.0941359	0			DEEP																							
453	45.8020439	-89.0934926	0			DEEP																							
454	45.8020388	-89.0928492	0			DEEP																							
455	45.8020337	-89.0922059	0			DEEP																							
456	45.8020286	-89.0915625	0			DEEP																							
457	45.8020234	-89.0909192	6	Sand	Pole													1							1				
458	45.8020183	-89.0902758	2	Sand	Pole																								
459	45.8026604	-89.1147162	0			TERRESTRIAL																							
460	45.8026554	-89.1140729	4	Sand	Pole					1							1			1					1				

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton ephydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
461	45.8026504	-89.1134295	4	Sand	Pole					1															2				
462	45.8026454	-89.1127861	0			DEEP																							
463	45.8026404	-89.1121428	0			DEEP																							
464	45.8026354	-89.1114994	0			DEEP																							
465	45.8026304	-89.1108561	0			DEEP																							
466	45.8026254	-89.1102127	0			DEEP																							
467	45.8026204	-89.1095693	0			DEEP																							
468	45.8026153	-89.108926	0			DEEP																							
469	45.8026103	-89.1082826	0			DEEP																							
470	45.8026053	-89.1076392	0			DEEP																							
471	45.8026003	-89.1069959	0			DEEP																							
472	45.8025952	-89.1063525	0			DEEP																							
473	45.8025902	-89.1057091	0			DEEP																							
474	45.8025852	-89.1050658	0			DEEP																							
475	45.8025801	-89.1044224	0			DEEP																							
476	45.8025751	-89.1037791	0			DEEP																							
477	45.80257	-89.1031357	0			DEEP																							
478	45.802565	-89.1024923	0			DEEP																							
479	45.8025599	-89.101849	0			DEEP																							
480	45.8025549	-89.1012056	0			DEEP																							
481	45.8025498	-89.1005623	0			DEEP																							
482	45.8025447	-89.0999189	0			DEEP																							
483	45.8025397	-89.0992755	0			DEEP																							
484	45.8025346	-89.0986322	0			DEEP																							
485	45.8025295	-89.0979888	0			DEEP																							
486	45.8025244	-89.0973455	0			DEEP																							
487	45.8025193	-89.0967021	0			DEEP																							
488	45.8025143	-89.0960587	0			DEEP																							
489	45.8025092	-89.0954154	0			DEEP																							
490	45.8025041	-89.094772	0			DEEP																							
491	45.802499	-89.0941287	0			DEEP																							
492	45.8024939	-89.0934853	0			DEEP																							
493	45.8024888	-89.0928419	0			DEEP																							
494	45.8024837	-89.0921986	0			DEEP																							
495	45.8024785	-89.0915552	0			DEEP																							
496	45.8024734	-89.0909119	7	Sand	Pole																				1				
497	45.8024683	-89.0902685	3	Sand	Pole																								
498	45.8030954	-89.112779	6	Sand	Pole																				1				
499	45.8030904	-89.1121356	0			DEEP																							
500	45.8030854	-89.1114923	0			DEEP																							
501	45.8030804	-89.1108489	0			DEEP																							
502	45.8030753	-89.1102055	0			DEEP																							
503	45.8030703	-89.1095622	0			DEEP																							
504	45.8030653	-89.1089188	0			DEEP																							
505	45.8030603	-89.1082754	0			DEEP																							
506	45.8030553	-89.1076321	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
507	45.8030502	-89.1069887	0			DEEP																							
508	45.8030452	-89.1063453	0			DEEP																							
509	45.8030402	-89.1057019	0			DEEP																							
510	45.8030351	-89.1050586	0			DEEP																							
511	45.8030301	-89.1044152	0			DEEP																							
512	45.8030251	-89.1037718	0			DEEP																							
513	45.80302	-89.1031285	0			DEEP																							
514	45.803015	-89.1024851	0			DEEP																							
515	45.8030099	-89.1018417	0			DEEP																							
516	45.8030048	-89.1011984	0			DEEP																							
517	45.8029998	-89.100555	0			DEEP																							
518	45.8029947	-89.0999116	0			DEEP																							
519	45.8029896	-89.0992683	0			DEEP																							
520	45.8029846	-89.0986249	0			DEEP																							
521	45.8029795	-89.0979816	0			DEEP																							
522	45.8029744	-89.0973382	0			DEEP																							
523	45.8029693	-89.0966948	0			DEEP																							
524	45.8029642	-89.0960515	0			DEEP																							
525	45.8029591	-89.0954081	0			DEEP																							
526	45.802954	-89.0947647	0			DEEP																							
527	45.802949	-89.0941214	0			DEEP																							
528	45.8029438	-89.093478	0			DEEP																							
529	45.8029387	-89.0928346	0			DEEP																							
530	45.8029336	-89.0921913	0			DEEP																							
531	45.8029285	-89.0915479	0			DEEP																							
532	45.8029234	-89.0909045	8	Sand	Pole																								
533	45.8029183	-89.0902612	4	Sand	Pole																								
534	45.8029132	-89.0896178	2	Sand	Pole																								
535	45.8035403	-89.1121285	8	Sand	Pole																								
536	45.8035353	-89.1114851	0			DEEP																							
537	45.8035303	-89.1108417	0			DEEP																							
538	45.8035253	-89.1101984	0			DEEP																							
539	45.8035203	-89.109555	0			DEEP																							
540	45.8035153	-89.1089116	0			DEEP																							
541	45.8035103	-89.1082682	0			DEEP																							
542	45.8035053	-89.1076249	0			DEEP																							
543	45.8035002	-89.1069815	0			DEEP																							
544	45.8034952	-89.1063381	0			DEEP																							
545	45.8034902	-89.1056947	0			DEEP																							
546	45.8034851	-89.1050514	0			DEEP																							
547	45.8034801	-89.104408	0			DEEP																							
548	45.803475	-89.1037646	0			DEEP																							
549	45.80347	-89.1031213	0			DEEP																							
550	45.8034649	-89.1024779	0			DEEP																							
551	45.8034599	-89.1018345	0			DEEP																							
552	45.8034548	-89.1011911	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
553	45.8034498	-89.1005478	0			DEEP																							
554	45.8034447	-89.0999044	0			DEEP																							
555	45.8034396	-89.099261	0			DEEP																							
556	45.8034345	-89.0986177	0			DEEP																							
557	45.8034295	-89.0979743	0			DEEP																							
558	45.8034244	-89.0973309	0			DEEP																							
559	45.8034193	-89.0966875	0			DEEP																							
560	45.8034142	-89.0960442	0			DEEP																							
561	45.8034091	-89.0954008	0			DEEP																							
562	45.803404	-89.0947574	0			DEEP																							
563	45.8033989	-89.0941141	0			DEEP																							
564	45.8033938	-89.0934707	0			DEEP																							
565	45.8033887	-89.0928273	0			DEEP																							
566	45.8033836	-89.092184	0			DEEP																							
567	45.8033785	-89.0915406	0			DEEP																							
568	45.8033734	-89.0908972	9	Sand	Pole																								
569	45.8033683	-89.0902539	6	Sand	Pole																				1				
570	45.8033631	-89.0896105	2	Sand	Pole																								
571	45.8039903	-89.1121213	4	Sand	Pole																				2				
572	45.8039853	-89.111478	0			DEEP																							
573	45.8039803	-89.1108346	0			DEEP																							
574	45.8039753	-89.1101912	0			DEEP																							
575	45.8039703	-89.1095478	0			DEEP																							
576	45.8039653	-89.1089044	0			DEEP																							
577	45.8039603	-89.1082611	0			DEEP																							
578	45.8039552	-89.1076177	0			DEEP																							
579	45.8039502	-89.1069743	0			DEEP																							
580	45.8039452	-89.1063309	0			DEEP																							
581	45.8039401	-89.1056875	0			DEEP																							
582	45.8039351	-89.1050442	0			DEEP																							
583	45.8039301	-89.1044008	0			DEEP																							
584	45.803925	-89.1037574	0			DEEP																							
585	45.80392	-89.103114	0			DEEP																							
586	45.8039149	-89.1024707	0			DEEP																							
587	45.8039099	-89.1018273	0			DEEP																							
588	45.8039048	-89.1011839	0			DEEP																							
589	45.8038997	-89.1005405	0			DEEP																							
590	45.8038947	-89.0998972	0			DEEP																							
591	45.8038896	-89.0992538	0			DEEP																							
592	45.8038845	-89.0986104	0			DEEP																							
593	45.8038794	-89.097967	0			DEEP																							
594	45.8038744	-89.0973237	0			DEEP																							
595	45.8038693	-89.0966803	0			DEEP																							
596	45.8038642	-89.0960369	0			DEEP																							
597	45.8038591	-89.0953935	0			DEEP																							
598	45.803854	-89.0947501	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
599	45.8038489	-89.0941068	0			DEEP																							
600	45.8038438	-89.0934634	0			DEEP																							
601	45.8038387	-89.09282	0			DEEP																							
602	45.8038336	-89.0921767	0			DEEP																							
603	45.8038285	-89.0915333	0			DEEP																							
604	45.8038234	-89.0908899	0			DEEP																							
605	45.8038182	-89.0902465	6	Sand	Pole																				2				
606	45.8038131	-89.0896032	2	Sand	Pole																								
607	45.8044353	-89.1114708	10	Sand	Pole																								
608	45.8044303	-89.1108274	0			DEEP																							
609	45.8044253	-89.110184	0			DEEP																							
610	45.8044203	-89.1095406	0			DEEP																							
611	45.8044153	-89.1088973	0			DEEP																							
612	45.8044102	-89.1082539	0			DEEP																							
613	45.8044052	-89.1076105	0			DEEP																							
614	45.8044002	-89.1069671	0			DEEP																							
615	45.8043952	-89.1063237	0			DEEP																							
616	45.8043901	-89.1056803	0			DEEP																							
617	45.8043851	-89.105037	0			DEEP																							
618	45.80438	-89.1043936	0			DEEP																							
619	45.804375	-89.1037502	0			DEEP																							
620	45.8043699	-89.1031068	0			DEEP																							
621	45.8043649	-89.1024634	0			DEEP																							
622	45.8043598	-89.1018201	0			DEEP																							
623	45.8043548	-89.1011767	0			DEEP																							
624	45.8043497	-89.1005333	0			DEEP																							
625	45.8043446	-89.0998899	0			DEEP																							
626	45.8043396	-89.0992465	0			DEEP																							
627	45.8043345	-89.0986031	0			DEEP																							
628	45.8043294	-89.0979598	0			DEEP																							
629	45.8043243	-89.0973164	0			DEEP																							
630	45.8043193	-89.096673	0			DEEP																							
631	45.8043142	-89.0960296	0			DEEP																							
632	45.8043091	-89.0953862	0			DEEP																							
633	45.804304	-89.0947429	0			DEEP																							
634	45.8042989	-89.0940995	0			DEEP																							
635	45.8042938	-89.0934561	0			DEEP																							
636	45.8042887	-89.0928127	0			DEEP																							
637	45.8042836	-89.0921693	0			DEEP																							
638	45.8042784	-89.091526	0			DEEP																							
639	45.8042733	-89.0908826	0			DEEP																							
640	45.8042682	-89.0902392	8	Sand	Pole																								
641	45.8042631	-89.0895958	2	Sand	Pole																								
642	45.8048853	-89.1114636	3	Sand	Pole													1							2				
643	45.8048803	-89.1108203	0			DEEP																							
644	45.8048753	-89.1101769	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
645	45.8048702	-89.1095335	0			DEEP																							
646	45.8048652	-89.1088901	0			DEEP																							
647	45.8048602	-89.1082467	0			DEEP																							
648	45.8048552	-89.1076033	0			DEEP																							
649	45.8048502	-89.1069599	0			DEEP																							
650	45.8048451	-89.1063165	0			DEEP																							
651	45.8048401	-89.1056731	0			DEEP																							
652	45.8048351	-89.1050298	0			DEEP																							
653	45.80483	-89.1043864	0			DEEP																							
654	45.804825	-89.103743	0			DEEP																							
655	45.8048199	-89.1030996	0			DEEP																							
656	45.8048149	-89.1024562	0			DEEP																							
657	45.8048098	-89.1018128	0			DEEP																							
658	45.8048048	-89.1011694	0			DEEP																							
659	45.8047997	-89.100526	0			DEEP																							
660	45.8047946	-89.0998827	0			DEEP																							
661	45.8047896	-89.0992393	0			DEEP																							
662	45.8047845	-89.0985959	0			DEEP																							
663	45.8047794	-89.0979525	0			DEEP																							
664	45.8047743	-89.0973091	0			DEEP																							
665	45.8047692	-89.0966657	0			DEEP																							
666	45.8047641	-89.0960223	0			DEEP																							
667	45.8047591	-89.095379	0			DEEP																							
668	45.804754	-89.0947356	0			DEEP																							
669	45.8047489	-89.0940922	0			DEEP																							
670	45.8047438	-89.0934488	0			DEEP																							
671	45.8047386	-89.0928054	0			DEEP																							
672	45.8047335	-89.092162	0			DEEP																							
673	45.8047284	-89.0915186	0			DEEP																							
674	45.8047233	-89.0908753	0			DEEP																							
675	45.8047182	-89.0902319	8	Sand	Pole																								
676	45.8047131	-89.0895885	2	Sand	Pole																								
677	45.8053302	-89.1108131	6	Sand	Pole																				1				
678	45.8053252	-89.1101697	0			DEEP																							
679	45.8053202	-89.1095263	0			DEEP																							
680	45.8053152	-89.1088829	0			DEEP																							
681	45.8053102	-89.1082395	0			DEEP																							
682	45.8053052	-89.1075961	0			DEEP																							
683	45.8053001	-89.1069527	0			DEEP																							
684	45.8052951	-89.1063093	0			DEEP																							
685	45.8052901	-89.1056659	0			DEEP																							
686	45.805285	-89.1050226	0			DEEP																							
687	45.80528	-89.1043792	0			DEEP																							
688	45.8052749	-89.1037358	0			DEEP																							
689	45.8052699	-89.1030924	0			DEEP																							
690	45.8052648	-89.102449	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
691	45.8052598	-89.1018056	0			DEEP																							
692	45.8052547	-89.1011622	0			DEEP																							
693	45.8052497	-89.1005188	0			DEEP																							
694	45.8052446	-89.0998754	0			DEEP																							
695	45.8052395	-89.099232	0			DEEP																							
696	45.8052345	-89.0985886	0			DEEP																							
697	45.8052294	-89.0979452	0			DEEP																							
698	45.8052243	-89.0973018	0			DEEP																							
699	45.8052192	-89.0966585	0			DEEP																							
700	45.8052141	-89.0960151	0			DEEP																							
701	45.805209	-89.0953717	0			DEEP																							
702	45.8052039	-89.0947283	0			DEEP																							
703	45.8051988	-89.0940849	0			DEEP																							
704	45.8051937	-89.0934415	0			DEEP																							
705	45.8051886	-89.0927981	0			DEEP																							
706	45.8051835	-89.0921547	0			DEEP																							
707	45.8051784	-89.0915113	0			DEEP																							
708	45.8051733	-89.0908679	0			DEEP																							
709	45.8051682	-89.0902246	8	Sand	Pole																								
710	45.805163	-89.0895812	4	Sand	Pole											1									2				
711	45.8057752	-89.1101625	3	Sand	Pole																				1				
712	45.8057702	-89.1095191	0			DEEP																							
713	45.8057652	-89.1088757	0			DEEP																							
714	45.8057602	-89.1082323	0			DEEP																							
715	45.8057551	-89.1075889	0			DEEP																							
716	45.8057501	-89.1069455	0			DEEP																							
717	45.8057451	-89.1063021	0			DEEP																							
718	45.80574	-89.1056587	0			DEEP																							
719	45.805735	-89.1050153	0			DEEP																							
720	45.80573	-89.1043719	0			DEEP																							
721	45.8057249	-89.1037286	0			DEEP																							
722	45.8057199	-89.1030852	0			DEEP																							
723	45.8057148	-89.1024418	0			DEEP																							
724	45.8057098	-89.1017984	0			DEEP																							
725	45.8057047	-89.101155	0			DEEP																							
726	45.8056996	-89.1005116	0			DEEP																							
727	45.8056946	-89.0998682	0			DEEP																							
728	45.8056895	-89.0992248	0			DEEP																							
729	45.8056844	-89.0985814	0			DEEP																							
730	45.8056794	-89.097938	0			DEEP																							
731	45.8056743	-89.0972946	0			DEEP																							
732	45.8056692	-89.0966512	0			DEEP																							
733	45.8056641	-89.0960078	0			DEEP																							
734	45.805659	-89.0953644	0			DEEP																							
735	45.8056539	-89.094721	0			DEEP																							
736	45.8056488	-89.0940776	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
737	45.8056437	-89.0934342	0			DEEP																							
738	45.8056386	-89.0927908	0			DEEP																							
739	45.8056335	-89.0921474	0			DEEP																							
740	45.8056284	-89.091504	0			DEEP																							
741	45.8056233	-89.0908606	0			DEEP																							
742	45.8056181	-89.0902172	9	Sand	Pole																								
743	45.805613	-89.0895738	6	Sand	Pole											1									1				
744	45.8062202	-89.109512	2	Rock	Pole																				1				
745	45.8062152	-89.1088686	8	Sand	Pole																								
746	45.8062101	-89.1082252	0			DEEP																							
747	45.8062051	-89.1075818	0			DEEP																							
748	45.8062001	-89.1069384	0			DEEP																							
749	45.8061951	-89.1062949	0			DEEP																							
750	45.80619	-89.1056515	0			DEEP																							
751	45.806185	-89.1050081	0			DEEP																							
752	45.8061799	-89.1043647	0			DEEP																							
753	45.8061749	-89.1037213	0			DEEP																							
754	45.8061699	-89.1030779	0			DEEP																							
755	45.8061648	-89.1024345	0			DEEP																							
756	45.8061597	-89.1017911	0			DEEP																							
757	45.8061547	-89.1011477	0			DEEP																							
758	45.8061496	-89.1005043	0			DEEP																							
759	45.8061446	-89.0998609	0			DEEP																							
760	45.8061395	-89.0992175	0			DEEP																							
761	45.8061344	-89.0985741	0			DEEP																							
762	45.8061293	-89.0979307	0			DEEP																							
763	45.8061242	-89.0972873	0			DEEP																							
764	45.8061192	-89.0966439	0			DEEP																							
765	45.8061141	-89.0960005	0			DEEP																							
766	45.806109	-89.0953571	0			DEEP																							
767	45.8061039	-89.0947137	0			DEEP																							
768	45.8060988	-89.0940703	0			DEEP																							
769	45.8060937	-89.0934269	0			DEEP																							
770	45.8060886	-89.0927835	0			DEEP																							
771	45.8060835	-89.0921401	0			DEEP																							
772	45.8060783	-89.0914967	0			DEEP																							
773	45.8060732	-89.0908533	0			DEEP																							
774	45.8060681	-89.0902099	0			DEEP																							
775	45.806063	-89.0895665	5	Sand	Pole																				1				
776	45.8060579	-89.0889231	0			DOCK																							
777	45.8066601	-89.108218	6	Sand	Pole																				1				
778	45.8066551	-89.1075746	8	Sand	Pole																								
779	45.8066501	-89.1069312	9	Sand	Pole																								
780	45.806645	-89.1062878	9	Sand	Pole																								
781	45.80664	-89.1056443	7	Sand	Pole																				1				
782	45.806635	-89.1050009	0			DOCK																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
783	45.8066299	-89.1043575	3	Rock	Pole																								
784	45.8066249	-89.1037141	6	Sand	Pole																								
785	45.8066198	-89.1030707	8	Sand	Pole																								
786	45.8066148	-89.1024273	0			DEEP																							
787	45.8066097	-89.1017839	0			DEEP																							
788	45.8066047	-89.1011405	0			DEEP																							
789	45.8065996	-89.1004971	0			DEEP																							
790	45.8065945	-89.0998537	0			DEEP																							
791	45.8065895	-89.0992103	0			DEEP																							
792	45.8065844	-89.0985669	0			DEEP																							
793	45.8065793	-89.0979234	0			DEEP																							
794	45.8065742	-89.09728	0			DEEP																							
795	45.8065691	-89.0966366	0			DEEP																							
796	45.806564	-89.0959932	0			DEEP																							
797	45.806559	-89.0953498	0			DEEP																							
798	45.8065539	-89.0947064	0			DEEP																							
799	45.8065488	-89.094063	0			DEEP																							
800	45.8065437	-89.0934196	0			DEEP																							
801	45.8065386	-89.0927762	0			DEEP																							
802	45.8065334	-89.0921328	0			DEEP																							
803	45.8065283	-89.0914894	0			DEEP																							
804	45.8065232	-89.090846	0			DEEP																							
805	45.8065181	-89.0902026	8	Sand	Pole																								
806	45.806513	-89.0895592	5	Sand	Pole																				1				
807	45.8065078	-89.0889158	2	Sand	Pole																								
808	45.8070648	-89.1024201	2	Sand	Pole																								
809	45.8070597	-89.1017767	7	Sand	Pole																								
810	45.8070546	-89.1011332	8	Sand	Pole																								
811	45.8070496	-89.1004898	7	Sand	Pole																								
812	45.8070445	-89.0998464	6	Sand	Pole																								
813	45.8070394	-89.099203	0			DEEP																							
814	45.8070344	-89.0985596	0			DEEP																							
815	45.8070293	-89.0979162	0			DEEP																							
816	45.8070242	-89.0972728	0			DEEP																							
817	45.8070191	-89.0966294	0			DEEP																							
818	45.807014	-89.0959859	0			DEEP																							
819	45.8070089	-89.0953425	0			DEEP																							
820	45.8070038	-89.0946991	0			DEEP																							
821	45.8069987	-89.0940557	0			DEEP																							
822	45.8069936	-89.0934123	0			DEEP																							
823	45.8069885	-89.0927689	0			DEEP																							
824	45.8069834	-89.0921255	0			DEEP																							
825	45.8069783	-89.0914821	0			DEEP																							
826	45.8069732	-89.0908387	0			DEEP																							
827	45.8069681	-89.0901953	6	Sand	Pole																				1				
828	45.8069629	-89.0895518	5	Sand	Pole											1									1				

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
829	45.8075349	-89.1049865	2	Muck	Pole			1		1					1			1	1		1		1					1	
830	45.8074945	-89.0998392	0			ROCKS																							
831	45.8074894	-89.0991958	6	Sand	Pole																				2				
832	45.8074843	-89.0985523	0			DEEP																							
833	45.8074793	-89.0979089	0			DEEP																							
834	45.8074742	-89.0972655	0			DEEP																							
835	45.8074691	-89.0966221	0			DEEP																							
836	45.807464	-89.0959787	0			DEEP																							
837	45.8074589	-89.0953353	0			DEEP																							
838	45.8074538	-89.0946918	0			DEEP																							
839	45.8074487	-89.0940484	0			DEEP																							
840	45.8074436	-89.093405	0			DEEP																							
841	45.8074385	-89.0927616	0			DEEP																							
842	45.8074334	-89.0921182	0			DEEP																							
843	45.8074283	-89.0914748	0			DEEP																							
844	45.8074232	-89.0908313	0			DEEP																							
845	45.807418	-89.0901879	6	Sand	Pole																				1				
846	45.8074129	-89.0895445	2	Sand	Pole																								
847	45.8079849	-89.1049793	2	Muck	Pole																		3						
848	45.8079343	-89.0985451	0			TERRESTRIAL																							
849	45.8079292	-89.0979017	0			DEEP																							
850	45.8079242	-89.0972582	0			DEEP																							
851	45.8079191	-89.0966148	0			DEEP																							
852	45.807914	-89.0959714	0			DEEP																							
853	45.8079089	-89.095328	0			DEEP																							
854	45.8079038	-89.0946845	0			DEEP																							
855	45.8078987	-89.0940411	0			DEEP																							
856	45.8078936	-89.0933977	0			DEEP																							
857	45.8078885	-89.0927543	0			DEEP																							
858	45.8078834	-89.0921109	0			DEEP																							
859	45.8078783	-89.0914674	0			DEEP																							
860	45.8078731	-89.090824	0			DEEP																							
861	45.807868	-89.0901806	6	Sand	Pole																				2				
862	45.8084349	-89.1049721	4	Muck	Pole																				2				1
863	45.8084248	-89.1036852	5	Sand	Pole														1						3				
864	45.8084197	-89.1030418	5	Sand	Pole																				2				
865	45.8083843	-89.0985378	0			TERRESTRIAL																							
866	45.8083792	-89.0978944	0			DEEP																							
867	45.8083741	-89.097251	0			DEEP																							
868	45.808369	-89.0966075	0			DEEP																							
869	45.808364	-89.0959641	0			DEEP																							
870	45.8083589	-89.0953207	0			DEEP																							
871	45.8083538	-89.0946773	0			DEEP																							
872	45.8083487	-89.0940338	0			DEEP																							
873	45.8083436	-89.0933904	0			DEEP																							
874	45.8083385	-89.092747	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Eleocharis acicularis	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton amplifolius	Potamogeton ephydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Utricularia vulgaris	Vallisneria americana	Zizania sp.	Aquatic Moss	Callitriche palustris	Potamogeton obtusifolius
875	45.8083333	-89.0921036	0			DEEP																							
876	45.8083282	-89.0914601	0			DEEP																							
877	45.8083231	-89.0908167	0			DEEP																							
878	45.808318	-89.0901733	5	Sand	Pole					1						1									2				
879	45.8088849	-89.1049649	5	Sand	Pole																				2				
880	45.8088798	-89.1043215	5	Sand	Pole																		1		2				
881	45.8088748	-89.103678	9	Sand	Pole																								
882	45.8088697	-89.1030346	7	Sand	Pole											1									1				
883	45.8088647	-89.1023912	6	Sand	Pole																				2				
884	45.8088343	-89.0985306	5	Sand	Pole																				2				
885	45.8088292	-89.0978871	6	Sand	Pole																				2				
886	45.8088241	-89.0972437	0			DEEP																							
887	45.808819	-89.0966003	0			DEEP																							
888	45.8088139	-89.0959568	0			DEEP																							
889	45.8088088	-89.0953134	0			DEEP																							
890	45.8088037	-89.09467	0			DEEP																							
891	45.8087986	-89.0940265	0			DEEP																							
892	45.8087935	-89.0933831	0			DEEP																							
893	45.8087884	-89.0927397	0			DEEP																							
894	45.8087833	-89.0920962	0			DEEP																							
895	45.8087782	-89.0914528	0			DEEP																							
896	45.8087731	-89.0908094	7	Sand	Pole																								
897	45.808768	-89.0901659	2	Sand	Pole																								
898	45.8093348	-89.1049577	8	Sand	Pole																								
899	45.8093298	-89.1043143	0			DEEP																							
900	45.8093247	-89.1036708	0			DEEP																							
901	45.8093197	-89.1030274	0			DEEP																							
902	45.8093146	-89.1023839	9	Sand	Pole																								
903	45.8093096	-89.1017405	2	Sand	Pole					1													2						
904	45.8092893	-89.0991667	4	Sand	Pole					1											1				1				
905	45.8092842	-89.0985233	5	Sand	Pole																				2				
906	45.8092792	-89.0978799	6	Sand	Pole									1											1				
907	45.8092741	-89.0972364	0			DEEP																							
908	45.809269	-89.096593	0			DEEP																							
909	45.8092639	-89.0959495	0			DEEP																							
910	45.8092588	-89.0953061	0			DEEP																							
911	45.8092537	-89.0946627	0			DEEP																							
912	45.8092486	-89.0940192	0			DEEP																							
913	45.8092435	-89.0933758	0			DEEP																							
914	45.8092384	-89.0927324	0			DEEP																							
915	45.8092333	-89.0920889	0			DEEP																							
916	45.8092282	-89.0914455	0			DEEP																							
917	45.8092231	-89.0908021	5	Sand	Pole					1						1									1				
918	45.8097848	-89.1049505	0			DEEP																							
919	45.8097798	-89.104307	0			DEEP																							
920	45.8097747	-89.1036636	0			DEEP																							

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea nuttallii	Isoetes sp.	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Spirodela polyrhiza	Utricularia vulgaris	Vallisneria americana	SP_1	Aquatic Moss
1	45.800587	-89.123528	0			NONNAVIGABLE (PLANTS)																										
2	45.800577	-89.122293	0			NONNAVIGABLE (PLANTS)																										
3	45.800573	-89.121676	0			NONNAVIGABLE (PLANTS)																										
4	45.801019	-89.123522	0			NONNAVIGABLE (PLANTS)																										
5	45.801014	-89.122904	0			NONNAVIGABLE (PLANTS)																										
6	45.801009	-89.122286	0			NONNAVIGABLE (PLANTS)																										
7	45.801005	-89.121669	0			NONNAVIGABLE (PLANTS)																										
8	45.801455	-89.124133	3	Muck	Pole			1			2		1										1				1			1		
9	45.801451	-89.123515	4	Muck	Pole			1									1													2		
10	45.801446	-89.122897	4	Muck	Pole		1	1			1						1										1					
11	45.801441	-89.122280	3	Muck	Pole			1			1										1				1					1		
12	45.801436	-89.121662	3	Muck	Pole		1			1											1								1	1		
13	45.801887	-89.124126	5	Muck	Pole		1	1																			1			2		
14	45.801883	-89.123508	5	Muck	Pole																									3		
15	45.801878	-89.122891	5	Muck	Pole																									2		
16	45.801873	-89.122273	4	Muck	Pole																									2		
17	45.801868	-89.121655	4	Muck	Pole			1									1													1		
18	45.802319	-89.124119	5	Muck	Pole																						1			2		
19	45.802315	-89.123501	6	Muck	Pole																	1										
20	45.802310	-89.122884	6	Sand	Pole																											
21	45.802305	-89.122266	5	Muck	Pole																									1		
22	45.802751	-89.124112	7	Muck	Pole																									1		
23	45.802747	-89.123495	7	Muck	Pole																											
24	45.802742	-89.122877	7	Muck	Pole																									1		
25	45.802737	-89.122259	6	Muck	Pole																									2		
26	45.802732	-89.121642	3	Muck	Pole			1																			2		1			
27	45.802728	-89.121024	2	Muck	Pole												1	1	1		1									1		
28	45.803188	-89.124723	6	Muck	Pole																									2		
29	45.803183	-89.124105	8	Muck	Pole																									1		
30	45.803179	-89.123488	8	Muck	Pole																											
31	45.803174	-89.122870	8	Sand	Pole																									1		
32	45.803169	-89.122253	5	Muck	Pole																									2		
33	45.803164	-89.121635	3	Muck	Pole		2	1													1						1					
34	45.803160	-89.121017	0			TERRESTRIAL																										
35	45.803155	-89.120400	0			TERRESTRIAL																										
36	45.803620	-89.124716	8	Muck	Pole																									1		
37	45.803615	-89.124099	9	Muck	Pole																											
38	45.803611	-89.123481	9	Muck	Pole																											
39	45.803606	-89.122863	9	Muck	Pole																											
40	45.803601	-89.122246	6	Sand	Pole															1										2		
41	45.803592	-89.121011	0			TERRESTRIAL																										
42	45.804057	-89.125327	3	Sand	Pole																									2		
43	45.804052	-89.124710	10	Muck	Pole																											
44	45.804047	-89.124092	10	Muck	Pole																											
45	45.804043	-89.123474	10	Muck	Pole																											
46	45.804038	-89.122857	10	Muck	Pole																											
47	45.804033	-89.122239	10	Muck	Pole																											
48	45.804028	-89.121621	5	Sand	Pole																									2		
49	45.804489	-89.125320	11	Muck	Pole																											
50	45.804484	-89.124703	0			DEEP																										
51	45.804479	-89.124085	0			DEEP																										
52	45.804475	-89.123468	0			DEEP																										
53	45.804470	-89.122850	0			DEEP																										
54	45.804465	-89.122232	0			DEEP																										

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea nuttallii	Isoetes sp.	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Spirodela polyrhiza	Utricularia vulgaris	Vallisneria americana	SP_1	Aquatic Moss
55	45.804460	-89.121615	0			DEEP																										
56	45.804456	-89.120997	6	Sand	Pole																									1		
57	45.804422	-89.116673	2	Muck	Pole										1								1						1			1
58	45.804925	-89.125931	6	Sand	Pole																									1		
59	45.804921	-89.125314	0			DEEP																										
60	45.804916	-89.124696	0			DEEP																										
61	45.804911	-89.124078	0			DEEP																										
62	45.804907	-89.123461	0			DEEP																										
63	45.804902	-89.122843	0			DEEP																										
64	45.804897	-89.122225	0			DEEP																										
65	45.804892	-89.121608	0			DEEP																										
66	45.804888	-89.120990	7	Sand	Pole															1										2		
67	45.804859	-89.117284	0			NONNAVIGABLE (PLANTS)																										
68	45.804854	-89.116667	0			TERRESTRIAL																										
69	45.804849	-89.116049	2	Muck	Pole																	1										1
70	45.805362	-89.126542	4	Sand	Pole											1	1										1			1		
71	45.805357	-89.125925	0			DEEP																										
72	45.805353	-89.125307	0			DEEP																										
73	45.805348	-89.124689	0			DEEP																										
74	45.805343	-89.124072	0			DEEP																										
75	45.805339	-89.123454	0			DEEP																										
76	45.805334	-89.122836	0			DEEP																										
77	45.805329	-89.122219	0			DEEP																										
78	45.805324	-89.121601	0			DEEP																										
79	45.805320	-89.120983	9	Sand	Pole																											
80	45.805315	-89.120366	7	Sand	Pole															1										1		
81	45.805291	-89.117277	0			NONNAVIGABLE (PLANTS)																										
82	45.805286	-89.116660	2	Muck	Pole																								1	2		1
83	45.805281	-89.116042	3	Muck	Pole			1								1														1		
84	45.805794	-89.126536	9	Sand	Pole																											
85	45.805789	-89.125918	0			DEEP																										
86	45.805785	-89.125300	0			DEEP																										
87	45.805780	-89.124683	0			DEEP																										
88	45.805775	-89.124065	0			DEEP																										
89	45.805771	-89.123447	0			DEEP																										
90	45.805766	-89.122830	0			DEEP																										
91	45.805761	-89.122212	0			DEEP																										
92	45.805756	-89.121594	0			DEEP																										
93	45.805752	-89.120977	0			DEEP																										
94	45.805747	-89.120359	0			DEEP																										
95	45.805742	-89.119741	6	Rock	Pole																									1		
96	45.805733	-89.118506	0			TERRESTRIAL																										
97	45.805718	-89.116653	4	Muck	Pole			1																						2		
98	45.805713	-89.116035	4	Muck	Pole																						2					
99	45.805709	-89.115418	2	Sand	Pole										1									1						1		
100	45.806226	-89.126529	9	Sand	Pole																											
101	45.806221	-89.125911	0			DEEP																										
102	45.806217	-89.125293	0			DEEP																										
103	45.806212	-89.124676	0			DEEP																										
104	45.806207	-89.124058	0			DEEP																										
105	45.806203	-89.123440	0			DEEP																										
106	45.806198	-89.122823	0			DEEP																										
107	45.806193	-89.122205	0			DEEP																										
108	45.806188	-89.121587	0			DEEP																										

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea nuttallii	Isoetes sp.	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Spirodela polyrhiza	Utricularia vulgaris	Vallisneria americana	SP_1	Aquatic Moss
109	45.806184	-89.120970	0			DEEP																										
110	45.806179	-89.120352	0			DEEP																										
111	45.806174	-89.119734	10	Sand	Pole																											
112	45.806169	-89.119117	3	Sand	Pole										2															1		
113	45.806155	-89.117264	4	Muck	Pole																									2		
114	45.806150	-89.116646	6	Muck	Pole																											
115	45.806145	-89.116028	6	Muck	Pole																									1		
116	45.806141	-89.115411	4	Muck	Pole																									2		
117	45.806658	-89.126522	6	Sand	Pole																									2		
118	45.806653	-89.125904	0			DEEP																										
119	45.806649	-89.125287	0			DEEP																										
120	45.806644	-89.124669	0			DEEP																										
121	45.806639	-89.124051	0			DEEP																										
122	45.806634	-89.123434	0			DEEP																										
123	45.806630	-89.122816	0			DEEP																										
124	45.806625	-89.122198	0			DEEP																										
125	45.806620	-89.121581	0			DEEP																										
126	45.806616	-89.120963	0			DEEP																										
127	45.806611	-89.120345	8	Sand	Pole																									1		
128	45.806606	-89.119728	6	Sand	Pole																									2		
129	45.806587	-89.117257	7	Sand	Pole																									1		
130	45.806582	-89.116639	8	Muck	Pole																											
131	45.806577	-89.116022	7	Muck	Pole																											
132	45.806573	-89.115404	6	Muck	Pole																									2		
133	45.806568	-89.114786	3	Sand	Pole						1				1	1				1				1						1		
134	45.807090	-89.126515	3	Sand	Pole																									2		
135	45.807085	-89.125898	0			DEEP																										
136	45.807081	-89.125280	0			DEEP																										
137	45.807076	-89.124662	0			DEEP																										
138	45.807071	-89.124045	0			DEEP																										
139	45.807066	-89.123427	0			DEEP																										
140	45.807062	-89.122809	0			DEEP																										
141	45.807057	-89.122192	0			DEEP																										
142	45.807052	-89.121574	0			DEEP																										
143	45.807047	-89.120956	0			DEEP																										
144	45.807043	-89.120338	0			DEEP																										
145	45.807038	-89.119721	0			DEEP																										
146	45.807033	-89.119103	4	Sand	Pole							1								1										1		
147	45.807028	-89.118485	6	Sand	Pole																									2		
148	45.807024	-89.117868	7	Sand	Pole																									1		
149	45.807019	-89.117250	9	Muck	Pole																											
150	45.807014	-89.116632	9	Muck	Pole																											
151	45.807009	-89.116015	8	Muck	Pole																											
152	45.807005	-89.115397	8	Muck	Pole																									1		
153	45.807000	-89.114779	4	Sand	Pole															1										2		
154	45.807522	-89.126509	2	Muck	Pole															1										1		
155	45.807517	-89.125891	0			DEEP																										
156	45.807513	-89.125273	0			DEEP																										
157	45.807508	-89.124655	0			DEEP																										
158	45.807503	-89.124038	0			DEEP																										
159	45.807498	-89.123420	0			DEEP																										
160	45.807494	-89.122802	0			DEEP																										
161	45.807489	-89.122185	0			DEEP																										
162	45.807484	-89.121567	0			DEEP																										

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea nuttallii	Isoetes sp.	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Spirodela polyrhiza	Utricularia vulgaris	Vallisneria americana	SP_1	Aquatic Moss
163	45.807479	-89.120949	0			DEEP																										
164	45.807475	-89.120332	0			DEEP																										
165	45.807470	-89.119714	0			DEEP																										
166	45.807465	-89.119096	0			DEEP																										
167	45.807460	-89.118479	0			DEEP																										
168	45.807456	-89.117861	0			DEEP																										
169	45.807451	-89.117243	0			DEEP																										
170	45.807446	-89.116626	0			DEEP																										
171	45.807441	-89.116008	8	Muck	Pole																											
172	45.807437	-89.115390	9	Muck	Pole																											
173	45.807432	-89.114773	6	Sand	Pole																										2		
174	45.807954	-89.126502	6	Sand	Pole																											
175	45.807949	-89.125884	0			DEEP																										
176	45.807945	-89.125266	0			DEEP																										
177	45.807940	-89.124649	0			DEEP																										
178	45.807935	-89.124031	0			DEEP																										
179	45.807930	-89.123413	0			DEEP																										
180	45.807926	-89.122796	0			DEEP																										
181	45.807921	-89.122178	0			DEEP																										
182	45.807916	-89.121560	0			DEEP																										
183	45.807911	-89.120943	0			DEEP																										
184	45.807907	-89.120325	0			DEEP																										
185	45.8079019	-89.1197072	0			DEEP																										
186	45.8078972	-89.1190895	0			DEEP																										
187	45.8078924	-89.1184718	0			DEEP																										
188	45.8078876	-89.1178541	0			DEEP																										
189	45.8078829	-89.1172364	0			DEEP																										
190	45.8078781	-89.1166187	0			DEEP																										
191	45.8078733	-89.116001	0			DEEP																										
192	45.8078685	-89.1153834	8	Muck	Pole																	1										
193	45.8078638	-89.1147657	8	Sand	Pole																											
194	45.8083861	-89.126495	13	Sand	Pole																											
195	45.8083813	-89.1258773	0			DEEP																										
196	45.8083766	-89.1252596	0			DEEP																										
197	45.8083719	-89.1246419	0			DEEP																										
198	45.8083671	-89.1240242	0			DEEP																										
199	45.8083624	-89.1234065	0			DEEP																										
200	45.8083577	-89.1227888	0			DEEP																										
201	45.8083529	-89.1221711	0			DEEP																										
202	45.8083482	-89.1215535	2	Sand	Pole										1																1		
203	45.8083434	-89.1209358	0			DEEP																										
204	45.8083387	-89.1203181	0			DEEP																										
205	45.8083339	-89.1197004	0			DEEP																										
206	45.8083292	-89.1190827	0			DEEP																										
207	45.8083244	-89.118465	0			DEEP																										
208	45.8083196	-89.1178473	0			DEEP																										
209	45.8083148	-89.1172296	0			DEEP																										
210	45.8083101	-89.1166119	0			DEEP																										
211	45.8083053	-89.1159942	0			DEEP																										
212	45.8083005	-89.1153765	9	Muck	Pole																											
213	45.8082957	-89.1147588	8	Sand	Pole																											
214	45.8082621	-89.110435	4	Muck	Pole			1																							2		
215	45.8082573	-89.1098173	8	Muck	Pole																											
216	45.8082525	-89.1091996	8	Muck	Pole																											

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea nuttallii	Isoetes sp.	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Spirodela polyrhiza	Utricularia vulgaris	Vallisneria americana	SP_1	Aquatic Moss
217	45.8082477	-89.1085819	0			TERRESTRIAL																										
218	45.808818	-89.1264883	0			DEEP																										
219	45.8088133	-89.1258706	0			DEEP																										
220	45.8088086	-89.1252529	0			DEEP																										
221	45.8088039	-89.1246352	0			DEEP																										
222	45.8087991	-89.1240175	0			DEEP																										
223	45.8087944	-89.1233998	0			DEEP																										
224	45.8087896	-89.1227821	3	Sand	Pole																									2		
225	45.8087754	-89.120929	6	Sand	Pole																									2		
226	45.8087706	-89.1203113	10	Muck	Pole																											
227	45.8087659	-89.1196936	0			DEEP																										
228	45.8087611	-89.1190759	0			DEEP																										
229	45.8087564	-89.1184582	0			DEEP																										
230	45.8087516	-89.1178405	0			DEEP																										
231	45.8087468	-89.1172228	0			DEEP																										
232	45.8087421	-89.1166051	0			DEEP																										
233	45.8087373	-89.1159874	0			DEEP																										
234	45.8087325	-89.1153697	10	Muck	Pole																											
235	45.8087277	-89.114752	8	Sand	Pole																									1		
236	45.8087229	-89.1141343	2	Sand	Pole										2					1												
237	45.8086941	-89.1104281	5	Muck	Pole																									2		
238	45.8086893	-89.1098104	0			DEEP																										
239	45.8086845	-89.1091927	0			DEEP																										
240	45.8086797	-89.108575	8	Muck	Pole																											
241	45.8092453	-89.1258638	5	Sand	Pole																									2		
242	45.8092406	-89.1252461	0			DEEP																										
243	45.8092358	-89.1246284	0			DEEP																										
244	45.8092311	-89.1240107	0			DEEP																										
245	45.8092074	-89.1209222	5	Sand	Pole										1															2		
246	45.8092026	-89.1203045	6	Sand	Pole																	1								2		
247	45.8091979	-89.1196868	0			DEEP																										
248	45.8091931	-89.1190691	0			DEEP																										
249	45.8091883	-89.1184514	0			DEEP																										
250	45.8091836	-89.1178337	0			DEEP																										
251	45.8091788	-89.1172159	0			DEEP																										
252	45.809174	-89.1165982	0			DEEP																										
253	45.8091693	-89.1159805	0			DEEP																										
254	45.8091645	-89.1153628	9	Muck	Pole																											
255	45.8091597	-89.1147451	8	Sand	Pole																											
256	45.8091549	-89.1141274	8	Sand	Pole																											
257	45.8091501	-89.1135097	6	Sand	Pole																	1								1		
258	45.8091309	-89.1110389	7	Muck	Pole																									1		
259	45.8091261	-89.1104212	9	Muck	Pole																											
260	45.8091213	-89.1098035	0			DEEP																										
261	45.8091165	-89.1091858	0			DEEP																										
262	45.8091117	-89.1085681	0			DEEP																										
263	45.8091068	-89.1079504	5	Muck	Pole															1										3		
264	45.8096678	-89.1246216	0			TEMPORARY OBSTACLE																										
265	45.8096631	-89.1240039	0			TEMPORARY OBSTACLE																										
266	45.8096394	-89.1209154	4	Muck	Pole		1																							2		
267	45.8096346	-89.1202977	5	Sand	Pole																									2		
268	45.8096299	-89.11968	6	Sand	Pole																									2		
269	45.8096251	-89.1190622	0			DEEP																										
270	45.8096203	-89.1184445	0			DEEP																										

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea nuttallii	Isoetes sp.	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Spirodela polyrhiza	Utricularia vulgaris	Vallisneria americana	SP_1	Aquatic Moss
271	45.8096156	-89.1178268	0			DEEP																										
272	45.8096108	-89.1172091	0			DEEP																										
273	45.809606	-89.1165914	0			DEEP																										
274	45.8096012	-89.1159737	0			DEEP																										
275	45.8095965	-89.115356	9	Muck	Pole																											
276	45.8095917	-89.1147383	6	Sand	Pole																									2		
277	45.8095869	-89.1141206	2	Sand	Pole																											
278	45.8095821	-89.1135029	5	Muck	Pole																									1		
279	45.8095773	-89.1128852	5	Sand	Pole															1										1		
280	45.8095677	-89.1116498	4	Sand	Pole																									2		
281	45.8095629	-89.1110321	9	Muck	Pole																											
282	45.8095581	-89.1104144	0			DEEP																										
283	45.8095533	-89.1097966	0			DEEP																										
284	45.8095485	-89.1091789	0			DEEP																										
285	45.8095436	-89.1085612	0			DEEP																										
286	45.8095388	-89.1079435	0			DEEP																										
287	45.8100713	-89.1209086	2	Muck	Pole			1									1													1		
288	45.8100618	-89.1196731	4	Sand	Pole																											
289	45.8100571	-89.1190554	6	Sand	Pole			1														1								2		
290	45.8100523	-89.1184377	10	Muck	Pole																											
291	45.8100475	-89.11782	0			DEEP																										
292	45.8100428	-89.1172023	0			DEEP																										
293	45.810038	-89.1165846	10	Muck	Pole																											
294	45.8100332	-89.1159669	0			DEEP																										
295	45.8100284	-89.1153492	6	Sand	Pole				1																					2		
296	45.8100141	-89.113496	4	Muck	Pole																							1		1		
297	45.8100093	-89.1128783	9	Muck	Pole																											
298	45.8100045	-89.1122606	7	Sand	Pole																											
299	45.8099997	-89.1116429	9	Muck	Pole																											
300	45.8099949	-89.1110252	0			DEEP																										
301	45.8099901	-89.1104075	0			DEEP																										
302	45.8099853	-89.1097898	0			DEEP																										
303	45.8099804	-89.1091721	0			DEEP																										
304	45.8099756	-89.1085543	0			DEEP																										
305	45.8099708	-89.1079366	0			DEEP																										
306	45.809966	-89.1073189	4	Sand	Pole																	1								1		
307	45.8105033	-89.1209018	2	Muck	Pole																							1				
308	45.8104986	-89.1202841	0			TERRESTRIAL																										
309	45.8104938	-89.1196663	5	Sand	Pole																									1		
310	45.8104795	-89.1178132	2	Sand	Pole																											
311	45.8104747	-89.1171955	7	Sand	Pole										1															1		
312	45.81047	-89.1165778	6	Sand	Pole																									1		
313	45.8104652	-89.11596	1	Sand	Pole																											
314	45.8104413	-89.1128715	5	Sand	Pole																									1		
315	45.8104365	-89.1122537	8	Muck	Pole																											
316	45.8104317	-89.111636	8	Muck	Pole																											
317	45.8104268	-89.1110183	7	Sand	Pole																											
318	45.810422	-89.1104006	7	Muck	Pole																											
319	45.8104172	-89.1097829	8	Muck	Pole																											
320	45.8104124	-89.1091652	0			DEEP																										
321	45.8104076	-89.1085475	0			DEEP																										
322	45.8104028	-89.1079297	0			DEEP																										
323	45.810398	-89.107312	8	Muck	Pole																											
324	45.8103931	-89.1066943	6	Muck	Pole																									2		

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea nuttallii	Isoetes sp.	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Spirodela polyrhiza	Utricularia vulgaris	Vallisneria americana	SP_1	Aquatic Moss
325	45.8109305	-89.1202773	5	Sand	Pole																									2		
326	45.8109258	-89.1196595	2	Sand	Pole																											
327	45.8108684	-89.1122469	4	Muck	Pole																											
328	45.8108636	-89.1116292	5	Sand	Pole																									1		
329	45.8108588	-89.1110114	5	Sand	Pole																											
330	45.810854	-89.1103937	5	Sand	Pole																											
331	45.8108492	-89.109776	5	Sand	Pole																											
332	45.8108444	-89.1091583	6	Muck	Pole																											
333	45.8108396	-89.1085406	0			DEEP																										
334	45.8108348	-89.1079228	7	Muck	Pole																											
335	45.8108299	-89.1073051	0			DEEP																										
336	45.8108251	-89.1066874	5	Sand	Pole																											
337	45.8112956	-89.1116223	4	Muck	Pole										1															3		
338	45.8112908	-89.1110046	4	Muck	Pole																									2		
339	45.811286	-89.1103868	4	Sand	Pole																									1		
340	45.8112812	-89.1097691	4	Muck	Pole																									2		
341	45.8112764	-89.1091514	3	Muck	Pole																									1		
342	45.8112716	-89.1085337	4	Muck	Pole																									1		
343	45.8112667	-89.1079159	6	Muck	Pole																											
344	45.8112619	-89.1072982	5	Muck	Pole																						1			1		
345	45.8117276	-89.1116154	3	Muck	Pole																						1			1		
346	45.8117228	-89.1109977	3	Muck	Pole																									2		
347	45.811718	-89.11038	3	Muck	Pole											1									1					1		
348	45.8117132	-89.1097622	4	Muck	Pole			1																						1		
349	45.8117084	-89.1091445	3	Muck	Pole			1																						3		
350	45.8121548	-89.1109908	3	Muck	Pole																									1		
351	45.81215	-89.1103731	2	Muck	Pole										1										1	1				1		
352	45.8121451	-89.1097554	5	Muck	Pole																											
353	45.8121403	-89.1091376	3	Muck	Pole			1							1															1		
354	45.8121355	-89.1085199	0			TERRESTRIAL																										
355	45.8125819	-89.1103662	0			NONNAVIGABLE (PLANTS)																										
356	45.8125771	-89.1097485	5	Muck	Pole																											
357	45.8125723	-89.1091307	7	Muck	Pole																											
358	45.8125675	-89.108513	7	Muck	Pole																											
359	45.8125627	-89.1078953	3	Muck	Pole			3																					1			
360	45.8130139	-89.1103593	0			TERRESTRIAL																										
361	45.8130043	-89.1091238	8	Muck	Pole																											
362	45.8129995	-89.1085061	9	Muck	Pole																											
363	45.8129946	-89.1078884	9	Muck	Pole																											
364	45.8134507	-89.1109702	0			TERRESTRIAL																										
365	45.8134459	-89.1103525	0			TERRESTRIAL																										
366	45.8134363	-89.109117	8	Muck	Pole																											
367	45.8134314	-89.1084992	9	Muck	Pole																											
368	45.8134266	-89.1078815	9	Muck	Pole																											
369	45.8134218	-89.1072637	8	Muck	Pole																											
370	45.813417	-89.106646	3	Muck	Pole									1	1	1	1						1	1								
371	45.8134121	-89.1060282	3	Muck	Pole		1							1			1				1		1		1			1			1	
372	45.8134073	-89.1054105	0			TERRESTRIAL																										
373	45.8134025	-89.1047927	0			TERRESTRIAL																										
374	45.8133976	-89.104175	0			TERRESTRIAL																										
375	45.8138875	-89.1115811	0			TERRESTRIAL																										
376	45.8138827	-89.1109633	0			TERRESTRIAL																										
377	45.8138779	-89.1103456	0			TERRESTRIAL																										
378	45.8138731	-89.1097278	0			NONNAVIGABLE (PLANTS)																										

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea nuttallii	Isoetes sp.	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Spirodela polyrhiza	Utricularia vulgaris	Vallisneria americana	SP_1	Aquatic Moss
379	45.8138634	-89.1084923	8	Muck	Pole																											
380	45.8138586	-89.1078746	8	Muck	Pole																											
381	45.8138538	-89.1072568	7	Muck	Pole																											
382	45.8138441	-89.1060213	0			NONNAVIGABLE (PLANTS)																										
383	45.8138393	-89.1054035	0			TERRESTRIAL																										
384	45.8138344	-89.1047858	0			TERRESTRIAL																										
385	45.8138296	-89.104168	0			TERRESTRIAL																										
386	45.8143147	-89.1109565	0			TERRESTRIAL																										
387	45.8143098	-89.1103387	0			TERRESTRIAL																										
388	45.814305	-89.1097209	0			TERRESTRIAL																										
389	45.8143002	-89.1091032	0			NONNAVIGABLE (PLANTS)																										
390	45.8142954	-89.1084854	3	Muck	Pole		1	1								1																
391	45.8142761	-89.1060144	0			NONNAVIGABLE (PLANTS)																										
392	45.8142713	-89.1053966	0			TERRESTRIAL																										
393	45.8142664	-89.1047789	0			TERRESTRIAL																										
394	45.8142616	-89.1041611	0			TERRESTRIAL																										
395	45.8147466	-89.1109496	0			TERRESTRIAL																										
396	45.8147418	-89.1103318	0			TERRESTRIAL																										
397	45.814737	-89.1097141	0			TERRESTRIAL																										
398	45.8147322	-89.1090963	0			NONNAVIGABLE (PLANTS)																										
399	45.8147274	-89.1084785	0			NONNAVIGABLE (PLANTS)																										
400	45.8147226	-89.1078608	3	Sand	Pole										1	1							1								1	
401	45.8147177	-89.107243	0			NONNAVIGABLE (PLANTS)																										
402	45.8147129	-89.1066252	0			NONNAVIGABLE (PLANTS)																										
403	45.8147081	-89.1060075	0			TERRESTRIAL																										
404	45.8147032	-89.1053897	0			TERRESTRIAL																										
405	45.8146984	-89.104772	0			TERRESTRIAL																										
406	45.8146936	-89.1041542	0			TERRESTRIAL																										
407	45.8151786	-89.1109427	0			TERRESTRIAL																										
408	45.8151738	-89.1103249	0			TERRESTRIAL																										
409	45.8151594	-89.1084716	0			NONNAVIGABLE (PLANTS)																										
410	45.8151545	-89.1078539	0			NONNAVIGABLE (PLANTS)																										
411	45.8151497	-89.1072361	0			TERRESTRIAL																										
412	45.8151449	-89.1066183	0			TERRESTRIAL																										
413	45.8151401	-89.1060006	0			TERRESTRIAL																										
414	45.8151352	-89.1053828	0			TERRESTRIAL																										
415	45.8151304	-89.104765	0			TERRESTRIAL																										
416	45.8151255	-89.1041473	0			TERRESTRIAL																										
417	45.8156058	-89.1103181	0			TERRESTRIAL																										
418	45.8155865	-89.107847	0			TERRESTRIAL																										
419	45.8155817	-89.1072292	0			TERRESTRIAL																										
420	45.8155769	-89.1066114	0			TERRESTRIAL																										
421	45.815572	-89.1059937	0			TERRESTRIAL																										
422	45.8155672	-89.1053759	0			TERRESTRIAL																										
423	45.8155624	-89.1047581	0			TERRESTRIAL																										
424	45.8160185	-89.1078401	0			TERRESTRIAL																										
425	45.8160137	-89.1072223	0			TERRESTRIAL																										
426	45.8160088	-89.1066045	0			TERRESTRIAL																										
427	45.816004	-89.1059867	0			TERRESTRIAL																										
428	45.8159992	-89.105369	0			TERRESTRIAL																										
429	45.8164505	-89.1078332	0			TERRESTRIAL																										
430	45.8164456	-89.1072154	0			TERRESTRIAL																										
431	45.8164408	-89.1065976	0			TERRESTRIAL																										
432	45.816436	-89.1059798	0			TERRESTRIAL																										

Point Number	LATITUDE	LONGITUDE	DEPTH	SEDIMENT	POLE_ROPE	COMMENTS	Brasenia schreberi	Ceratophyllum demersum	Chara spp.	Eleocharis acicularis	Elodea nuttallii	Isoetes sp.	Megalodonta beckii	Myriophyllum sibiricum	Najas flexilis	Nuphar variegata	Nymphaea odorata	Pontederia cordata	Potamogeton epihydrus	Potamogeton gramineus	Potamogeton pusillus	Potamogeton richardsonii	Potamogeton robbinsii	Potamogeton spirillus	Potamogeton vaseyi	Potamogeton zosteriformis	Sparganium fluctuans	Spirodela polyrhiza	Utricularia vulgaris	Vallisneria americana	SP_1	Aquatic Moss
433	45.8164311	-89.105362	0			TERRESTRIAL																										
434	45.8168776	-89.1072085	0			TERRESTRIAL																										
435	45.8168728	-89.1065907	0			TERRESTRIAL																										
436	45.816868	-89.1059729	0			TERRESTRIAL																										

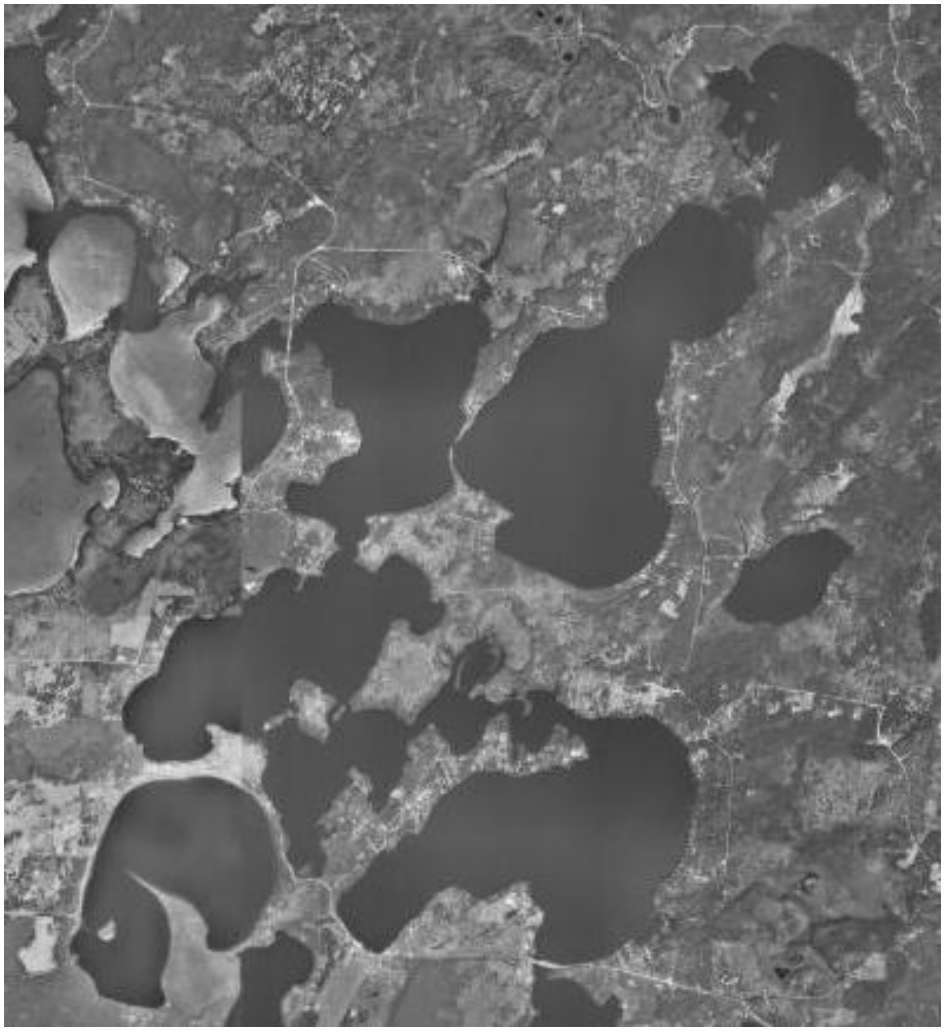
G

APPENDIX G

Fisheries Reports and Data Summaries

Comprehensive Fisheries Survey of the Central Three Lakes Chain, Oneida County Wisconsin during 2007.

Waterbody Identification Codes: Little Fork, 1610600; Big Fork, 1610700; Fourmile, 1610800; Medicine, 1611700; Laurel, 1611800; Big Stone, 1612200



John Kubisiak
Senior Fisheries Biologist
Rhinelander
April, 2008

WISCONSIN
DEPT. OF NATURAL RESOURCES

SPORT FISH RESTORATION

Your purchase of fishing equipment and motor boat fuel supports boating access and Sport Fish Restoration.

Comprehensive Fisheries Survey of the Central Three Lakes Chain, Oneida County Wisconsin during 2007.

John Kubisiak
Senior Fisheries Biologist
April, 2008

EXECUTIVE SUMMARY

The Three Lakes Chain is a 20-lake chain with a surface area of 7,626 acres and 106 miles of shoreline. A comprehensive fisheries survey was conducted in cooperation with a crew from Wisconsin Valley Improvement Company on six lakes in the central portion of the Chain during spring, 2007. Lakes surveyed include Little Fork, Big Fork, Fourmile, Medicine, Laurel and Big Stone, with a combined area of 2,414 acres. Information was collected on all gamefish and panfish, but a primary goal of the survey was to evaluate the effectiveness of a 14-18 inch protected-slot walleye regulation which has been in place since 1996. Walleye (combined population estimate, PE = 3.7 adults per acre) and muskellunge were abundant, along with lower numbers of northern pike (PE = 0.46 adults per acre), smallmouth and largemouth bass. Yellow perch dominated the panfish catch, followed by bluegill. Black crappie, pumpkinseed and rock bass were found at moderate abundance. Walleye length-at-age was about a year behind the regional average. Yellow perch were fast-growing at ages 1 and 2, but slowed to about a year behind average after age 3. Black crappie, bluegill and pumpkinseed length-at-age were a year or more ahead of regional averages. Non-game species include burbot, cisco, common shiner, creek chub, golden shiner, shorthead redhorse, silver redhorse and white sucker.

I recommend continuing to manage Three Lakes Chain for walleye, stocked muskellunge and panfish. Walleye are regulated by a protected slot: there is no minimum length limit, but fish 14 to 18 inches may not be kept. Walleye size structure and growth rates showed minimal change between 1994 (no minimum length limit) and 2007 (protected slot). Based on this sample, either regulation is appropriate for Three Lakes Chain. Depending on angler preferences, the walleye regulation could be changed to no minimum length limit, but only 1 fish over 14 inches.

Study lakes and location:
Six lakes in the Three Lakes Chain of Lakes, Oneida County, T38-39N R11E
Located in northeast Oneida County in the town of Three Lakes. Part of the Upper Wisconsin River watershed. Inlets to the study reach include a culvert from Spirit Lake, Eagle River and Fourmile Creek and the outlet is Eagle River. Water level is controlled by a dam with 12.6 feet of head at Long Lake, operated by Wisconsin Valley Improvement Company.

Physical/Chemical attributes of the six study lakes (Andrews and Threinen 1966 except where more recent data are available):
Morphometry: 2,414 combined acres; maximum depth of 57 feet is reached in Big Stone Lake.
Watershed: 292 square miles, including 164 acres of adjoining wetlands.
Lake type: Drainage. Outlet flows to Island Lake in the Eagle Chain of Lakes.
Basic water chemistry: medium-hard – alkalinity 50 mg/l, conductance 22 μmhos.
Water clarity: Light brown water of moderate transparency.
Littoral substrate: 67% sand, 13% gravel, 11% muck and some rock.
Aquatic vegetation: moderate.
Winterkill: none.

Boat landing: Concrete-plank ramps on Big Fork, Medicine, Laurel and Big Stone. US Forest Service Ramp on Laurel has parking for 10 vehicles with trailers while the others have roadside parking. There is also a resort-owned ramp with parking on Big Stone.
Other features: Shoreline 90% upland with a small amount of coniferous-bog wetlands adjoining the lakes.

Purpose of Survey: Assess status of gamefish species and develop management recommendations. Evaluate the effectiveness of a 14-18 inch protected-slot walleye regulation.

Dates of fieldwork: Walleye netting, April 17-24 2007.
Electroshocking, April 23-24 2007
Panfish netting September 10-14 2007.

BACKGROUND

Three nets were set on Little Fork from April 29 through May 1, 1948 (6 net-nights). The file contains 12 summary sheets listing catch of 419 walleye (95% males) with mean size (sexes combined) of 14.5 inches. The catch also includes 14 northern pike, 52 crappie, 63 perch, 22 rock bass, 3 "sunfish," 33 suckers and 1 "whitefish" (likely a cisco).

Four large mesh and 4 fine mesh fyke nets were set on Laurel, Medicine and "Stone" (Big Stone) lakes during August 9-13, 1948 (32 net-nights). A single summary page lists 128 walleye, 16 largemouth bass, 6 smallmouth bass, 8 northern pike, 919 perch, 85 crappie, 22 rock bass, 3 sucker and 1 redhorse.

A 2000 foot shoreline seine was used on Big Stone and Big Fork lakes on July 13 and 14 (respectively), 1959. Big Stone yielded 1 muskellunge, 5 northern pike (12.0 to 14.9"), 1 smallmouth bass, 1 crappie, 27 walleye (3-12.1") and 12 perch (3.6 to 10.5"). The Big Fork catch consisted of 8 muskellunge (13.1 to 48.0"), 5 northern pike (11.2 to 37.4"), 990 walleye (2.3 to 14.7"), 25 crappie (6.8 to 12.3") and 135 perch (4.2 to 10.9").

Four of the study lakes were shocked during July, 1960 or June, 1961. On Big Stone, 34 walleyes (5.2 to 13.5 inches) were collected, along with 11 other species; another 105 walleye were "not measured" (Morehouse 1960a) A clipping from the 1960 Oneida County annual report states "*Following a seining survey of 1959 which resulted in little information, a shocker survey was conducted on Big Stone Lake on July 5, 1960. Many yearling walleyes were observed as well as a good run of panfish. Because of the larger number of walleyes, it is assumed that the distribution of that species during 1959 may have had a definite bearing on the population noted at this time. There seems to be less cover here than on most of the chain and efforts should be made to increase the catch. <u>It is recommended that 50 brush shelters be installed in proper areas of Big Stone Lake to enable a greater harvest of the existing fish population.</u>*" Medicine Lake yielded a July 20 1960 catch of 51 walleye (780 walleye in parentheses were presumably observed but not picked up), and 14 other species. The report indicates "*In this lake we found an excellent fish population consisting of muskies, walleyes, bass and panfish…Medicine Lake, along with Long and Big Lakes, are possibly the waters on the chain having the more balanced populations…Medicine Lake…does not require specific management on its own.*" (Morehouse 1960b).

Morehouse (1961a) collected 11 walleye and 4 other species on Big Fork on June 22 1961. Fourmile Lake was shocked the same night, but fish numbers were only estimated with 2 walleye and 14 other species reported (Morehouse 1961b). In contrast to his glowing reports and call for

greater harvest in 1960, Morehouse (1961a) recommends: *"Because of the scarcity of fish, however, in Four Mile (sic) and Big Fork lakes, the natural reproduction of the walleye coming through in 1961 and 1962 is questionable... We, therefore, recommend that Big Fork Lake be placed on the walleye stocking program in 1962 and stocked at the rate of 50 fingerlings per acre. This recommendation is to be followed through on certain waters of the Three Lakes Chain in 1962."*

Big Stone Lake was surveyed with fyke nets (24 net-nights) during May 8-12, 1972 and 8 hauls of a minnow seine (30,000 square feet) on July 17, 1972 (Tyler 1973). The netting catch included 252 walleye, 34 northern pike, 7 muskellunge, 1 largemouth bass, 1,153 yellow perch and 7 other species. The seine catch included 4 walleye (2.5-3 inch), 12 largemouth bass (2-3 inch), 2 smallmouth bass (3-7 inch) and 1,500 yellow perch (1-4 inch). Minnows were noted as present and crayfish abundant. It was noted that "*Walleye fingerlings were stocked in 1967 and 1969 and some of the captured fish may be from these stockings. However, fair numbers of fish are present from years when the lake was not stocked.*" Under Fish stocking was recommended "*Heavy stocking of walleye fingerlings for a period of three years is recommended. However, this stocking should be done only after a shocker survey was completed and that year's natural reproduction has been assessed. Periodic support stocking of muskellunge is also recommended.*"

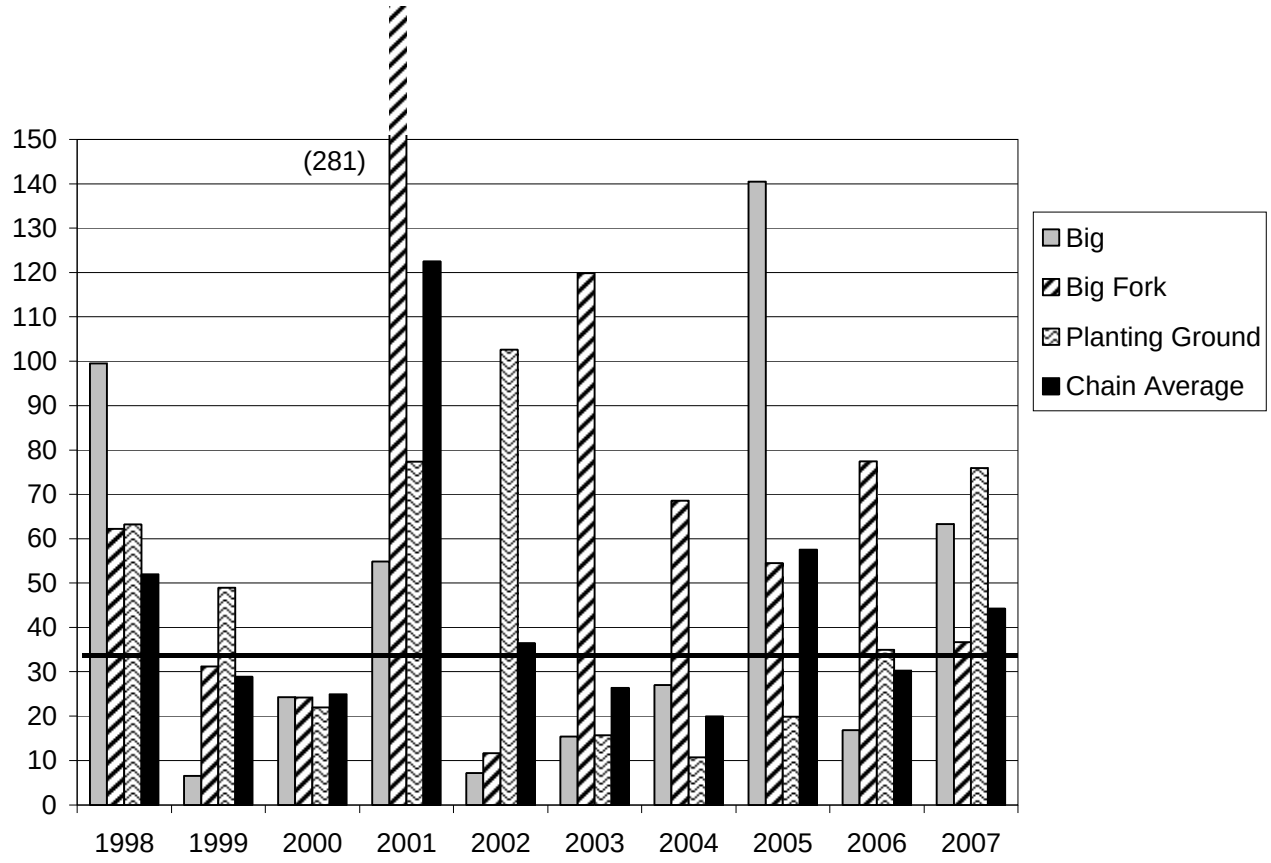
During fall, 1976 through fall, 1978, most of Three Lakes Chain received comprehensive surveys including fall electroshocking (sometimes during two years), spring and early summer netting (106 spring and 135 summer net nights on the 6 study lakes) and summer seining (Carlson, 1978a, 1978b, 1978c, 1979a, 1979b, 1979c). On the 6 study lakes, 30 species of fish were captured, including the following that were not captured during 2007 netting (mostly due to mesh size): brown bullhead, golden redhorse, mimic shiner, johnny darter, trout perch, mottled sculpin, brassy minnow, Iowa darter, blacknose shiner and pearl dace. Cisco were captured in all six lakes, with a combined total of 24 cisco. Walleye (20 per net night) and yellow perch (57 per net night) were the most abundant species during April netting, with Big Fork (54 per net night) dominating the walleye catch and Big Stone (104 per net night) leading the perch catch. June netting found low catches of panfish including black crappie (9.3), bluegill (6.7) and rock bass (5.0 per net night). Laurel Lake, followed closely by Fourmile, had the highest catch rate of panfish, except rock bass were highest in Fourmile and Medicine. Summer bullhead catch of 11.4 per net night was dominated by black bullhead (91%), followed by yellow bullhead (8.7%) and brown bullhead (0.45%). Catch of young-of-year (yoy) and age-1 walleye was very high during fall surveys, indicating strong yearclasses and good reproduction. The Fish Stocking section in the Big Stone survey is typical of the reports (Carlson 1979a): *"Discontinue walleye stocking. Stock 8 inch or larger muskellunge fingerling on an alternate year basis. All stocked fish should be fin clipped and evaluation surveys arranged to assess their contribution to the sport fishery.*"

A walleye mark-recapture population estimate and angler creel survey (reported separately) was conducted on most of Three Lakes Chain during 1994. Several lakes were combined during the survey, including Big Fork with Fourmile and Medicine with Laurel. The walleye population was estimated to be 4.4 adults per acre when estimates are averaged across the six lakes. This compares to a predicted population of 3.5 adult walleye per acre. An estimated 11.7% of the estimated population was at least 15 inches, while 1.8% were 20 inches or larger. Individual estimates per acre were 7.9 (Little Fork, $\pm$ 17% CV), 3.6 (Big Fork and Fourmile, $\pm$ 10%), 4.9 (Medicine and Laurel, $\pm$ 21%) and 2.8 (Big Stone, $\pm$ 10%).

Fall electroshocking surveys are a good measure of walleye yearclass strength. Fall netting surveys were conducted in 1944 on Medicine Lake and 1948 on Medicine, Laurel and Big Stone. Fall electroshocking was conducted in 1976 and 1977 on Big Fork, Laurel, Little Fork and in 1977 and

1978 on Medicine and Big Stone. There was a 1983 fall survey on Little Fork, and Great Lakes Indian Fish and Wildlife Commission (GLIFWC) conducted fall surveys in 1987 on Big Fork and 1988 on Big Stone. During 1990-2007, there have been annual fall surveys on various lakes in the chain by either WDNR or GLIFWC; there were 54 surveys on the six study lakes, including annual surveys on Big Fork Lake. These surveys show consistently strong natural reproduction of walleye (Figure 1).

Figure 1. Walleye young-of-year (yoy) surveys in Three Lakes Chain, Oneida County Wisconsin. The solid horizontal line marks the Chain-wide 10-year average of 33.6 yoy walleye per mile of shoreline.



METHODS

Ice went out of Laurel Lake during the weekend of April 14-15, 2007, but there were still large ice floes on Little Fork, Big Fork, Medicine and Big Stone lakes when 10 nets were set on April 17, and ice was present on Medicine and Little Fork when the remaining 14 nets were set on the 18th. One WDNR crew and one crew from Wisconsin Valley Improvement Company (WVIC) worked cooperatively during spring and fall netting periods and WVIC staff assisted on WDNR electrofishing boats. Ten standard fyke nets (3/4" bar measure) targeting walleye were set on April 17, 2007, and an additional 14 nets were set on April 18. Few walleye were captured after 2 nights in Laurel Lake, so the 6 nets were moved to Big Stone on April 19. The nets were pulled during April 22-24. Nets were fished for 26 net nights in Little Fork, 29 in Big Fork, 17 in Fourmile, 30 in Medicine, 11 in Laurel and 24 in Big Stone, for a total of 137 net nights. Adult gamefish were given a lake-specific partial fin clip for use in mark-recapture population estimates (except Big Fork and Fourmile both received left ventral): right ventral, left ventral, left ventral, left pectoral, right pectoral and bottom tail, respectively. Juveniles were given a top-tail clip to show that they had

been handled. Age structures (scales or spines) were removed from ten gamefish per species, per half-inch group and weights were recorded for these fish.

Two WDNR-standard alternating current electrofishing boats were used to collect fish from Big Fork and Fourmile on April 23, and 3 electrofishing boats were used on Little Fork, Medicine and Big Stone on April 24. Laurel was excluded due to low numbers of walleye marked. Length or length category (nearest half-inch) was recorded for all gamefish.

Panfish netting was conducted during September 10-14 2008. We set 2 nets in Little Fork, 3 in Big Fork, 1 in Fourmile, 2 in Medicine, 4 in Laurel and 4 in Big Stone (except one net was pulled after 3 days), for a total of 63 net nights. Two fine-mesh nets (½ inch netting) were set in Little Fork and Laurel, while the remaining 14 nets had ¾ inch netting. A top-tail clip was given to all panfish during the fall netting period. Length category was recorded for all panfish except recaptures bearing the top-tail clip. Scales (and anal spines on yellow perch) were removed and weights recorded from ten panfish per species, per half-inch group.

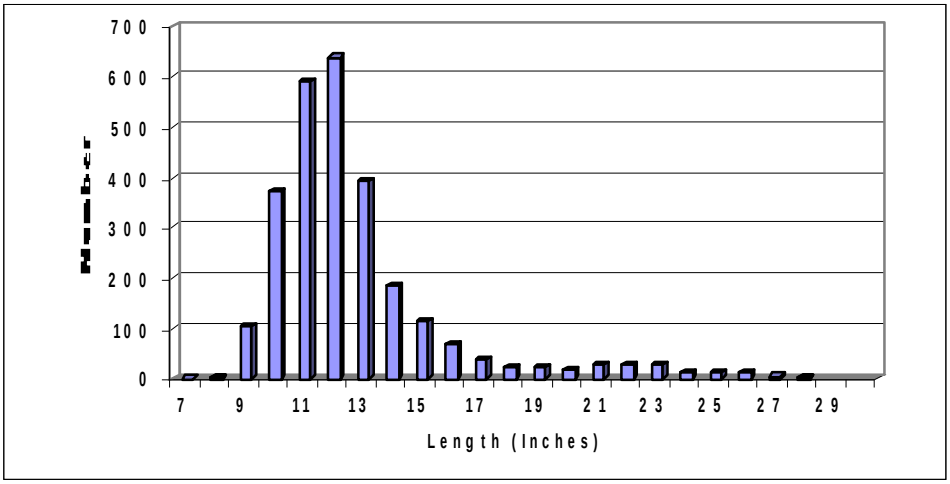
RESULTS AND DISCUSSION

Walleye

During walleye netting, 2,430 walleye were captured in 137 net nights, including 196 recaptures and 61 juvenile fish (walleye of unknown sex shorter than 15 inches), at a rate of 17.6 walleye per net night (Table 1). The electrofishing samples on April 23-24 yielded 1,742 walleye (75.1 fish per mile), including 998 juveniles. The combined mark-recapture population estimates of 7,966 adult walleye, or 3.7 per acre, is similar to the predicted value of 3.5 for six similar-sized lakes supported by natural reproduction. An estimated 12.6% of the estimated population is at least 15 inches, while 4.7% is 20 inches or larger (Figure 2). Individual estimates per acre are 2.5 (Little Fork, $\pm$ 26% CV), 5.9 (Big Fork, $\pm$ 8.3%), 1.3 (Fourmile, $\pm$ 17%), 3.5 (Medicine, $\pm$ 9.6%) and 2.6 (Big Stone, $\pm$ 16%).

A walleye population can be sustained by one good yearclass every 3 to 4 years. A benchmark for recruitment is the modal catch of yoy walleye in lakes with good natural reproduction, about 16 per mile. Fall electroshocking surveys on Three Lakes Chain show substantial recruitment of yoy and age-1 walleye (Figure 1).

Figure 2. Length-frequency of adult walleye during 2007 in Three Lakes Chain, Oneida County WI.



Growth rates are often slow in high-density fish populations, due to competition for limited food resources. On Three Lakes Chain, walleye growth is slow for the first few years of life, resulting in length-at-age that lags behind average despite near-average growth at older ages. Length-at-age is about a year behind the regional average for female walleye (Figure 3; Appendix A). Males are a half-year to a year behind until they reached 16 inches at about age 7, after which time the growth rate seems to stagnate (Figure 4; Appendix A). It is possible that size-selective harvest of fish as they reach 18 inches impacts the growth rate we measured. Many female walleye are mature by age 4, a year earlier than in most regional lakes, and some slower-growing females are likely diverting energy to producing eggs instead of growing.

Total annual mortality of the adult walleye population was estimated at 35%, using a catch curve regression of age 4 and older fish (Figure 5). Mortality rates differed by gender: 25% for age 5 to 16 females versus 51% for age 4 to 13 males.

Figure 3. Female walleye length-at-age during 1994 and 2007 in Three Lakes Chain, Oneida County WI.

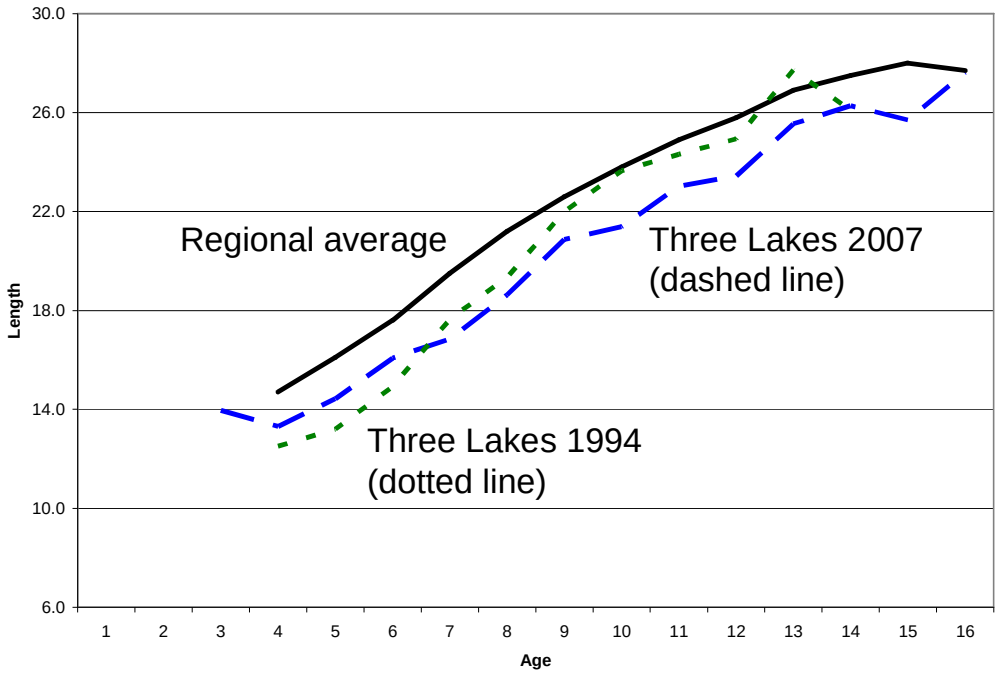


Figure 4. Male walleye length-at-age during 1994 and 2007 in Three Lakes Chain, Oneida County WI.

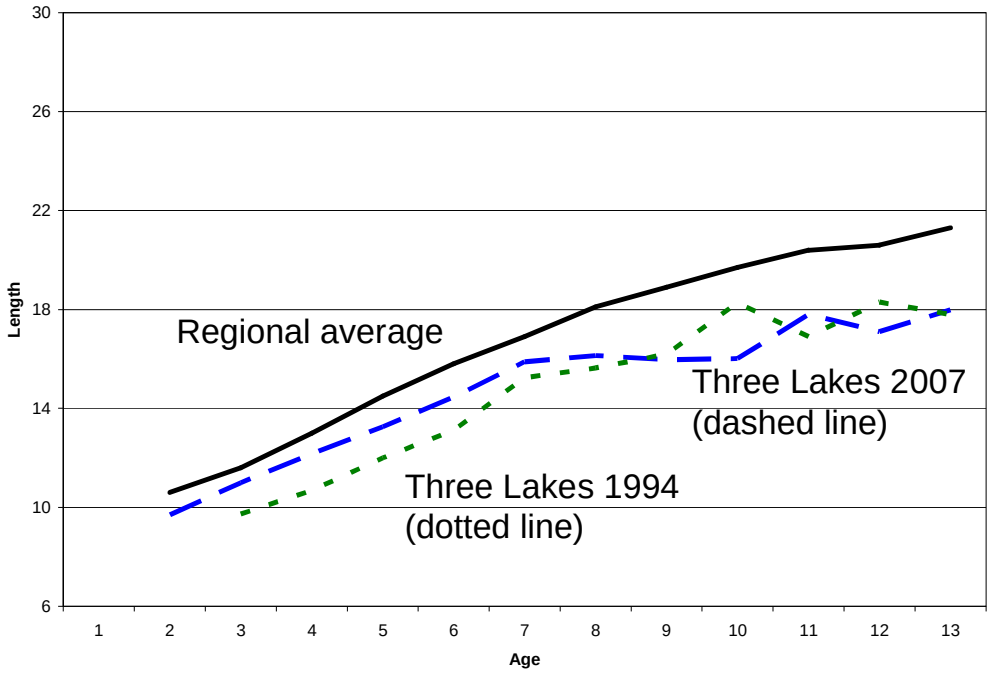
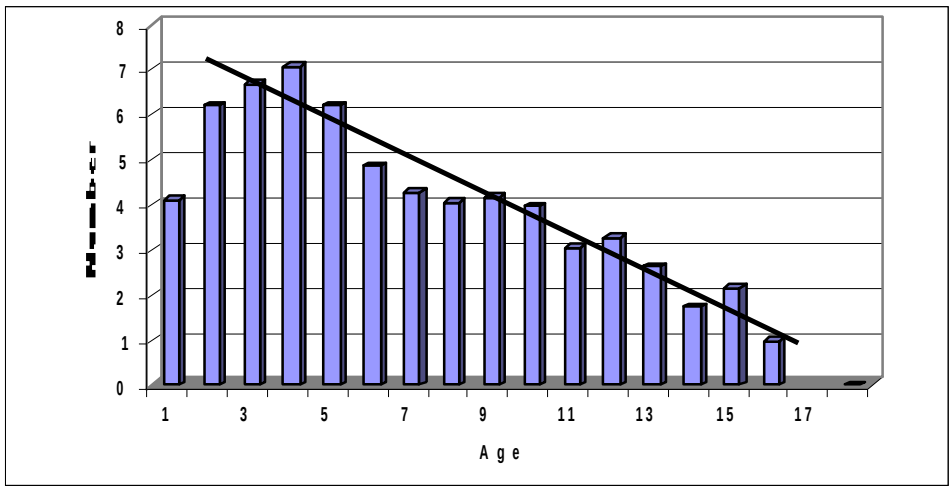


Figure 5. Walleye catch curve (natural log of catch at age) from Three Lakes Chain, Oneida County Wisconsin during 2007. Regression line indicates a total annual mortality of 35%.



14-18 inch protected slot walleye regulation

Walleye fishing on Three Lakes Chain is regulated by a protected slot: there is no minimum length limit but fish from 14 inches through 18 inches may not be kept. The daily bag limit is three walleye with only one fish over 18 inches allowed. The slot regulation has been in effect since 1996, while from 1958 through 1995 there was no minimum length limit on walleye. The goal of the slot regulation is to encourage harvest of abundant smaller fish and improve the abundance of quality-size fish larger than 14 inches.

The slot regulation is best suited for lakes with high recruitment and average or better growth rates, to allow harvest of over-abundant smaller fish while improving the number of larger quality-size fish. On Three Lakes Chain, recruitment is more than adequate to get fish into the protected slot. Length-at-age is about a year behind the regional average (Figures 3 and 4; Appendix A). However, a comparison of past surveys shows a decline in the relative number of fish 14 inches and larger from 39.1% in the 1977-78 surveys (Carlson, 1978a, 1978b, 1978c, 1979a, 1979b, 1979c) to 19.1% in 1994, despite a regulation of no minimum length limit on walleye from 1958 though 1995. Although the slot limit was implemented in 1996, there was little difference in the relative number of fish 14 inches and larger between 1994 (19.1%) and 2007 (22.4%, Figure 6). These results are not consistent with slot-limit results from other high-recruitment lakes, which generally show improvement in the number of walleye between 14 and 18 inches (unpublished data). Fish populations are not static and size structure varies for reasons other than length limits. Nevertheless, the data suggest that the two regulations will produce similar results on Three Lakes Chain.

Figure 6. Length-frequencies by percent of total numbers of 14-inch and larger walleye during 2007 (solid bars), 1994 (hash-marked) and 1977-78 (clear) in Three Lakes Chain, Oneida County WI.

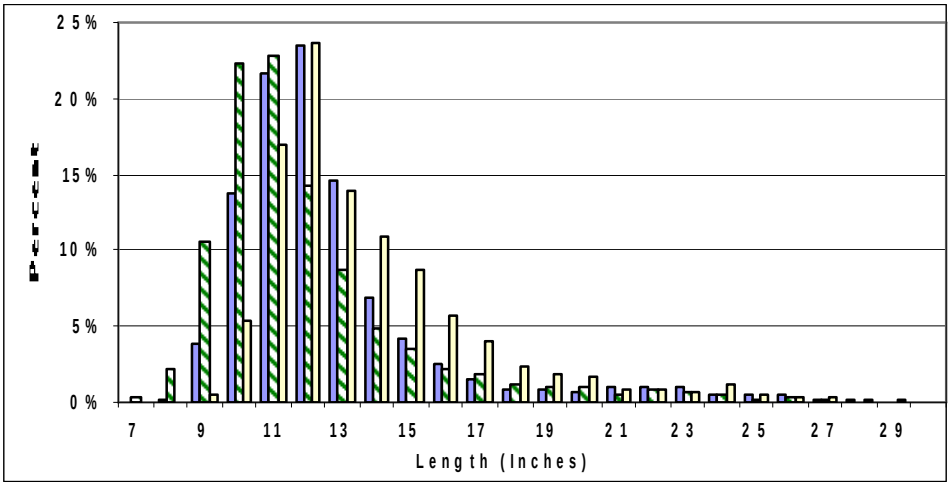


Table 1. Fish catch per unit effort during a 2007 survey of six lakes in Three Lakes Chain, Oneida County Wisconsin. Historic net catch from the same lakes is included for comparison. Netting catch rates are reported as number of fish per net night, while electrofishing (shocking) catch rates are number of fish per mile of shoreline. Only gamefish data were collected during electrofishing.

species	walleye netting	April shocking	fall panfish netting	1994 walleye netting	1977-78 netting
walleye	17.7	75.1	1.7	18.1	20.4 (spring)
largemouth bass	0.066	0.043	1.7		
muskellunge	0.55	1.2	0.13	0.77	
northern pike	2.1	1.1	0.46	1.6	
hybrid muskie x pike	0	0	0.016		
smallmouth bass	0.31	2.3	0.14		
black bullhead	0.036		0.048		10.3 (summer)
black crappie	3.9		6.4		9.3 (summer)
bluegill	4.9		53.6		6.7 (summer)
hybrid bluegill x pumpkinseed	0.56		1.1		
burbot	0.13		0.016		
cisco	0.015		0		
common shiner	0.029		0		
creek chub	0.0073		0		
golden shiner	0.50		0.40		
pumpkinseed	0.80		7.5		
rock bass	2.2		1.4		5.1 (summer)
shorthead redhorse	0.021		0.016		
silver redhorse	0		0.016		
white sucker	0.87		0.40		
yellow bullhead	1.2		1.4		1.0 (summer)
yellow perch	85.7		3.1		56.4 (spring)

Table 2 Fish-stocking record during 1990 through 2007 in six lakes in Three Lakes Chain, Oneida County WI (Little Fork, Big Fork, Fourmile, Medicine, Laurel and Big Stone Lakes).

Year	Lake	Species	Size	Number	Comments
1990	Medicine	muskellunge	lg fingerling (10-12 inch)	800	
1990	Big Stone	muskellunge	lg fingerling (10-12 inch)	600	
1991	Big Fork	muskellunge	lg fingerling (10.9 inch)	420	
1991	Medicine	muskellunge	lg fingerling (11.7 inch)	300	
1991	Big Stone	muskellunge	lg fingerling (10.9 inch)	420	
1992	Medicine	muskellunge	lg fingerling (8.8 inch)	275	
1993	Big Fork	muskellunge	lg fingerling	600	
1993	Medicine	muskellunge	lg fingerling	300	
1993	Big Stone	muskellunge	lg fingerling	600	
1995	Laurel	yellow perch	adult	46	field transfer
1995	Laurel	bluegill	adult	252	from Lake of
1995	Laurel	pumpkinseed	adult	17	the Hills
1996	Medicine	muskellunge	lg fingerling (10.8 inch)	175	
1996	Medicine	bluegill	adult (4 inch)	1,691	field transfer
1996	Medicine	pumpkinseed	adult (4 inch)	161	field transfer
1996	Laurel	bluegill	adult (4.6 inch)	1,065	field transfer
1996	Laurel	pumpkinseed	adult (4.6 inch)	118	field transfer
1996	Big Stone	bluegill	adult	1,739	field transfer
1996	Big Stone	pumpkinseed	adult	194	field transfer
1996	Big Stone	muskellunge	lg fingerling	300	
1998	Laurel	bluegill	adult (4 inch)	1,960	field transfer
1998	Big Stone	bluegill	adult	891	Lake of the Hills
1998	Big Stone	muskellunge	lg fingerling (12.5 inch)	600	
2000	Big Stone	muskellunge	lg fingerling (10.9 inch)	600	
2002	Laurel	black crappie	adult (9 inch)	97	field transfer
2002	Laurel	bluegill	adult (5.8 inch)	694	from Lake of
2002	Laurel	pumpkinseed	adult (5.8 inch)	962	the Hills
2002	Laurel	yellow perch	adult (7.0 inch)	30	Vilas Co.
2002	Big Stone	muskellunge	lg fingerling (10.2 inch)	274	
2004	Big Fork	muskellunge	lge fingerling (10.3 inch)	260	
2004	Medicine	muskellunge	lg fingerling (10.3 inch)	140	
2004	Big Stone	muskellunge	lg fingerling (10.3 inch)	205	
2006	Big Fork	bluegill	adult (4.9 inch)	1,915	field transfer
2006	Big Fork	pumpkinseed	adult (4.9 inch)	629	from Maple L.
2006	Big Fork	BGxPKS hybrid	adult (4.5 inch)	314	Oneida Co.
2006	Big Fork	muskellunge	lg fingerling (9.9 inch)	315	
2006	Medicine	bluegill	adult (4.5 inch)	2,157	field transfer
2006	Medicine	pumpkinseed	adult (4.5 inch)	1,043	from Maple L.
2006	Medicine	BGxPKS hybrid	adult (4.1 inch)	503	Oneida Co.
2006	Medicine	muskellunge	lg fingerling (10.5 inch)	151	
2006	Laurel	bluegill	adult (5.1 inch)	2,190	field transfer
2006	Laurel	pumpkinseed	adult (5.0 inch)	420	from Maple L.
2006	Laurel	BGxPKS hybrid	adult (5.0 inch)	390	Oneida Co.
2006	Big Stone	bluegill	adult (4.9 inch)	2,015	field transfer
2006	Big Stone	pumpkinseed	adult (4.9 inch)	742	from Maple L.
2006	Big Stone	BGxPKS hybrid	adult (4.5 inch)	778	Oneida Co.
2006	Big Stone	muskellunge	lg fingerling (10.5 inch)	137	

Bass

Bass catch tends to be low during the cold walleye-netting period. A targeted bass survey with electroshocking during late May would have increased the catch. Only 10 largemouth bass were captured during spring sampling, and another 106 were captured during the fall netting survey. Over 70% of largemouth were less than 6 inches in length. Small fish are under-represented in the catch in most bass surveys, which target spawning fish in late spring. The high catch of small fish was mostly from fall netting and may be an artifact of selectivity by nets set in vegetation. However, good numbers of juvenile bass (both species) were observed in minifyke nets during 2006. It appears that recruitment is adequate but survival to larger sizes is poor. Seven fish were 14 inches and larger and the longest largemouth was 19.3 inches (Figure 7). Smallmouth bass exhibited the opposite size structure as largemouth, with few small fish but a fair number of quality-size fish up to 20.6 inches (Figure 8). Smallmouth bass are more likely to be found in wooded or rocky cover than largemouth, and may be more vulnerable to predation by the abundant walleye. We captured 104 smallmouth during the survey, including 4 recaptures of previously-marked fish.

Figure 7. Length-frequency of largemouth bass during 2007 in Three Lakes Chain, Oneida County Wisconsin.

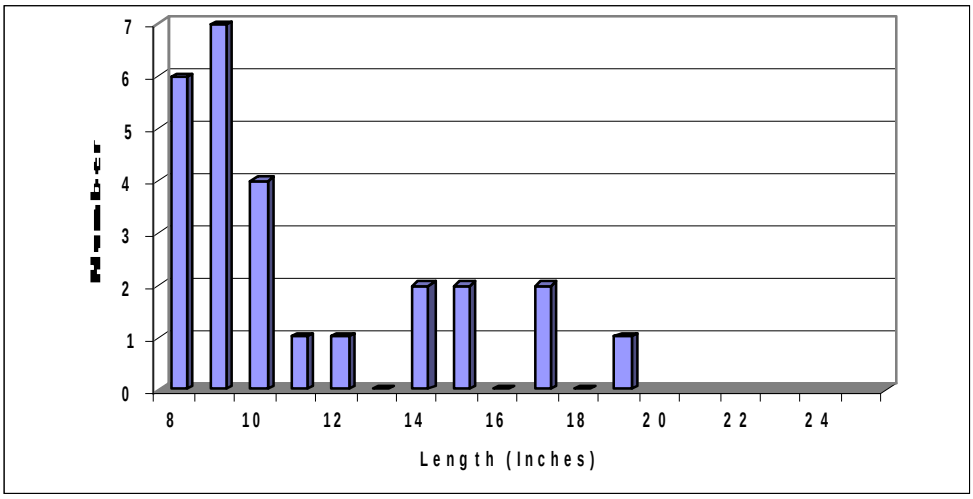
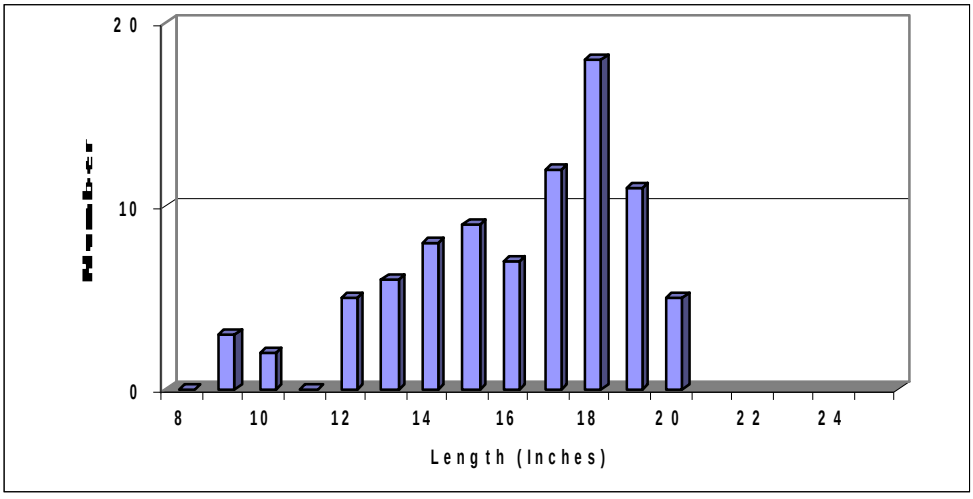


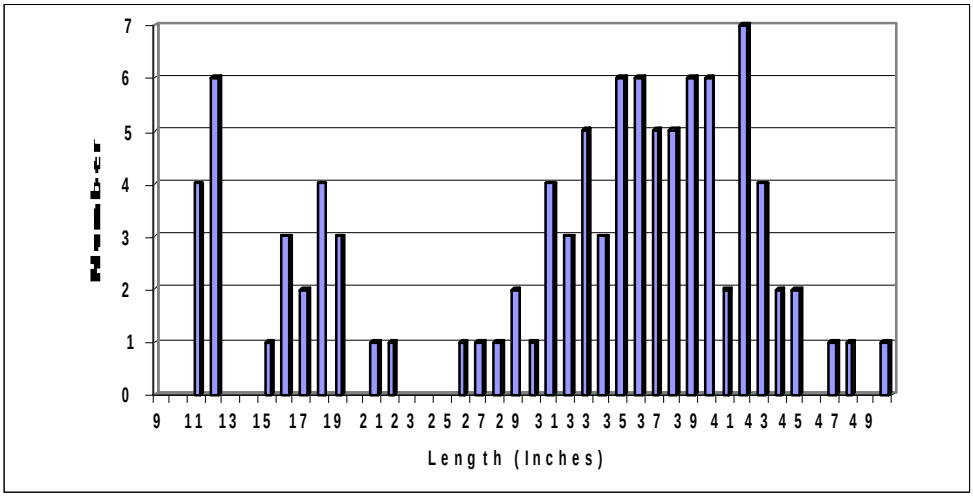
Figure 8. Length-frequency of smallmouth bass during 2007 in Three Lakes Chain, Oneida County Wisconsin.



Muskellunge

One hundred and four muskellunge were captured during spring netting and shocking, including 4 recaptures and 25 juvenile fish. In addition, a 37.0-inch tiger (hybrid muskellunge x northern pike) was captured in Fourmile Lake. Eight fish were captured during fall panfish netting. Muskellunge are stocked in Three Lakes Chain at a rate of 0.25 large fingerlings (generally 9-12 inch) per acre of water in even-numbered years. The Chain has a reputation as an action fishery, with good numbers of mid-30-inch fish, but few over 40 inches. However, 36% of the adult population (30 inches and larger) was at least 40 inches, while 6.7% were 45 inches or longer (Figure 9). The largest muskellunge was a 50-inch female from Medicine Lake.

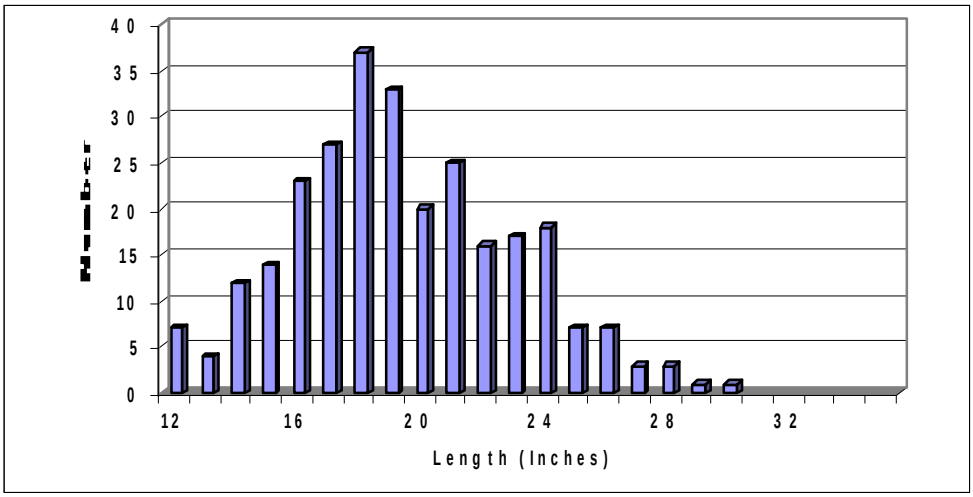
Figure 9. Length-frequency of muskellunge during 2007 in Three Lakes Chain, Oneida County Wisconsin.



Northern Pike

Three hundred nineteen northern pike were captured during spring netting and shocking (including 3 juvenile and 36 recaptures). Another 29 northerns were captured during fall netting. The northern pike population (including sexually mature fish and all fish over 12 inches) was estimated for the 6 lakes combined at 1,110 (± 187 SD), or 0.46 per acre, using the Schnabel multiple-capture method (Ricker 1975). The Medicine + Laurel population was estimated at 370 northern pike (± 95 SD), or 0.61 per acre. This is very low density for a northern pike population. Average size of adult northern pike was 19.7 inches and only 5% of adults were 26 inches or larger (Figure 10). The largest northern pike was a 30.0 inch female from Medicine Lake.

Figure 10. Length-frequency of adult northern pike during 2007 in Three Lakes Chain, Oneida County Wisconsin.



Panfish

Little Fork, Big Fork, Medicine and Big Stone Lakes have relatively sandy basins and low amounts of aquatic vegetation. Fourmile and Laurel, in contrast, have fairly extensive areas of wetlands and aquatic vegetation. Three Lakes Chain is known for a strong perch fishery, but generally low centrarchid panfish abundance. Netting during the cold early spring period typically yields high catches of yellow perch and crappie but few bluegill or pumpkinseed. Yellow perch (in spring) and bluegill dominated the panfish catch, along with lower numbers of black crappie, pumpkinseed and rock bass (Table 1).

Black crappie catch was strongest in Fourmile Lake, with 11 per net night in spring and 21 per net night in fall. Crappie size structure showed good numbers of fish between 8 and 12 inches (Figure 11). Bluegill catch was highest in Laurel (96 per net night) and Medicine (82 per net night). The Medicine bluegill catch was mainly contributed by abundant 3 to 4-inch fish from one net in a well-vegetated location, but most of Medicine's shoreline is sandy and open. The bluegill length-frequency reflects the high catch of 3.5 to 4.5 inch fish, but good numbers of fish up to 8 inches were also present (Figure 12). Yellow perch catch was highest in Little Fork (121 per net night) and Big Fork (108 per net night). Yellow perch were quite abundant and are undoubtedly an important forage species in the Chain. Quality-size fish made up a small proportion of the overall population but are abundant enough to provide good fishing if anglers can target them away from the smaller fish (Figure 17). By comparison, our catches were generally higher than Carlson's 1977-1978 surveys (Carlson, 1978a, b, c; 1979a, b, c). Carlson found the highest catches of black crappie (20 per net night during summer) and bluegill (17 per net night) in Laurel, while yellow perch were most abundant in Big Stone (104 per net night during early spring).

Figure 11. Length-frequency of black crappie during 2007 in Three Lakes Chain, Oneida County WI.

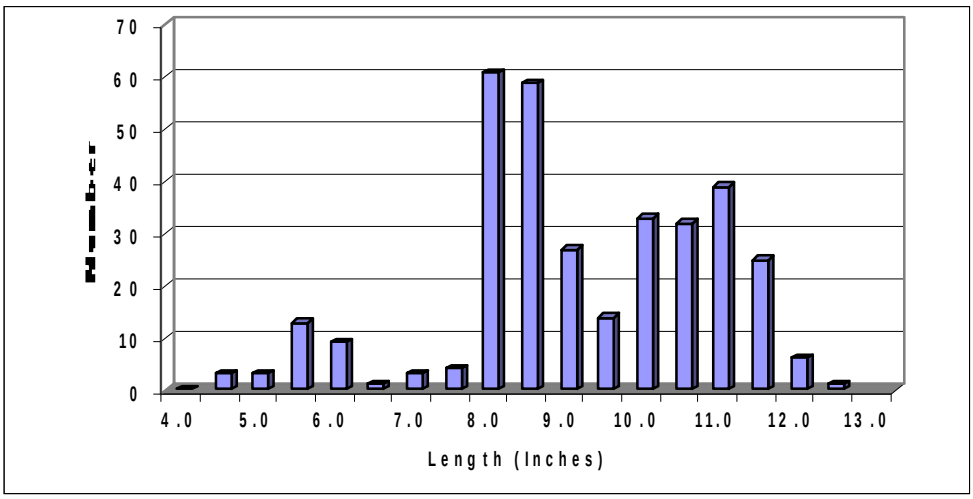


Figure 12. Length-frequency of bluegill during 2007 in Three Lakes Chain, Oneida County WI.

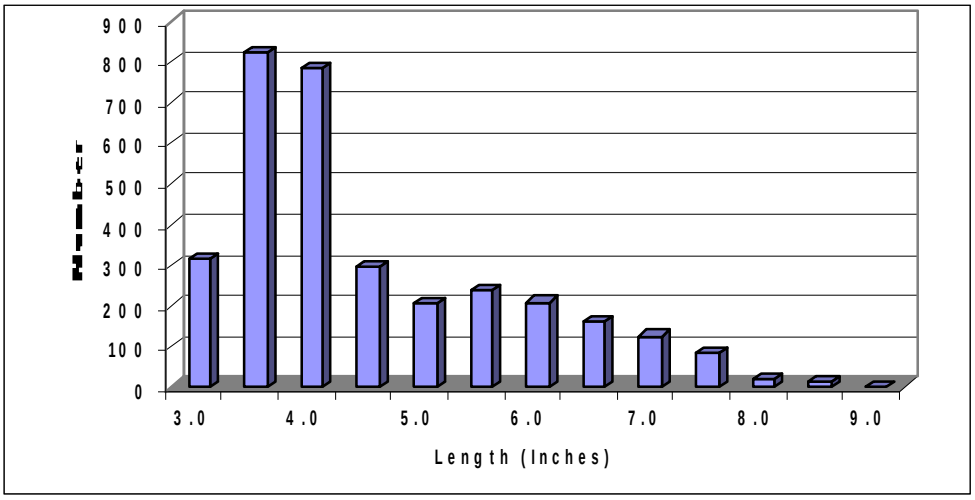


Figure 13. Length-frequency of pumpkinseed during 2007 in Three Lakes Chain, Oneida County WI.

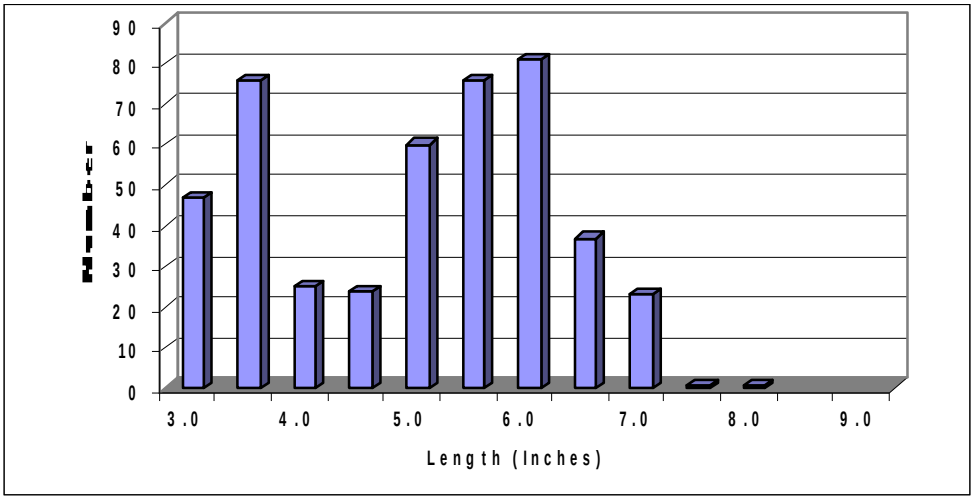


Figure 14. Length-frequency of hybrid bluegill x pumpkinseed during 2007 in Three Lakes Chain, Oneida County WI.

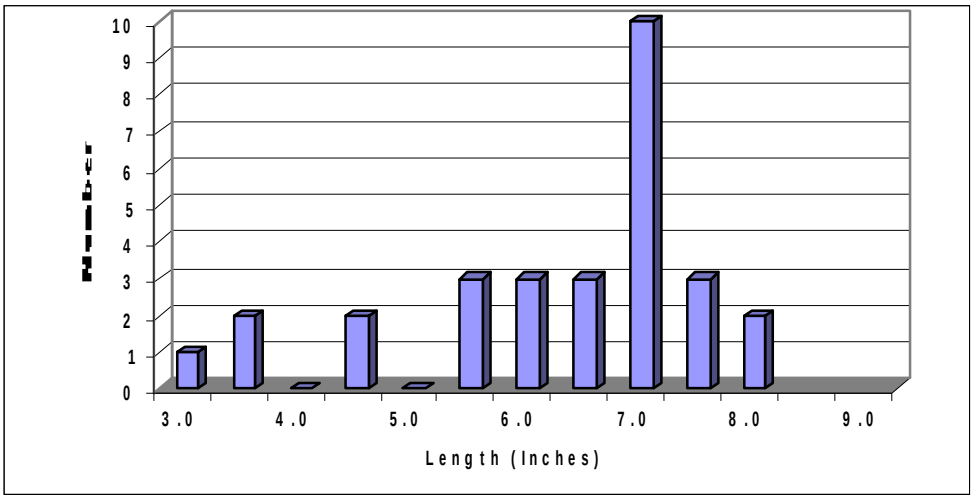


Figure 15. Length-frequency of rock bass during 2007 in Three Lakes Chain, Oneida County WI.

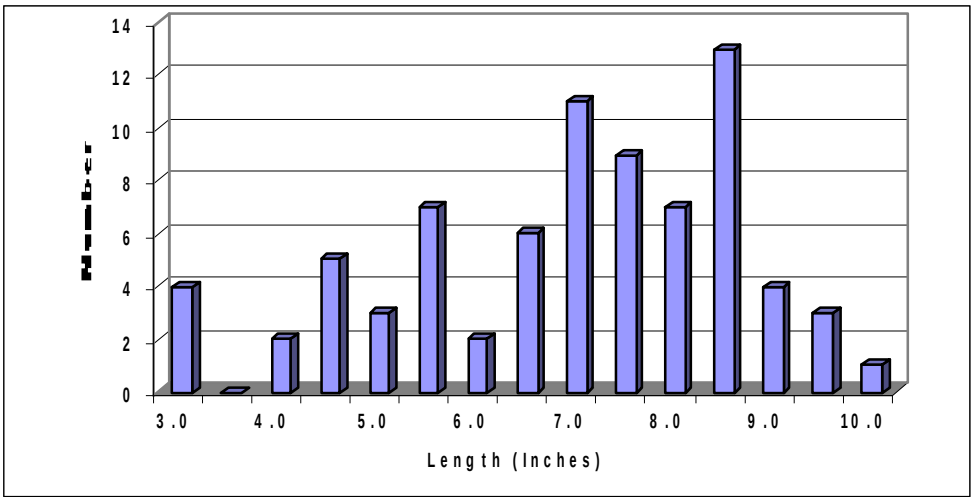


Figure 16. Length-frequency of yellow bullhead during 2007 in Three Lakes Chain, Oneida County WI.

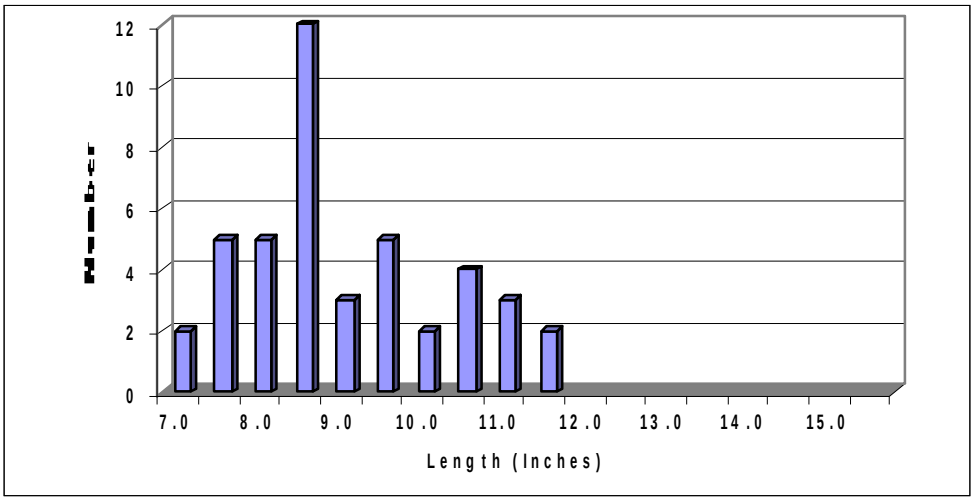
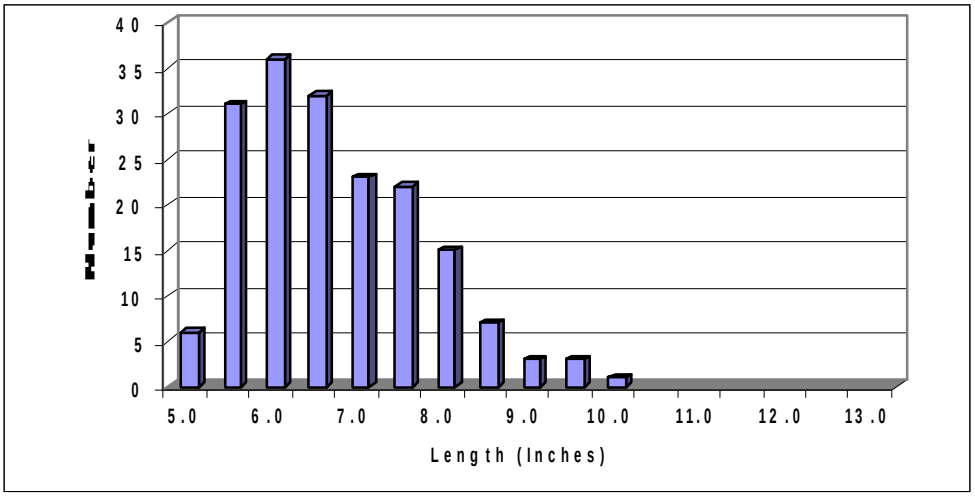


Figure 17. Length-frequency of yellow perch during 2007 in Three Lakes Chain, Oneida County WI.



MANAGEMENT RECOMMENDATIONS

Three Lakes Chain supports a diverse fishery. Walleye were the dominant gamefish, along with moderate populations of muskellunge, northern pike, smallmouth bass and largemouth bass. Walleye size was centered on 10 to 15 inches, but fairly good numbers of larger fish were present. Bass numbers appeared to be low. A few, mostly small-sized largemouth were captured. Smallmouth bass showed low numbers but very good size structure. All sizes of muskellunge were well-represented, and 36% of the adult population was 40 inches or larger. The northern pike population was very low-density. Pike length was centered on 18 inches, but sizes up to 30 inches were represented. Yellow perch were the dominant panfish, followed by bluegill, pumpkinseed, black crappie and rock bass.

Walleye length-at-age lagged about a year behind average by age 2. Slow growth is often the case in high-density populations like Three Lakes Chain, due to competition for limited food resources. Growth of the abundant yellow perch was also somewhat slow, while growth of lower-density bluegill, pumpkinseed, rock bass and crappie was a year or more ahead of the regional averages.

Stocking of large fingerlings helps maintain the muskellunge population, while other species are reproducing naturally. Three Lakes is best managed for walleye, muskellunge, yellow perch and black crappie. Smallmouth and largemouth bass, northern pike and bluegill provide a secondary fishery.

ACKNOWLEDGEMENTS

Wisconsin Valley Improvement Company (WVIC) provided field personnel for this study, and the second netting boat, nets and gear. Dave Coon (Fisheries Biologist for WVIC) and I coordinated the field work with daily assistance from WVIC Fisheries Technician Cathy Wendt and WDNR Fisheries Technician Steve Timler. Jeff Blonski assisted with spring gamefish netting and John Schinker helped lift and pull nets during rain and snow squalls on the last day of panfish netting. Blonski, Jason Halverson, Marty Kiepke, Steve Kramer, Tim Tobias and Keith Worrall assisted with electroshocking. Fish ages were assigned by Aaron Nelson (perch from scales and spines), Steve Timler (assorted species and quality control), Cathy Wendt (centrarchid panfish from scales) and me (walleye from scales and spines). Nelson and Wendt entered and summarized data. Mike Coshun calculated walleye population estimates and I generated the northern pike estimates.

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Cover image courtesy of TerraServer-USA website and the United States Geological Survey. http://terraserver-usa.com

APPENDIX A
FISH AGE RESULTS

The walleye and largemouth bass aged sub-samples were applied against an age-length key to eliminate bias from a non-random subsample.

Table A.1. Female walleye length-at-age in Three Lakes Chain, Oneida County Wisconsin during 2007 and 1994.

		2007		1994	
Age	Northern WI avg	Number of fish	Three Lakes avg length	Number of fish	Three Lakes avg length
3		2	13.9		
4	14.7	22	13.3	1	12.5
5	16.1	16	14.4	33	13.2
6	17.6	13	16.1	83	14.9
7	19.5	17	16.8	65	17.6
8	21.2	19	18.6	56	19.3
9	22.6	21	20.9	32	22.0
10	23.8	25	21.4	22	23.6
11	24.9	12	23.0	15	24.3
12	25.8	17	23.4	7	24.9
13	26.9	9	25.5	5	27.7
14	27.5	4	26.3	1	26.1
15	28.0	5	25.7		
16	27.7	2	27.6		
17		0			
18		1	25.3		

Table A.2. Male walleye length-at-age in Three Lakes Chain, Oneida County Wisconsin during 2007, 1994 and 1948. The 1948 walleye ages are bracketed on the length-frequency sheet (including 333 males and 11 females) with no indication of the number or sex of fish aged.

		2007		1994		1948
Age	Northern WI avg	Number of fish	Three Lakes avg length	Number of fish	Three Lakes avg length	Three Lakes weighted avg length
2	10.6	12	9.7			
3	11.6	25	11.0	37	9.7	11.3
4	13.0	41	12.2	90	10.7	12.2
5	14.5	20	13.3	54	12.0	13.9
6	15.8	6	14.5	81	13.1	15.4
7	16.9	7	15.9	22	15.2	
8	18.1	7	16.1	16	15.6	
9	18.9	8	16.0	7	16.2	
10	19.7	5	16.0	6	18.2	
11	20.4	1	17.8	3	16.9	
12	20.6	1	17.3	1	18.3	
13	21.3	2	18.0	1	17.8	

Table A.3. Unknown-sex walleye length-at-age in Three Lakes Chain, Oneida County Wisconsin during 2007 and 1994.

		2007		1994	
Age	Northern WI avg	Number of fish	Three Lakes avg length	Number of fish	Three Lakes avg length
1		3	8.3	1	6.9
2		17	8.5	8	7.9
3		10	10.2	31	9.1
4		18	11.8	12	10.2
5		6	13.2	11	12.4
6		8	14.6	22	14.6
7		0		7	16.0
8		1	17.6		

Table A.4. Bluegill length-at-age in Three Lakes Chain, Oneida County Wisconsin during fall, 2007.

Age	Number of fish	Three Lakes avg length	Northern WI avg
1	29	3.7	2.5
2	35	4.8	3.9
3	9	5.9	5.0
4	12	6.9	6.2
5	21	6.9	6.8
6	16	7.6	7.8
7	3	8.7	8.2
8	1	7.3	8.7
9	1	9.1	8.7

Table A.5. Pumpkinseed length-at-age in Three Lakes Chain, Oneida County Wisconsin during fall, 2007.

Age	Number of fish	Three Lakes avg length	Northern WI avg
1	31	3.5	2.2
2	45	5.5	3.6
3	12	6.3	4.8
4	3	7.0	5.7
5	14	6.8	6.5
6	3	6.6	6.8

Table A.6. Hybrid bluegill x pumpkinseed length-at-age in Three Lakes Chain, Oneida County Wisconsin during fall, 2007.

Age	Number of fish	Three Lakes avg length
0	0	
1	2	3.6
2	4	5.5
3	2	6.3
4	0	
5	6	7.1
6	4	7.8

Table A.7. Black crappie length-at-age in Three Lakes Chain, Oneida County Wisconsin during fall, 2007.

Age	Number of fish	Three Lakes avg length	Northern WI avg
0	13	2.9	
1	28	6.4	3.4
2	37	8.1	5.3
3	7	9.4	7.1
4	25	10.5	9.0
5	16	12.2	10.0
6	6	12.2	10.7
7	1	11.8	11.6

Table A.8. Yellow perch length-at-age in Three Lakes Chain, Oneida County Wisconsin during fall, 2007.

Age	Number of fish	Three Lakes avg length	Northern WI avg
1	16	4.7	3.4
2	22	6.1	5.3
3	20	6.8	7.1
4	20	7.8	9.0
5	17	8.6	10.0
6	1	10.2	10.7

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: June 23, 2009

TO: Mike Vogelsang, Headwaters Basin Fisheries Supervisor

FROM: John Kubisiak, Oneida County Fisheries Biologist

SUBJECT: Proposed walleye regulation change for Three Lakes Chain, Oneida County.

1. **Rule Author**

John Kubisiak, Rhinelander

2. **Affected waterbodies**

Three Lakes Chain: Virgin, Whitefish, Big, Dog, Crystal, Deer, Big Stone, Moccasin, Spirit, Laurel, Medicine, Fourmile, Big Fork, Little Fork, Island, Round, Town Line, Range Line, Planting Ground and Long Lakes and connecting waters.

3. **Statement of regulation proposal**

Change the walleye regulation to no minimum length limit but only one fish may be longer than 14 inches with a 5-fish daily bag limit. From 1996 to present, walleye have been regulated under the protected slot: no minimum length limit on walleye, but fish from 14" through 18" may not be kept. The daily bag limit is 3 walleye with only 1 fish over 18" allowed. Prior to 1996, there was no minimum length limit on walleye with a 5-fish daily bag limit.

4. **Statement of management objectives**

Three Lakes Chain is managed with walleye as the dominant predator. Stocked muskellunge, northern pike, bass and panfish are also present. Prior to 1996, Three Lakes Chain walleye population was regulated under no minimum length limit. There has been almost no change limit in walleye population parameters after 12 years under the protected slot versus the no minimum. I propose to change to the 1 over 14 regulation. The goal of the rule change is to maintain walleye size structure (RSD-14 = 20%) with an abundance of 3 to 4 adults per acre, provide increased opportunity for angler harvest and allow harvest of males over 14 inches in length.

5. **Description of fishery status**

Three Lakes Chain is a 20-lake chain with a surface area of 7,626 acres, located in northeast Oneida County Wisconsin. Walleye in Three Lakes Chain show strong recruitment, with a chain-wide average of 33.6 young-of-year per mile of shoreline during 1998 through 2007.

A 2007 comprehensive fisheries survey of 6 lakes in the center of the Chain found 3.7 adult walleye per acre (Kubisiak 2008). A walleye survey in 1994 found 4.4 adult walleye per acre (just using data from the 6 lakes surveyed in 2007); surveys during 1977-78 (Carlson 1978a, 1978b, 1978c, 1979a, 1979b, 1979c) did not result in a population estimate, but walleye catch (20 per net night) was similar to 2007 (17.7 per net night). RSD-14 was 40% in 1977-78, 19% in 1994 and 22% in 2007 (Figure 1). RSD-18 was 11% in 1977-78, 6.6% in 1994 and 7.3% in 2007 (Figure 1). Walleye lengths-at-age were about a year behind the regional averages in 2007 (Figures 2-3) and only 2 of 2,219 males were 18 inches or larger. In 1994, walleye length-at-age was about 2 years behind the regional average through age 6 for females (Figure 2) or 7 for males (Figure 3), but reached or exceeded the 2007 values at older ages. These results show minimal differences in the walleye population under the protected slot (1996 to

present) versus no minimum length limit (prior to 1996).

Figure 1. Length-frequency by percent of total numbers of walleye in Three Lakes Chain, Oneida County Wisconsin under the protected slot (2007, solid bars) and no minimum length limit (1994, hash-marked and 1977-78, clear).

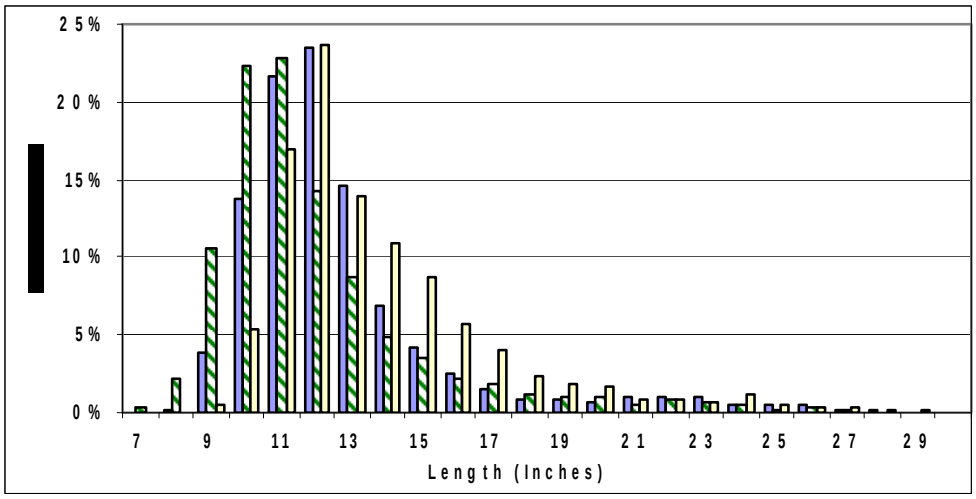


Figure 2. Length-at-age of female walleye in Three Lakes Chain, Oneida County Wisconsin in spring, 1994 and 2007.

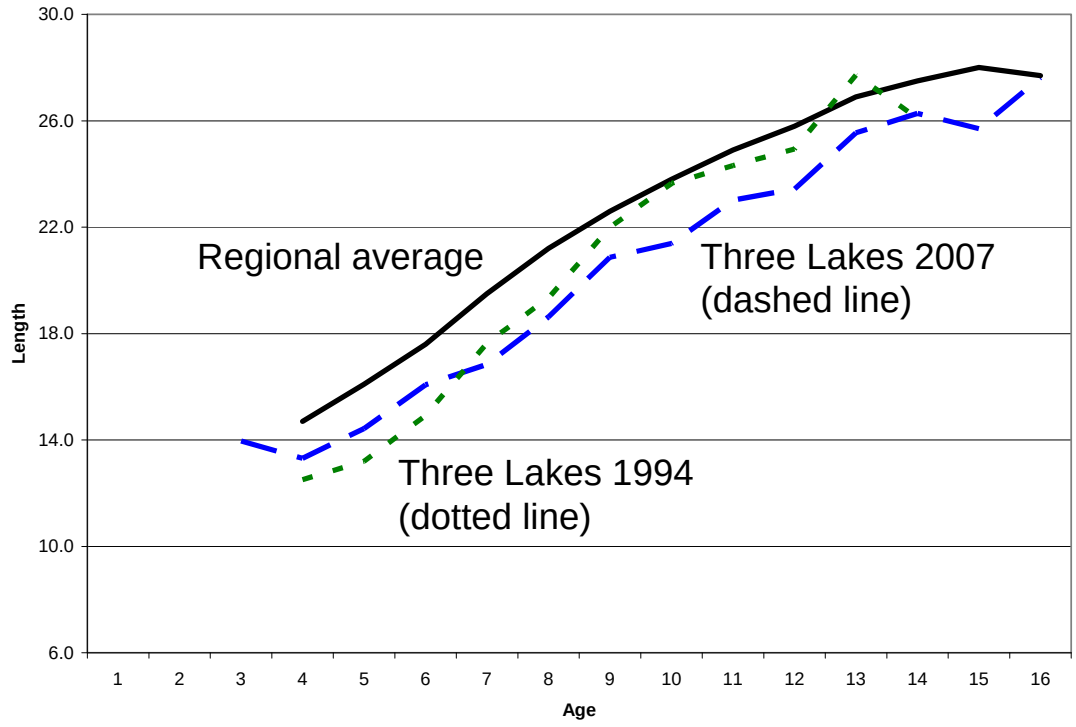
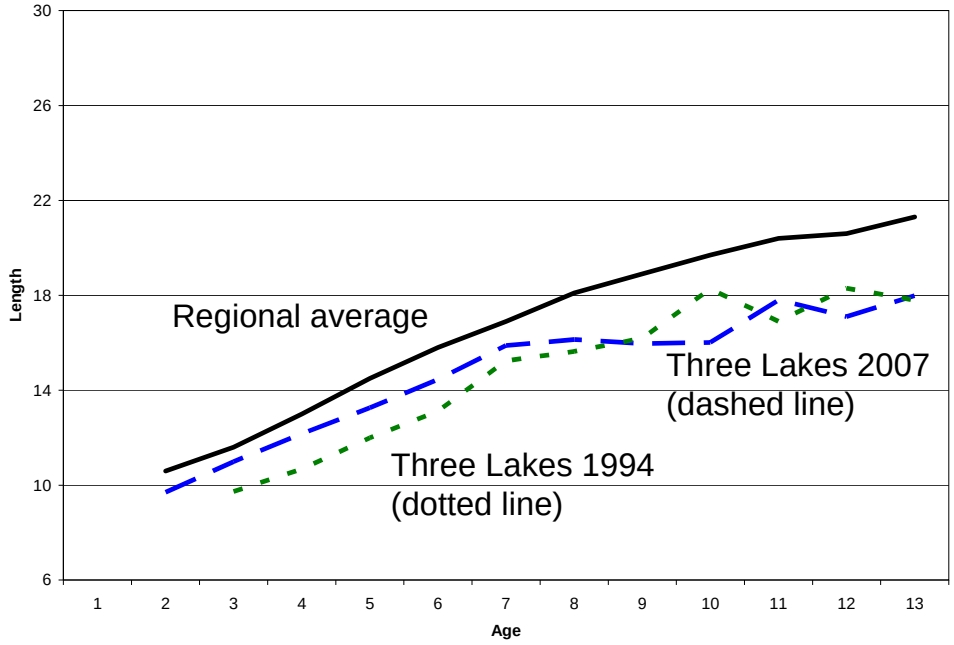


Figure 3. Length-at-age of male walleye in Three Lakes Chain, Oneida County Wisconsin in spring, 1994 and 2007.



6. **Justification of selected regulations**

Since 1996, walleye have been regulated under the protected slot: no minimum length limit on walleye, but fish from 14" through 18" may not be kept. The daily bag limit is 3 walleye with only 1 fish over 18" allowed. Prior to 1996, there was no minimum length limit on walleye with a 5-fish daily bag limit. Numerical models of different length limits predict that the 1 over 14 regulation (i.e., no minimum length limit but only one fish may be longer than 14 inches) is most appropriate for lakes like Three Lakes Chain with high recruitment but slow growth (Hewett and Simonson 1998). The protected slot is recommended for lakes with high recruitment and average or better growth and is predicted to increase the abundance of large walleye compared to the 1 over 14.

Three Lakes Chain walleye population is characterized by strong recruitment, average to above average adult densities, slow growth and modest size structure. The protected slot was implemented in 1996 in response to strong public support. However, the protected slot went against the advice of Fisheries Biologists and the Walleye Management Plan (Hewett and Simonson 1998), which recommended the 1 over 14 as the appropriate regulation. In 2007, the population showed no improvement in population metrics compared to 1994 (no minimum length limit), and size structure declined compared to the 1977-78 survey (Figure 1).

<u>Alternative approaches:</u>

No change: the protected slot has had a similar affect as no minimum length limit, but is needlessly more restrictive to anglers.

No minimum length limit: was in effect prior to 1996. Numerical models predict that the 1 over 14 will increase the fishable stock, spawning stock, catch and harvest over the no minimum, although those

predictions may be overly optimistic given the poor performance of the protected slot. The 1 over 14 is in place on a number of regional lakes and is much more common than the no minimum.

The 15, 18 or 26-inch minimum length limits are inappropriate for walleye populations with the high recruitment and slow growth found in Three Lakes Chain.

7. **Public comment**

Public comments generally favored the regulation change at two public presentations of the Three Lakes survey results (March 26, 2008 and February 19, 2009). Several anglers contacted the Rhinelander office to support the change with no comments against.

Based on past performance under no minimum length limit, the 1 over 14 regulation will increase walleye harvest opportunity, with little impact on the number of quality-size walleye. It will likely have a minimal or slightly positive affect on local businesses if anglers find it preferable to the current rule. Enforcement should not significantly change, although there is always the possibility of confusion with any new regulation.

8. **Previous action**

Since 1996, walleye have been regulated under the protected slot: no minimum length limit on walleye, but fish from 14" through 18" may not be kept. The daily bag limit is 3 walleye with only 1 fish over 18" allowed. Prior to 1996, there was no minimum length limit on walleye with a 5-fish daily bag limit.

9. **Draft question**

Three Lakes Chain walleye regulation – The current 14 to 18 inch protected slot limit has produced minimal improvement in the size structure of the Three Lakes Chain walleye population compared to no minimum length limit despite being in place for 12 years. However, it is more restrictive because it requires anglers to release 14 to 18 inch walleye. A more appropriate regulation for waters like Three Lakes Chain, with high abundance but slow growth, is "No minimum length limit on walleye but only one fish over 14 inches is allowed." The one over 14" regulation will increase walleye harvest opportunity and maintain a moderate number of walleye 14 inches and larger. Public comments favored this rule change at two meetings in Three Lakes.

Do you favor replacing the current no minimum length limit and 14 to 18 inch protected slot with no minimum length limit but only one walleye over 14 inches allowed and increasing the daily bag limit from 3 to 5 walleye in total on Three Lakes Chain, Oneida County?

10. **Literature cited**

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Carlson, H. 1978b. Comprehensive survey report for Fourmile Lake, Oneida County. Wisconsin Conservation Department, Woodruff. 4-page memorandum with 35 attached pages of figures and tables.

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Three Lakes Chain - Individual Lake Walleye Spear Harvest Data

	Big			Big Fork			Big Stone			Deer		
Year	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest
1989	384	208		312	169		253	138	38	89	55	
1990	401	216		327	176	175	265	143	134			
1991	361	198	179	292	161	161	236	129	129			
1992	343	188	166	278	152	151	225	123	122			
1993	347	206	206	281	166	122	228	134	29			
1994	328	196	24	266	159		214	128	61			
1995	376	225	215	306	183	165	185	110	110			
1996	323	248	248	262	201	182	159	122	61			
1997	338	202	201	274	164		220	186	110			
1998	338	287	287	273	232	90	220	186	17			
1999	333	199	61	269	228	228	216	183	1			
2000	339	288	288	274	164	164	220	186	43			
2001	347	208	60	280	237		226	192	101			
2002	347	294		280	237	213	225	191				
2003	346	294		280	167	167	225	191				
2004	349	296	74	281	238	215	226	192	95			
2005	333	283	6	268	160	140	215	182	125			
2006	335	284	282	270	229	209	217	184	184			
2007	337	202	202	271	162	162	218	130	100			
2008	334	283	281	495	381	356	172	132	130	73	62	
2009	327	196	195	424	254	254	147	88	53	71	60	
2010	333	283	239	268	227	227	215	182	115	72	61	
2011	337	202	150	272	163	163	218	185	49	74	62	
2012	327	277	277	264	224	144	212	180		72	61	
2013	306			246			197			67		

	Dog			Fourmile			Island			Laurel		
Year	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest
1989	107	66		108	67		143	88		115	70	
1990							151	81				
1991							133	73	3	106	58	19
1992				96	52		127	69		102	56	13
1993				97	52		128	76	32	103	60	
1994				90	49		119	71		95	56	8
1995				97	58	1	31	18		138	82	19
1996												
1997												
1998										97	82	30
1999												
2000										97	82	
2001				94	79		125	68	21	100	84	
2002				94	79		125	68	44	99	84	6
2003				94	79		125	68	57	100	84	
2004				94	79		126	69	28	100	84	
2005				89	75		119	65		94	79	
2006				90	76		120	65		95	80	
2007				90	76	18	120	101	29	96	81	
2008	89	75		34	26	12	120	101		95	80	
2009	86	73		29	22		117	99		93	79	12
2010	88	74		88	74		118	100		94	79	
2011	89	75		90	76		121	102		96	81	
2012	87	73		88	74		117	99		93	79	
2013	81			82			109			87		

Three Lakes Chain - Individual Lake Walleye Spear Harvest Data

	Little Fork			Long			Maple			Medicine		
Year	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest
1989	169	103								177	108	
1990	178	96								187	100	
1991	157	86								165	90	
1992	151	83								158	86	
1993	152	90								159	86	
1994	142	85								149	81	16
1995	343	205	120							222	133	34
1996										190	146	73
1997										153	84	
1998	145	123		247	209	27				152	83	80
1999				243	206	0				150	82	70
2000				248	210	120				152	83	54
2001	149	81	80	253	215	66				156	85	83
2002	149	81	81	253	215	51				156	85	85
2003	149	81	62	253	215	7				156	85	62
2004	149	81	49	254	215	60				157	86	78
2005	141	77		242	205	128				148	81	22
2006	143	78	77	244	207	133				150	82	80
2007	143	121	89	245	208	208				150	82	66
2008	110	65		243	145	144	9	7		158	63	4
2009	94	72	74	238	202	201	9	7		136	54	53
2010	141	84	84	242	145		7	5		148	81	80
2011	144	122	6	245	208	60	7	5		151	83	56
2012	139	118	25	238	202		7	5		146	80	78
2013	130			222			7			136		

	Moccasin			Mud (Crystal)			Planting Ground			Range line		
Year	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest
1989							442	240	233			
1990							462	249	213			
1991							417	229	193			
1992							395	217	217			
1993							400	238	229			
1994							380	227	145			
1995							253	151	149			
1996							217	167	167			
1997							392	235	256			
1998												
1999							387	328	328			
2000							394	236	236			
2001							403	342	278			
2002							403	241	215			
2003							401	340	311			
2004							404	242	149			
2005							387	328	264			
2006							389	233	226			
2007							391	332	306			
2008	40	33		8	6		388	232	232	52	44	
2009	39	33		8	6		380	322	322	50	42	
2010	40	33		7	5		387	232	232	51	43	
2011	41	34		7	5		392	333	330	52	44	
2012				7	5		380	227	226	51	43	
2013				7			355			47		

Three Lakes Chain - Individual Lake Walleye Spear Harvest Data

	Round			Spirit			Townline			Virgin		
Year	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest
1989				176	107		78	47		135	82	
1990				185	99					142	76	
1991	71	39		163	88	7				125	68	28
1992	68	37		156	85	5				120	65	
1993	69	40	7	158	86					121	71	
1994	63	37		147	80					112	67	
1995	15	8		152	83					116	69	
1999				148	140							
2000				151	143	1				115	97	
2001				155	147	3				118	112	
2002				154	146					117	111	
2003				155	147					118	112	
2004				155	147					118	112	57
2005				147	139					111	105	
2006				148	140					112	106	
2007				149	141					113	96	
2008	63	53		148	125		63	53		112	95	
2009	61	51		144	122		62	52		109	92	
2010	62	52		146	124		62	52		111	94	
2011	63	53		149	126		64	54		113	96	
2012	61	51		145	123		62	52		110	93	93
2013	57						58			102		

	Whitefish		
Year	Safe Harvest	Declaration	Total Harvest
1989	102	63	
1990	108	58	
1991	95	52	17
1992	91	20	50
1993	92	24	41
1994	85	20	7
1995	26	15	15
1999			
2000			
2001	9	7	
2002	10	8	
2003	10	8	
2004	10	8	
2005	11	9	
2006	11	9	
2007	11	9	
2008	11	9	
2009	12	10	
2010	9	7	
2011	9	7	
2012	9	7	
2013	9		

Three Lakes Chain - Individual Lake Muskellunge Spear Harvest Data

	Big			Big Fork			Big Stone			Deer		
Year	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest
1989		8			6			5				
1990		8			7			6				
1991		8			7			6				
1992		8			7			6				
1993		8			6			6				
1994		8			7			6				
1995		10			8			7				
1996		9			8			7				
1997		10			8			7				
1998		10		15	8		12	7				
1999	17	10		15	8	1	13	7				
2000	16	9		14	8		12	7				
2001	17	10		14	8		12	7				
2002	17	10		14	8		12	7				
2003	17	10		14	8		12	7				
2004	16	9	1	14	8		12	7				
2005	17	10		15	8	2	13	7				
2006	17	10	1	15	8		13	7				
2007	17	10		15	8		13	7				
2008	19	11		16	9		14	8		7	4	
2009	19	11		16	9		14	8		7	4	
2010	19	11		16	9		14	8		7	4	
2011	19	11		16	9		14	8		7	4	
2012	18	10		15	8		13	7		6	3	
2013	15			13			11			6		

	Dog			Fourmile			Island			Laurel		
Year	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest
1989		2			3			4			3	
1990								4				
1991								4			3	
1992					3			4			3	
1993					3			4			2	
1994					3			4			3	
1995					3						4	
1996												
1997												
1998										7	4	
1999												
2000										5	3	
2001				6	3		8	4		6	3	
2002				6	3		8	4		7	4	1
2003				7	4		8	4	1	7	4	
2004				7	4		8	4		7	4	
2005				7	4		9	4		7	4	
2006				7	4		9	4		8	4	
2007				7	4		9	5	2	7	4	
2008	8	4		8	4		10	5		8	4	
2009	8	4		8	4		10	5		8	4	1
2010	8	4		8	4		10	5		8	4	
2011	8	4		8	4		10	5		8	4	
2012	7	4		7	4		9	5		8	4	
2013	6			6			8			7		

Three Lakes Chain - Individual Lake Muskellunge Spear Harvest Data

	Little Fork			Long			Maple			Medicine		
Year	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest
1989		4			6						5	
1990		4			7						5	
1991		4			6						5	
1992		4			7						4	
1993		4			7						4	
1994		4			7						5	
1995		5			7						4	
1996					8						5	
1997					8						5	
1998	9	5		14	8					9	4	
1999				14	8					10	5	
2000				13	7					9	4	
2001	9	4		13	7					9	4	
2002	9	4		13	7					9	4	
2003	10	4		13	7					9	4	
2004	9	4		13	7					10	5	1
2005	10	5		14	8					10	5	
2006	10	5		14	8	1				10	5	
2007	10	5		14	8					10	5	
2008	11	6		15	8	1				11	6	
2009	11	6		15	8					11	6	
2010	11	6		15	8					11	6	1
2011	11	6		15	8					11	6	
2012	10	5		14	8					10	5	
2013	9			12						9		

	Moccasin			Mud (Crystal)			Planting Ground			Rangeline		
Year	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest
1989								9				
1990								10				
1991								10				
1992								10				
1993								10				
1994								10				
1995								11				
1996								11				
1997								11				
1998												
1999							19	11	1			
2000	3						18	10	1			
2001	3						19	11				
2002	4						18	10				
2003	4						18	10				
2004	4						18	10	2			
2005	4						19	11	1			
2006	4						19	11	1			
2007	4						19	11				
2008	5			6	3		21	12		6	3	
2009	5	2		6	3		21	12		6	3	
2010	5	2		6	3		21	12		6	3	
2011	5	2		6	3		20	11		6	3	
2012	4	2		5	2		20	11		5	2	
2013				4			16			4		

Three Lakes Chain - Individual Lake Muskellunge Spear Harvest Data

	Round			Spirit			Townline			Virgin		
Year	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest	Safe Harvest	Declaration	Total Harvest
1989					4			2			4	
1990					4						4	
1991		2			4	1					4	
1992		2			4						3	
1993		2			4						4	
1994		2			4						4	
1995		2			4						4	
1999					9							
2000				9	8					7	4	
2001				9	8					7	6	
2002				9	8					7	4	
2003				9	8					6	3	
2004				9	8					8	7	
2005				10	9					8	7	
2006				10	9					8	7	
2007		2		10	5					8	4	
2008	6	3		11	6		6	3		9	5	
2009	6	3		11	6		6	3		9	5	
2010	6	3		11	6		6	3		9	5	
2011	6	3		11	6		7	4		9	5	
2012	6	3		10	5		6	3		8	4	2
2013	5						5			7		

	Whitefish		
Year	Safe Harvest	Declaration	Total Harvest
1989		3	
1990		3	
1991		3	
1992		3	
1993		3	
1994		3	
1995		3	
1999			
2000			
2001	6	3	
2002	6	3	
2003	6	3	
2004	6	3	
2005	7	4	
2006	7	4	
2007	7	4	
2008	6	3	
2009	8	4	
2010	8	4	
2011	8	4	
2012	7	4	
2013	6		