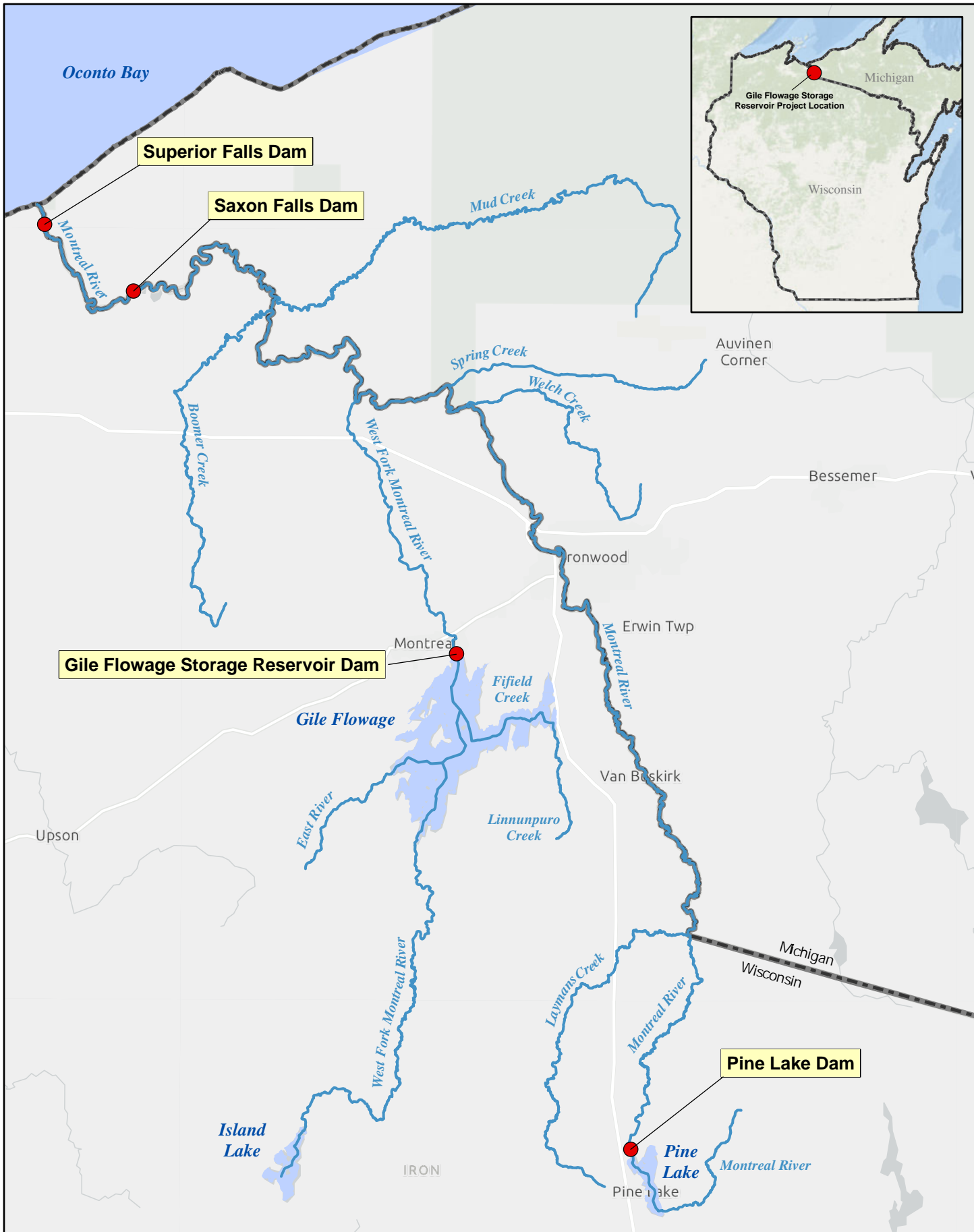


APPENDIX E-1

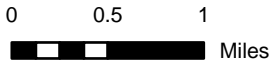
Tributaries of the Montreal River and Gile Flowage Storage Reservoir



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 Source Layer: ESR1; Wisconsin Department of Natural Resources at https://data-wi-dnr.opendata.arcgis.com



- Dam Location
- River/Creek
- Waterbody
- State Boundary

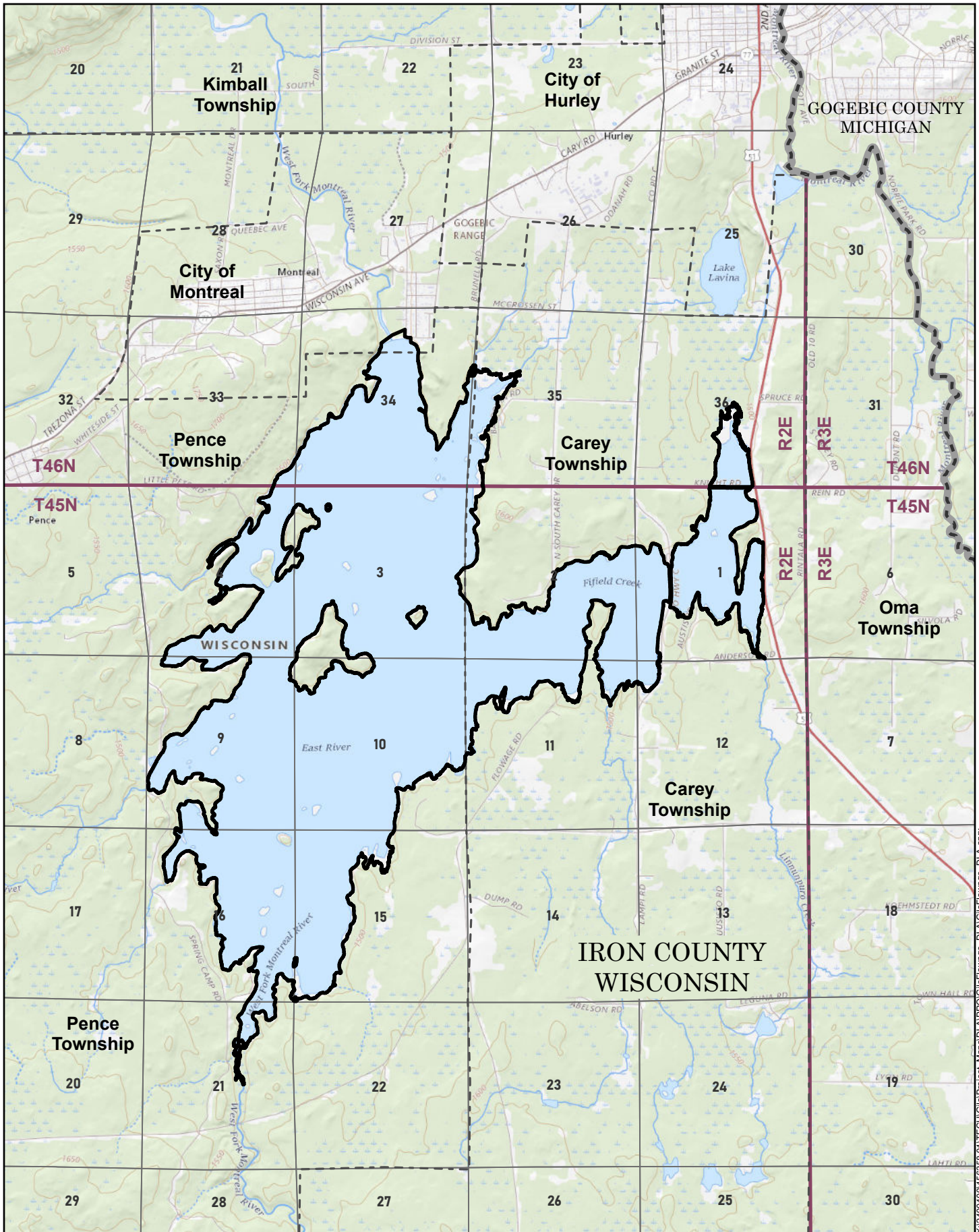


Tributaries to the Montreal River and Gile Flowage

FERC No. 15055

Note: the impounded Proposed Project Boundary is established at elevation 1490.0 feet NGVD.

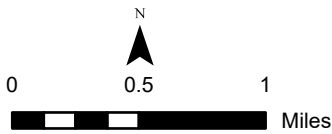
APPENDIX E-2 Topographic Map of Gile Project Vicinity



X:\2400\1001\658358.01\TECH\GileFlowage\Project_Maps\DLA\PRO\GileFlowage_DLA.aprx
 Source Layer: ESRI; WI 2020 NAIP (natural color, 1.0 meter-resolution); PLSS Source: Wisconsin State Cartographers Office at https://www.sco.wis.edu/data/



- Proposed Project Boundary
- State Boundary
- Municipal Boundary
- Township Range
- Section



**Gile Flowage Storage Reservoir
Topographic Map**

FERC No. 15055


Note: the impounded Proposed Project Boundary is established at elevation 1490.0 feet NGVD.

APPENDIX E-3

Gile Flowage Storage Reservoir Project Soils Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)


Soils


 Soil Map Unit Polygons


 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit


 Clay Spot


 Closed Depression

 Gravel Pit

 Gravelly Spot


 Landfill

 Lava Flow

 Marsh or swamp


 Mine or Quarry

 Miscellaneous Water

 Perennial Water


 Rock Outcrop


 Saline Spot

 Sandy Spot

 Severely Eroded Spot


 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot


 Very Stony Spot

 Wet Spot

 Other


 Special Line Features

Water Features

 Streams and Canals


Transportation

 Rails


 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Iron County, Wisconsin

Survey Area Data: Version 14, Sep 11, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 28, 2014—Jul 27, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
193A	Minocqua muck, 0 to 2 percent slopes	1.8	0.0%
215C	Pence sandy loam, 6 to 15 percent slopes	0.7	0.0%
444B	Gichigami-Oronto complex, 0 to 6 percent slopes	10.5	0.2%
2025	Pits and dumps, mine	14.0	0.2%
2030	Udorthents and Udipsamments, cut or fill	6.9	0.1%
5141A	Lupton-Pleine-Cathro complex, 0 to 1 percent slopes	167.7	2.6%
5170A	Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes	11.2	0.2%
5172C	Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes	54.2	0.8%
5175C	Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes, rocky	15.4	0.2%
5175D	Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 35 percent slopes, rocky	2.4	0.0%
5351B	Gogebic silt loam, 2 to 6 percent slopes, very stony, rocky	59.3	0.9%
5351C	Gogebic silt loam, 6 to 18 percent slopes, very stony, rocky	236.8	3.7%
5353B	Tula-Gogebic complex, 0 to 6 percent slopes, stony	746.4	11.7%
5369D	Dishno-Gogebic-Peshekee-Rock outcrop complex, 18 to 35 percent slopes, very stony	44.4	0.7%
5369E	Michigamme-Schweitzer-Peshekee-Rock outcrop complex, 35 to 55 percent slopes, very stony	59.6	0.9%
5374A	Bowstring-Arnheim complex, 0 to 1 percent slopes, frequently flooded	7.7	0.1%
5425A	Foxpaw-Gay, stony complex, 0 to 2 percent slopes	160.2	2.5%
5427B	Gogebic fine sandy loam, 1 to 6 percent slopes, stony	23.9	0.4%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
5429B	Gogebic-Peshekee complex, 2 to 6 percent slopes, very stony, very rocky	517.8	8.1%
5429C	Gogebic-Peshekee complex, 6 to 18 percent slopes, very stony, very rocky	657.4	10.3%
5432C	Gogebic-Michigamme-Rock outcrop complex, 6 to 18 percent slopes, very stony	1.6	0.0%
5432D	Gogebic-Michigamme-Rock outcrop complex, 6 to 35 percent slopes, very stony	206.8	3.2%
5432E	Schweitzer-Michigamme-Rock outcrop complex, very stony, 18 to 55 percent slopes	151.2	2.4%
5504A	Moquah-Arnheim complex, 0 to 3 percent slopes, frequently flooded	5.1	0.1%
5519B	Pence-Gogebic complex, 2 to 6 percent slopes, stony	13.0	0.2%
5689B	Chabeneau-Channing-Gogebic complex, 0 to 6 percent slopes, stony	9.4	0.1%
W	Water	3,220.9	50.3%
Totals for Area of Interest		6,406.5	100.0%



View Soil Information By Use: All Uses

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Soil Reports

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- AOI Inventory
- Building Site Development
- Construction Materials
- Disaster Recovery Planning
- Land Classifications
- Land Management
- Recreational Development
- Sanitary Facilities
- Soil Chemical Properties

Soil Erosion

Conservation Planning

RUSLE2 Related Attributes

View Description View Soil Report

Options

Include minor soils?

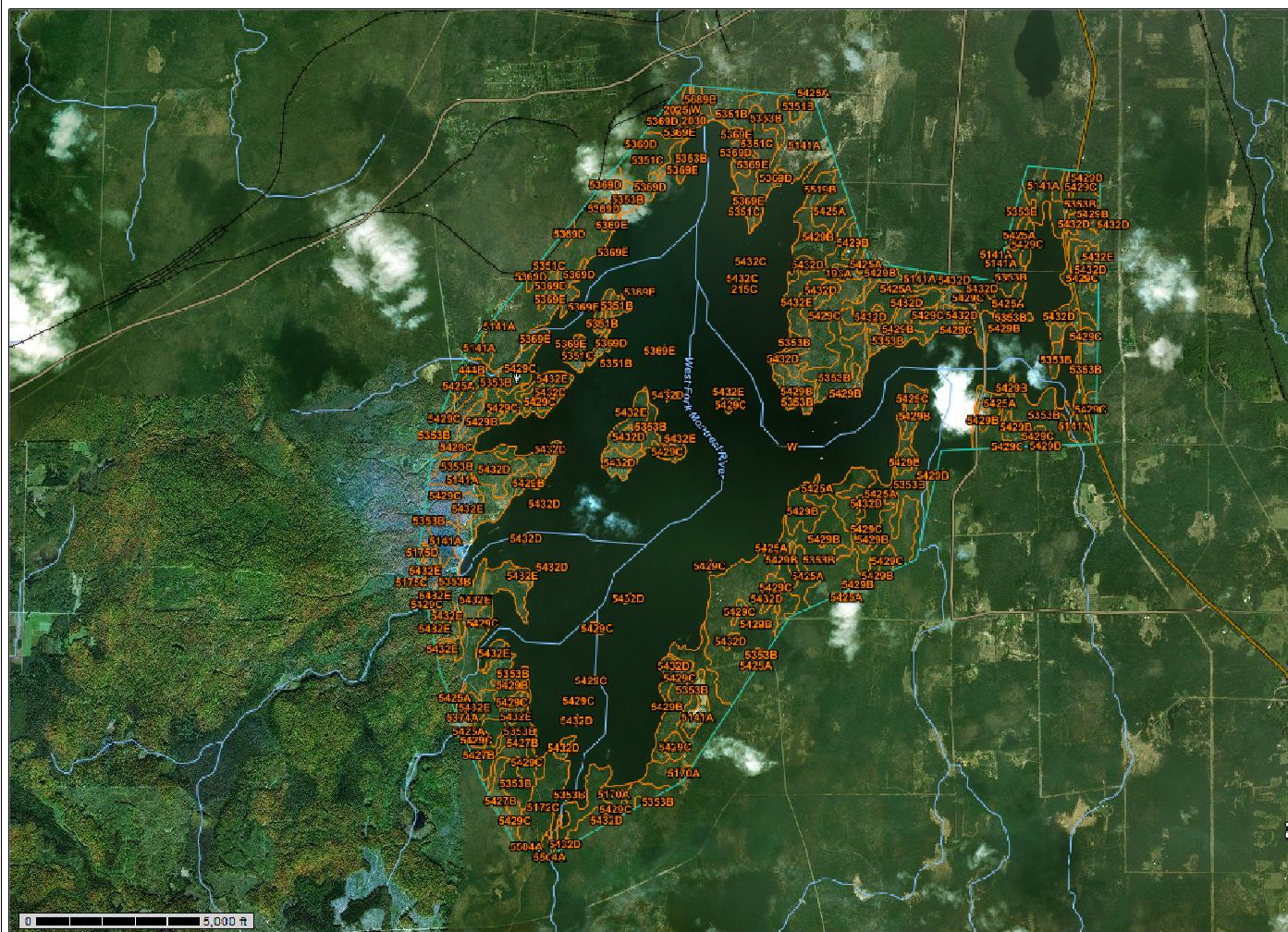
View Description View Soil Report

Windbreaks and Environmental Plantings

- Soil Health
- Soil Physical Properties
- Soil Qualities and Features
- Vegetative Productivity
- Waste Management
- Water Features
- Water Management

Soil Map

Scale (not to scale)



Report - RUSLE2 Related Attributes

Soil properties and interpretations for erosion runoff calculations. The surface mineral horizon properties are displayed. Organic surface horizons are not displayed.

Iron County, Wisconsin								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
193A—Minocqua muck, 0 to 2 percent slopes								
Minocqua	80	249	B/D	—	3	5.0	90.0	5.0
215C—Pence sandy loam, 6 to 15 percent slopes								
Pence	83	151	A	.24	5	63.0	32.0	5.0
444B—Gichigami-Oronto complex, 0 to 6 percent slopes								
Gichigami	70	200	B/D	.32	5	34.3	51.7	14.0
Oronto	25	249	C/D	.28	5	17.5	51.5	31.0
5141A—Lupton-Pleine-Cathro complex, 0 to 1 percent slopes								
Pleine	23	426	B/D	.43	1	66.2	26.3	7.5
Cathro	15	426	B/D	.37	1	65.0	25.0	10.0
5170A—Minocqua-Pleine-Cathro complex, 0 to 2 percent slopes								
Minocqua	50	249	B/D	.49	3	30.5	56.0	13.5
Pleine	30	249	B/D	.43	1	66.2	26.3	7.5
Cathro	15	249	B/D	.37	1	65.0	25.0	10.0
5172C—Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes								
Gogebic, sandy substratum	60	148	D	—	4	—	—	—
Cathro	15	249	B/D	.37	1	65.0	25.0	10.0
Pence, sandy substratum	15	98	A	—	2	—	—	—
5175C—Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 18 percent slopes, rocky								
Gogebic	55	98	C/D	—	4	—	—	0.0
Pence	20	98	A	.24	5	69.0	22.0	9.0
Cathro	15	249	B/D	.37	1	42.1	37.9	20.0
5175D—Gogebic, very stony-Pence, very stony-Cathro complex, 0 to 35 percent slopes, rocky								

Iron County, Wisconsin								
Pence	60	59	A	.24	5	69.0	22.0	9.0
Cathro	15	249	B/D	.37	1	42.1	37.9	20.0
Gogebic	15	59	C/D	—	4	—	—	0.0
5351B—Gogebic silt loam, 2 to 6 percent slopes, very stony, rocky								
Gogebic, rocky, very stony	85	295	D	—	4	5.0	90.0	5.0
5351C—Gogebic silt loam, 6 to 18 percent slopes, very stony, rocky								
Gogebic, rocky, very stony	85	148	D	—	4	5.0	90.0	5.0
5353B—Tula-Gogebic complex, 0 to 6 percent slopes, stony								
Tula	45	328	C/D	—	4	—	—	—
Gogebic, stony	40	295	D	—	4	—	—	—
5369D—Dishno-Gogebic-Peshekee-Rock outcrop complex, 18 to 35 percent slopes, very stony								
Dishno, very stony	35	98	C	—	3	5.0	90.0	5.0
Gogebic, very stony	30	98	D	—	4	5.0	90.0	5.0
Peshekee, very stony	15	98	D	—	1	5.0	90.0	5.0
Rock outcrop	15	—	—	—	—	—	—	—
5369E—Michigamme-Schweitzer-Peshekee-Rock outcrop complex, 35 to 55 percent slopes, very stony								
Michigamme, very stony	30	98	C	—	2	5.0	90.0	5.0
Schweitzer, very stony	25	98	C	.37	3	55.0	37.0	8.0
Peshekee, very stony	20	98	D	—	1	5.0	90.0	5.0
Rock outcrop	15	—	—	—	—	—	—	—
5374A—Bowstring-Arnheim complex, 0 to 1 percent slopes, frequently flooded								
Bowstring, frequently flooded	50	426	B/D	—	1	30.4	55.6	14.0
Arnheim, frequently flooded	40	426	B/D	.37	5	30.0	60.0	10.0
5425A—Foxpaw-Gay, stony complex, 0 to 2 percent slopes								
Foxpaw	45	426	B/D	—	5	—	—	—
Gay	40	1,551	B/D	.32	5	64.3	30.7	5.0

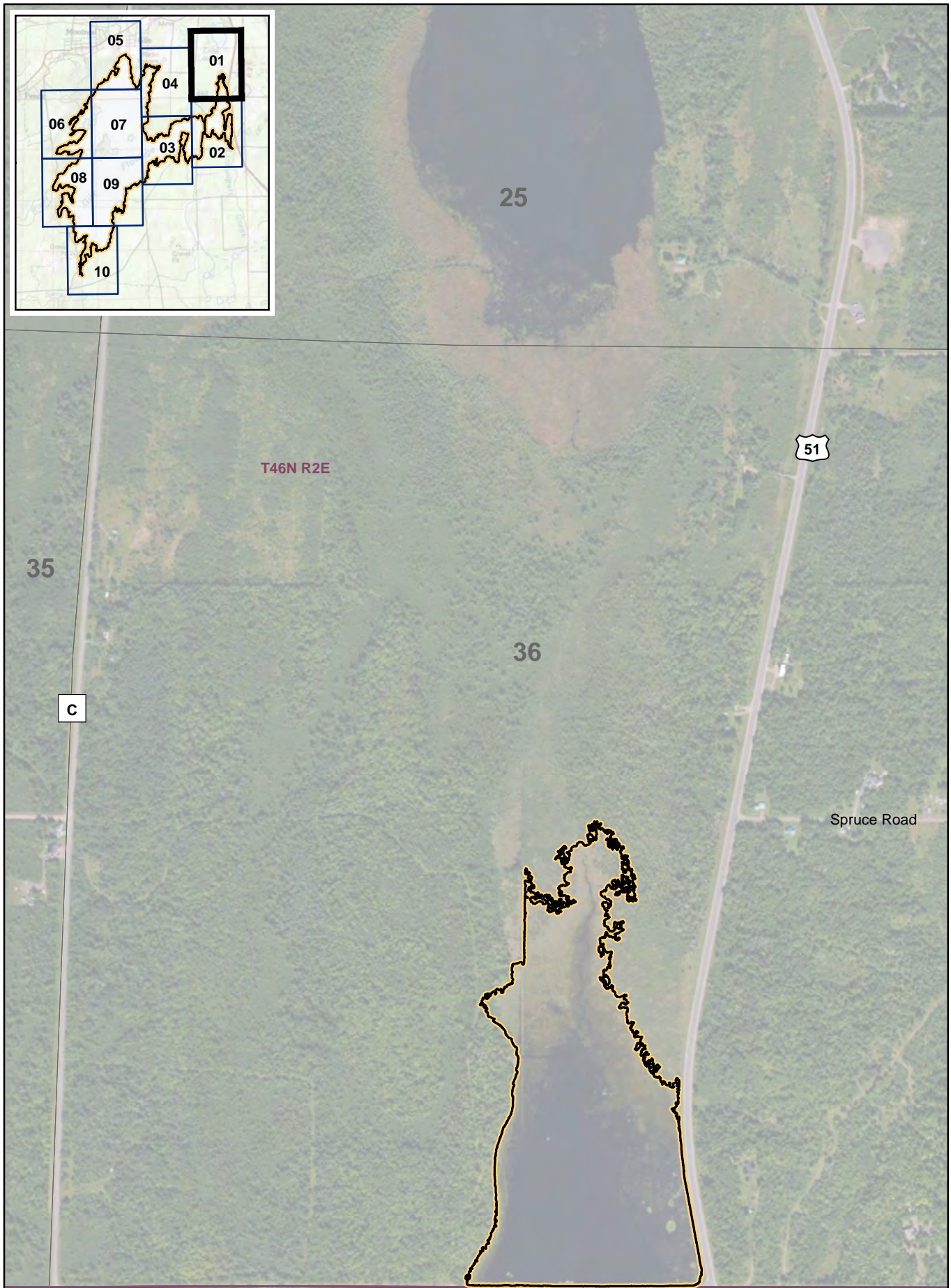
Iron County, Wisconsin									
5427B—Gogebic fine sandy loam, 1 to 6 percent slopes, stony									
Gogebic, stony	85	200	D	—	4	5.0	90.0	5.0	
5429B—Gogebic-Peshekee complex, 2 to 6 percent slopes, very stony, very rocky									
Gogebic, very stony	79	295	D	—	4	—	—	—	
Peshekee	15	98	D	—	1	—	—	—	
5429C—Gogebic-Peshekee complex, 6 to 18 percent slopes, very stony, very rocky									
Gogebic, very stony	79	148	D	—	4	—	—	—	
Peshekee	15	98	D	—	1	—	—	—	
5432C—Gogebic-Michigamme-Rock outcrop complex, 6 to 18 percent slopes, very stony									
Gogebic, very stony	68	148	D	—	4	—	—	—	
Michigamme	15	98	C	—	2	—	—	—	
Rock outcrop	15	—	—	—	—	—	—	—	
5432D—Gogebic-Michigamme-Rock outcrop complex, 6 to 35 percent slopes, very stony									
Gogebic, very stony	68	98	D	—	4	—	—	—	
Michigamme	15	98	C	—	2	—	—	—	
Rock outcrop	15	—	—	—	—	—	—	—	
5432E—Schweitzer-Michigamme-Rock outcrop complex, very stony, 18 to 55 percent slopes									
Schweitzer	45	98	C	.28	3	55.0	37.0	8.0	
Michigamme	20	98	C	—	2	—	—	—	
Rock outcrop	20	—	—	—	—	—	—	—	
5504A—Moquah-Arnheim complex, 0 to 3 percent slopes, frequently flooded									
Moquah, frequently flooded	55	295	A	.28	5	46.6	44.4	9.0	
Arnheim, frequently flooded	30	426	B/D	.37	5	30.0	60.0	10.0	
5519B—Pence-Gogebic complex, 2 to 6 percent slopes, stony									
Pence	60	200	A	.24	5	69.0	22.0	9.0	

Iron County, Wisconsin								
Gogebic	25	200	C/D	—	4	—	—	0.0
5689B—Chabeneau-Channing-Gogebic complex, 0 to 6 percent slopes, stony								
Chabeneau	35	295	B/D	—	3	—	—	—
Channing	30	328	B/D	—	3	—	—	—
Gogebic, stony	25	295	D	—	4	—	—	—

Description — RUSLE2 Related Attributes





RUSLE2 Related Attributes
 This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factors Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic surface layer. .

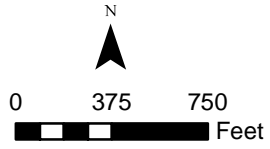
APPENDIX E-4 Area of Potential Effects Maps



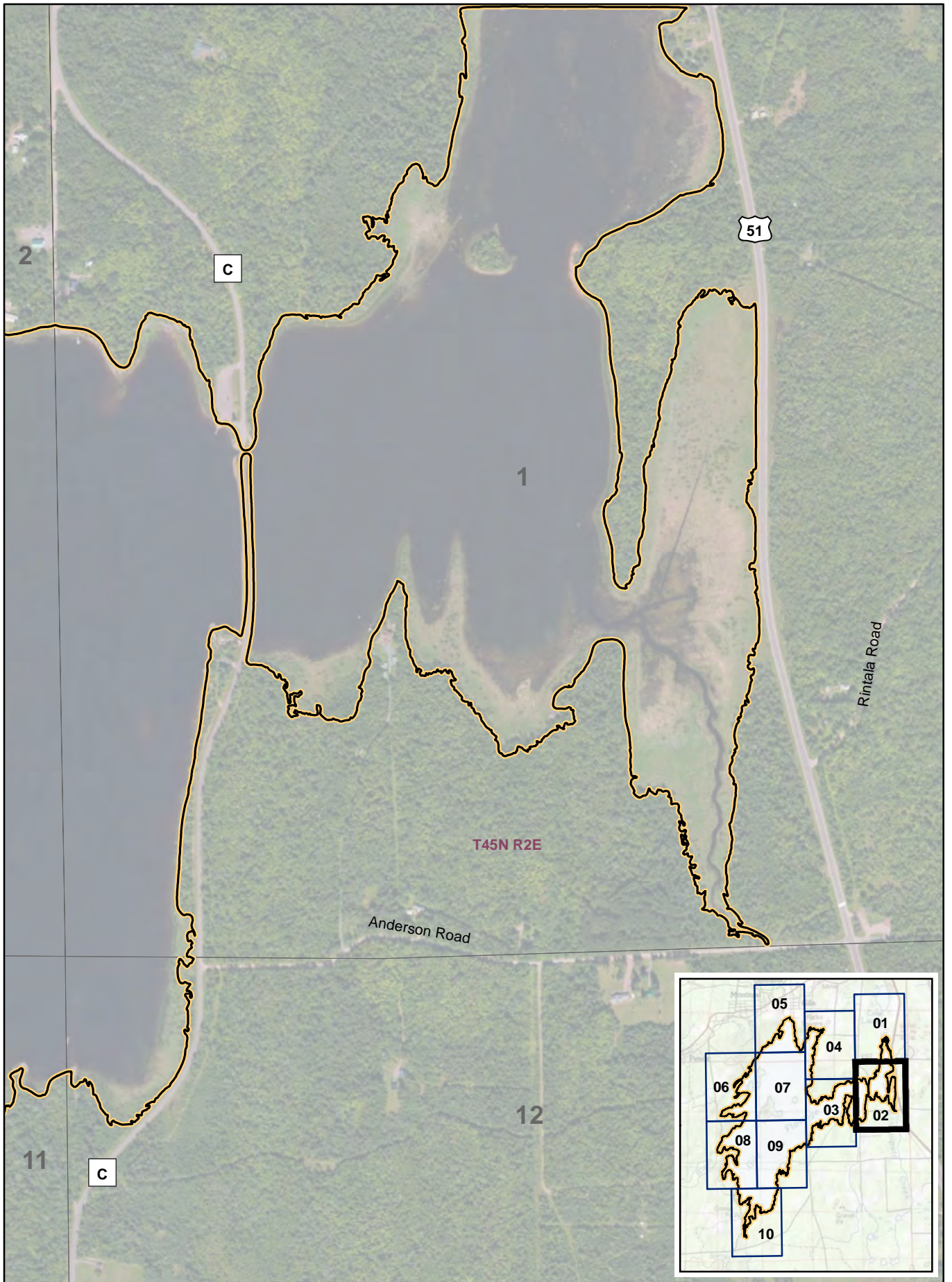
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-  Proposed Project Boundary
-  Proposed Project APE
-  Township Range Line
-  Section Line



Gile Flowage Storage Reservoir Project
Proposed Project Area of Potential Effects
 Map Sheet 01 of 10
 FERC No. 15055



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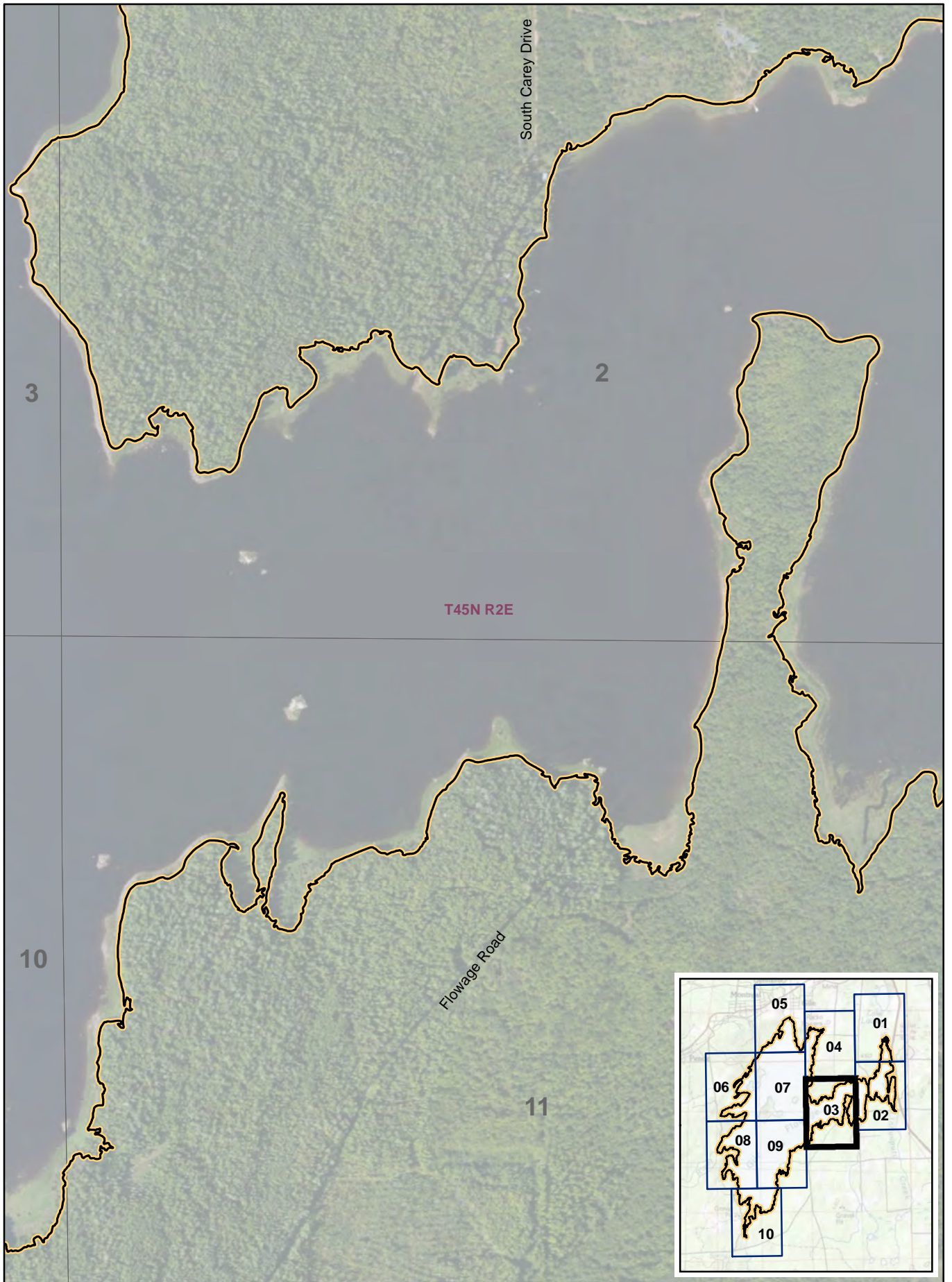
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- Proposed Project APE
- Township Range Line
- Section Line

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Feet

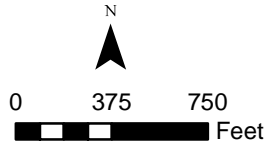
Gile Flowage Storage Reservoir Project
Proposed Project Area of Potential Effects
 Map Sheet 02 of 10
 FERC No. 15055



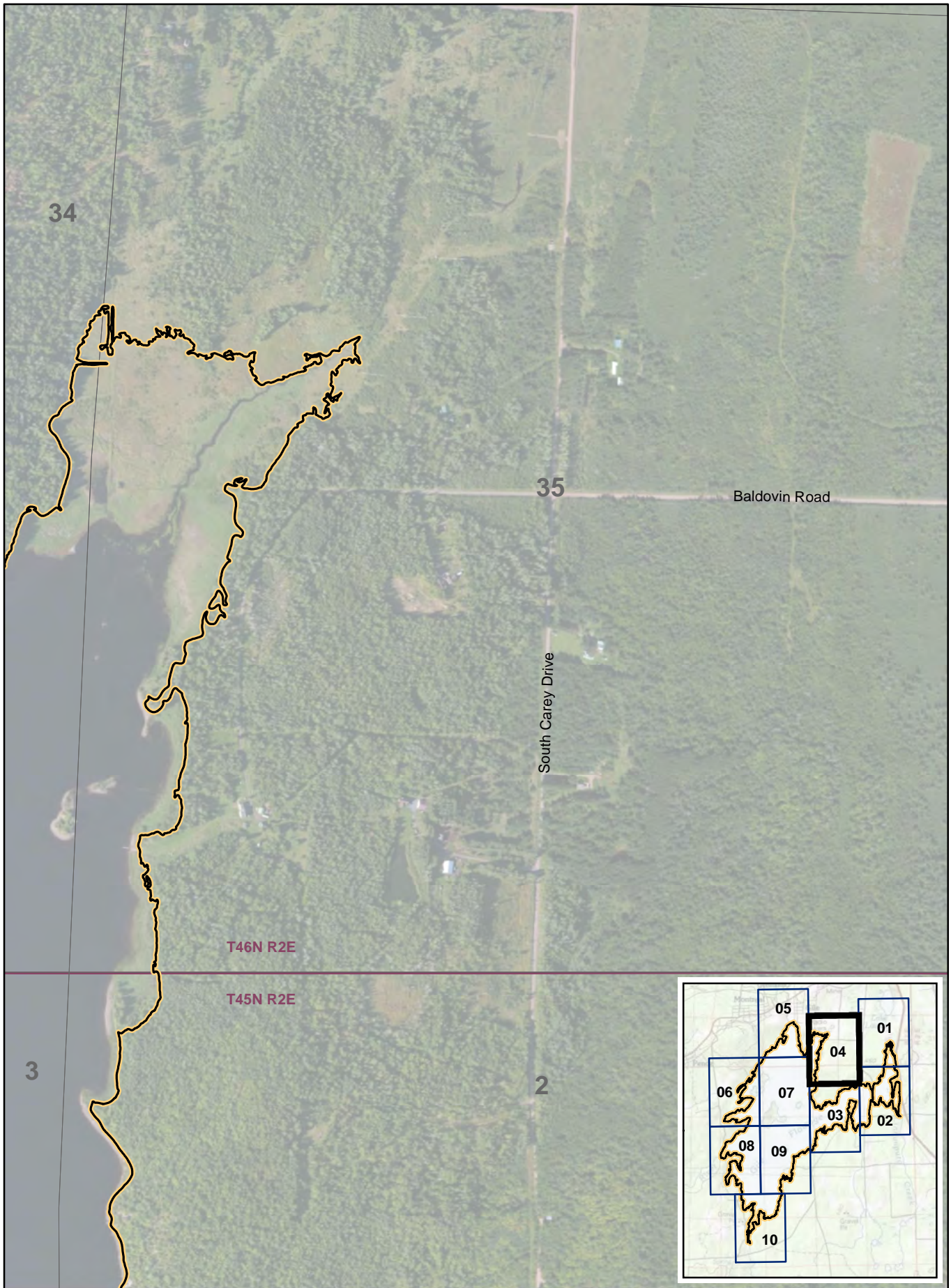
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-  Proposed Project Boundary
-  Proposed Project APE
-  Township Range Line
-  Section Line







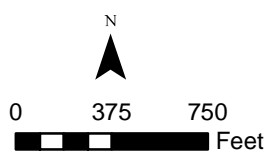
Gile Flowage Storage Reservoir Project
Proposed Project Area of Potential Effects
 Map Sheet 03 of 10
 FERC No. 15055



Service Layer Credits: ESRI



-  Proposed Project Boundary
-  Proposed Project APE
-  Township Range Line
-  Section Line







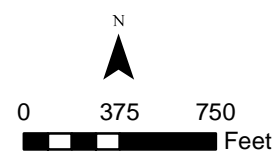
Gile Flowage Storage Reservoir Project
Proposed Project Area of Potential Effects
 Map Sheet 04 of 10
 FERC No. 15055



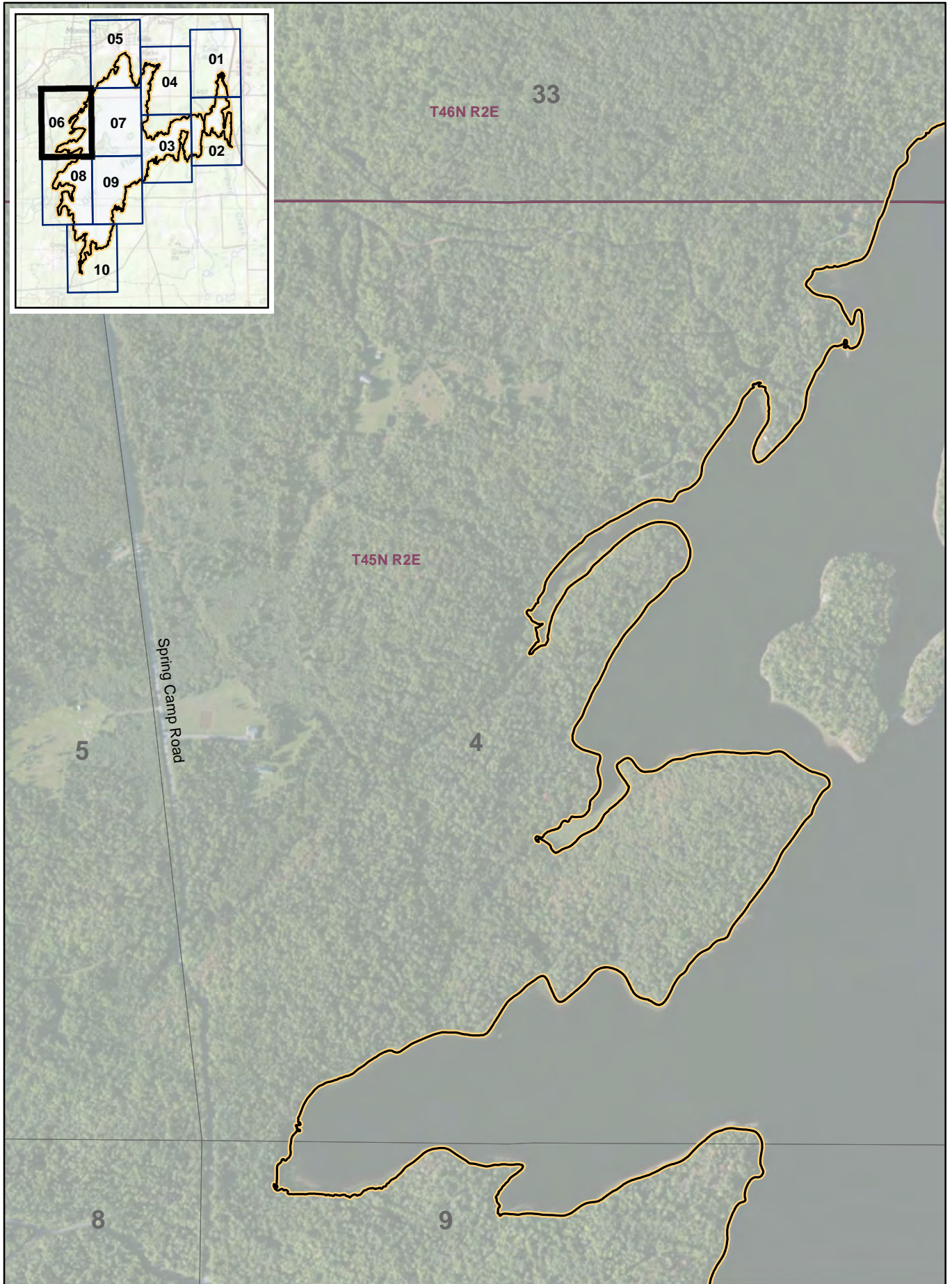
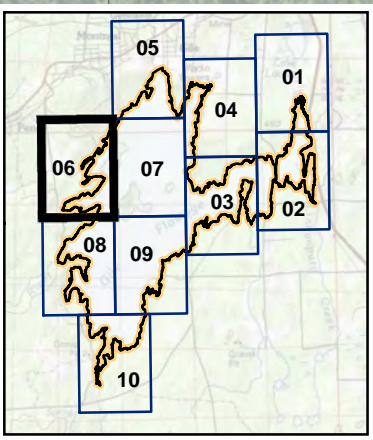
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-  Proposed Project Boundary
-  Proposed Project APE
-  Township Range Line
-  Section Line







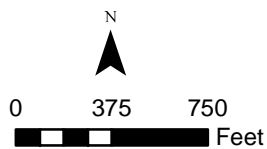
Gile Flowage Storage Reservoir Project
Proposed Project Area of Potential Effects
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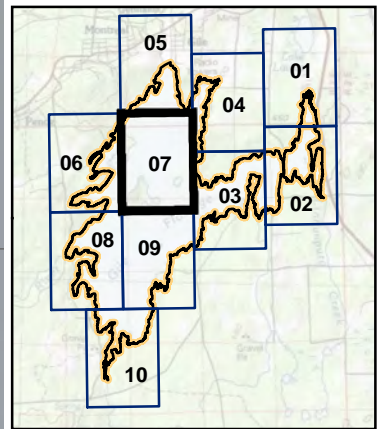
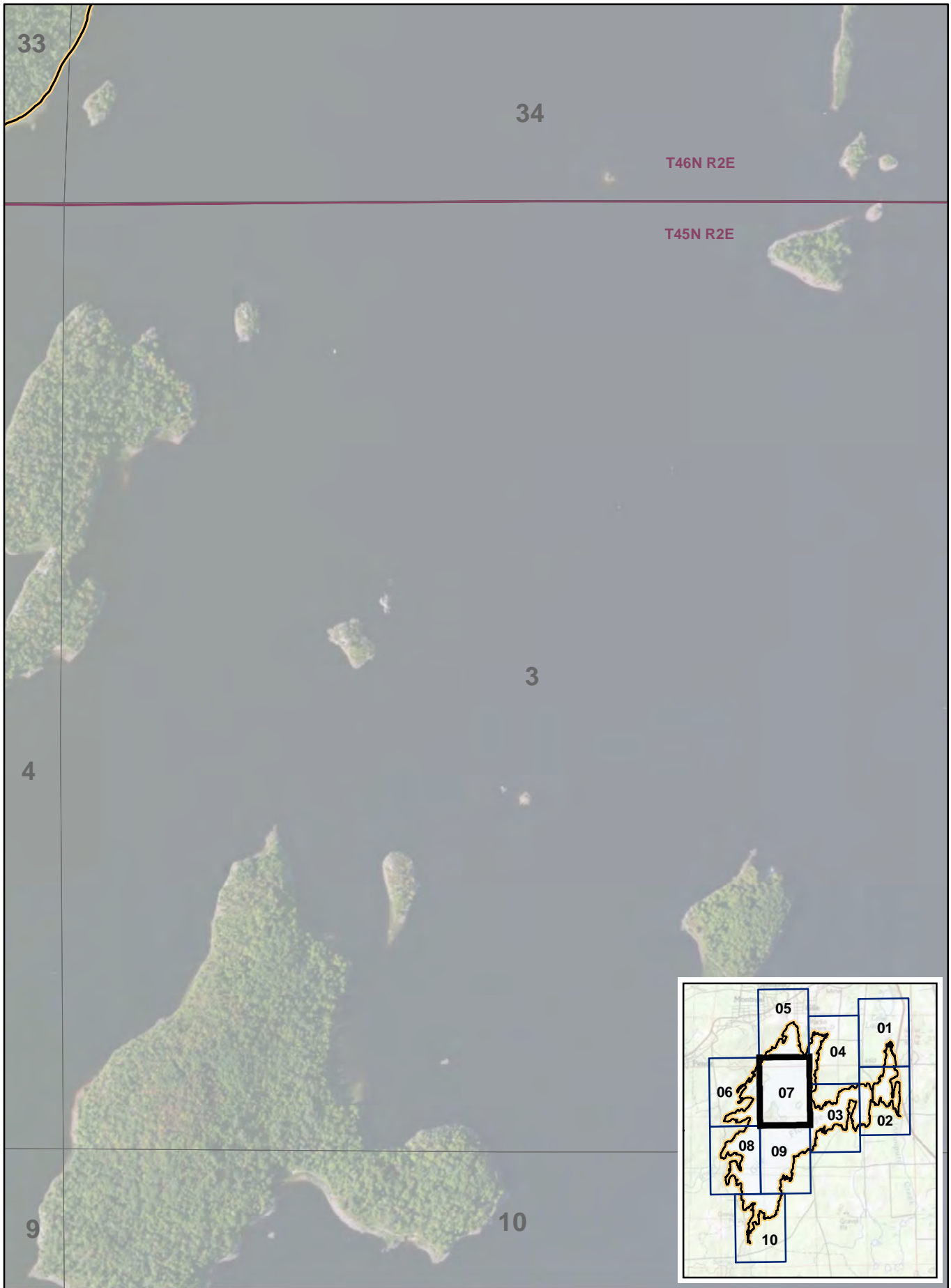
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-  Proposed Project Boundary
-  Proposed Project APE
-  Township Range Line
-  Section Line







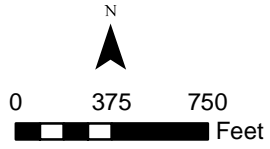
Gile Flowage Storage Reservoir Project
Proposed Project Area of Potential Effects
 Map Sheet 06 of 10
 FERC No. 15055



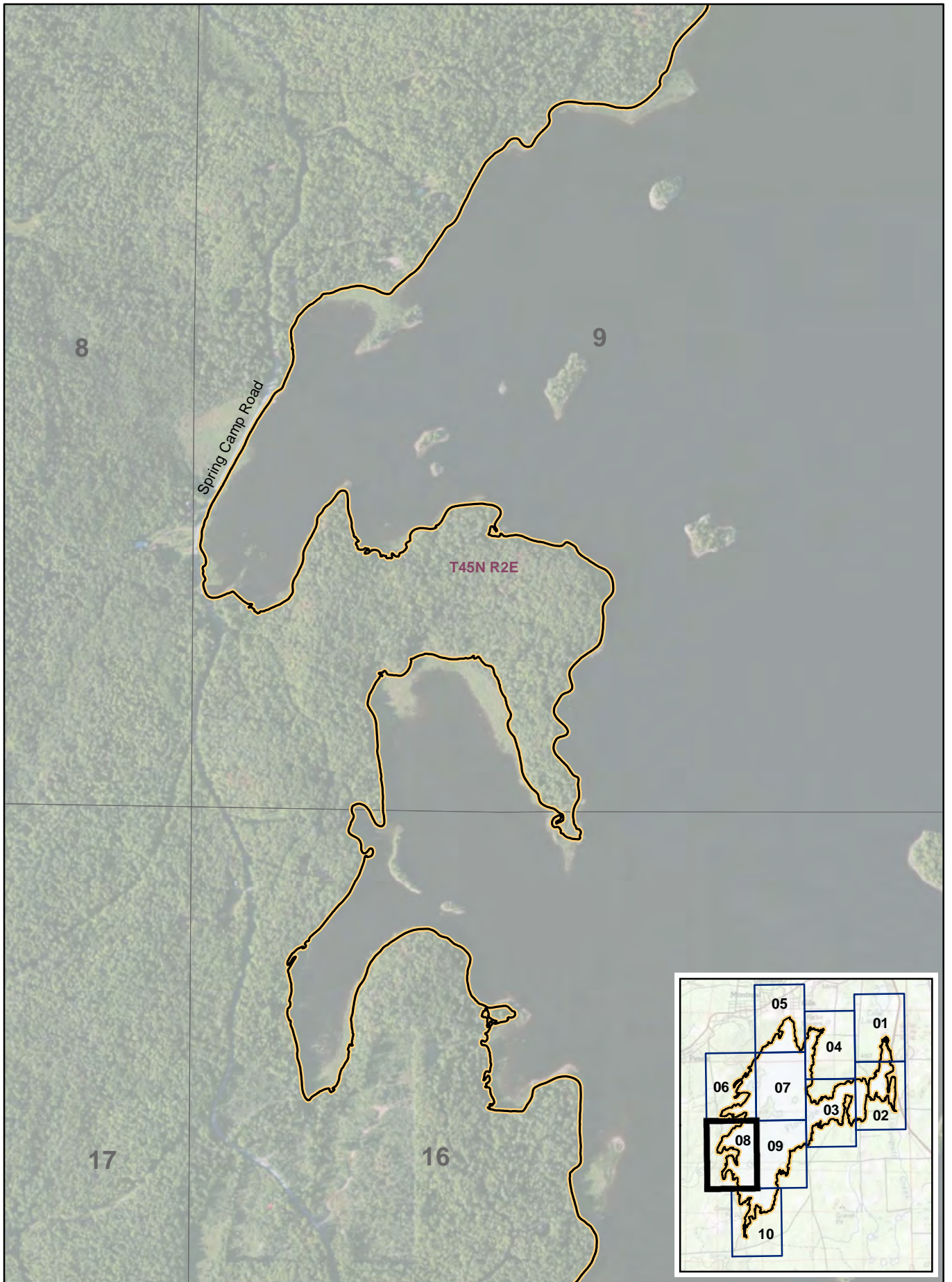
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-  Proposed Project Boundary
-  Proposed Project APE
-  Township Range Line
-  Section Line







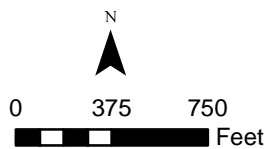
Gile Flowage Storage Reservoir Project
Proposed Project Area of Potential Effects
 Map Sheet 07 of 10
FERC No. 15055



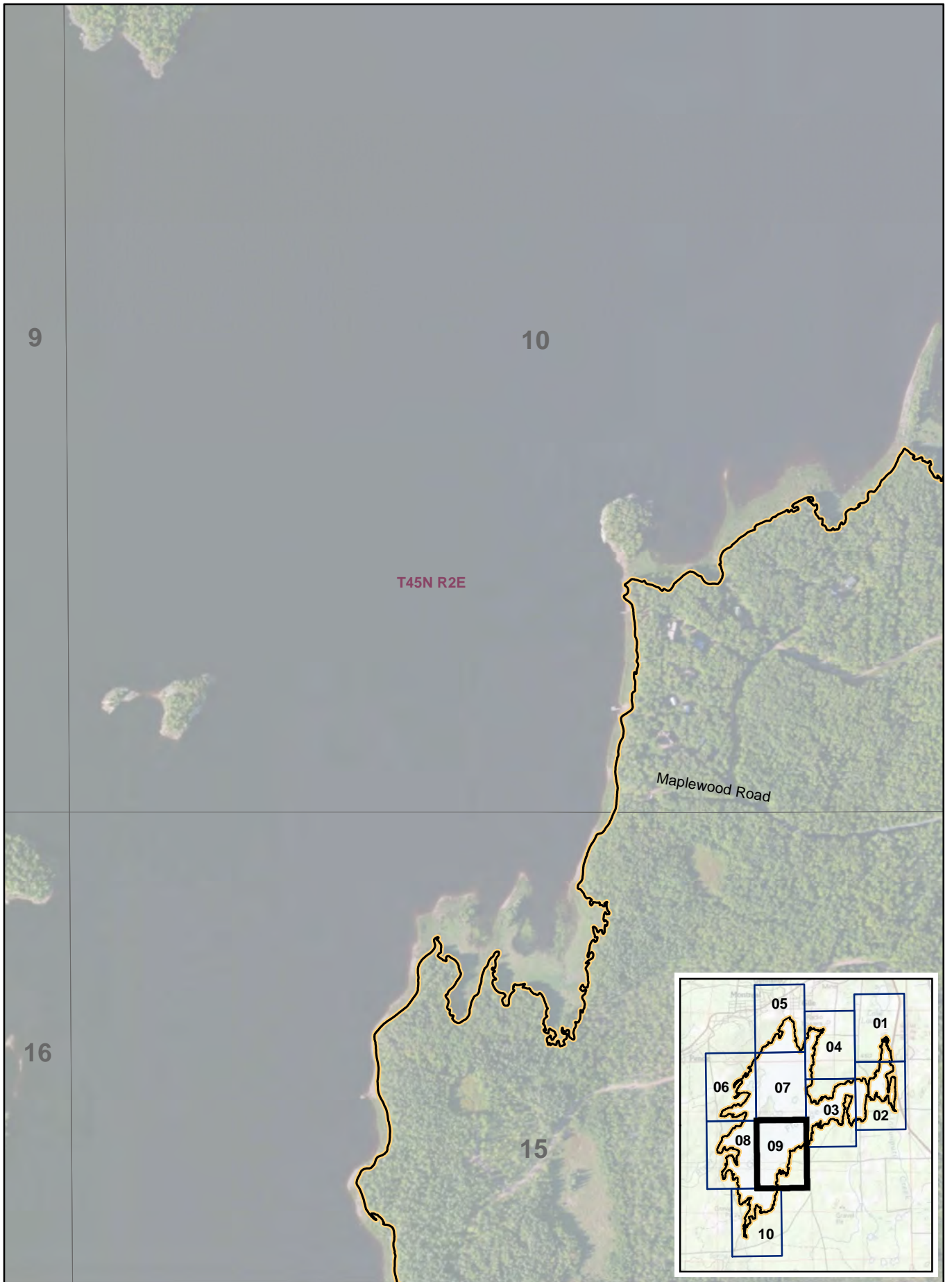
Service Layer Credits: ESRI



-  Proposed Project Boundary
-  Proposed Project APE
-  Township Range Line
-  Section Line







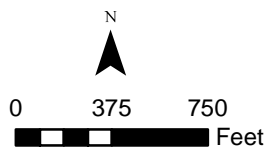
Gile Flowage Storage Reservoir Project
Proposed Project Area of Potential Effects
 Map Sheet 08 of 10
 FERC No. 15055



Service Layer Credits: ESRI



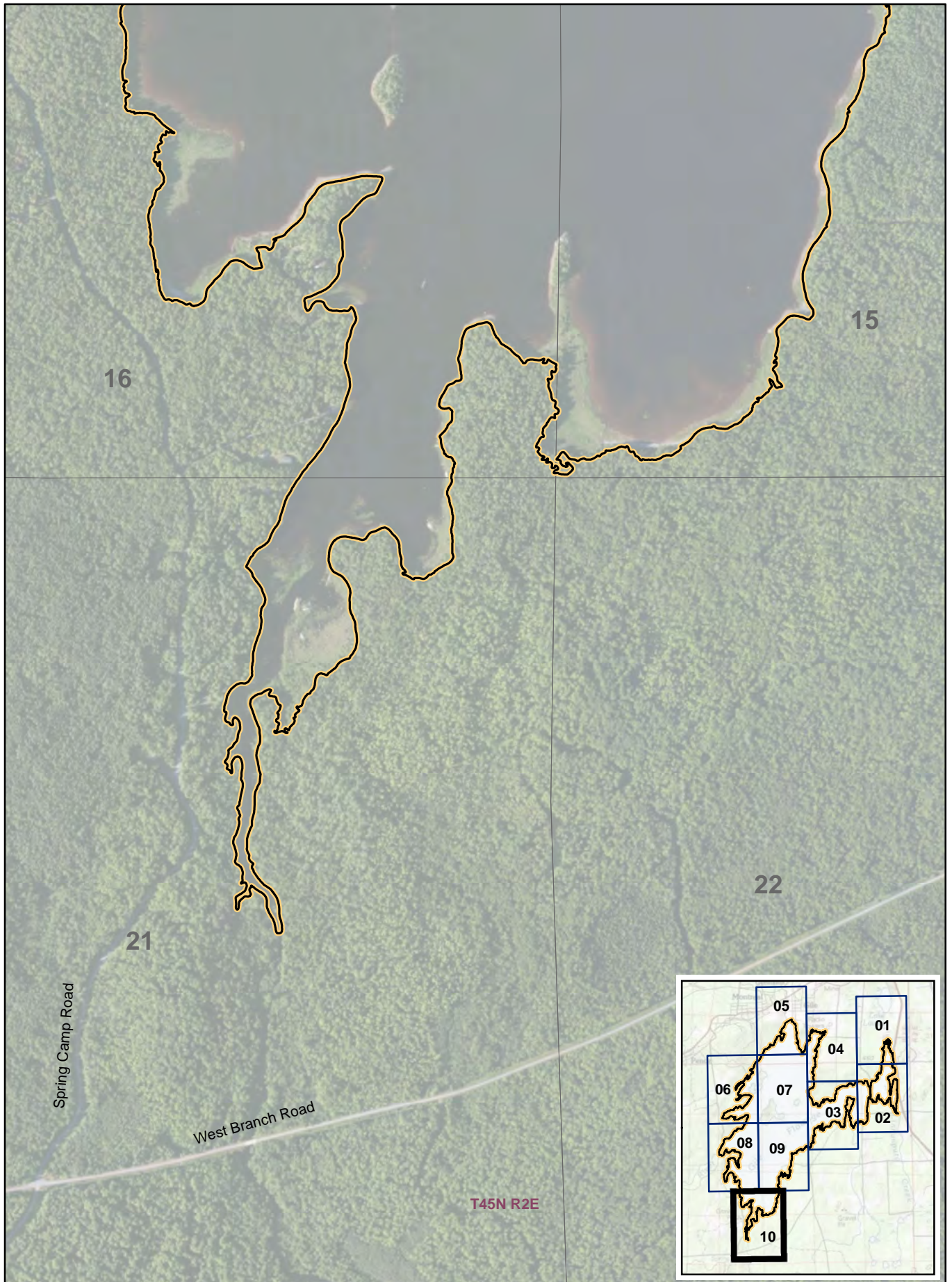
-  Proposed Project Boundary
-  Proposed Project APE
-  Township Range Line
-  Section Line



**Gile Flowage Storage Reservoir Project
Proposed Project Area of Potential Effects**





Map Sheet 09 of 10

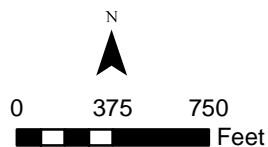
FERC No. 15055



Service Layer Credits: ESRI



-  Proposed Project Boundary
-  Proposed Project APE
-  Township Range Line
-  Section Line



**Gile Flowage Storage Reservoir Project
Proposed Project Area of Potential Effects**

Map Sheet 10 of 10

FERC No. 15055

APPENDIX E-5 Minimum Flow Habitat Evaluation Study & Shoreline Stability Assessment

INITIAL STUDY REPORT

FOR

Gile Flowage Storage Project (FERC Project No. 15055)
Minimum Flow Habitat Evaluation Study
and
Shoreline Stability Assessment

Prepared for:

Shawn Puzen

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Mead & Hunt, Inc.

(920) 593-6865



Great Lakes Environmental Center, Inc.

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Traverse City, Michigan 49686

Phone: (231) 941-2230

Principal Contact Person:

Dennis McCauley

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September 22, 2022

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INTRODUCTION

Project Information and Background

Great Lakes Environmental Center, Inc. (GLEC) conducted a Minimum Flow Habitat Evaluation Study and Shoreline Stability Assessment for the Gile Flowage Project (FERC No. 15055) in August 2022. The purpose of the habitat study was to determine if the current minimum flow is sufficient to protect aquatic resources in the West Fork of the Montreal River downstream of the Gile Dam. The stability assessment was conducted along the reservoir shoreline and the tailwater area downstream of the Gile Dam following the methods outlined in the Request for Proposal (RFP) and in accordance with Wisconsin Administrative Code NR 328.08 to identify and inventory erosion sites.

Description of the Study Area

The Gile Flowage (Flowage) is located within the northern highland area of northern Wisconsin which is widely known for its forests, lakes, and wetlands. The Flowage is an approximately 3,200-acre reservoir formed by the impounding of the west branch of the Montreal River (FIGURE 1). The Flowage and the west branch of the Montreal River are located in the vicinity of the Gogebic and Trap Ranges (Wisconsin Geological & Natural History Survey (WGNHS) 2022) which form two conspicuous ridges in Iron and Ashland Counties in northern Wisconsin. Both ridges are composed of rock types that are more resistant to erosion than the rock that underlies the valley separating them. A thin layer of sediment deposited during the most recent glaciation covers the valley and parts of the ridges. This thin layer of sediment is exposed along the Flowage shoreline where erosion is present. The Flowage is situated on the southern ridge of the Gogebic Range and contains iron-rich rock that is approximately 1.9 billion years old. Bare rock faces and boulders are common along the shoreline of the flowage. Most, if not all, of the natural beaches on the flowage are made up of gravel and cobble. Swimming beaches, when present, appear to be man-made and represent a very small portion of the overall shoreline. The West Branch of the Montreal River flows through the northern ridge, (Trap Range) which is distinctly different in composition from the southern ridge; it is composed of younger volcanic rock, consisting primarily of basaltic-lava flows that are approximately 1.1 billion years old.

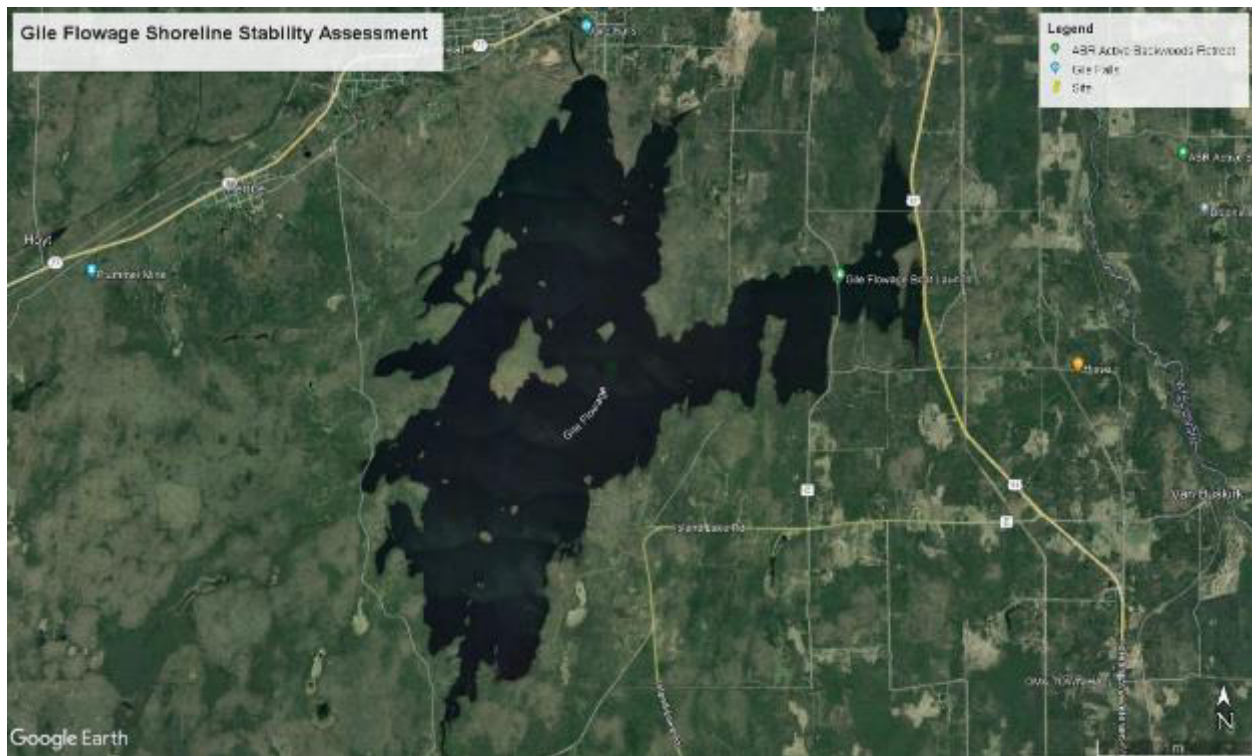


FIGURE 1. GILE FLOWAGE STUDY AREA

A survey of the littoral zone was conducted on the Flowage in 2005 by Friends of the Gile Flowage (www.friendsofthegile.org/home/flowage-publications). The study analyzed the substrates in the littoral zone in areas up to six feet below the full pool elevation of 1,490 feet. The report indicated that substrates within the upper 6 feet consisted of: 20.3% bedrock, boulder, or cobble; 26.9% gravel, gravel with cobble, or gravel with boulders; 39.8% sand, muck or detritus; and 13% sand with gravel, cobble, and/or boulders (FOG, 2005).

METHODS

Gile Flowage Shoreline Stability Assessment

The Shoreline Stability Assessment (stability assessment) was conducted on August 9 and 29, 2022. The entire shoreline of the Flowage, including the islands, was assessed via boat by slowly cruising along the shoreline. The backwater areas east of County Hwy C were assessed from the shoreline along County Hwy C, Knights Road and U.S. Hwy 51 (Map sheets 01 and 02). The field crew assessed only those areas that appeared to have exposed eroded soil along the shoreline. Erosion or bank instability was defined as evidence of soil movement or slumping. Bare rock areas or gravel areas were not assessed (using the data sheet) but were observed. Areas of erosion, when identified, were described by number and zone (e.g., Zone 10; site Number 1). An outline of Gile Flowage and the 10 grid (zone) patterns (Map Sheets) are shown in FIGURE 2. Raw field data scoresheets are shown in Appendix A.

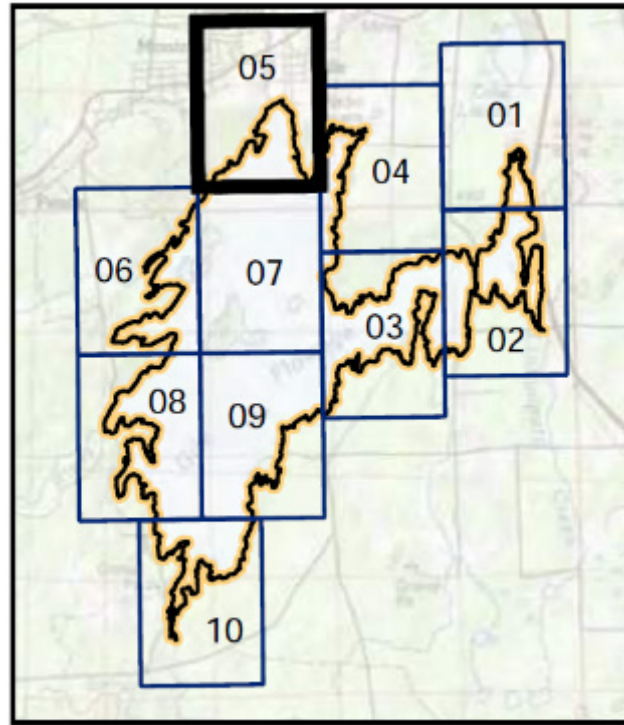


FIGURE 2. GILE FLOWAGE OUTLINE AND GRID PATTERN USED IN THE SHORELINE STABILITY ASSESSMENT (MAP SHEETS 1 THROUGH 10)



FIGURE 3. PROJECT AREA DOWNSTREAM OF THE GILE DAM INCLUDED IN THE SHORELINE STABILITY ASSESSMENT.

The stability assessment also included a survey of the project area downstream of Gile Dam (FIGURE 3). When erosion was identified, the location was photographed and recorded with a handheld GPS. Each erosion site was assigned an intensity score that was recorded on a field form. A single form was completed for each erosion site as shown in FIGURE 4.

SHORELINE VARIABLES	DESCRIPTIVE CATEGORIES							ASSIGNED EI
	Erosion Intensity Value is Located in Parenthesis on Left Side of Each Category Box							
AVERAGE FETCH ¹ —, average distance (miles), across the open water to the opposite shore measure 45° other side of the perpendicular to the shoreline.	(0) <1/10	(2) 1/10 –1/3	(4) 1/3–1	(7) 1 –3	(10) 3–10	(13) 10–30	(16) >30	
DEPTH AT 20 FEET, depth of water (feet) 20 feet from shoreline	(1) <1	(2) 1–3	(3) 3–6	(4) 6–12	(5) >12			
DEPTH AT 100 FEET, depth of water (feet) 100 feet from shoreline	(1) <1	(2) 1–3	(3) 3–6	(4) 6–12	(5) >12			
BANK HEIGHT ² , height of bank (feet), measure from toe of the bank to top of the bank-lip.	(1)<1	(2) 1–5	(3) 5–10	(4) 10–20	(5) >20			
BANK COMPOSITION composition and degree of cementation of the sediments	(0) rock, marl, tight clay, well cemented sand (dig with a pick)		(7) soft clay, clayey sand, moderately cemented (easily dug with a knife)		(15) uncemented sands or peat (easily dug with your hand)			
INFLUENCE OF ADJACENT STRUCTURES, likelihood that adjacent structures are causing bank erosion at the site	(0) no hard armoring on either adjacent property	(1) hard armoring on one adjacent property	(2) hard armoring on both adjacent properties	(3) hard armoring on one adjacent property with measurable recession	(4) hard armoring on both adjacent properties with measurable recession adjacent to both structures			
AQUATIC VEGETATION ³ type and abundance of vegetation occurring in the water off the shoreline	(0) rocky substrates unable to support vegetation		(1) dense or abundant emergent, floating or submerged vegetation	(4) scattered or patchy emergent, floating or submerged vegetation		(7) lack of emergent, floating or submerged vegetation		
BANK VEGETATION, type and abundance of the vegetation occurring on the bank face and immediately on top of the bank lip	(0) bank composed of rocky outcropping unable to support vegetation		(1) dense vegetation, upland trees, shrubs and grasses, including lawns	(4) clumps of vegetation alternating with areas lacking vegetation		(7) lack of vegetation (cleared), crop or agricultural land		
BANK STABILITY, The degree to which bank and adjacent area (within 10 feet of the bank-lip) is stabilized by natural ground, shrub, and canopy vegetation (outside a 10' pier access corridor). Human disturbance is typified by tree removal, brushing, mowing, and lawn establishment.	(0) established lawn with few canopy trees		(1) established lawn with moderate to dense canopy trees	(4) moderate to dense natural ground vegetation and canopy trees with shrub layer substantially reduced; or few canopy trees with moderate to dense natural shrub layer.			(7) moderate to dense canopy trees with moderate to dense natural shrub layer; or other natural features prevents establishment of vegetation.	
SHORELINE GEOMETRY general shape of the shoreline at the point of interest plus 200 yards on either side.	(1) coves or bays			(4) irregular shoreline or straight shoreline		(8) headland, point, or island		
SHORE ORIENTATION ⁴ geographic direction the shoreline faces	(0) < 1/3 mile fetch	(1) north to east to south-south-east (349°–360°, 1°–168°)		(4) south to west-southwest (169°–258°)		(8) west to north-north-west (259°–349°)		
BOAT WAKES ⁵ proximity to and use of boat channels	(1) no channels within 100 yards, broad open water body, or constricted shallow water body; or channels within no-wake zones		(6) thoroughfare within 100 yards carrying limited traffic, or thoroughfare 100 yards to ½ mile offshore carrying intensive traffic		(12) thoroughfare within 100 yards carrying intensive traffic (unregulated boating activity)			
EROSION INTENSITY SCORE (EI)								

FIGURE 4. EROSION INTENSITY (EI) SCORE WORKSHEET (Wisconsin Administrative Code: NR 328.08)

Minimum Flow Habitat Evaluation Study

The primary objective of the Minimum Flow Habitat Evaluation Study (habitat study) was to evaluate whether the existing minimum flow (12 cfs) at the Project is sufficient to provide suitable habitat for aquatic resources in the West Fork downstream of the Gile Dam. Additional study flows of 24 and 36 cfs were also planned to assess how the suitability of available habitat may change with increases in flow. The habitat study included a survey of two representative reaches (stations) downstream of the Gile Dam. The reaches were determined after reviewing the 2017 WDNR fishery data and WDNR's Guidelines for Evaluating Habitat of Wadable Streams (WDNR Guidelines). Water depth and velocity information were collected at both stations at baseflow conditions reported as 12 cfs. The water depth information was collected by hand measurements and point velocity measurements were collected with an electromagnetic flow meter mounted to a top-setting wading rod. The sampling methodology for each station followed the general sampling procedures outlined in WDNR Guidelines. GLEC incorporated improved/current methodology with the field data collection and interpretation such as habitat suitability curves, weighted usable area and current instream flow methodologies. The data recommended by the WDNR Guidelines was collected for each of 12 transects within each of the two study reaches.

During the course of collecting the first set of habitat data, GLEC used a SonTek River Surveyor to verify the 12 cfs minimum flow from the dam when the sluice gate was closed as far as possible¹. Flow measurements just below the dam, as well as 0.44 miles downstream (FIGURE 5), revealed that the discharge was actually much closer to the anticipated highest study flow of 36 cfs. The average of the measured flows equaled 35.25 cfs. As such, the full suite of habitat data was collected only at the high study flow (36 cfs) until such a time when lower flows can be produced.



FIGURE 5. LOCATIONS OF STREAM FLOW MEASUREMENTS DURING GILE HABITAT STUDY

¹Two metal tabs are fastened to the bottom plate of the sluice gate preventing it from fully closing and thus ensuring the minimum flow is discharged at all times.

Habitat Study Reaches

Wisconsin DNR staff previously collected fisheries data in the West Fork of the Montreal River during backpack and/or stream shocking surveys from 2007-2018 (WDNR fisheries survey data provided to Northern States Power of Wisconsin (NSPW) April 28, 2021). During these surveys, fish were collected from five different locations downstream of the Gile Flowage (FIGURE 6). A total of 15 fish species were collected across all years and sampling areas.

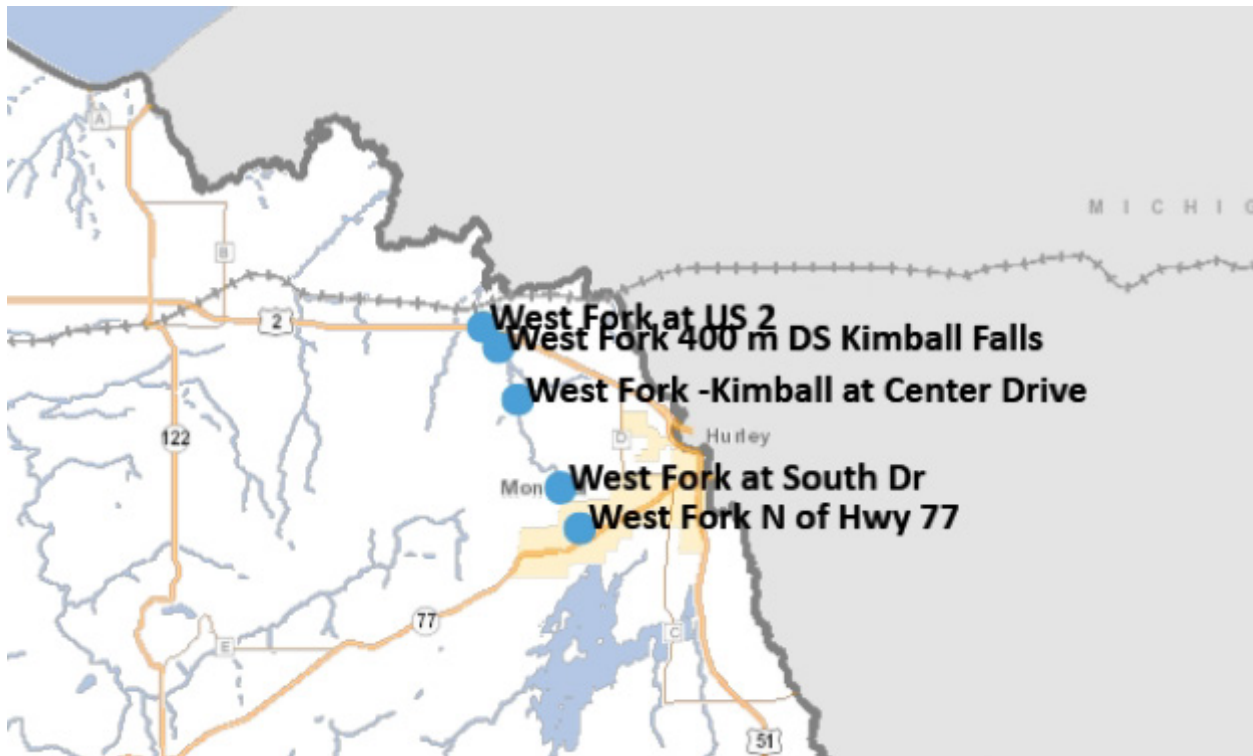


FIGURE 6. WDNR FISH SAMPLING LOCATIONS IN THE WEST FORK OF THE MONTREAL RIVER (2007-2018)

After reviewing the fish data provided by WDNR, two study reaches were selected for the Minimum Flow Habitat Evaluation Study that corresponded to two of the WDNR fish sampling locations. The upper study reach (Reach A) began just downstream of the US Highway 77 bridge and the lower study reach (Reach B) included areas both upstream and downstream of South Drive. Results of the WDNR fish surveys from these two locations included all 15 species of fish collected throughout the surveys. Numbers of each species collected and percent abundance of each species is displayed in TABLE 1.

Species Common Name	Species Scientific Name	Number of Fish Collected	Percent Abundance
LONGNOSE DACE	<i>Rhinichthys cataractae</i>	329	42.56%
CREEK CHUB	<i>Semotilus atromaculatus</i>	84	10.87%
PUMPKINSEED	<i>Lepomis gibbosus</i>	81	10.48%
SMALLMOUTH BASS	<i>Micropterus dolomieu</i>	70	9.06%
HORNYHEAD CHUB	<i>Nocomis biguttatus</i>	52	6.73%
WHITE SUCKER	<i>Catostomus commersonii</i>	49	6.34%
YELLOW PERCH	<i>Perca flavescens</i>	29	3.75%
COMMON SHINER	<i>Luxilus cornutus</i>	24	3.10%
BLACKNOSE SHINER	<i>Notropis heterolepis</i>	23	2.98%
WALLEYE	<i>Sander vitreus</i>	13	1.68%
MOTTLED SCULPIN	<i>Cottus bairdii</i>	9	1.16%
ROCK BASS	<i>Ambloplites rupestris</i>	4	0.52%
WESTERN BLACKNOSE DACE	<i>Rhinichthys obtusus</i>	3	0.39%
BROOK TROUT	<i>Salvelinus fontinalis</i>	2	0.26%
CENTRAL MUDMINNOW	<i>Umbra limi</i>	1	0.13%

TABLE 1. LIST OF FISH SPECIES COLLECTED BY WDNR FROM THE GILE FLOWAGE MINIMUM FLOW HABITAT EVALUATION STUDY REACHES

Habitat sampling at each reach was conducted following WI DNR Guidelines for Evaluating Habitat of Wadable Streams (2002). At each study reach, the mean stream width (MSW) was determined and the reach length was calculated as 35 times the MSW. Within each reach, 12 transects were established (FIGURE 7 and FIGURE 8). The first (most upstream) transect was established 1 MSW from the upstream end of the study reach and subsequent transects were spaced 3 MSW apart (approximately 45 meters in both reaches). At each transect, the following data was collected:

- Distance from start of study reach
- Wetted width
- Habitat type
- Depth at deepest point along transect (thalweg)
- Length of each transect containing various types of cover for adult fish
- Amount of bank erosion
- Riparian land use within 5 meters of stream edge
- Riparian buffer width

Along each transect, four equally spaced sampling points were established, effectively dividing each transect into five equal segments. Within a 0.3m x 0.3m quadrat on the stream bottom centered on the transect point, the following data was collected:

- Water depth (if a boulder was directly on the transect point, depth was measured next to the boulder)
- Depth of fines and water
- Embeddedness of coarse gravel and rubble/cobble
- Percent of the stream bottom covered by various substrate types, algae, and macrophytes
- Percent of the transect shaded by canopy
- Water velocity (from a location equal to 0.6 times the water depth at the point)

The available habitat (in square meters) of each sub-reach segment was calculated by multiplying the width of each segment by the sub-reach length. To calculate the weighted useable area (WUA) of each segment, habitat suitability formulas (Aadland and Kuitunen, 2006) were applied to the depth and velocity values at each sampling point for the 10 most common fish species collected and then summed to create a single WUA index for each species and in each study reach. Collectively, these 10 species accounted for over 97.5 percent of the fish collected from the two study reaches. The habitat suitability curves for depth and velocity of these 10 species are presented in FIGURE 9. A habitat suitability formula for pumpkinseed was not available, so the formula for bluegill was used as a surrogate. Pumpkinseeds are generally considered very similar to bluegill, and are often found in the same habitat.

As flows change within the West Fork of the Montreal River, depth and velocity will change accordingly. Other parameters, such as substrate type, cover for fish, canopy cover, percent embeddedness, etc. are expected to remain relatively consistent. For this reason, habitat suitability indices used in the calculation of weighted usable area were restricted to depth and velocity. When lower flows (i.e., 12 cfs) are able to be discharged and verified below the dam, similar calculations will be made to allow a direct comparison of weighted useable areas for each species at each study flow.

Using the habitat data collected, and the Fish Habitat Rating system (TABLE 2) developed by WDNR (Simonson, Lyons, and Kanehl, 1993.), an overall fish habitat score was developed for each reach. This score, which ranges from zero to 100, is designed to provide a qualitative rating of fish habitat that ranges from poor to excellent using the following scoring ranks.

- Excellent ≥ 80
- Good 60-80
- Fair 20-60
- Poor < 20



FIGURE 7. APPROXIMATE LOCATION OF TRANSECTS A1-A12 DOWNSTREAM OF HIGHWAY 77 ON THE WEST BRANCH OF THE MONTREAL RIVER



FIGURE 8. APPROXIMATE LOCATION OF TRANSECTS B1-B12 IN THE VICINITY OF SOUTH ROAD ON THE WEST BRANCH OF THE MONTREAL RIVER

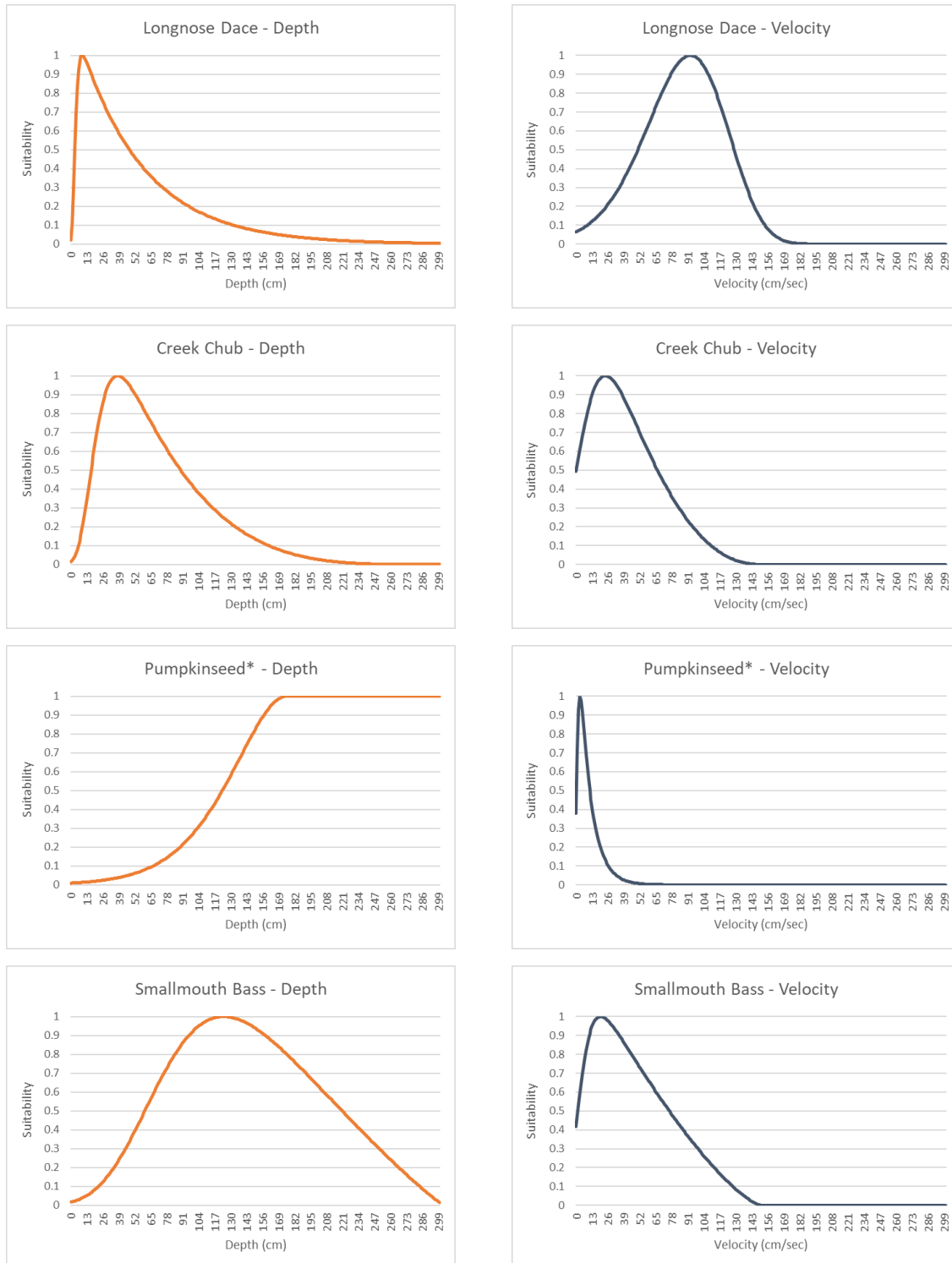


FIGURE 9. HABITAT SUITABILITY CURVES FOR DEPTH AND VELOCITY OF THE 10 MOST COMMON SPECIES IN THE GILE FLOWAGE MINIMUM FLOW HABITAT EVALUATION STUDY REACHES.

* Habitat suitability curves for pumpkinseed were not available, so the curves for bluegill were used instead

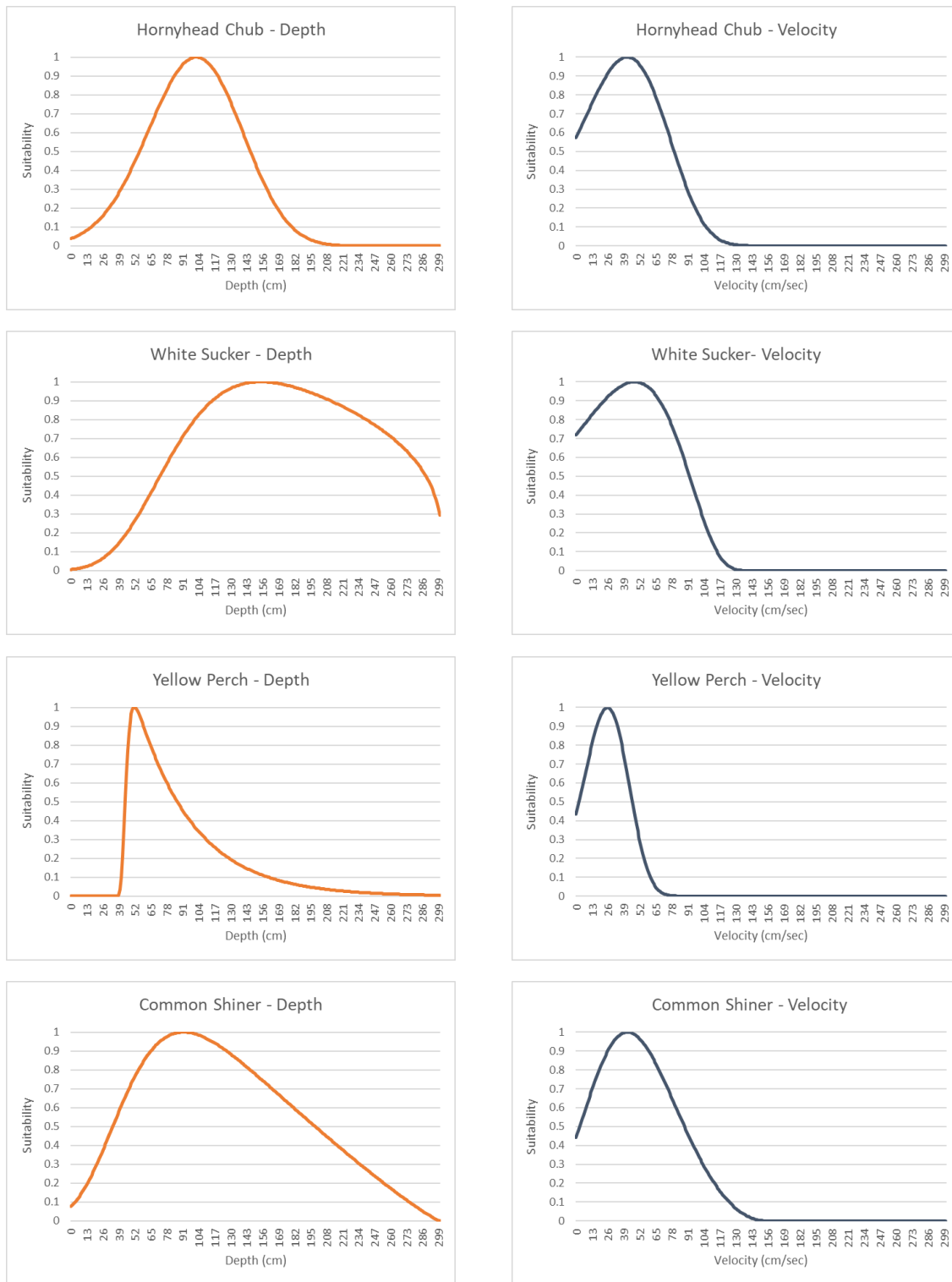


FIGURE 9 (CONT.). HABITAT SUITABILITY CURVES FOR DEPTH AND VELOCITY OF THE 10 MOST COMMON SPECIES IN THE GILE FLOWAGE MINIMUM FLOW HABITAT EVALUATION STUDY REACHES.



FIGURE 9 (CONT.). HABITAT SUITABILITY CURVES FOR DEPTH AND VELOCITY OF THE 10 MOST COMMON SPECIES IN THE GILE FLOWAGE MINIMUM FLOW HABITAT EVALUATION STUDY REACHES.

RATING ITEM	EXCELLENT	GOOD	FAIR	POOR
Bank Stability (% of bank protected by rock or vegetation)	No significant bank erosion; \geq 90% of bank protected; \leq 10% bare soil (12)	Limited erosion; 70 to 90% of bank protected; 10 to 30% bare soil (8)	Moderate erosion; 50 to 60% of bank protected; 10 to 30% bare soil (4)	Extensive erosion; $<$ 50% of bank protected; $>$ 50% bare soil (0)
Maximum Thalweg Depth (average of the four deepest depths recorded)	Stream very deep; \geq 1.5 meters (25)	Stream relatively deep; 1 to 1.5 meters (16)	Stream moderately deep; 0.6 to 0.9 meters (8)	Stream relatively shallow; $<$ 0.6 meters (0)
Riffle:Riffle or Bend:Bend Ratio (average distance between riffles or bends divided by average stream width)	Diverse habitats; meandering stream with deep bends and riffles common; ratio \leq 10 (12)	Diverse habitats;bends and riffles present but not abundant; ratio 10 to 14 (8)	Habitat diversity low; occasional riffles or bends; ration 15 to 25 (4)	Habitat monotonous; riffles or bends rare; generally continuous run habitat; ratio $>$ 25 (0)
Rocky Substrate (% of the substrate, by area, that is bedrock, boulder, rubble/cobble, or gravel)	Extensive rocky substrate; \geq 65% of stream bed (25)	Moderate rocky substrate; 45 to 65% of stream bed (16)	Limited rocky substrate; 15 to 44% of stream bed (8)	Rocky substrate uncommon; $<$ 15% of stream bed (0)
Cover for Fish (% of the stream area with cover)	Cover/shelter for fish abundant; \geq 12% of stream (25)	Cover common, but not extensive; 7 to 12% of stream (16)	Occasional cover, limited to one or two areas; 2 to 6% of stream (8)	Cover rare or absent; limited to , 2% of stream (0)

TABLE 2. FISH HABITAT RATING SYSTEM (FHR) DEVELOPED BY WDNR (SIMONSON, LYONS, AND KANEHL, 1993.)

STUDY RESULTS

Shoreline Stability Study

Seven shoreline sites and the downstream project area were scored using the Wisconsin Erosion Intensity Score worksheet. Six sites located on the Flowage appeared to have significant active erosion with evidence of soil movement or slumping (Sites 1, 2, 4, 5, 6 and 7). Site #3 was assessed to evaluate the worksheet scoring at a non-erosional site for comparison. In addition, specific attention was given to the assessment of roadsides, manmade beaches, docks or otherwise developed shorelines for evidence of soil movement or slumping. On the Flowage, none of the developed shorelines showed any evidence of erosion. A list of the sites assessed using the Erosion Intensity Score worksheet is provided in TABLE 3 and their locations are shown in FIGURE 10. Photographs of each site are provided in FIGURE 13 through FIGURE 19. The field data worksheets are included in Appendix A.

Five of the six sites identified with erosion were located on small islands within the Flowage (Sites 1, 2, 4, 6 and 7). One site (Site #5) was located along the northwest shoreline near the dam. In each instance, the erosion features appeared to be above the waterline.

There was one small area with evidence of shoreline erosion in the tailrace. That area is located on the west bank at the toe of the water control structure, adjacent to the west wingwall downstream of the dam gatehouse. It appears that human traffic, and possibly high springtime flows, have scoured the bank and exposed the soil adjacent to the concrete wingwall (FIGURE 11). Given the location of the area of interest, an Erosion Intensity work sheet was not completed. There were no other erosion sites identified in the project area downstream of the dam. A typical depiction of the downstream project area is shown in FIGURE 12.

<u>Site # (Map Sheet Location)</u>	<u>Coordinates</u>	<u>Erosion Intensity Score</u>
Site #1 (Map Sheet 7)	N46.41403; W90.22038	36
Site #2 (Map Sheet 7)	N46.4133, W90.2205	36
Site #3 (Map Sheet 10)	N46.369216, W90.244506	27 [@]
Site #4 (Map Sheet 9)	N46.378467, W90.24095	42
Site #5 (Map Sheet 5)	N46.424921, W90.228208	39
Site #6 (Map Sheet 4)	N46.415217, W90.217717	39
Site #7 (Map Sheet 7)	N46.411840, W90.22258	33

TABLE 3. GILE FLOWAGE SHORELINE STABILITY ASSESSMENT SITES AND THE RESULTING EROSION INTENSITY SCORE.

[@] Site #3 was not an area of concern nor an erosional site.

The Wisconsin Administrative Code NR 328.08 categorizes erosion intensity into three groups; low energy, with a score of 47 or less, moderate energy with a score of 48-67, and high energy with a score of greater than 67. Each site assessed in the Gile Flowage shoreline stability study ranked in the low energy category.

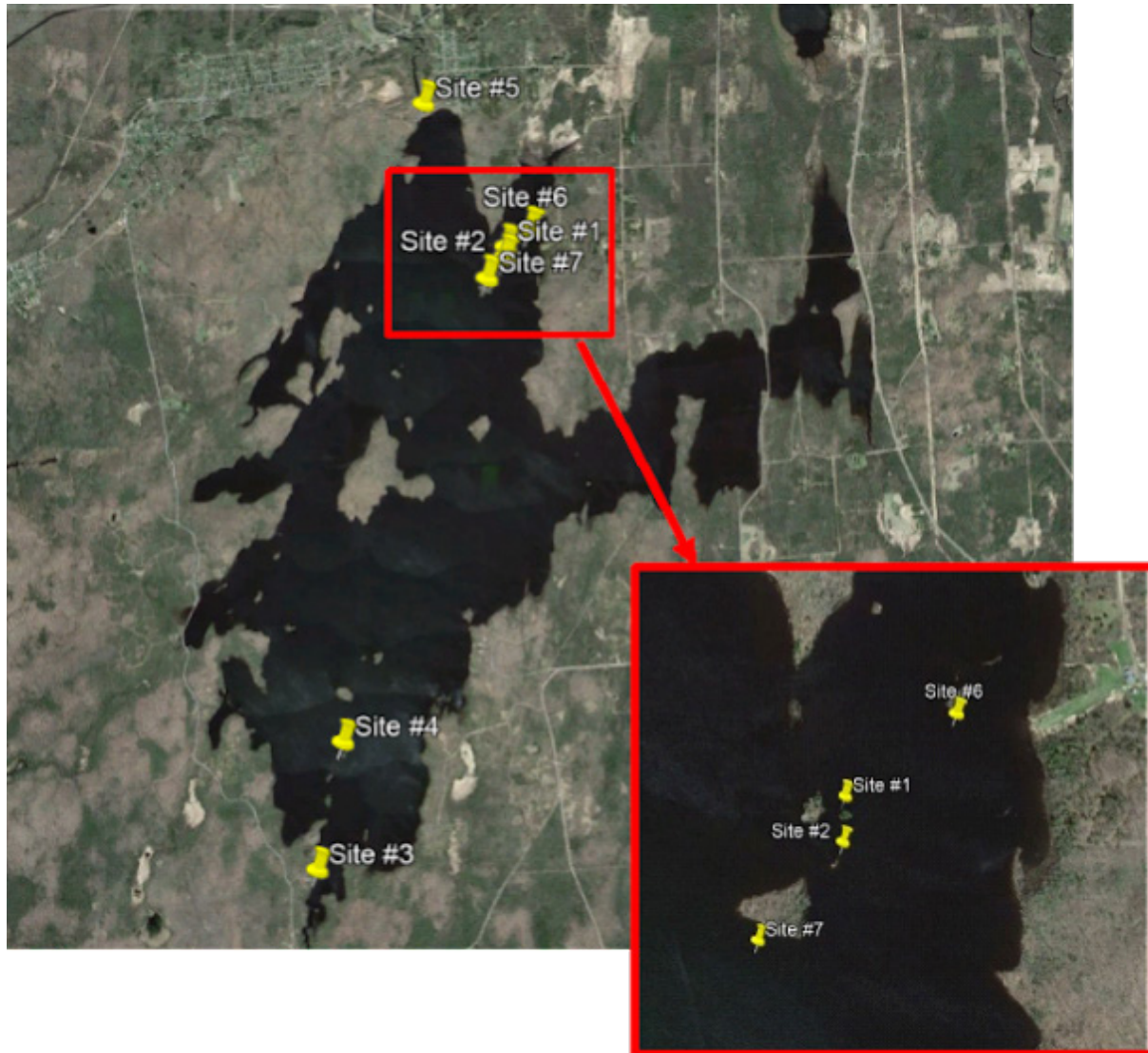


FIGURE 10. SHORELINE STABILITY ASSESSMENT SITES IN THE GILE FLOWAGE.



FIGURE 11. AREA OF INTEREST ON THE LEFT EMBANKMENT (WEST WINGWALL) FACING DOWNSTREAM AT THE TOW OF THE EMBANKMENT (August 30, 2022).



FIGURE 12. WEST BRANCH OF THE MONTREAL RIVER IMMEDIATELY DOWNSTREAM OF THE GILE FLOWAGE (AUGUST 9, 2022)



FIGURE 13. SITE #1 FROM THE 2022 GILE FLOWAGE SHORELINE STABILITY ASSESSMENT.



FIGURE 14. SITE #2 FROM THE 2022 GILE FLOWAGE SHORELINE STABILITY ASSESSMENT.



FIGURE 15. SITE #3 FROM THE 2022 GILE FLOWAGE SHORELINE STABILITY ASSESSMENT.



FIGURE 16. SITE #4 FROM THE 2022 GILE FLOWAGE SHORELINE STABILITY ASSESSMENT.



FIGURE 17. SITE #5 FROM THE 2022 GILE FLOWAGE SHORELINE STABILITY ASSESSMENT.



FIGURE 18. SITE #6 FROM THE 2022 GILE FLOWAGE SHORELINE STABILITY ASSESSMENT.



FIGURE 19. SITE #7 FROM THE 2022 GILE FLOWAGE SHORELINE STABILITY ASSESSMENT.

ANALYSIS AND DISCUSSION

Shoreline Stability Study

The Wisconsin Administrative Code NR 328.08 categorizes erosion intensity into three groups; low energy, moderate energy, and high energy. Each site assessed in the stability study ranked in the low energy category (TABLE 3). Five of the six sites identified with erosion were located on small islands within the flowage (Sites 1, 2, 4, 6 and 7). One site (Site #5) was located along northwest shoreline of the flowage near the dam. In each instance, the erosion features appeared to be above the waterline; the area between the water line and the eroded embankment was covered with cobble or sandy beach. In the downstream tailrace and riverine area downstream of the dam within the project boundary, there was one instance of shoreline erosion or instability. All shorelines along the roadways, including culverts and small bridges showed no signs of erosion. An inventory of each erosion site is provided in TABLE 4.

The bedrock in Iron and Ashland Counties in northern Wisconsin is resistant to erosion. The thin layer of sediment that is exposed in erosional areas around the Flowage lays atop the bedrock. Bare rock faces and boulders are common along the flowage shoreline. Most, if not all, of the natural beaches on the flowage are composed of gravel and cobble. Swim beaches, if present, appear to be man-made and represent a very small portion of the Flowage shoreline. Developed shorelines within the project boundary did not appear to have significant erosion.

Previous work completed by the Friends of the Gile (FOG 2005) included an analysis of the substrates in the littoral zone in areas up to six feet below the full pool elevation of 1,490 feet. That report indicated that substrates within the upper 6 feet consisted of: 20.3% bedrock, boulder, or cobble; 26.9% gravel, gravel with cobble, or gravel with boulders; 39.8% sand, muck or detritus; and 13% sand with gravel, cobble, and/or boulders (FOG, 2005). FOG's information, when combined with the observations and erosion intensity assessments from this study, indicate that there is very little risk of erosion on the Flowage primarily due to the surrounding geology.

Five of the six erosion sites identified were located on small islands within the flowage where the erosion was limited to the thin soil layer atop the bedrock. One site (Site #5) was located along the northwest shoreline of the flowage near the dam. Although located away from the dam and in a wooded area, this site did exhibit significant soil movement and warrants further investigation. The small area of interest in the tailrace also deserves further attention due to its proximity to the dam structures.

Erosion Site #	Length of Eroded Area (ft)	Coordinates (lat/lon)
Site #1	74	N46.41403, W-90.22038
Site #2	26	N46.41330, W-90.22055
Site #4	24	N46.37847, W-90.24095
Site #5	75	N46.42492, W-90.22831
Site #6	54	N46.41522, W-90.21772
Site #7	210	N46.411840, W90.22258
Downstream Embankment	21	N46.42571, W-90.22692

TABLE 4. INVENTORY OF POSSIBLE ERODABLE SITES IN THE GILE FLOWAGE (AUGUST 2022)

Minimum Flow Habitat Evaluation Study

Both study reaches contained a mix of riffle, run, and pool habitat dominated by a hard substrate (boulder, cobble and gravel). Maximum transect depths typically ranged from 35 to 60 cm, with shallow water and soft substrates rarely encountered. Average water velocities ranged from 30 cm/sec to 36 cm/sec. Slack water areas were rarely observed. Field worksheets are included in Appendix B.

Habitat suitability formulas for depth and velocity were applied to each of the ten most common fish species observed during the study to calculate an overall suitability value (TABLE 5 and TABLE 6.).

Reach A	Depth	Vel	Depth and Velocity
LONGNOSE DACE	65.2%	36.1%	50.7%
CREEK CHUB	76.5%	80.9%	71.1%
PUMPKINSEED	4.0%	10.5%	6.6%
SMALLMOUTH BASS	22.4%	81.8%	47.1%
HORNYHEAD CHUB	26.6%	89.5%	52.5%
WHITE SUCKER	14.3%	93.3%	48.7%
YELLOW PERCH	22.8%	61.8%	38.3%
COMMON SHINER	49.3%	88.7%	62.3%
BLACKNOSE SHINER	7.5%	35.9%	19.6%
WALLEYE	12.0%	51.1%	28.5%
Average	30.1%	63.0%	42.5%

TABLE 5. HABITAT SUITABILITY FOR THE 10 MOST COMMON FISH SPECIES IN STUDY REACH A

Reach B	Depth	Vel	Depth and Velocity
LONGNOSE DACE	63.1%	27.7%	45.39%
CREEK CHUB	91.8%	89.2%	90.50%
PUMPKINSEED	3.7%	15.0%	9.39%
SMALLMOUTH BASS	21.9%	89.8%	55.86%
HORNYHEAD CHUB	26.0%	89.0%	57.53%
WHITE SUCKER	13.4%	91.9%	52.62%
YELLOW PERCH	17.1%	77.9%	47.49%
COMMON SHINER	52.7%	87.3%	70.02%
BLACKNOSE SHINER	7.4%	50.3%	28.83%
WALLEYE	11.8%	68.8%	40.31%
Average	30.9%	68.7%	49.80%

TABLE 6. HABITAT SUITABILITY FOR THE 10 MOST COMMON FISH SPECIES IN STUDY REACH B

Overall, the 36 cfs study flow provided a relatively high depth and velocity suitability for the ten most common fish species present. Overall suitability values for 9 of the 10 species exceeded 40%. The highest overall suitability was for the creek chub (90.5%) and the lowest was for the pumpkinseed (9.39%).

Estimating how the amount of available habitat of the weighted useable area may change with lower study flows (12 cfs and 24 cfs) is not possible at this time.

Fish Habitat Rating Score

When the habitat data was entered into the WDNR fish habitat scoring worksheet for streams greater than 10 meters wide, both study reaches scored in the “good” range. Study reach A received a score of 69 and study reach B received a score of 61. Deductions from the top score of 100 were due primarily to shallow depths and a lack of bends or other stream complexes which add to the overall diversity of the stream structure.

Agency Consultation

GLEC had no direct consultation with the resource agencies regarding either the erosion or habitat studies at Gile Flowage.

Literature Cited

Aadland, L., and A. Kuitunen. 2006. Habitat suitability criteria for stream fishes and mussels of Minnesota. Minnesota Department of Natural Resources, Special Publication 162, St. Paul.

Friends of the Gile Flowage (FOG). 2005. website at <http://www.friendsofthegile.org/home/flowage-publications>.

Simonson, Timothy D.; Lyons, John; Kanehl, Paul D. 1993. Guidelines for evaluating fish habitat in Wisconsin streams. General Technical Report NC-164. St. Paul, MN: U.S. Dept. of Agriculture, Forest Service, North Central Forest Experiment Station

Wisconsin Administrative Code: NR 328.08. Erosion Intensity (Ei) Score Worksheet.

WDNR. 2021. Fisheries survey data provided to Xcel Energy April 28, 2021

Wisconsin Geological & Natural History Survey. 2022. <https://wgnhs.wisc.edu/wisconsin-geology/ice-age/>. 817 Mineral Point Road, Madison, Wisconsin 53705, (608) 262-1705, info@wgnhs.wisc.edu.

APPENDIX A – EROSION DATA SHEETS

9 Aug 22
SMC/Smiley

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NR 328.08

WISCONSIN ADMINISTRATIVE CODE

52

Site #4
Island Area

Map Sheet 9
19

N 46° 22.708 (46.378467)
W 090° 14.457 (090.24095) SW Wind light

Table 1

Erosion Intensity (EI) Score Worksheet

Applicants and department staff shall use this worksheet to calculate erosion intensity pursuant to s. NR 328.08 (2).

Exposed
Soil Bank
gravel
beach

15-20 ft

of exposed
Bank,

Confined
to one
area.

Evidence
of Human
Activity
on Bank
(pathway)

Images

IMG 1254
1253

SHORELINE VARIABLES	DESCRIPTIVE CATEGORIES							ASSIGNED EI
	Erosion Intensity Value is Located in Parenthesis on Left Side of Each Category Box							
AVERAGE FETCH ¹ , average distance (miles), across the open water to the opposite shore measured 45° either side of the perpendicular to the shoreline.	(0) <1/10	(2) 1/10 - 1/3	(4) 1/3 - 1	(7) 1 - 3	(10) 3 - 10	(13) 10 - 30	(16) >30	2
DEPTH AT 20 FEET, depth of water (feet) 20 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			2
DEPTH AT 100 FEET, depth of water (feet) 100 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			3
BANK HEIGHT ² , height of bank (feet), measured from toe of the bank to top of the bank-top	(1) <1	(2) 1-5	(3) 5-10	(4) 10-20	(5) >20			3
BANK COMPOSITION, composition and degree of cementation of the sediments	(0) rock, marl, tight clay, well cemented sand (dig with a pick)	(7) soft clay, clayey sand, moderately cemented (easily dug with a knife)	(15) uncemented sands or peat (easily dug with your hand)					3
INFLUENCE OF ADJACENT STRUCTURES, likelihood that adjacent structures are causing bank erosion at the site	(0) no hard armoring on either adjacent property	(1) hard armoring on one adjacent property	(2) hard armoring on both adjacent properties	(3) hard armoring on one adjacent property with measurable recession	(4) hard armoring on both adjacent properties with measurable recession adjacent to both structures			3
AQUATIC VEGETATION ³ , type and abundance of vegetation occurring in the water off the shoreline	(0) rocky substrates unable to support vegetation	(1) dense or abundant emergent, floating or submerged vegetation	(4) scattered or patchy emergent, floating or submerged vegetation	(7) lack of emergent, floating or submerged vegetation				4
BANK VEGETATION, type and abundance of the vegetation occurring on the bank face and immediately on top of the bank-top	(0) bank composed of rocky outcropping unable to support vegetation	(1) dense vegetation, upland trees, shrubs and grasses, including lawns	(4) clumps of vegetation alternating with areas lacking vegetation	(7) lack of vegetation (cleared), crop or agricultural land				1
BANK STABILITY, The degree to which bank and adjacent area (within 10 feet of the bank-top) is stabilized by natural ground, shrub and canopy vegetation (measured by 30' pier access corridor) (measured by 30' pier access corridor) (measured by 30' pier access corridor) (measured by 30' pier access corridor)	(0) established lawn with few canopy trees	(1) established lawn with moderate to dense canopy trees	(4) moderate to dense natural ground vegetation and canopy trees with shrub layer substantially reduced; or few canopy trees with moderate to dense natural shrub layer.	(7) moderate to dense canopy trees with moderate to dense natural shrub layer; or other natural features prevents establishment of vegetation.				7
SHORELINE GEOMETRY, general shape of the shoreline at the point of interest plus 200 yards on either side.	(1) coves or bays	(4) irregular shoreline or straight shoreline	(8) trendland, point, or island					8
SHORE ORIENTATION ⁴ , geographic direction the shoreline faces	(0) < 1/3 mile fetch	(1) north to east to south-south-east (349° - 360°, 1° - 168°)	(4) south to west-southwest (169° - 258°)	(8) west to north-northwest (259° - 349°)				9
BOAT WAKES ⁵ , proximity to and use of boat channels	(1) no channels within 100 yards, broad open water body, or constricted shallow water body; or channels within no-wake zones	(6) thoroughfare within 100 yards carrying limited traffic, or thoroughfare 100 yards to 1/2 mile offshore carrying intensive traffic	(12) thoroughfare within 100 yards carrying intensive traffic (unregulated boating activity)					1
EROSION INTENSITY SCORE (EI)								42

Note: Table 1 is adapted from Knutson, P. L., H. H. Allen, and J. W. Webb, 1990. "Guidelines for Vegetative Erosion Control on Wave-Impacted Coastal Dredged Material Sites." Dredging Operations Technical Support Program Technical Report D-90-13, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS 39180. 35 pp.

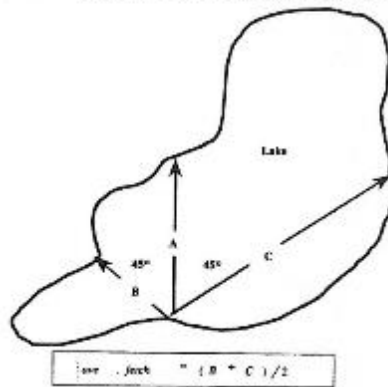
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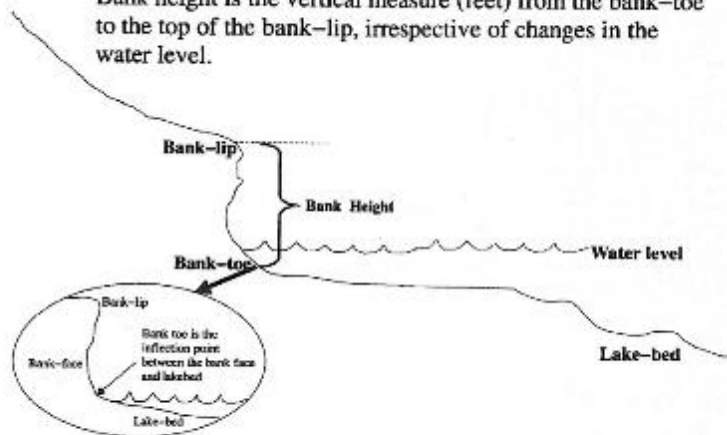
NR 328.08

¹ Average fetch: The following diagram describes the calculation of average fetch.



² Bank height: The following diagram describes the features of the bank for the purpose of accurately measuring bank height

Bank height is the vertical measure (feet) from the bank-toe to the top of the bank-lip, irrespective of changes in the water level.



³ Aquatic vegetation: Dense or abundant means that on average 50–100% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Scattered or patchy means that on average 1–49% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Absent means that on average < 1% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15.

Revisit from shore?

NR 328.08

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52

Area 5

Site #5 (Map Sheet 5 of 10)

SSW Wind Light - Medium

Coordinates:
N46.424921
W 90.228208

near Westin side

of the dam
Fallen trees
maybe due
to bank
movement
Home dock
adjacent to
the site

Table 1

Erosion Intensity (EI) Score Worksheet

Applicants and department staff shall use this worksheet to calculate erosion intensity pursuant to s. NR 328.08 (2).

SHORELINE VARIABLES	DESCRIPTIVE CATEGORIES							ASSIGNED EI
	Erosion Intensity Value is Located in Parenthesis on Left Side of Each Category Box							
AVERAGE FETCH ¹ - average distance (miles), across the open water to the opposite shore measure 45° other side of the perpendicular to the shoreline.	(0) <1/10	(2) 1/10 - 1/3	(4) 1/3 - 1	(7) 1 - 3	(10) 3 - 10	(13) 10 - 30	(16) >30	4
DEPTH AT 20 FEET, depth of water (feet) 20 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			4
DEPTH AT 100 FEET, depth of water (feet) 100 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			5
BANK HEIGHT ² , height of bank (feet), measure from toe of the bank to top of the bank lip	(1) <1	(2) 1-5	(3) 5-10	(4) 10-20	(5) >20			3
BANK COMPOSITION, composition and degree of consolidation of the sediments	(0) rock, marl, tight clay, well cemented sand (dig with a pick)	(7) soft clay, clayey sand, moderately cemented (easily dug with a knife)	(15) uncemented sands or peat (easily dug with your hand)					7
INFLUENCE OF ADJACENT STRUCTURES, likelihood that adjacent structures are causing bank erosion at the site	(0) no hard armoring on either adjacent property	(1) hard armoring on one adjacent property	(2) hard armoring on both adjacent properties	(3) hard armoring on one adjacent property with measurable recession	(4) hard armoring on both adjacent properties with measurable recession adjacent to both structures			1
AQUATIC VEGETATION ³ , type and abundance of vegetation occurring in the water off the shoreline	(0) rocky substrates unable to support vegetation	(1) dense or abundant emergent, floating or submerged vegetation	(4) scattered or patchy emergent, floating or submerged vegetation	(7) lack of emergent, floating or submerged vegetation				4
BANK VEGETATION, type and abundance of the vegetation occurring on the bank face and immediately on top of the bank lip	(0) bank composed of rocky outcropping unable to support vegetation	(1) dense vegetation, upland trees, shrubs and grasses, including lawns	(4) clumps of vegetation alternating with areas lacking vegetation	(7) lack of vegetation (cleared), crop or agricultural land				1
BANK STABILITY, The degree to which bank and adjacent area (within 10 feet of the bank lip) is stabilized by natural ground, shrub, and canopy vegetation (outside a 10' pile access corridor). Human disturbance is typified by tree removal, brushing, mowing, and lawn establishment.	(0) established lawn with few canopy trees	(1) established lawn with moderate to dense canopy trees	(4) moderate to dense natural ground vegetation and canopy trees with shrub layer substantially reduced; or few canopy trees with moderate to dense natural shrub layer.	(7) moderate to dense canopy trees with moderate to dense natural shrub layer; or other natural features prevents establishment of vegetation.				4
SHORELINE GEOMETRY, general shape of the shoreline at the point of lowest plus 200 yards on either side.	(1) coves or bays		(4) irregular shoreline or straight shoreline	(8) headland, point, or island				4
SHORE ORIENTATION ⁴ , geographic direction the shoreline faces	(0) < 1/3 mile fetch	(1) north to east to south-south-east (349° - 360° + 168°)	(4) south to west-southwest (169° - 258°)	(8) west to north-northwest (259° - 349°)				1
BOAT WAKES ⁵ , proximity to and use of boat channels	(1) no channels within 100 yards, broad open water body, or constricted shallow water body; or channels within no-wake zones	(6) thoroughfare within 100 yards carrying limited traffic, or thoroughfare 100 yards to 1/2 mile offshore carrying intensive traffic	(12) thoroughfare within 100 yards carrying intensive traffic (unregulated boating activity)					1
EROSION INTENSITY SCORE (EI)								39

debatable since small beach and dock lay between site and dam

IMG 1258
1259
9 Aug 22

N46.424921
W 90.228208

Note: Table 1 is adapted from Koutson, P. L., H. H. Allen, and J. W. Webb, 1990. "Guidelines for Vegetative Erosion Control on Wave-Impacted Coastal Dredged Material Sites," Dredging Operations Technical Support Program Technical Report D-90-13, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS 39180, 35 pp.

Published under s. 35.93, Stats. Updated on the first day of each month. Entire code is always current. The Register date on each page is the date the chapter was last published. Register February 2014 No. 693

Developed small private beach w/ dock. active - Concern is to the left of the property where small birch + aspen have apparently fallen over due to erosion bank

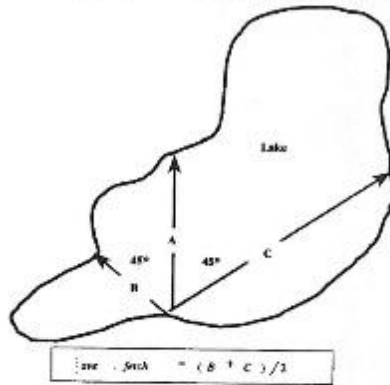
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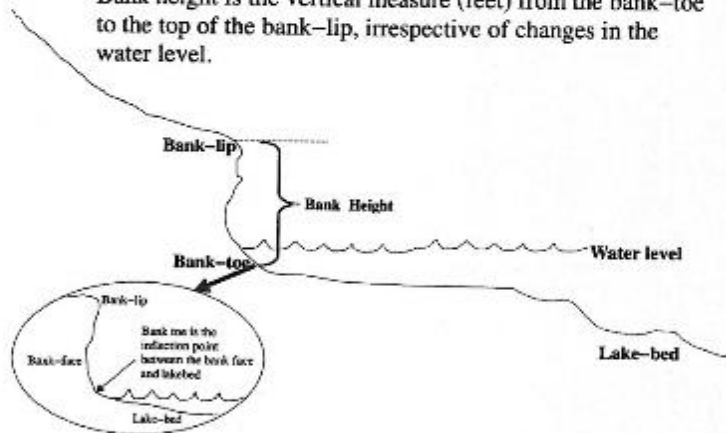
NR 328.08

¹ Average fetch: The following diagram describes the calculation of average fetch.



² Bank height: The following diagram describes the features of the bank for the purpose of accurately measuring bank height

Bank height is the vertical measure (feet) from the bank-toe to the top of the bank-lip, irrespective of changes in the water level.



³ Aquatic vegetation: Dense or abundant means that on average 50-100% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Scattered or patchy means that on average 1-49% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Absent means that on average < 1% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15.

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Map Sheet 4
Area 4
Site # 6
Small Isl
IMG 1262
9 Aug 22

NR 328.08

WISCONSIN ADMINISTRATIVE CODE

calculated
decimal degrees

52

N 46° 24.913
W 090° 13.065
N 46.415217
W 90.217717

Table 1

Erosion Intensity (EI) Score Worksheet

Applicants and department staff shall use this worksheet to calculate erosion intensity pursuant to s. NR 328.08 (2).

SHORELINE VARIABLES	DESCRIPTIVE CATEGORIES							ASSIGNED EI
	Erosion Intensity Value is Located in Parenthesis on Left Side of Each Category Box							
AVERAGE FETCH ¹ - average distance (miles), across the open water to the opposite shore measure 45° either side of the perpendicular to the shoreline.	(0) <1/10	(2) 1/10 - 1/3	(4) 1/3 - 1	(7) 1 - 3	(10) 3 - 10	(13) 10 - 30	(16) >30	7
DEPTH AT 20 FEET, depth of water (feet) 20 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			2
DEPTH AT 100 FEET, depth of water (feet) 100 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			3
BANK HEIGHT ² , height of bank (feet), measure from toe of the bank to top of the bank lip.	(1) <1	(2) 1-5	(3) 5-10	(4) 10-20	(5) >20			3
BANK COMPOSITION composition and degree of cementation of the sediments	(0) rock, marl, tight clay, well cemented sand (dig with a pick)	(7) soft clay, clayey sand, moderately cemented (easily dug with a knife)	(15) uncemented sands or peat (easily dug with your hand)					7
INFLUENCE OF ADJACENT STRUCTURES likelihood that adjacent structures are causing bank recession at the site	(0) no hard armoring on either adjacent property	(1) hard armoring on one adjacent property	(2) hard armoring on both adjacent properties	(3) hard armoring on one adjacent property with measurable recession	(4) hard armoring on both adjacent properties with measurable recession adjacent to both structures			8
AQUATIC VEGETATION ³ type and abundance of vegetation occurring in the water off the shoreline	(0) rocky substrates unable to support vegetation	(1) dense or abundant emergent, floating or submerged vegetation	(4) scattered or patchy emergent, floating or submerged vegetation	(7) lack of emergent, floating or submerged vegetation				8
BANK VEGETATION, type and abundance of the vegetation occurring on the bank face and immediately on top of the bank lip	(0) bank composed of rocky outcropping unable to support vegetation	(1) dense vegetation, upland trees, shrubs and grasses, including lawns	(4) clumps of vegetation alternating with areas lacking vegetation	(7) lack of vegetation (cleared), crop or agricultural land				8
BANK STABILITY, The degree to which bank and adjacent area (within 20 feet of the bank lip) is stabilized by natural ground, shrub, and canopy vegetation (exclude a 10' pier across channel). Human disturbance is typified by tree removal, brushing, mowing, and lawn establishment.	(0) established lawn with few canopy trees	(1) established lawn with moderate to dense canopy trees	(4) moderate to dense natural vegetation and canopy trees with shrub layer substantially reduced; or few canopy trees with moderate to dense natural shrub layer.	(7) moderate to dense canopy trees with moderate to dense natural shrub layer; or other natural features prevents establishment of vegetation.				4
SHORELINE GEOMETRY general slope of the shoreline at the point of interest plus 200 yards on either side.	(1) coves or bays		(4) irregular shoreline or straight shoreline	(8) headland, point, or island				8
SHORE ORIENTATION ⁴ geographic direction the shoreline faces	(0) < 1/3 mile fetch	(1) north to east to south-south-east (349°-360°, 1°-168°)	(4) south to west-southwest (169°-258°)	(8) west to north-northwest (259°-349°)				4
BOAT WAKES ⁵ proximity to and use of boat channels	(1) no channels within 100 yards, broad open water body, or constricted shallow water body; or channels within no-wake zones	(6) thoroughfare within 100 yards carrying limited traffic, or thoroughfare 100 yards to 1/2 mile offshore carrying intensive traffic	(12) thoroughfare within 100 yards carrying intensive traffic (unregulated boating activity)					1
EROSION INTENSITY SCORE (EI)								29

Note: Table 1 is adapted from Knutson, F. L., H. H. Allen, and J. W. Webb, 1990. "Guidelines for Vegetative Erosion Control on Wave-Impacted Coastal Dredged Material Sites," Dredging Operations Technical Support Program Technical Report D-90-13, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS 39180, 35 pp.

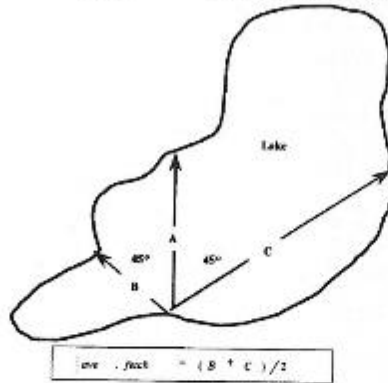
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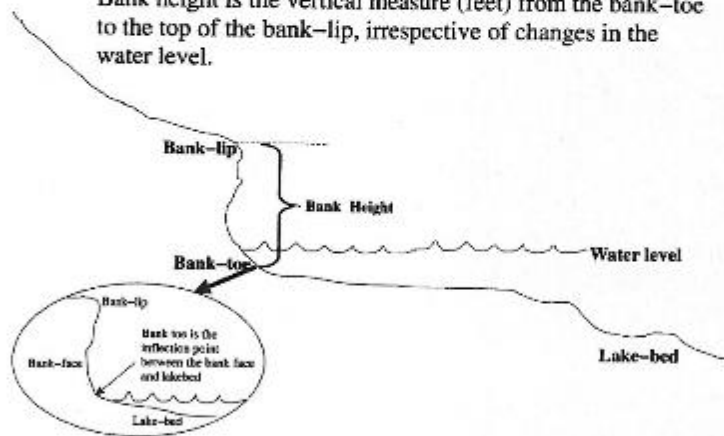
NR 328.08

¹ Average fetch: The following diagram describes the calculation of average fetch.



² Bank height: The following diagram describes the features of the bank for the purpose of accurately measuring bank height

Bank height is the vertical measure (feet) from the bank-toe to the top of the bank-lip, irrespective of changes in the water level.



³ Aquatic vegetation: Dense or abundant means that on average 50–100% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Scattered or patchy means that on average 1–49% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Absent means that on average < 1% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15.

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Map 7 of 10
 NR 328.08
 Garmin Site # 261
 Site #1 (Island)

WISCONSIN ADMINISTRATIVE CODE
 9 Aug 22
 D.M. Danley
 Table 1

52

Erosion Intensity (EI) Score Worksheet

Applicants and department staff shall use this worksheet to calculate erosion intensity pursuant to s. NR 328.08 (2).

N 46.41403
 W 90.22038
 Elev. 453m
 Images
 IMG. 1240
 1241
 1242
 1260

SHORELINE VARIABLES	DESCRIPTIVE CATEGORIES						ASSIGNED EI	
	Erosion Intensity Value is Located in Parenthesis on Left Side of Each Category Box							
AVERAGE FETCH ¹ - average distance (miles), across the open water to the opposite shore measure 45° other side of the perpendicular to the shoreline.	(0) <1/10	(2) 1/10 - 1/3	(4) 1/3 - 1	(7) 1 - 3	(10) 3 - 10	(13) 10 - 30	(16) >30	4
DEPTH AT 20 FEET, depth of water (feet) 20 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			2
DEPTH AT 100 FEET, depth of water (feet) 100 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			3
BANK HEIGHT ² , height of bank face, measure from toe of the bank to top of the bank-top	(1) <1	(2) 1-5	(3) 5-10	(4) 10-20	(5) >20			2
BANK COMPOSITION composition and degree of cementation of the sediments	(0) rock, marl, tight clay, well cemented sand (dig with a pick)	(7) soft clay, clayey sand, moderately cemented (easily dug with a knife)	(15) uncemented sands or peat (easily dug with your hand)					7
INFLUENCE OF ADJACENT STRUCTURES likelihood that adjacent structures are causing bank erosion at the site	(0) no hard armoring on either adjacent property	(1) hard armoring on one adjacent property	(2) hard armoring on both adjacent properties	(3) hard armoring on one adjacent property with measurable recession	(4) hard armoring on both adjacent properties with measurable recession adjacent to both structures			0
AQUATIC VEGETATION ³ type and abundance of vegetation occurring in the water off the shoreline	(0) rocky substrates unable to support vegetation	(1) dense or abundant emergent, floating or submerged vegetation	(4) scattered or patchy emergent, floating or submerged vegetation	(7) lack of emergent, floating or submerged vegetation				0
BANK VEGETATION, type and abundance of the vegetation occurring on the bank face and laterally on top of the bank top	(0) bank composed of rocky outcropping unable to support vegetation	(1) dense vegetation, upland trees, shrubs and grasses, including lawns	(4) clumps of vegetation alternating with areas lacking vegetation	(7) lack of vegetation (cleared), crop or agricultural land				1
BANK STABILITY, The degree to which bank and adjacent area (within 10 feet of the bank-top) is stabilized by natural ground, shrub, and canopy vegetation (outside a 10' gear access corridor). Human disturbance is typified by tree removal, brushing, mowing, and lawn establishment.	(0) established lawn with few canopy trees	(1) established lawn with moderate to dense canopy trees	(4) moderate to dense natural ground vegetation and canopy trees with shrub layer substantially reduced; or few canopy trees with moderate to dense natural shrub layer.	(7) moderate to dense canopy trees with moderate to dense natural shrub layer; or other natural features prevents establishment of vegetation.				4
SHORELINE GEOMETRY general shape of the shoreline at the point of interest plus 200 yards on either side.	(1) coves or bays	(4) irregular shoreline or straight shoreline	(8) headland, point, or island					8
SHORE ORIENTATION ⁴ geographic direction the shoreline faces	(0) < 1/3 mile fetch	(1) north to east to south-south-east (349°-360°, 1°-168°)	(4) south to west-southwest (169°-258°)	(8) west to north-northwest (259°-349°)				4
BOAT WAKES ⁵ proximity to and use of boat channels	(1) no channels within 100 yards, broad open water body, or constricted shallow water body; or channels within no-wake zones	(6) thoroughfare within 100 yards carrying limited traffic, or thoroughfare 100 yards to 1/2 mile offshore carrying intensive traffic	(12) thoroughfare within 100 yards carrying intensive traffic (unregulated boating activity)					1
EROSION INTENSITY SCORE (EI)								36

Note: Table 1 is adapted from Knutson, P.L., H.H. Allen, and J. W. Webb, 1990. "Guidelines for Vegetative Erosion Control on Wave-Impacted Coastal Dredged Material Sites," Dredging Operations Technical Support Program Technical Report D-90-13, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS 39180, 35 pp.

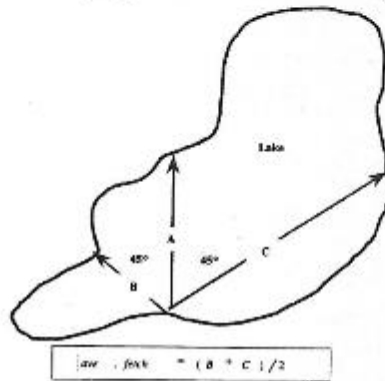
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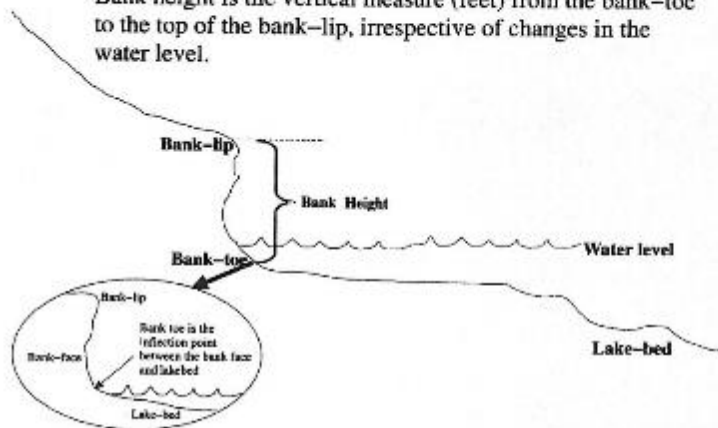
NR 328.08

¹ Average fetch: The following diagram describes the calculation of average fetch.



² Bank height: The following diagram describes the features of the bank for the purpose of accurately measuring bank height.

Bank height is the vertical measure (feet) from the bank-toe to the top of the bank-lip, irrespective of changes in the water level.



³ Aquatic vegetation: Dense or abundant means that on average 50–100% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Scattered or patchy means that on average 1–49% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Absent means that on average < 1% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15.

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Map sheet 7 of 10 NR 328.08

WISCONSIN ADMINISTRATIVE CODE

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Site # 2
(Island)

9 Aug 22
DM Conley

Table 1

Erosion Intensity (EI) Score Worksheet

Applicants and department staff shall use this worksheet to calculate erosion intensity pursuant to s. NR 328.08 (2).

N46° 24.798
W90° 13.273

46.4133
90.22055
(Calculated)

IMG 1243
1244
1261

SHORELINE VARIABLES	DESCRIPTIVE CATEGORIES							ASSIGNED EI
	Erosion Intensity Value is Located in Parenthesis on Left Side of Each Category Box							
AVERAGE FETCH ¹ , average distance (miles), across the open water to the opposite shore measure 45° other side of the perpendicular to the shoreline.	(0) <1/10	(2) 1/10 - 1/3	(4) 1/3 - 1	(7) 1 - 3	(10) 3 - 10	(13) 10 - 30	(16) >30	4
DEPTH AT 20 FEET, depth of water (feet) 20 feet from shoreline	(1) <1	(2) 1 - 3	(3) 3 - 6	(4) 6 - 12	(5) >12			2
DEPTH AT 100 FEET, depth of water (feet) 100 feet from shoreline	(1) <1	(2) 1 - 3	(3) 3 - 6	(4) 6 - 12	(5) >12			3
BANK HEIGHT ² , height of bank (feet), measure from toe of the bank to top of the bank-lip.	(1) <1	(2) 1 - 5	(3) 5 - 10	(4) 10 - 20	(5) >20			2
BANK COMPOSITION, composition and degree of cementation of the sediments	(0) rock, marl, tight clay, well cemented sand (dig with a pick)	(7) soft clay, clayey sand, moderately cemented (easily dug with a knife)	(15) uncemented sands or peat (easily dug with your hand)					7
INFLUENCE OF ADJACENT STRUCTURES, likelihood that adjacent structures are causing bank erosion at the site	(0) no hard armoring on either adjacent property	(1) hard armoring on one adjacent property	(2) hard armoring on both adjacent properties	(3) hard armoring on one adjacent property with measurable recession	(4) hard armoring on both adjacent properties with measurable recession adjacent to both structures			0
AQUATIC VEGETATION ³ , type and abundance of vegetation occurring in the water off the shoreline	(0) rocky substrates unable to support vegetation	(1) dense or abundant emergent, floating or submerged vegetation	(4) scattered or patchy emergent, floating or submerged vegetation	(7) lack of emergent, floating or submerged vegetation				0
BANK VEGETATION, type and abundance of the vegetation occurring on the bank face and immediately on top of the bank lip	(0) bank composed of rocky outcroppings unable to support vegetation	(1) dense vegetation, upland trees, shrubs and grasses, including lawns	(4) clumps of vegetation alternating with areas lacking vegetation	(7) lack of vegetation (cleared), crop or agricultural land				1
BANK STABILITY, The degree to which bank and adjacent area (within 10 feet of the bank-lip) is stabilized by natural ground, shrub, and canopy vegetation (within a 10' par access corridor). Human disturbance is typified by tree removal, breaking, mowing, and lawn establishment.	(0) established lawn with few canopy trees	(1) established lawn with moderate to dense canopy trees	(4) moderate to dense natural ground vegetation and canopy trees with shrub layer substantially reduced; or few canopy trees with moderate to dense natural shrub layer.	(7) moderate to dense canopy trees with moderate to dense natural shrub layer, or other natural features prevents establishment of vegetation.				4
SHORELINE GEOMETRY, general shape of the shoreline at the point of interest plus 200 yards on either side.	(1) coves or bays	(4) irregular shoreline or straight shoreline	(8) headland, point, or island					8
SHORE ORIENTATION ⁴ , geographic direction the shoreline faces	(0) < 1/3 mile fetch	(1) north to east (349° - 360°, 1° - 168°)	(4) south to west-southwest (169° - 258°)	(8) west to north-northwest (259° - 349°)				4
BOAT WAKES ⁵ , proximity to and use of boat channels	(1) no channels within 100 yards, broad open water body, or constricted shallow water body; or channels within no-wake zones	(6) thoroughfare within 100 yards carrying limited traffic, or thoroughfare 100 yards to 1/2 mile offshore carrying intensive traffic	(12) thoroughfare within 100 yards carrying intensive traffic (unregulated boating activity)					1
EROSION INTENSITY SCORE (EI)								26

Note: Table 1 is adapted from Krutson, P. L., H. H. Allen, and J. W. Webb, 1990. "Guidelines for Vegetative Erosion Control on Wave-Impacted Coastal Dredged Material Sites," Dredging Operations Technical Support Program Technical Report D-90-13, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS 39180, 35 pp.

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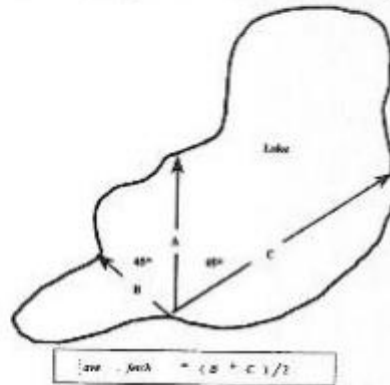
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DEPARTMENT OF NATURAL RESOURCES

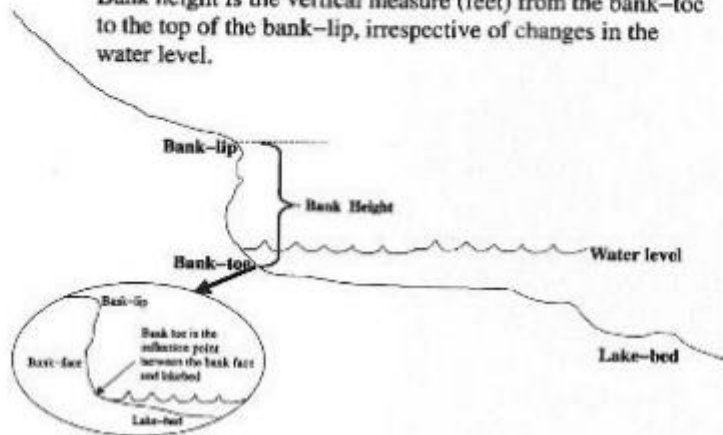
NR 328.08

¹ Average fetch: The following diagram describes the calculation of average fetch.



² Bank height: The following diagram describes the features of the bank for the purpose of accurately measuring bank height.

Bank height is the vertical measure (feet) from the bank-toe to the top of the bank-lip, irrespective of changes in the water level.



³ Aquatic vegetation: Dense or abundant means that on average 50-100% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Scattered or patchy means that on average 1-49% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Absent means that on average < 1% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15.

N 46.369216
W 90.244506

Map Sheet 10.510

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NR 328.08

WISCONSIN ADMINISTRATIVE CODE

* Does this worksheet work out for non-impacted sites? *

IMG 1251
9 Aug 22
Site # 3
Area 10

~~N 44.22 11348~~
~~W 90.41.648~~

~~N 44.36913~~
~~W 90.24413~~

Table 1

Erosion Intensity (EI) Score Worksheet

Applicants and department staff shall use this worksheet to calculate erosion intensity pursuant to s. NR 328.08 (2).

Home
Stable shoreline moderate grade
Boat Dock
mowed lawn does not extend to water line
Bank stabilized w/ woody debris and shrubs
Forested on either side
Crown 2 story Home
Herowater of Flowage.

SHORELINE VARIABLES	DESCRIPTIVE CATEGORIES							ASSIGNED EI
	Erosion Intensity Value is Located in Parenthesis on Left Side of Each Category Box							
AVERAGE FETCH ¹ , average distance (miles) across the open water to the opposite shore measures 45° other side of the perpendicular to the shoreline.	(0) <1/10	(2) 1/10 - 1/3	(4) 1/3 - 1	(7) 1 - 3	(10) 3 - 10	(13) 10 - 30	(16) >30	0
DEPTH AT 20 FEET, depth of water (feet) 20 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			2
DEPTH AT 100 FEET, depth of water (feet) 100 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			3
BANK HEIGHT ² , height of bank (feet), measure from toe of the bank to top of the bank lip.	(1) <1	(2) 1-5	(3) 5-10	(4) 10-20	(5) >20			2
BANK COMPOSITION, composition and degree of cementation of the sediments	(0) rock, marl, tight clay, well cemented sand (dig with a pick)	(7) soft clay, clayey sand, moderately cemented (easily dug with a knife)	(15) uncemented sands or peat (easily dug with your hand)					7
INFLUENCE OF ADJACENT STRUCTURES, likelihood that adjacent structures are causing flank erosion at the site	(0) no hard armoring on either adjacent property	(1) hard armoring on one adjacent property	(2) hard armoring on both adjacent properties	(3) hard armoring on one adjacent property with measurable recession	(4) hard armoring on both adjacent properties with measurable recession adjacent to both structures			2/20 25-M
AQUATIC VEGETATION ⁵ , type and abundance of vegetation occurring in the water off the shoreline	(0) rocky substrates unable to support vegetation	(1) dense or abundant emergent, floating or submerged vegetation	(4) scattered or patchy emergent, floating or submerged vegetation	(7) lack of emergent, floating or submerged vegetation				7
BANK VEGETATION, type and abundance of the vegetation occurring on the bank face and immediately on top of the bank lip	(0) bank composed of rocky outcropping unable to support vegetation	(1) dense vegetation, upland trees, shrubs and grasses, including lawns	(4) clumps of vegetation alternating with areas lacking vegetation	(7) lack of vegetation (cleared), crop or agricultural land				1
BANK STABILITY, The degree to which bank and adjacent area (within 10 feet of the bank lip) is stabilized by natural ground, shrub, and canopy vegetation (outside a 10' pit across consider). Disturbance is implied by tree removal, brushing, mowing, and lawn establishment.	(0) established lawn with few canopy trees	(1) established lawn with moderate to dense canopy trees	(4) moderate to dense natural ground vegetation and canopy trees with shrub layer substantially reduced; or few canopy trees with moderate to dense natural shrub layer.	(7) moderate to dense canopy trees with moderate to dense natural shrub layer; or other natural features prevents establishment of vegetation.				0
SHORELINE GEOMETRY, general shape of the shoreline at the point of interest plus 200 yards on either side.	(1) coves or bays	(4) irregular shoreline or straight shoreline	(8) headland, point, or island					4
SHORE ORIENTATION ⁴ , geographic direction the shoreline faces	(0) < 1/3 mile fetch	(1) north to east to south-south-east (349°-360°, 1°-168°)	(4) south to west-southwest (169°-258°)	(8) west to north-north-west (259°-349°)				0
BOAT WAKES ⁵ , possibility to and use of boat channels	(1) no channels within 100 yards, broad open water body, or constricted shallow water body; or channels within no-wake zones	(6) thoroughfare within 100 yards carrying limited traffic, or thoroughfare 100 yards to 1/2 mile offshore carrying intensive traffic	(12) thoroughfare within 100 yards carrying intensive traffic (unregulated boating activity)					1
EROSION INTENSITY SCORE (EI)								

Notes: Table 1 is adapted from Knutson, P. L., H. H. Allen, and J. W. Webb, 1990. "Guidelines for Vegetative Erosion Control on Wave-Impacted Coastal Dredged Material Sites." Dredging Operations Technical Support Program Technical Report D-90-13, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS 39180, 35 pp.

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Register February 2014 No. 698

not a problem site - example
sloping shoreline - no erosion

27
27
DWM

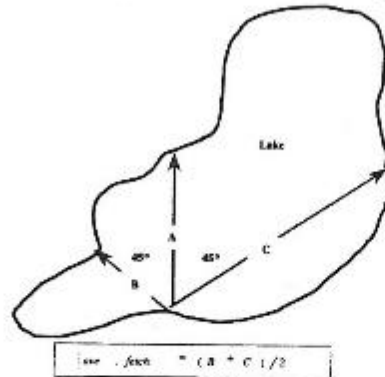
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DEPARTMENT OF NATURAL RESOURCES

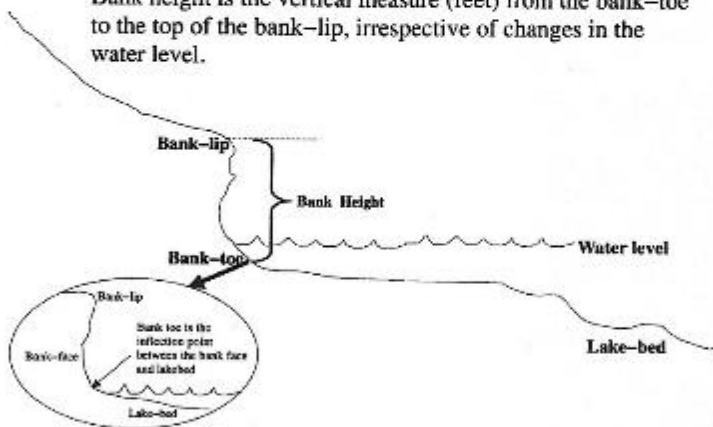
NR 328.08

¹ Average fetch: The following diagram describes the calculation of average fetch.



² Bank height: The following diagram describes the features of the bank for the purpose of accurately measuring bank height

Bank height is the vertical measure (feet) from the bank-toe to the top of the bank-lip, irrespective of changes in the water level.



³ Aquatic vegetation: Dense or abundant means that on average 50–100% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Scattered or patchy means that on average 1–49% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15. Absent means that on average < 1% of the bottom is visually obstructed by plants during the growing season, defined by the dates June 1 through September 15.

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NR 328.08

WISCONSIN ADMINISTRATIVE CODE

52

9/6/2022
Site # 7

W46.41184
W-90. 22258

Ch. Lindy 9/6/2022

Table 1

Erosion Intensity (KI) Score Worksheet

Applicants and department staff shall use this worksheet to calculate erosion intensity pursuant to s. NR 328.08 (2).

SHORELINE VARIABLES	DESCRIPTIVE CATEGORIES						ASSIGNED KI	
	Erosion Intensity Value is Located in Parenthesis on Left Side of Each Category Box							
AVERAGE FETCH¹ , average distance (meters), across the open water to the opposite shore measured 45° other side of the perpendicular to the shoreline.	(0) <1/10	(2) 1/10 - 1/3	(4) 1/3 - 1	(7) 1 - 3	(10) 3 - 10	(13) 10 - 30	(16) >30	2
DEPTH AT 20 FEET² , depth of water (ft); 20 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			2
DEPTH AT 100 FEET² , depth of water (feet) 100 feet from shoreline	(1) <1	(2) 1-3	(3) 3-6	(4) 6-12	(5) >12			2
BANK HEIGHT² , height of bank (feet), measured from toe of the bank to top of the bank-top	(1) <1	(2) 1-5	(3) 5-10	(4) 10-20	(5) >20			3
BANK COMPOSITION , composition and degree of cementation of the sediments	(0) rock, mail, light clay, well cemented sand (dig with a pick)	(7) soft clay, clayey sand, moderately cemented (easily dug with a knife)	(15) uncemented sands or loam (easily dug with your hand)					1
INFLUENCE OF ADJACENT STRUCTURES , how good the adjacent structures are causing flow erosion on the site	(0) no hard structure on either adjacent property	(1) hard armor on one adjacent property	(2) hard armor on both adjacent properties	(3) hard armor on one adjacent property with measurable recession	(4) hard armor on both adjacent properties with measurable recession adjacent to both structures			0
AQUATIC VEGETATION³ , type and abundance of vegetation occurring in the water off the shoreline	(0) rocky substrates unable to support vegetation	(1) decaying or abundant emergent, floating or submergent vegetation	(4) scattered or patchy emergent, floating or submergent vegetation	(7) lack of emergent, floating or submergent vegetation				0
BANK VEGETATION , type and abundance of the vegetation occurring on the bank face and immediately on top of the bank top	(0) bank composed of rocky outcropping unable to support vegetation	(1) decaying vegetation, upland trees, shrubs and grasses, including lawns	(4) clumps of vegetation alternating with areas lacking vegetation	(7) lack of vegetation (cleared), crop or agricultural land				0
BANK STABILITY , the degree to which bank and adjacent area (within 10 feet of the bank-top) is stabilized by natural point, shrub, and canopy vegetation (within a 10 year average period). Human disturbance is reported by the owner, boater, mowing, and area abandonment.	(0) established lawn with few canopy trees	(1) established lawn with moderate to dense canopy trees	(4) moderate to dense natural ground vegetation and canopy trees with shrub layer substantially reduced; or low canopy trees with moderate to dense natural shrub layer.	(7) moderate to dense canopy trees with moderate to dense natural shrub layer; or other natural features prevents establishment of vegetation.				4
SHORELINE GEOMETRY , general shape of the shoreline at the point or channel plus 200 yards on either side.	(1) curves or bays		(4) irregular shoreline or straight shoreline	(8) headland, point, or island				8
SHORE ORIENTATION⁴ , geographic direction for shoreline faces	(0) < 1/3 mile fetch	(1) north to east to south-south-east (349°-360°, 1°-168°)	(4) south to west-southwest (169°-258°)	(8) west to north-northwest (259°-349°)				4
BOAT WAKES⁵ , proximity to and use of boat channels	(1) no channels within 100 yards, broad open water body, or channels within no-wake zones	(6) thoroughfare within 100 yards carrying limited traffic, or thoroughfare 100 yards to 1/2 mile offshore carrying intensive traffic	(12) thoroughfare within 100 yards carrying intensive traffic (unregulated boating activity)					1

Note: Table 1 is adapted from Krutson, P. L., L. H. Allen, and J. W. Webb, 1990. "Guidelines for Vegetative Erosion Control on Wave Impacted Coastal Dredging Material Sites," Dredging Operations Technical Support Program Technical Report D-90-12, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS 39180, 55 pp.

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APPENDIX B – HABITAT DATA SHEETS

36

Wadable Stream Quantitative Habitat Evaluation
Form 3800-228 (R 6/07) Page 5 of 5

Transect Data				
Stream Name	Waterbody ID Code	Date (MMDDYYYY)	Transect No.	
W. Fork Montreal	X	08 30 2012	A-1	
Distance from Start (m)	Stream Width (m)	Habitat Type:	Bankfull Depth (m) (optional)	Bankfull Width (m) (optional)
2.5	12.5	<input type="checkbox"/> Riffle <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run	0.65	Test flow 12

	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	0.65	0.36	0.36	0.65	0.60
Depth of Fines and Water (m)		0.36	0.36	0.60	0.60
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		50	20	25	10

Percent (nearest 5%) of Stream Bottom Covered					Section Total Must = 100%
Bedrock (solid slab)					
Boulder (281 mm - 4.1 m)			40	20	
Rubble / Cobble (65 - 280 mm)		80	80	40	70
Gravel (2 - 64 mm)		10	20	26	10
Sand (0.062 - 1.9 mm)		10	/	/	/
Silt (0.004 - 0.061 mm)		/	/	/	/
Clay		/	/	/	/
Detritus		/	/	/	/
Other - Specify: <u>VELOCITY cm/s</u>		0	36.9	37.5	30.4

Percent (nearest 10%) of Stream Bottom Covered					
Algae (attached & fla.)		0	0	0	0
Macrophytes		30	0	0	0
Canopy / Shading (circle one)		60	5	0	30

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth							
Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
0	1.5m	0	0	4M	0	0	

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream				% of Eroded Bank to the crest or within 5 m of stream edge	
Left	Right	Left (%)	Right (%)		
0 (m)	0 (m)	0 (%)	0 (%)		

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect										Section Total Must = 100%
Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodlands	Wetland	Exposed Rock	Other - Specify:	
0	0	0	0	0	70	0	0	0	30	Leas/Park

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream		
Left	Right	
2 (m)	5 (m)	

descending

Wadable Stream Quantitative Habitat Evaluation

Form 5820-228 (R 8/07)

Page 5 of 6

Transect Data

Stream Name <i>West Branch Montreal River</i>		Waterbody ID Code <i>WB Montreal</i>	Date (MMDDYYYY) <i>08302022</i>	Transect No. <i>A2</i>
Distance from Start (m) <i>145</i>	Stream Width (m) <i>50.2</i>	Habitat Type: <input type="checkbox"/> Riffle <input type="checkbox"/> Pool <input type="checkbox"/> Run		Bankfull Depth (m) (optional)
157		Bankfull Width (m) (optional) <i>Study Flow Ref</i>		

	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	<i>0.14</i>	<i>0.29</i>	<i>0.38</i>	<i>0.28</i>	<i>0.18</i>
Depth of Finest Water (m)		<i>0.29</i>	<i>0.38</i>	<i>0.28</i>	<i>0.18</i>
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		<i>30</i>	<i>40</i>	<i>30</i>	<i>40</i>

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Boulder (261 mm - 4.1 m)	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Rubble / Cobble (65 - 260 mm)	<i>90</i>	<i>85</i>	<i>80</i>	<i>60</i>
Gravel (2 - 64 mm)	<i>10</i>	<i>15</i>	<i>20</i>	<i>30</i>
Sand (0.062 - 1.9 mm)	<i>/</i>	<i>/</i>	<i>/</i>	<i>10</i>
Silt (0.004 - 0.061 mm)	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Clay	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Detritus	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Other - Specify: <i>Velocity m/s</i>	<i>44.9</i>	<i>76.0</i>	<i>54.3</i>	<i>20.8</i>

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fls.)	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Macrophytes	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Canopy / Shading (circle one)	<i>50</i>	<i>0</i>	<i>0</i>	<i>30</i>

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
<i>0</i>	<i>0.5</i>	<i>0.2</i>		<i>0.5</i>	<i>0</i>	<i>0</i>	

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream

Left: <i>0</i> (m)	Right: <i>0</i> (m)	% of Eroded Bank to the crest or within 5 m of stream edge
		Left: <i>0</i> (%) Right: <i>0</i> (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>70</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>SOLAR</i>

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: <i>10</i> (m)	Right: <i>5</i> (m)
---------------------	---------------------

Wadable Stream Quantitative Habitat Evaluation
Form 3800-228 (R 6/07)

3 b
12/25

Transect Data									
Stream Name			Watershed ID Code	Date (MMDDYYYY)	Transect No.				
W0 Monteval River				08/30/2022	A3				
Distance from Start (m)	Stream Width (m)	Habitat Type:		Bankfull Depth (m) (optional)	Bankfull Width (m) (optional)				
790	15.5	<input checked="" type="checkbox"/> Riffle <input type="checkbox"/> Pool <input type="checkbox"/> Run							
Channel Position (Fifths of Current Stream Width)									
Deepest Point	1/5		2/5		3/5				
Water Depth (m)	0.38	0.09	0.24	0.19	0.25				
Depth of Fines and Water (m)		0.09	0.24	0.19	0.35				
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		50	40	30	30				
Percent (nearest 5%) of Stream Bottom Covered									
Section Total Must = 100%									
Bedrock (solid slab)		0	0	0	0				
Boulder (261 mm - 4.1 m)		0	0	0	0				
Rubble / Cobble (65 - 260 mm)		60	70	70	80				
Gravel (2 - 64 mm)		40	30	30	20				
Sand (0.062 - 1.9 mm)		/	/	/	/				
Silt (0.004 - 0.061 mm)		/	/	/	/				
Clay		/	/	/	/				
Detritus		/	/	/	/				
Other - Specify <u>Velvet c/m/s</u>		46.8	40.2	55.2	36.6				
Percent (nearest 10%) of Stream Bottom Covered									
Algae (attached & fila.)		0	0	0	0				
Macrophytes		0	0	0	0				
Canopy / Shading (circle one)		40	40	50	100 90				
Cover for Adult Gametfish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth									
Uncut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify		
0.9	0	0.1	0	0	0	0			
Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream									
Left: 0 (m) Right: 0 (m)				% of eroded bank to the crest or will in 5 m of stream edge					
Left: 0 (%) Right: 0 (%)									
Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect									
Section Total Must = 100%									
Cropland	Pasture	Barren	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify
0	0	0	0	0	80	0	0	0	20 Lamin
Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream									
Left: 10 (m) Right: 10 (m)									

Wadable Stream Quantitative Habitat Evaluation
Form 2630-228 (R 8/07)

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12015

Transect Data

Stream Name <u>WB Montreal River</u>	Waterbody ID Code	Date (MMDDYYYY) <u>08/30/12</u>	Transect No. <u>114</u>
Distance from Start (m) <u>135</u>	Stream Width (m) <u>9.9 m</u>	Habitat Type: <input type="checkbox"/> Riffle <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run	Bankfull Depth (m) (optional)
		Bankfull Width (m) (optional)	

	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	<u>0.70</u>	<u>0.36</u>	<u>0.59</u>	<u>0.60</u>	<u>0.19</u>
Depth of Fines and Water (m)		<u>0.36</u>	<u>0.59</u>	<u>0.60</u>	<u>0.19</u>
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		<u>50</u>	<u>30</u>	<u>50</u>	<u>60</u>

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Boulder (251 mm - 4.1 m)	<u>20</u>	<u>20</u>	<u>0</u>	<u>0</u>
Rubble / Cobble (65 - 250 mm)	<u>60</u>	<u>60</u>	<u>70</u>	<u>50</u>
Gravel (2 - 64 mm)	<u>20</u>	<u>20</u>	<u>30</u>	<u>30</u>
Sand (0.052 - 1.9 mm)	<u>/</u>	<u>/</u>	<u>/</u>	<u>20</u>
Silt (0.004 - 0.061 mm)	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Clay	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Detritus	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Other - Specify: <u>Velocity cm/s</u>	<u>24.4</u>	<u>67.4</u>	<u>41.0</u>	<u>6.3</u>

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fila.)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Macrophytes	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Canopy / Shading (circle one)	<u>80</u>	<u>30</u>	<u>70</u>	<u>60</u>

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1 m</u>	<u>0</u>	<u>0</u>	<u>0</u>

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream

Left: 0 (m) Right: 0 (m) % of Eroded Bank to the crest or within 5 m of stream edge: Left: 0 (%) Right: 0 (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodlands	Wetland	Exposed Rock	Other - Specify:
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>50</u>	<u>10</u>	<u>0</u>	<u>0</u>	<u>0</u>

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: 10 (m) Right: 10 (m)

Wadable Stream Quantitative Habitat Evaluation

Farm 3630-226 (R 8/07)

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Transect Data										
Stream Name W B M Run					Waterbody ID Code Excel Program		Date (MMDDYYYY) 08/30/22		Transect No. A5	
Distance from Start (m) +180		Stream Width (m) 15.6		Habitat Type: <input checked="" type="checkbox"/> Riffle <input type="checkbox"/> Pool <input type="checkbox"/> Run			Bankfull Depth (m) (optional)		Bankfull Width (m) (optional)	
		Deepest Point	Channel Position (Fifths of Current Stream Width)							
			1/5	2/5	3/5	4/5				
Water Depth (m)		0.45	0.45	0.40	0.19	0.10				
Depth of Fines and Water (m)			0.45	0.40	0.19	0.10				
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble			20	20	30	40				
Percent (nearest 5%) of Stream Bottom Covered					Section Total Must = 100%					
Bedrock (solid slab)			0	0	0	0				
Boulder (261 mm - 4.1 m)			40	30	40	0				
Rubble / Cobble (65 - 250 mm)			40	50	40	70				
Gravel (2 - 64 mm)			20	20	20	30				
Sand (0.062 - 1.9 mm)			/	0	/	/				
Silt (0.004 - 0.061 mm)			/	/	/	/				
Clay			/	/	/	/				
Detritus			/	/	/	/				
Other - Specify: <u>Algae cm/s</u>			56.8	59.6	32.5	25.6				
Percent (nearest 10%) of Stream Bottom Covered										
Algae (attached & fla.)			10	0	0	0				
Macrophytes			0	0	0	0				
Canopy / Shading (circle one)			40	26	20	60				
Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth										
Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:			
0	4m	1m	0	3m	0	0	0			
Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream					% of Eroded Bank to the crest or within 5 m of stream edge					
Left: 0 (m)		Right: 0 (m)		Left: 0 (%)		Right: 0 (%)				
Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect										Section Total Must = 100%
Cropland	Pasture	Barren	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:	
0	0	0	0	0	50	50	0	0		
Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream										
Left: 6 (m)		Right: 10 (m)								

Wadable Stream Quantitative Habitat Evaluation
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12cts

Transect Data

Stream Name <u>W B Natural River</u>	Waterbody ID Code	Date (MMDDYYYY) <u>08/30/22</u>	Transect No. <u>A6</u>
Distance from Start (m) <u>1225</u>	Stream Width (m) <u>16.5</u>	Habitat Type: <input type="checkbox"/> R/Fla <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run	Bankfull Depth (m) (optional)
		Bankfull Width (m) (optional)	

	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	<u>0.55</u>	<u>0.51</u>	<u>0.39</u>	<u>0.21</u>	<u>0.16</u>
Depth of Fines and Water (m)		<u>0.51</u>	<u>0.39</u>	<u>0.21</u>	<u>0.16</u>
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		<u>40</u>	<u>40</u>	<u>50</u>	<u>50</u>

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Boulder (251 mm - 4.1 m)	<u>40</u>	<u>20</u>	<u>0</u>	<u>0</u>
Rubble / Cobble (65 - 250 mm)	<u>40</u>	<u>60</u>	<u>80</u>	<u>70</u>
Gravel (2 - 64 mm)	<u>20</u>	<u>20</u>	<u>20</u>	<u>30</u>
Sand (0.062 - 1.9 mm)	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Silt (0.004 - 0.061 mm)	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Clay	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Detritus	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Other - Specify: <u>Volcanic c/s</u>	<u>27.3</u>	<u>41.3</u>	<u>38.5</u>	<u>25.9</u>

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fila.)	<u>30</u>	<u>0</u>	<u>0</u>	<u>0</u>
Macrophytes	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Canopy / Shading (circle one)	<u>20</u>	<u>20</u>	<u>50</u>	<u>80</u>

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
<u>0</u>	<u>1m</u>	<u>0.5</u>	<u>0</u>	<u>3m</u>	<u>0</u>	<u>0</u>	<u>0</u>

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream

Left: 0 (m) Right: 0 (m) % of Eroded Bank to the crest or within 5 m of stream edge: Left: 0 (%) Right: 0 (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Bermyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>50</u>	<u>/</u>	<u>10%</u>	<u>Lawn 40</u>

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: 5 (m) Right: 40 (m)

ascending

Wadable Stream Quantitative Habitat Evaluation

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Transect Data				
Stream Name <i>A) B North River</i>	Waterbody ID Code	Date (MMDDYYYY) <i>08/30/2002</i>	Transect No. <i>A7</i>	

Distance from Start (m) <i>+270</i>	Stream Width (m) <i>13.6</i>	Habitat Type: <input type="checkbox"/> Riffle <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run	Bankfull Depth (m) (optional)	Bankfull Width (m) (optional)
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	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	<i>0.36</i>	<i>0.34</i>	<i>0.25</i>	<i>0.30</i>	<i>0.25</i>
Depth of Fines and Water (m)		<i>0.34</i>	<i>0.25</i>	<i>0.30</i>	<i>0.25</i>
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		<i>40</i>	<i>30</i>	<i>40</i>	<i>40</i>

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Boulder (261 mm - 4.1 m)	<i>10</i>	<i>10</i>	<i>10</i>	<i>0</i>
Rubble / Cobble (65 - 260 mm)	<i>70</i>	<i>70</i>	<i>70</i>	<i>70</i>
Gravel (2 - 64 mm)	<i>20</i>	<i>20</i>	<i>20</i>	<i>30</i>
Sand (0.062 - 1.9 mm)	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Silt (0.004 - 0.061 mm)	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Clay	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Delritus	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Other - Specify: <i>Velocity cm/s</i>	<i>42.5</i>	<i>49.7</i>	<i>62.1</i>	<i>50.3</i>

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fila.)	<i>20</i>	<i>0</i>	<i>0</i>	<i>0</i>
Macrophytes	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Canopy / Shading (circle one)	<i>10</i>	<i>0</i>	<i>10</i>	<i>10</i>

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
<i>0</i>	<i>1.0</i>			<i>0.5</i>	<i>0</i>	<i>0</i>	

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream

Left: *0* (m) Right: *0* (m) % of Eroded Bank to the crest or within 5 m of stream edge: Left: *0* (%) Right: *0* (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
<i>0</i>	<i>0</i>	<i>0</i>	<i>10</i>	<i>0</i>	<i>50</i>	<i>10</i>	<i>0</i>		<i>40 Lawn</i>

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: *5* (m) Right: *+16* (m)

Wadable Stream Quantitative Habitat Evaluation
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D. McCauley, A. Turner, D. Brown

126-53 36

Transect Data									
Stream Name		Waterbody ID Code		Date (MDDYYYY)	Transect No.				
WB Montpelier River				08/19/2022	18				
Distance from Start (m)	Stream Width (m)	Habitat Type:		Bankfull Depth (m) (optional)					
	13.0	<input type="checkbox"/> Riffle <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run							
		Channel Position (Fifths of Current Stream Width)							
		1/5	2/5	3/5	4/5				
Water Depth (m)	Deepest Point	0.34	0.49	0.63	0.63				
	0.70								
Depth of Fines and Water (m)		0.34	0.49	0.63	0.63				
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		50	50	40	40				
Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%									
Bedrock (solid slab)		0	0	0	0				
Boulder (281 mm - 4.1 m)		0	0	0	0				
Rubble / Cobble (65 - 280 mm)		50	70	70	70				
Gravel (2 - 64 mm)		40	20	30	30				
Sand (0.062 - 1.9 mm)		10	10	0	0				
Silt (0.004 - 0.061 mm)		0	0	0	0				
Clay		0	0	0	0				
Detritus		0	0	0	0				
Other - Specify: <i>Volcanic c&s</i>		20.4	27.1	24.2	24.6				
Percent (nearest 10%) of Stream Bottom Covered									
Algae (attached & fla.)		0	0	0	0				
Macrophytes		0	0	0	0				
Canopy / Shading (circle one)		10	10	20	50				
Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth									
Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:		
	1.0	0.2		0.5					
Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream				% of Eroded Bank to the crest or within 5 m of stream edge					
Left: 0 (m)		Right: 0 (m)		Left: 0 (%)		Right: 0 (%)			
Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%									
Cropland	Pasture	Hayyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Bank	Other - Specify:
0	0				60	30	10		
Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream									
Left: 10 (m)		Right: 10 (m)							

Wadable Stream Quantitative Habitat Evaluation
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12/15

McDowen Turner Creek

Transect Data

Stream Name <u>W B Montreal River</u>	Waterbody ID Code	Date (MMDDYYYY) <u>08/20/2022</u>	Transect No. <u>110</u>
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Distance from Start (m)	Stream Width (m) <u>15.2</u>	Habitat Type: <input type="checkbox"/> Riffle <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run	Bankfull Depth (m) (optional)	Bankfull Width (m) (optional)
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	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	<u>0.82</u>	<u>0.50</u>	<u>0.80</u>	<u>0.61</u>	<u>0.21</u>
Depth of Fines and Water (m)		<u>0.50</u>	<u>0.80</u>	<u>0.61</u>	<u>0.21</u>
Embeddedness (nearest 10% of Course Gravel and Rubble/Cobble)		<u>20</u>	<u>40</u>	<u>60</u>	<u>80</u>

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Boulder (281 mm - 4.1 m)	<u>60</u>	<u>20</u>	<u>0</u>	<u>0</u>
Rubble / Cobble (65 - 280 mm)	<u>20</u>	<u>70</u>	<u>60</u>	<u>10</u>
Gravel (2 - 64 mm)	<u>10</u>	<u>10</u>	<u>30</u>	<u>40</u>
Sand (0.062 - 1.9 mm)	<u>10</u>	<u>1</u>	<u>10</u>	<u>20</u>
Silt (0.004 - 0.061 mm)	<u>1</u>	<u>1</u>	<u>1</u>	<u>20</u>
Clay	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>
Detritus	<u>1</u>	<u>1</u>	<u>1</u>	<u>10</u>
Other - Specify: <u>Velocids, cm/s</u>	<u>23.3</u>	<u>23.0</u>	<u>18.4</u>	<u>7.0</u>

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fila.)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Macrophytes	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Canopy / Shading (circle one)	<u>40</u>	<u>20</u>	<u>20</u>	<u>40</u>

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
<u>0.5</u>	<u>2.0</u>	<u>1.0</u>		<u>3.0</u>			

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream	% of Eroded Bank to the crest or within 5 m of stream edge
Left: <u>0</u> (m) Right: <u>0</u> (m)	Left: <u>0</u> (%) Right: <u>0</u> (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Bamyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
					<u>40</u>	<u>60</u>			

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: 110 (m) Right: 110 (m)

lots of Beaver Activity

Wadable Stream Quantitative Habitat Evaluation
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WCFB

Transect Data

Stream Name: W.O. Montreal River Waterbody ID Code: _____ Date (MMDDYYYY): 08/04/22 Transect No.: 1911

Distance from Start (m): _____ Stream Width (m): 19.3 Habitat Type: Riffle Pool Run Bankfull Depth (m) (optional): _____ Bankfull Width (m) (optional): _____

	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	<u>0.223</u>	<u>0.19</u>	<u>0.12</u>	<u>0.05</u>	<u>0.30</u>
Depth of Fines and Water (m)		<u>0.19</u>	<u>0.12</u>	<u>0.05</u>	<u>0.30</u>
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		<u>20</u>	<u>20</u>	<u>70</u>	<u>60</u>

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Boulder (261 mm - 4.1 m)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Rubble / Cobble (65 - 260 mm)	<u>90</u>	<u>60</u>	<u>30</u>	<u>40</u>
Gravel (2 - 64 mm)	<u>10</u>	<u>30</u>	<u>50</u>	<u>40</u>
Sand (0.062 - 1.9 mm)	<u>/</u>	<u>10</u>	<u>10</u>	<u>20</u>
Silt (0.004 - 0.061 mm)	<u>/</u>	<u>/</u>	<u>10</u>	<u>/</u>
Clay	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Detritus	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Other - Specify: <u>Waterbody cover</u>	<u>50.0</u>	<u>57.6</u>	<u>0.5</u>	<u>63.9</u>

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fila.)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Macrophytes	<u>0</u>	<u>0</u>	<u>0</u>	<u>50</u>
Canopy / Shading (circle one)	<u>90</u>	<u>50</u>	<u>30</u>	<u>50</u>

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
<u>1.0</u>	<u>0.5</u>	<u>1.1</u>		<u>0</u>	<u>3.0</u>	<u>0</u>	

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream

Left: 0 (m) Right: 0 (m) % of Eroded Bank to the crest or within 5 m of stream edge: Left: 0 (%) Right: 0 (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
					<u>50</u>	<u>50</u>			

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: 10 (m) Right: 10 (m)

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Wadable Stream Quantitative Habitat Evaluation
Form 3800-228 (R 6/37)

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M. Cawley Tanager Stream

Transect Data

Stream Name	W. O. Montreal River	Waterbody ID Code	Date (MMDDYYYY)	Transect No.
Distance from Start (m)	11.7	Habitat Type:	Bankfull Depth (m) (optional)	Bankfull Width (m) (optional)
		<input type="checkbox"/> Riffle <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run		

	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	0.60	0.36	0.48	0.60	0.42
Depth of Fines and Water (m)		0.36	0.48	0.60	0.42
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		50	60	40	50

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

	1/5	2/5	3/5	4/5
Bedrock (solid slab)	0	0	0	0
Boulder (281 mm - 4.1 m)	0	0	10	0
Rubble / Cobble (65 - 280 mm)	50	80	60	80
Gravel (2 - 64 mm)	30	20	10	30
Sand (0.062 - 1.9 mm)	20	1	10	10
Silt (0.004 - 0.061 mm)	1	1	1	1
Clay	1	1	1	1
Detritus	1	1	10	1
Other - Specify: <u>Delonix cmyf</u>	19.8	27.4	42.2	37.8

Percent (nearest 10%) of Stream Bottom Covered

	1/5	2/5	3/5	4/5
Algae (attached & fila.)	0	0	0	0
Macrophytes	0	0	0	0
Canopy / Shading (circle one)	80	50	20	40

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submergic Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
0	5.0	1	1	0.4	1	1	

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream

Left: 0 (m) Right: 0 (m) % of Eroded Bank to the crest or within 5 m of stream edge: Left: 0 (%) Right: 0 (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Barriaryd	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
0	0	0	0	0	40	60	0	0	

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: +10 (m) Right: +10 (m)

Wadable Stream Quantitative Habitat Evaluation

Form 3800-223 (R 6/07)

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Brien, Turner, McDaniel

South Road

36
08/30/2022
B1

Transect Data				
Stream Name West Branch Montross River	Waterbody ID Code	Date (MMDDYYYY) 08/30/2022	Transect No. B1	
Distance from Start (m)	Stream Width (m) 12.8	Habitat Type: <input checked="" type="checkbox"/> Riffle <input type="checkbox"/> Pool <input type="checkbox"/> Run	Bankfull Depth (m) (optional)	Bankfull Width (m) (optional)

	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	0.60	0.51	0.58	0.43	0.31
Depth of Fines and Water (m)		0.51	0.58	0.43	0.31
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		60	40	36	30

Percent (nearest 5%) of Stream Bottom Covered					Section Total Must = 100%
Bedrock (solid slab)		0	0	0	0
Boulder (261 mm - 4.1 m)		30	20	0	10
Rubble / Cobble (65 - 260 mm)		40	70	80	70
Gravel (2 - 64 mm)		20	10	10	10
Sand (0.062 - 1.9 mm)		10	-	10	10
Silt (0.004 - 0.061 mm)		-	-	-	-
Clay		-	-	-	-
Detritus		-	-	-	-
Other - Specify: Velocity cm/s		2.6	33.0	63.6	279

Percent (nearest 10%) of Stream Bottom Covered					
Algae (attached & fls.)		0	0	0	0
Macrophytes		0	0	0	0
Canopy / Shading (circle one)		40	10	20	50

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth							
Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
0	3.0m	/	/	2.0m	/	/	

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream

Left: 0 (m) Right: 0 (m)

% of Eroded Bank to the crest or within 5 m of stream edge

Left: 0 (%) Right: 0 (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect										Section Total Must = 100%
Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:	
/	/	/	/	/	10	90	/	/		

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: +16 (m) Right: +10 (m)

Wadable Stream Quantitative Habitat Evaluation
 Form 3020-228 (R 8/07)

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Tucuman, Brian, McCawley

Transect Data

Stream Name <i>WB Montreal R.</i>	Watershed ID Code	Date (MMDDYYYY) <i>08/30/2008</i>	Transect No. <i>152</i>
Distance from Start (m)	Stream Width (m) <i>15.8</i>	Habitat Type: <input type="checkbox"/> R/Flt <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run	Bankfull Depth (m) (optional) <i>/</i>
			Bankfull Width (m) (optional) <i>/</i>

	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	<i>0.46</i>	<i>0.34</i>	<i>0.38</i>	<i>0.34</i>	<i>0.35</i>
Depth of Fines and Water (m)		<i>0.34</i>	<i>0.38</i>	<i>0.34</i>	<i>0.35</i>
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		<i>20</i>	<i>30</i>	<i>30</i>	<i>50</i>

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Boulder (251 mm - 4.1 m)	<i>10</i>	<i>0</i>	<i>20</i>	<i>0</i>
Rubble / Cobble (65 - 250 mm)	<i>60</i>	<i>80</i>	<i>60</i>	<i>70</i>
Gravel (2 - 64 mm)	<i>20</i>	<i>20</i>	<i>10</i>	<i>10</i>
Sand (0.062 - 1.9 mm)	<i>10</i>	<i>/</i>	<i>10</i>	<i>20</i>
Silt (0.004 - 0.061 mm)	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Clay	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Detritus	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Other - Specify: <i>Velocity cm/s</i>	<i>20.4</i>	<i>56.2</i>	<i>24.4</i>	<i>24.2</i>

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fla.)	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Macrophytes	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Canopy / Shading (circle one)	<i>40</i>	<i>40</i>	<i>20</i>	<i>20</i>

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
<i>/</i>	<i>1.0</i>	<i>1.0</i>		<i>1.0m</i>			

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream edge

Left: *0* (m) Right: *0* (m) % of Eroded Bank to the crest or within 5 m of stream edge
 Left: *0* (%) Right: *0* (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Bamyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
					<i>20</i>	<i>80</i>			

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: *110* (m) Right: *+10* (m)

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Wadable Stream Quantitative Habitat Evaluation

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Green, Turner, McAuley

South Run

12/21

Transect Data				
Stream Name <i>W.D. Montpel River</i>	Waterbody ID Code	Date (MMDDYYYY) <i>01/30/2022</i>	Transect No. <i>153</i>	
Distance from Start (m)	Stream Width (m) <i>15.0</i>	Habitat Type: <input checked="" type="checkbox"/> Riffle <input type="checkbox"/> Pool <input type="checkbox"/> Run	Bankfull Depth (m) (optional)	Bankfull Width (m) (optional)

	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	<i>0.37</i>	<i>0.31</i>	<i>0.35</i>	<i>0.24</i>	0.22 <i>0.22</i>
Depth of Fines and Water (m)		<i>0.31</i>	<i>0.35</i>	<i>0.24</i>	0.22 <i>0.22</i>
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		<i>30</i>	<i>50</i>	<i>30</i>	<i>30</i>

Percent (nearest 5%) of Stream Bottom Covered					Section Total Must = 100%
Bedrock (solid slab)		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Boulder (261 mm - 4.1 m)		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Rubble / Cobble (65 - 260 mm)		<i>80</i>	<i>80</i>	<i>30</i>	<i>50</i>
Gravel (2 - 64 mm)		<i>10</i>	<i>10</i>	<i>10</i>	<i>30</i>
Sand (0.062 - 1.9 mm)		<i>10</i>	<i>10</i>	<i>10</i>	<i>20</i>
Silt (0.004 - 0.061 mm)		<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Clay		<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Detritus		<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Other - Specify: <i>Velocity cm/s</i>		<i>61.8</i>	<i>60.1</i>	<i>55.5</i>	<i>17.5</i>

Percent (nearest 10%) of Stream Bottom Covered					
Algae (attached & fla.)		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Macrophytes		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Canopy / Shading (circle one)		<i>70</i>	<i>50</i>	<i>30</i>	<i>40</i>

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
<i>0.4m</i>	<i>1.0</i>						

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream

Left: *0* (m) Right: *0* (m) % of Eroded Bank to the crest or within 5 m of stream edge

Left: *0* (%) Right: *0* (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect									Section Total Must = 100%
Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>10</i>	<i>90</i>	<i>-</i>	<i>-</i>	<i>-</i>

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: *+10* (m) Right: *+10* (m)

Wadable Stream Quantitative Habitat Evaluation

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South Road

1208

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Transect Data

Stream Name <u>W. B. Montreal River</u>	Waterbody ID Code	Date (MMDDYYYY) <u>08/30/2022</u>	Transect No. <u>154</u>
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Distance from Start (m)	Stream Width (m) <u>17.2</u>	Habitat Type: <input checked="" type="checkbox"/> Riffle <input type="checkbox"/> Pool <input type="checkbox"/> Run	Bankfull Depth (m) (optional) <u>/</u>	Bankfull Width (m) (optional) <u>/</u>
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	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	<u>0.42</u>	<u>0.42</u>	<u>0.32</u>	<u>0.22</u>	<u>0.05</u>
Depth of Fines and Water (m)		<u>0.42</u>	<u>0.32</u>	<u>0.22</u>	<u>0.05 (0.06)</u>
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		<u>40</u>	<u>30</u>	<u>40</u>	<u>80</u>

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Boulder (251 mm - 4.1 m)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Rubble / Cobble (65 - 250 mm)	<u>80</u>	<u>70</u>	<u>70</u>	<u>20</u>
Gravel (2 - 64 mm)	<u>20</u>	<u>20</u>	<u>20</u>	<u>10</u>
Sand (0.062 - 1.9 mm)	<u>/</u>	<u>10</u>	<u>10</u>	<u>60</u>
Silt (0.004 - 0.061 mm)	<u>/</u>	<u>/</u>	<u>/</u>	<u>10</u>
Clay	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Debris	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Other - Specify: <u>Velocity, cm/s</u>	<u>58.9</u>	<u>45.8</u>	<u>24.7</u>	<u>6.4</u>

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fla.)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Macrophytes	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Canopy / Shading (circle one)	<u>60</u>	<u>20</u>	<u>30</u>	<u>50</u>

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
<u>0.3</u>	<u>2.0 m</u>			<u>0.3</u>			

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream: % of Eroded Bank to the crest or within 5 m of stream edge

Left: <u>0</u> (m)	Right: <u>0</u> (m)	Left: <u>0</u> (%)	Right: <u>0</u> (%)
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Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Barrenland	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
					<u>10</u>	<u>90</u>			

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: <u>110</u> (m)	Right: <u>110</u> (m)
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Wadable Stream Quantitative Habitat Evaluation

Form 3800-228 (R 6/07)

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Turner Brook Meadow

South Road

36
12/21/21

Transect Data

Stream Name: WB Montreal River Waterbody ID Code: _____ Date (MMDDYYYY): 08/30/2021 Transect No.: B5

Distance from Start (m): _____ Stream Width (m): 12.5 Habitat Type: Riffle Pool Run Bankfull Depth (m) (optional): _____ Bankfull Width (m) (optional): _____

	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	<u>0.63</u>	<u>0.20</u>	<u>0.56</u>	<u>0.63</u>	<u>0.34</u>
Depth of Fines and Water (m)		<u>0.20</u>	<u>0.56</u>	<u>0.63</u>	<u>0.34</u>
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		<u>20</u>	<u>30</u>	<u>30</u>	<u>40</u>

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Boulder (201 mm - 4.1 m)	<u>0</u>	<u>0</u>	<u>30</u>	<u>20</u>
Rubble / Cobble (65 - 250 mm)	<u>30</u>	<u>80</u>	<u>60</u>	<u>60</u>
Gravel (2 - 64 mm)	<u>20</u>	<u>20</u>	<u>10</u>	<u>20</u>
Sand (0.062 - 1.9 mm)	<u>10</u>	<u>/</u>	<u>/</u>	<u>/</u>
Silt (0.004 - 0.051 mm)	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Clay	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Detritus	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Other - Specify: <u>Velocity 2m/s</u>	<u>17.1</u>	<u>41.0</u>	<u>18.1</u>	<u>41.0</u>

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fla.)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Macrophytes	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Canopy / Shading (circle one)	<u>80</u>	<u>60</u>	<u>40</u>	<u>60</u>

Cover for Adult Gametophyte: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
<u>0</u>	<u>1.0</u>			<u>6.0</u>			

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream

Left: 0 (m) Right: 0 (m) % of Eroded Bank to the crest or within 5 m of stream edge Left: 0 (%) Right: 0 (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>20</u>	<u>80</u>	<u>0</u>	<u>0</u>	

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: +10 (m) Right: +10 (m)

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Wadable Stream Quantitative Habitat Evaluation
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Transect Data									
Stream Name <i>W. B. Montreal River</i>			Waterbody ID Code	Date (MMDDYYYY) <i>08/30/2022</i>	Transect No. <i>B6</i>				
Distance from Start (m)	Stream Width (m) <i>14.8</i>	Habitat Type: <input type="checkbox"/> Riffle <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run		Bankfull Depth (m) (optional)	Bankfull Width (m) (optional)				
	Deepest Point	Channel Position (Fifths of Current Stream Width)							
		1/5	2/5	3/5	4/5				
Water Depth (m)	<i>0.38</i>	<i>0.35</i>	<i>0.35</i>	<i>0.29</i>	<i>0.32</i>				
Depth of Fines and Water (m)		<i>0.35</i>	<i>0.35</i>	<i>0.29</i>	<i>0.32</i>				
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		<i>50</i>	<i>20</i>	<i>30</i>	<i>40</i>				
Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%									
Bedrock (solid slab)		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>				
Boulder (261 mm - 4.1 m)		<i>0</i>	<i>30</i>	<i>30</i>	<i>10</i>				
Rubble / Cobble (65 - 260 mm)		<i>70</i>	<i>40</i>	<i>60</i>	<i>60</i>				
Gravel (2 - 64 mm)		<i>20</i>	<i>20</i>	<i>10</i>	<i>20</i>				
Sand (0.062 - 1.9 mm)		<i>10</i>	<i>/</i>	<i>/</i>	<i>10</i>				
Silt (0.004 - 0.061 mm)		<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>				
Clay		<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>				
Detritus		<i>/</i>	<i>10</i>	<i>/</i>	<i>/</i>				
Other - Specify: <i>Voluntary c/s</i>		<i>24.5</i>	<i>29.1</i>	<i>37.6</i>	<i>40.9</i>				
Percent (nearest 10%) of Stream Bottom Covered									
Algae (attached & fls.)		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>				
Macrophytes		<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>				
Canopy / Shading (circle one)		<i>20</i>	<i>0</i>	<i>10</i>	<i>30</i>				
Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth									
Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:		
<i>0</i>	<i>3.0m</i>	<i>1.5</i>		<i>3.0</i>	<i>0</i>	<i>0</i>			
Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream				% of Eroded Bank to the crest or within 5 m of stream edge					
Left: <i>0</i> (m)		Right: <i>0</i> (m)		Left: <i>0</i> (%)		Right: <i>0</i> (%)			
Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%									
Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>10</i>	<i>90</i>	<i>/</i>	<i>/</i>	
Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream									
Left: <i>+10</i> (m)		Right: <i>+10</i> (m)							

Wadable Stream Quantitative Habitat Evaluation
Form 3630-226 (R 6/07)

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12/18
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Tanner Brown McCarter

Transect Data				
Stream Name	Wade body ID Code	Date (MMDDYYYY)	Transect No.	
West Branch Montreal		08/30/2022	B7	
Distance from Start (m)	Stream Width (m)	Habitat Type:	Bankfull Depth (m) (optional)	Bankfull Width (m) (optional)
	16.0	<input type="checkbox"/> R/ife <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run		

	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	0.53	0.51	0.41	0.50	0.38
Depth of Fines and Water (m)		0.51	0.41	0.50	0.38
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		20	40	40	30

Percent (nearest 5%) of Stream Bottom Covered					Section Total Must = 100%
Bedrock (solid slab)		0	0	0	0
Boulder (281 mm - 4.1 m)		0	10	10	0
Rubble / Cobble (65 - 250 mm)		80	60	60	80
Gravel (2 - 64 mm)		10	20	20	10
Sand (0.062 - 1.9 mm)		10	10	10	10
Silt (0.004 - 0.061 mm)		/	/	/	/
Clay		/	/	/	/
Detritus		/	/	/	/
Other - Specify: Velocity emb		27.4	24.2	20.7	18.5

Percent (nearest 10%) of Stream Bottom Covered					
Algae (attached & fila.)		0	0	0	0
Macrophytes		0	0	0	0
Canopy / Shading (circle one)		30	10	20	40

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth							
Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify
0.2	3.0	/	/	1.2m	/	/	/

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream: Left: 0 (m) Right: 0 (m) % of Eroded Bank to the crest or within 5 m of stream edge: Left: 0 (%) Right: 0 (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect									Section Total Must = 100%
Cropland	Pasture	Hobbyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify
/	/	/	/	/	50	50	/	/	

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream
Left: +10 (m) Right: +10 (m)

Wadable Stream Quantitative Habitat Evaluation

Form 3600-228 (R 6/07)

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Teresa Ann McAuley

South Road

12/08

Transect Data

Stream Name <i>West Branch Montreal River</i>	Waterbody ID Code	Date (MMDDYYYY) <i>08/30/2022</i>	Transect No. <i>158</i>
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Distance from Start (m)	Stream Width (m) <i>19.0</i>	Habitat Type: <input type="checkbox"/> Riffle <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run	Bankfull Depth (m) (optional) <i>/</i>	Bankfull Width (m) (optional) <i>/</i>
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	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	<i>0.41</i>	<i>0.34</i>	<i>0.40</i>	<i>0.30</i>	<i>0.33</i>
Depth of Fines and Water (m)		<i>0.34</i>	<i>0.40</i>	<i>0.30</i>	<i>0.33</i>
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		<i>50</i>	<i>80</i>	<i>40</i>	<i>30</i>

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Boulder (261 mm - 4.1 m)	<i>10</i>	<i>0</i>	<i>0</i>	<i>20</i>
Rubble / Cobble (65 - 250 mm)	<i>60</i>	<i>30</i>	<i>70</i>	<i>70</i>
Gravel (2 - 64 mm)	<i>20</i>	<i>60</i>	<i>20</i>	<i>10</i>
Sand (0.062 - 1.9 mm)	<i>10</i>	<i>10</i>	<i>10</i>	<i>/</i>
Silt (0.004 - 0.061 mm)	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Clay	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Detritus	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Other - Specify: <i>Volcanic Cms</i>	<i>22.7</i>	<i>52.8</i>	<i>15.8</i>	<i>29.7</i>

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fila.)	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Macrophytes	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Canopy / Shading (circle one)	<i>20</i>	<i>0</i>	<i>10</i>	<i>30</i>

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Over-hanging Vegetation or at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
<i>/</i>	<i>4.0 m</i>	<i>0.5</i>	<i>/</i>	<i>1.5</i>	<i>/</i>	<i>/</i>	<i>/</i>

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream

Left: <i>0</i> (m)	Right: <i>0</i> (m)	Left: <i>0</i> (%)	Right: <i>0</i> (%)
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Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>	<i>5</i>	<i>45</i>	<i>/</i>	<i>/</i>	<i>lawn 50%</i>

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: <i>1</i> (m)	Right: <i>10</i> (m)
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decaying

36

Wadable Stream Quantitative Habitat Evaluation

Form 3800-228 (R 6/07)

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Brown Turner McCawley

South Road

1205

Transect Data

Stream Name <i>West Branch Montreal River</i>	Waterbody ID Code	Date (MMDDYYYY) <i>08/30/22</i>	Transect No. <i>159</i>
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Distance from Start (m)	Stream Width (m) <i>19.9</i>	Habitat Type: <input type="checkbox"/> Riffle <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run	Bankfull Depth (m) (optional)	Bankfull Width (m) (optional)
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	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	<i>0.40</i>	<i>0.30</i>	<i>0.39</i>	<i>0.24</i>	<i>0.29</i>
Depth of Fines and Water (m)		<i>0.30</i>	<i>0.39</i>	<i>0.24</i>	<i>0.29</i>
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		<i>50</i>	<i>10</i>	<i>50</i>	<i>40</i>

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Boulder (251 mm - 4.1 m)	<i>30</i>	<i>80</i>	<i>0</i>	<i>0</i>
Rubble / Cobble (65 - 250 mm)	<i>30</i>	<i>10</i>	<i>60</i>	<i>40</i>
Gravel (2 - 64 mm)	<i>30</i>	<i>10</i>	<i>30</i>	<i>40</i>
Sand (0.062 - 1.9 mm)	<i>10</i>	<i>/</i>	<i>10</i>	<i>20</i>
Silt (0.004 - 0.061 mm)	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Clay	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Detritus	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Other - Specify: <i>Velocity cm/s</i>	<i>39.1</i>	<i>18.9</i>	<i>34.7</i>	<i>22.4</i>

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fila.)	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Macrophytes	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Canopy / Shading (circle one)	<i>20</i>	<i>0</i>	<i>10</i>	<i>30</i>

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
<i>0</i>	<i>3.0</i>	<i>0</i>		<i>0.5</i>	<i>0</i>	<i>0</i>	<i>-</i>

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream	% of Eroded Bank to the crest or within 5 m of stream edge
Left: <i>0</i> (m) Right: <i>0</i> (m)	Left: <i>0</i> (%) Right: <i>0</i> (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>	<i>5</i>	<i>50</i>	<i>/</i>	<i>/</i>	<i>Lawn 45</i>

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: *1* (m) Right: *+10* (m)

depending

Wadable Stream Quantitative Habitat Evaluation

Form 5600-228 (R 6/07)

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Tanner, Brian McAuley

South Road

36
12/21/22

Transect Data

Stream Name West Branch Montreal River	Waterbody ID Code	Date (MMDDYYYY) 08/30/2022	Transect No. B10
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Distance from Start (m)	Stream Width (m) 17.5	Habitat Type: <input checked="" type="checkbox"/> Riffle <input type="checkbox"/> Pool <input type="checkbox"/> Run	Bankfull Depth (m) (optional)	Bankfull Width (m) (optional)
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	Deepest Point	Channel Position (Fillets of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	0.38	0.21	0.35	0.38	0.30
Depth of Fines and Water (m)		0.21	0.35	0.38	0.30
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		40	30	30	50

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	0	0	0	0
Boulder (261 mm - 4.1 m)	0	0	0	0
Rubble / Cobble (65 - 260 mm)	60	70	80	60
Gravel (2 - 64 mm)	30	30	20	30
Sand (0.062 - 1.9 mm)	10	/	/	10
Silt (0.004 - 0.061 mm)	/	/	/	/
Clay	/	/	/	/
Detritus	/	/	/	/
Other - Specify: <u>Woody cm/4</u>	18.1	36.9	28.3	29.4

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fila.)	0	0	0	0
Macrophytes	0	0	0	0
Canopy / Shading (circle one)	10	0	10	30

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
0	3.0 m	/	/	2.0m	✓	/	/

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream % of Eroded Bank to the crest or within 5 m of stream edge

Left: <u>0</u> (m)	Right: <u>0</u> (m)	Left: <u>0</u> (%)	Right: <u>0</u> (%)
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Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
/	/	/	/	/	10	50	/	/	Mowed Pathway 40

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: <u>3</u> (m)	Right: <u>+10</u> (m)
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Wadable Stream Quantitative Habitat Evaluation
Form 3800-228 (R 6/07) Page 5 of 5

McAuley, Turner, Brem

South Rose

36
12/05

Transect Data		Stream Name West Branch Montreal River		Waterbody ID Code	Date (MMDDYYYY) 08/30/2012	Transect No. B11
Distance from Start (m)	Stream Width (m) 16.9	Habitat Type: <input type="checkbox"/> Riffle <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run		Bankfull Depth (m) (optional)	Bankfull Width (m) (optional)	

Deepest Point	Channel Position (F-fths of Current Stream Width)				
	1/5	2/5	3/5	4/5	
Water Depth (m)	40	0.38	0.39	0.35	0.37
Depth of Fines and Water (m)		0.38	0.39	0.35	0.37
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		40	30	46	40

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	0	0	0	0
Boulder (261 mm - 4.1 m)	0	30	0	20
Rubble / Cobble (65 - 250 mm)	70	50	80	50
Gravel (2 - 64 mm)	20	20	20	20
Sand (0.052 - 1.9 mm)	10	/	/	10
Silt (0.004 - 0.061 mm)	/	/	/	/
Clay	/	/	/	/
Detritus	/	/	/	/
Other - Specify: <u>Velonite cm/s</u>	29.7	32.3	34.5	15.4

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fila.)	0	0	0	0
Macrophytes	0	0	0	0
Canopy / Shading (circle one)	60	10	10	20

Cover for Adult Gamefish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
/	3.5	/	/	1.0m	0	0	/

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream

Left: 0 (m) Right: 0 (m) % of Eroded Bank to the crest or within 5 m of stream edge: Left: 0 (%) Right: 0 (%)

Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
/	/	/	/	/	10	80	/	/	/

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

Left: 1.0 (m) Right: 1.0 (m)

Wadable Stream Quantitative Habitat Evaluation 36

Form 3800-228 (R 6/07)

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Brian McAuley Turner

South Road

12 of 5

Transect Data

Stream Name <i>West Beach Montreal River</i>	Waterbody ID Code	Date (MMDDYYYY) <i>08/30/2022</i>	Transect No. <i>B12</i>
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Distance from Start (m)	Stream Width (m) <i>17.3</i>	Habitat Type: <input type="checkbox"/> Riffle <input type="checkbox"/> Pool <input checked="" type="checkbox"/> Run	Bankfull Depth (m) (optional)	Bankfull Width (m) (optional)
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	Deepest Point	Channel Position (Fifths of Current Stream Width)			
		1/5	2/5	3/5	4/5
Water Depth (m)	<i>0.55</i>	<i>0.37</i>	<i>0.50</i>	<i>0.46</i>	<i>0.86</i>
Depth of Fines and Water (m)		<i>0.37</i>	<i>0.55</i>	<i>0.46</i>	<i>0.46</i>
Embeddedness (nearest 10%) of Course Gravel and Rubble/Cobble		<i>50</i>	<i>50</i>	<i>40</i>	<i>50</i>

Percent (nearest 5%) of Stream Bottom Covered Section Total Must = 100%

Bedrock (solid slab)	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Boulder (261 mm - 4.1 m)	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Rubble / Cobble (65 - 260 mm)	<i>70</i>	<i>70</i>	<i>60</i>	<i>70</i>
Gravel (2 - 64 mm)	<i>20</i>	<i>20</i>	<i>30</i>	<i>20</i>
Sand (0.062 - 1.9 mm)	<i>10</i>	<i>10</i>	<i>10</i>	<i>10</i>
Silt (0.004 - 0.061 mm)	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Clay	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Detritus	<i>/</i>	<i>/</i>	<i>/</i>	<i>/</i>
Other - Specify: <i>Velocity cm/s</i>	<i>13.8</i>	<i>11.3</i>	<i>15.3</i>	<i>29.8</i>

Percent (nearest 10%) of Stream Bottom Covered

Algae (attached & fila.)	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Macrophytes	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Canopy / Shading (circle one)	<i>30</i>	<i>10</i>	<i>20</i>	<i>40</i>

Cover for Adult Gametfish: Length (nearest 0.01 m) of transect within 0.15 m upstream or downstream in water at least 0.20 m in depth

Undercut Banks	Overhanging Vegetation at least 0.20 m overhang	Woody Debris	Other Debris	Boulder	Submerged Macrophytes	Emergent Macrophytes at least 0.20 m deep	Other - Specify:
<i>/</i>	<i>2.0m</i>	<i>/</i>		<i>0.5</i>	<i>/</i>	<i>/</i>	<i>/</i>

Bank Erosion: Length of Continuous Bare Soil (nearest 0.01 m) within 1 m of stream

Left: <i>0</i> (m)	Right: <i>0</i> (m)	Left: <i>0</i> (%)	Right: <i>0</i> (%)
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Riparian Land Use: Percent (nearest 10%) of Bank within 5 m of stream edge, along transect Section Total Must = 100%

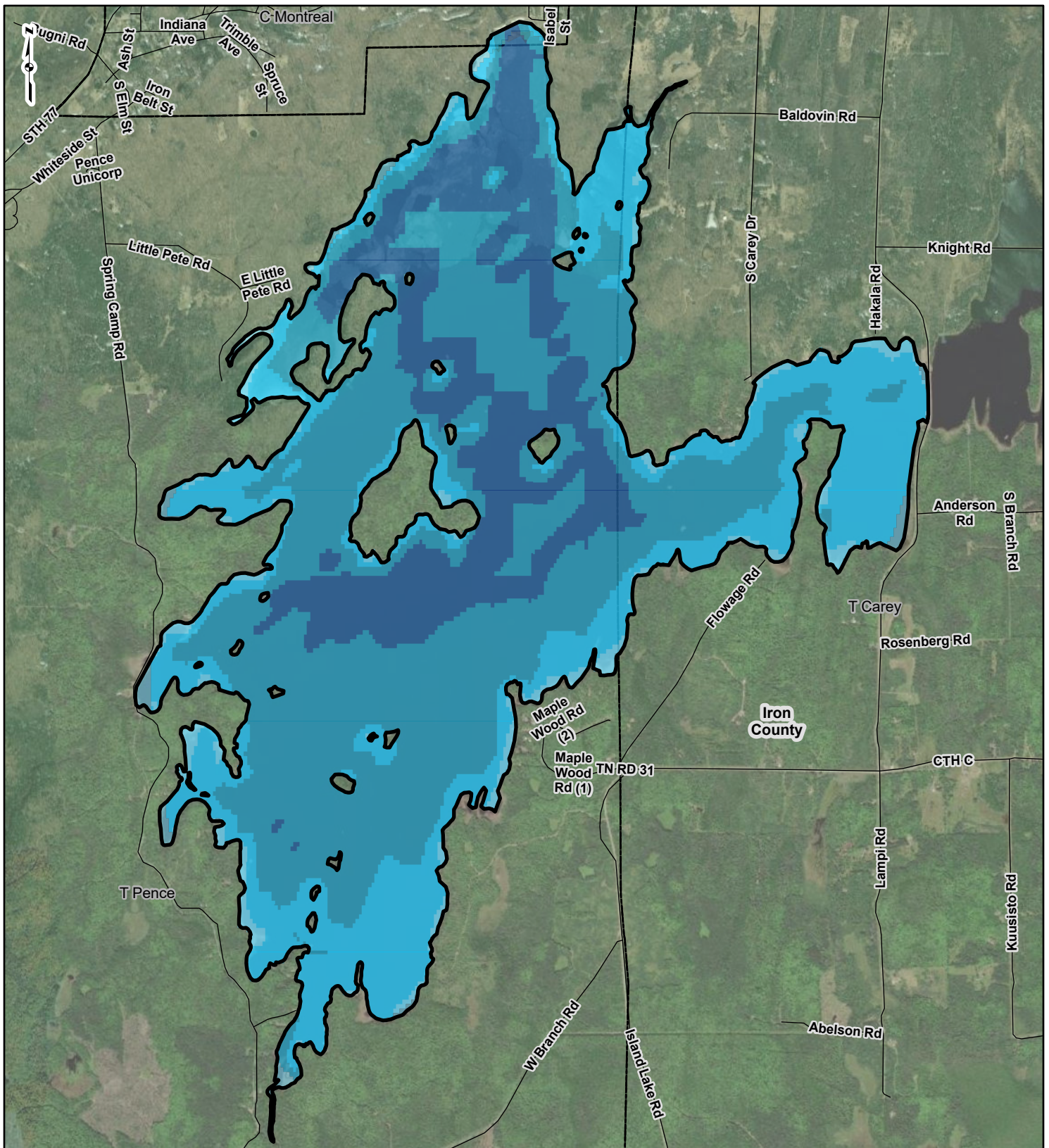
Cropland	Pasture	Barnyard	Developed	Meadow	Shrubs	Woodland	Wetland	Exposed Rock	Other - Specify:
		<i>/</i>	<i>/</i>	<i>20</i>	<i>40</i>	<i>40</i>	<i>/</i>	<i>/</i>	<i>/</i>

Riparian Buffer Width: Length (nearest 1.0 m) of Undisturbed Land Uses along transect, within 10 m of stream

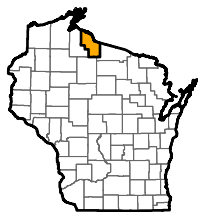
Left: <i>+10</i> (m)	Right: <i>+10</i> (m)
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APPENDIX E-6

Gile Flowage Storage Reservoir Bathymetric Map



PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

Depth	Project Boundary
0 - 5 ft	Road Centerline
5 - 10 ft	Community Boundary
10 - 15 ft	County Boundary
>15 ft	

0 1,375 2,750 5,500
 Feet

**FIGURE 11
DEPTH SURVEY**

GILE FLOWAGE DEPTH SURVEY
2022 SURVEYS



DRAWN BY: EMW
CHECKED: TDB

DATE: 7/19/2022
APPROVED: LLS

REFERENCE: ESRI WORLD IMAGERY 2021, Accessed 7/19/2022. WDNR Counties, 2011. WISLR Community Boundary 2021. WISDOT Road Centerlines, 2021.

APPENDIX E-7

Wisconsin Chapter NR 102

Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

Chapter NR 102

WATER QUALITY STANDARDS FOR WISCONSIN SURFACE WATERS

NR 102.01	Purpose.	NR 102.08	Mississippi river thermal standards.
NR 102.02	Applicability.	NR 102.09	Review of thermal standards.
NR 102.03	Definitions.	NR 102.10	Outstanding resource waters.
NR 102.04	Categories of standards.	NR 102.11	Exceptional resource waters.
NR 102.05	Application of standards.	NR 102.12	Great Lakes system.
NR 102.06	Phosphorus.	NR 102.13	Fish and aquatic life waters.
NR 102.07	Lake Michigan and Lake Superior thermal standards.	NR 102.14	Taste and odor criteria.

History: Chapter NR 102 as it existed on September 30, 1973 was repealed and a new chapter NR 102 was created, effective October 1, 1973. Corrections made under s. 13.93 (2m) (b) 7., Stats., Register, August, 1997, No. 500.

NR 102.01 Purpose. (1) The purpose of this chapter is to establish, in conjunction with chs. NR 103 to 105, water quality standards for surface waters of the state pursuant to s. 281.15 (2) (b), Stats. This chapter describes the designated use categories for such waters and the water quality criteria necessary to support these uses. This chapter and chs. NR 103 to 105 constitute the water quality standards for the surface waters of Wisconsin.

(2) Water quality standards shall protect the public interest, which includes the protection of public health and welfare and the present and prospective uses of all waters of the state for public and private water supplies, propagation of fish and other aquatic life and wild and domestic animals, domestic and recreational purposes, and agricultural, commercial, industrial, and other legitimate uses. In all cases where the potential uses are in conflict, water quality standards shall protect the general public interest.

(3) Water quality standards serve as a basis for developing and implementing control strategies to achieve legislative policies and goals. Water quality standards are the basis for deriving water quality based effluent limitations. Water quality standards also serve as a basis for decisions in other regulatory, permitting or funding activities that impact water quality.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89.

NR 102.02 Applicability. The provisions of this chapter are applicable to surface waters of Wisconsin.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89.

NR 102.03 Definitions. (1) "Mixing zone" means a region in which a discharge of different characteristics than the receiving water is in transit and progressively diluted from the source to the receiving system.

(2) "Natural conditions" means the normal daily and seasonal variations in climatic and atmospheric conditions, and the existing physical and chemical characteristics of a water or the course in which it flows.

(3) "Natural temperature" means the normal existing temperature of a surface water including daily and seasonal changes outside the zone of influence of any artificial inputs.

(4) "Resource management" means the application of control techniques to enhance or preserve a surface water in accordance with statutory provisions and in the general public interest.

(5) "Sanitary survey" means a thorough investigation and evaluation of a surface water including bacteriological sampling to determine the extent and cause of any bacterial contamination.

(6) "Surface waters" means all natural and artificial named and unnamed lakes and all naturally flowing streams within the boundaries of the state, but not including cooling lakes, farm ponds and facilities constructed for the treatment of wastewaters (the term waters as used in this chapter means surface waters).

(7) "Unauthorized concentrations of substances" means pollutants or other chemicals introduced into surface waters without prior permit or knowledge of the department, but not including accidental or unintentional spills.

(8) "Best practicable control technology" means that level of treatment established by the department under s. 283.13 (2) (a), Stats., for categories and classes of point sources to be achieved by not later than July 1, 1977.

(9) "Best available control technology" means that level of treatment established by the department under s. 283.13 (2) (b) 1., Stats., for categories and classes of point sources to be achieved by not later than July 1, 1983.

(10) Class I and Class II trout waters are as defined in s. NR 1.02 (7).

History: Cr. Register, September, 1973, No. 213, eff. 10-1-73; r. (1), renun. from NR 102.01, Register, February, 1989, No. 398, eff. 3-1-89; cr. (10), Register, May, 1993, No. 449, eff. 6-1-93.

NR 102.04 Categories of standards. (1) GENERAL. To preserve and enhance the quality of waters, standards are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all waters including the mixing zone and the effluent channel meet the following conditions at all times and under all flow conditions:

(a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.

(b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.

(c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.

(d) Substances in concentrations or combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

(2) REVISED STANDARDS. It should be recognized that these standards will be revised as new information or advancing technology indicate that revisions are in the public interest. Water used for hydropower and commercial shipping depends mainly on quantity, depth and elevation; consequently, no specific quality standards for these uses have been prepared.

(3) FISH AND OTHER AQUATIC LIFE USES. The department shall classify all surface waters into one of the fish and other aquatic life subcategories described in this subsection. Only those use subcategories identified in pars. (a) to (c) shall be considered suitable for the protection and propagation of a balanced fish and other aquatic life community as provided in the federal water pollution control act amendments of 1972, P.L. 92-500; 33 USC 1251 et seq.

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(a) *Cold water communities.* This subcategory includes surface waters capable of supporting a community of cold water fish and other aquatic life, or serving as a spawning area for cold water fish species. This subcategory includes, but is not restricted to, surface waters identified as trout water by the department of natural resources (Wisconsin Trout Streams, publication 6-3600 (80)).

(b) *Warm water sport fish communities.* This subcategory includes surface waters capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish.

(c) *Warm water forage fish communities.* This subcategory includes surface waters capable of supporting an abundant diverse community of forage fish and other aquatic life.

(d) *Limited forage fish communities.* (Intermediate surface waters). This subcategory includes surface waters of limited capacity and naturally poor water quality or habitat. These surface waters are capable of supporting only a limited community of forage fish and other aquatic life.

(e) *Limited aquatic life.* (Marginal surface waters). This subcategory includes surface waters of severely limited capacity and naturally poor water quality or habitat. These surface waters are capable of supporting only a limited community of aquatic life.

(4) STANDARDS FOR FISH AND AQUATIC LIFE. Except for natural conditions, all waters classified for fish and aquatic life shall meet the following criteria:

(a) *Dissolved oxygen.* Except as provided in par. (e) and s. NR 104.02 (3), the dissolved oxygen content in surface waters may not be lowered to less than 5 mg/L at any time.

(b) *Temperature.* 1. There shall be no temperature changes that may adversely affect aquatic life.

2. Natural daily and seasonal temperature fluctuations shall be maintained.

3. The maximum temperature rise at the edge of the mixing zone above the existing natural temperature shall not exceed 5° F for streams and 3° F for lakes.

4. The temperature shall not exceed 89° F for warm water fish.

(c) *pH.* The pH shall be within the range of 6.0 to 9.0, with no change greater than 0.5 units outside the estimated natural seasonal maximum and minimum.

(d) *Other substances.* Unauthorized concentrations of substances are not permitted that alone or in combination with other materials present are toxic to fish or other aquatic life. Surface waters shall meet the acute and chronic criteria as set forth in or developed pursuant to ss. NR 105.05 and 105.06. Surface waters shall meet the criteria which correspond to the appropriate fish and aquatic life subcategory for the surface water, except as provided in s. NR 104.02 (3).

(e) *Temperature and dissolved oxygen for cold waters.* Streams classified as trout waters by the department of natural resources (Wisconsin Trout Streams, publication 6-3600 (80)) or as great lakes or cold water communities may not be altered from natural background temperature and dissolved oxygen levels to such an extent that trout populations are adversely affected.

1. There shall be no significant artificial increases in temperature where natural trout reproduction is to be protected.

2. Dissolved oxygen in classified trout streams shall not be artificially lowered to less than 6.0 mg/L at any time, nor shall the dissolved oxygen be lowered to less 7.0 mg/L during the spawning season.

3. The dissolved oxygen in great lakes tributaries used by stocked salmonids for spawning runs shall not be lowered below natural background during the period of habitation.

(5) STANDARDS FOR RECREATIONAL USE. A sanitary survey and/or evaluation to assure protection from fecal contamination is the chief criterion in determining the suitability of a surface water for recreational use.

(a) *Bacteriological guidelines.* The membrane filter fecal coliform count may not exceed 200 per 100 ml as a geometric mean based on not less than 5 samples per month, nor exceed 400 per 100 ml in more than 10% of all samples during any month.

(b) *Exceptions.* Whenever the department determines, in accordance with the procedures specified in s. NR 210.06, that wastewater disinfection is not required to protect recreational uses, the recreational use criteria and classifications as established in this subsection and in chs. NR 103 and 104 do not apply.

(6) STANDARDS FOR PUBLIC HEALTH AND WELFARE. All surface waters shall meet the human threshold and human cancer criteria specified in or developed pursuant to ss. NR 105.08 and 105.09, respectively. The applicable criteria vary depending on whether the surface water is used for public drinking water supplies and vary with the type of fish and other aquatic life subcategory. All surface waters providing public drinking water supplies or classified as cold water or warm water sport fish communities as described in sub. (3) shall meet the taste and odor criteria specified in or developed pursuant to s. NR 102.14.

(7) STANDARDS FOR WILDLIFE. All surface waters shall be classified for wildlife uses and meet the wildlife criteria specified in or developed pursuant to s. NR 105.07.

History: Cr. Register, September, 1973, No. 213, eff. 10-1-73; am. (3), Register, December, 1977, No. 264, eff. 1-1-78; renum. from NR 102.02, r. (3) (d) 1. to 3., and (5), renum. (3) (intro.) to (d) (intro.) and (e) and (4) to be (4) (intro.) to (e) and (5) and am. (4) (a), (d), (e) (intro.) and (5), cr. (6) and (7), Register, February, 1989, No. 398, eff. 3-1-89; am. (3) (intro.), (6), (7), r. (3) (a), renum. (3) (b) to (f) to be (3) (a) to (e) and am. (3) (a), Register, August, 1997, No. 500, eff. 9-1-97.

NR 102.05 Application of standards. **(1) ANTIDGRADATION.** (a) No waters of the state shall be lowered in quality unless it has been affirmatively demonstrated to the department that such a change is justified as a result of necessary economic and social development, provided that no new or increased effluent interferes with or becomes injurious to any assigned uses made of or presently possible in such waters.

(b) *Classification system.* For the purposes of this subsection, all surface waters of the state, or portions thereof, shall be classified as one of the following:

1. Outstanding resource waters as listed in s. NR 102.10,
2. Exceptional resource waters as listed in s. NR 102.11,
3. Great Lakes system waters as listed in s. NR 102.12 (1),
4. Fish and aquatic life waters as described in s. NR 102.13,

or

5. Waters listed in tables 3 through 8 in ss. NR 104.05 to 104.10.

(2) STREAMFLOW. Water quality standards will not be maintained under all natural occurrences of flow, temperature, or other water quality characteristics. The determination of water quality based effluent limitations or other management practices shall be based upon the following conditions except as provided in ch. NR 106 for toxic and organoleptic substances and whole effluent toxicity:

(a) The average minimum 7-day low streamflow which occurs once in 10 years (7-day Q₁₀); or,

(b) In the case of dissolved oxygen and wherever sufficient data on streamflow and temperature are available, by application of a 0.274% level of nonattainment. This is equivalent to an expected nonattainment of the dissolved oxygen criterion of one day per year.

(3) MIXING ZONES. Water quality standards shall be met at every point outside of a mixing zone. The size of the mixing zone cannot be uniformly prescribed, but shall be based on such factors as effluent quality and quantity, available dilution, temperature, current, type of outfall, channel configuration and restrictions to fish movement. For toxic and organoleptic substances with water quality criteria or secondary values specified in or developed pursuant to chs. NR 102 and 105, allowable dilution shall be determined as specified in ch. NR 106 in addition to the requirements

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specified in this subsection. As a guide to the delineation of a mixing zone, the following shall be taken into consideration:

- (a) Limiting mixing zones to as small an area as practicable, and conforming to the time exposure responses of aquatic life.
- (b) Providing passageways in rivers for fish and other mobile aquatic organisms.
- (c) Where possible, mixing zones being no larger than 25% of the cross-sectional area or volume of flow of the stream and not extending more than 50% of the width.
- (d) Final acute criteria and secondary values specified in or developed pursuant to s. NR 105.05 for the fish and aquatic life subcategory for which the receiving water is classified not being exceeded at any point in the mixing zone.
- (e) Mixing zones not exceeding 10% of a lake's total surface area.
- (f) Mixing zones not interfering with spawning or nursery areas, migratory routes, nor mouths of tributary streams.
- (g) Mixing zones not overlapping, but where they do, taking measures to prevent adverse synergistic effects.
- (h) Restricting the pH to values greater than 4.0 s.u. and to values less than 11.0 s.u. at any point in the mixing zone for the protection of indigenous fish and fish food organisms.

(4) EXEMPTIONS. The thermal mixing zone provisions of this chapter are not applicable to municipal waste and water treatment plants, to vessels, or to discharges to enclosed harbors.

(5) RESOURCE MANAGEMENT EXEMPTIONS. Application of chemicals for water resource management purposes in accordance with statutory provisions is not subject to the requirements of the standards except in case of water used for public water supply.

(6) ANALYTICAL PROCEDURES. (a) The criteria in the Radiation Protection Code, s. HFS 157.44, shall apply to the disposal and permissible concentrations of radioactive substances.

(b) Methods used for analysis of samples shall be as set forth in ch. NR 219 unless alternative methods are specified by the department.

History: Cr. Register, September, 1973, No. 213, eff. 10-1-73; renum. (5) and (6) to be (6) and (7), cr. (5), Register, July, 1975, No. 235, eff. 8-1-75; r. and recr. (3), Register, August, 1981, No. 308, eff. 9-1-81; correction in (7) made under s. 13.93 (2m) (b) 7., Stats., cr. (4) (h), Register, September, 1984, No. 345, eff. 10-1-84; renum. from NR 102.03, r. (1), cr. (1) (b), renum. (2) to (7) to be (1) (a) to (6) and am. (2), (3) (intro.) and (d) and (6), Register, February, 1989, No. 398, eff. 3-1-89; am. (1) (b) 3., (3) (intro.) and (d), Register, August, 1997, No. 500, eff. 9-1-97; correction in (6) (a) made under s. 13.93 (2m) (b) 7., Stats. Register July 2006 No. 607, eff. 8-1-06.

NR 102.06 Phosphorus. In addition to the requirements established in ch. NR 217, any wastewater discharger, regardless of population, volume or type of waste discharge, or geographic location, may be required to remove excess amounts of phosphorus. Effluent limitations for total phosphorus based on surface water quality may be established where, in the best professional judgment of the department, such limitations will result in an improvement in water quality, or preserve the quality of surface waters where long-term discharges may result in impairment of water quality. Such limitations for phosphorus shall include an evaluation of the discharges from point sources, nonpoint sources, background sources, tributaries, and a consideration of a margin of safety.

History: Cr. Register, July, 1975, No. 235, eff. 8-1-75; am. Register, October, 1986, No. 370, eff. 11-1-86; renum. from NR 102.04, Register, February, 1989, No. 398, eff. 3-1-89; am. Register, November, 1992, No. 443, eff. 12-1-92.

NR 102.07 Lake Michigan and Lake Superior thermal standards. For Lake Michigan and Lake Superior the following thermal standards are established so as to minimize effects on the aquatic biota in the receiving waters.

(1) (a) Thermal discharges shall not raise the receiving water temperature more than 3°F above the existing natural temperature at the boundary of mixing zones established in pars. (b) and (c).

(b) 1. The mixing zone for a shoreline thermal discharge shall be the area included within the perimeter of a rectangular figure extending 1,250 feet in both directions along the shoreline from the outfall and 1,250 feet into the lake.

2. The mixing zone for an offshore thermal discharge shall be the area within a 1,000-foot radius circle with its center at the point of discharge.

(c) The department may, upon request from the owner of a source of thermal discharge, adjust the boundaries of the mixing zone established in par. (b) for that source. In no case may any mixing zone so established include an area greater than 72 acres nor may it include more than 2,800 feet of shoreline.

(2) In addition to the limitation set forth in sub. (1), but excepting the Milwaukee Harbor, Port Washington Harbor and the mouth of the Fox River, thermal discharges to Lake Michigan shall not raise the temperature of the receiving waters at the boundary of the established mixing zone above the following limits:

January	45°F
February	45°
March	45°
April	55°
May	60°
June	70°
July	80°
August	80°
September	80°
October	65°
November	60°
December	50°

History: Cr. Register, September, 1973, No. 213, eff. 10-1-73; r. and recr. Register, July, 1975, No. 235, eff. 8-1-75; renum. from NR 102.05, Register, February, 1989, No. 398, eff. 3-1-89.

NR 102.08 Mississippi river thermal standards. In addition to the standards for fish and aquatic life, the monthly average of the maximum daily temperature in the Mississippi river outside the mixing zone shall not exceed the following limits:

January	40°F
February	40°
March	54°
April	65°
May	75°
June	84°
July	84°
August	84°
September	82°
October	73°
November	58°
December	48°

History: Cr. Register, July, 1975, No. 235, eff. 8-1-75; renum. from NR 102.06, Register, February, 1989, No. 398, eff. 3-1-89.

NR 102.09 Review of thermal standards. (1) Whenever the owner of any source of thermal discharges that existed on or before July 31, 1975, in compliance with department guidelines and after opportunity for public hearing, can demonstrate to the satisfaction of the department that the mixing zone established pursuant to this chapter is more stringent than necessary to assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the receiving water, the department may:

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(a) Impose a mixing zone with respect to such thermal discharge that will assure the protection and propagation of such a population, or

(b) Exempt such thermal discharge from the thermal requirements of this chapter provided this exemption will not endanger the propagation of such a population.

(2) Any owner desiring a review pursuant to sub. (1) shall submit a demonstration to the department no later than June 30, 1976. The department shall reach a decision no later than December 31, 1976.

(3) In the event the owner fails to make a satisfactory demonstration pursuant to sub. (1), the department shall establish a compliance date for the thermal component to be achieved no later than July 1, 1979.

(4) Whenever the owner of any source of thermal discharges that commenced on or after August 1, 1975, in compliance with department guidelines and after opportunity for public hearing, can demonstrate to the satisfaction of the department that the mixing zone established pursuant to this chapter is more stringent than necessary to assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the receiving water, the department may:

(a) Impose a mixing zone with respect to such thermal discharge that will assure the protection and propagation of such a population, or

(b) Exempt such thermal discharge from the thermal requirements of this chapter provided this exemption will not endanger the propagation of such a population.

(5) In the event an owner fails to make a satisfactory demonstration pursuant to sub. (4), the discharge shall be in compliance with the thermal requirements of this chapter upon commencement of the discharge.

(6) The department may require the reduction of thermal discharges or the size and configuration of a mixing zone if it finds that environmental damage is imminent or existent.

History: Cr. Register, July, 1975, No. 235, eff. 8-1-75; am. Register, February, 1977, No. 254, eff. 3-1-77; renum. from NR 102.07, Register, February, 1989, No. 398, eff. 3-1-89.

NR 102.10 Outstanding resource waters. (1) The following surface waters are designated as outstanding resource waters:

(a) *National wild and scenic rivers.* All rivers designated under the national wild and scenic rivers act, as amended, 16 USC 1271 to 1287, except those portions flowing through Indian reservations, including:

1. St. Croix river between the northern boundary of the Hudson city limits and the St. Croix flowage dam in Douglas county except that the portion of the St. Croix river from the northern boundary of the St. Croix Falls city limits to a distance one mile below the STH 243 bridge at Osceola shall be classified exceptional resource waters under s. NR 102.11.

2. Namekagon river between its confluence with the St. Croix river and the outlet of Lake Namekagon in Bayfield county.

(b) *State wild and scenic rivers.* All state wild and scenic rivers designated under s. 30.26, Stats., including:

1. Pike river in Marinette county.

2. Pine river and its tributary Popple river in Florence and Forest counties.

(c) Wolf river upstream of the northern Menominee county line.

(d) The following Class I trout waters:

1. Adams county — Big Roche-a-Cri creek

2. Barron county — Yellow river

3. Bayfield county — Flag river, Sioux river

4. Burnett county — North Fork Clam river, South Fork Clam river

5. Chippewa county — Duncan creek, Elk creek, McCann creek

6. Dane county — Black Earth creek above the easternmost CTY KP crossing

7. Door county — Logan creek

8. Douglas county — Bois Brule river and its tributaries including the waters of Lake Superior within a ¼ mile semi-circular arc centered at the middle of the river mouth

9. Dunn county — Elk creek

10. Florence county — Brule river including Montagne creek and Riley creek tributaries; tributaries to the Pine-Popple rivers including Chipmunk, Cody, Haley, Haymarsh, LaMontagne, Lepage, Lunds, Martin, Olson, Patten, Pine, Riley, Rock, Simpson, Seven Mile, Wakefield and Woods creeks; Little Popple river

11. Forest county — Brule river

13. Kewaunee county — Little Scarboro creek

14. Langlade county — Clearwater creek, Drew creek, Evergreen river, South Branch Oconto river

15. Lincoln county — Center fork New Wood creek, Little Pine creek, Prairie river

16. Marathon county — Holt creek, Spranger creek, Plover river

17. Marinette county — Cedarville creek, Otter creek, Holmes creek, East Thunder creek, North fork Thunder river, Eagle creek, Little Eagle creek, Plumadore creek, Meadow brook, Upper Middle Inlet creek, Middle Inlet creek, Wausaukee river, Little Wausaukee creek, Coldwater brook, Medicine brook, South Branch Miscauno river, Miscauno river, Swede John creek, South Branch Pemebonwon river, Spikehorn creek, Silver creek, Little Silver creek, Sullivan creek; tributaries to the Pike river including Little South Branch Pike river, Camp D creek, Camp F creek, Camp 9 creek, Cole creek, Glen creek, Harvey creek, North Branch Harvey creek, South Branch Harvey creek, Hemlock creek, Holloway creek, K.C. creek, Little Harvey creek, Lost creek, MacIntire creek, Phillips creek, Sackerson creek, Shinn's creek, Sidney creek, Smeesters creek, Springdale brook, Whiskey creek

18. Marquette county — Chaffee creek, Lawrence creek, Tagatz creek

19. Monroe county — Rullands Coulee creek

20. Oconto county — First South Branch Oconto river, Second South Branch Oconto river, South Branch Oconto river, Hills Pond creek

21. Polk county — Clam river, McKenzie creek

22. Portage county — Emmons creek, Radley creek, Sannes creek, Tomorrow river, Trout creek

23. Richland county — Camp creek

24. Sheboygan county — Nichols creek

25. St. Croix county — Kinnickinnic river above STH "35"

26. Vernon county — Rullands Coulee creek, Spring Coulee creek, Timber Coulee creek

27. Vilas county — Deerskin river, Plum creek

28. Walworth county — Bluff creek, Potawatomi creek, Van Slyke creek

29. Waupaca county — Emmons creek, Griffin creek, Jackson creek, Leers creek, Peterson creek, Radley creek, Sannes creek, Spaulding creek, Trout creek, Whitcomb creek, North Branch Little Wolf river

30. Waushara county — Willow creek north of Redgranite, Mecan river north of Richford, Little Pine creek, West Branch White river

(e) The following Class II trout waters:

1. Barron county — Yellow river

2. Burnett county — North Fork Clam river

3. Forest county — Brule river, Peshtigo river

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						Red Cedar River	SEG 1: Outlet of Red Cedar Lake to Inlet of Rice Lake
						Rock Creek	SEG 2: All within Barron County
						Upper Pine Creek	Above Dallas Flowage
4.	Grant county	—	Big Green river, Castle Rock creek				
5.	Marinette county	—	Peshtigo river				
6.	Polk county	—	McKenzie creek				
7.	Vilas county	—	Plum creek				
(f)	The following cold or warm water streams and rivers or portions thereof:						
1d.	Ashland	Bad River	SEG 1: Origin to Outfall in Mellen at NW $\frac{1}{4}$ SW $\frac{1}{4}$ S6 T44N R2W	2.	Bayfield	Bark River	All—Class I Portions including the waters of Lake Superior within a $\frac{1}{4}$ mile semi-circular arc centered at the middle of the river mouth
		Brunswailer River	SEG 1: Origin to Inlet of Spider Lake			Big Brook	All
			SEG 2: Outlet of Moquah Lake to Inlet of Mineral Lake			Cranberry River & Tribs.	All—Class I Portion including the waters of Lake Superior within a $\frac{1}{4}$ mile semi-circular arc centered at the middle of the river mouth.
			SEG 3: Outlet of Mineral Lake to Inlet of Beaverdam Lake			East Fork Iron River & Tribs.	All—Class I Portion
			SEG 4: Outlet of Beaverdam Lake (at the dam) to the Bad River Indian Reservation Boundary			East Fork White River	All—Class I Portion
1h.	Ashland & Bayfield	Marengo River	SEG 1: Origin to Inlet of Marengo Lake			Eighteen Mile Cr. & Tribs.	All—Class I Portion
			SEG 2: Outlet of Marengo Lake to Bad River Indian Reservation Boundary			Fish Creek (Main)	All including the waters of Lake Superior within a $\frac{1}{4}$ mile semi-circular arc centered at the middle of the river mouth.
1p.	Ashland & Sawyer	E. Fork Chippewa River	SEG1: T42N R1E S17/18 Line to Ashland County Highway "N" in Glidden			Long Lake Branch & Tribs.	From below Drummond Lake to White River
			SEG 6: Outlet of Barker Lake to Confluence with Chippewa Flowage			No. Fork Fish Creek & Tribs.	All—Class I Portions
			SEG 3: Outlet of Pelican Lake to Inlet of Blaisdell Lake			Onion River & Tribs.	All—Class I Portions including the waters of Lake Superior within a $\frac{1}{4}$ mile semi-circular arc centered at the middle of the river mouth.
			SEG 4: Outlet of Blaisdell Lake to Inlet of Hunter Lake			Pikes Creek & Tribs.	All—Class I Portion including the waters of Lake Superior within a $\frac{1}{4}$ mile semi-circular arc centered at the middle of the river mouth.
			SEG 5: Outlet of Hunter Lake to Inlet of Barker Lake				
1t.	Barron	Engle Creek	Class I & II Portions				
		Hickey Creek	Class I & II Portions				

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		Sioux River & Tribs.	All—Class I & II Portions including the waters of Lake Superior within a ¼ mile semi-circular arc centered at the middle of the river mouth.	2p.	Bayfield, Sawyer, Washburn, Douglas & Burnett	Totagatic River	SEG 1: Origin (Confluence of West Fork Totagatic River and East Fork Totagatic River) to Inlet of Nelson Lake
		So. Fork White River	All—Class I Portion				SEG 2: Outlet of Totagatic Flowage to Inlet of Colton Flowage
		Thompson Creek	All—Class I Portion				SEG 3: Outlet of Colton Flowage to Inlet of Minong Flowage
		Twenty Mile Creek	All—Class I & II Portions				SEG 4: Outlet of Minong Flowage to Confluence with Namekagon River
		White River	All—Class I Portion				
		Whittlesey Creek & Tribs.	All—Class I Portions including the waters of Lake Superior within a ¼ mile semi-circular arc centered at the middle of the river mouth.	3.	Burnett	North Fork Clam River	County Highway “H” to Confluence with Clam River
2d.	Bayfield & Ashland	Beartrap Creek	SEG 1: Origin to Bad River Indian Reservation Boundary			Tributaries to the N. & S. Forks of the Clam River	All—Class I & II Portions
2h.	Bayfield, Ashland & Sawyer	West Fork Chipewewa River	SEG 1: Origin (Outlet of Chipewewa Lake) to Inlet of Day Lake	4.	Dane	Mt. Vernon Creek	All—Class I Portion
			SEG 2: Outlet of Day Lake to Inlet of Upper Clam Lake	5.	Door	Mink River	All
			SEG 3: Outlet of Upper Clam Lake to Inlet of Lower Clam Lake	5m.	Douglas	Amnicon River	SEG 1: Origin (Outlet of Amnicon Lake) to Inlet of Lyman Lake
			SEG 4: Outlet of Lower Clam Lake to Inlet of Cattail Lake				SEG 2: Outlet of Lyman Lake to mouth at Lake Superior, including the waters of Lake Superior within a ¼ mile semi-circular arc centered at the middle of the river mouth.
			SEG 5: Outlet of Cattail Lake to Inlet of Meadow Lake			Moose River	All
			SEG 6: Outlet of Meadow Lake to Inlet of Partridge Crop Lake			Spruce River	All
			SEG 7: Outlet of Partridge Crop Lake to Inlet of Moose Lake			St. Croix River	SEG 1: Outlet of Upper St. Croix Lake to Inlet of St. Croix Flowage
			SEG 8: Outlet of Moose Lake to Sawyer County Highway “B”	6.	Forest	Allen Creek	All
						Brule Creek	All
						Elvoy Creek	All
						Jones Creek	Class I & II portions
						North Otter Creek	All

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6m.	Forest & Langlade	Swamp Creek	SEG 1: Outlet of Lake Lucerne to Mole Lake Indian Reservation Boundary SEG 3: All below Mole Lake Indian Reservation Boundary to Confluence of Wolf River	14.	Pierce	Squirrel River Tomahawk River	Outlet of Squirrel Lake to Confluence with Tomahawk River SEG 2: Outlet of Willow Flowage Dam to Inlet of Lake Nokomis
7.	Grant	Little Green River	All	15.	Polk	Sand Creek & Tribs	All—Class I & II Portions
7m.	Iron & Ashland	Tyler Forks	SEG 1: Origin in Iron County to Bad River Indian Reservation Eastern Boundary in Ashland County SEG 3: From Bad River Indian Reservation Southern Boundary to Confluence with Bad River	15e.	Polk & Burnett	Clam River	SEG 1: Outlet of Clam Falls Flowage to Inlet of Clam Lake SEG 2: Outlet of Lower Clam Lake to Section Line @ T39N R16W S21/22
		Potato River	SEG 1: Origin to Bad River Indian Reservation Boundary	15m.	Price	Elk River	SEG 1: Headwaters to Inlet of Musser Lake
					Price & Lincoln	Spirit River	Outlet of Spirit Lake to Inlet of Spirit River Flowage
8.	Iron, Ashland & Price	Flambeau River	SEG 1: Turtle–Flambeau Flowage (Outlet @ Turtle–Flambeau Dam) to Inlet of Upper Park Falls Flowage	16.	Price, Rusk & Sawyer	So. Fork Flambeau River	All—Round L. Dam downstream to Jxn with No. Fork Flambeau R.
		No. Fork Flambeau River	From Turtle–Flambeau Flowage Dam downstream to Park Falls	17.	Richland	Elk Creek	All
				18.	Rusk	Devils Creek	All—Class I & II Portions
						Soft Maple Creek	SEG 1: Origin to Rusk County Highway “F”
9.	LaCrosse	Berge Coulee Creek	All			So. Fork Main Creek	Class I & II Portions (T35N R3W S28 downstream to T34N R4W S11)
10.	Langlade	Elton Creek	Class I Portion			Swift Creek	Outlet of Island Lake to Inlet of Fireside Lake
		Little Evergreen Creek	All				
		Mayking Creek	All				
		Michelson Creek	All				
		Mid Branch Embarrass River	Class I Portion	19.	Sauk	Otter Creek	From headwaters to southern section line of T11N R6E S33
10m.	Lincoln	New Wood River	Origin (T33N R4E S14) to Confluence with Wisconsin River			Parfrey’s Glen	From headwaters to CTH DL
11.	Marathon	Falstad Creek	Class II Portion	20.	Sawyer	Benson Creek	All—Class I Portion
		So. Branch Embarrass River	Class I Portion				
12.	Marinette	No. Branch Beaver Creek	Entire River & tributaries				
13.	Oneida	Noisy Creek	Class II Portion				

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		Couderay River	SEG 1: Origin at Outlet of Billy Boy Flowage to Inlet of Grimh Flowage (Including Waters within Lac Courte Oreilles Indian Reservation)			Elvoy Creek & Springs	Class I & II Portions
		Eddy Creek	All—Class I Portion			Manitowish River	SEG 1: Adjacent to Dam Road Downstream to Inlet of Boulder Lake
		Grindstone Creek	All—Class I Portion				SEG 2: Outlet of Boulder Lake to Inlet of Island Lake
		Knuteson Creek	SEG 1: Outlet of Wise Lake to Inlet of Knuteson Lake SEG 2: Outlet of Knuteson Lake to Inlet of Lake Che-tek			Mishonagon Creek	Class I & II Portions
		Little Weirgor Creek & Tribs	All—Class I & II Portions			Siphon Creek	All
		McDermott Creek	All			Spring Meadow Creek	Class I Portion
		Mosquito Brook	All—Class I Portion			Tamarack Creek	All
		Teal River	Outlet of Teal Lake to Confluence with West Fork Chippewa River	22m.	Vilas & Oneida	Trout River	SEG 1: Outlet of Trout Lake to Lac Du Flambeau Indian Reservation Eastern Boundary
20m.	Sawyer & Rusk	Thornapple River	SEG 1: Origin to Rusk County Highway "J"	23.	Washburn	Wisconsin River	SEG 1: Orgin (Outlet of Lac Vieux Desert) to Inlet of Water-smeet Lake
		Chippewa River	SEG 1: Dam at Chippewa Flowage to Inlet of Radisson Flowage (T38N R7W S13)			Beaver Brook	All—Class I Portion
21.	Shawano	Middle Br. Embarrass R.	Origin to but not including Homme Pond			Sawyer Creek	All—Class I & II Portions
		No. Br. Embarrass R.	Origin to CTH J	23m.	Washburn & Barron	So. Fork Bean Brook	All—Class I Portion
		So. Br. Embarrass R.	Origin to but not including Tigerton Pond			Stuntz Brook	Origin to Confluence with Namekagon River
21g.	Taylor & Chip-pewa	Yellow River	SEG 1: Confluence with South Fork Yellow River to Inlet of Chequamegon Waters Flowage SEG 2: Outlet of Chequamegon Waters Flowage (at Miller Dam) to State Highway 64/73			Bear Creek	SEG 1: Outlet of Kekegama Lake to Inlet of Bear Lake SEG 2: Outlet of Bear Lake to Inlet at Stump Lake
						(1m) The following lakes are designated as outstanding resource waters:	
				1.	Ashland	Bad River Slough Kakagon Slough Lake Superior within ¼ mile of the shoreline of the islands within the Apostle Island National Lakeshore	
				2.	Barron	Bear Lake (T36N R12W S2) Red Cedar Lake Sand Lake Silver Lake	
21r.	Taylor & Price	Silver Creek	SEG 1: Origin to Westboro Sanitary District Outfall	3.	Bayfield	Bark Bay Slough Diamond Lake Lake Superior within ¼ mile of the shoreline of the islands within the Apostle Island National Lakeshore Middle Eau Claire Lake	
22.	Vilas	Allequash Springs	Class I & II Portions				
		Brule Creek	All				
		East Br. Blackjack Cr.	All				

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- | | | | |
|---------------|---|--------------|----------------------------------|
| | Namekagon Lake | | Perch Lake |
| | Owen Lake | 16. Sauk | Devils Lake |
| | Pike Chain of Lakes (Pike, Millicent,
Buskey Bay, Hart, Twin Bear, Eagle,
Flynn and Hildur Lakes) | 17. Sawyer | Barker Lake |
| | Star Lake | | Blaisdell Lake |
| | Upper Eau Claire Lake | | Camp Smith Lake |
| 4. Burnett | Big Mckenzie Lake | | Evergreen Lake |
| | Big Sand Lake | | Grindstone Lake |
| | Sand Lake (T40N R15W S25) | | Lac Court Oreilles |
| 5. Columbia | Crystal Lake | | Lake Chippewa (Chippewa Flowage) |
| 6. Douglas | Bond Lake | | Nelson Lake |
| | Lower Eau Claire Lake | | Osgood Lake |
| | Nebagamon Lake | | Perch Lake (T42N R6W S25) |
| | St. Croix (Gordon) Flowage | | Round Lake (Big Round) |
| | Upper St. Croix Lake | | Sand Lake |
| | Whitefish Lake (Bardon) | | Spider Lake |
| 7. Florence | Edith Lake | 18. Vilas | Teal Lake |
| | Keyes Lake | | Whitefish Lake |
| | Lost Lake | | Black Oak Lake |
| | Perch Lake | | Crab Lake |
| | Riley Lake, South | | Crystal Lake (T41N R7E S27) |
| 8. Forest | Butternut Lake | | Lac Vieux Desert |
| | Franklin Lake | | North Twin Lake |
| | Lucerne Lake (Stone) | | Palette Lake (Clear) |
| | Metonga Lake | | Partridge Lake |
| 9. Iron | Catherine Lake | | Plum Lake |
| | Cedar Lake | | South Twin Lake |
| | Gile Flowage | | Star Lake |
| | Hewitt Lake | | Stormy Lake |
| | Owl Lake | | Trout Lake |
| | Trude Lake | 19. Walworth | White Sand Lake (T24N R7E S26) |
| | Turtle-Flambeau Flowage | 20. Washburn | Lulu Lake |
| 9m. Marinette | Caldron Falls Flowage | | Bass Lake (T40N R10W S17) |
| 10. Oconto | Archibald Lake | | Long Lake |
| | Bass Lake (T32N R15E S9) | | Middle McKenzie Lake |
| | Bear Paw Lake | | Shell Lake |
| | Boot Lake | | Stone Lake (T39N R10W S24) |
| | Chain Lake | 21. Waukesha | Spring Lake (T5N R18E S9) |
| 11. Oneida | Big Carr Lake | 22. Waupaca | Graham Lake (Nelson) |
| | Clear Lake (T39N R7E S16) | | North Lake |
| | Little Tomahawk Lake | 23. Waushara | Gilbert Lake |
| | Tomahawk Lake | | Lucerne Lake (Egans) |
| | Two Sisters Lake | | Norwegian Lake |
| | Willow Flowage | | Pine Lake (Springwater) |
| 12. Polk | Pipe Lake | | |
| 13. Price | Cochram Lake | | |
| | Tucker Lake | | |
| 14. Rusk | Bass Lake (T34N R9W S16) | | |
| | Fish Lake | | |
| | Island Chains of Lakes (Chain, Clear,
McMann, and Island Lakes) | | |
| | Three Lakes No. 1 (T36N R9W S25) | | |
| 15. St. Croix | Bass Lake (T30N R19W S23) | | |

(2) The waters in sub. (1) and (1m) may not be lowered in quality.

(3) Surface waters, or portions thereof, may be added to, or deleted from, the outstanding resource waters designation through the rule making process under the provisions of ch. 227, Stats., and s. NR 2.03.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89; am. (1) (d), cr. (1) (e), Register, July, 1989, No. 403, eff. 8-1-89; cr. (1) (f) and (1m), am. (2), Register, May, 1993, No. 449, eff. 6-1-93; am. (1m) 6., 9. and 11., cr. (1m) 9m., Register, February, 1998, No. 506, eff. 3-1-98; CR 05-089; am. (1) (d) 8., (f) 2., (1m) 1. and 3. Register July 2006 No. 607, eff. 8-1-06; CR 05-105; renum. (1) (f) 1. to be 1t. and am., cr. (1) (f) 1d., 1h., 1p., 2d., 2h., 2p., 5m., 6m., 7m., 10m., 15e., 15m., 15s., 20m., 21g., 21r., 22m., and 23m., am. (1) (f) 3., 8. 13., 18., 20., 22., and 23., Register November 2006 No. 611, eff. 12-1-06; reprinted to correct error in (1) (d) 6. Register March 2008 No. 627.

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NR 102.11 Exceptional resource waters. (1) Surface waters which provide valuable fisheries, hydrologically or geologically unique features, outstanding recreational opportunities, unique environmental settings, and which are not significantly impacted by human activities may be classified as exceptional resource waters. All the following surface waters are designated as exceptional resource waters:

(a) Class I trout waters listed in Wisconsin Trout Streams publication 6-3600 (80) that are not listed in s. NR 102.10.

(b) Other Class I trout waters:

1. Abraham Coulee creek in section 29, township 20 north, range 8 west from its headwaters to the Abraham Coulee road bridge in Trempealeau county.

2. Bear creek originating in section 3, township 20 north, range 7 west in Trempealeau county.

3. Biser creek originating in section 19, township 12 north, range 3 west in Sauk county.

4. Bostwick creek from CTH M upstream 6.2 miles to the headwaters in LaCrosse county.

5. Bufton Hollow creek originating in section 23, township 12 north, range 2 west in Richland county.

6. Columbus creek originating in section 29, township 20 north, range 6 west in Jackson county.

7. Dutch creek originating in section 12, township 19 north, range 8 west in Trempealeau county.

8. Joe Coulee creek originating in section 1, township 20 north, range 7 west in Trempealeau county.

9. Little creek originating in section 21, township 20 north, range 6 west in Jackson county.

10. Marble creek originating in section 30, township 10 north, range 3 east in Sauk county.

11. Marshall creek originating in section 4, township 11 north, range 1 west in Richland county.

12. Martin creek originating in section 22, township 6 north, range 2 east in Iowa county.

13. South Bear creek originating in section 2, township 12 north, range 2 west in Richland county.

14. Spring brook downstream from CTH Y south of Antigo to its confluence with the Eau Claire river in Marathon county.

15. Spring Coulee creek from the headwaters to SE 1/4, SE 1/4, section 33, township 16 north, range 1 east in Monroe county.

16. Unnamed creek 2-12 originating in section 36, township 20 north, range 7 west of Trempealeau county.

17. Unnamed creek 4-9 originating in section 4, township 11 north, range 1 west in Richland county.

18. Unnamed creek 5-6 originating in section 6, township 19 north, range 8 west in Trempealeau county.

19. Unnamed creek 7-4 originating in section 6, township 20 north, range 7 west in Trempealeau county.

20. Unnamed creek 8-9 originating in section 5, township 20 north, range 7 west in Trempealeau county.

21. Unnamed creek 8-14 originating in section 1, township 20 north, range 8 west in Trempealeau county.

22. Unnamed creek 9-13 originating in section 4, township 20 north, range 6 west in Jackson county.

23. Unnamed creek 10-8 originating in section 10, township 11 north, range 1 west in Richland county.

24. Unnamed creek 10-10 originating in section 14, township 20 north, range 6 west in Jackson county.

25. Unnamed creek 11-4 originating in section 1, township 20 north, range 7 west in Trempealeau county.

26. Unnamed creek 11-7 originating in section 2, township 20 north, range 7 west in Trempealeau county.

27. Unnamed creek 13-3a originating in section 19, township 20 north, range 6 west in Trempealeau county.

28. Unnamed creek 13-3b originating in section 6, township 20 north, range 6 west in Trempealeau county.

29. Unnamed creek 15-13 originating in section 1, township 20 north, range 8 west in Trempealeau county.

30. Unnamed creek 15-4 originating in section 3, township 20 north, range 6 west in Trempealeau county.

31. Unnamed creek 16-2 originating in section 22, township 20 north, range 6 west in Jackson county.

32. Unnamed creek 17-5 originating in SE 1/4, section 5, township 20 north, range 6 west in Jackson county.

33. Unnamed creek 24-3a originating in section 24, township 11 north, range 1 west in Richland county.

34. Unnamed creek 26-7 originating in section 2, township 20 north, range 6 west in Jackson county.

35. Unnamed creek 34-2 originating in section 17, township 20 north, range 8 west in Trempealeau county.

36. Unnamed creek 34-15 originating in section 27, township 20 north, range 7 west in Trempealeau county.

37. Unnamed stream originating in section 29, township 10 north, range 3 east in Sauk county.

38. Washington Coulee creek originating in section 29, township 20 north, range 6 west in Jackson county.

(c) The following Class II trout waters:

1. Ashland county — White river above the Bad River Indian reservation

2. Bayfield county — White river

3. Dane county — Mt. Vernon creek

4. Forest county — North Branch Oconto river

5. Grant county — Blue river

6. Iowa county — Blue river

7. Langlade county — Prairie river, South Branch Oconto river

8. Lincoln county — Prairie river

9. Marquette county — Mecan river

10. Oconto county — North Branch Oconto river, South Branch Oconto river

11. Pierce county — Rush river

12. Portage county — Tomorrow river

13. Richland county — Willow creek

14. St. Croix county — Willow river, Race Branch

15. Waushara county — Mecan river

(d) The following cold or warm water streams and rivers or portions thereof:

1g.	Ashland	Bad River	SEG 2: Outfall in Mellen at NE $\frac{1}{4}$ SW $\frac{1}{4}$ S6 T44N R2W to Bad River Indian Reservation Boundary
1r.	Ashland & Sawyer	East Fork Chippewa River	SEG 2: Ashland County Highway "N" to Confluence of Rocky Run Creek (Includes Glidden POTW)
1t.	Barron	Brill River	All—Class II Portion
2.	Crawford	Copper Creek Plum Creek	All All

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		Sugar Creek	From headwaters to T10N R6W S10	12.	Green	Burgy Creek	All
		Tainter Creek	From Vernon County Line to CTH B			Gill Creek	All
3.	Dane	Blue Mounds Branch	All			Hefty Creek, North Branch	All
		Deer Creek	All			Hefty Cr., Center Branch	All
		Dunlap Creek	All			Liberty Creek	All
		Elvers Creek (Bohn Cr.)	All			Norwegian Creek	All
		Flynn Creek	All			Richland Creek	All
		Fryes Feeder Creek	All			Ross Crossing	All
		Garfoot Creek	All			Sylvester Creek	All
		Milum Creek	All	13.	Green & Rock	Spring Valley Creek	All
		Rutland Branch	All			Ward Creek	All
		Ryan Creek	All	14.	Iowa	Allen Creek	Below Evansville
		Schalpbach Creek	All	15.	Iron	Harker-Lee-Martin System	From headwaters to T6N R2ES10
		Sixmile Creek	All	15m.	Iron & Ashland	Maintowish River	All
		Spring Creek (Lodi)	All			Vaughn Creek	SEG 1: Origin to Bad River Indian Reservation Boundary
4.	Dane, Sauk, Iowa, Grant, Richland, Crawford	Wisconsin River	From below Prairie du Sac to Prairie du Chien	16.	Jackson	Trempealeau River	From STH 95 at Hixton to CTHP at Taylor
5.	Dane & Green	Little Sugar River	Above New Glarus	17.	Jefferson	Allen Creek	All
		Story Creek (Tipperary)	All, originating in T5N R8E S36	18.	Kewaunee	Casco Creek	From T24N R24E S19 downstream of Rock Ledge to Kewaunee River
		Sugar Creek	All	19.	La Crosse	Bostwick Creek	From headwaters to County Hwy 'O'
6.	Dunn	Sand Creek	From Chippewa County Line to mouth			Coon Creek	All
7.	Eau Claire	Lowes Creek	From Hwy 37 & 85 upstream to headwaters			Dutch Creek	From headwaters to Russian Coulee Road (section 8)
8.	Fond du Lac	Feldner's Creek	From headquarters to Mischo's Millpond	20.	Lafayette	Galena River	From headwaters to Buncombe Road
		Lake Fifteen Creek	Entire Creek above & below Lake Fifteen	21.	Langlade	East Br. Eau Claire R.	From STH 64 upstream to fire-lane crossing in T33N R11E S35 SW1/4
9.	Forest	Armstrong Creek	All			Hunting River	From Fitzgerald Dam Road downstream to T33N R11E S1
		Middle Br. Peshigo R.	All	22.	Lincoln	North Br. Prairie River	From headwaters to CTHJ to T33N R8E
		North Br. Peshtigo R.	All			Silver Creek	All
		North Br. Popple R.	All	23.	Manitowoc	Branch River	All
		West Br. Armstrong Creek	Class II Portion	24.	Monroe	Big Creek	From headwaters to Acorn Rd (S7)
10.	Grant	Doc Smith Branch	All			Farmers Valley Creek & Tribs	From headwaters to I-90 (S19)
		Little Platte River	From Arthur downstream to Platte River				
11.	Grant & Iowa	Big Spring Branch	From Springhead to Blue River				

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25.	Oneida	Soper Creek Bearskin Creek	All From Tomahawk River to Little Bearskin Lake		Hood Hollow Creek Jacquish Hollow Creek	All-Trib to Mill Creek All-Trib to Willow Creek
25m.	Oneida & Lincoln	Wisconsin River	SEG 2: Hat Rapids Dam to Lincoln County A crossing SEG 4: Grandfather Dam to Inlet of Alexander Lake		Kepler Branch Mill Creek Miller Branch	All-Trib to Mill Creek From headwaters to above Boaz All-Trib to Mill Creek
26.	Pierce	Big River Cady Creek	Class I Portion From CTH P upstream		Pine Valley Creek Ryan Hollow	All-Trib to Mill Creek All-Trib to West Branch Mill Creek
26c.	Polk & Burnett	Trimbelle River Clam River	All SEG 3: Section Line @ T39N R16W S21/22 to Inlet of Clam River Flowage SEG 4: Outlet of Clam River Flowage to Confluence with St. Croix River	28.	Rock	Wheat Hollow Creek W. Branch Mill Creek Bass Creek East Fork Raccoon Cr. Little Turtle Creek Raccoon Creek Spring Brook Turtle Creek Unnamed Creek T2N R14E S31
26g.	Price	North Fork Jump River	SEG 1: Origin (outlet of Cranberry Lake) to Inlet of Spring Creek Flowage SEG 2: Outlet of Spring Creek Flowage to Confluence with South Fork Jump River	29.	Rusk	Big Weirgor Creek Main Creek Soft Maple Creek
26n.	Price, Rusk & Taylor	Jump River	SEG 1: Confluence of the North Fork Jump River and South Fork Jump River to the Village of Jump River			All-Class III Portion Rusk County Highway P to Inlet of Holcombe Flowage SEG 2: Rusk County Highway "F" to Confluence with Chippewa River
26r.	Price, Sawyer, Rusk	Flambeau River	SEG 2: Crowley Dam to Inlet of Big Falls Flowage	30.	Rusk, Taylor & Chippewa	Jump River
26w.	Price & Taylor	South Fork Jump River	Origin to Confluence with North Fork Jump River	31.	Sauk	Beaver Creek (Trib to Dell Creek) Camels Creek (Trib to Dell Creek) Dell Creek
27.	Richland	Babb Hollow Hanzel Creek (Hansell) Melancthon Creek Coulter Hollow Creek E. Branch Mill Creek Happy Hollow Creek Higgins Creek	All-Trib to Mill Creek All-Trib to Melancthon Cr. Class II Section All-Trib to Mill Creek All All-Trib to Willow Creek All-Trib to Mill Creek	31m.	Sawyer	Couderay River
				32.	Shawano	Kroenke Creek Red River West Br. Red River
						From Lower Red Lake Dam to Wolf River Class II Portion

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33.	Sheboygan	Ben Nutt Creek	Class II Portion to Junction with Mill Creek
34.	St. Croix	Apple River	From NSP plant below CTH I to Mouth
		Cady Creek	All
		Willow River	Extend Class II Portion into Delta in Lake Mallileau
35.	St. Croix & Pierce	St. Croix River	From No. Boundary of Hudson City limits to the river mouth in Pierce Co.
35m.	Taylor & Price	Silver Creek	SEG 2: Westboro Sanitary District Outfall to Confluence with South Fork Jump River
36.	Trempealeau	Buffalo River	From Hwy 53 to Strum Pond
37.	Vernon	Bishop Branch	All
		Cheyenne Valley Creek	All
		Coon Creek	From La Crosse county line to Chaseburg
		Frohock Valley Creek	All
		Hornby Creek	All
		Reads Creek	All
		Tainter Creek	All
38.	Vilas	Manitowish River	From Rest Lake Dam downstream to Iron County line
38m.	Vilas & Oneida	Wisconsin River	SEG 2: State Highway 70 to Inlet at Rainbow Flowage (Oneida County Line) SEG 3: Outlet of Rainbow Flowage (Oneida County Highway "D" to Inlet of Rhineland Flowage (T37N R8E S8 SE¼NE¼)
39.	Washington	E. Branch Milwaukee R.	From Long Lake outlet to STH 28
40.	Waukesha	Genesee Creek	Above STH 59
		Mukwonago River	From Eagle Springs Lake to Upper Phantom Lake
		Oconomowoc River	From below North Lake to Okauchee Lake

41.	Waupaca	Blake Brook & Branches	Class II Portion
		Little Wolf River	From junction with Wolf River upstream to Manawa Dam
		Waupaca River	Class II portion
42.	Waupaca & Shawano	Embarrass River	From Wolf River upstream to dam at Pella
43.	Waushara	Lower Pine River	From below Wild Rose Mill pond to dam at Poy Sippi

(2) The waters identified in sub. (1) may not be lowered in quality except as provided in ch. NR 207.

(3) Surface waters, or portions thereof, may be added to, or deleted from, the exceptional resource waters designation through the rule making process under the provisions of ch. 227, Stats., and s. NR 2.03.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89; cr. (1) (c), Register, July, 1989, No. 403, eff. 8-1-89; cr. (1) (d), Register, May, 1993, No. 449, eff. 6-1-93; CR 05-105: renun. (1) (d) 1. to be 1t., cr. 1g., 1r., 15m., 25m., 26c., 26n., 26r., 26w., 31m., 35m., and 38m., am. 29., Register November 2006 No. 611, eff. 12-1-06.

NR 102.12 Great Lakes system. (1) The Great Lakes system includes all the surface waters within the drainage basin of the Great Lakes.

(2) For the purpose of administering ch. NR 207 and consistent with chs. NR 105 and 106, the waters identified in sub. (1) are to be protected from the impacts of persistent, bioaccumulating toxic substances by avoiding or limiting to the maximum extent practicable increases in these substances.

(3) The waters of the Lake Superior basin shall be managed to prevent any new or increased discharges of the following pollutants: DDT, DDE and metabolites, chlordane, toxaphene, hexachlorobenzene, 2,3,7,8 TCDD, octachlorostyrene, mercury and PCB's. For purposes of administering ch. NR 207, new or increased discharges of these pollutants shall be prohibited unless the applicant certifies at time of application, that the new or increased discharge is necessary after utilization of best technology in process or control using waste minimization, pollution prevention, municipal pretreatment programs, material substitution or other means of commercially available technologies which have demonstrated capability for similar applications.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89; r. and recr. (1), am. (2), Register, August, 1997, No. 500, eff. 9-1-97; CR 05-089: cr. (3) Register July 2006 No. 607, eff. 8-1-06.

NR 102.13 Fish and aquatic life waters. All surface waters not included in s. NR 102.05 (1) (b) 1., 2., 3. or 5. are fish and aquatic life waters.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89.

NR 102.14 Taste and odor criteria. (1) At certain concentrations, substances may not be toxic to humans, but may impart undesirable taste or odor to water or aquatic organisms ingested by humans. The taste and odor criterion is derived to prevent substances from concentrating in surface waters or accumulating in aquatic organisms to a level which results in undesirable tastes or odors to human consumers.

(2) The taste and odor criterion is derived as follows:

(a) For substances which impart tastes and odors to waters, the taste and odor criterion shall equal that threshold concentration (TC_w) below which objectionable tastes or odors to human con-

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sumers do not occur. Threshold concentrations for substances imparting tastes and odors to water are listed in Table 1.

Table 1
Threshold Concentrations (TC_w) for Substances Causing
Taste and Odor in Water

Substance	Threshold Concentration (ug/L) ¹
Acenaphthene	20
Chlorobenzene	20
2-Chlorophenol	0.1
3-Chlorophenol	0.1
4-Chlorophenol	0.1
Copper	1000
2,3-Dichlorophenol	0.04
2,4-Dichlorophenol	0.3
2,5-Dichlorophenol	0.5
2,6-Dichlorophenol	0.2
3,4-Dichlorophenol	0.3
2,4-Dimethylphenol	400
Hexachlorocyclopentadiene	1
2-Methyl-4-Chlorophenol	1800
3-Methyl-4-Chlorophenol	3000
3-Methyl-6-Chlorophenol	20
Nitrobenzene	30
Pentachlorophenol	30
Phenol	300
2,3,4,6-Tetrachlorophenol	1
2,4,5-Trichlorophenol	1
2,4,6-Trichlorophenol	2
Zinc	5000

¹ A threshold concentration expressed in micrograms per liter (ug/L) can be converted to milligrams per liter (mg/L) by dividing the threshold concentration by 1000.

(b) For substances which impart tastes or odors to aquatic organisms, the taste and odor criterion shall be calculated as follows:

$$TOC = \frac{TC^1}{BAF}$$

Where:

TOC	=	Taste and odor criterion in milligrams per liter (mg/L).
TC	=	Threshold concentration in milligrams of substance per kilogram of wet tissue weight (mg/kg) of the aquatic organism being consumed below which undesirable taste and odor is not detectable to human consumers as derived in par. (d).
BAF	=	Aquatic life bioaccumulation factor with units of liter per kilogram (L/kg) as derived in s. NR 105.10.

(c) The lower of the taste and odor criteria derived as specified in pars. (a) and (b) is applicable to surface waters classified as public water supplies. The taste and odor criteria derived as specified in par. (b) are applicable to cold water and warm water sport fish communities.

(d) Threshold concentrations for substances imparting tastes or odors to water (TC_w) other than those listed in Table 1 and threshold concentrations for substances imparting tastes or odors to aquatic organisms (TC_f) shall be selected by the department using its best professional judgment.

History: Cr. Register, February, 1989, No. 398, eff. 3-1-89; am. (2) (b) and (c), Register, August, 1997, No. 500, eff. 9-1-97.

APPENDIX E-8

Gile Flowage Storage Reservoir Citizen Water Quality Monitoring Reports

Lake Water Quality 1993 Annual Report

Gile Flowage

Iron County

Waterbody Number: 2942300

Lake Type: DRAINAGE

DNR Region: NO

GEO Region: NW

Site Name	Storet #
Gile Flowage - Deep Hole	263124

Date	SD (ft)	SD (m)	Hit Bottom	CHL	TP	TSI (SD)	TSI (CHL)	TSI (TP)	Lake Level	Clarity	Color	Perception
10/23/1993	4.5	1.4	NO			55			NORMAL		BROWN	2-Very minor aesthetic problems

Date	Data Collectors	Project
10/23/1993	Bill Ahrens	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole

SD = Secchi depth measured in feet converted to meters; Chl = Chlorophyll a in micrograms per liter(ug/l); TP = Total phosphorus in ug/l, surface sample only; TSI(SD), TSI(CHL), TSI(TP) = Trophic state index based on SD, CHL, TP respectively; Depth measured in feet. *ND = Non-detect. This result is below the limit of detection (LOD). The LOD is the lowest concentration of the analyte that can be reliably detected.

Wisconsin Department of Natural Resources

Wisconsin Lakes Partnership

Report Generated: 02/26/2023

Lake Water Quality 1997 Annual Report

Gile Flowage

Iron County

Waterbody Number: 2942300

Lake Type: DRAINAGE

DNR Region: NO

GEO Region: NW

Site Name	Storet #
Gile Flowage - Deep Hole	263124

Date	SD (ft)	SD (m)	Hit Bottom	CHL	TP	TSI (SD)	TSI (CHL)	TSI (TP)	Lake Level	Clarity	Color	Perception
05/21/1997	5.2	1.6			38	53		56				

05/21/1997		
Depth	Temp. C	D.O. MG/L
	9.0	10.8

Date	Data Collectors	Project
05/21/1997	Data Collectors	BASIC AGREEMENT 1988 (1895 fieldwork events)

SD = Secchi depth measured in feet converted to meters; Chl = Chlorophyll a in micrograms per liter(ug/l); TP = Total phosphorus in ug/l, surface sample only; TSI(SD), TSI(CHL), TSI(TP) = Trophic state index based on SD, CHL, TP respectively; Depth measured in feet. *ND = Non-detect. This result is below the limit of detection (LOD). The LOD is the lowest concentration of the analyte that can be reliably detected.

Wisconsin Department of Natural Resources

Wisconsin Lakes Partnership

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Lake Water Quality 2012 Annual Report

Gile Flowage

Iron County

Waterbody Number: 2942300

Lake Type: DRAINAGE

DNR Region: NO

GEO Region: NW

Site Name	Storet #
Gile Flowage - Deep Hole	263124

Date	SD (ft)	SD (m)	Hit Bottom	CHL	TP	TSI (SD)	TSI (CHL)	TSI (TP)	Lake Level	Clarity	Color	Perception
07/26/2012	4	1.2	NO	18.5	30	57	57	54				

07/26/2012		
Depth METERS	Temp. DEGREES C	D.O. MG/L
0	25.1	7.39
0.5	25.2	7.37
1	25.2	7.28
1.5	25.1	7.16
2	25	7.04
2.5	25	7.01
3	25	7.02
3.5	25	7
4	25	7
4.5	25	7.01
5	25	7
5.5	25	7.01
6	25	6.96
6.5	25	6.64
	25.1	7.37

Date	Data Collectors	Project
07/26/2012	Angie Stine	FRIENDS OF THE GILE FLOWAGE INC: Integrated Education- Planning + Research Approach to Spiny Water Flea Populations in Northern Lakes

SD = Secchi depth measured in feet converted to meters; Chl = Chlorophyll a in micrograms per liter(ug/l); TP = Total phosphorus in ug/l, surface sample only; TSI(SD), TSI(CHL), TSI(TP) = Trophic state index based on SD, CHL, TP respectively; Depth measured in feet. *ND = Non-detect. This result is below the limit of detection (LOD). The LOD is the lowest concentration of the analyte that can be reliably detected.

Wisconsin Department of Natural Resources

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Report Generated: 02/26/2023

Lake Water Quality 2017 Annual Report

Gile Flowage

Iron County

Waterbody Number: 2942300

Lake Type: DRAINAGE

DNR Region: NO

GEO Region: NW

Site Name	Storet #
Gile Flowage - Deep Hole	263124

Date	SD (ft)	SD (m)	Hit Bottom	CHL	TP	TSI (SD)	TSI (CHL)	TSI (TP)	Lake Level	Clarity	Color	Perception
06/27/2017	5	1.5	NO	7.16	31.7	54	50	55	HIGH	CLEAR	BROWN	2-Very minor aesthetic problems
07/31/2017	4	1.2	NO	5.82	30.1	57	48	55	NORMAL	CLEAR	BROWN	2-Very minor aesthetic problems

06/27/2017		
Depth FEET	Temp. DEGREES F	D.O.
0	66.2	
3	66	
6	65.6	
9	65.4	
12	65.3	
15	65.1	
18	64.7	
21	64.5	
24	64.4	
27	64.2	

07/31/2017		
Depth FEET	Temp. DEGREES F	D.O.
0	76.8	
3	76.2	
6	76.1	
9	74.1	
12	72.8	
15	71.9	
18	71.4	
21	70.5	
24	70.3	
27	70.3	

Date	Collector Comments
06/27/2017	Harold Schmude took myself- Jeff and Karla Miller out on his pontoon to complete June Citizen Lake Monitoring. Conditions were calm- partial cloudy- 65 degrees. Harold Schmude took myself- Jeff and Karla Miller out on his pontoon to complete June Citizen Lake Monitoring. Conditions were calm- partial cloudy- 65 degrees.
07/31/2017	Clyde Smith took Karla + Jeff Miller along with myself out on the Gile Flowage. The weather was warm- 80 degrees- calm waters. It was a beautiful day. We viewed an eagle nest with 2 young eagles and mother flying nearby.

Date	Data Collectors	Project
06/27/2017	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole
07/31/2017	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole

SD = Secchi depth measured in feet converted to meters; Chl = Chlorophyll a in micrograms per liter(ug/l); TP = Total phosphorus in ug/l, surface sample only; TSI(SD), TSI(CHL), TSI(TP) = Trophic state index based on SD, CHL, TP respectively; Depth measured in feet. *ND = Non-

detect. This result is below the limit of detection (LOD). The LOD is the lowest concentration of the analyte that can be reliably detected.

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Lake Water Quality 2018 Annual Report

Gile Flowage

Iron County

Waterbody Number: 2942300

Lake Type: DRAINAGE

DNR Region: NO

GEO Region: NW

Site Name	Storet #
Gile Flowage - Deep Hole	263124

Date	SD (ft)	SD (m)	Hit Bottom	CHL	TP	TSI (SD)	TSI (CHL)	TSI (TP)	Lake Level	Clarity	Color	Perception
05/29/2018	4.8	1.5	NO		27.7	55		54	HIGH	CLEAR	BROWN	2-Very minor aesthetic problems
06/25/2018	4	1.2	NO	8.66	33.9	57	51	55	HIGH	CLEAR	BROWN	2-Very minor aesthetic problems
07/31/2018	4	1.2	NO	10.7	30.5	57	53	55	NORMAL	CLEAR	BROWN	2-Very minor aesthetic problems
09/11/2018	4	1.2	NO	9.18	33.7	57	52	55	LOW	CLEAR	BROWN	2-Very minor aesthetic problems

05/29/2018		
Depth FEET	Temp. DEGREES F	D.O.
3	72.3	
6	70.8	
9	68.7	
12	60.2	
15	58.8	
18	58.4	
21	58.2	
24	57.5	

06/25/2018		
Depth FEET	Temp. DEGREES F	D.O.
0	70.3	
3	69.9	
6	69	
9	68.8	
12	68.3	
15	68.1	
18	68	
21	68	
24	68	

07/31/2018		
Depth FEET	Temp. DEGREES F	D.O.
0	73.2	
3	73.1	
6	71	
9	70.5	
12	69.9	
15	69.6	
18	69.4	
21	69.4	
24	69.2	

09/11/2018		
Depth FEET	Temp. DEGREES F	D.O.
0	67	
3	67.1	
6	66.9	
9	66.9	
12	66.9	
15	66.7	
18	66.5	

Date	Collector Comments
05/29/2018	Clyde Smith- Harold Schmude- Cathy Techtmann- Jeff Miller- Tom and Julie Sotis assisted. Observed eagles with their nest- we could hear babies in the nest Observed wood duck entering a wood duck box Unusually warm temperatures over Memorial Day weekend...high of 90 predicted for today. 75 degrees while out gathering data at 10AM
06/25/2018	Cool and cloudy.

06/25/2018	cool temperatures this AM 55 degrees/cloudy/rather windy experienced heavy storms/rains June 15-18- 2018 Denise- Harold- Clyde- Jeff- Karla took samples today
07/31/2018	Denise- Clyde- Harold- Jeff- and Karla took pontoon out. Beautiful 70 degrees- calm water. Viewed mature and young eagles. Checked out a close to surface rock that was hit by a boat July 29th weekend.

Date	Data Collectors	Project
05/29/2018	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole
05/29/2018	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Hurley School - Gile Flowage
06/25/2018	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole
06/25/2018	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Hurley School - Gile Flowage
07/31/2018	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole
07/31/2018	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Hurley School - Gile Flowage
09/11/2018	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole
09/11/2018	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Hurley School - Gile Flowage

SD = Secchi depth measured in feet converted to meters; Chl = Chlorophyll a in micrograms per liter(ug/l); TP = Total phosphorus in ug/l, surface sample only; TSI(SD), TSI(CHL), TSI(TP) = Trophic state index based on SD, CHL, TP respectively; Depth measured in feet. *ND = Non-detect. This result is below the limit of detection (LOD). The LOD is the lowest concentration of the analyte that can be reliably detected.

Wisconsin Department of Natural Resources

Wisconsin Lakes Partnership

Report Generated: 02/26/2023

Lake Water Quality 2019 Annual Report

Gile Flowage

Iron County

Waterbody Number: 2942300

Lake Type: DRAINAGE

DNR Region: NO

GEO Region: NW

Site Name	Storet #
Gile Flowage - Deep Hole	263124

Date	SD (ft)	SD (m)	Hit Bottom	CHL	TP	TSI (SD)	TSI (CHL)	TSI (TP)	Lake Level	Clarity	Color	Perception
06/25/2019	4	1.2	NO	6.31	25.8	57	49	53	NORMAL	CLEAR	BROWN	2-Very minor aesthetic problems
08/14/2019	4	1.2	NO	13.2	37.1	57	54	56	LOW	CLEAR	BROWN	2-Very minor aesthetic problems

06/25/2019		
Depth FEET	Temp. DEGREES F	D.O.
0	68	
3	68	
6	67.8	
9	67.6	
12	67.4	
15	67.4	
18	65.4	
20	64	

08/14/2019		
Depth FEET	Temp. DEGREES F	D.O.
1	71.4	
3	72.3	
6	72.5	
9	72.1	
12	71.9	
15	71.9	
18	71.7	
20	71.6	

Date	Data Collectors	Project
06/25/2019	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole
06/25/2019	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Hurley School - Gile Flowage
08/14/2019	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole
08/14/2019	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Hurley School - Gile Flowage
08/14/2019	Denise Schmitz-Enking	Citizen Lake Monitoring Network QA/QC - 2019

SD = Secchi depth measured in feet converted to meters; Chl = Chlorophyll a in micrograms per liter(ug/l); TP = Total phosphorus in ug/l, surface sample only; TSI(SD), TSI(CHL), TSI(TP) = Trophic state index based on SD, CHL, TP respectively; Depth measured in feet. *ND = Non-detect. This result is below the limit of detection (LOD). The LOD is the lowest concentration of the analyte that can be reliably detected.

Wisconsin Department of Natural Resources

Wisconsin Lakes Partnership

Report Generated: 02/26/2023

Lake Water Quality 2021 Annual Report

Gile Flowage

Iron County

Waterbody Number: 2942300

Lake Type: DRAINAGE

DNR Region: NO

GEO Region: NW

Site Name	Storet #
Gile Flowage - Deep Hole	263124

Date	SD (ft)	SD (m)	Hit Bottom	CHL	TP	TSI (SD)	TSI (CHL)	TSI (TP)	Lake Level	Clarity	Color	Perception
07/21/2021	4.6	1.4	NO	10.4	33.5	55	53	55	NORMAL	CLEAR	BROWN	2-Very minor aesthetic problems
08/30/2021	4.5	1.4	NO			55			LOW	CLEAR	BROWN	2-Very minor aesthetic problems

07/21/2021		
Depth FEET	Temp. DEGREES F	D.O.
1	73.9	
3	73.9	
6	73.9	
9	73.7	
12	73.5	
15	72.1	
18	71.6	
21	71.4	
24	70.7	

08/30/2021		
Depth FEET	Temp. DEGREES F	D.O.
1	70.5	
3	70.8	
6	70.7	
9	70.7	
12	70.7	
15	70.5	
18	70.5	

Date	Data Collectors	Project
07/21/2021	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole
08/30/2021	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole

SD = Secchi depth measured in feet converted to meters; Chl = Chlorophyll a in micrograms per liter(ug/l); TP = Total phosphorus in ug/l, surface sample only; TSI(SD), TSI(CHL), TSI(TP) = Trophic state index based on SD, CHL, TP respectively; Depth measured in feet. *ND = Non-detect. This result is below the limit of detection (LOD). The LOD is the lowest concentration of the analyte that can be reliably detected.

Wisconsin Department of Natural Resources

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Lake Water Quality 2022 Annual Report

Gile Flowage

Iron County

Waterbody Number: 2942300

Lake Type: DRAINAGE

DNR Region: NO

GEO Region: NW

Site Name	Storet #
Gile Flowage - Deep Hole	263124

Date	SD (ft)	SD (m)	Hit Bottom	CHL	TP	TSI (SD)	TSI (CHL)	TSI (TP)	Lake Level	Clarity	Color	Perception
06/21/2022	4.5	1.4	NO			55			HIGH	CLEAR	BROWN	2-Very minor aesthetic problems
07/21/2022	4.5	1.4	N			55						
07/27/2022	4	1.2	NO			57			LOW	CLEAR	BROWN	1-Beautiful, could not be nicer
09/05/2022				7.42	30.6		50	55				
09/05/2022	5.5	1.7	NO			53			LOW	CLEAR	BROWN	1-Beautiful, could not be nicer

06/21/2022		
Depth FEET	Temp. DEGREES F	D.O.
1	65	
3	64	
6	64	
9	63.5	
12	62	
15	62	
18	62	
20	61.5	

07/27/2022		
Depth FEET	Temp. DEGREES F	D.O.
1	72.3	
3	72.3	
6	72.3	
9	72.3	
12	72.3	
15	72.1	
18	72	
21	71.9	

09/05/2022		
Depth FEET	Temp. DEGREES F	D.O.
1	71	
3	70.1	
6	69.6	
9	69.2	
12	69	
15	69	
18	69	

Date	Data Collectors	Project
06/21/2022	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole
07/21/2022	Zach Wilson	AIS Monitoring - Iron County Land + Water Conservation Department
07/27/2022	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole
09/05/2022	Data Collectors	Citizen Lake Monitoring - Water Quality - Hurley School - Gile Flowage
09/05/2022	Denise Schmitz-Enking	Citizen Lake Monitoring - Water Quality - Gile Flowage - Deep Hole

SD = Secchi depth measured in feet converted to meters; Chl = Chlorophyll a in micrograms per liter(ug/l); TP = Total phosphorus in ug/l, surface sample only; TSI(SD), TSI(CHL), TSI(TP) = Trophic state index based on SD, CHL, TP respectively; Depth measured in feet. *ND = Non-detect. This result is below the limit of detection (LOD). The LOD is the lowest concentration of the analyte that can be reliably detected.

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APPENDIX E-9

Water Quality Monitoring Study Report

INITIAL STUDY REPORT

for

Gile Flowage Storage Reservoir (FERC Project No. 15055)

Water Quality Monitoring

Prepared for:

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Mead & Hunt, Inc.

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Prepared by:



Great Lakes Environmental Center, Inc.

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September 22, 2022

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PROJECT INFORMATION AND BACKGROUND

Northern States Power Company, a Wisconsin corporation (NSPW or Applicant), is currently seeking an original license from the Federal Energy Regulatory Commission (FERC or Commission) to continue to operate and maintain the existing Gile Flowage Storage Reservoir Project (Project). The Project is owned, operated, and maintained by NSPW. To obtain an original license, NSPW must submit a Final License Application (FLA) to FERC no later than August 18, 2023. The FLA, in part, must include an evaluation of the existing water quality associated with the Project boundary.

On January 19, 2021, FERC issued Scoping Document 1 and requested that stakeholders provide comments on the Pre-Licensing Application (PAD) and study requests within 60 days. During the 60-day comment period, NSPW received comments and study requests from several entities. The Wisconsin Department of Natural Resources (WDNR) was the only agency which requested that NSPW complete a water quality study as part of the licensing process. The WDNR requested the study be conducted to further understand current water quality conditions and to ensure state water quality standards are being met. WDNR requested that data be collected and analyzed using the WDNR WISCALM Guidance and Surface Water Grab Sampling Protocols for 23 water quality parameters.

On behalf of NSPW, and under the direction of Mead and Hunt, Inc., Great Lakes Environmental Center, Inc. (GLEC) conducted a Water Quality Monitoring Study at the Gile Flowage (Flowage) during 2022 to determine if waters within the proposed Project boundary meet current state water quality standards. The work was completed following the Study Plan provided by Mead and Hunt.

STUDY AREA

The Gile Flowage is located within the northern highland area of northern Wisconsin which is widely known for its forests, lakes, and wetlands. The Gile Flowage is an approximately 3,200 acre reservoir formed by the impounding of the west branch of the Montreal River. The Gile Flowage and the west branch of the Montreal River are located in the vicinity of the geologic formations Gogebic and Trap Ranges. The Gogebic and Trap Ranges form two conspicuous ridges in Iron and Ashland Counties in northern Wisconsin. Both ridges are composed of rock types that are more resistant to erosion than the rock that underlies the valley separating them. A thin layer of sediment deposited during the most recent glaciation covers the valley and parts of the ridges. The Gile Flowage is situated on the southern ridge of the Gogebic Range, and contains iron-rich rock that is approximately 1.9 billion years old. Bare rock faces and boulders are common along the shoreline of the flowage. The West Branch of the Montreal River flows through the northern ridge, the Trap Range, which is distinctly different in composition from the southern ridge; it is younger volcanic rock, consisting primarily of basaltic-lava flows that are approximately 1.1 billion years old. These geologic features likely influence water quality characteristics in the Gile Flowage and West Branch Montreal River.

The study included water quality monitoring at four locations at the Project:

- downstream of the tailrace mixing zone (Gile #4),
- approximately 250 feet upstream of the Project dam (Gile #3),
- in the deep hole (at the station where citizen lake monitoring takes place) (Gile #2), and
- in a riverine area upstream of the main impoundment (Gile #1).

Figure 1 is a map of the Gile Flowage depicting the approximate sampling locations.

A permitted point-source municipal discharge, from the City of Montreal's wastewater treatment plant, is located 0.8 miles downstream of the Gile Dam. However, that discharge does not affect water quality in the Gile Flowage or the downstream sampling location.

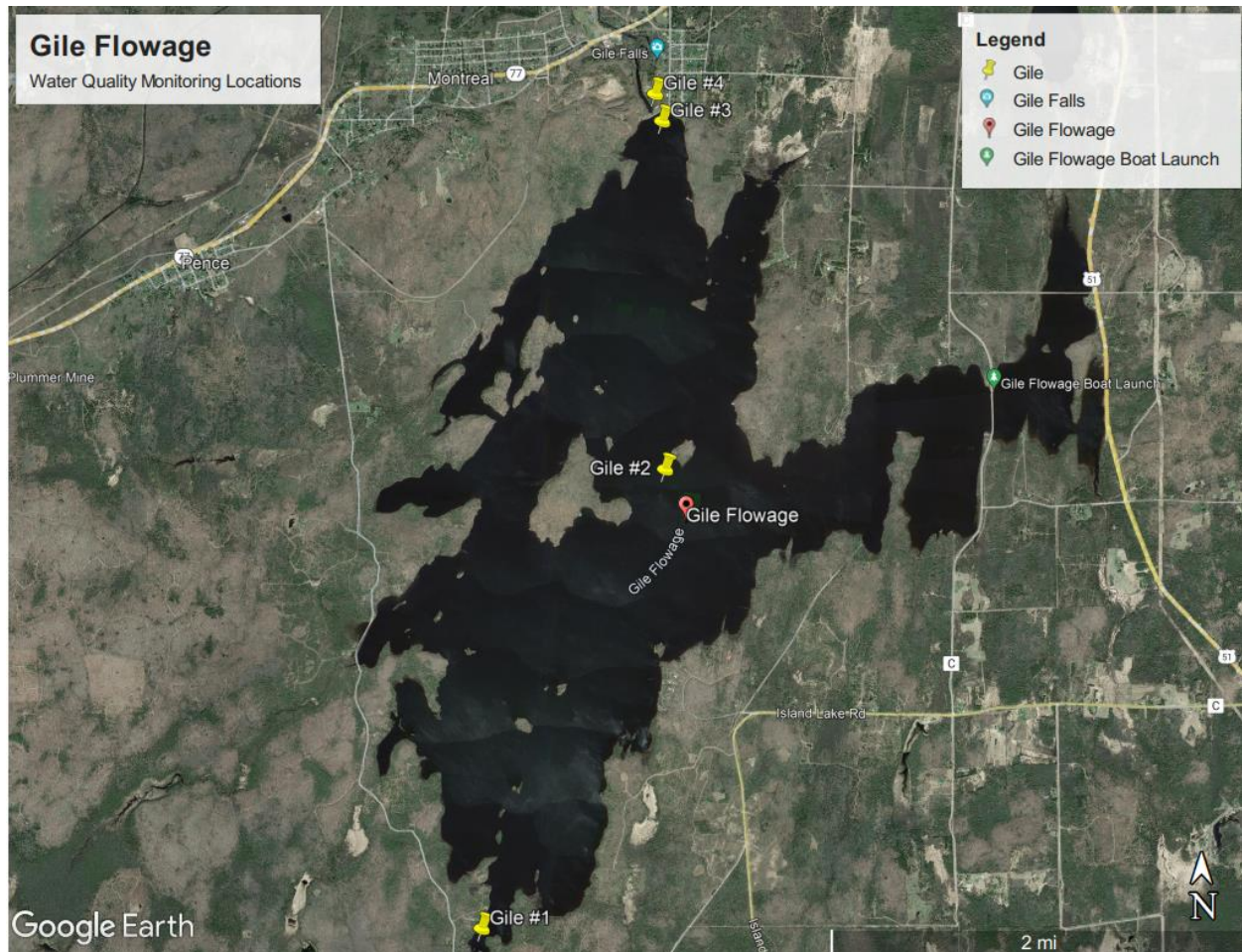


FIGURE 1. GILE FLOWAGE SAMPLING LOCATIONS FOR THE 2022 WATER QUALITY ASSESSMENT

METHODOLOGY

The objective of the water quality monitoring study was to determine if the Project meets current state water quality standards. WDNR indicated that the data should be collected and/or analyzed using river monitoring protocols. Those protocols were implemented at four locations within the Project area:

- Gile #1 – far upper reaches of the impoundment,
- Gile #2 – within the deep hole in the impoundment,
- Gile #3 – deep area of the impoundment, typically near the dam,
- Gile #4 – downstream of the dam.

NSPW developed the study plan to include monitoring for all parameters requested by WDNR with the exception of sediment accumulation. A summary of the Gile Flowage water quality assessment plan is shown in Figure 2. At each location, the following was collected and/or recorded at the frequency outlined in Figure 2:

- | | | |
|--|----------------------------------|--------------------|
| • Ammonia | • Dissolved Oxygen (DO) | • Iron |
| • Bacteria (<i>Escherichia coli</i> (<i>E. coli</i>)) | • Dissolved Phosphorus | • Manganese |
| • Chloride | • Sulfide Nitrate (plus Nitrite) | • Total Mercury |
| • Chlorophyll <i>a</i> | • pH | • Temperature |
| • Color | • Secchi Depth | • Total Nitrogen |
| • Conductivity | • Sulfate | • Total Phosphorus |

The analysis of the above parameters was completed following written Standard Operating Procedures (SOPs) which are based upon USEPA analytical methods and WDNR Nutrient Grab Sample Protocols located online at

<https://dnr.wi.gov/water/wsSWIMSDocument.ashx?documentSeqNo=114118765>. GLEC staff and the GLEC Nutrient Chemistry laboratory (Traverse City, MI) completed the analysis for:

- | | |
|-------------------------------|--------------------------|
| • Ammonia | • Nitrate (plus Nitrite) |
| • Bacteria (<i>E. coli</i>) | • pH |
| • Chlorophyll <i>a</i> | • Secchi Depth |
| • Conductivity | • Temperature |
| • Dissolved Oxygen | • Total Nitrogen |
| • Dissolved Phosphorus | • Total Phosphorus |
| | • Color |

The analysis for the remaining parameters, listed below, was completed by Pace and ALS Laboratories (Green Bay, WI and Holland, MI, respectively).

- | | |
|------------|-----------------|
| • Chloride | • Total Mercury |
| • Iron | • Sulfide |
| • Sulfate | • Manganese |

A hydrographic profile for the following parameters was conducted in the deepest part of the reservoir (Gile #2) and immediately upstream of the dam (Gile #3) beginning at the water surface and continuing at 1-meter intervals until the reservoir bed was reached:

- Conductivity
- Dissolved oxygen
- pH
- Temperature

A hydrographic profile at the furthest upstream sampling location (Gile #1) was not possible due to insufficient depth. However, near surface water measurements were collected.

Data was collected and analyzed using the WDNR Wisconsin Consolidated Assessment and Listing Methodology (WisCALM Guidance) located online at the following web address: <https://dnr.wisconsin.gov/topic/SurfaceWater/WisCALM.html>. The analysis for bacteria (*E. coli*) was completed using the IDEXX Colilert methodology (IDEXX Colilert 2022). All field collection and subsequent analysis were conducted by individuals with prior water quality monitoring training and experience.

Parameter	Samples	Type of Sampling	Sampling Frequency			
			May	July	Aug.	Sept.
Ammonia	1 total	Lab		x		
Bacteria	3 total	Lab		x	x	x
Chloride	1 total	Lab	x			
Chlorophyll <i>a</i>	3 total	Lab		x	x	x
Conductivity	4 total	Field Profile	x	x	x	x
Color	1 total	Lab		x		
DO	4 total	Field Profile	x	x	x	x
Dissolved Phosphorus	3 total	Lab		x	x	x
Iron	3 total	Lab		x	x	x
Manganese	3 total	Lab		x	x	x
Sulfide	3 total	Lab		x	x	x
Nitrate (plus nitrite)	1 total	Lab		x		
pH	4 total	Field Profile	x	x	x	x
Secchi depth	4 total	Field	x	x	x	x
Sulfate	1 total	Lab	x			
Total Mercury	1 total	Lab	x			
Temperature	4 total	Field Profile	x	x	x	x
Total Nitrogen	1 total	Field Fixed		x		
Total Phosphorus	4 total	Field Fixed	x	x	x	x
Total Suspended Solids	4 total	Lab	x	x	x	x

FIGURE 2. GILE FLOWAGE WATER QUALITY ASSESSMENT PLAN (2022)

STUDY RESULTS

Field measurements and water samples collected for analysis were completed as outlined in the Study Plan and followed written Standard Operating Procedures. Monitoring was conducted on May 18, July 13-14, August 17-18, and September 6, 2022. A summary of the laboratory analysis of the water samples is provided in Table 1. Depth profiles for temperature, pH, dissolved oxygen and specific conductance were completed at three (Gile #1: upstream, Gile #4: tailrace and Gile #2: reservoir) of the four locations per the study plan. At Gile #1 (upstream location), the depth was too shallow to develop a profile. For the May sampling, poor weather prohibited the profiling at Gile #3. Figures 3, 4, 5, and 6 show the depth profile for temperature, dissolved oxygen and pH at Gile #2 and Gile #3. Specific conductance was not plotted and varied little from surface to bottom, ranging between 35.5 and 36.9 $\mu\text{mhos/cm}$ in May, 42.0 and 44.7 $\mu\text{mhos/cm}$ in July, 46.1 and 50.2 $\mu\text{mhos/cm}$ in August, and 47.6 and 51.5 $\mu\text{mhos/cm}$ in September. A summary of the field collected data is also provided in Table 2. Raw field data including field notes and depth profile data are provided in Appendix A. Analytical data including laboratory analysis results are provided in Appendix B.

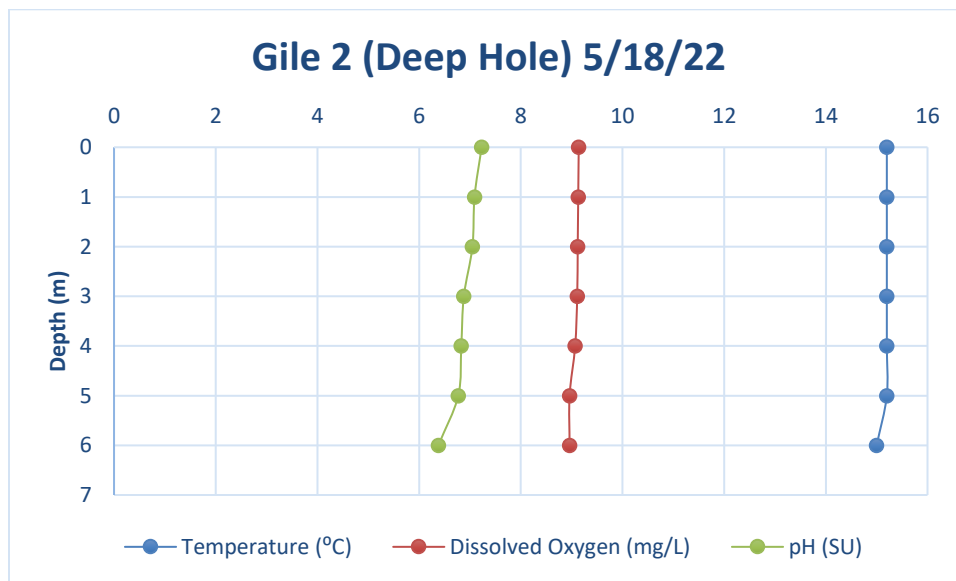


FIGURE 3. DEPTH PROFILE OF TEMPERATURE, DISSOLVED OXYGEN AND PH AT GILE LOCATION #2 (MAY 18, 2022)

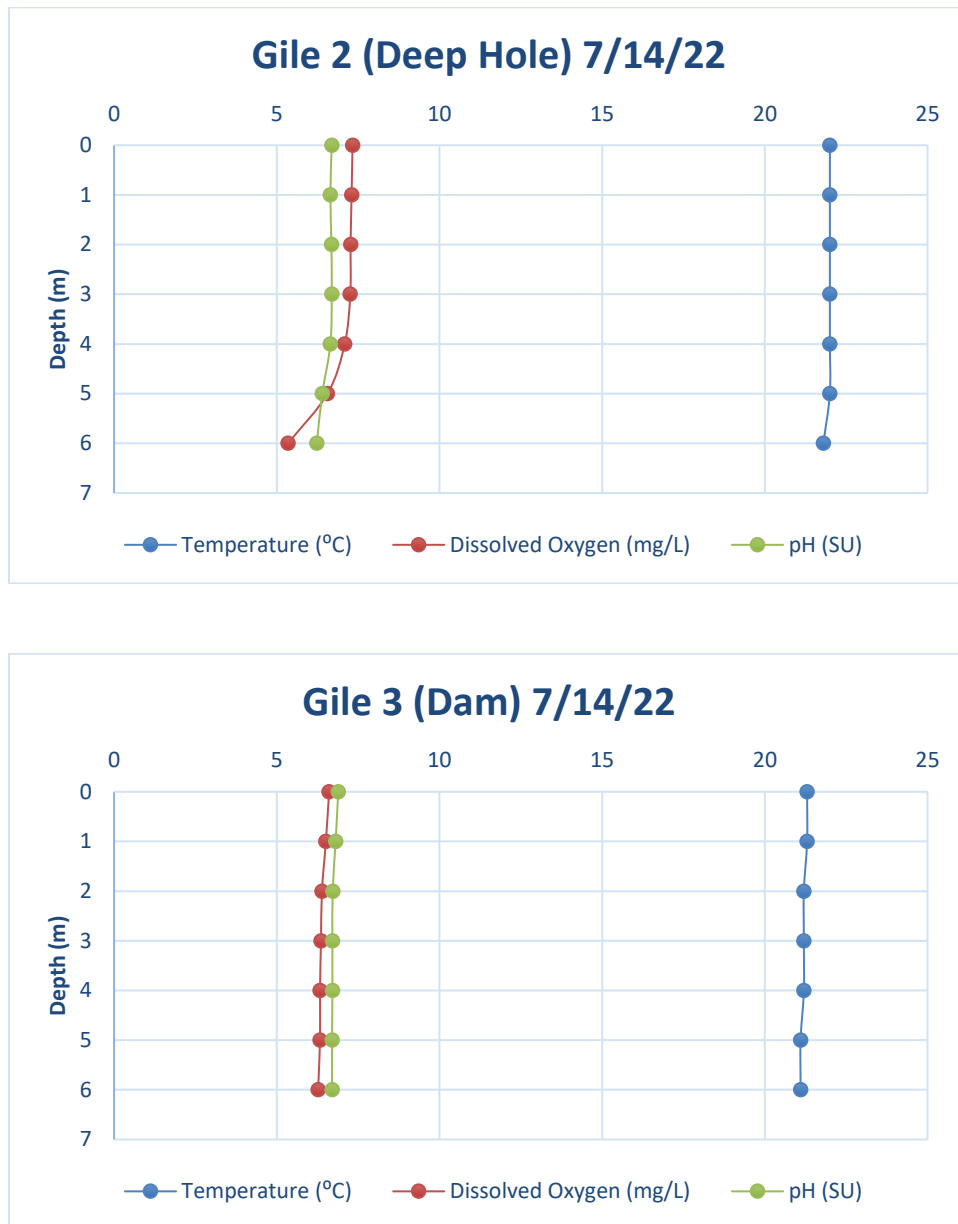


FIGURE 4. DEPTH PROFILE OF TEMPERATURE, DISSOLVED OXYGEN AND PH AT GILE LOCATIONS #2 AND #3 (JULY 14, 2022)

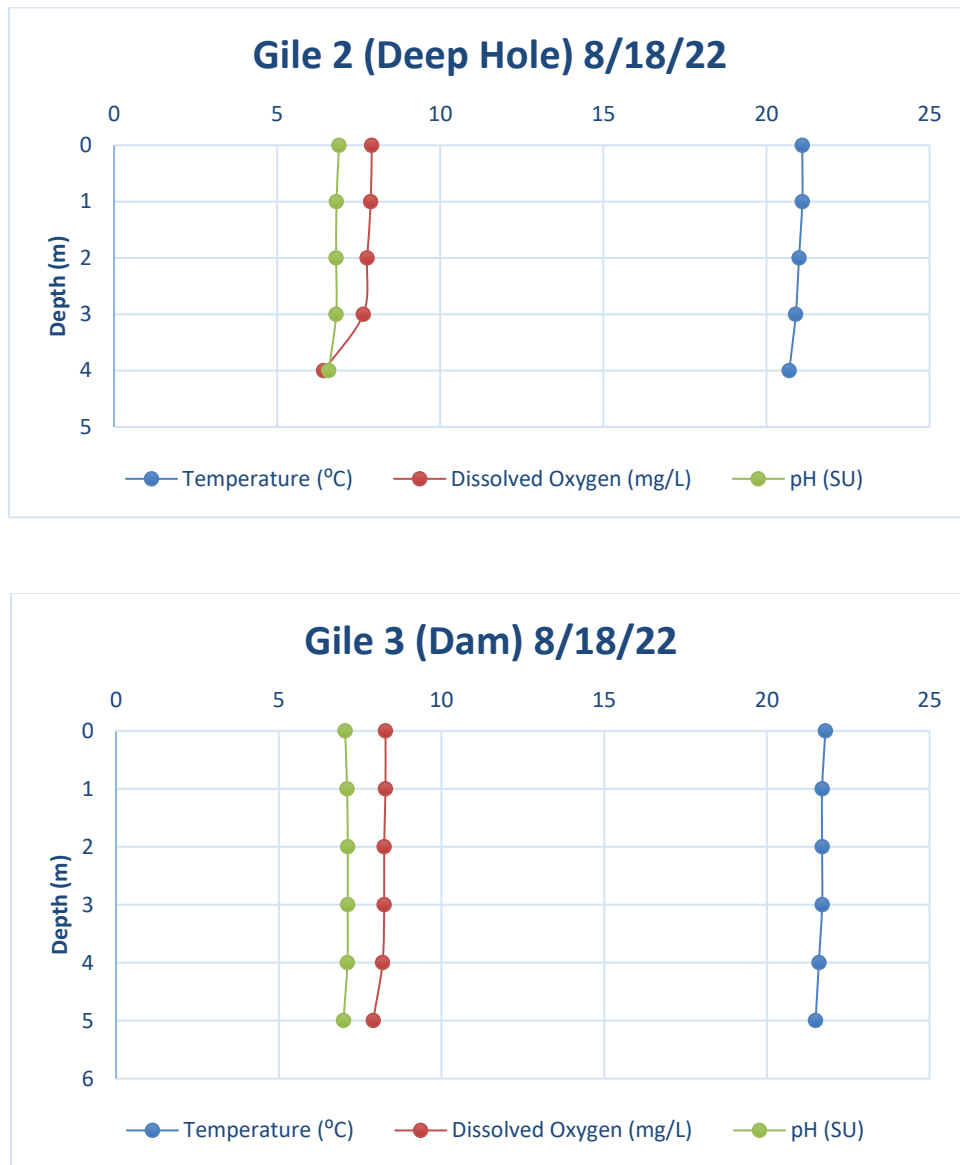


FIGURE 5. DEPTH PROFILE OF TEMPERATURE, DISSOLVED OXYGEN AND PH AT GILE LOCATIONS #2 AND #3 (AUGUST 18, 2022)

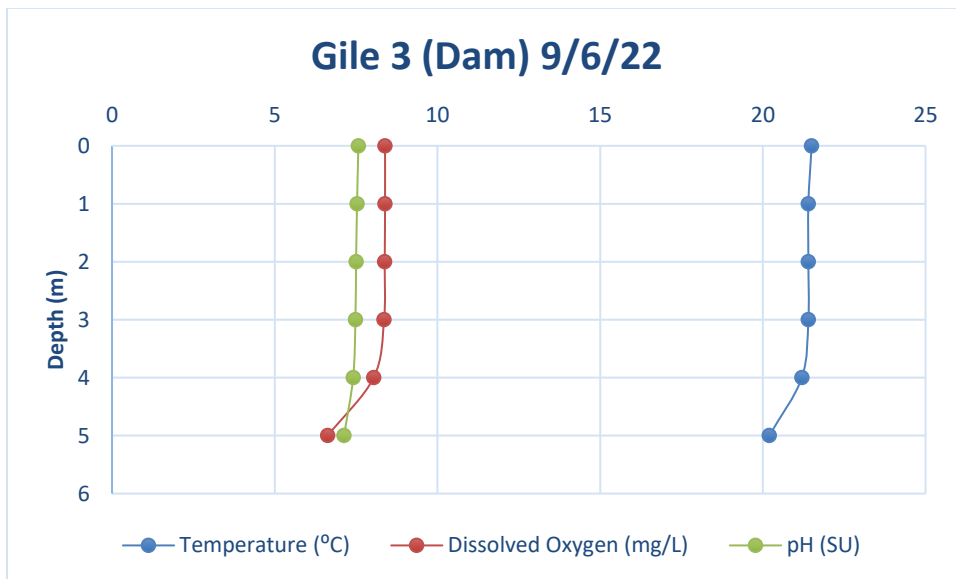
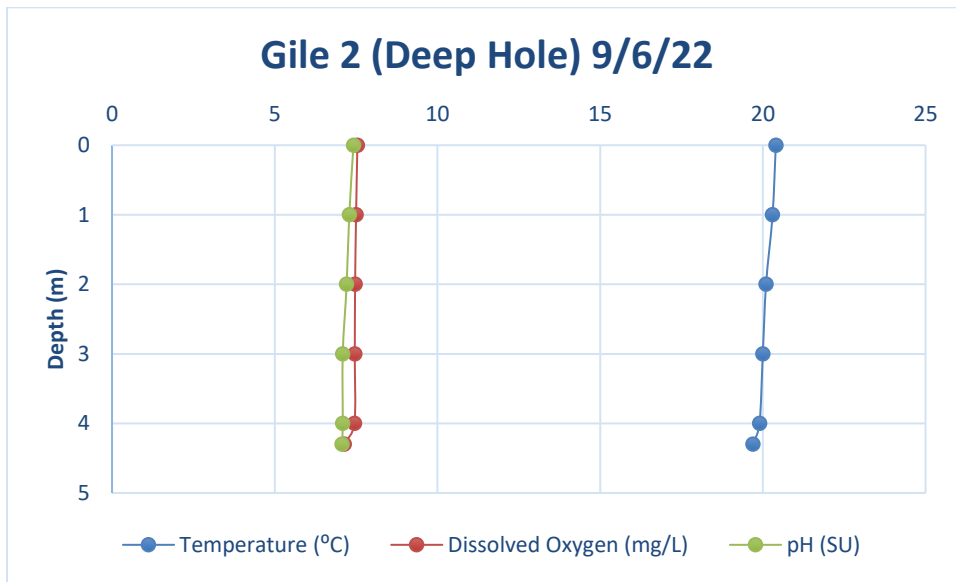


FIGURE 6. DEPTH PROFILE OF TEMPERATURE, DISSOLVED OXYGEN AND PH AT GILE LOCATIONS #2 AND #3 (SEPTEMBER 6, 2022)

TABLE 1. SUMMARY OF WATER QUALITY PARAMETER SAMPLE ANALYSIS FOR THE GILE FLOWAGE (2022)

Parameter	Gile Location #1				Gile Location #2				Gile Location #3				Gile Location #4			
	May	July	Aug.	Sept.	May	July	Aug.	Sept.	May	July	Aug.	Sept.	May	July	Aug.	Sept.
Ammonia (µg/L)		33.6				31.7				42.9				41.9		
E. coli (MPN)		5.2	6.3	2.0		1.0	3.1	<1		1.0	1.0	<1		1.0	16.1	1.0
Chloride (mg/L)	2.0				1.9				1.9				1.9			
Chlorophyll-a (µg/L)		5.42	4.84	3.30		6.70	4.41	3.80		3.93	2.55	3.70		2.88	5.11	3.26
Color (PCU)¹		126				100				104				115		
Dissolved Phosphorus (µg/L)		3.4	6.0	<1.5		3.3	5.4	1.7		5.5	4.9	1.8		6.8	2.7	2.9
Iron (µg/L)		544	614	610		415	454	458		440	412	442		463	427	435
Manganese (µg/L)		46.4	51.4	54.2		21.9	20.2	23.5		24.3	14.6	17.9		28.0	16.3	19.5
Nitrate (plus nitrite) (µg/L)		<3.4				3.4				12.0				10.2		
Sulfide (mg/L)		<1.2	<1.2	<1.2		<1.2	<1.2	<1.2		<1.2	<1.2	<1.2		<1.2	<1.2	<1.2
Sulfate (mg/L)	<7.1				<0.71				<1.4				<0.71			
Total Mercury (µg/L)	<0.16				<0.16				<0.16				<0.16			
Total Nitrogen (mg/L)		0.67				0.62				0.60				0.58		
Total Phosphorus (µg/L)	5.2	10.1	14.1	15.1	3.5	12.1	7.7	12.7	3.7	10.9	10.2	12.3	4.7	11.7	9.6	15.8
Total Suspended Solids (mg/L)	2.6	8.6	4.1	4.8	4.6	7.3	6.0	3.1	3.4	4.1	4.2	3.9	3.3	8.4	4.3	3.4

¹ PCU = Platinum Cobalt Units

TABLE 2. SUMMARY OF WATER QUALITY FIELD PARAMETER RESULTS FOR THE GILE FLOWAGE (2022)

Field Measurements ¹	Gile Location #1				Gile Location #2				Gile Location #3			
	May	July	Aug.	Sept.	May	July	Aug.	Sept.	May	July	Aug.	Sept.
Sp. Conductance (µmhos/cm)	36.2	44.7	50.2	51.5	35.5	42.0	46.5	47.7	36.3	42.0	46.1	47.7
DO (mg/L)	9.35	8.41	7.71	7.26	9.14	7.33	7.90	7.54	9.26	6.61	8.28	8.39
pH (s.u.)	7.22	7.28	7.13	7.21	7.23	6.69	6.90	7.42	7.29	6.89	7.04	7.57
Secchi depth (inches)	VOB ²	33	44	40	50	46	55	59	NC ³	50	65	67
Temperature (°C)	15.4	24.5	21.2	19.5	15.2	22.0	21.1	20.4	15.0	21.3	21.8	21.5

¹ Near Surface Measurements Only

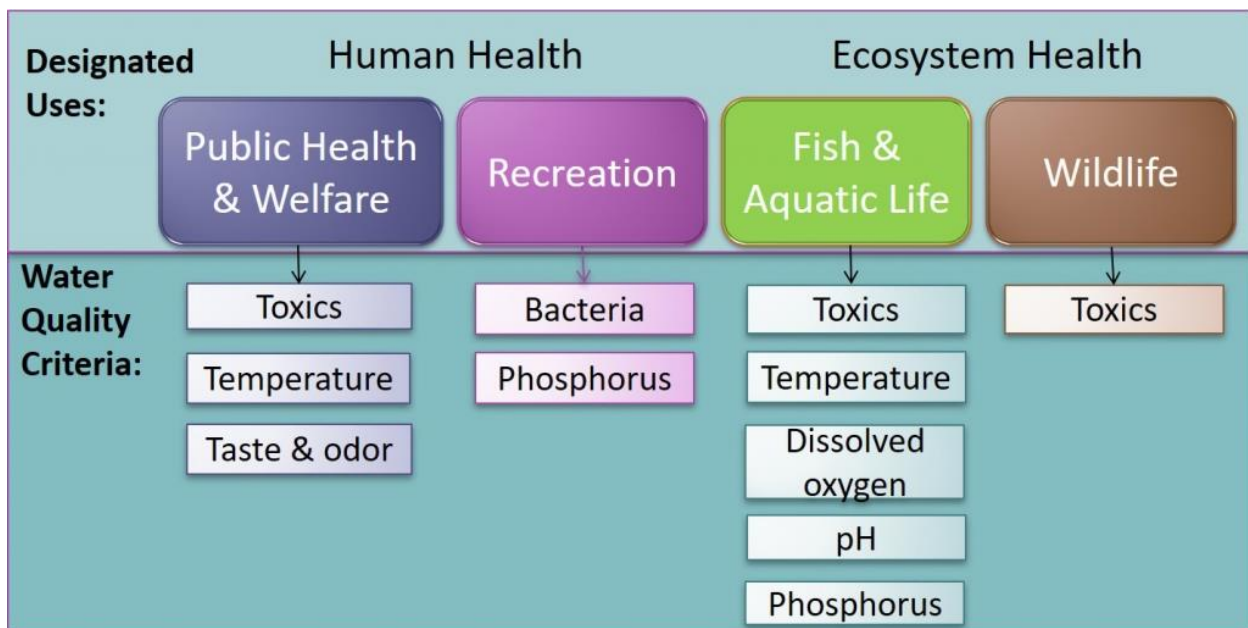
² VOB = Visible On Bottom

³ NC = Not Collected

Analysis and Discussion

Analysis of the hydrographic data indicate that the Gile Flowage was not stratified in terms of temperature or dissolved oxygen at any location throughout the study.

Chapter NR 102 of the Water Quality Standards for Wisconsin Surface Waters describes water quality standards and criteria for the protection of waterbody designated uses that are intended to protect human and ecosystem health (Figure 7). In regard to the Gile Flowage, satellite water clarity was measured annually from 2010 through 2017; metals were measured in 2010, and water quality parameters were collected in 2012 and 2017-2019. Fish contaminant monitoring was conducted in 2013 (WDNR, 2021). These results are reported elsewhere and are also included within the PAD. Consequently, those analyses were excluded from this study which focused on recreation, fish and aquatic life and water quality criteria.



Source: <https://dnr.wisconsin.gov/topic/SurfaceWater/Standards.html>

FIGURE 7. WISCONSIN GRAPHIC OF SURFACE WATER STANDARDS AND CRITERIA

The Gile Flowage is listed by the Wisconsin DNR as a “Healthy Waterbody” (<https://dnr.wisconsin.gov/topic/SurfaceWater/ConditionLists.html>; Appendix E). None of the analyzed parameters or collected samples used in laboratory analysis exceeded Wisconsin water quality criteria or standards. A narrative for each measured parameter is provided in the following paragraphs.

Temperature

Wisconsin Administrative Code NR 102.24 and 102.29 states that temperature of a water of the state or a discharge to a water of the state may not be artificially raised or lowered at such a rate

that it causes detrimental health or reproductive effects to fish or aquatic life of the water of the state. The temperature measurements collected from the Gile Flowage did not exceed this standard.

pH

The purpose of a pH standard is to protect aquatic organisms from changes in pH that would affect their health and reproduction. Wisconsin Administrative Code NR 102.04 (c) states that the pH shall be within the range of 6.0 to 9.0, with no change greater than 0.5 units outside the estimated natural seasonal maximum and minimum. The pH measurements collected from the Gile Flowage did not exceed this standard.

Dissolved Oxygen

[NR 104.02 \(3\)](#), states that the dissolved oxygen content in surface waters may not be lowered to less than 5 mg/L at any time. None of the dissolved oxygen measurements taken in the Gile Flowage were lower than 5 mg/L.

Iron

Iron (Fe) is a trace element required by both plants and animals. It is a vital part of the oxygen transport mechanism in the blood (hemoglobin) of all vertebrates and some invertebrate animals. Ferrous (Fe^{++}) and ferric (Fe^{+++}) ions are the primary ions of concern in the aquatic environment. The ferrous ion (Fe^{++}) can persist in water devoid of dissolved oxygen and usually originates from groundwater or mines that are pumped or drained. Black or brown swamp waters may contain iron concentrations of several mg/L in the presence (ferric iron) or absence (ferrous iron) of dissolved oxygen, but these iron ions have little effect on aquatic life. The concentration of total Iron during the study ranged between 412 and 614 $\mu\text{g/L}$ which is typical of waterbodies in this area of Wisconsin.

Manganese

Manganese is primarily regulated as a secondary drinking water standard because it can create aesthetic problems with the use of the water. These problems include the presence of black particles (MnO_2), black coatings and films on porcelain, a bitter/ metallic taste to the water, stains on laundry, and black films on automatic dishwashers and on dishes.

Manganese and iron together may affect the role of reduction and oxidation (redox) processes in lake and reservoir sediments in the vicinity of a redox boundary such as at the sediment water interface at the bottom of the reservoir. Mechanisms of redox include the role of micro-organisms, however, they appear to play a smaller role in the transport of trace metals and phosphorus than what was once believed. Various lacustrine environments, sediments, the sediment-water interface and anoxic and oxygenated waters, are considered within a unifying context of the processes occurring at a redox boundary. The concentration of total Manganese in this study ranged between 14.6 and 54.2 $\mu\text{g/L}$ which is typical of waterbodies in this area of Wisconsin.

Chloride

Chloride is present in rainwater, streams, groundwater, seawater, wastewater, urban runoff, humans, geologic formations, and animal waste streams. Chloride is commonly associated with other ions, such as sodium, potassium, carbonates, and sulfate. Elevated chloride levels can be associated with oil/natural gas drilling, saltwater intrusion, landfill leachate, fertilizers, septic system effluent, road salt storage, salt mining, deicing agents, and saline/brine water deposits. The concentration of total Chloride in this study ranged between 1.9 and 2.0 mg/L which is typical of waterbodies in this area of Wisconsin. At these concentrations, there is no evidence of anthropogenic input.

Chlorophyll *a*

Chlorophyll *a* is tested in lakes to determine how much algae is in the lake. Algae is an important factor in the health of lakes because it adds oxygen to the water as a by-product of photosynthesis. However, if there is too much algae in a lake it can produce a foul odor and be unpleasant for swimming. The concentration of Chlorophyll *a* in this study ranged between 2.55 and 6.70 µg/L which is a very low concentration and typical of waterbodies in this area of Wisconsin.

Sulfide and Sulfate

Sulfides are stable in low oxygen environments whereas sulfates are stable in high oxygen environments. When sulfides are exposed to a high oxygen environment, or when sulfates move into a low oxygen environment, the ions can end up in water as they change to a more stable form in the new environment.

Certain bacteria can take advantage of the oxidation or reduction of sulfur because such chemical changes are a source of energy. Sulfur-reducing bacteria thrive when sulfate-rich water moves into a low oxygen environment. Such bacteria mediate the transformation of sulfate into hydrogen sulfide which, being a gas, can dissolve into water; this is the important exception to sulfides being very insoluble in water. Sulfur-oxidizing bacteria do the opposite, deriving energy by mediating the oxidation of sulfides into sulfates in oxygen-rich environments. The concentration of sulfide and sulfate in this study were below detection.

Bacteria (*E. coli*)

E. coli is part of the total coliform group of bacteria which is a gram-negative, rod-shaped facultative anaerobic coliform bacteria. This bacteria tends to inhabit the gastrointestinal system of warm-blooded animals in a symbiotic relationship where the bacteria aid in making available vitamin K to the host organism. There are a number of subspecies of *E. coli*, but only a few are pathogenic or disease causing.

Humans can be exposed to *E. coli* bacteria through a number of routes including foodborne or waterborne vectors. The Wisconsin recreational standard for *E. coli* is under the WDNR's beach advisory program. A beach advisory is issued when a beach reaches the "Beach Action Value"

of 235 counts per 100 mL and a beach closure is issued at 1000 counts per 100 mL, unless site-specific conditions indicate use of an alternate metric. Using the IDEXX methodology, *E. coli* concentration is given as a “Most Probable Number” or MPN that is equivalent to colony counts per 100 mL. *E. coli* colony counts in the Gile Flowage ranged between <1 and 16.1. Consequently, the Wisconsin standard for *E. coli* was not exceeded in the Gile Flowage.

Total and Dissolved Phosphorus

Phosphorus is usually measured in two ways in lakes; ortho-phosphate (soluble reactive phosphorus or dissolved phosphorus) and total phosphorus. Ortho-phosphate is the chemically active dissolved form of phosphorus that is taken up directly by plants. Ortho-phosphate levels fluctuate daily and are typically low in lakes because it is incorporated into plants quickly. Total phosphorus (TP) is a better way to measure phosphorus in lakes because it includes both ortho-phosphate and the phosphorus in plant and animal fragments suspended in lake water. TP levels are more stable, and an annual mean can be a good indicator of the lake’s water quality and trophic state.

Another means by which phosphorus can enter a lake is from the sediment on the lakebed. When the bottom of a lake is anoxic (usually in late summer and late winter), chemical processes at the sediment/water interface cause phosphorus to be released from the sediments. This phenomenon is called internal loading because the phosphorus is coming from within the lake (from the sediment). When the lake mixes again, this increased phosphorus fuels algae growth.

For stratified reservoirs, total phosphorus criterion is 30 µg/L. For reservoirs that are not stratified, total phosphorus criterion is 40 µg/L (Wisc. Adm Code 102.04(5)). Phosphorus is a nutrient important for plant growth. In most lakes, phosphorus is the limiting nutrient, which means that everything that plants and algae need to grow is available in excess (sunlight, warmth, water, nitrogen, etc.) except phosphorus. This means that phosphorus has a direct effect on plant and algal growth in lakes – the more phosphorus that is available, the more plants and algae there are in the lake. Phosphorus originates from a variety of sources, many of which are related to human activities. Major sources include human and animal wastes, soil erosion, detergents, septic systems and runoff from farmland or fertilized lawns. The concentration of total phosphorus and dissolved phosphorus in Gile Flowage is far less than the concentration that would support unwanted plant growth. In this study, total phosphorus ranged from 3.5 to 15.8 µg/L and dissolved phosphorus ranged from <1.5 to 6.8 µg/L in the Gile Flowage.

Color

Lakes exist in many sizes and shapes, but often the most obvious characteristic of a lake is its color. The differences in color or transparency between lakes can be rather striking due to geology, surrounding wetlands and suspended solids. Lake color can tell you many things about the waterbody including nutrient load, algal growth, water quality and the surrounding landscape. There are three main categories of lake color: blue water lakes, green water lakes and brown water lakes. The Gile Flowage would be considered a brown water lake due to the input

of tannins from adjacent wetlands and the surrounding geologic characteristics of the watershed. Color measurements in the Gile flowage varied between 100 and 126 PCU with the highest concentration measured in the most upstream sampling location. Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state (Wisconsin Administrative code: NR 102.04). Color in Gile Flowage is typical of lakes in this region.

Nitrate/Nitrite

Nitrates are a form of nitrogen, which is found in several different forms in terrestrial and aquatic ecosystems. These forms of nitrogen include ammonia (NH₃), nitrates (NO₃), and nitrites (NO₂). Nitrates are essential plant nutrients, but in excess amounts they can cause significant water quality problems. Together with phosphorus, nitrates in excess amounts can accelerate eutrophication, causing dramatic increases in aquatic plant growth and changes in the types of plants and animals that live in the stream. This, in turn, affects dissolved oxygen, temperature, and other environmental indicators. Excess nitrates can also cause hypoxia (low levels of dissolved oxygen) and can become toxic to warm-blooded animals at high concentrations (10 mg/L or higher) under certain conditions. The natural level of ammonia or nitrate in surface water is typically low (less than 1 mg/L Nitrate/Nitrite). Nitrogen in Gile Flowage ranged between less than 0.0034 and 0.012 mg/L. Consequently, nitrate/nitrite concentrations in the Gile Flowage are not a concern.

Ammonia

Ammonia is one of several forms of nitrogen that exist in aquatic environments. Unlike other forms of nitrogen, which can cause nutrient over-enrichment of a waterbody at elevated concentrations and indirect effects on aquatic life, ammonia may cause direct toxic effects on aquatic life. Ammonia is produced for commercial fertilizers and other industrial applications. Natural sources of ammonia include the decomposition or breakdown of organic waste matter, gas exchange with the atmosphere, forest fires, animal and human waste, and nitrogen fixation processes.

Ammonia can enter the aquatic environment via direct means such as municipal effluent discharges and the excretion of nitrogenous wastes from animals, and indirect means such as nitrogen fixation, air deposition, and runoff from agricultural lands. When ammonia is present in water at high levels, it is difficult for aquatic organisms to sufficiently excrete the toxicant, leading to toxic buildup in internal tissues and blood, and potentially death. Environmental factors, such as pH and temperature, can affect ammonia toxicity to aquatic animals. Ammonia concentrations in the Gile Flowage ranged between 31.7 and 42.9 µg/L (0.0317 and 0.0429 mg/L, respectively). These concentrations are far below the toxicity threshold of freshwater aquatic organisms. For example, the 2013 EPA Final Acute Value (weighted average acute toxicity) for freshwater organisms is 33.52 mg/L (USEPA 2013).

Total Suspended Solids (TSS)

TSS are waterborne particles that exceed 2 microns (µm) in size. Any particle that is smaller than 2 microns is considered a total dissolved solid (TDS). The majority of total suspended solids are comprised of inorganic materials; however, algae and bacteria may also be considered TSS.

TSS could be anything that floats or “suspends” in water, including sand, sediment, and plankton. When certain water sources are contaminated with decaying plants or animals, the organic particles released into the water are usually suspended solids. While some sediment will settle at the bottom of a waterbody, other TSS will float on the water’s surface or remain suspended somewhere in between. TSS affects water clarity; the higher a water source’s TSS content, the less clear it will be. TSS in the Gile Flowage ranged between 2.6 and 8.6 mg/L, with the greatest concentration at Gile #1 or the inlet to the Gile Flowage. TSS concentrations in this range are considered very low.

Agency Correspondence and Consultation

There was no correspondence with any agency during the study.

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APPENDIX A

**Raw Field Data Including Field Notes and Depth Profile Data
(sent as a separate Excel file)**

APPENDIX B

**Analytical Data Including Laboratory Analysis Results
(sent as a separate Excel file)**

APPENDIX E-10 Aquatic and Terrestrial Invasive Species Study Report



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Aquatic and Terrestrial Invasive Species Study Report

Northern States Power Company
Gile Flowage Storage Project
Montreal, Wisconsin
GAI Project Number: R220323.01
| FERC No. 15055
September 2022



Prepared by:
GAI Consultants, Inc.
3313 S Packerland Drive, Suite E
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Aquatic and Terrestrial Invasive Species Study Report

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1.0 Project Overview

The Gile Flowage Storage Project (Project), Federal Energy Regulatory Commission (FERC) No. 15055, is located in the Towns of Pence and Carey, and the City of Montreal, in Iron County, Wisconsin (Figure 1). The Project is owned, operated, and maintained by Northern States Power Company, a Wisconsin corporation (NSPW or Applicant). The Applicant is seeking an original license for the Project and must submit a Final License Application (FLA) by August 18, 2023. The FLA will include an evaluation of botanical resources, including invasive species, and the potential impacts to these resources associated with Project operations. The Friends of the Gile Flowage, River Alliance of Wisconsin, and Wisconsin Department of Natural Resources (WDNR) requested the Applicant complete an invasive species study as part of the licensing process. On the behalf of Mead & Hunt, GAI is pleased to submit the results of an Aquatic and Terrestrial Invasive Species Study (Study) conducted June 13-14, 17, and 22-23; and July 26-28, 2022 to fulfill this request. This Study report provides baseline data on native species and aquatic and terrestrial invasive species and includes the following:

- Aquatic plant surveys – two sampling events conducted in June and late-July,
- Water tow samples – collected during the late-July survey,
- Sediment samples – collected during the June survey, and
- Terrestrial upland survey – conducted during the late-July survey.

2.0 Introduction

The Gile Flowage (Gile or Flowage) is a 3,138-acre flowage in the Montreal River Watershed with a maximum depth of 25 feet. Land cover within the watershed is primarily comprised of northern hardwood forest and wetland. The Gile is a headwater storage reservoir that empties into the West Fork of the Montreal River and is essential to the operation of NSPW's two downstream hydropower plants. Water quality is considered good, and all three reaches of the Montreal River include trout waters.

Invasive species pose one of the primary threats to aquatic ecosystems. They are defined as non-native species that, when introduced cause, or are likely to cause, harm to the environment, human health, or the economy. Invasive plant species can displace native plant populations, restrict boating, reduce wildlife habitat, and cause nutrient imbalance in a waterbody. Once established invasive species can be transferred downstream by recreationists and migrating wildlife.

This Study was conducted to assess the presence of known aquatic and terrestrial invasive species and identify any new invasive species in the Project area. The Study encompassed the Gile Flowage within the Project's existing and proposed boundaries and included aquatic and terrestrial plants and select aquatic invertebrates. The study area also included the reservoir shoreline as well as the shoreline of the islands. This report summarizes the results of the 2022 aquatic and terrestrial plant surveys, water samples, and sediment samples.

3.0 Methodology

Prior to performing the field work, GAI reviewed the known and historic status of invasive species at the Project. Prior to this Study, only limited information was available regarding invasive species within the Project boundary. The WDNR indicated that banded mystery snails (*Viviparus georgianus*), Chinese mystery snails (*Cipangopaludina chinensis*), reed canary grass (*Phalaris arundinacea*), spiny water flea (*Bythotrephes longimanus*), and purple loosestrife (*Lythrum salicaria*) have been observed at Gile Flowage.

3.1 Upstream and Downstream Inundated Areas

3.1.1 Aquatic Plant Survey

Aquatic plants were sampled by approximating the WDNR's Point-Intercept protocols as listed in *Recommended Baseline Monitoring of Aquatic Plants in Wisconsin* (WDNR 2019). Two sampling surveys were completed: one on June 13-14, 17, and 22-23; and one on July 26-28, 2022. The WDNR provided a grid of sample points for Gile Flowage to implement during the study (Figure 2). The grid was comprised of 957 sample points distributed evenly throughout the flowage. Each sampling point was located using a boat and a Trimble R1 GNSS Receiver and GPS device and was assessed for sample feasibility.

Points that could not be sampled were categorized as follows:

- Non-navigable (due to thick emergent plant growth, shallow water, or safety),
- Terrestrial (point located in an upland area),
- Obstacle (e.g., dock, rocks, fallen trees, etc.), or
- Too Deep (i.e., over 15 feet deep in June; over greatest depth of plant growth in July)

Points were sampled using a double-sided rake mounted on a pole. The rake was lowered until it rested gently on the lake bottom, twisted twice, then raised straight up out of the water. At each sampled point, aquatic plant species' presence and density were collected (Figures 3 and 4, Attachments A and B). Plant density was measured by rake fullness (Figure 5). Areas not captured by the point-intercept grid were monitored for the species listed in the WDNR aquatic invasive rapid response species list (WDNR 2016). No permanent vouchers were collected. Photos taken during the Study are included in Attachment C.

Additional information on bed substrates and depths were collected at points with water depths less than 15 feet in June in order to categorize depth and substrate. Substrate was categorized using nine substrate types: clay, silt, sand, gravel, cobble, boulder, bedrock, wood, or organic. In July, the maximum depth of colonization (MDC) was determined by three empty rake retrievals in different areas at the same depth. Once the MDC was determined, points where water depth was greater than the MDC were not sampled.

3.1.2 Water Samples

To monitor for the presence of zebra mussels (*Dreissena polymorpha*), two water samples, one in the reservoir and one in the tailwater, were collected during the late-July survey by approximating WDNR monitoring protocol for zebra mussels (Figure 1, WDNR 2020). A 64-micron mesh zooplankton net was used to collect the zebra mussel veliger sample. For the reservoir sample, a horizontal tow was conducted by lowering the net into the water so that the top of the net was fully submerged, and the bottom of the net was not touching the bottom or hypolimnion. With the net in this position, the boat was driven backwards slowly (about 2 miles per hour) for two minutes.

Shallow water and fast flows at the tailwater locations prevented the use of a boat, therefore, the sampling method was adjusted accordingly. The pool below the dam was accessed on foot. The plankton net was positioned in the current, such that the top of the net was submerged while the bottom of the net remained above the bottom substrate. The net was held in this position with water flowing through for two minutes to collect the water sample.

While raising the zooplankton net from the water, the net was rinsed from the outside so that the entire sample would be washed into the collection cup. For each sample, as much water as possible was decanted from the collection cup. The final sample was poured into a quart-sized sample bottle and preserved with 95% ethanol at a 4:1 ethanol to sample ratio. The preserved

water samples were delivered to the Wisconsin State Laboratory of Hygiene in Madison, Wisconsin on August 11, 2022, as requested by the WDNR invasive species coordinator, to be analyzed for zebra mussel veligers.

Spiny water fleas (*Bythotrephes longimanus*) are already known to be present in Flowage waters, therefore, no additional water samples were collected for this species. However, it should be noted that spiny water fleas, which can be seen without magnification, were observed within the reservoir water sample collected for zebra mussels.

3.1.3 Sediment Samples

To monitor for invasive macroinvertebrates, sediment samples were collected at five public access sites: Sucker Hole Boat Landing, the 4-H landing off of Spring Camp Rd., Gile Park Landing, County Hwy C Landing, and the access on the east side of the road opposite from the County C Landing (Figure 1). A shovel was used to scoop approximately six inches of sediment into a 10-inch Tetra Pond Planter Basket, with a 1/32nd inch mesh (Figure 6). Fine sediment was flushed out of the basket and the remaining materials were examined for Asian clam (*Corbicula fluminea*), faucet snail (*Bithynia tentaculate*), New Zealand mud snail (*Potamopyrgus antipodarum*), Malaysian trumpet snail (*Melanooides tuberculata*), rusty crayfish (*Orconectes rusticus*), and other invasive macroinvertebrates. The areas around these access sites were also visually examined for live snails, crayfish, and shells.

3.2 Terrestrial Upland Areas

The upland shoreline adjacent to the reservoir (including the islands) and upland areas owned by NSPW that included Project facilities and/or NSPW-owned formal recreation sites, were surveyed in late-July using two methods described below.

3.2.1 Upland Shorelines

Upland shoreline areas, including islands, were studied by GAI on July 25, 26, and 27, 2022 (Attachment D). The upland shoreline was surveyed by boat or on foot where the use of a boat was not feasible. While the boat motored slowly along the shoreline, an overall characterization of the terrestrial plant composition was made using the *Wisconsin Natural Heritage Inventory (NHI) Recognized Natural Communities Working Document* (Epstein et al. 2007). Shoreline plant composition was studied within a 10-meter riparian zone visible from open water.

The reservoir shoreline survey, including 26 islands, was divided into 17 segments (Figure 7) based on changes in land use or vegetative communities. When plants included in the NR 40 list were observed, the species type, location, and length of infested shoreline were identified and mapped using a Trimble R1 GNSS Receiver and GPS device. Relative abundance of each observed species within each segment was determined using the Daubenmire Classification Scheme Cover Ranking System. This system provides an estimate of the percent foliage cover as would be observed from above the vegetation. This ranking system was used to estimate relative abundance because it reduces the influence of individual bias in estimating foliage cover and can be applied to the relative size and length of a given segment of study (Daubenmire 1959). See Table 1 below for an overview of the Daubenmire Classification Scheme Cover Ranking System.

Table 1
Daubenmire Classification Scheme Cover Ranking System

Foliage Percent Cover	Rank
5-25	2
25-50	3
50-75	4
75-95	5
95-100	6

3.2.2 Upland Terrestrial Areas

One upland area owned by the Applicant within the Project boundary was studied using a meander survey on July 27, 2022. The route traveled during the meander survey was recorded using a Garmin Forerunner 55 Watch. An overall characterization of the terrestrial plant community was recorded. Whenever plants included in the NR 40 list were observed, the species and location were recorded using a Trimble R1 GNSS Receiver and GPS device. An estimate of relative abundance, using the Daubenmire System, and the extent to which the species was present (areal coverage), were recorded, as was the route of travel during the meander. No meander surveys were conducted on the islands; all sampling for terrestrial invasive species on islands was conducted according to the protocol discussed in section 3.2.1.

4.0 Results and Discussion

4.1 Aquatic Plant Survey

4.1.1 June Survey

A total of 679 points were sampled during the point-intercept survey completed over five days in June of 2022 (Figure 3, Attachment A). The majority of the points not sampled were the result of water depths exceeding 15 feet. In addition, four of the points could not be sampled because of navigability issues due to dense aquatic vegetation and two points were terrestrial. Among the points sampled, 154 were shallower than the maximum depth of rooting plants (7.6 feet) and 38 (25% of the littoral points; littoral frequency of occurrence) exhibited vegetation. Twenty-four species (all native) were found during the survey (Table 2), six of which were observed visually, but not present on the rake/at a sample point. Those six species include: spatterdock (*Nuphar variegata*), northern blue flag (*Iris versicolor*), water smartweed (*Persicaria amphibia*), hardstem bulrush (*Schoenoplectus acutus*), common water-starwort (*Callitriche palustris*), and a liverwort: slender riccia (*Riccia fluitans*). Because riccia is a bryophyte (non-vascular), it does not get calculated into the overall relative frequency of plant occurrence and is therefore excluded from the species table below. Overall, predominant species were variable-leaf pondweed (*Potamogeton gramineus*), alternate-flowered water milfoil (*Myriophyllum alterniflorum*), and narrow-leaf bur-reed (*Sparganium angustifolium*). Figure 8 depicts the species most dominant on each rake sample. The average total rake fullness during the study where plants were present (does not include points with no vegetation) was 1.05 (Figure 3). No aquatic invasive plant species were identified on the rake during the point-intercept survey.

4.1.2 Late-July Survey

The late-season survey on Gile Flowage was completed on July 26-28, 2022. All sample points that were within the plant rooting depth range established in June were re-sampled in July. Additional points were sampled to confirm the maximum depth of plant growth. A total of 165 points were visited during the July survey (Figure 4, Attachment B). The maximum depth of plant growth in July decreased to 6.1 feet. It should be noted that water levels on the Flowage were approximately 1.5 feet lower compared to the June survey. Points sampled were adjusted to account for this change in water depth; however, plant growth coverage did not appear to have expanded.

For the July survey, 133 of the visited points were found to be within the littoral zone. Forty-nine (37% littoral frequency of occurrence) of these sample sites contained vegetation. Twenty-three species were found on the rake during the late-season survey (Table 2). The predominant species were variable-leaf pondweed, various-leaved watermilfoil (*Myriophyllum heterophyllum*), and slender and common waterweeds (*Elodea nuttallii* and *E. canadensis*). Figure 9 depicts the predominant species for each rake sample. The average total rake fullness where plants were present was 1.27.

Table 2
Aquatic Plant Species Abundance in Gile Flowage

Scientific Name	Common Name	Littoral Frequency of Occurrence ^a		Relative Frequency of Occurrence ^b	
		June	Late-July	June	Late-July
<i>Callitriche palustris</i>	Common water-starwort	Visual	2.26	Visual	3.1
<i>Ceratophyllum echinatum</i>	Spiny hornwort	1.3	0.75	4.0	1.0
<i>Elatine minima</i>	Waterwort	0.65	<i>not observed</i>	2.0	<i>not observed</i>
<i>Elodea canadensis</i>	Common waterweed	0.65	3.76	2.0	5.2
<i>Elodea nuttallii</i>	Slender waterweed	1.95	7.52	6.0	10.4
<i>Iris versicolor</i>	Northern blue flag	Visual	Visual	Visual	Visual
<i>Myriophyllum alterniflorum</i>	Alternate-flowered watermilfoil	5.19	0.75	16.0	1.0
<i>Myriophyllum heterophyllum</i>	Various-leaved watermilfoil	0.65	9.02	2.0	12.5
<i>Myriophyllum verticillatum</i>	Whorled watermilfoil	1.95	3.76	6.0	5.2
<i>Najas flexilis</i>	Slender naiad	<i>not observed</i>	1.5	<i>not observed</i>	2.1
<i>Nitella</i> sp.	Stoneworts	0.65	7.52	2.0	10.4
<i>Nuphar variegata</i>	Spatterdock	Visual	Visual	Visual	Visual

Scientific Name	Common Name	Littoral Frequency of Occurrence ^a		Relative Frequency of Occurrence ^b	
		June	Late-July	June	Late-July
<i>Persicaria amphibia</i>	Water smartweed	Visual	0.75	Visual	1.0
<i>Potamogeton amplifolius</i>	Large-leaf pondweed	0.65	Visual	2.0	Visual
<i>Potamogeton epiphydrus</i>	Ribbon-leaf pondweed	0.65	1.5	2.0	2.1
<i>Potamogeton gramineus</i>	Variable-leaf pondweed	7.79	13.53	24.0	18.8
<i>Potamogeton nodosus</i>	Long-leaf pondweed	0.65	0.75	2.0	1.0
<i>Potamogeton praelongus</i>	White-stem pondweed	<i>not observed</i>	0.75	Visual	1.0
<i>Potamogeton pusillus</i>	Small pondweed	0.65	4.51	2.0	6.3
<i>Potamogeton spirillus</i>	Spiral-fruited pondweed	<i>not observed</i>	2.26	<i>not observed</i>	3.1
<i>Ranunculus flammula</i>	Creeping spearwort	2.6	1.5	8.0	2.1
<i>Sagittaria sp.</i>	Arrowhead sp.	0.65	<i>not observed</i>	2.0	<i>not observed</i>
<i>Schoenoplectus acutus</i>	Hardstem bulrush	Visual	Visual	Visual	Visual
<i>Schoenoplectus subterminalis</i>	Water bulrush	0.65	2.26	2.0	3.1
<i>Sparganium angustifolium</i>	Narrow-leaf bur-reed	4.55	3.01	14.0	4.2
<i>Utricularia minor</i>	Small bladderwort	<i>not observed</i>	2.26	<i>not observed</i>	3.1
<i>Utricularia vulgaris</i>	Common bladderwort	<i>not observed</i>	0.75	<i>not observed</i>	1.0
<i>Vallisneria americana</i>	Wild celery	<i>not observed</i>	0.75	<i>not observed</i>	1.0
<i>Zizania sp.</i>	Wild rice ^c	0.65	0.75	2.0	1.0

^aThe littoral frequency of occurrence refers to the number of times the species was found divided by the total number of sample locations shallower than the MDC.

^bThe relative frequency of occurrence refers to the frequency at which one species was found in comparison to all species found (percentage).

^cWild rice was observed at or near sample locations 212, 337, 470, 499, 500, 501, 503, 845, 925, 949, and 956. A map of the sample locations is shown in Figure 2.

4.1.3 Overall Aquatic Plant Survey Analysis and Observations

The aquatic plant community in Gile Flowage is unique. While plant abundance is low, the quality of species is high with several uncommon species observed. In June, species richness (on rake only; excludes visual-only occurrences) was 18 and the mean conservatism value was 7.76, resulting in a Floristic Quality Index (FQI) of 32.0. In July, species richness was 23 and the mean conservatism value was 7.5, calculating to a 36.9 FQI (Table 3). Higher species conservatism values indicate the presence of plants which are sensitive to environmental degradation. The incidence of plant species with higher conservatism values indicates high-quality conditions present on Gile Flowage.

The low plant density can be explained by the size and depth of the waterbody. Plants were primarily found growing in shallow, near-shore areas and in protected bays. The depth of much of the flowage, combined with tannin-stained water and wind fetch, make only the shallow, protected areas conducive for submergent aquatic plant growth. Substrate type also directly affects the species type and abundance of plants that can be supported in a waterbody. The majority of the Flowage has a firm bottom dominated by organic detritus comprised of wood debris over sand and rock. The majority of substrate samples collected in June (~81%), at points having depths of less than 15 feet, were classified as organic; however, this category is often used to describe a soft bottom of unconsolidated organic matter. The organic matter on the Gile is comprised of a firm mixture of muck, sand, detritus (small sticks and bark), and in some cases, clay (Figure 10). Areas that were less protected (i.e., where wind fetch likely scours the bottom more often) had a substrate dominated by cobble (6.9% of the points sampled) and gravel (4.6% of the points). Smaller percentages of sand, wood, boulder, and silt were present at the remaining locations. The firm substrate, in conjunction with the factors listed above, likely plays a significant role in the low density of aquatic plants in the Flowage.

The number of aquatic invasive plant species observed on the Flowage was minimal. Only one location (two plants) of purple loosestrife was observed. It was in bloom but had not gone to seed; therefore, the flower heads were removed. An observation of suspected narrow-leaf cattail (possibly hybrid) was made but was not confirmed. Since the seed heads are required for positive identification, and the population had not gone to seed at the time of the survey, the identification could not be confirmed. We theorize this may be the result of delayed plant growth due to the late spring.

The majority of the Gile Flowage is too deep to support aquatic vegetation, even near shore where many areas exceeded the max depth of plant growth. Figure 11 shows a bathymetric map which illustrates the depths recorded during the June 2022 point-intercept survey.

Table 3

Overall Gile Flowage Submergent Plants Summary

Statistic	June 2022	Late-July 2022
Littoral Frequency of Occurrence	24.9	36.8
Maximum Depth of Plants	7.6 feet	6.1 feet
Species Richness	18	23
FQI	32.0	36.9

4.2 Water Samples

The samples for zebra mussel veligers will be analyzed by the Wisconsin State Lab of Hygiene. Samples were dropped off at the Lab on August 11, 2022. Results are expected to be available within approximately 60 days from the drop-off date.

4.3 Sediment Samples

Boat launches are an ideal location to sample for aquatic invasive species because of the high traffic associated with boat anglers, recreational watercraft and people shore-fishing. Public access locations can be a conduit for the introduction of aquatic invasive species through the emptying of bait buckets, boat bilges, live wells, or hulls which may be holding water from other infested waterbodies. Sediment samples collected at the public access sites did not detect any invasive macroinvertebrates. There were no additional invasive species observed from the visual inspections of the public access sites, except for the Chinese and banded mystery snails, which were already known to occur in the Flowage. Native snails, mussels (adults and juveniles), and northern clearwater crayfish (*Orconectes propinquus*) were visually observed at some of the boat launch areas while collecting sediment samples.

4.4 Terrestrial Upland Areas

Terrestrial invasive species surveys were conducted along the shoreline and upland areas included within the study area. The shoreline was primarily undeveloped and wooded, with scattered homes and cabins. The shoreline was inspected by boat where possible, or by walking where navigability was limited. Upland areas were generally rocky and wooded, with occasional roadways, emergent wetland and scrub/shrub areas, and residential properties with maintained lawns. A terrestrial invasive meander survey was conducted at Gile Park, which is primarily comprised of manicured turf grass, trees, shrubs, and herbaceous vegetation. This area contained sizeable populations of invasive species.

4.4.1 Upland Shoreline Survey – Gile Shoreline and Islands

The upland survey, which included 26 islands, was separated into 17 segments based on changes in land use or vegetative communities (Figure 7). The Flowage shoreline is extremely rugged, with bedrock and large boulders comprising much of the terrestrial substrate. The shoreline is largely undeveloped and is characterized by Talus, Northern Mesic, and Northern Wet-Mesic mixed conifer-deciduous forests, Emergent Wetland, and Scrub-shrub community types, with roadways, residential homes, and cabins thinly interspersed (Table 4).

Table 4
Terrestrial Shoreline Community Types Summary

Terrestrial Shoreline Community	Mileage of Meander	Percentage of Meander
Boulder	0.39	1.11%
Emergent Wetland/Tag Alder	0.82	2.35%
Northern Mesic Forest	9.94	28.42%
Northern Mesic Forest/Boulder	1.031	2.95%
Northern Mesic/Talus Forest	4.86	13.88%
Northern Mesic/Wet Mesic Forest	11.24	32.12%
Northern Wet Mesic Forest	1.07	3.06%
Roadside	0.80	2.29%
Tag Alder/Northern Wet Mesic Forest	0.51	1.46%
Talus Forest	3.89	11.11%
Mowed/Maintained	0.44	1.26%
Total	34.99	100%

The following list summarizes the most commonly encountered herbaceous and woody vegetation species observed within each terrestrial shoreline community:

- Emergent Wetland
 - Narrow-leaf bur-reed (*Sparganium angustifolium*), reed canary grass (*Phalaris arundinacea*), sweet flag (*Acorus calamus*), and sedge species (*Carex* spp.)
- Tag Alder
 - Overstory: tag alder (*Alnus incana*), willow species (*Salix* spp.), dogwood species (*Cornus* spp.)
 - Understory: reed canary grass
- Northern Mesic Forest
 - Overstory: sugar maple (*Acer saccharum*), eastern white pine (*Pinus strobus*), balsam fir (*Abies balsamea*), basswood (*Tilia americana*), paper birch (*Betula papyrifera*), white spruce (*Picea glauca*), eastern hemlock (*Tsuga canadensis*), northern pin oak (*Quercus ellipsoidalis*)
 - Understory: fern species (polypodiophytes)
- Northern Wet Mesic Forest
 - Overstory: black ash (*Fraxinus nigra*), balsam fir, black spruce (*Picea mariana*), northern white cedar (*Thuja occidentalis*), trembling aspen (*Populus tremuloides*)
 - Understory: reed canary grass, sedge species, fern species, sphagnum, and mosses
- Talus Forest
 - Overstory: eastern white pine, red pine (*Pinus resinosa*), paper birch, northern white cedar
 - Understory: fern species, moss and lichen species, boulders
- Boulder:
 - Smooth serviceberry (*Amelanchier laevis*), Beaked hazelnut (*Corylus cornuta*), Lichen species
- Roadside:
 - Spotted knapweed, Tansy, Canada goldenrod (*Solidago canadensis*), Birdsfoot trefoil (*Lotus corniculatus*), Queen Anne's Lace (*Daucus carota*)
- Mowed/Maintained
 - Mowed turfgrass, cultivated plants

Invasive species comprised 2.2 miles of shoreline during the terrestrial survey and were limited to glossy buckthorn (*Frangula alnus*), Eurasian bush honeysuckle (*Lonicera* spp.), spotted knapweed (*Centaurea stoebe*), tansy (*Tanacetum vulgare*), purple loosestrife (*Lythrum salicaria*), and suspected narrowleaf/hybrid cattail (*Typha angustifolia* and *T. x glauca*; Table 5). Honeysuckle was the most predominant species observed and was present on the majority of islands. Buckthorn was also present across the islands, but at lower densities. Spotted knapweed and tansy were limited to higher traffic areas such as roadsides. Only one location of purple loosestrife was noted and was comprised of two small plants. The suspected narrow-leaf cattail was scattered throughout the project at low densities, and at one higher concentration near the north end of the flowage.

Table 5
Shoreline and Terrestrial Invasive Species Summary

Species	Common Name	Mileage of Meander	Percentage of Meander
<i>Centaurea stoebe</i>	Spotted knapweed	1.168	3.34%
<i>Lythrum salicaria</i>	Purple loosestrife	0.002	0.01%
<i>Typha</i> spp.	Cattail spp. (suspected to be invasive or hybrid)	0.352	1.01%
<i>Tanacetum vulgare</i>	Tansy	0.329	0.94%
<i>Frangula alnus</i>	Glossy buckthorn	0.009	0.03%
<i>Lonicera</i> spp.	Eurasian bush honeysuckle	0.295	0.84%

4.4.2 Upland Terrestrial Area – Meander Survey of Gile Park

Gile Park, and the adjacent public access areas owned by the Applicant near the dam, features an open green space with manicured turf grass and planted trees and an undeveloped wooded area dominated by trees, shrubs, and herbaceous vegetation. The area also includes NSPW’s canoe portage take-out and put-in sites. The meander survey area contained populations of Eurasian honeysuckle, suspected narrow-leaf cattail, tansy, and spotted knapweed.

4.5 Conclusion

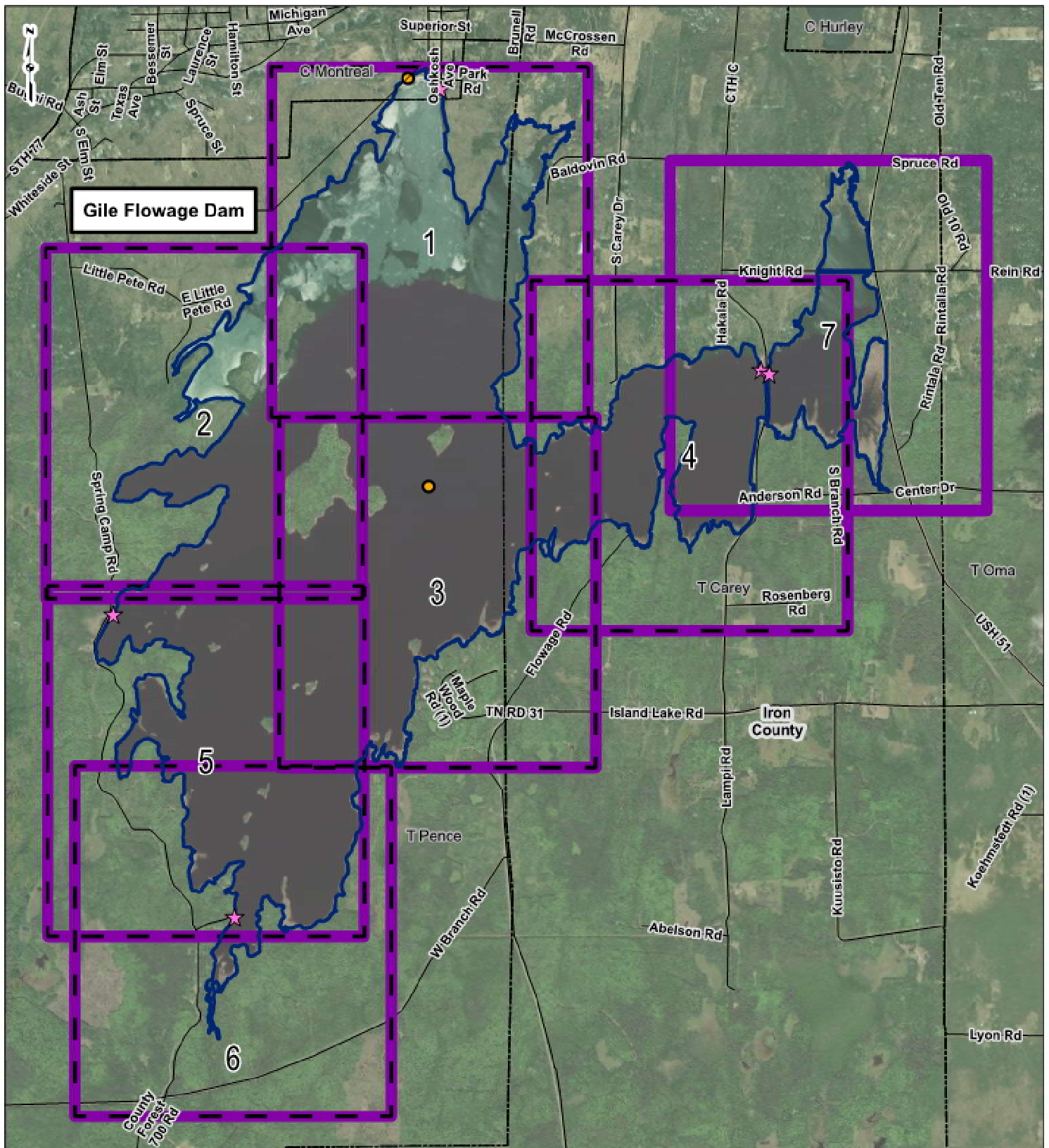
Overall, few invasive species were observed throughout the Project and those that were documented occurred at low densities. Species such as tansy and spotted knapweed were primarily limited to areas of high traffic such as road shoulders and Gile Park. Honeysuckle was found sporadically throughout the Project and was the most common species found on the islands, frequently as individual plants, or small populations. The other widely spread species was cattail. While some of the cattail populations appeared to be native, having broader and shorter leaves, many infestations of suspected invasive cattail (narrowleaf or hybrid) were observed and documented. These plants were suspected to be of the invasive variety based on having more narrow leaves and growing in a mat-like monoculture, typical of the invasive cattails. A positive identification was not confirmed due to the lack of seed heads during the Study. This year’s late spring, followed by cool weather, may explain the late blooming.

The Gile Flowage appears to have a healthy terrestrial and aquatic plant community with low populations of invasive species and high FQI’s. This is further supported by the presence of high-quality indicator species such as Spiny hornwort and Alternate-flowered watermilfoil. Additionally, residential development along the shoreline is light, which historically has been correlated with higher quality systems (Sass et al. 2010). Increased public education and monitoring would help ensure that the populations of native plant species found on the Flowage remain healthy.

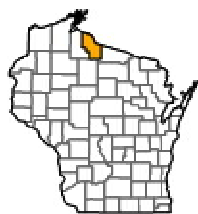
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FIGURE 1 Project Location and Overview Map



PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- Water Tow Location
- Sediment Sample Location
- Project Boundary
- Point Intercept Map Index
- Terrestrial Meander Map Index
- Road Centerline
- Community Boundary
- County Boundary



**FIGURE 1
PROJECT LOCATION
AND OVERVIEW MAP**

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

DRAWN BY: EMW DATE: 9/22/2022
CHECKED: TDB APPROVED: LLS

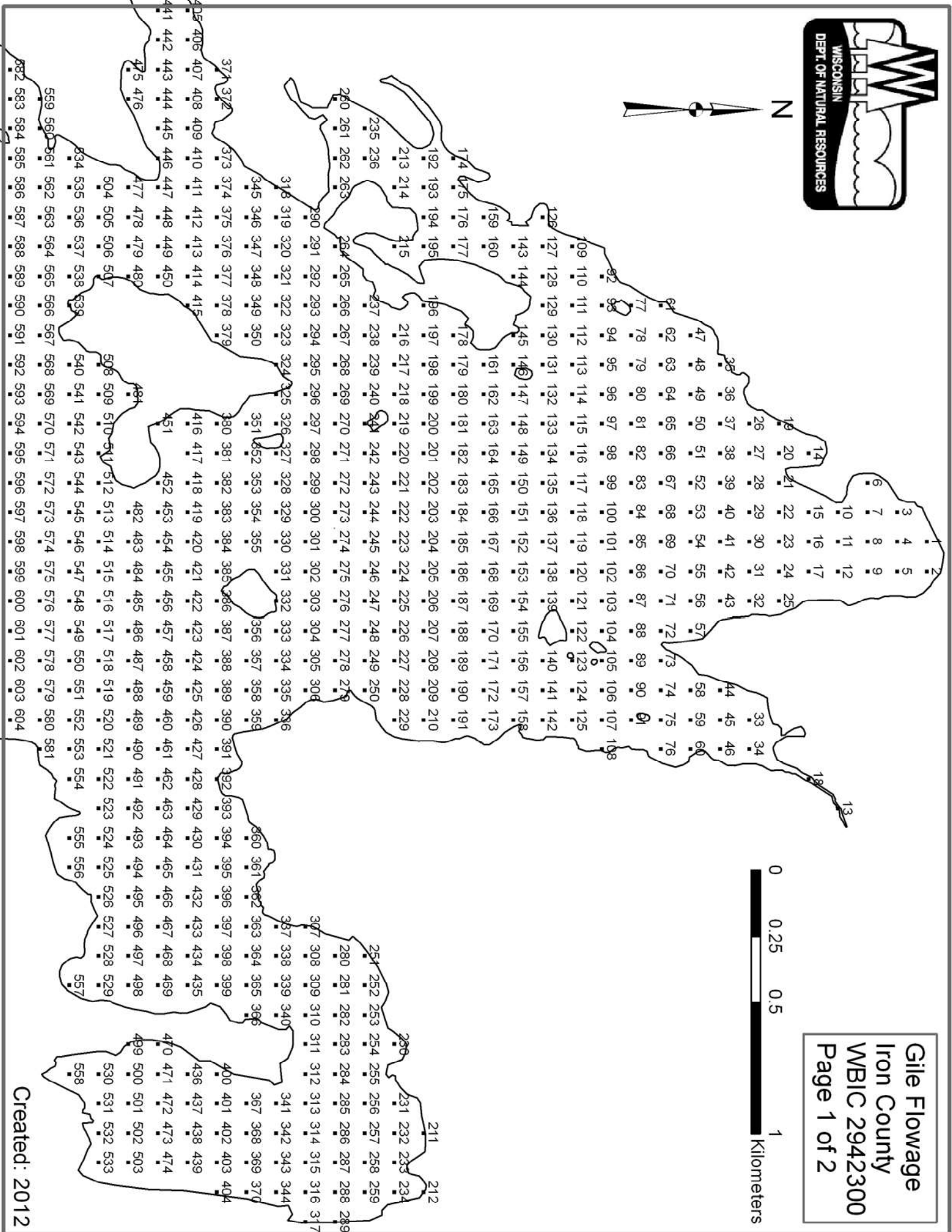
REFERENCE: ESRI WORLD IMAGERY 2021, Accessed 9/22/2022. WDNR Counties, 2011. WISLR Community Boundary 2021. WISDOT Road Centerlines, 2021.

FIGURE 2

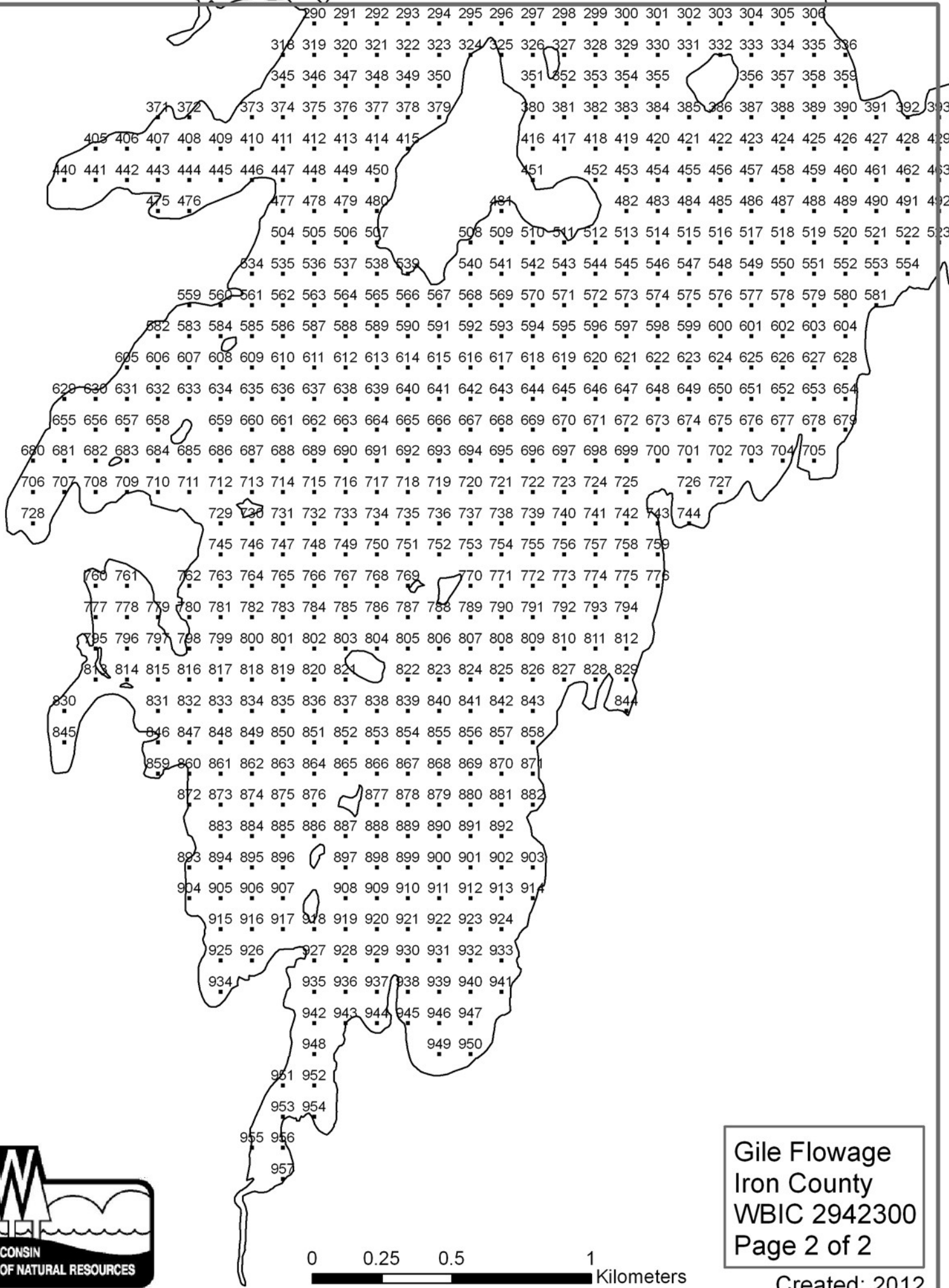
Point-Intercept Grid Provided by the WDNR



Gile Flowage
 Iron County
 WBIC 2942300
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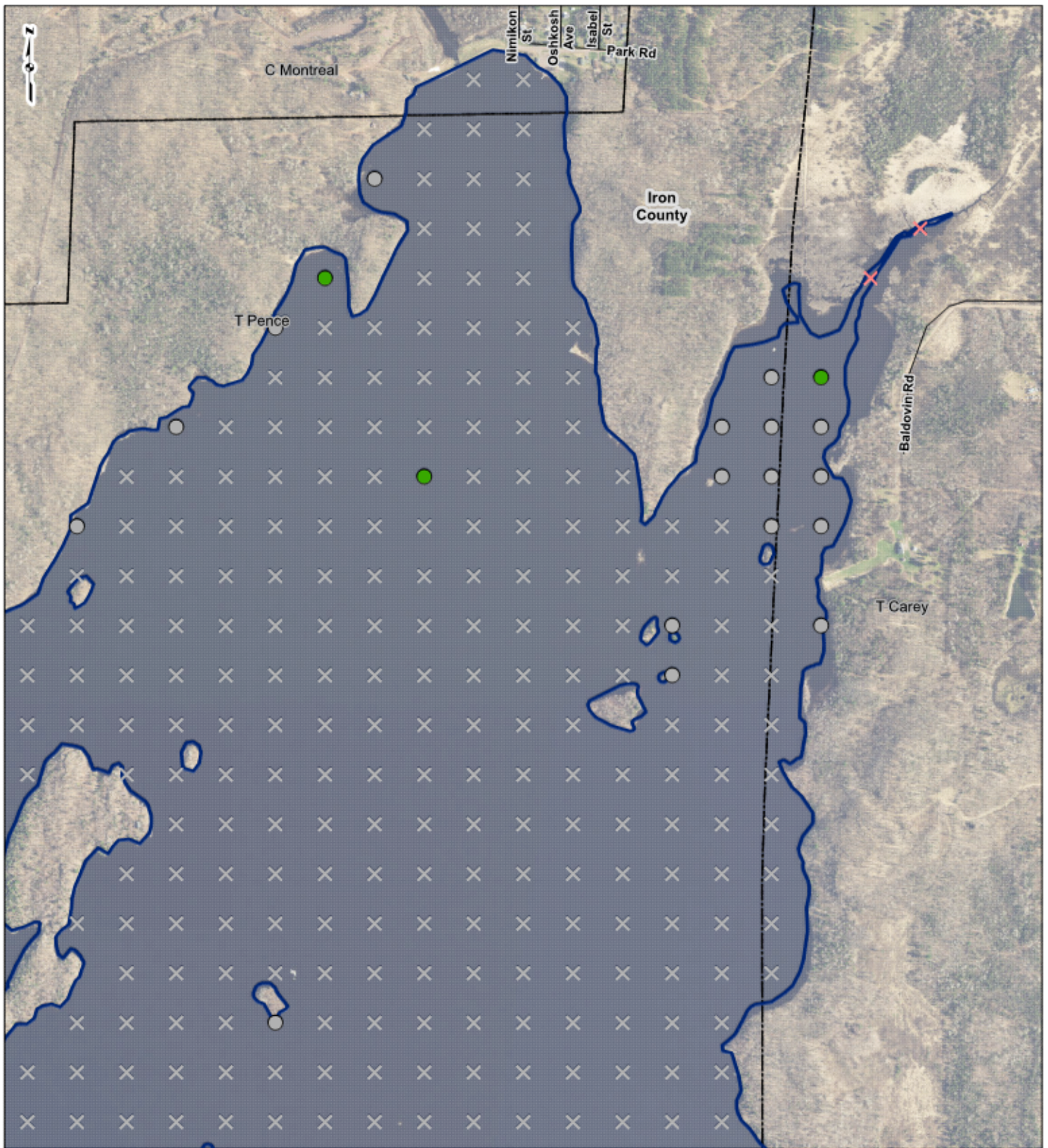
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Gile Flowage
Iron County
WBIC 2942300
Page 2 of 2

Created: 2012

FIGURE 3 June Point-Intercept Survey



PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- X Deeper than Plant Growth
- X Non-Navigable Vegetation
- X Non-Navigable Terrestrial
- 0
- 1
- 2
- 3 (None)
- Project Boundary
- Road Centerline
- Community Boundary
- County Boundary



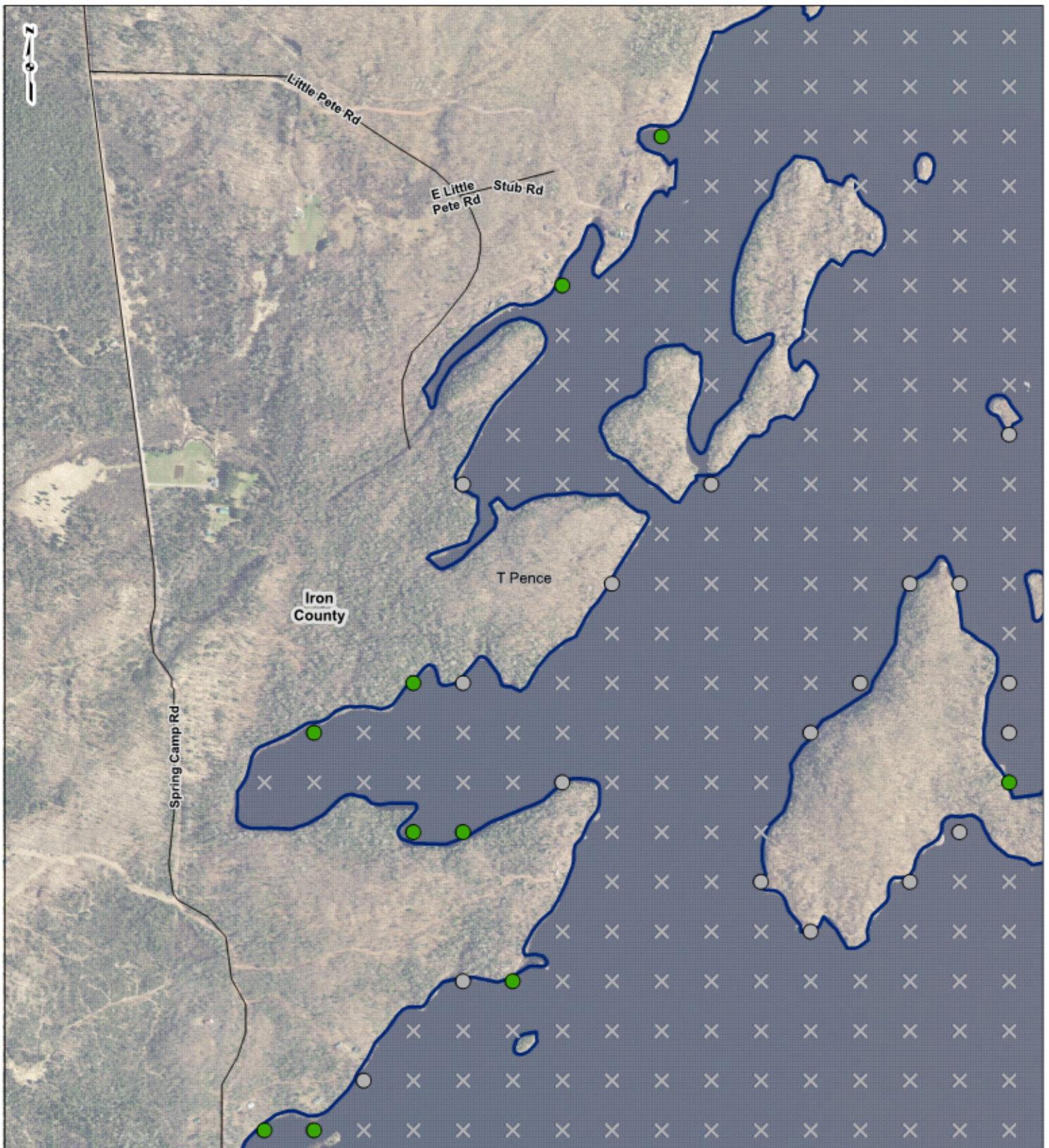
Figure 3
June Point
Intercept Survey
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Gile Flowage Storage Project Aquatic
and Terrestrial
Invasive Species Study

DRAWN BY: EMW
CHECKED: TDB

DATE: 8/18/2022
APPROVED: LLS

REFERENCE: ESRI WORLD IMAGERY 2021, Accessed 8/18/2022. WDNR Counties, 2011. WISLR Community Boundary 2021. WISDOT Road Centerlines, 2021.



PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- ✕ Deeper than Plant Growth
- ✕ Non-Navigable Vegetation
- ✕ Non-Navigable Terrestrial
- 0 (Rake Fullness)
- 1 (Rake Fullness)
- 2 (Rake Fullness)
- 3 (None) (Rake Fullness)
- ▭ Project Boundary
- Road Centerline
- ▭ Community Boundary
- ▭ County Boundary

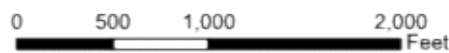


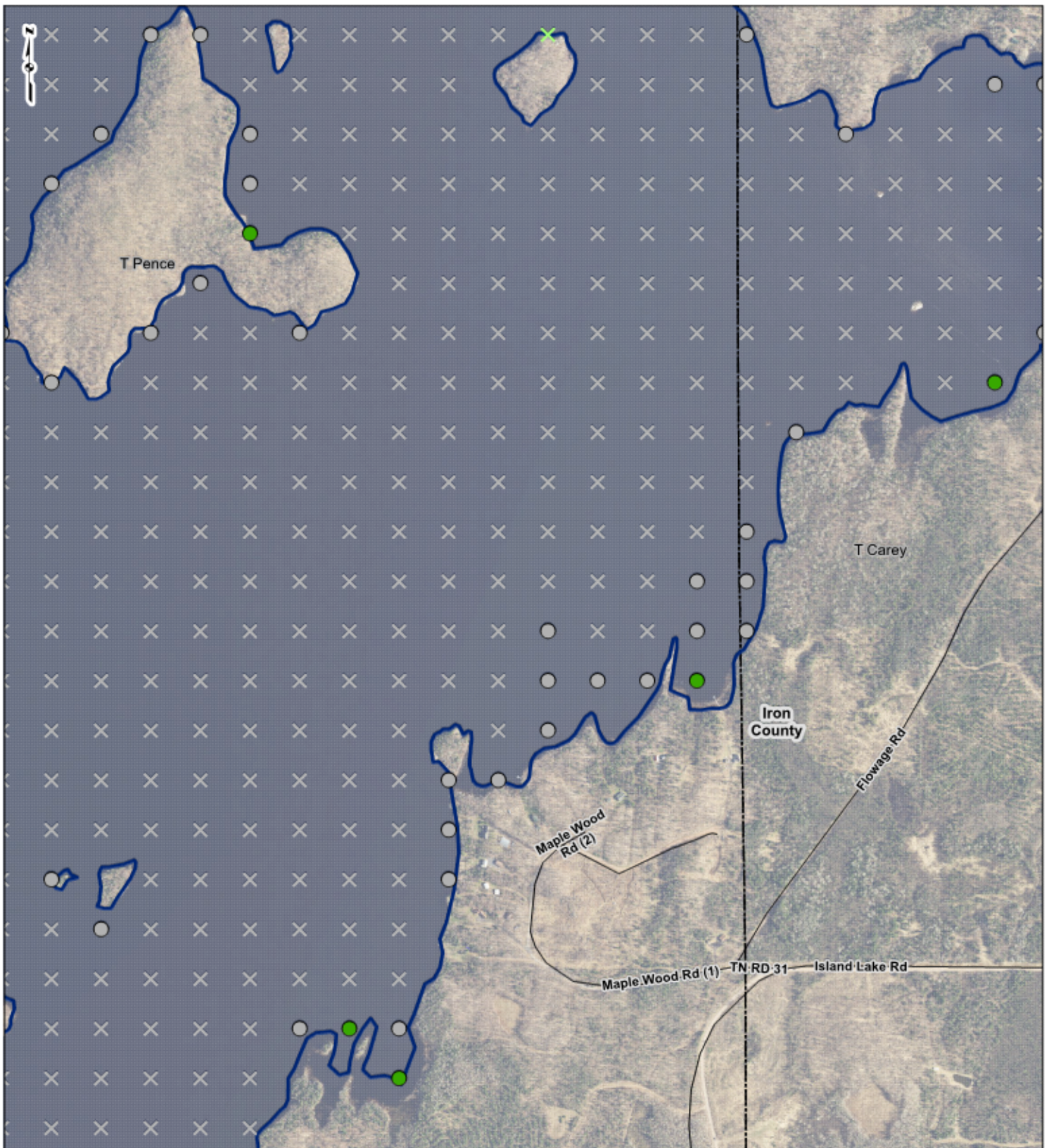
Figure 3
June Point
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- ✕ Deeper than Plant Growth
- ✕ Non-Navigable Vegetation
- ✕ Non-Navigable Terrestrial
- 0
- 1
- 2
- 3 (None)
- ▭ Project Boundary
- Road Centerline
- ▭ Community Boundary
- ▭ County Boundary

0 500 1,000 2,000 Feet

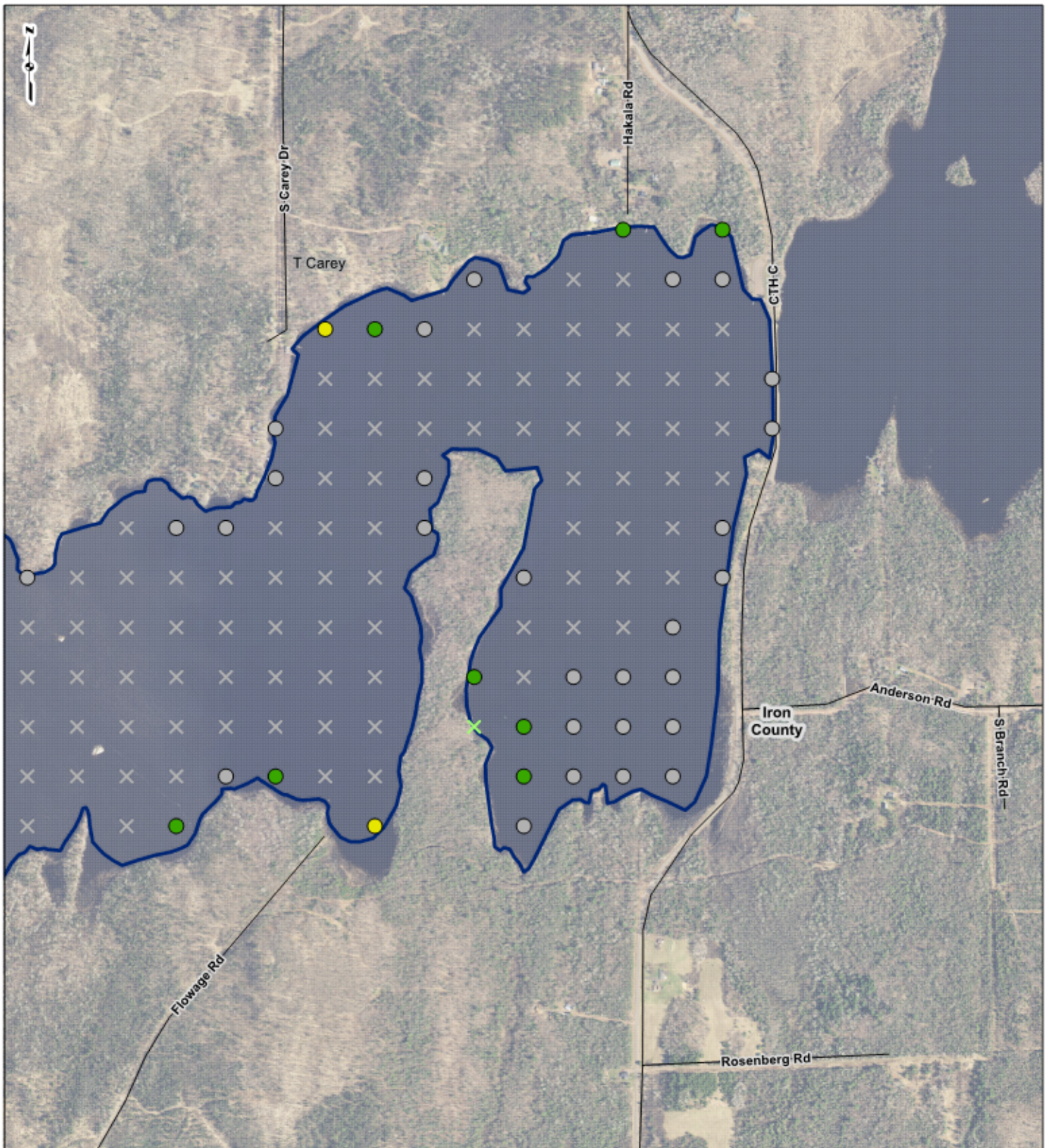
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- X Deeper than Plant Growth
- X Non-Navigable Vegetation
- X Non-Navigable Terrestrial
- 0
- 1
- 2
- 3 (None)
- Project Boundary
- Road Centerline
- Community Boundary
- County Boundary

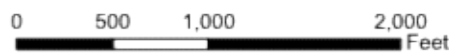


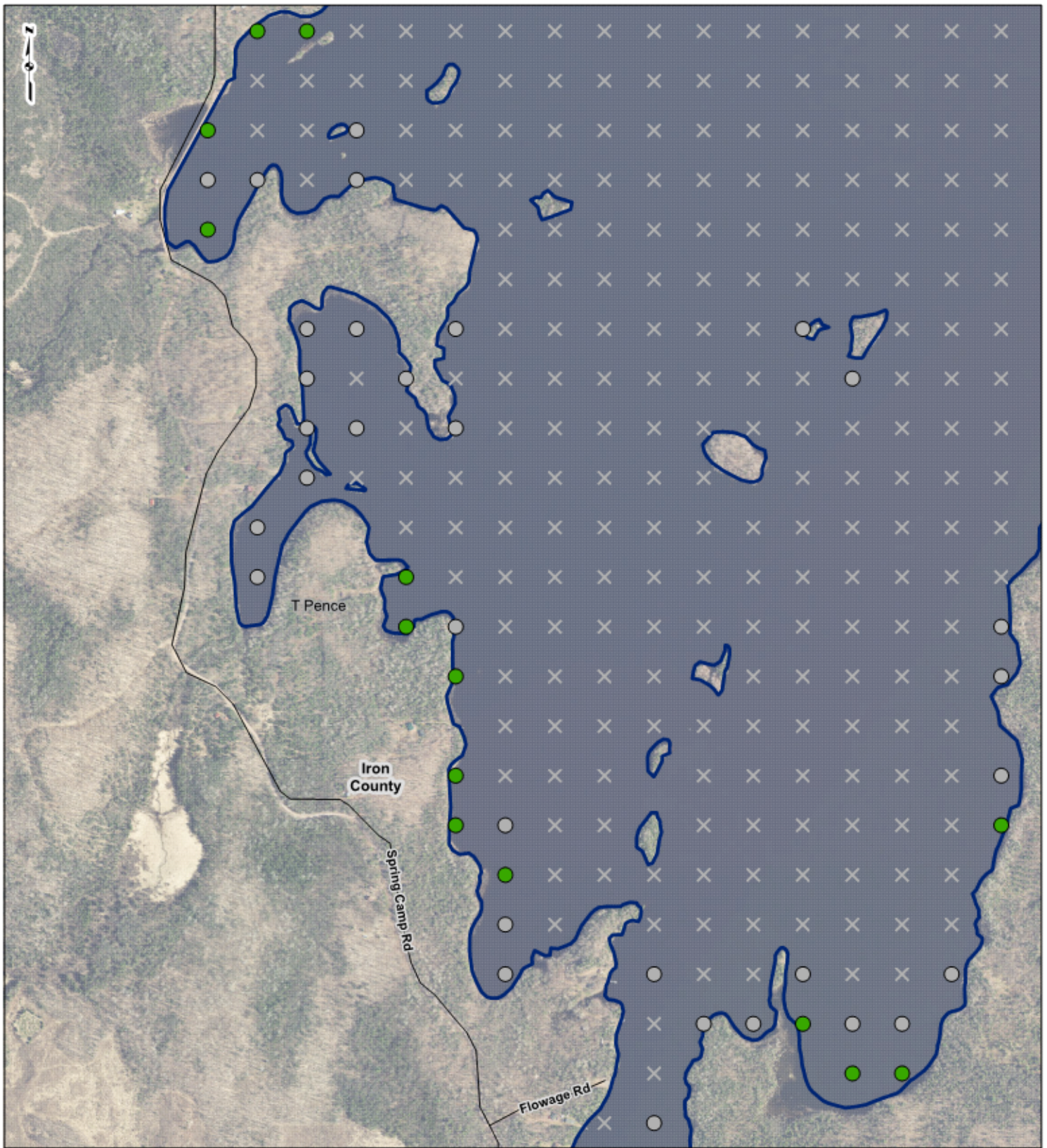
Figure 3
June Point
Intercept Survey
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- x Deeper than Plant Growth
- x Non-Navigable Vegetation
- x Non-Navigable Terrestrial
- 0
- 1
- 2
- 3 (None)
- Project Boundary
- Road Centerline
- Community Boundary
- County Boundary

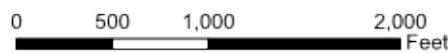


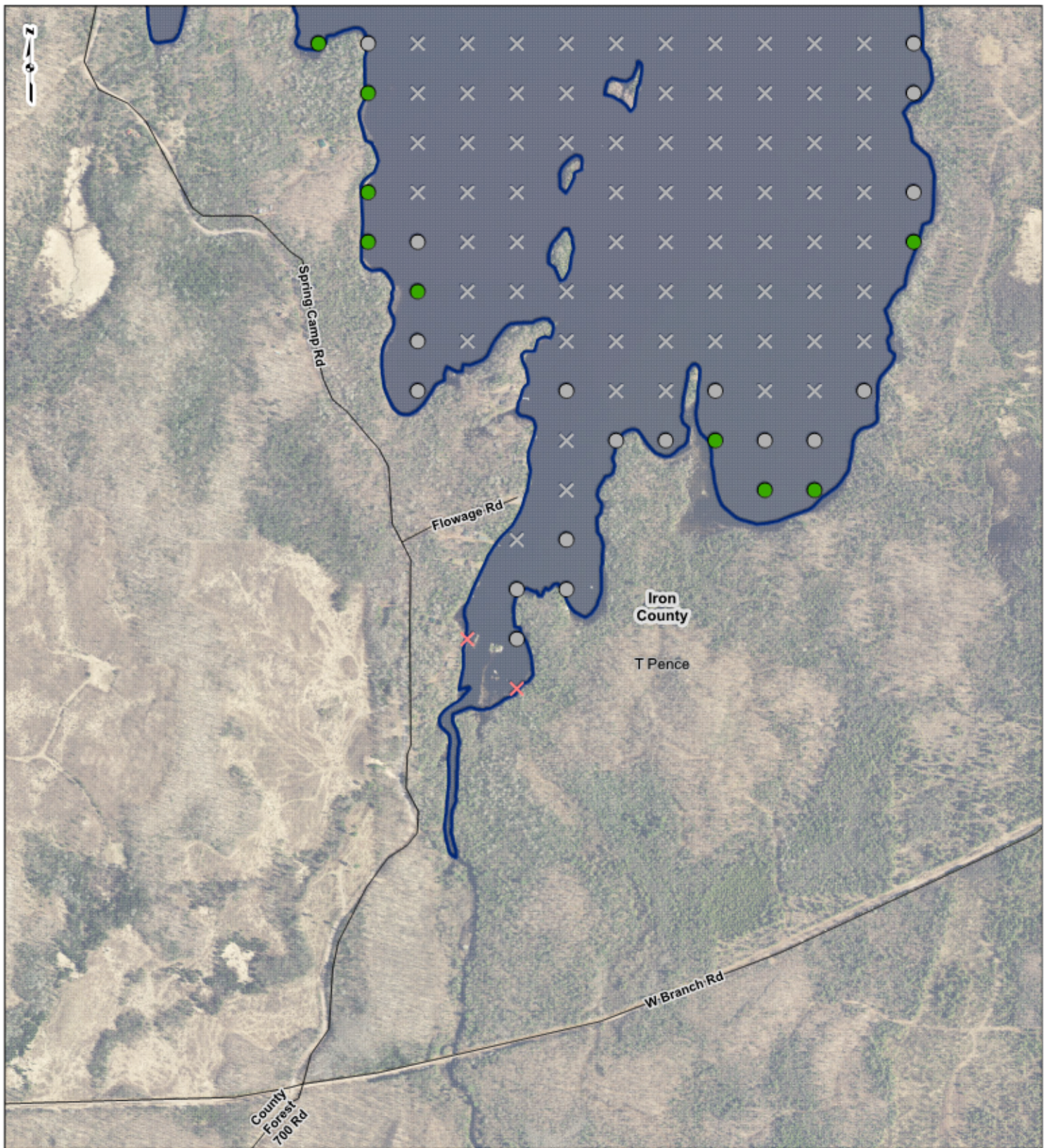
Figure 3
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Intercept Survey
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- X Deeper than Plant Growth
- X Non-Navigable Vegetation
- X Non-Navigable Terrestrial
- Rank Fullness: 0 (White), 1 (Green), 2 (Yellow), 3 (None) (Red)
- Project Boundary
- Road Centerline
- Community Boundary
- County Boundary

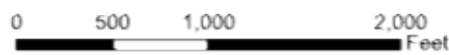


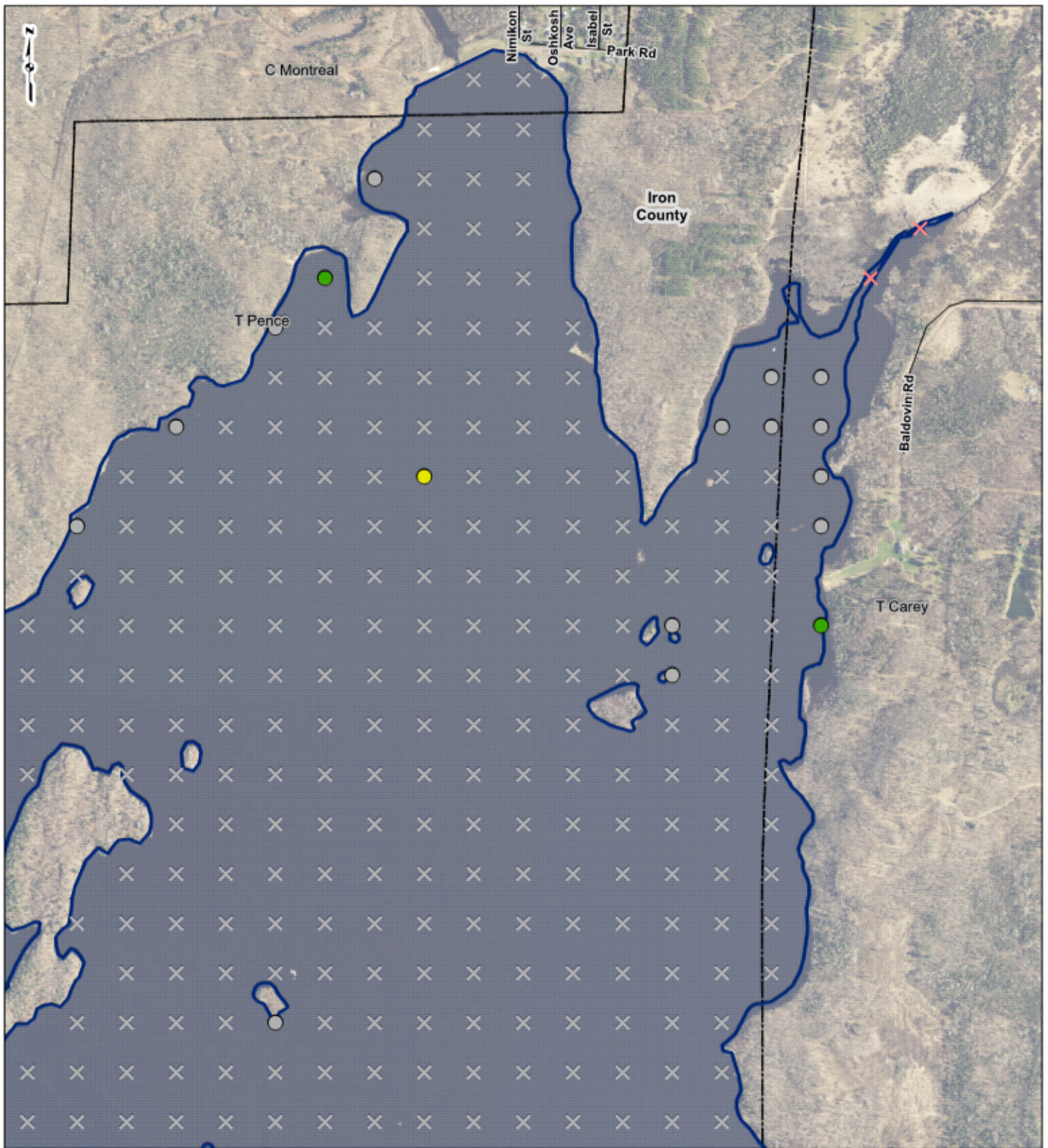
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June Point
Intercept Survey
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FIGURE 4 Late-July Point-Intercept Survey



PROJECT LOCATION

IRON COUNTY, WISCONSIN

LEGEND

⊗ Deeper than Plant Growth	● 0	▭ Project Boundary
⊗ Non-Navigable Vegetation	● 1	— Road Centerline
⊗ Non-Navigable Terrestrial	● 2	- - - Community Boundary
	● 3	▭ County Boundary

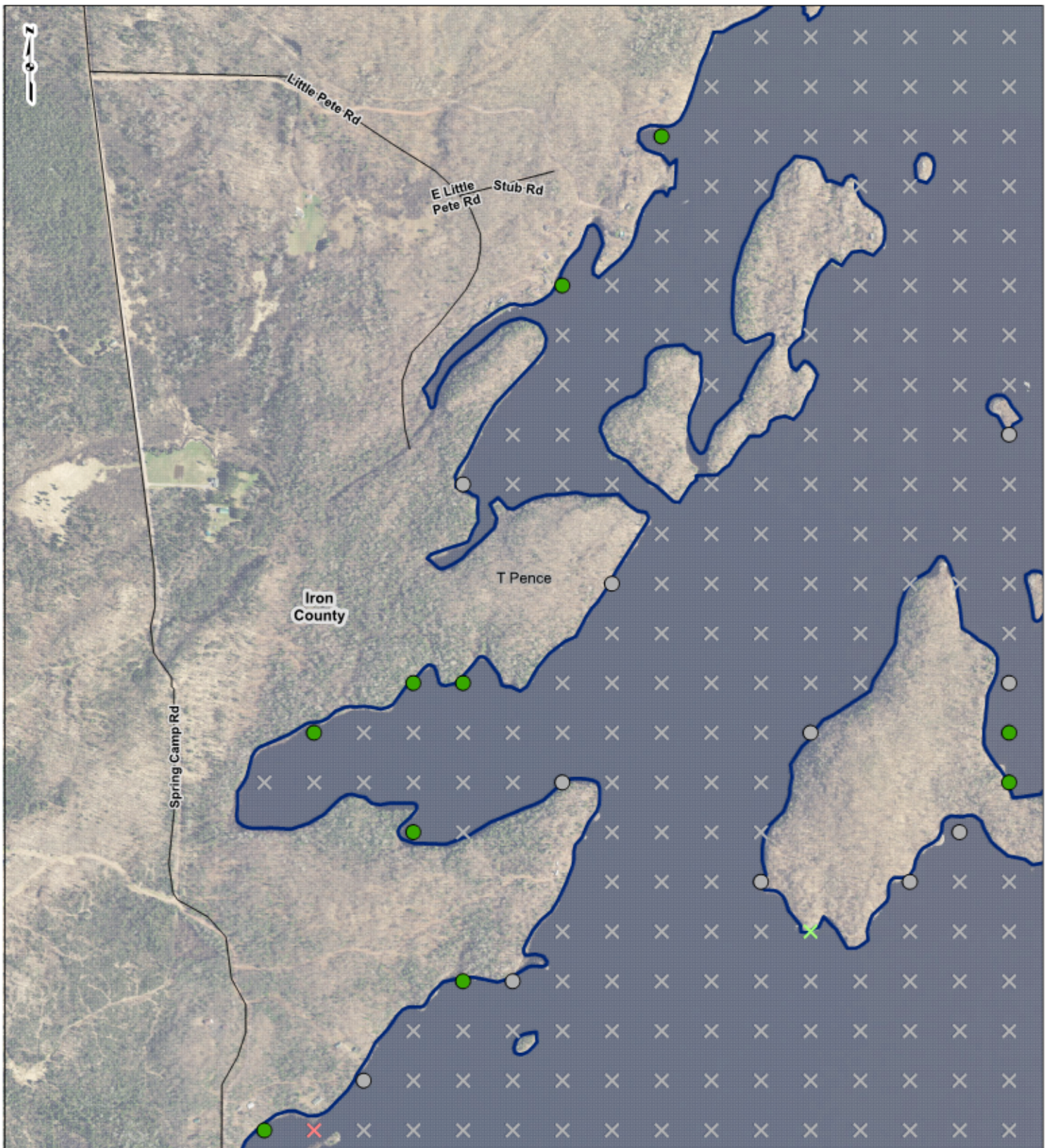
0 500 1,000 2,000 Feet

Figure 4
Late July Point Intercept Survey
Sheet 1 OF 6

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- ⊗ Deeper than Plant Growth
- ⊗ Non-Navigible Vegetation
- ⊗ Non-Navigible Terrestrial
- 0
- 1
- 2
- 3
- ▭ Project Boundary
- Road Centerline
- ▭ Community Boundary
- ▭ County Boundary

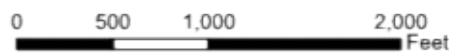
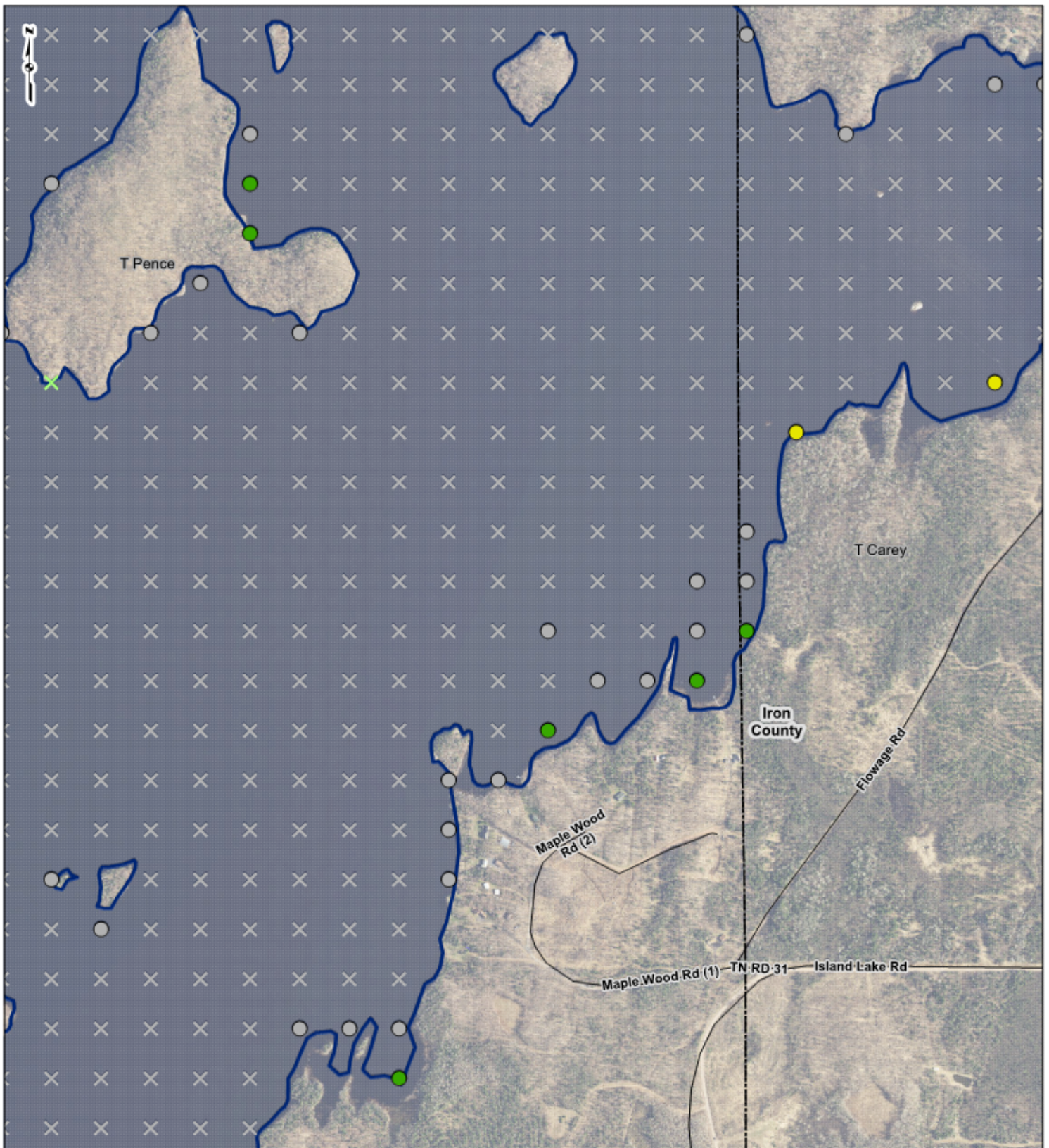


Figure 4
Late July Point
Intercept Survey
Sheet 2 OF 6

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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- X Deeper than Plant Growth
- X Non-Navigable Vegetation
- X Non-Navigable Terrestrial
- 0
- 1
- 2
- 3
- Project Boundary
- Road Centerline
- Community Boundary
- County Boundary



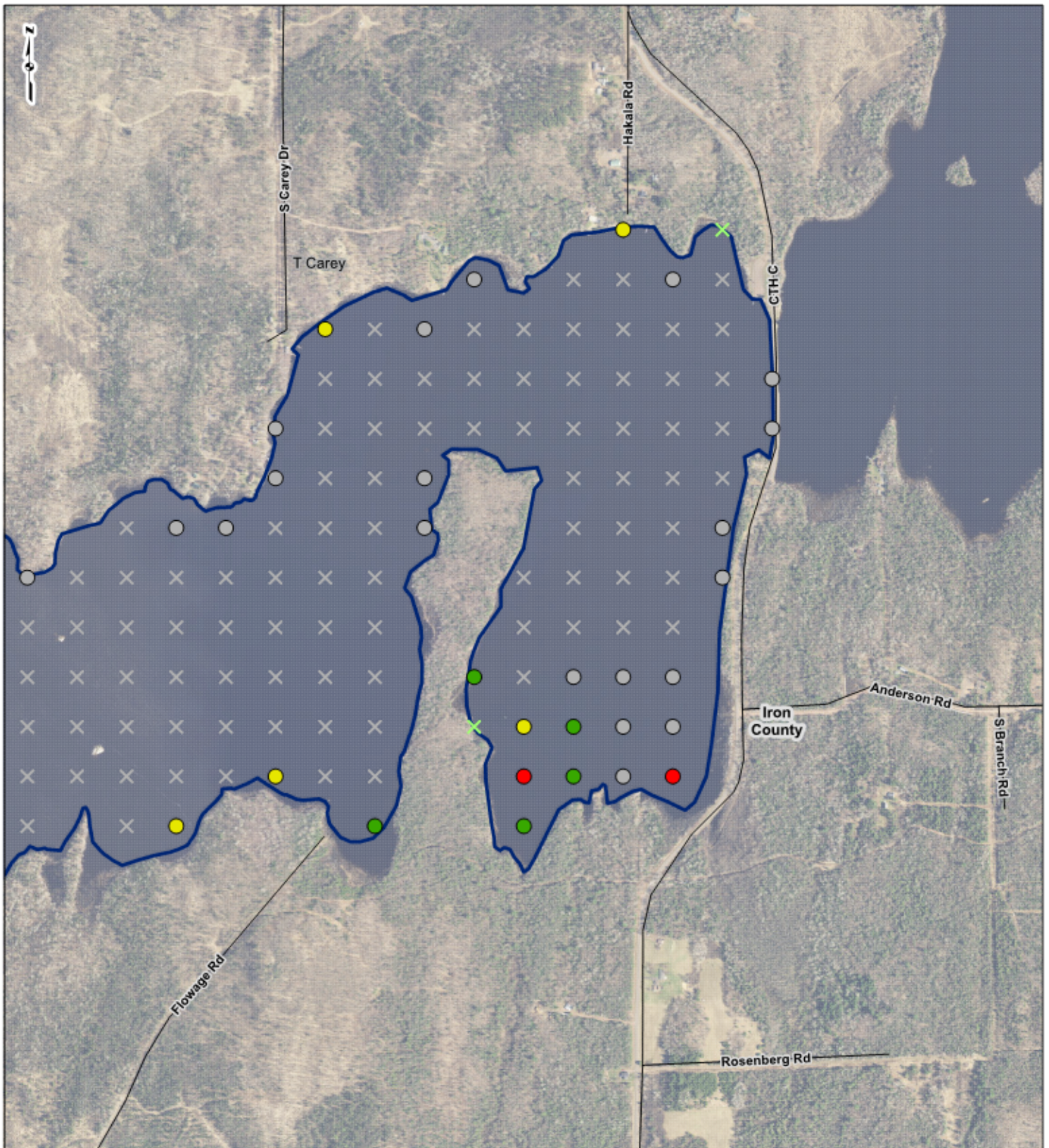
Figure 4
Late July Point
Intercept Survey
Sheet 3 OF 6

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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- ⊗ Deeper than Plant Growth
- ⊗ Non-Navigable Vegetation
- ⊗ Non-Navigable Terrestrial
- 0
- 1
- 2
- 3
- ▭ Project Boundary
- Road Centerline
- ▭ Community Boundary
- ▭ County Boundary

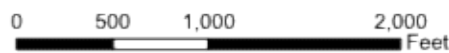


Figure 4
Late July Point
Intercept Survey
Sheet 4 OF 6

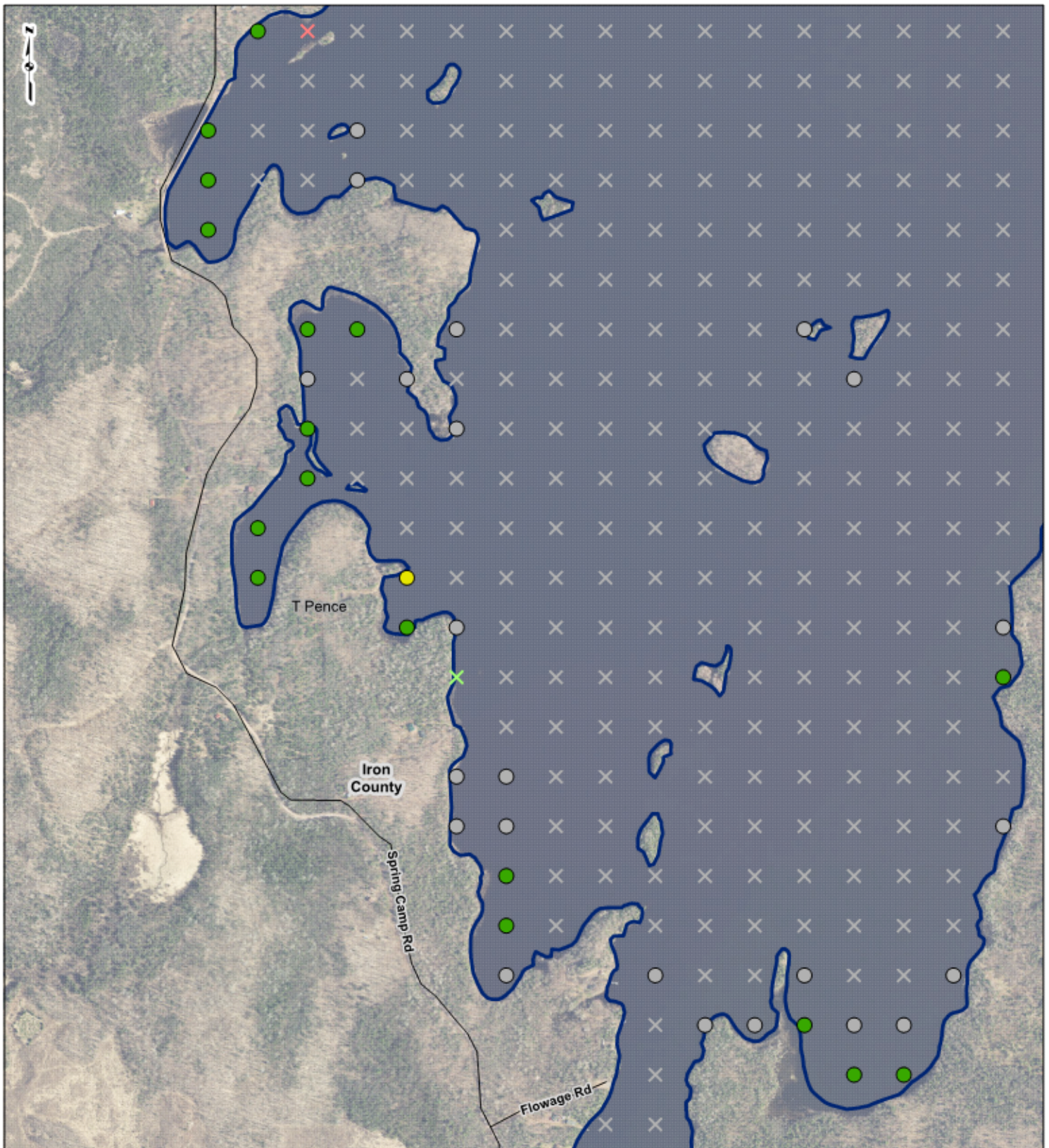
Gile Flowage Storage Project Aquatic
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Invasive Species Study



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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- ⊗ Deeper than Plant Growth
- ⊗ Non-Navigable Vegetation
- ⊗ Non-Navigable Terrestrial
- 0
- 1
- 2
- 3
- ▭ Project Boundary
- Road Centerline
- ▭ Community Boundary
- ▭ County Boundary

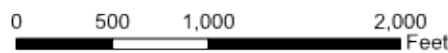
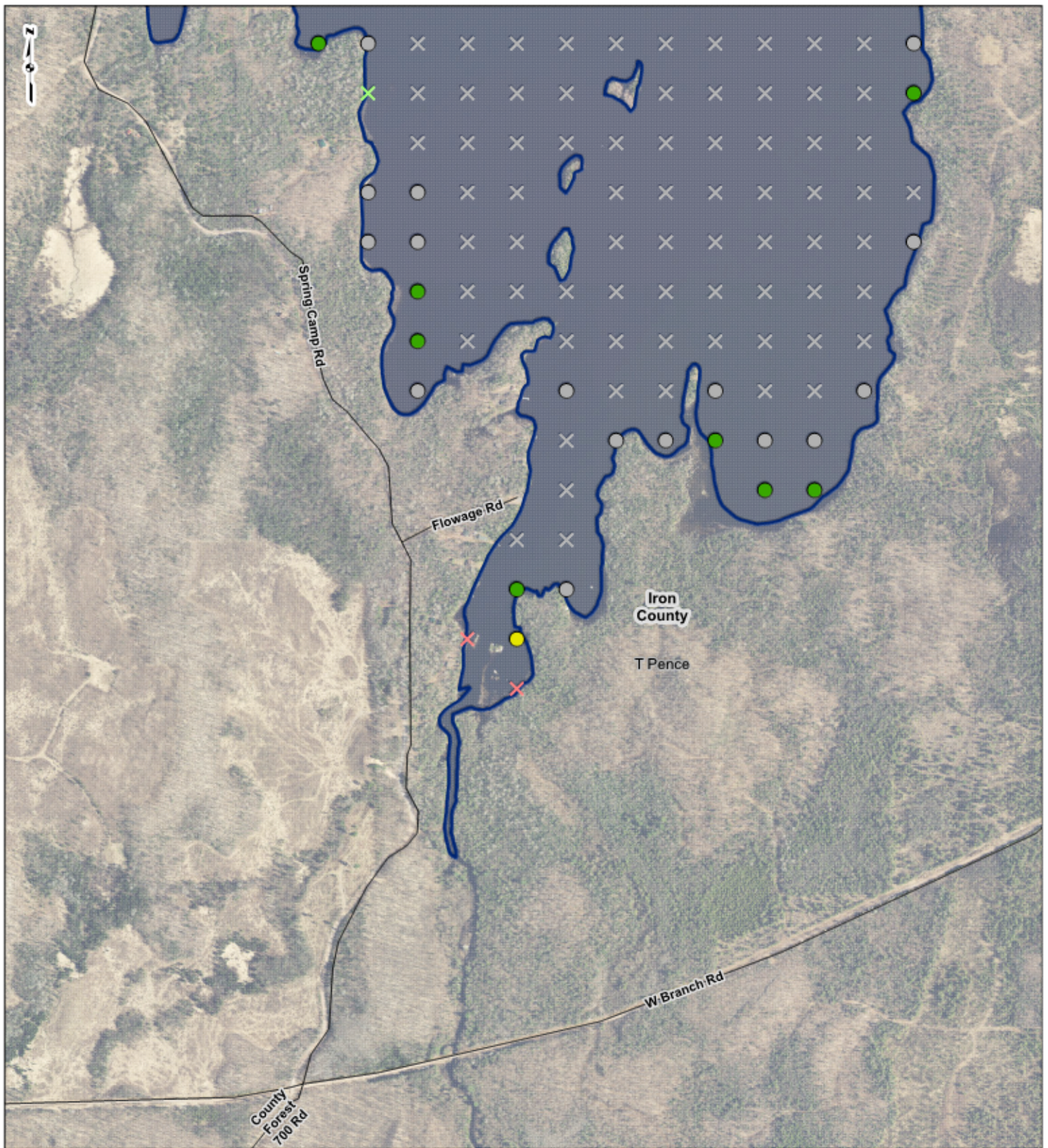


Figure 4
Late July Point
Intercept Survey
Sheet 5 OF 6

Gile Flowage Storage Project Aquatic
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Invasive Species Study

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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- X Deeper than Plant Growth
- X Non-Navigable Vegetation
- X Non-Navigable Terrestrial
- 0
- 1
- 2
- 3
- Project Boundary
- Road Centerline
- Community Boundary
- County Boundary

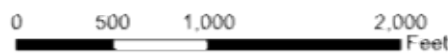


Figure 4
Late July Point
Intercept Survey
Sheet 6 OF 6

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

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FIGURE 5 Rake Fullness per WDNR Protocol




Fullness Rating	Coverage	Description
1		<p>Only few plants. There are not enough plants to entirely cover the length of the rake head in a single layer.</p>
2		<p>There are enough plants to cover the length of the rake head in a single layer, but not enough to fully cover the tines.</p>
3		<p>The rake is completely covered and tines are not visible.</p>

Figure 5. Rake Fullness per WDNR protocol.

Illustration of rake fullness rating used during the survey, photo used from *Recommended Baseline Monitoring of Aquatic Plants in Wisconsin: sampling design, field and laboratory procedures, data entry and analysis, and applications*. PUB-SS-1068,WDNR 2019.

FIGURE 6 Sediment Basket

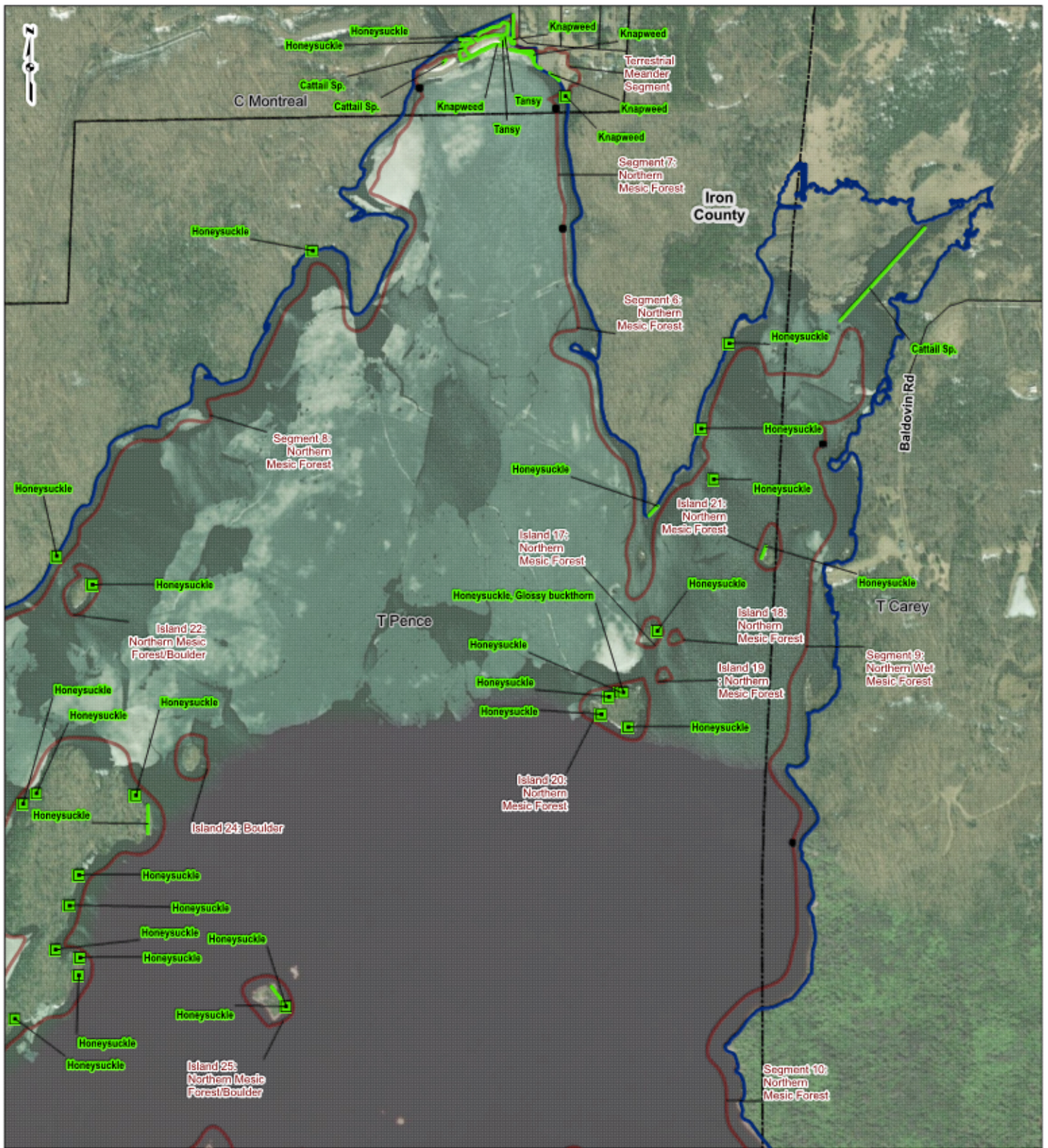


Figure 6. Sediment basket.

Using a 10-inch Tetra Pond Planter Basket, with a $1/32^{\text{nd}}$ inch mesh, a sample is being rinsed for examination.

FIGURE 7

Upland and Shoreline Terrestrial and Invasive Species



PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- Start/Stop Locations
- Invasive Point
- Invasive Line
- Meander Segments
- ▭ Project Boundary
- Road Centerline
- ▭ Community Boundary
- ▭ County Boundary



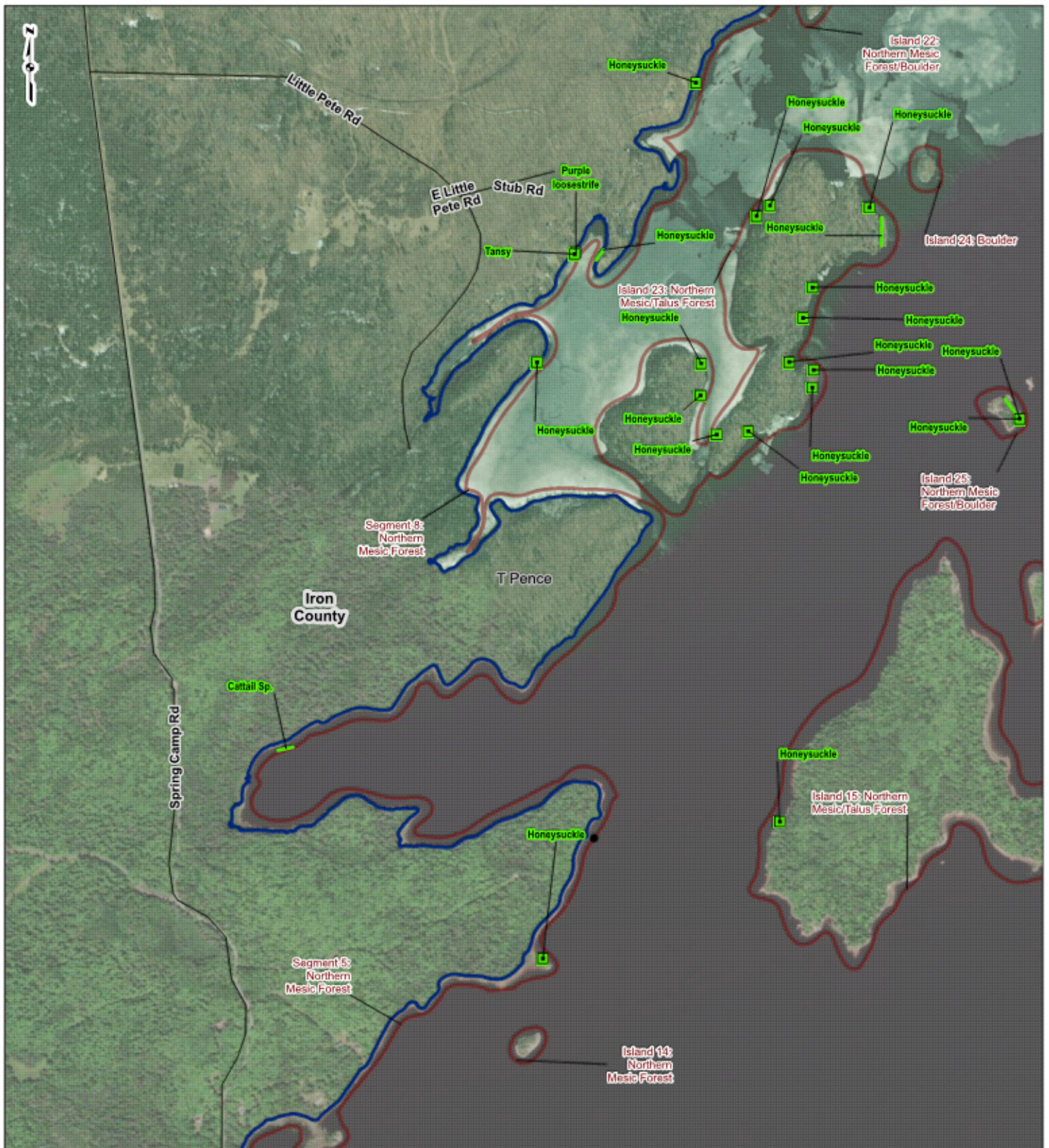
Figure 7
Upland and Shoreline Terrestrial
and Invasive Species
Sheet 1 OF 7

Gile Flowage Storage Project Aquatic
and Terrestrial
Invasive Species Study **Mead & Hunt**

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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- Start/Stop Locations
- Invasive Point
- Invasive Line
- Meander Segments
- ▭ Project Boundary
- Road Centerline
- ▭ Community Boundary
- ▭ County Boundary



Figure 7
Upland and Shoreline Terrestrial
and Invasive Species
Sheet 2 OF 7

Gile Flowage Storage Project Aquatic
and Terrestrial
Invasive Species Study **Mead & Hunt**

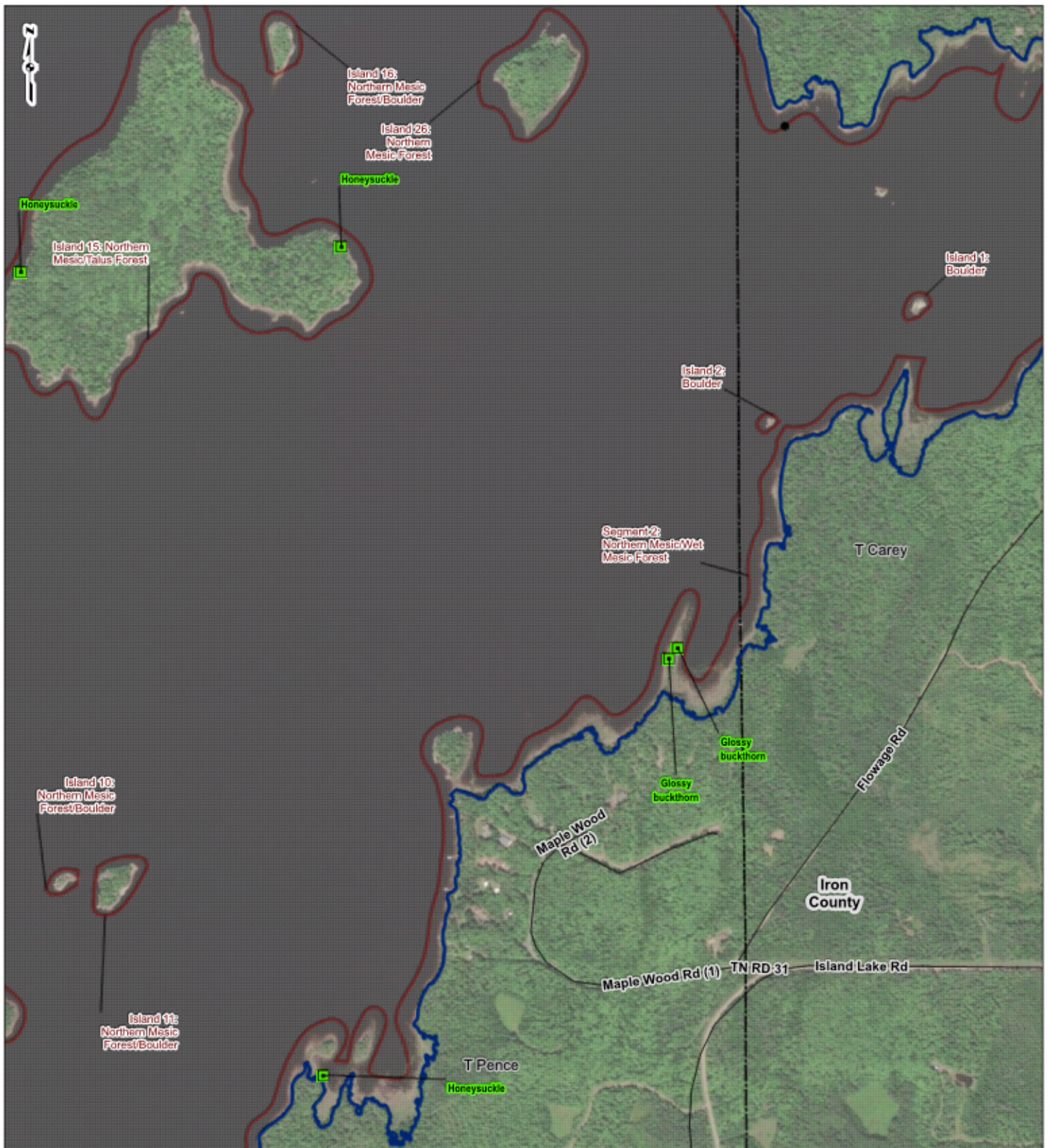
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- Start/Stop Locations
- Invasive Point
- Invasive Line
- Meander Segments
- ▭ Project Boundary
- Road Centerline
- ▭ Community Boundary
- ▭ County Boundary

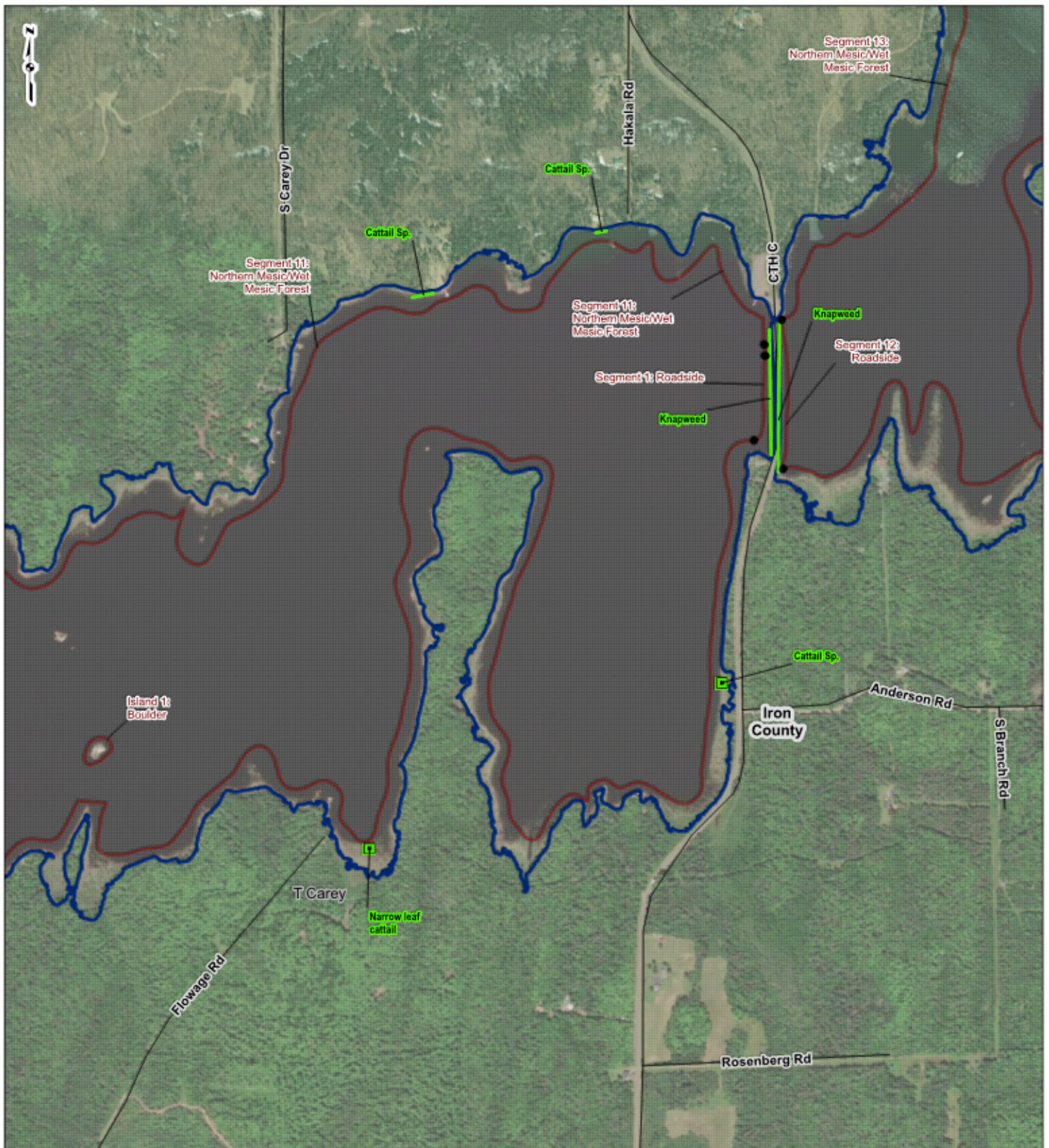
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Figure 7
Upland and Shoreline Terrestrial
and Invasive Species
Sheet 3 OF 7

Gile Flowage Storage Project Aquatic
and Terrestrial
Invasive Species Study **Mead & Hunt**

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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- Start/Stop Locations
- Invasive Point
- Invasive Line
- Meander Segments
- ▭ Project Boundary
- Road Centerline
- ▭ Community Boundary
- ▭ County Boundary

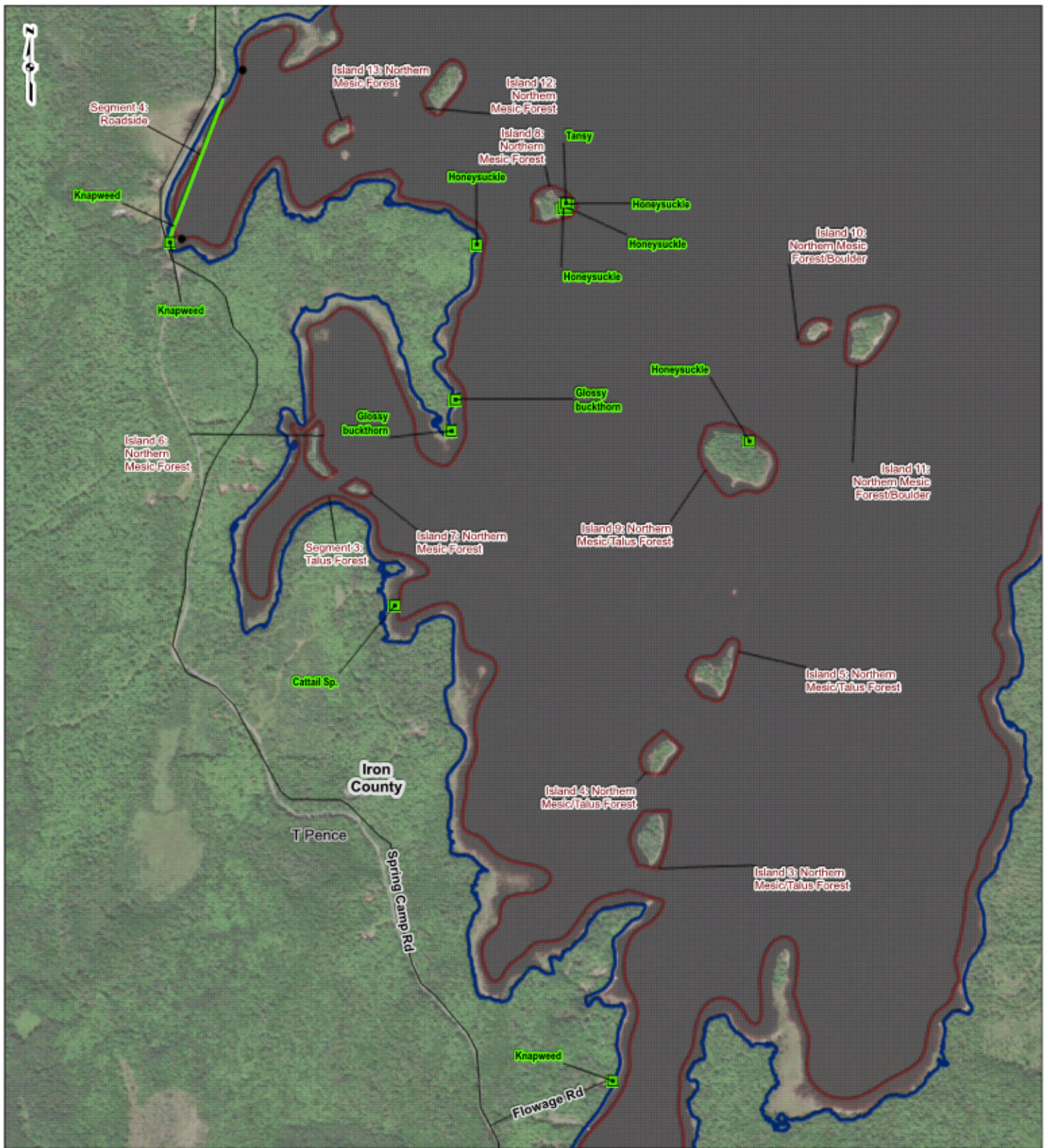
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Figure 7
Upland and Shoreline Terrestrial
and Invasive Species
Sheet 4 OF 7

Gile Flowage Storage Project Aquatic
and Terrestrial
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- Start/Stop Locations
- Invasive Point
- Invasive Line
- Meander Segments
- ▭ Project Boundary
- Road Centerline
- ▭ Community Boundary
- ▭ County Boundary

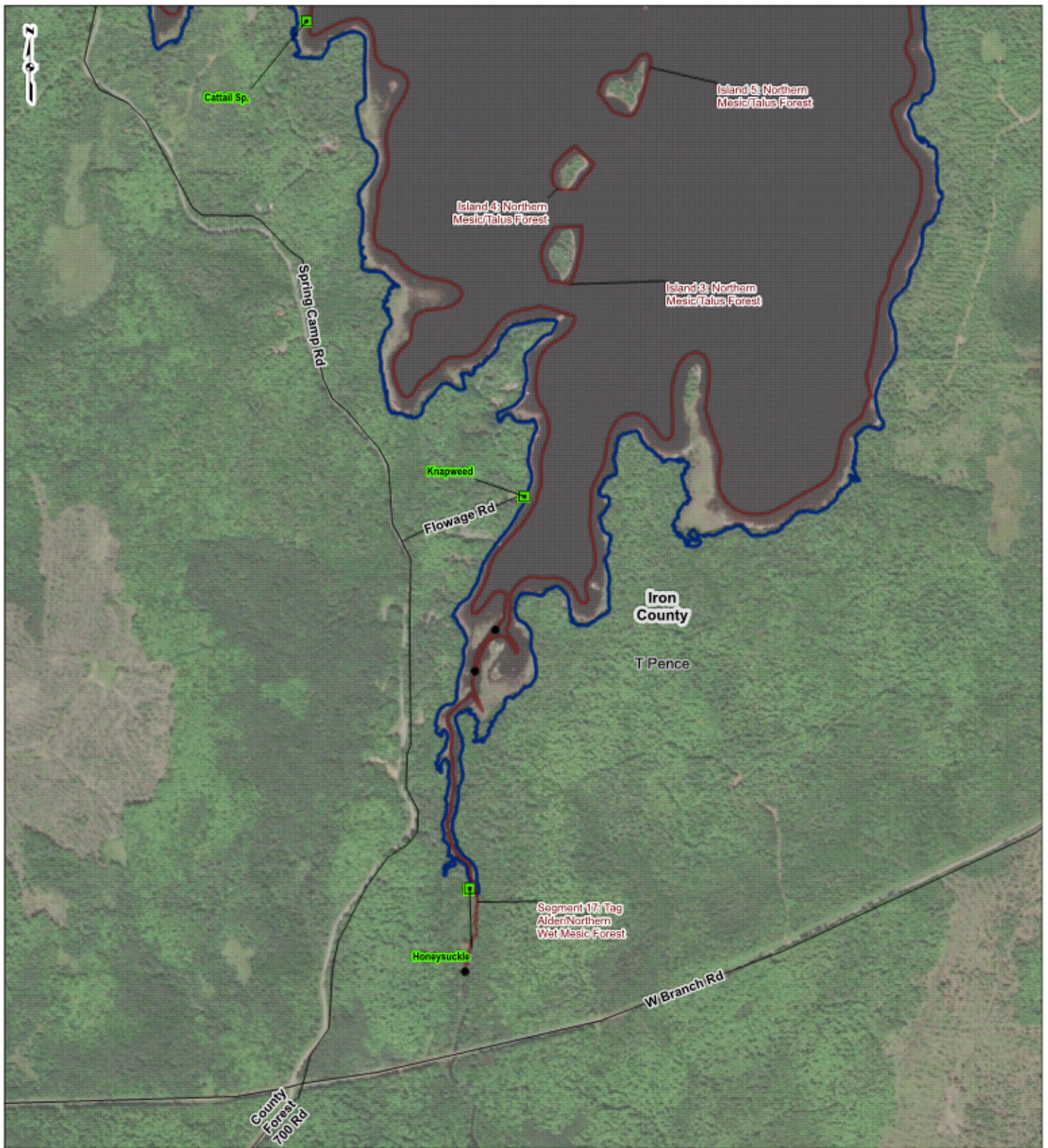
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Upland and Shoreline Terrestrial
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

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- Invasive Point
- Invasive Line
- Meander Segments
- ▭ Project Boundary
- Road Centerline
- - - Community Boundary
- ▭ County Boundary

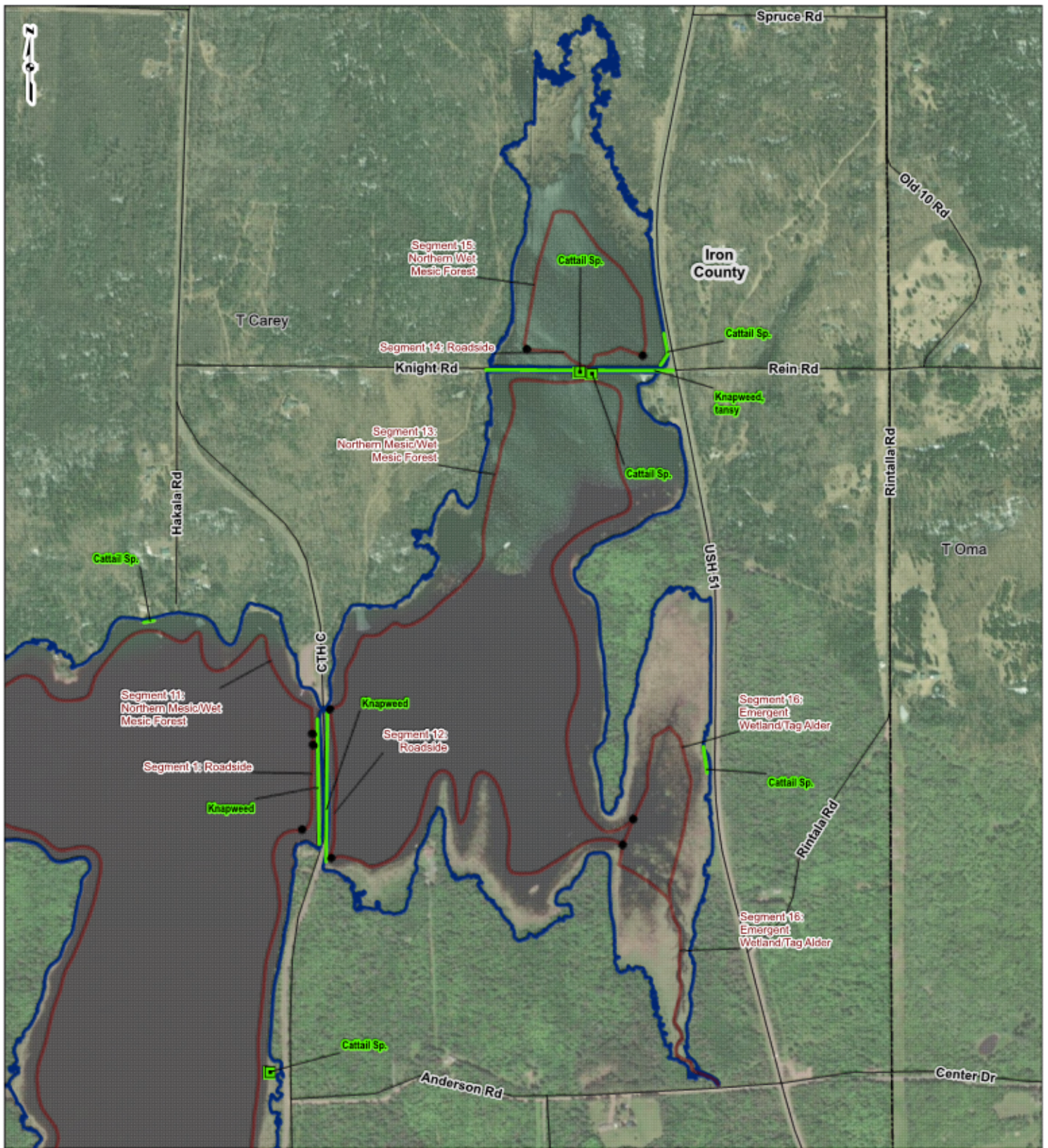


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Upland and Shoreline Terrestrial
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Gile Flowage Storage Project Aquatic
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- Start/Stop Locations
- Invasive Point
- Invasive Line
- Meander Segments
- ▭ Project Boundary
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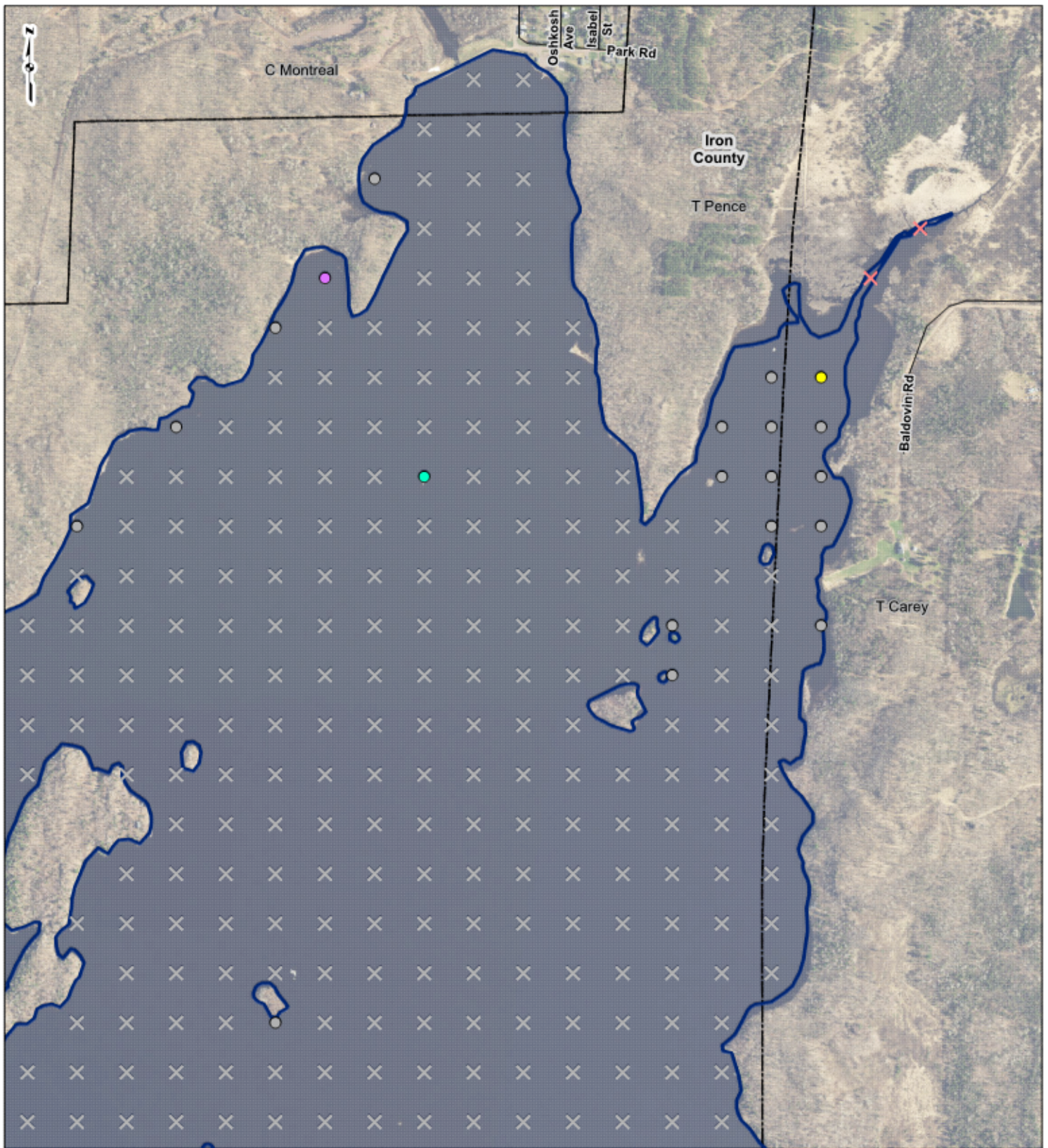
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Upland and Shoreline Terrestrial
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FIGURE 8 June Predominant Species



PROJECT LOCATION

IRON COUNTY, WISCONSIN

LEGEND

✕ Deeper than Plant Growth	● Creeping sparrowroot	● Waterwort
✕ Non-Navigable Vegetation	● Narrow-leaf bur-reed	● Whorled watermilfoil
✕ Non-Navigable Terrestrial	● Large-leaf pondweed	● Wild rice
○ Prodominant Species	● Long-leaf pondweed	▬ Project Boundary
○ None	● Najas	▬ Road Centerline
● Alternate-flowered watermilfoil	● Bladder waterweed	▬ Community Boundary
● Common waterweed	● Variable pondweed	▬ County Boundary

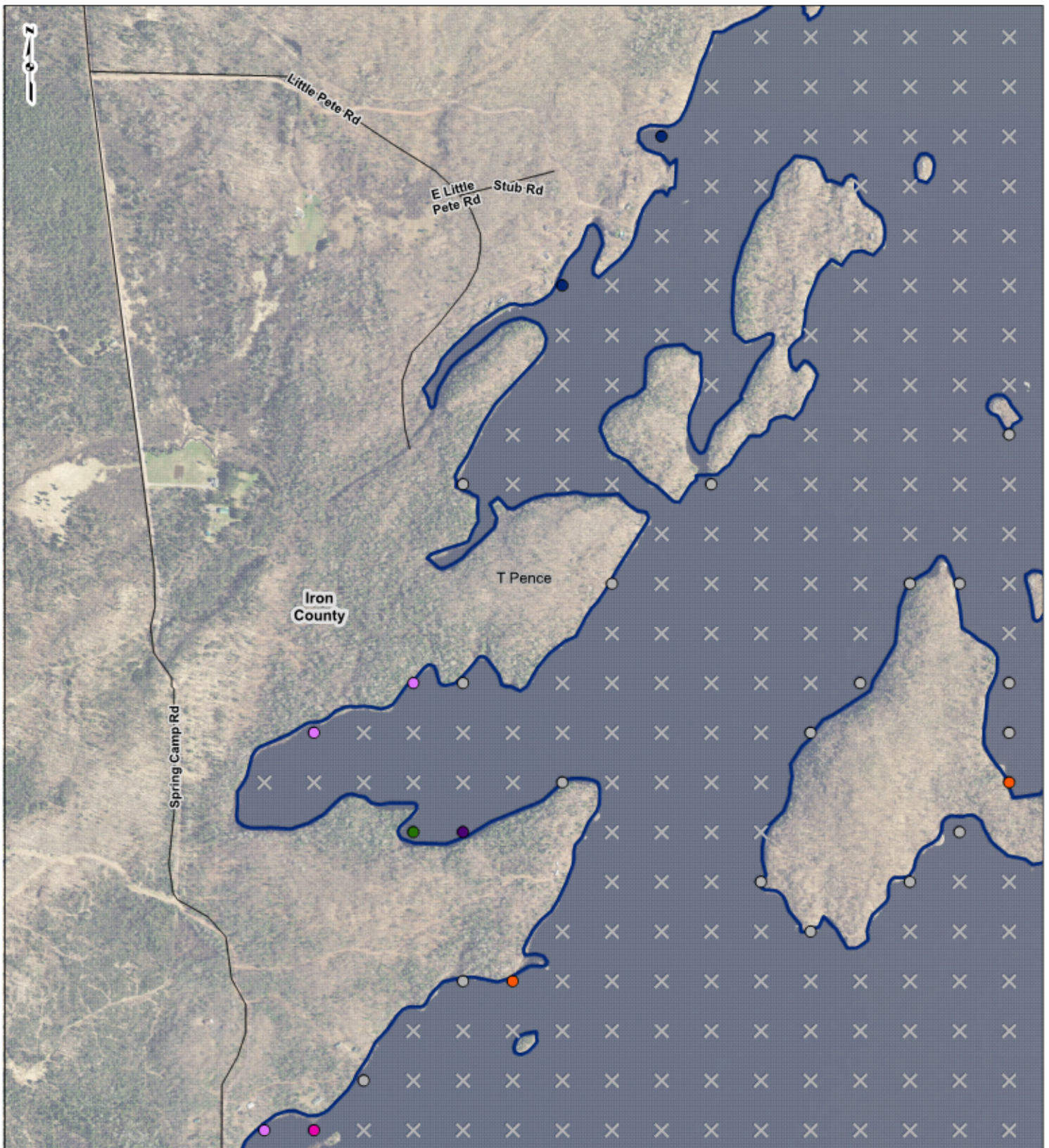
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Figure 8
June Predominant Species
Sheet 1 OF 6

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|-----------------------------------|------------------------|------------------------|
| ⊗ Deeper than Plant Growth | ● Crooping spoonwort | ● Waterwort |
| ⊗ Non-Navigable Vegetation | ● Narrow-leaf bur-reed | ● Whorled watermilfoil |
| ⊗ Non-Navigable Terrestrial | ● Large-leaf pondweed | ● Wild rice |
| ○ None | ● Long-leaf pondweed | ▬ Project Boundary |
| ● Alternate-flowered watermilfoil | ● Najas | ▬ Road Centerline |
| ● Common waterweed | ● Slender waterweed | ▬ Community Boundary |
| | ● Variable pondweed | ▬ County Boundary |

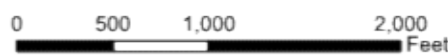


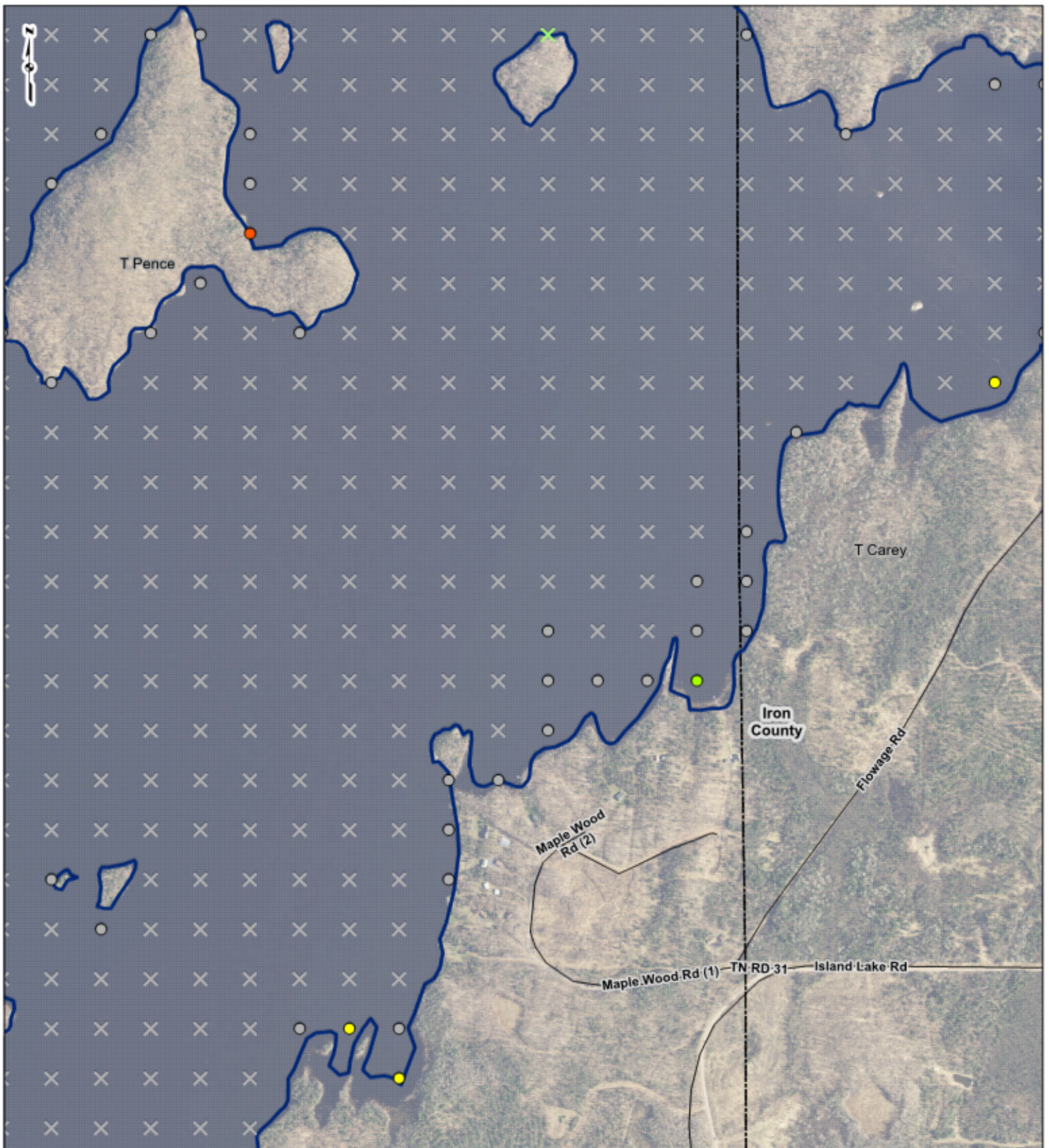
Figure 8
June Predominant
Species
Sheet 2 OF 6

Gile Flowage Storage Project Aquatic
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|-----------------------------------|------------------------|------------------------|
| ✕ Deeper than Plant Growth | ● Creeping sparrowwort | ● Waterwort |
| ✕ Non-Navigable Vegetation | ● Narrow-leaf bur-reed | ● Whorled watermilfoil |
| ✕ Non-Navigable Terrestrial | ● Large-leaf pondweed | ● Wild rice |
| ○ Prodominant Species | ● Long-leaf pondweed | ▬ Project Boundary |
| ○ None | ● Najas | ▬ Road Centerline |
| ● Alternate-flowered watermilfoil | ● Slender waterweed | ▬ Community Boundary |
| ● Common waterweed | ● Variable pondweed | ▬ County Boundary |



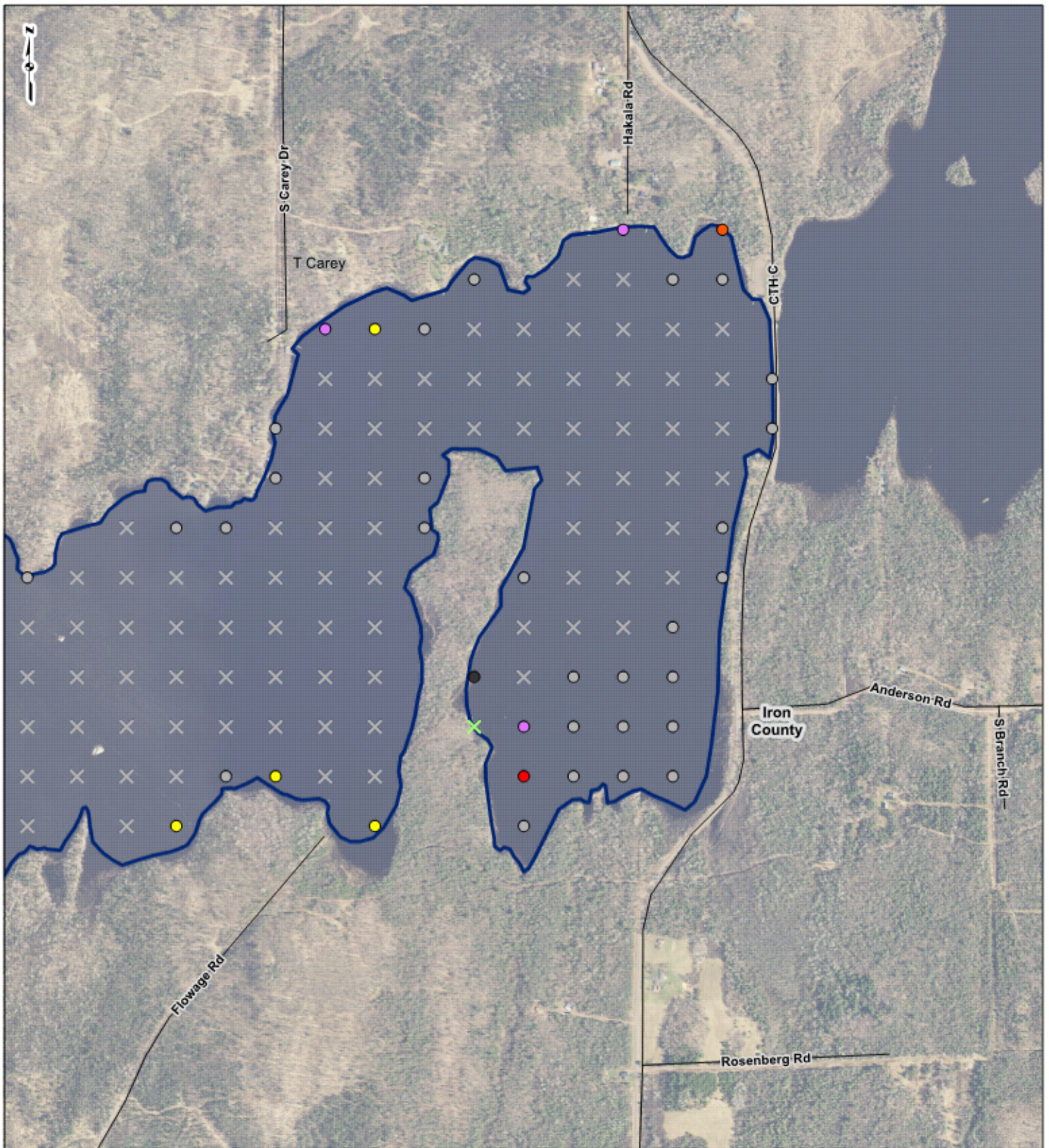
Figure 8
June Predominant
Species
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|-----------------------------------|------------------------|------------------------|
| ✕ Deeper than Plant Growth | ● Creeping sparrowwort | ● Waterwort |
| ✕ Non-Navigable Vegetation | ● Narrow-leaf bur-reed | ● Whorled watermilfoil |
| ✕ Non-Navigable Terrestrial | ● Large-leaf pondweed | ● Wild rice |
| ● Pradominant Species | ● Long-leaf pondweed | ▭ Project Boundary |
| ● None | ● Nitella | ▭ Road Centerline |
| ● Alternate-flowered watermilfoil | ● Slender waterweed | ▭ Community Boundary |
| ● Common waterweed | ● Variable pondweed | ▭ County Boundary |

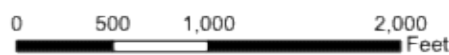


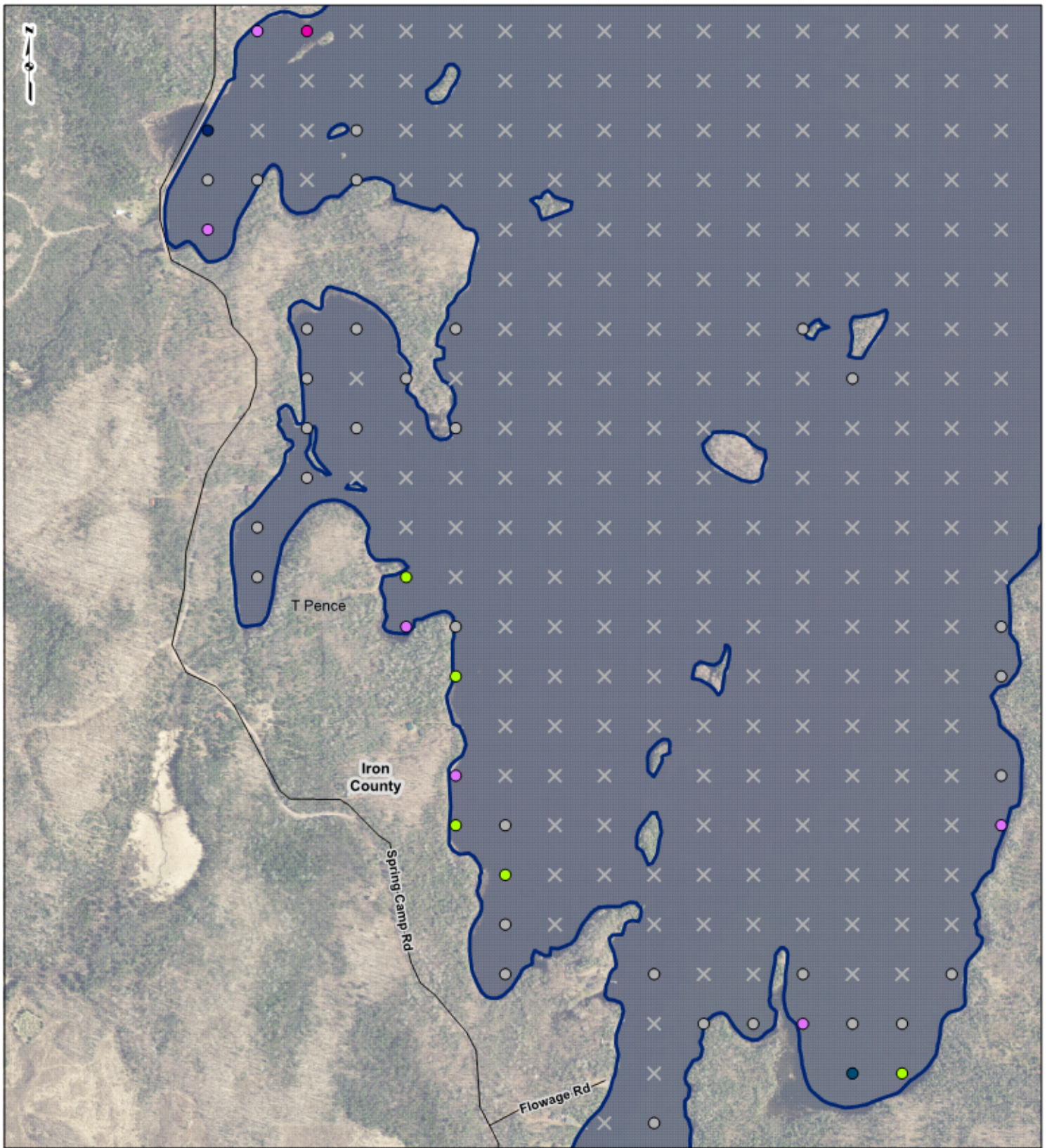
Figure 8
June Predominant
Species
Sheet 4 OF 6

Gile Flowage Storage Project Aquatic
and Terrestrial
Invasive Species Study

DRAWN BY: EMW
CHECKED: TDB

DATE: 8/18/2022
APPROVED: LLS

REFERENCE: ESRI WORLD IMAGERY 2021, Accessed 8/18/2022. WDNR Counties, 2011. WISLR Community Boundary 2021. WISDOT Road Centerlines, 2021.



PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|-----------------------------------|------------------------|------------------------|
| ✕ Deeper than Plant Growth | ● Creeping spearnut | ● Waterwort |
| ✕ Non-Navigable Vegetation | ● Narrow-leaf bur-reed | ● Whorled watermilfoil |
| ✕ Non-Navigable Terrestrial | ● Large-leaf pondweed | ● Wild rice |
| Predominant Species | ● Long-leaf pondweed | ▭ Project Boundary |
| ● None | ● Nitella | ▭ Road Centerlines |
| ● Alternate-flowered watermilfoil | ● Slender waterweed | ▭ Community Boundary |
| ● Common waterweed | ● Variable pondweed | ▭ County Boundary |

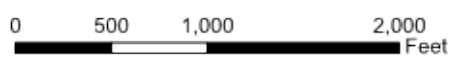
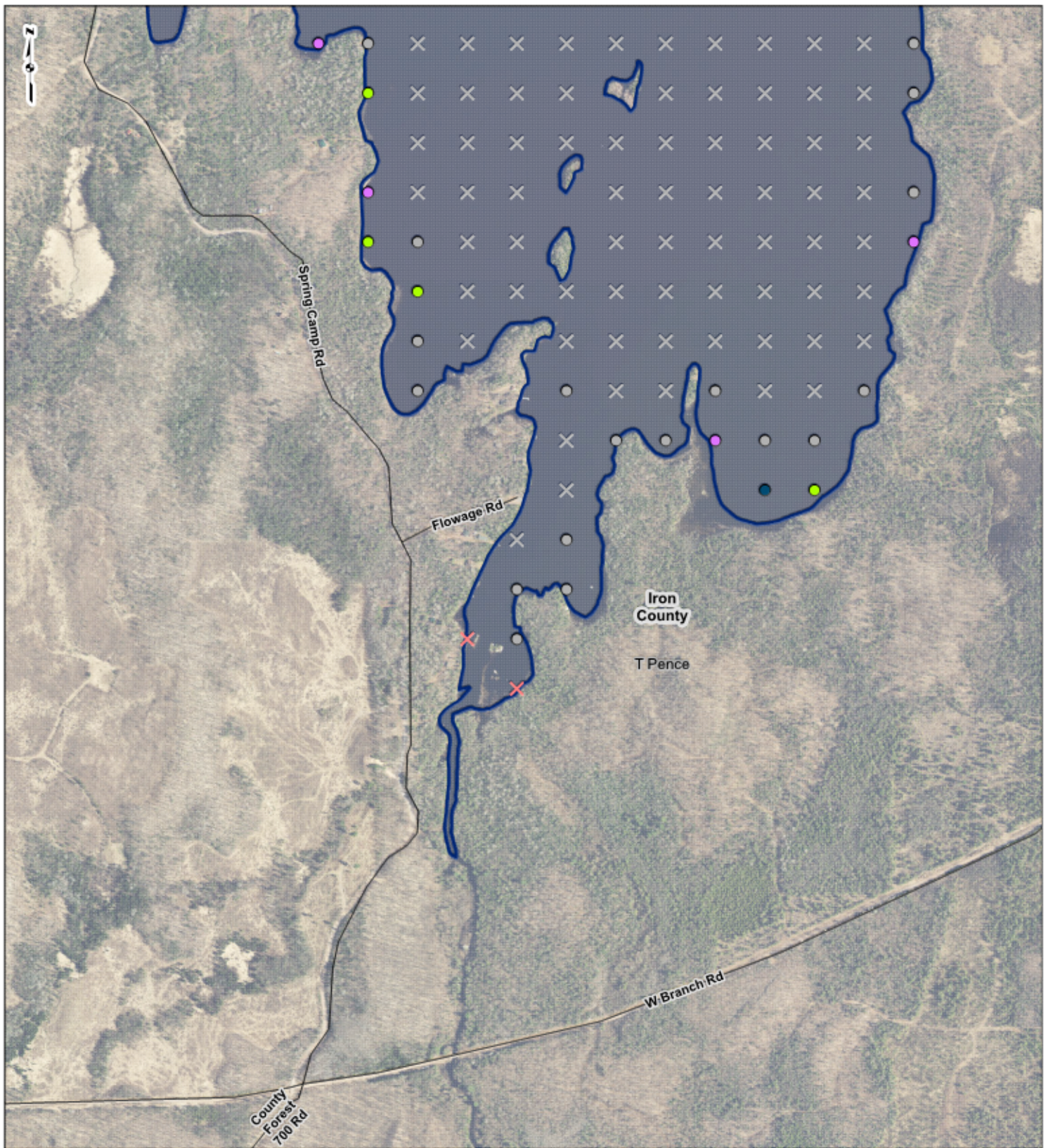


Figure 8
June Predominant Species
Sheet 5 OF 6

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

DRAWN BY: EMW DATE: 8/18/2022
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|-----------------------------------|------------------------|------------------------|
| ✕ Deeper than Plant Growth | ● Creeping sparganium | ● Waterwort |
| ✕ Non-Navigable Vegetation | ● Narrow-leaf bur-reed | ● Whorled watermilfoil |
| ✕ Non-Navigable Terrestrial | ● Large-leaf pondweed | ● Wild rice |
| ○ None | ● Long-leaf pondweed | ▬ Project Boundary |
| ● Alternate-flowered watermilfoil | ● Nixia | ▬ Road Centerline |
| ● Common waterweed | ● Slender waterweed | ▬ Community Boundary |
| | ● Variable pondweed | ▬ County Boundary |
- 0 500 1,000 2,000 Feet

Figure 8
June Predominant
Species
Sheet 6 OF 6

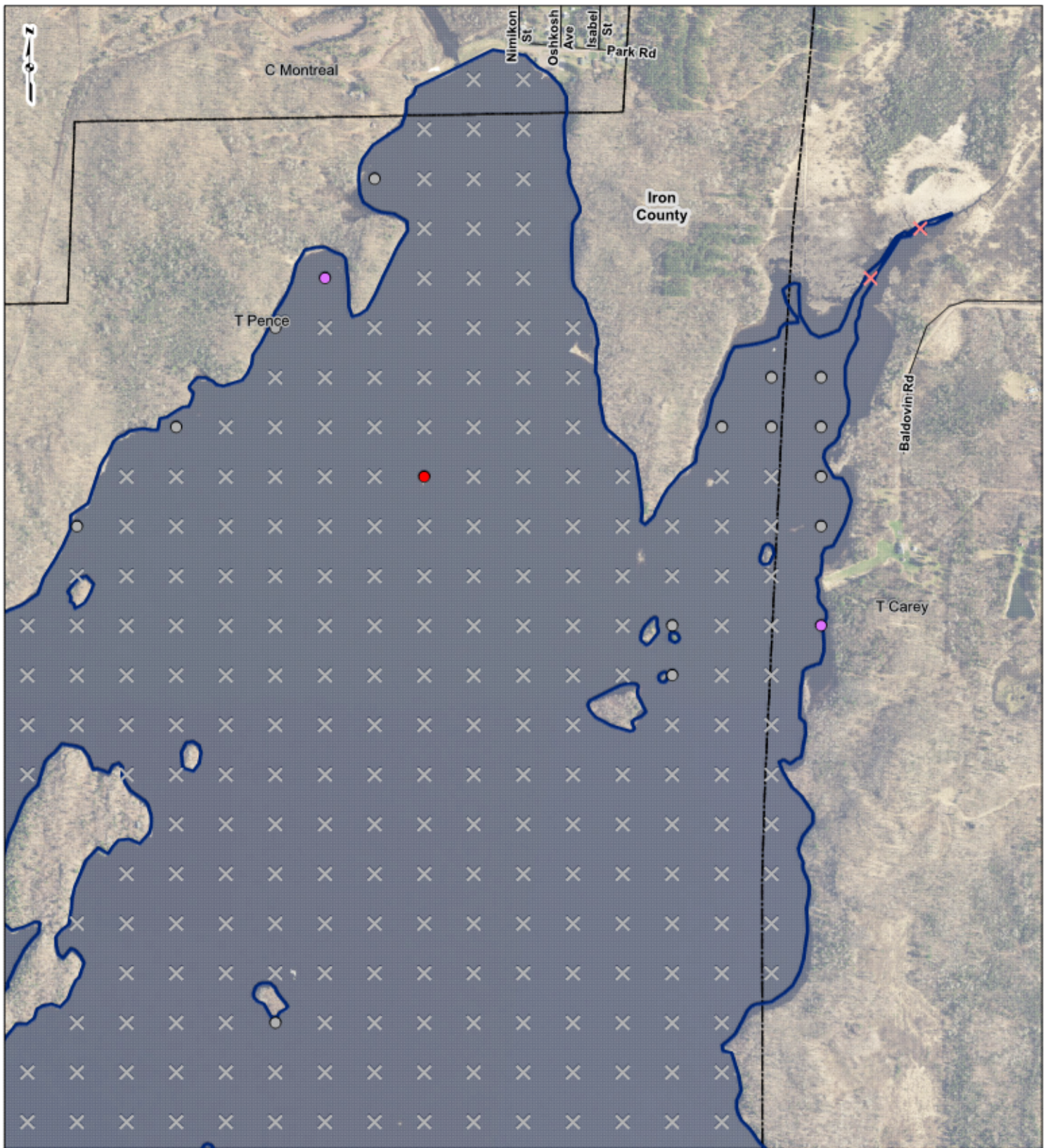
Gile Flowage Storage Project Aquatic
and Terrestrial
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DATE: 8/18/2022
APPROVED: LLS

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FIGURE 9 Late-July Predominant Species



PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|-----------------------------|---------------------------|-------------------------------|
| ⊗ Deeper than Plant Growth | ● Creeping spearwort | ● Variable pondweed |
| ⊗ Non-Navigable Vegetation | ● Narrow-leaf bur-reed | ● Various-leaved watermilfoil |
| ⊗ Non-Navigable Terrestrial | ● Ribbon-leaf pondweed | ● Whorled watermilfoil |
| ○ None | ● Slender waterweed | ■ Project Boundary |
| ● Common waterweed | ● Spiral-fruited pondweed | — Road Centerline |
| | ● Stoneworts | ⊡ Community Boundary |
| | | ⊡ County Boundary |

0 500 1,000 2,000 Feet

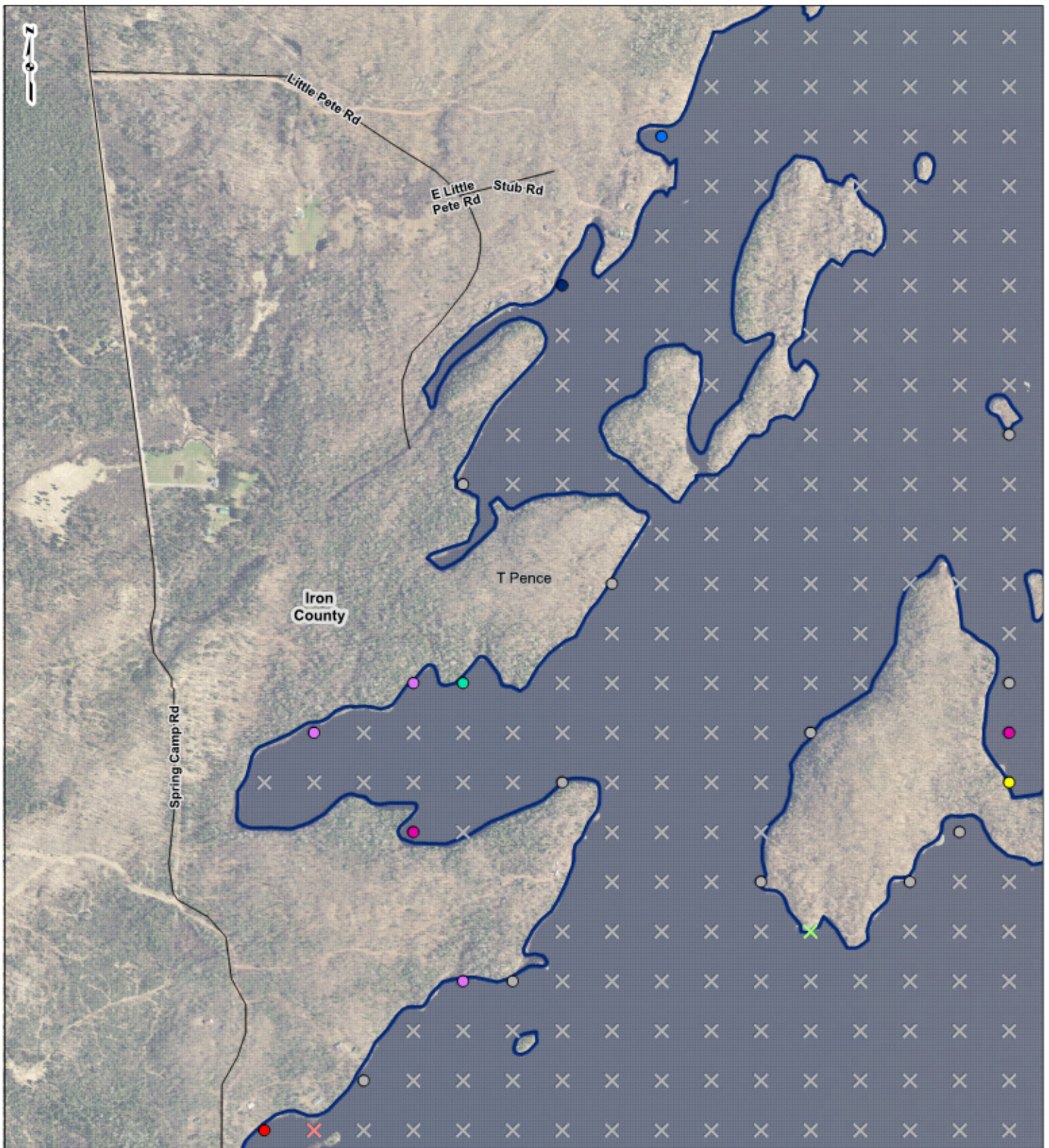
Figure 9
Late July
Predominant Species
Sheet 1 OF 6

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

DRAWN BY: EMW
CHECKED: TDB

DATE: 8/18/2022
APPROVED: LLS

REFERENCE: ESRI WORLD IMAGERY 2021, Accessed 8/18/2022. WDNR Counties, 2011. WISLR Community Boundary 2021. WISDOT Road Centerlines, 2021.



PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|-----------------------------|---------------------------|-------------------------------|
| ⊗ Deeper than Plant Growth | ● Creeping spearwort | ● Variable pondweed |
| ⊗ Non-Navigable Vegetation | ● Narrow-leaf bur-reed | ● Various-leaved watermilfoil |
| ⊗ Non-Navigable Terrestrial | ● Ribbon-leaf pondweed | ● Whorled watermilfoil |
| ● None | ● Slender waterweed | ▭ Project Boundary |
| ● Common waterweed | ● Spiral-fruited pondweed | — Road Centerline |
| | ● Stoneworts | ▭ Community Boundary |
| | | ▭ County Boundary |

0 500 1,000 2,000 Feet

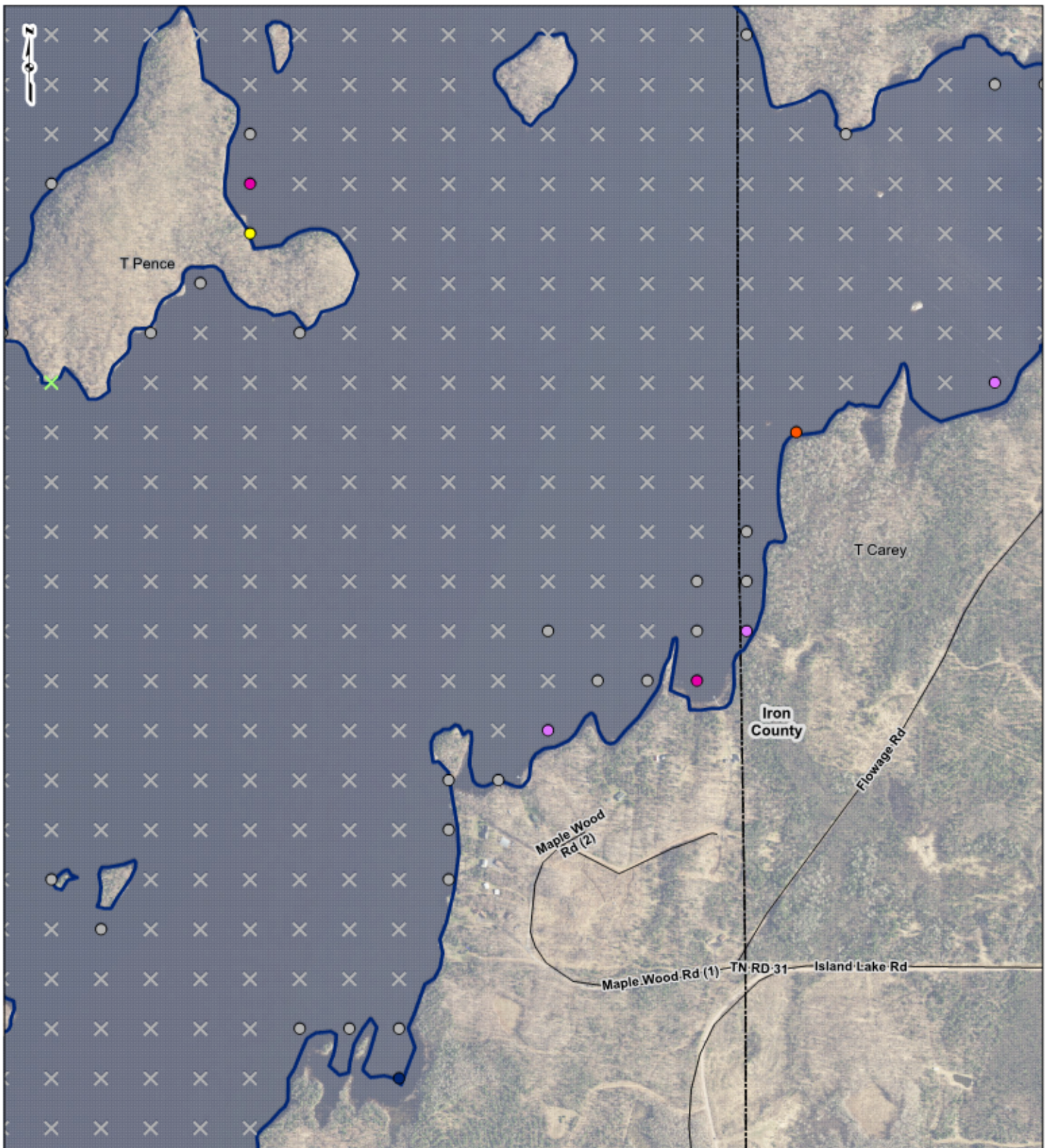
Figure 9
Late July
Predominant Species
Sheet 2 OF 6

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

DRAWN BY: EMW
CHECKED: TDB

DATE: 8/18/2022
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> X Deeper than Plant Growth ✗ Non-Navigable Vegetation ✗ Non-Navigable Terrestrial | <ul style="list-style-type: none"> ● Creeping spearwort ● Narrow-leaf bur-reed ● Ribbon-leaf pondweed ● Slender waterweed ● Spiral-fruited pondweed ● Stoneworts | <ul style="list-style-type: none"> ● Variable pondweed ● Various-leaved watermilfoil ● Whorled watermilfoil ▭ Project Boundary — Road Centerline ▭ Community Boundary ▭ County Boundary |
|---|--|--|

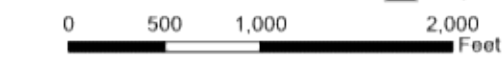
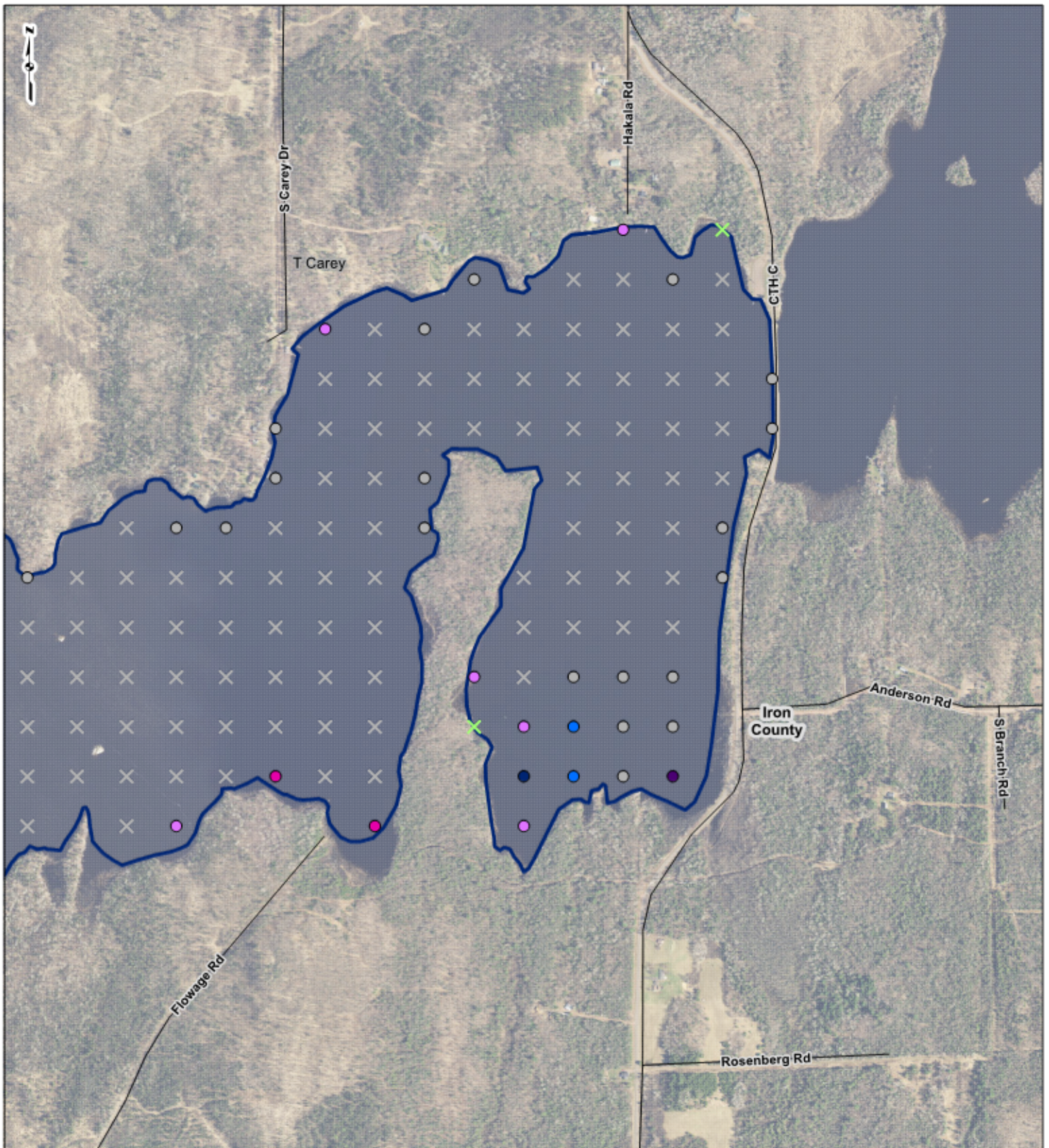


Figure 9
Late July
Predominant Species
Sheet 3 OF 6

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

DRAWN BY: EMW DATE: 8/18/2022
CHECKED: TDB APPROVED: LLS

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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|-----------------------------|---------------------------|-------------------------------|
| ⊗ Deeper than Plant Growth | ● Creeping spearwort | ● Variable pondweed |
| ⊗ Non-Navigable Vegetation | ● Narrow-leaf bur-reed | ● Various-leaved watermilfoil |
| ⊗ Non-Navigable Terrestrial | ● Ribbon-leaf pondweed | ● Whorled watermilfoil |
| ● None | ● Slender waterweed | ▭ Project Boundary |
| ● Common waterweed | ● Spiral-fruited pondweed | — Road Centerline |
| | ● Stoneworts | ▭ Community Boundary |
| | | ▭ County Boundary |

0 500 1,000 2,000 Feet

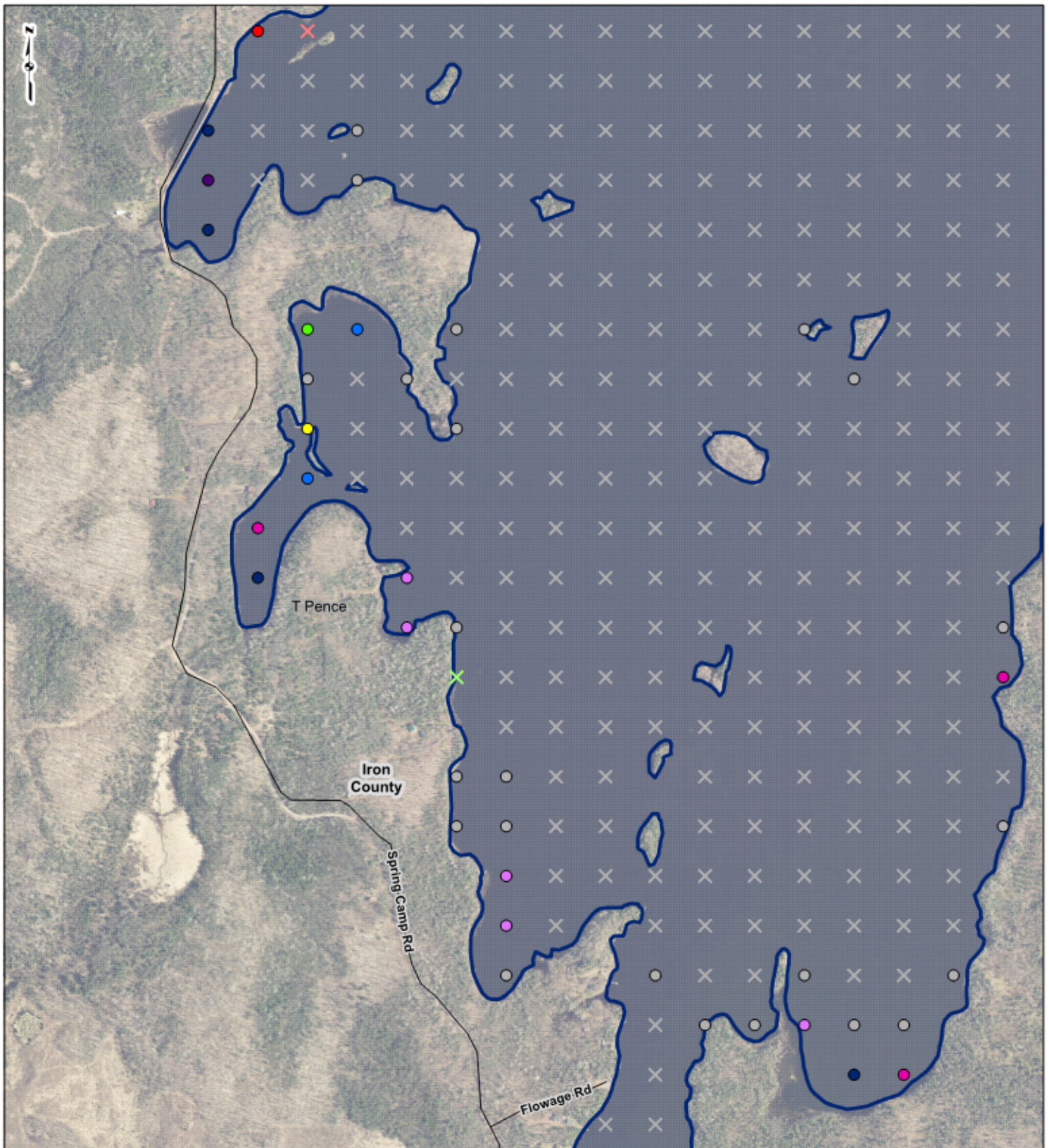
Figure 9
Late July
Predominant Species
Sheet 4 OF 6

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|-----------------------------|---------------------------|-------------------------------|
| ⊗ Deeper than Plant Growth | ● Creeping spearwort | ● Variable pondweed |
| ⊗ Non-Navigable Vegetation | ● Narrow-leaf bur-reed | ● Various-leaved watermilfoil |
| ⊗ Non-Navigable Terrestrial | ● Ribbon-leaf pondweed | ● Whorled watermilfoil |
| ○ None | ● Slender waterweed | ▭ Project Boundary |
| ● Common waterweed | ● Spiral-fruited pondweed | — Road Centerline |
| | ● Stoneworts | ▭ Community Boundary |
| | | ▭ County Boundary |

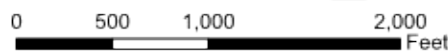


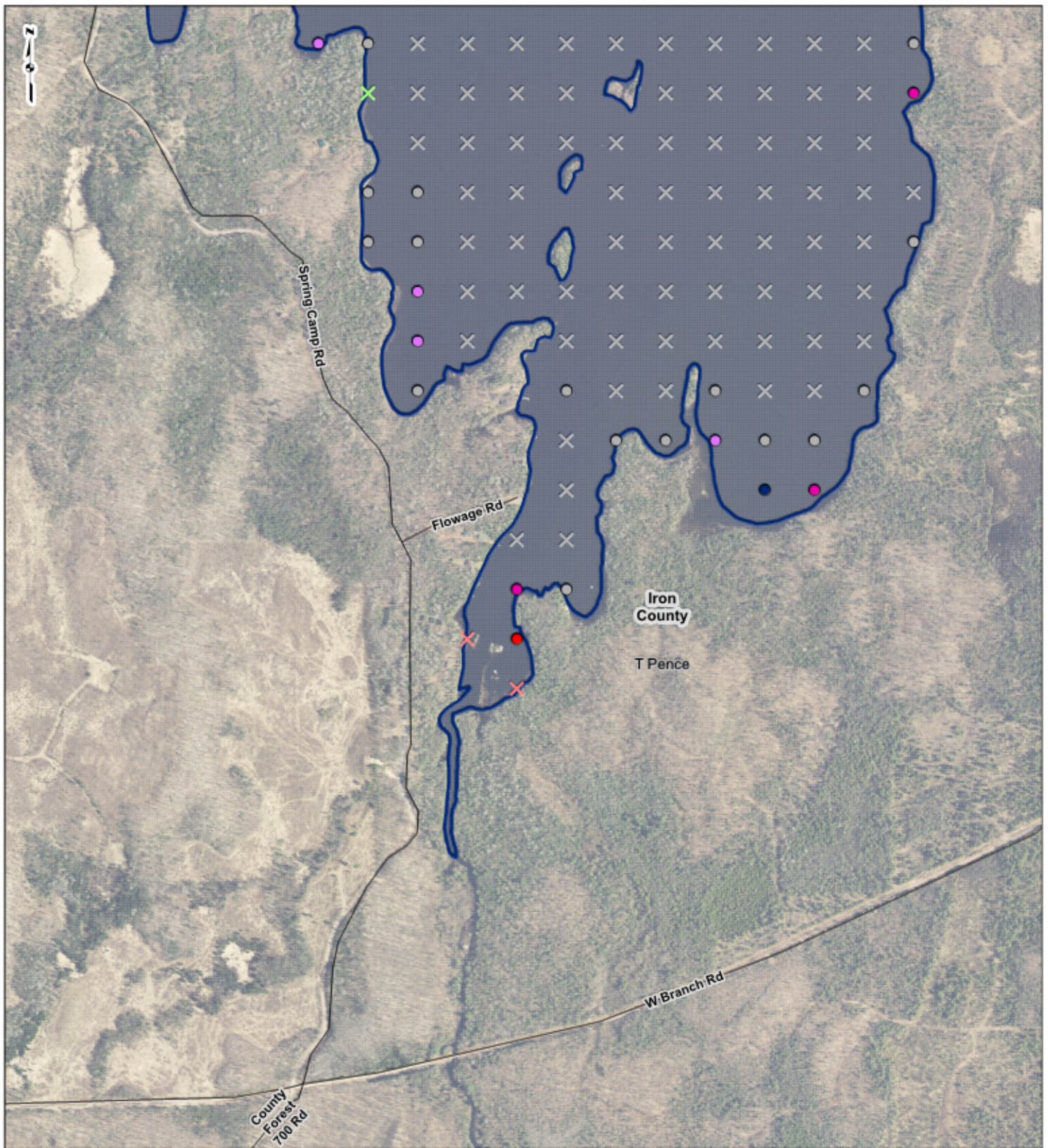
Figure 9
Late July
Predominant Species
Sheet 5 OF 6

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

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PROJECT LOCATION

IRON COUNTY, WISCONSIN

LEGEND

⊗ Deeper than Plant Growth	● Creeping speenwort	● Variable pondweed
⊗ Non-Navigable Vegetation	● Narrow-leaf bur-reed	● Various-leaved watermilfoil
⊗ Non-Navigable Terrestrial	● Ribbon-leaf pondweed	● Whorled watermilfoil
● None	● Slender waterweed	▭ Project Boundary
● Common waterweed	● Spiral-fruited pondweed	— Road Centerline
	● Stoneworts	▭ Community Boundary
		▭ County Boundary

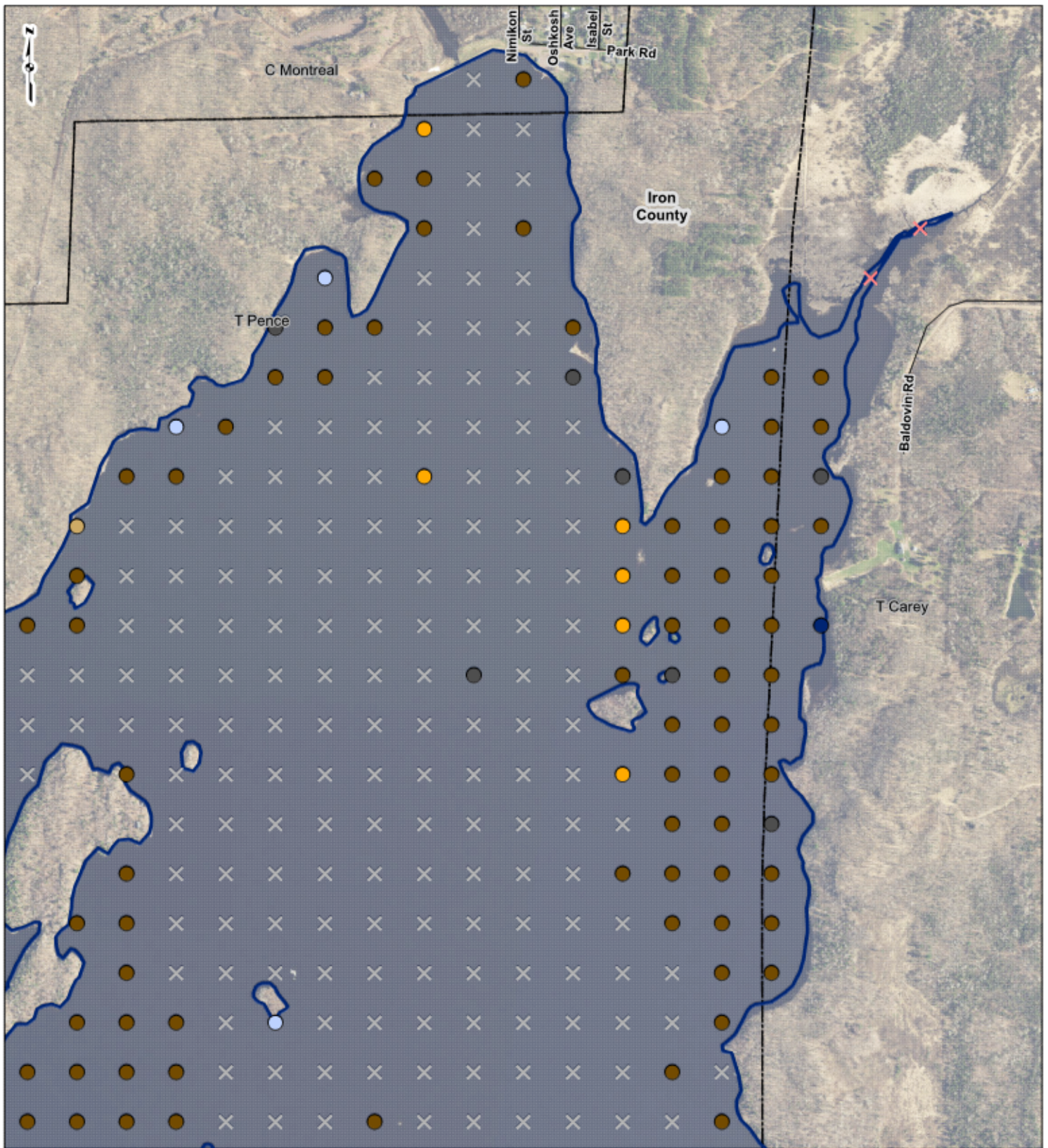
0 500 1,000 2,000 Feet

**Figure 9
Late July
Predominant Species
Sheet 6 OF 6**

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

DRAWN BY: EMW DATE: 8/18/2022
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FIGURE 10 Substrate Types



PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- X Over 15 Feet Deep
- X Non-Navigable Vegetation
- X Non-Navigable Terrestrial
- Boulder
- Cobble
- Gravel
- Organic
- Sand
- Silt
- Wood
- Project Boundary
- Road Centerline
- Community Boundary
- County Boundary



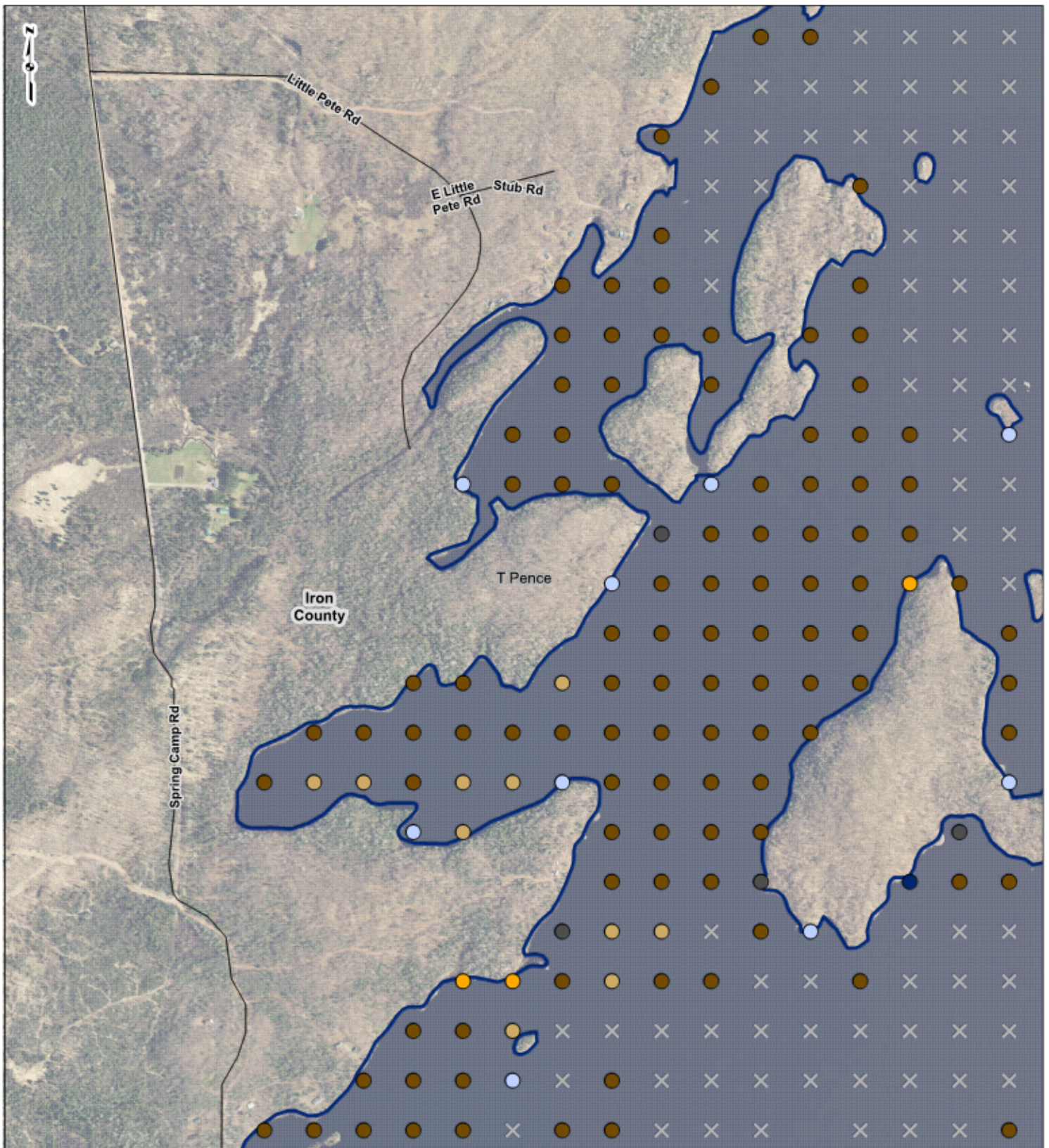
Figure 10
Substrate Types
Sheet 1 OF 6

Gile Flowage Storage Project Aquatic
and Terrestrial
Invasive Species Study

DRAWN BY: EMW
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DATE: 8/18/2022
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|-----------------------------|---------------------------|----------------------|
| ✕ Over 15 Feet Deep | Dominant Substrate | ● Silt |
| ✕ Non-Navigable Vegetation | ● Boulder | ● Wood |
| ✕ Non-Navigable Terrestrial | ● Cobble | ▬ Project Boundary |
| | ● Gravel | — Road Centerline |
| | ● Organic | ▬ Community Boundary |
| | ● Sand | ▬ County Boundary |

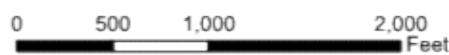


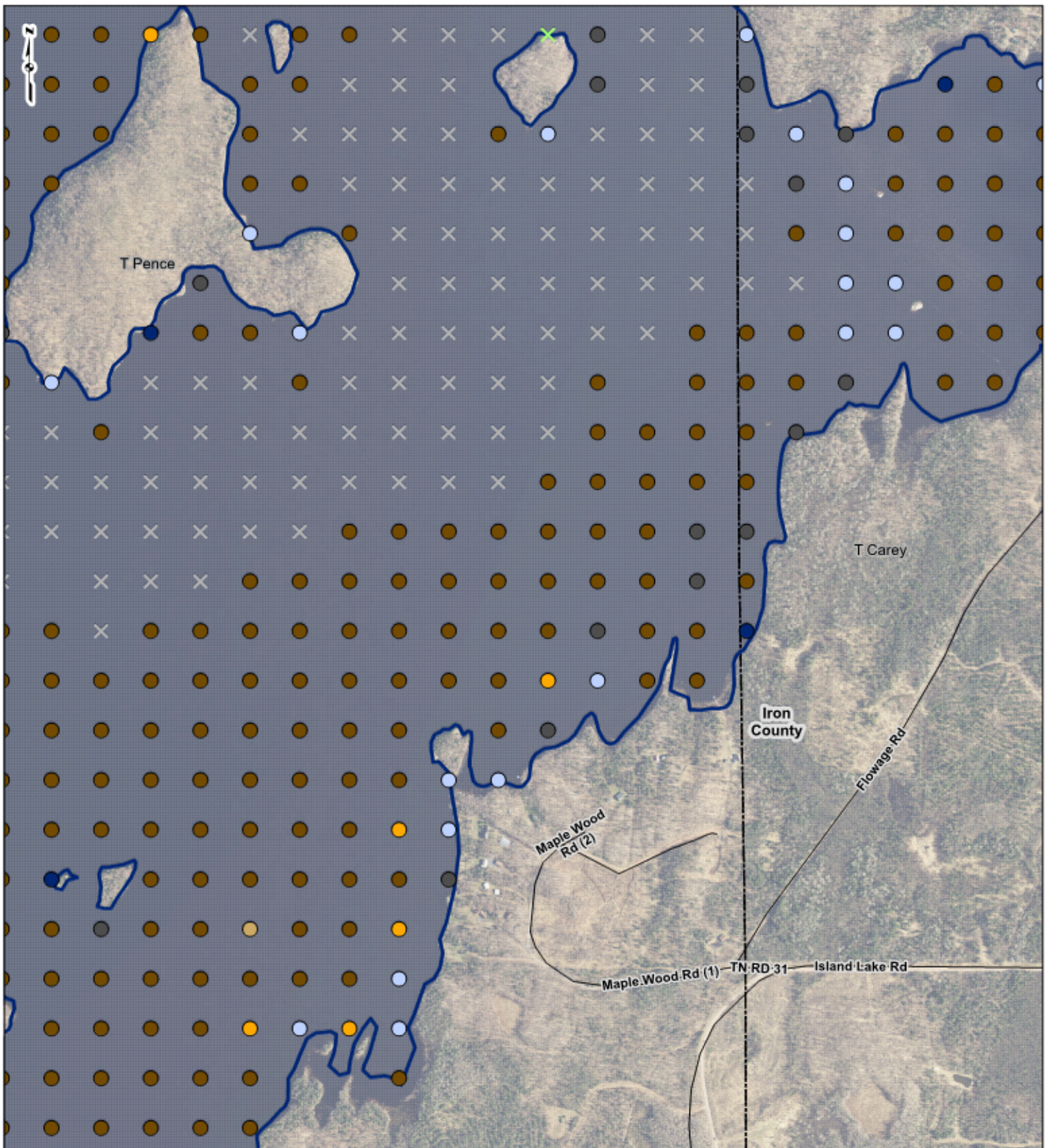
Figure 10
Substrate Types
Sheet 2 OF 6

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

DRAWN BY: EMW
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DATE: 8/18/2022
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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|-----------------------------|---------------------------|----------------------|
| ✕ Over 15 Feet Deep | Dominant Substrate | ● Silt |
| ✕ Non-Navigable Vegetation | ● Boulder | ● Wood |
| ✕ Non-Navigable Terrestrial | ● Cobble | ▭ Project Boundary |
| | ● Gravel | — Road Centerline |
| | ● Organic | ▭ Community Boundary |
| | ● Sand | ▭ County Boundary |



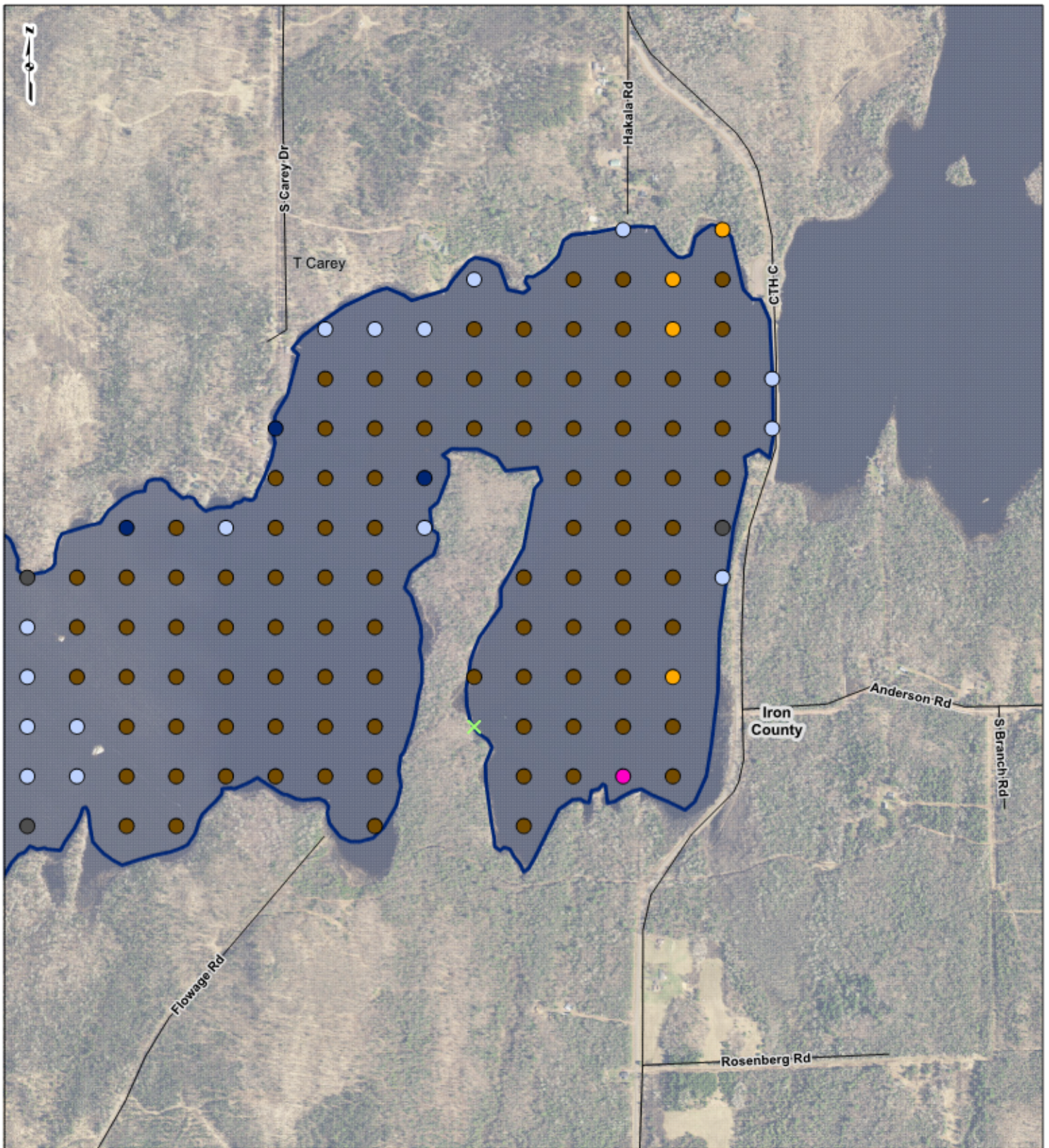
Figure 10
Substrate Types
Sheet 3 OF 6

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

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PROJECT LOCATION



IRON COUNTY, WISCONSIN

- ⊗ Over 15 Feet Deep
- ⊗ Non-Navigable Vegetation
- ⊗ Non-Navigable Terrestrial

LEGEND

- Dominant Substrate**
- Boulder
 - Cobble
 - Gravel
 - Organic
 - Sand

- Silt
- Wood
- ▭ Project Boundary
- Road Centerline
- ▭ Community Boundary
- ▭ County Boundary

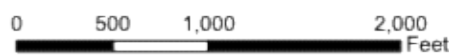


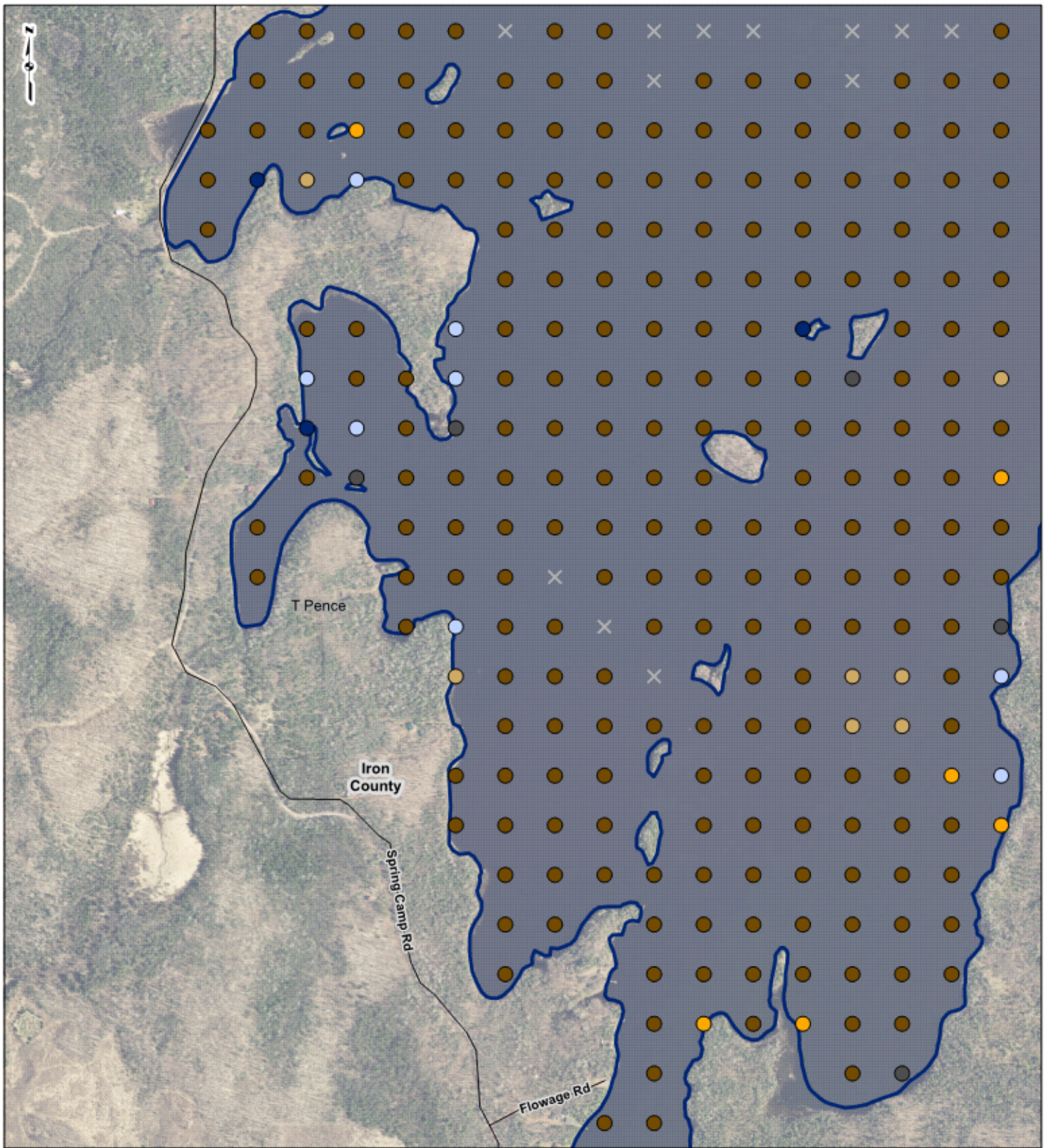
Figure 10
Substrate Types
Sheet 4 OF 6

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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|-----------------------------|---------------------------|----------------------|
| ⊗ Over 15 Feet Deep | Dominant Substrate | ● Silt |
| ⊗ Non-Navigable Vegetation | ● Boulder | ● Wood |
| ⊗ Non-Navigable Terrestrial | ● Cobble | ▭ Project Boundary |
| | ● Gravel | — Road Centerline |
| | ● Organic | ⊡ Community Boundary |
| | ● Sand | ⊡ County Boundary |

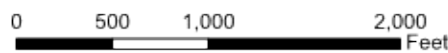
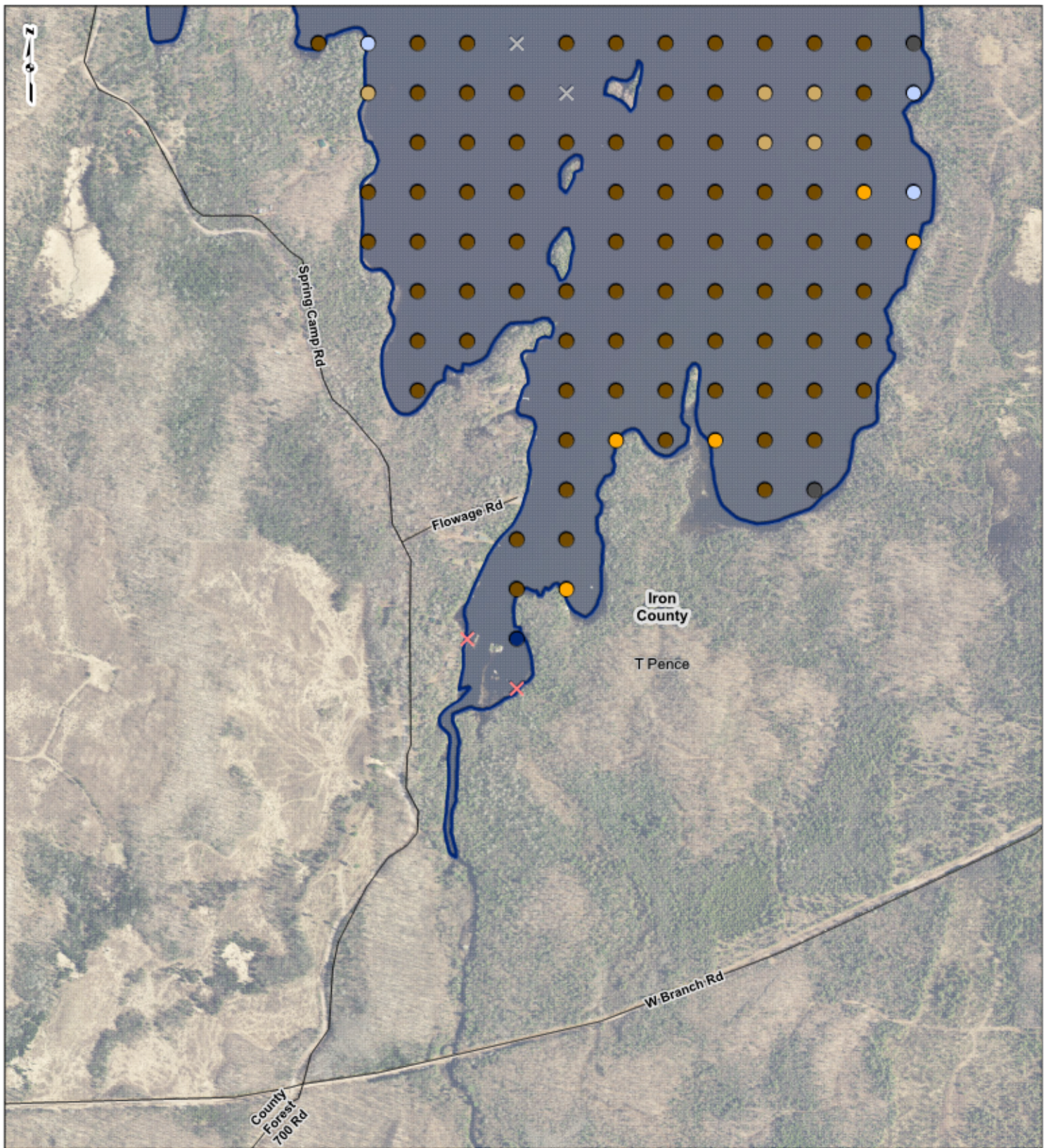


Figure 10
Substrate Types
Sheet 5 OF 6

Gile Flowage Storage Project Aquatic and Terrestrial Invasive Species Study

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PROJECT LOCATION



IRON COUNTY, WISCONSIN

LEGEND

- | | | |
|-----------------------------|---------------------------|----------------------|
| ✕ Over 15 Foot Deep | Dominant Substrate | ● Silt |
| ✕ Non-Navigable Vegetation | ● Boulder | ● Wood |
| ✕ Non-Navigable Terrestrial | ● Cobble | ▭ Project Boundary |
| | ● Gravel | — Road Centerline |
| | ● Organic | ▭ Community Boundary |
| | ● Sand | ▭ County Boundary |

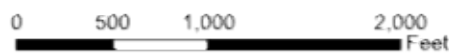


Figure 10
Substrate Types
Sheet 6 OF 6

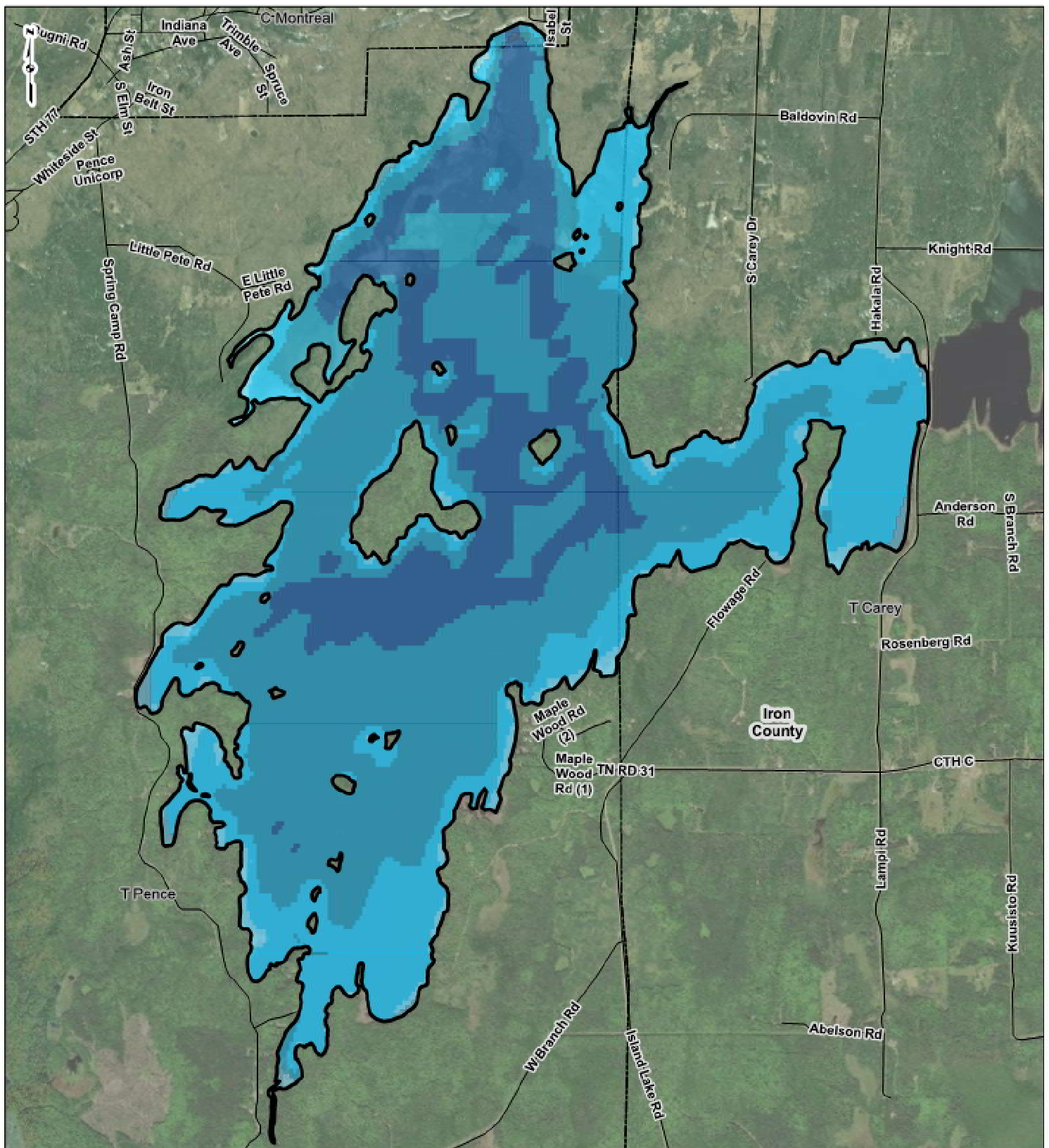
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APPROVED: LLS

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FIGURE 11 Bathymetric Map











PROJECT LOCATION



IRON COUNTY, WISCONSIN


LEGEND

Depth	 Project Boundary
 0 - 5 ft	 Road Centerline
 5 - 10 ft	 Community Boundary
 10 - 15 ft	 County Boundary
 >15 ft	

0 1,375 2,750 5,500 Feet

**FIGURE 11
DEPTH SURVEY**

**GILE FLOWAGE DEPTH SURVEY
2022 SURVEYS**



DRAWN BY: EMW **DATE: 7/19/2022**
CHECKED: TDB **APPROVED: LLS**

REFERENCE: ESRI WORLD IMAGERY 2021, Accessed 7/19/2022. WDNR Counties, 2011. WISLR Community Boundary 2021. WISDOT Road Centerlines, 2021.

ATTACHMENT A
Aquatic Invasive Species Survey
Field Data Sheets – June

Waterbody/Project: G.I.R
 Crew: Laura Sess Heather Lutze

Date: 6/13/2022

Sampling Point	Depth (ft)	Dominant sediment type (M=muck, S=sand, R=Rock)	Sampled holding rake pole (P) or rake rope (R)?	Additional Info - Dominant Substrate type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Total Rake Fullness	Plant Species									
389	5.0 N	R	P	Cobble		<i>Potamogeton amplibia</i> <i>Wild Rice (in grass)</i> <i>Ranunculus flammula</i> <i>Aquatic moss</i>									
319	4.5 N	R	P	Cobble											
388	9.6 N	M	P	Org		bottom's firm but loosely when pushed on - 100% muck or mix of Sand, Org + Silt									
359	9.9 N	M	P	Org											
324	7.5 N	M	P	Org											
312	1.9 N	S	P	Sand	Y Y I										
333	4.5 N	S	P	Sand											
358	9.5 N	S	P	Sand											
387	10.5 N	M	P	Org											
315	9.5 N	M	P	Org											
316	9.4 N	M	P	Org											
344	8.9 N	M	P	Org											
370	7.2 N	R	P	Gravel											
4104	6.0 N	R	P	Cobble											
439	7.5 N	M	P	Org											
474	7.5 N	S	P	Sand											
503	6.5 N	M	P	Org											
533	5.3 N	M	P	Org											
532	5.2 N	M	P	Silt											
502	6.5 N	M	P	Org											
472	7.3 N	M	P	Org											
432	7.8 N	M	P	Org											
402	8.3 N	M	P	Org											
403	8.1 N	M	P	Org											
369	8.8 N	M	P	Org											
368	8.6 N	M	P	Org											
348	9.4 N	M	P	Org											
343	9.1 N	M	P	Org											

Waterbody/Project: Leaning Sassa Gile

Crew: Heather Lintz

Date: 6/13/2022

Sampling Point	Depth (ft)	Dominant sediment type (M=muck, S=sand, R=Rock)	Sampled holding rake pole (P) or rake rope (R)?	Additional Info - Dominant Substrate type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Total Rake Fullness	Potamogeton	Elodea canadensis	P. pusillus	Lyth. sp.
314	9.6 N	M	P	0.0	0				
326	10.5 N	M	P	0.0	0				
357	9.3 N	M	P	0.0	0				
372	8.6 N	M	P	0.0	0				
391	8.8 N	R	P	Cobble	1				
381	9.6 N	M	P	0.0	0				
356	9.0 N	M	P	0.0	0				
325	9.0 N	M	P	0.0	0				
313	9.7 N	M	P	0.0	0				
341	10.0 N	M	P	0.0	0				
367	9.3 N	M	P	0.0	0				
401	8.5 N	M	P	0.0	0				
427	8.0 N	M	P	0.0	0				
472	7.1 N	M	P	0.0	0				
501	8.5 N	M	P	0.0	0				
531	5.5 N	M	P	0.0	0				
558	3.4 N	M	P	0.0	0				
520	6.0 N	M	P	0.0	0				
500	6.5 N	M	P	0.0	0				
499	7.0 N	M	P	0.0	0				
470	1.5 N	M	P	0.0	0				
471	8.0 N	M	P	0.0	0				
436	8.5 N	M	P	0.0	0				
400	7.4 N	M	P	0.0	0				
398	7.9 N	M	P	0.0	0				
384	7.4 N	M	P	0.0	0				
355	9.0 N	M	P	0.0	0				
350	5.0 N	R	P	Cobble	0				

Waterbody/Project: Gile
 Crew: Laura Sars
 Date: 6/13/2022

Sampling Point	Depth (ft)	Dominant sediment type (M=muck, S=sand, R=Rock)	Sampled holding rake pole (P) or rake rope (R)?	Additional Info - Dominant Substrate type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Total Rake Fullness	Myriophyllum alterniflorum														
954	9.5 N	M	P	019	0															
983	11.0 N	M	P	019	0															
311	10.3 N	M	P	019	0															
210	10.5 N	M	P	019	0															
982	10.4 N	M	P	019	0															
253	10.5 N	R	P	Cobble	0															
352	7.6 N	R	P	Cobble	1															
381	9.6 N	M	P	019	0															
209	11.6 N	M	P	019	0															
339	10.9 N	M	P	019	0															
340	6.8 N	R	P	Boulders	0															
346	10.4 N	R	P	Cobble	0															
365	11.8 N	M	P	019	0															
399	9.4 N	M	P	019	0															
435	10.1 N	M	P	019	0															
459	9.5 N	M	P	019	0															
498	9.1 N	M	P	019	0															
537	7.8 N	M	P	019	0															
557	4.6 N	M	P	019	0															
582	8.5 N	M	P	019	0															
497	10.0 N	M	P	019	0															
4102	10.3 N	M	P	019	0															
431	10.8 N	M	P	019	0															
492	11.9 N	M	P	019	0															
264	11.7 N	M	P	019	0															
338	10.2 N	M	P	019	0															
375	10.7 N	M	P	019	0															
390	9.8 N	M	P	019	0															

Lot: ASTRUS | Some Cobble

Waterbody/Project: Gile
 Crew: Laura SACS Heather Lutzow
 Date: 6/13/2022

Sampling Point	Depth (ft)	Dominant sediment type (M=muck, S=sand, R=Rock)	Sampled sediment type (M=muck, S=sand, R=Rock)	Additional holding rake pole (P) or rake rope (R)?	Additional Info - Dominant Substrate type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Total Rake Fullness	Potamogeton alpinus	Myriophyllum alterniflorum
251	4.2 N	R	P Cobble					
307	3.5 N	R	P Boulder					
337	4.0 N	M	P 019					
363	7.9 N	M	P 019					
397	11.4 N	M	P 019					
433	11.1 N	M	P 019					
467	11.2 N	M	P 019					
496	9.0 N	M	P 019					
527	9.6 N	M	P 019					
526	4.8 N	M	P 019					
495	11.3 N	M	P 019					
416	11.3 N	M	P 019					
432	11.8 N	M	P 019					
391	11.1 N	M	P 019					
302	4.7 N	R	P Cobble					
361	7.4 N	M	P 019					
345	12.0 N	M	P 019					
431	12.0 N	M	P 019					
405	12.1 N	M	P 019					
494	11.7 N	M	P 019					
525	9.7 N	M	P 019					
556	10.8 N	M	P 019					
535	7.8 N	M	P 019					
524	10.6 N	M	P 019					
493	11.4 N	M	P 019					
414	12.7 N	M	P 019					
430	12.4 N	M	P 019					
394	12.6 N	M	P 019					

Ulla R. de alpinus

Waterbody/Project: Gile
 Crew: Dave Sasser Heather Lutzons
 Date: 6/13/2022

Sampling Point	Depth (ft)	Dominant sediment type (M=muck, S=sand, R=Rock)	Sampled sediment type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Additional holding rake pole (P) or rake rope (R)?	Total Rake Fullness	Sampling Point (Sampled w/ Pole)	Depth (ft)	Dominant sediment type	Sampled sediment type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Additional holding rake pole (P) or rake rope (R)?	Total Rake Fullness	Sampling Point (Sampled w/ Pole)	Depth (ft)	Dominant sediment type	Sampled sediment type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Additional holding rake pole (P) or rake rope (R)?	Total Rake Fullness		
360	7.8 N	R	Boulders																
393	18.1 N	M	org																490 15.5
489	19.1 N	M	org																489 16.1
483	13.3 N	M	org																460 16.1
492	13.0 N	R	Cobble																486 16.1
523	10.0 N	R	Cobble																385 16.0
554	8.2 N	R	Gravel																358 16.0
522	10.6 N	R	Cobble																389 17.0
491	14.0 N	R	Cobble																485 17.1
462	14.5 N	R	Cobble																305 16.2
429	11.1 N	R	Cobble																277 16.1
392	18 N	R	Gravel																248 15.4
391	8.0 N	R	Cobble																249 15.4
427	13.2 N	R	Gravel																227 15.2
401	14.1 N	M	Org																207 15.2
521	13.9 N	M	Org																187 16.2
553	12.0 N	M	Org																169 16.2
581	3.0 N	R	Gravel																175 15.2
520	14.3 N	M	Org																154 16.7
390	14.3 N	R	Gravel																139 16.6
755	11.5 N	R	Gravel																121 16.3
320	5.0 N	R	Cobble																
306	10 N	M	Org																
278	14.3 N	M	Org																
256	13.9 N	M	Org																
289	10.0 N	M	Org																
287	12.1 N	M	Org																
308	14.4 N	M	Org																

Too deep
depth if measured

Waterbody/Project: Gile
 Crew: Heather Lutrows Laura Sass
 Date: 10/13/2022

Sampling Point	Depth (ft)	Dominant sediment type (M=muck, S=sand, R=Rock)	Sampled holding rake pole (M) or rake rope (R)?	Additional Info - Dominant Substrate type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Total Rake Fullness (TRF)	Substrate	Depth	CWD Y/N	Dom Y/N	Extra substrate	Total Info	Total Rake Fullness	Too deep
952	7.2 N	M	P	019	0		995	10.3	N	M	019	0	863
942	9.0 N	M	P	019	0		894	9.0	N	M	019	0	1070
935	7.5 N	M	P	019	0		893	8.5	N	M	019	1	839
936	9.3 N	M	P	019	0		883	10.7	N	M	019	1	19.2
928	10.0 N	M	P	019	0		884	10.7	N	M	019	0	
919	9.4 N	M	P	019	0		874	11.4	N	M	019	0	
908	10.2 N	M	P	019	0		873	11.2	N	M	019	0	
897	10.5 N	M	P	019	0		872	1.8	Y	M	019	1	
887	10.9 N	M	P	019	0		960	3.0	N	R	Cobble	0	
886	8.2 N	M	P	019	0		961	18.0	N	M	019	0	
876	15.2 N	M	P	019	0		868	11.7	N	M	019	0	
865	11.4 N	M	P	019	0		850	11.0	N	M	019	0	
874	10.6 N	M	P	019	0		848	13.1	N	M	019	0	
875	11.2 N	M	P	019	0		847	11.5	N	M	019	0	
885	10.7 N	M	P	019	0		846	2.5	Y	M	019	1	
896	10.0 N	M	P	019	0		859	4.0	Y	M	019	1	
907	9.4 N	M	P	019	0		812	8.4	N	R	Cobble	0	
917	10.1 N	M	P	019	0		813	7.1	N	M	019	0	
918	8.4 N	M	P	019	0		830	5.9	N	M	019	0	
927	10.3 N	M	P	019	0		845	5.1	N	M	019	0	
926	9.3 N	M	P	019	0		795	4.3	N	R	Cobble	0	
934	6.4 Y	M	P	019	0		796	7.6	N	R	Cobble	0	
922	6.2 N	M	P	019	0		778	7.7	N	M	019	0	
914	9.1 N	M	P	019	0		777	4.0	N	R	Cobble	0	
915	2.5 N	M	P	019	1		760	3.5	N	M	019	0	
904	2.4 N	M	P	019	1		761	6.0	N	M	019	0	
905	7.4 N	M	P	019	0		779	3.0	N	M	019	0	
906	9.7 N	M	P	019	0								

Wild Rise near shore

TRF 21035-1

Bottom substrate is a firm consolidated combination of organic muck, detritus, and sand. In the middle the combination is more organic muck - fine silty and sand. In the bays the org muck is dominated by detritus and coarse sand mixed in.

Waterbody/Project: Gile
 Crew: Heather Lutzow
 Laura Sais
 Date: 6/14/2022

Sampling Point	Depth (ft)	Dominant Y/N	Sampled sediment type (M=muck, S=sand, R=Rock)	Additional holding rake pole (P) or rake rope (R)?	Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic	Total Rake Fullness	Substrate type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	<i>Ranunculus flammula</i>	<i>Potamogeton alpinus</i>	<i>Sparganium fluctuans</i>	Sampling Point	Depth	Dominant Y/N	Extra Substrate	Total Substrate	Total Rake Fullness	<i>Nitella</i>	<i>P. alpinus</i>	<i>M. alterniflorum</i>
773	12.0 N	M	P	org							931	8.1	N	M	org				
792	11.3 N	M	P	org							939	8.1	N	M	org				
819	10.5 N	M	P	org							946	7.0	Y	M	org				
827	10.5 N	R	P	cobble							949	6.0	N	M	org				
829	11.2 N	S	P	sand							945	5.0	N	S	sand				
843	10.3 N	M	P	org							938	7.4	Y	M	org				
858	9.5 N	M	P	org							930	9.0	N	M	org				
871	8.9 N	R	P	cobble							981	9.4	N	M	org				
889	4.9 N	R	P	cobble							910	9.7	N	M	org				
881	6.0 N	M	P	org							899	9.9	N	M	org				
892	9.9 N	M	P	org							889	10.2	N	M	org				
902	9.7 N	S	P	sand							878	10.5	N	M	org				
903	6.9 N	R	P	cobble							877	10.6	N	M	org				
914	8.4 N	S	P	sand							888	10.4	N	M	org				
913	11.8 N	M	P	org							898	10.7	N	M	org				
924	8.6 N	M	P	org							909	10.4	N	M	org				
933	8.2 N	M	P	org							920	9.6	N	M	org				
941	6.0 N	M	P	org							929	9.0	N	M	org				
950	1.0 N	R	P	gravel							937	8.2	N	M	org				
947	6.8 N	M	P	org							944	4.8	N	M	org				
940	8.3 Y	M	P	org							943	5.1	N	S	sand				
932	8.4 N	M	P	org							948	8.1	N	M	org				
933	8.8 N	M	P	org							951	10.3	N	M	org				
912	7.5 N	M	P	org							953	4.6	Y	M	org				
901	7.5 N	M	P	org							952	6.0	N	R	boulder				
900	9.4 N	M	P	org							955	Non UV							
911	9.4 N	M	P	org							957	Non UV							
923	9.1 N	M	P	org							954	5.0	Y	S	sand				

Waterbody/Project:
Crew: Leather Lutrows

Gile

Date: 10/14/2022

overcast
wind 8-10 mph

Sampling Point	Depth (ft)	Dominant sediment type (M=muck, S=sand, R=Rock)	Sampled holding rake pole (P) or rake rope (R)?	Additional Info - Dominant Substrate type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Total Rake Fullness	Spargarium fluctuations	Sample point	Depth	Dom Y/N	extra substrate	extra substrate	Total Rake Fullness	myriophyllum alterniflorum	Too deep	depth if measured
552	13.7N	M	P	org			675	16.9	N	0	0	488	15.1		
580	11.2N	M	P	org			702	17.9	N	0	0	459	16.2		
604	7.8N	M	P	org			727	7.0	N	0	0	487	15.4		
628	7.5N	R	P	gravel			744	3.2	R	0	0	518	15.1		
654	6.6N	M	P	org			786	10.1	N	0	0	550	15.0		
679	4.0N	R	P	bedrock	void	Rice straw near shore	701	12.8	N	0	0				
705	3.0N	M	P	org			674	13.3	N	0	0				
678	6.3N	M	P	org			649	14.0	N	0	0				
653	6.0N	R	P	gravel			700	13.3	N	0	0				
627	9.3N	R	P	gravel			785	12.4	N	0	0				
603	11.8N	M	P	org			749	12.1	N	0	0				
579	12.5N	M	P	org			743	2.5	N	0	0				
551	13.7N	M	P	org			759	5.5	N	0	0				
519	4.6N	M	P	org			758	11.3	N	0	0				
578	13.6N	M	P	org			775	10.8	N	0	0				
602	12.9N	M	P	org			776	1.5	N	0	0				
626	11.9N	M	P	org			794	10.5	N	0	0				
652	11.1N	M	P	org			818	9.8	N	0	0				
677	8.6N	M	P	org			829	5.0	N	0	0				
704	6.0N	M	P	org			844	4.0	N	0	0				
703	6.0N	R	P	cobble			828	4.5	N	0	0				
676	8.0N	R	P	gravel			811	6.8	N	0	0				
651	10.0N	M	P	org			793	11.2	N	0	0				
685	11.1N	M	P	org			774	11.2	N	0	0				
601	11.2N	M	P	org			757	12.2	N	0	0				
600	14.2N	M	P	org			741	12.2	N	0	0				
634	11.9N	M	P	org			740	12.5	N	0	0				
750	10.8N	M	P	org			756	12.0	N	0	0				

1/2" x 1/2" mesh
1/4" x 1/4" mesh
1/8" x 1/8" mesh
1/16" x 1/16" mesh
1/32" x 1/32" mesh
1/64" x 1/64" mesh

Waterbody/Project: Cipe
 Crew: PARANASS HEATHOR LUTZ
 Date: 1/17/2022

Sampling Point	Depth (ft)	Dominant sediment type (M=muck, S=sand, R=Rock)	Sampled holding rake pole (M=muck, S=sand, R=Rock)	Additional Info - Dominant Substrate type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Total Rake Fullness
851	10.3 N	M	P		
815	11.0 N	M	P		
797	8.5 N	M	P		
832	16.1 N	M	P		
816	12.3 N	M	P		
833	11.4 N	M	P		
834	13.0 N	M	P		
835	12.7 N	M	P		
819	10.9 N	M	P		
818	12.7 N	M	P		
817	12.8 N	M	P		
792	11.5 N	R	P		
799	12.0 N	M	P		
800	12.9 N	M	P		
801	12.2 N	M	P		
793	12.9 N	M	P		
782	13.2 N	M	P		
781	14.0 N	M	P		
780	9.0 N	R	P		
762	7.2 N	R	P		
763	12.9 N	M	P		
764	13.8 N	M	P		
746	13.8 N	M	P		
745	12.8 N	M	P		
729	11.1 N	M	P		
712	14.5 N	M	P		
713	13.5 N	M	P		
714	14.9 N	M	P		

731 14.2 2. 1. 019
 730 10.4 2. 3. 019
 Sampling point
 depth
 cwo (Y/N)
 dom substrate
 extra info
 Total Rake Fullness

Good mud supply

Waterbody/Project: Oneida Lake Date: 10/22/22
 Crew: Heather Lutzow

Sampling Point	Depth (ft)	CWD (Y/N)	Dominant sediment type (M=muck, S=sand, R=Rock)	Sampled holding rake pole (P) or rake rope (R)?	Additional Info - Dominant Substrate type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Total Rake Fullness	Potamogeton alpinus	Potamogeton nodosus	Elodea nuttallii	Myriophyllum verticillatum	Baby Sagittaria sp.	Point too deep depth	Point too deep		
9	9.5 N	M	P	0.0								51	20.8	5	15.7
12	11.8 N	M	P	0.0								38	17.9	9	15.3
25	9.5 N	M	P	0.0								37	17.5	17	15.6
32	9.5 N	R	P	0.0								49	16.8	24	20.1
33	8.3 N	S	P	0.0								50	18.7	43	16.7
6	5.0 N	M	P	0.0								64	19.7	56	18.1
7	12.7 N	M	P	0.0								63	16.7	71	16.7
10	11.6 N	M	P	0.0								62	15.5	97	17.0
21	11.0 N	M	P	0.0								78	16.4	103	16.3
20	16.7 N	M	P	0.0								94	18.0	31	20.1
14	12.0 N	R	P	0.0								110	15.5	23	16.1
19	4.0 N	R	P	0.0								111	17.6	16	18.3
21	13.9 N	M	P	0.0								129	18.5	11	19.1
27	14.8 N	M	P	0.0								130	18.0	8	18.1
51	5.3 N	S	P	0.0								131	17.8	4	23.5
31	12.1 N	M	P	0.0								132	18.0	1	19.5
25	5.0 N	R	P	0.0								147	17.1	15	15.9
47	11.0 N	M	P	0.0								146	17.1	22	17.5
48	12.9 N	M	P	0.0								128	16.6	28	18.6
61	4.0 Y	M	P	0.0								127	15.6	39	19.6
77	8.0 N	M	P	0.0								144	16.3	68	16.8
93	13.6 N	M	P	0.0								143	16.3	107	22.6
92	10.5 N	M	P	0.0								160	15.8	52	19.5
109	11.9 N	M	P	0.0								172	15.2	40	19.9
145	11.6 N	M	P	0.0										41	20.5
131	5.0 N	M	P	0.0										54	18.4
159	14.9 N	M	P	0.0										69	19.4
176	14.3 N	M	P	0.0										66	20.9

incidental: N. variegata

Leopard Frogs
Ocean Frogs
calling

Waterbody/Project:

Gile
Laura Sass

Heather Letrows

Date: 10/22/22

org = lots of woody debris + org silt mixed w/ some sand

Sampling Point	Depth (ft)	Dominant sediment type (M=muck, S=sand, R=Rock)	Additional holding rake pole (P) or rake rope (R)?	Additional Info - Dominant Substrate type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Total Rake Fullness	<i>Polamogeton alpinus</i>	<i>Polamogeton amplifolius</i>	<i>Myriophyllum verticillatum</i>	Sampling Point	Depth (ft)	Dominant sediment type	Additional Info	Total Rake Fullness	<i>Ranunculus flammula</i>	Point too deep	Depth
373	108 N	M	P	01g	0				447	100 N	M	01g	0	508	10.6	
375	121 N	M	P	01g	0				448	122 N	M	01g	0	540	15.4	
376	123 N	M	P	01g	0				449	127 N	M	01g	0	542	16.7	
377	126 N	M	P	01g	0				452	118 N	M	01g	0	541	16.5	
378	121 N	M	P	01g	0				480	112 N	M	01g	0	512	16.9	
379	129 N	M	P	01g	0				479	133 N	M	01g	0	544	17.4	
415	125 N	M	P	01g	0				478	130 N	M	01g	0	545	16.5	
414	126 N	M	P	01g	0				477	125 N	M	01g	0	513	16.8	
413	125 N	M	P	01g	0				504	133 N	M	01g	0	492	17.4	
412	121 N	M	P	01g	0				505	137 N	M	01g	0	453	17.8	
411	114 N	M	P	01g	0				506	138 N	M	01g	0	418	17.3	
410	101 N	M	P	01g	0				507	SH N	R	01g	0	381	15.7	
409	105 N	M	P	01g	0				538	116 N	M	01g	0	382	—	
408	100 Y	M	P	01g	0				539	118 N	R	01g	0	671	15.7	
372	52 Y	M	P	01g	0				507	119 N	M	01g	0	570	17.2	
371	30 Y	M	P	01g	0				508	110 N	R	01g	0	546	15.4	
407	95 Y	M	P	01g	0				509	148 N	M	01g	0	505	15.1	
406	115 N	M	P	01g	0				481	120 N	R	01g	0	537	16.4	
405	30 N	M	P	01g	0				510	120 N	M	01g	0			
440	78 N	M	P	01g	0				543	131 N	M	01g	0			
441	90 N	M	P	01g	0				511	33 N	R	01g	0			
442	93 Y	M	P	01g	0				452	119 N	M	01g	0			
443	115 N	M	P	01g	0				417	89 N	M	01g	0			
475	30 N	R	P	01g	0				451	118 N	R	01g	0			
473	131 N	M	P	01g	0				410	68 N	M	01g	0			
444	98 N	M	P	01g	0				380	63 N	M	01g	0			
445	100 Y	M	P	01g	0				504	119 N	M	01g	0			
446	35 D	R	P	01g	0				536	145 Y	M	01g	0			

Northern Blue flag on shore

10/23 - mayfly hatch

Waterbody/Project: Lawson Pass + Heather Lutzow
 Crew: Gille

Date: 10/22/22 / 10/23/2022

Sampling Point	Depth (ft)	Dominant sediment type (M=muck, S=sand, R=Rock)	Additional holding rake pole (P) or rake rope (R)?	Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic	Total Rake Fullness	Ranunculus flammula	Elatine minima	Potamogeton alpinus	Sampling point	Depth (ft)	Dominant sediment	Additional info	Total Rake Fullness	Too deep	Depth
535	14.0 Y	M	P	wood											
534	9.7 N	R	P	gravel											
5101	11.5 N	M	P	org											
5100	11.3 N	S	P	sand											
559	2.8 N	S	P	sand											
5102	14.5 N	M	P	wood											
5103	14.5 N	M	P	org											
584	11.9 Y	M	P	wood											
583	10.6 N	M	P	org											
582	8.0 N	M	P	org											
605	7.0 N	M	P	org											
606	13.7 N	M	P	org											
607	14.5 N	M	P	org											
608	13.5 N	R	P	cobble											
119	10.8 N	R	P	gravel											
689	14.3 N	M	P	org											
681	14.7 N	M	P	org											
1100	14.4 N	M	P	org											
1010	14.8 N	M	P	org											
1030	14.1 N	M	P	org											
1031	13.1 N	M	P	org											
1038	18 N	M	P	org											
1039	20 N	M	P	org											
680	5.0 N	M	P	org											
681	9.0 N	M	P	org											
706	7.0 N	M	P	org											
783	5.0 N	M	P	org											
1082	9.8 N	M	P	org											

Incidental - Schaefferia acutis

Waterbody/Project: Gile
 Crew: Laura Sars Heather Lutzow

Date: 10/23/22

Sampling Point	Depth (ft)	Dominant sediment type (M=muck, S=sand, R=Rock)	Additional Info - Dominant Substrate type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Total Rate Fullness	Myriophyllum heterophyllum	Myriophyllum verticillatum	Elodea nuttallii	Aquatic grass (Does not count for TRF)
680	5.0 N	M	P	0.0				
716.1	12.6 N	M	P	0.0				
716.5	12.8 N	M	P	0.0				
879	9.8 Y	M	P	0.0				
890	9.6 Y	M	P	0.0				
891	9.6 Y	M	P	0.0				
880	10.2 Y	M	P	0.0				
869	10.4 Y	M	P	0.0				
870	10.9 Y	M	P	0.0				
840	11.1 N	M	P	0.0				
823	11.0 N	M	P	0.0				
806	11.7 N	M	P	0.0				
788	7.0 N	R	P	0.0				
787	11.9 N	M	P	0.0				
716.9	4.0 N	R	P	0.0				
751	12.4 N	M	P	0.0				
752	12.4 N	M	P	0.0				
753	12.6 N	M	P	0.0				
770	11.8 N	M	P	0.0				
784	11.5 N	M	P	0.0				
807	11.2 N	M	P	0.0				
824	10.9 N	M	P	0.0				
841	10.5 N	M	P	0.0				
842	10.8 Y	M	P	0.0				
825	10.8 Y	M	P	0.0				
808	11.2 N	M	P	0.0				
790	11.5 N	M	P	0.0				
771	11.5 N	M	P	0.0				

Sample point	Depth (ft)	Dom. substrate	Additional Info	Total Rate Fullness
784	12.6	N	M	0.0
802	12.5	N	M	0.0
920	11.3	N	M	0.0
836	12.3	N	M	0.0
851	11.4	N	M	0.0
852	11.2	N	M	0.0
837	12.0	N	M	0.0
821	11.0	N	M	0.0
803	10.8	N	M	0.0
785	12.16	N	M	0.0
767	12.6	N	M	0.0
749	12.9	N	M	0.0
750	13.3	N	M	0.0
762	12.5	N	M	0.0
786	12.2	N	M	0.0
904	9.4	N	M	0.0
805	11.5	N	M	0.0
822	11.3	N	M	0.0
839	11.3	N	M	0.0
838	11.5	N	M	0.0
853	10.8	N	M	0.0
866	10.1	N	M	0.0
867	10.3	N	M	0.0
868	10.3	N	M	0.0
859	10.6	N	M	0.0
856	10.4	N	M	0.0
855	10.7	N	M	0.0
854	11.1	N	M	0.0

ATTACHMENT B
Aquatic Invasive Species Survey
Field Data Sheets – July

Waterbody/Project: Gile Flowage
 Crew: KYLEEN BLACK & LAURA SASS

Date: 7/28/22

Sampling Point	Depth (ft)	CWD? Y or N	Dominant sediment type (M=muck, S=sand, R=Rock)	Sampled holding rake pole (P) or rake rope (R)?	Additional Info - Dominant Substrate type (Clay, Silt, Sand, Gravel, Cobble, Boulder, Bedrock, Wood, Organic)	Total Rake Fullness	<i>Ceratophyllum demersum</i>	<i>Elatine minima</i>	<i>Elodea canadensis</i>	<i>Elodea nuttallii</i>	<i>Myriophyllum alterniflorum</i>	<i>Myriophyllum heterophyllum</i>	<i>Myriophyllum verticillatum</i>	<i>Nitella</i> sp.	<i>Persicaria amphibia</i> (Polygonum amphibium)	<i>Potamogeton alpinus</i>	<i>Potamogeton amplifolius</i>	<i>Potamogeton epithyridus</i>	<i>Potamogeton gramineus</i>	<i>Potamogeton nodosus</i>	<i>Ranunculus pusillus</i>	<i>Sagittaria flammula</i>	<i>Sagittaria</i> sp.	<i>Schoenoplectus subterminalis</i>	<i>Sparganium fluctuans</i>	<i>Zizania</i> sp.	Aquatic moss	PONDWEED	UTRICULARIA		
625	5.6	N	M	P	DRG	0																									
636	N/N	SHALLOW	P	PLANTS																											
639	2.5	N	M	P	DRG	1																									
650	4.5	N	M	P	DRG	1																									
705	5.5	N	M	P	DRG	1																									
728	4.3	N	M	P	DRG	1																									
707	6.6	N	M	P	DRG	0																									
709	2.5	N	M	P	DRG	0																									
683	4.1	N	R	P	GRAV	0																									
762	6.0	N	R	P	GRAV	0																									
780	3.1	N	M	P	DRG	0																									
798	5.0	N	R	P	GRAV	0																									
779	1.5	N	M	P	DRG	0																									
778	6.3	N	M	P	DRG	0																									
761	4.5	N	M	P	DRG	1																									
760	2.2	N	M	P	DRG	1																									
777	2.3	N	M	P	DRG	0																									
796	6.7	N	M	P	DRG	0																									
795	3.0	Y	M	P	DRG	1																									
813	5.7	N	M	P	DRG	1																									
830	4.5	N	M	P	DRG	1																									
845	6.1	N	M	P	DRG	1																									
846	3.2	N	M	P	DRG	2																									
859	2.9	N	M	P	DRG	1																									
860	2.6	N	R	P	GRAV	0																									
872	TEARES-TSIAL																														
758	5.0	N	R	P	GRAV	0																									
769	4.5	N	P	P	DRG	0																									

UTRICULARIA VULGARIS

ATTACHMENT C

Photo Log

Gile Flowage ATIS Study Report Photo Log



Woody debris on sampling rake at a sampling point during the June point-intercept survey
46.377152, -90.236264
June 14, 2022



Gile tailwater sampling below the dam,
46.42594, - 90.22691
June 27, 2022



Slender waterweed (*Elodea nuttallii*),
46.41064, -90.2412027
June 22, 2022



Invertebrates located by boat launch,
46.406794, -90.19317472
July 6, 2022



Northern clearwater crayfish by Hwy C boat launch, 46.406775, -90.193144
July 6, 2022



Freshwater sponge growing on rocks below the dam, 46.42594, - 90.22691
July 27, 2022



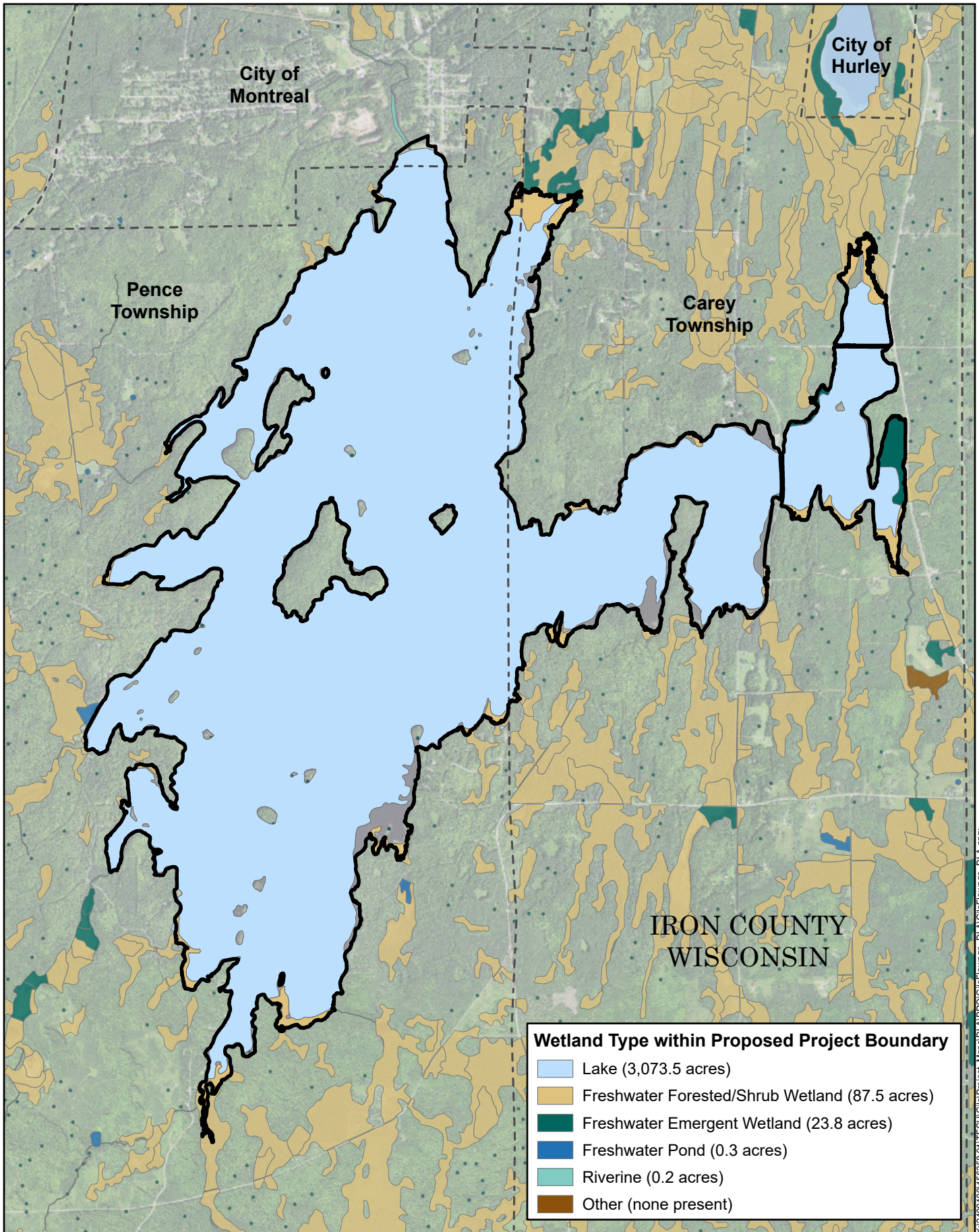
An example of the plentiful wildlife habitat and basking areas in one of the bays of Gile Flowage, 46.38025, -90.24320277, June 30, 2022

ATTACHMENT D

Terrestrial Survey Field Data



Project County Date Field Crew	Site #	Landcover Classification	Starting latitude	Starting longitude	Abundance = Daubenmire Scale: Length = ft.	Glossy buckthorn	Eurasian honeysuckle	Spotted knapweed	Narrow-leaf cattail	Purple loosestrife	Tansy
Gile	1	Roadside	46.40563631	-90.1929027	Relative Abundance Length of Shoreline		3				
Iron	2	Northern Mesic/Wet Mesic Forest	46.40391567	-90.19321404	Relative Abundance Length of Shoreline	1	1	1			
Kellen Black	3	Talus Forest	46.3679376	-90.24414009	Relative Abundance Length of Shoreline	20	10	20			
Heather Lutzow	4	Roadside	46.3679376	-90.24414009	Relative Abundance Length of Shoreline	1	1	1			
Laura Sass	5	Roadside	46.38771338	-90.25603766	Relative Abundance Length of Shoreline	10	10	10			
	6	Northern Mesic Forest	46.3911494	-90.25426332	Relative Abundance Length of Shoreline	1	1	1			
	7	Northern Mesic Forest	46.41787036	-90.21598766	Relative Abundance Length of Shoreline	2	129	931			
	8	Northern Mesic Forest	46.42223762	-90.22364629	Relative Abundance Length of Shoreline	1	1	1			
	9	Northern Mesic Forest	46.42507457	-90.22788273	Relative Abundance Length of Shoreline	132	115	115			
	10	Northern Mesic Forest	46.41787036	-90.21598766	Relative Abundance Length of Shoreline						
	11	Northern Mesic/Wet Mesic Forest	46.4097658	-90.21684433	Relative Abundance Length of Shoreline		3	1			
	12	Roadside	46.40636593	-90.19240796	Relative Abundance Length of Shoreline		1105	239			
	13	Northern Mesic/Wet Mesic Forest	46.40334148	-90.19235749	Relative Abundance Length of Shoreline		2	1			
	14	Roadside	46.41368718	-90.18665268	Relative Abundance Length of Shoreline		695	254			2
	15	Northern Wet Mesic Forest	46.41355862	-90.18324345	Relative Abundance Length of Shoreline			2			
	16	Emergent Wetland/Tag Alder	46.40362276	-90.18379731	Relative Abundance Length of Shoreline			197			
	17	Tag Alder/ Northern Wet Mesic Forest	46.36709969	-90.24473256	Relative Abundance Length of Shoreline	1					
	Island 1	Boulder	46.39741007	-90.21231307	Relative Abundance Length of Shoreline						
	Island 2	Boulder	46.3950843	-90.21671714	Relative Abundance Length of Shoreline						
	Island 3	Northern Mesic/Talus Forest	46.3754167	-90.24174699	Relative Abundance Length of Shoreline						
	Island 4	Northern Mesic/Talus Forest	46.37763421	-90.2420718	Relative Abundance Length of Shoreline						

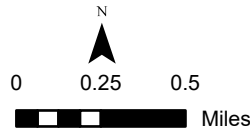
APPENDIX E-11 Wetlands within the Project Vicinity









X:\2400\1001\658358.01\TECH\GileFlowage_DLA\GileFlowage_DLA.aprx
 Source Layer: ESRI USGS Topo; PLSS Source: Wisconsin State Cartographers Office at <https://www.sco.wisc.edu/data/>; Wetland Source: U.S. Fish and Wildlife Service and the National Wetlands Inventory.



 Proposed Project Boundary
 Municipal Boundary



**Gile Flowage Storage Reservoir
Project Vicinity Wetlands**

Wetland Type within Proposed Project Boundary	
	Lake (3,073.5 acres)
	Freshwater Forested/Shrub Wetland (87.5 acres)
	Freshwater Emergent Wetland (23.8 acres)
	Freshwater Pond (0.3 acres)
	Riverine (0.2 acres)
	Other (none present)

Note: the impounded Proposed Project Boundary is established at elevation 1490.0 feet NGVD.

FERC No. 15055

APPENDIX E-12 WDNR Gile Flowage Storage Reservoir Fish Data

HEADWATERS BASIN FISHERIES SAMPLING HISTORY

Iron Co	Sampling Method	YE AR																															
		55	56	57	59	64	68	73	84	85	86	87	88	89	90	91	92	93	00	03	04	08	09	10	11	12	13	14	15	16	17	18	19
Gile	SE1							X									X		X														
	SN1	X	X	X	X	X	X	X	X				X				X	X	X		X		X		X		X	X					
	SE2																	X			X	X		X		X		X		X			
	SN3							X	X									X				X		X			X	X	X	X	X		
	FE								X	X	X	X	X	X	X	X	X		X							X				X			
	Creel																X		X	X													
	FN																									X							

County Name	Waterbody Name	Local Waterbody		Year	Species	Strain Stock	Age Class	Number Fish	Avg Fish	Source Type	Trs
		Wbic	Name					Stocked	Length In		
IRON	GILE FLOWAGE	2942300	Giles Flowage	2016	BLUEGILL	UNSPECIFIED	YEARLING	4968	5	PRIVATE HATCHE	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	2017	BLUEGILL	UNSPECIFIED	YEARLING	5574	5	PRIVATE HATCHE	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1973	MUSKELLUNGE	UNSPECIFIED	FINGERLING	800	13	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1986	MUSKELLUNGE	UNSPECIFIED	FINGERLING	1210	11	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1987	MUSKELLUNGE	UNSPECIFIED	FINGERLING	5250	9	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1988	MUSKELLUNGE	UNSPECIFIED	FINGERLING	4500	10.33	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1989	MUSKELLUNGE	UNSPECIFIED	FINGERLING	1176	13	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1990	MUSKELLUNGE	UNSPECIFIED	FINGERLING	1250	13	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1991	MUSKELLUNGE	UNSPECIFIED	FINGERLING	3500	11.67	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1992	MUSKELLUNGE	UNSPECIFIED	FINGERLING	2500	10.33	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1993	MUSKELLUNGE	UNSPECIFIED	FINGERLING	3300	11.97	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1986	SMALLMOUTH B	UNSPECIFIED	FINGERLING	10000	3	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1972	MUSKELLUNGE	UNSPECIFIED	FINGERLING	3122	13	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1974	MUSKELLUNGE	UNSPECIFIED	FINGERLING	2500	7	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1975	MUSKELLUNGE	UNSPECIFIED	FINGERLING	677	11	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1976	MUSKELLUNGE	UNSPECIFIED	FINGERLING	2500	8	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1977	MUSKELLUNGE	UNSPECIFIED	FINGERLING	2500	7	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1978	MUSKELLUNGE	UNSPECIFIED	FINGERLING	1700	12	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1979	MUSKELLUNGE	UNSPECIFIED	FINGERLING	3000	8	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1980	MUSKELLUNGE	UNSPECIFIED	FINGERLING	2500	9	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1981	MUSKELLUNGE	UNSPECIFIED	FINGERLING	500	11	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1982	MUSKELLUNGE	UNSPECIFIED	FINGERLING	1250	11	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1983	MUSKELLUNGE	UNSPECIFIED	FINGERLING	1587	10.33	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1984	MUSKELLUNGE	UNSPECIFIED	FINGERLING	2500	7	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1985	MUSKELLUNGE	UNSPECIFIED	FINGERLING	3500	10	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1986	MUSKELLUNGE	UNSPECIFIED	FINGERLING	2290	11	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1985	SMALLMOUTH B	UNSPECIFIED	FINGERLING	34545	3	DNR COOP POND	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1987	SMALLMOUTH B	UNSPECIFIED	FINGERLING	61248	1	PRIVATE HATCHE	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	1998	MUSKELLUNGE	UNSPECIFIED	LARGE FINGERLING	2486	12	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	2001	MUSKELLUNGE	UNSPECIFIED	LARGE FINGERLING	884	10.6	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	2002	MUSKELLUNGE	UNSPECIFIED	LARGE FINGERLING	2500	10.85	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	2004	MUSKELLUNGE	UNSPECIFIED	LARGE FINGERLING	2836	11.8	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	2010	MUSKELLUNGE	UPPER WISCON	LARGE FINGERLING	1267	13.15	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	2012	MUSKELLUNGE	UPPER CHIPPEV	LARGE FINGERLING	1692	13.3	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	2017	MUSKELLUNGE	UPPER CHIPPEV	LARGE FINGERLING	551	11.2	DNR HATCHERY	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	2005	BLUEGILL	UNSPECIFIED	ADULT (FIELD TRANSFI	24451	-	FIELD TRANSFER	46N-2E-34
IRON	GILE FLOWAGE	2942300	Giles Flowage	2005	PUMPKINSEED	UNSPECIFIED	ADULT (FIELD TRANSFI	9838	4.4	FIELD TRANSFER	46N-2E-34

OPENWATER AND ICE CREEL**2003-2004****CREEL SURVEY SYNOPSIS**

MWBC: 2942300

LAKE: Gile Flowage

COUNTY: Iron

ACRES: 3384

PROJECTED PRESSURE: 35720 HOURS

HOURS/ACRE: 10.6

Species	Directed Effort (Hours)	(%)	Catch	Specific Catch Rate (Fish/Hour)	Harvest	Specific Harvest Rate (Fish/Hour)	Mean Length (Inches)
Walleye	17,801	37.3%	4,161	0.23	2,256	0.13	14.0
Northern Pike	5,404	11.3%	2,101	0.19	542	0.09	18.6
Muskellunge	3,915	8.2%	81	0.01	0	0.00	
Smallmouth Bass	17,548	36.8%	22,643	1.13	173	0.01	15.5
Largemouth Bass	119	0.2%	225	0.82	0	0.00	
Bluegill	974	2.0%	327	0.31	190	0.19	7.6
Pumpkinseed	242	0.5%	93	0.21	47	0.13	6.8
Black Crappie	634	1.3%	150	0.13	92	0.13	12.5
Yellow Perch	863	1.8%	110	0.07	37	0.03	9.9
Rock Bass	223	0.5%	1,723	0.74	121	0.23	9.3
Green Sunfish	*	0	104	*	0	*	

Table 2

Estimated Effort Detailed Report

Gile Flowage
03-MAY-2003 TO 01-MAR-2004

Site	Season	Month	Day Type	Days Sampled	Total Counts	Boat/Ice Shanty Angler Hours	St Dev Boat/Ice Shant Angler Hours	Shore/Open-Ice Angler Hours	St Dev Shore/Open-Ice Angler Hours	Total Angler Hours	St Dev Total Angler Hours	
1	Summer	May	Weekday	11	22	1,994.57	457.78	816.57	252.14	2,811.14	522.62	
			Weekend	10	20	4,293.50	267.57	984.25	193.44	5,277.75	330.17	
			Total	21	42	6,288.07	530.24	1,800.82	317.79	8,088.89	618.18	
		June	Weekday	12	24	5,124.00	593.86	994.00	186.48	6,118.00	622.45	
			Weekend	9	18	4,680.00	550.03	664.00	181.90	5,344.00	579.32	
			Total	21	42	9,804.00	809.44	1,658.00	260.50	11,462.00	850.33	
		July	Weekday	14	27	2,954.29	477.09	653.71	186.81	3,608.00	512.36	
			Weekend	9	18	3,696.00	278.97	488.00	127.25	4,184.00	306.62	
			Total	23	45	6,650.29	552.67	1,141.71	226.03	7,792.00	597.10	
		August	Weekday	12	24	2,549.75	421.81	447.56	137.94	2,997.31	443.79	
			Weekend	10	20	1,898.75	154.03	178.25	50.82	2,077.00	162.20	
			Total	22	44	4,448.50	449.05	625.81	147.00	5,074.31	472.50	
		September	Weekday	12	24	507.94	122.59	23.63	16.38	531.56	123.68	
			Weekend	9	18	546.75	102.15	40.50	13.50	587.25	103.03	
			Total	21	42	1,054.69	159.57	64.13	21.22	1,118.81	160.97	
		October	Weekday	9	18	205.72	72.60	58.78	39.95	264.50	82.87	
			Weekend	8	16	195.50	31.49	34.50	16.26	230.00	35.45	
			Total	17	34	401.22	79.14	93.28	43.13	494.50	90.13	
		Total	Weekday	70	139	13,336.26	994.01	2,994.25	392.60	16,330.51	1,068.74	
			Weekend	55	110	15,310.50	697.92	2,389.50	299.55	17,700.00	759.49	
			Total	125	249	28,646.76	1,214.56	5,383.75	493.82	34,030.51	1,311.12	
		Winter	December	Weekday	9	18	153.33	57.50	0.00	*	153.33	57.50
				Weekend	8	16	115.00	32.46	0.00	*	115.00	32.46
				Total	17	34	268.33	66.03	0.00	*	268.33	66.03
			January	Weekday	9	18	548.33	334.24	*	*	548.33	334.24
				Weekend	9	18	400.00	84.98	*	*	400.00	84.98
				Total	18	36	948.33	344.87	*	*	948.33	344.87
			February	Weekday	7	14	197.14	78.22	*	*	197.14	78.22
				Weekend	9	18	276.00	102.05	*	*	276.00	102.05
				Total	16	32	473.14	128.58	*	*	473.14	128.58
	March		Weekday	1	2	0.00	*	*	*	0.00	0.00	
			Total	1	2	0.00	*	*	*	0.00	0.00	
	Total		Weekday	26	52	898.81	348.05	0.00	*	898.81	348.05	
			Weekend	26	52	791.00	136.71	*	*	791.00	136.71	
			Total	52	104	1,689.81	373.94	0.00	*	1,689.81	373.94	
	Total		Total	Weekday	96	191	14,235.07	1,053.19	2,994.25	392.60	17,229.32	1,123.98
		Weekend		81	162	16,101.50	711.19	2,389.50	299.55	18,491.00	771.70	
		Total		177	353	30,336.57	1,270.82	5,383.75	493.82	35,720.32	1,363.40	

Table 3

Projected Catch and Harvest

Gile Flowage
03-MAY-2003 TO 01-MAR-2004

Species	Month	Catch	St Dev Catch	Harvest	St Dev Harvest
Black Crappie	May	0	*	0	*
	June	0	*	0	*
	July	69	43.28	10	10.57
	August	81	57.87	81	57.87
	September	0	*	0	*
	October	0	*	0	*
	December	0	*	0	*
	January	0	*	0	*
	February	0	*	0	*
	Summer	150	72.27	92	58.83
	Winter	0	*	0	*
	Total	150	72.27	92	58.83
Bluegill	May	0	*	0	*
	June	0	*	0	*
	July	93	84.23	62	62.57
	August	201	135.70	95	69.30
	September	33	34.41	33	34.41
	October	0	*	0	*
	December	0	*	0	*
	January	0	*	0	*
	February	0	*	0	*
	Summer	327	163.38	190	99.51
	Winter	0	*	0	*
	Total	327	163.38	190	99.51
Green Sunfish	May	0	*	0	*
	June	0	*	0	*
	July	104	105.70	0	*
	August	0	*	0	*
	September	0	*	0	*
	October	0	*	0	*
	December	0	*	0	*
	January	0	*	0	*
	February	0	*	0	*
	Summer	104	105.70	0	*
	Winter	0	*	0	*
	Total	104	105.70	0	*
Largemouth Bass	May	52	52.37	0	*
	June	140	110.86	0	*
	July	14	13.99	0	*
	August	19	19.48	0	*
	September	0	*	0	*
	October	0	*	0	*
	December	0	*	0	*
	January	0	*	0	*
	February	0	*	0	*
	Summer	225	124.93	0	*
	Winter	0	*	0	*
	Total	225	124.93	0	*
Muskellunge	May	11	10.59	0	*
	June	25	17.98	0	*
	July	14	13.82	0	*
	August	14	13.38	0	*
	September	0	*	0	*
	October	18	7.01	0	*
	December	0	*	0	*
	January	0	*	0	*
	February	0	*	0	*
	Summer	81	29.24	0	*
	Winter	0	*	0	*
	Total	81	29.24	0	*
Northern Pike	May	501	125.40	74	34.64
	June	828	143.19	325	105.92

Table 3

Projected Catch and Harvest

Gile Flowage
03-MAY-2003 TO 01-MAR-2004

Species	Month	Catch	St Dev Catch	Harvest	St Dev Harvest	
	July	620	247.18	124	89.71	
	August	46	33.65	0	*	
	September	8	8.41	0	*	
	October	0	*	0	*	
	December	17	12.46	0	*	
	January	41	28.50	10	6.14	
	February	41	41.86	9	6.71	
	Summer	2003	313.90	523	143.07	
	Winter	99	52.15	19	9.09	
	Total		2101	318.20	542	143.35
	Pumpkinseed	May	0	*	0	*
June		0	*	0	*	
July		52	50.65	31	30.39	
August		0	*	0	*	
September		41	43.01	16	17.20	
October		0	*	0	*	
December		0	*	0	*	
January		0	*	0	*	
February		0	*	0	*	
Summer		93	66.45	47	34.92	
Winter		0	*	0	*	
Total		93	66.45	47	34.92	
Rock Bass	May	49	29.24	32	23.44	
	June	310	200.97	11	11.88	
	July	737	289.10	21	20.74	
	August	543	217.88	41	42.37	
	September	85	54.76	16	17.20	
	October	0	*	0	*	
	December	0	*	0	*	
	January	0	*	0	*	
	February	0	*	0	*	
	Summer	1723	418.68	121	56.67	
	Winter	0	*	0	*	
Total		1723	418.68	121	56.67	
Smallmouth Bass	May	5353	1,066.36	0	*	
	June	11645	1,845.75	22	23.78	
	July	3222	612.23	38	22.41	
	August	2241	701.46	99	54.16	
	September	179	68.60	14	10.32	
	October	3	3.31	0	*	
	December	0	*	0	*	
	January	0	*	0	*	
	February	0	*	0	*	
	Summer	22643	2,327.12	173	64.09	
	Winter	0	*	0	*	
Total		22643	2,327.12	173	64.09	
Walleye	May	1824	359.11	988	184.27	
	June	644	213.93	373	120.00	
	July	948	276.80	499	149.97	
	August	483	180.46	243	107.10	
	September	107	41.92	30	15.83	
	October	0	*	0	*	
	December	28	13.24	26	13.00	
	January	106	47.16	78	37.05	
	February	20	10.51	18	9.98	
	Summer	4007	534.48	2134	287.35	
	Winter	155	50.10	122	40.51	
Total		4161	536.82	2256	290.19	
Yellow Perch	May	0	*	0	*	
	June	13	12.82	13	12.82	
	July	38	29.83	0	*	
	August	19	19.16	0	*	

Table 3

Projected Catch and Harvest

Gile Flowage
03-MAY-2003 TO 01-MAR-2004

Species	Month	Catch	St Dev Catch	Harvest	St Dev Harvest
	September	41	32.39	24	25.81
	October	0	*	0	*
	December	0	*	0	*
	January	0	*	0	*
	February	0	*	0	*
	Summer	110	49.70	37	28.82
	Winter	0	*	0	*
	Total	110	49.70	37	28.82

Table 4

Catch Rate, Harvest Rate, and Targeted Effort Summary

Gile Flowage
03-MAY-2003 TO 01-MAR-2004

Species	Month	General Cat/Hour	General Hours/Cat	Specific Cat/Hour	Specific Hours/Cat	General Harv/Hour	General Hours/Harv	Specific Harv/Hour	Specific Hours/Harv	Specific Effort	
Black Crappie	July	0.01	113.05	0.00	*	0.00	750.40	0.00	*	23	
	August	0.02	62.52	0.14	7.34	0.02	62.52	0.14	7.34	595	
	January	0.00	*	0.00	*	0.00	*	0.00	*	16	
	Summer	0.01	85.72	0.13	7.62	0.01	140.54	0.13	7.62	618	
	Winter	0.00	*	0.00	*	0.00	*	0.00	*	16	
	Total	0.01	88.39	0.13	7.81	0.01	144.90	0.13	7.81	634	
Bluegill	June	0.00	*	0.00	*	0.00	*	0.00	*	81	
	July	0.02	44.77	0.23	4.43	0.01	67.16	0.17	5.90	368	
	August	0.04	25.25	0.38	2.64	0.02	53.59	0.20	5.06	479	
	September	0.06	16.32	0.70	1.43	0.06	16.32	0.70	1.43	47	
	Summer	0.02	46.28	0.31	3.28	0.01	79.83	0.19	5.14	974	
	Total	0.02	46.28	0.31	3.28	0.01	79.83	0.19	5.14	974	
Green Sunfish	July	0.02	40.29	*	*	0.00	*	*	*	*	
	Summer	0.02	40.29	*	*	0.00	*	*	*	*	
	Total	0.02	40.29	*	*	0.00	*	*	*	*	
Largemouth Bass	May	0.02	54.43	*	*	0.00	*	*	*	*	
	June	0.01	81.87	0.95	1.05	0.00	*	0.00	*	88	
	July	0.00	263.48	0.45	2.23	0.00	*	0.00	*	31	
	August	0.01	155.15	*	*	0.00	*	*	*	*	
	Summer	0.01	92.93	0.82	1.22	0.00	*	0.00	*	119	
	Total	0.01	92.93	0.82	1.22	0.00	*	0.00	*	119	
Muskellunge	May	0.00	497.90	0.00	*	0.00	*	0.00	*	46	
	June	0.00	454.46	0.00	*	0.00	*	0.00	*	459	
	July	0.00	569.03	0.00	*	0.00	*	0.00	*	1,136	
	August	0.00	375.10	0.01	98.14	0.00	*	0.00	*	1,328	
	September	0.00	*	0.00	*	0.00	*	0.00	*	486	
	October	0.04	28.04	0.04	26.11	0.00	*	0.00	*	460	
	Summer	0.00	386.97	0.01	125.64	0.00	*	0.00	*	3,915	
	Total	0.00	386.97	0.01	125.64	0.00	*	0.00	*	3,915	
	Northern Pike	May	0.06	16.15	0.12	8.50	0.01	109.01	0.12	8.50	360
June		0.07	13.85	0.14	7.17	0.03	35.29	0.10	9.95	3,233	
July		0.08	12.57	0.34	2.94	0.02	62.76	0.08	12.73	1,406	
August		0.01	109.42	0.07	15.23	0.00	*	0.00	*	294	
September		0.02	65.28	0.20	5.05	0.00	*	0.00	*	41	
December		0.06	15.72	*	*	0.00	*	*	*	*	
January		0.04	23.14	0.25	4.00	0.01	96.61	0.25	4.00	20	
February		0.09	11.68	0.18	5.56	0.02	52.74	0.18	5.56	50	
Summer		0.06	16.45	0.19	5.34	0.02	62.98	0.09	11.17	5,334	
Winter		0.06	17.14	0.20	5.01	0.01	89.94	0.20	5.01	69	
Total		0.06	16.48	0.19	5.34	0.02	63.92	0.09	10.99	5,404	
Pumpkinseed		July	0.01	80.59	0.21	4.67	0.01	134.31	0.13	7.78	242
		September	0.08	13.06	*	*	0.03	32.64	*	*	*
	Summer	0.02	50.91	0.21	4.67	0.01	99.41	0.13	7.78	242	
	Total	0.02	50.91	0.21	4.67	0.01	99.41	0.13	7.78	242	
Rock Bass	May	0.01	165.03	*	*	0.00	254.37	*	*	*	
	June	0.03	37.02	0.50	2.00	0.00	1,023.37	0.50	2.00	22	
	July	0.09	10.57	*	*	0.00	375.20	*	*	*	
	August	0.11	9.35	0.77	1.30	0.01	125.03	0.20	4.95	201	
	September	0.08	13.20	*	*	0.01	68.70	*	*	*	
	Summer	0.05	19.46	0.74	1.35	0.00	277.99	0.23	4.31	223	
	Total	0.05	19.46	0.74	1.35	0.00	277.99	0.23	4.31	223	
Smallmouth Bass	May	0.66	1.51	1.38	0.72	0.00	*	0.00	*	2,865	
	June	1.02	0.98	1.59	0.63	0.00	511.69	0.00	306.92	6,875	
	July	0.41	2.42	0.63	1.59	0.00	206.30	0.01	174.88	4,211	
	August	0.44	2.26	0.70	1.43	0.02	51.49	0.03	30.36	2,991	
	September	0.16	6.26	0.23	4.42	0.01	80.64	0.03	39.63	550	
	October	0.02	66.25	0.06	16.07	0.00	*	0.00	*	56	
	Summer	0.67	1.49	1.13	0.89	0.01	195.65	0.01	110.44	17,548	
	Total	0.67	1.49	1.13	0.89	0.01	195.65	0.01	110.44	17,548	
Walleye	May	0.23	4.43	0.30	3.31	0.12	8.19	0.17	6.04	5,967	
	June	0.06	17.79	0.23	4.38	0.03	30.76	0.13	7.54	2,723	
	July	0.12	8.22	0.18	5.53	0.06	15.60	0.10	10.27	5,131	

Table 4

Catch Rate, Harvest Rate, and Targeted Effort Summary

Gile Flowage
03-MAY-2003 TO 01-MAR-2004

Species	Month	General Cat/Hour	General Hours/Cat	Specific Cat/Hour	Specific Hours/Cat	General Harv/Hour	General Hours/Harv	Specific Harv/Hour	Specific Hours/Harv	Specific Effort
	August	0.10	10.51	0.26	3.85	0.05	20.84	0.14	7.21	1,756
	September	0.10	10.48	0.18	5.52	0.03	37.10	0.04	24.75	545
	October	0.00	*	0.00	*	0.00	*	0.00	*	75
	December	0.11	9.45	0.11	9.45	0.10	10.48	0.10	10.48	268
	January	0.11	8.90	0.12	8.57	0.08	12.09	0.09	11.64	913
	February	0.04	23.73	0.05	21.23	0.04	26.37	0.04	23.59	423
	Summer	0.12	8.49	0.24	4.15	0.06	15.95	0.13	7.66	16,197
	Winter	0.09	10.91	0.10	10.36	0.07	13.85	0.08	13.15	1,604
	Total	0.12	8.58	0.23	4.38	0.06	15.83	0.13	7.96	17,801
Yellow Perch	June	0.00	485.15	*	*	0.00	485.15	*	*	*
	July	0.00	206.30	0.00	*	0.00	*	0.00	*	469
	August	0.01	155.15	0.06	18.00	0.00	*	0.00	*	348
	September	0.08	13.06	0.87	1.14	0.05	21.76	0.52	1.91	47
	Summer	0.01	157.94	0.07	14.38	0.00	470.84	0.03	35.34	863
	Total	0.01	157.94	0.07	14.38	0.00	470.84	0.03	35.34	863

Table 5

Length Frequency of Creel Clerk Measured Fish

Gile Flowage
03-MAY-2003 TO 01-MAR-2004

Species	Length	Freq	CumFreq	CumPercent
Black Crappie	11	1	1	14%
	12	4	5	71%
	13	2	7	100%
Bluegill	6	5	5	33%
	7	5	10	67%
	8	2	12	80%
	9	2	14	93%
	10	1	15	100%
Northern Pike	11	2	2	2%
	12	4	6	7%
	13	2	8	9%
	14	3	11	13%
	15	3	14	16%
	16	4	18	21%
	17	10	28	32%
	18	16	44	51%
	19	16	60	69%
	20	11	71	82%
	21	9	80	92%
	22	4	84	97%
	23	2	86	99%
	24	0	86	99%
	25	0	86	99%
	26	0	86	99%
	27	0	86	99%
	28	0	86	99%
	29	0	86	99%
	30	0	86	99%
	31	0	86	99%
32	0	86	99%	
33	0	86	99%	
34	0	86	99%	
35	0	86	99%	
36	1	87	100%	
Pumpkinseed	6	1	1	50%
	7	1	2	100%
Rock Bass	8	3	3	33%
	9	3	6	67%
	10	3	9	100%
Smallmouth Bass	14	2	2	13%
	15	9	11	73%
	16	2	13	87%
	17	2	15	100%
Walleye	4	1	1	0%
	5	0	1	0%
	6	0	1	0%
	7	0	1	0%
	8	0	1	0%
	9	3	4	1%
	10	12	16	6%
	11	17	33	12%
	12	48	81	30%
	13	59	140	51%
	14	52	192	70%
15	35	227	83%	
16	24	251	92%	
17	9	260	95%	
18	6	266	97%	
19	3	269	98%	
20	2	271	99%	
21	2	273	100%	
22	0	273	100%	

Table 5

Length Frequency of Creel Clerk Measured Fish

Gile Flowage
03-MAY-2003 TO 01-MAR-2004

Species	Length	Freq	CumFreq	CumPercent
	23	0	273	100%
	24	1	274	100%
Yellow Perch	8	1	1	25%
	9	1	2	50%
	10	1	3	75%
	11	0	3	75%
	12	1	4	100%

Table 6

Mean Lengths of Harvested Fish

Gile Flowage
03-MAY-2003 TO 01-MAR-2004

Species	Month	Mean	Std Err	N	Var	Max	Min
Black Crappie	July	12.20	*	1	*	12.20	12.20
	August	12.55	0.40	6	0.96	13.90	11.00
	Summer	12.50	0.34	7	0.81	13.90	11.00
	Total	12.50	0.34	7	0.81	13.90	11.00
Bluegill	July	6.53	0.30	4	0.35	7.40	6.10
	August	7.49	0.38	7	0.98	8.80	6.10
	September	8.85	0.56	4	1.27	10.00	7.30
	Summer	7.59	0.32	15	1.55	10.00	6.10
Total	7.59	0.32	15	1.55	10.00	6.10	
Northern Pike	May	17.19	0.64	7	2.87	19.60	15.10
	June	18.01	0.37	58	7.73	21.90	11.50
	July	20.52	1.67	11	30.80	36.10	15.20
	January	21.60	0.60	2	0.72	22.20	21.00
	February	20.82	0.71	9	4.55	23.30	17.70
	Summer	18.30	0.38	76	11.11	36.10	11.50
	Winter	20.96	0.59	11	3.81	23.30	17.70
	Total	18.64	0.35	87	10.93	36.10	11.50
Pumpkinseed	September	6.75	0.25	2	0.13	7.00	6.50
	Summer	6.75	0.25	2	0.13	7.00	6.50
	Total	6.75	0.25	2	0.13	7.00	6.50
Rock Bass	May	9.33	0.62	3	1.16	10.10	8.10
	June	8.90	0.60	2	0.72	9.50	8.30
	August	9.05	1.05	2	2.21	10.10	8.00
	September	9.85	0.15	2	0.05	10.00	9.70
	Summer	9.29	0.30	9	0.79	10.10	8.00
	Total	9.29	0.30	9	0.79	10.10	8.00
Smallmouth Bass	June	15.10	0.70	4	1.95	17.00	14.00
	July	16.03	0.83	3	2.08	17.70	15.20
	August	15.42	0.14	6	0.13	16.00	15.00
	September	16.00	0.10	2	0.02	16.10	15.90
	Summer	15.53	0.25	15	0.91	17.70	14.00
	Total	15.53	0.25	15	0.91	17.70	14.00
Walleye	May	14.16	0.22	82	3.92	20.60	10.00
	June	14.20	0.40	44	6.97	24.60	9.50
	July	13.37	0.23	43	2.20	17.00	10.00
	August	12.94	0.83	15	10.25	18.10	4.00
	September	15.25	0.82	4	2.70	17.00	13.40
	December	14.85	0.39	17	2.54	18.40	12.40
	January	14.04	0.36	47	6.22	19.00	9.50
	February	14.07	0.55	22	6.55	21.00	10.00
	Summer	13.91	0.16	188	4.83	24.60	4.00
	Winter	14.21	0.25	86	5.57	21.00	9.50
Total	14.00	0.14	274	5.06	24.60	4.00	
Yellow Perch	June	12.50	*	1	*	12.50	12.50
	September	9.03	0.58	3	1.00	10.00	8.00
	Summer	9.90	0.96	4	3.67	12.50	8.00
	Total	9.90	0.96	4	3.67	12.50	8.00

Table 7

Proportion of Marked Fish in Measured Sample

Gile Flowage
03-MAY-2003 TO 01-MAR-2004

		May		June		July		August		September		December		January		February	
Species	Mark	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Black Crappie	NONE	*	*	*	*	1	100%	6	100%	*	*	*	*	*	*	*	*
Bluegill	NONE	*	*	*	*	4	100%	7	100%	4	100%	*	*	*	*	*	*
Northern Pike	LP	1	14%	*	*	*	*	*	*	*	*	*	*	*	*	*	*
	NONE	6	86%	58	100%	11	100%	*	*	*	*	*	*	2	100%	9	100%
Pumpkinseed	NONE	*	*	*	*	*	*	*	*	2	100%	*	*	*	*	*	*
Rock Bass	NONE	3	100%	2	100%	*	*	2	100%	2	100%	*	*	*	*	*	*
Smallmouth Bass	NONE	*	*	4	100%	3	100%	6	100%	2	100%	*	*	*	*	*	*
Walleye	LP	30	37%	7	16%	8	19%	1	7%	*	*	1	6%	16	34%	6	27%
	NONE	52	63%	37	84%	35	81%	14	93%	4	100%	16	94%	31	66%	16	73%
Yellow Perch	NONE	*	*	1	100%	*	*	*	*	3	100%	*	*	*	*	*	*

Table 8

Estimated Number of Marked Fish Harvested

Gile Flowage
03-MAY-2003 TO 01-MAR-2004

Species	Finclip	May	June	July	August	December	January	February	Total
Northern Pike	LP	11	*	*	*	*	*	*	11
Walleye	LP	362	59	93	16	2	27	5	564
Total		373	59	93	16	2	27	5	575

Table 9

Listing of All Marked Fish Caught

Gile Flowage
03-MAY-2003 TO 01-MAR-2004

Species	Date	Length	Weight	Finclip	Tag Number
Northern Pike	03-May-2003	19.6		LP	
Walleye	03-May-2003	13.5		LP	
		15.9		LP	
		13.0		LP	
		14.0		LP	
		15.4		LP	
		14.2		LP	
		14.0		LP	
		13.0		LP	
		15.6		LP	
		15.6		LP	
		14.2		LP	
		16.0		LP	
		16.6		LP	
		12.1		LP	
	04-May-2003	14.5		LP	
		13.2		LP	
		14.1		LP	
		15.1		LP	
		14.7		LP	
	08-May-2003	12.1		LP	
		12.4		LP	
	12-May-2003	12.4		LP	
		14.2		LP	
	18-May-2003	14.2		LP	
		14.9		LP	
	22-May-2003	13.4		LP	
		14.7		LP	
	23-May-2003	14.2		LP	
	25-May-2003	14.7		LP	
		12.1		LP	
	26-May-2003	15.3		LP	
	02-Jun-2003	15.7		LP	
	07-Jun-2003	18.5		LP	
	13-Jun-2003	13.0		LP	
	22-Jun-2003	13.6		LP	
		12.1		LP	
		12.5		LP	
		13.5		LP	
	03-Jul-2003	12.0		LP	
	05-Jul-2003	11.5		LP	
		13.5		LP	
		13.2		LP	
		13.1		LP	
	06-Jul-2003	11.5		LP	
		14.8		LP	
	29-Jul-2003	12.9		LP	
	26-Aug-2003	12.5		LP	
	31-Dec-2003	14.0		LP	
	02-Jan-2004	16.5		LP	
		13.0		LP	
12.5			LP		
03-Jan-2004	12.5		LP		
	14.5		LP		
	16.5		LP		
08-Jan-2004	14.0		LP		
	16.0		LP		
	15.5		LP		
11-Jan-2004	15.5		LP		
	14.0		LP		
	13.5		LP		
17-Jan-2004	14.0		LP		
	16.0		LP		

Table 9

Listing of All Marked Fish Caught

Gile Flowage
03-MAY-2003 TO 01-MAR-2004

Species	Date	Length	Weight	Finclip	Tag Number
	24-Jan-2004	17.5		LP	
	25-Jan-2004	16.0		LP	
	01-Feb-2004	17.5		LP	
	15-Feb-2004	14.5		LP	
	26-Feb-2004	15.5		LP	
	28-Feb-2004	15.5		LP	
		14.0		LP	
		15.5		LP	



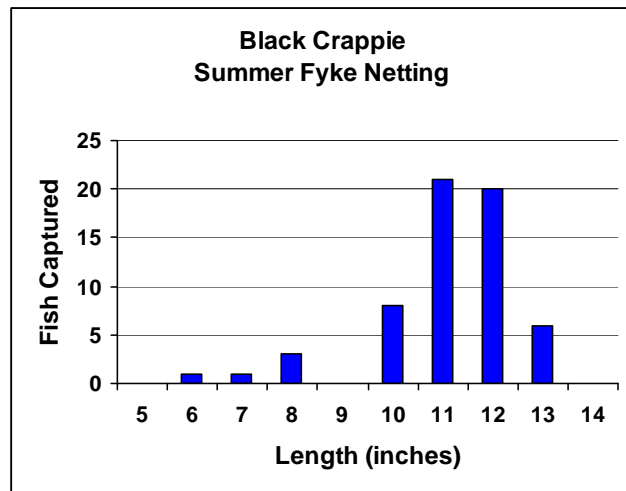
Summer Panfish Survey Summary Gile Flowage, Iron County, 2011

The Mercer DNR Fisheries Management Team conducted a fyke netting survey on the Gile Flowage during July 6-8, 2011 as part of our baseline monitoring program. Six nets were set overnight, for three nights, resulting in 18 net-nights of effort. Primary target species were bluegill, black crappie, and pumpkinseed sunfish. An electrofishing survey conducted by the Mercer team in mid May documented the status of smallmouth bass (summarized in a separate survey summary) but provided a poor sample of panfish. We believe this netting survey provides better insight into the relative number and sizes of panfish in the Gile Flowage. Quality, preferred, and memorable sizes referenced in this summary are based on standard proportions of world record lengths developed for each species by the American Fisheries Society.

Black Crappie



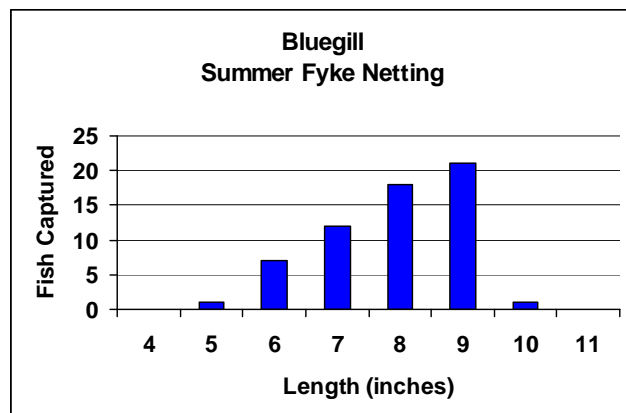
Captured 3.3 per net-night $\geq 5''$	
Quality Size $\geq 8''$	97%
Preferred Size $\geq 10''$	92%
Memorable Size $\geq 12''$	43%



Bluegill



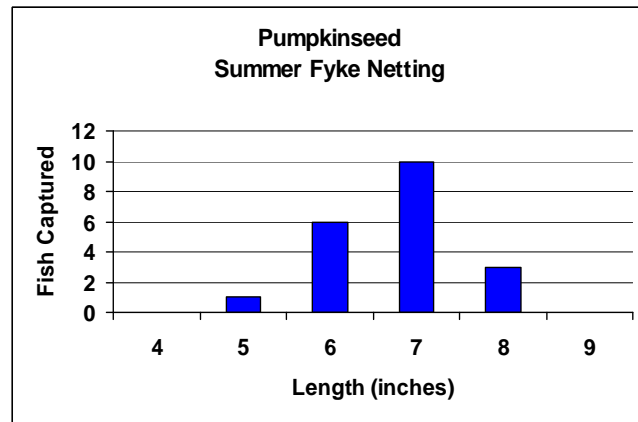
Captured 3.3 per net-night $\geq 3''$	
Quality Size $\geq 6''$	98%
Preferred Size $\geq 8''$	67%



Pumpkinseed



Captured 1.1 per net-night $\geq 3''$	
Quality Size $\geq 6''$	95%
Preferred Size $\geq 8''$	15%



Summary of Results

Fyke nets were set throughout the Flowage in habitats likely to be used by panfish species in early summer (e.g. shallow water with aquatic vegetation). Surface water temperatures were typically in the mid 70s, and water levels appeared normal. Black crappie and pumpkinseed had completed all spawning activity by the time of our survey, and mature bluegills would have finished their earliest bouts of spawning. Despite this fact, we believe that our sample is representative of the size distributions of spawning stocks present for these species.

Black Crappie

Average catch rate of black crappie was low (3.3 per net-night), but the size structure of the population was very good. Of the 60 crappies captured, 55 (92%) were ≥ 10 inches, and 26 (43%) were also ≥ 12 inches. The catch rate of black crappie was slightly below the target range (5-10 per net-night) identified in the 2005 Gile Flowage Fishery Management Plan. The proportion of black crappie ≥ 10 inches (92%) exceeded the Management Plan target range of 30-50%.

Bluegill

Average catch rate of bluegill was low (3.3 per net-night), but the size structure of the population was very good. Of the 60 bluegills captured, 52 (87%) were ≥ 7 inches, and 40 (67%) were also ≥ 8 inches. As with crappie, the bluegill catch rate was below the Management Plan target range (5-15 per net-night), but size structure (≥ 8 inches) was above the target range of 40-60%.

Pumpkinseed Sunfish

Average catch rate of pumpkinseed was also low at 1.1 per net-night. Of the 20 fish sampled, however, 13 (65%) were over 7 inches long.

Yellow Perch

Only two perch (10.4 and 12.9 inches in length) were captured during this survey. Due to the early nature of yellow perch spawning behavior (shortly after ice-out), we are planning an early-spring netting survey in 2012 to get a more representative look at the perch population.

Conclusions

Based on results of this and previous surveys, it seems there is a relatively low-density, but high-quality panfish fishery in the Gile Flowage. This is expected due to the fact that the Gile Flowage is a predator-dominant system with probable high rates of predation on young panfish. Walleye (effective predators of young panfish) recruitment in the Gile Flowage has been documented to be relatively high. Therefore, as long as walleye recruitment remains high, we will expect the panfish fishery to continue to exhibit the characteristics observed here. Although catch rates for crappie and bluegill are below Management Plan target ranges, a couple more surveys should be completed before adjusting objectives and/or management strategies. Anglers will most likely have to spend some time if trying to find numbers of panfish, but they should be rewarded for their efforts with quality-size fish.

Lawrence Eslinger, Jim Cox, and Jim Zarzycki
November 18, 2011

Edited and Approved by Dave Neuswanger
Fisheries Team Leader, Upper Chippewa Basin, Hayward
November 22, 2011



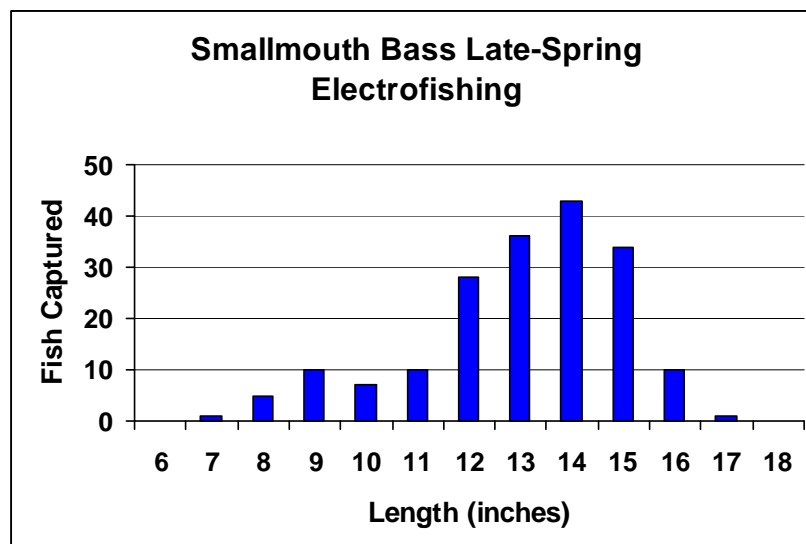
Late-Spring Electrofishing Survey Summary Gile Flowage, Iron County, 2011

The Mercer DNR Fisheries Management Team conducted electrofishing surveys on the Gile Flowage on May 25th and 26th, 2011, as part of the fisheries management baseline monitoring program. A total of 10.0 miles of shoreline were sampled (2.5 miles sub-sampled for panfish). Smallmouth bass was the primary target species; but data on the status of bluegill, black crappie, and yellow perch were also obtained. A fyke netting survey, conducted in early July, was also completed to better assess the status of the panfish community (e.g. black crappie and bluegill). The results from that fyke netting survey are presented in a separate survey summary. Quality, preferred, and memorable sizes referenced in this summary are based on standard proportions of world record lengths developed for each species by the American Fisheries Society.

Smallmouth Bass



Captured 19 per mile $\geq 7''$	
Quality Size $\geq 11''$	88%
Preferred Size $\geq 14''$	48%
Memorable Size $\geq 17''$	1%



Summary of Results

The shoreline reaches that were sampled during this survey are areas that have been determined to be selected by smallmouth bass for spawning purposes, as well as random locations not identified to be favorable for any particular species. Water levels during the survey were noted to be near normal elevations, and water temperatures were in the mid to upper 50s. Therefore, the survey was well-timed for purposes of obtaining a representative sample of all sizes of smallmouth bass in, and around, the near-shore spawning areas.

A total of 187 smallmouth bass were captured during the 2011 survey. Smallmouth bass ≥ 7 inches were captured at a rate of 19 per mile, just below the target range (20-40 per mile) identified in the 2005 Gile Flowage Fishery Management Plan, and somewhat higher than the 2008 capture rate of 12 per mile in 2008. Of all bass 7 inches and longer captured during the 2011 survey, 48% were over 14 inches (22% in 2008), but no fish were over 18 inches (2% in 2008; Management Plan target range 5-15%). Except for the scarcity of fish over 18 inches, the smallmouth bass population appears to be very healthy (near optimal abundance with an increasing proportion of preferred-size fish). Gile Flowage smallmouth bass are managed under a 14-18 inch no-harvest slot and 3 fish daily bag limit (only 1 > 18) that went into effect in 2008. A couple more surveys will need to be completed in order to determine if the slot limit is properly functioning to achieve the Management Plan objectives. Anglers should find quality smallmouth bass fishing opportunities for both numbers and size (with the exception of fish over 18 inches) on the Gile Flowage.

Very low numbers of panfish were captured during this survey. Because the few panfish captured do not provide an adequate sample of those species, panfish results are not presented here. Instead, a better representation of the current panfish community within the Gile Flowage can be found in the document, "Gile Flowage 2011 Summer Fyke Netting Survey Summary," posted separately.

Lawrence Eslinger, Jim Cox, and Jim Zarzycki
November 17, 2011

Edited and Approved by Dave Neuswanger
November 17, 2011



Summary of Fishery Surveys Gile Flowage, Iron County, 2013

Survey Description

The Mercer DNR Fisheries Management Team conducted the following fishery surveys on Gile Flowage in 2013: a late-spring electrofishing survey (June 4 along 5.9 miles of shoreline) to assess the smallmouth bass and panfish populations, and an experimental fall fyke netting survey (October 8-10 using 9 fyke nets set overnight for 2 nights for a total of 18 net-nights) in an attempt to assess the black crappie population. Quality, preferred, and memorable sizes referenced in this summary are based on standard proportions of world record lengths developed for each species by the American Fisheries Society.

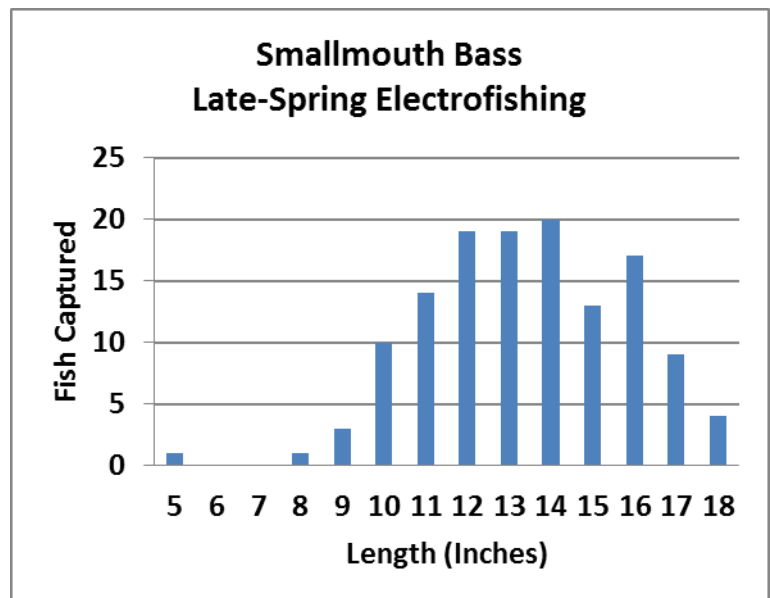
Habitat Characteristics

The Gile Flowage is a 3,384-acre drainage system (maximum depth of 25 feet) with medium brown-stained water and low to moderate water clarity (Secchi disk visibility 4 to 5 feet). The littoral zone (near-shore area where light is able to penetrate to the lake bottom) substrates are comprised primarily of sand, gravel/rubble, and silt with relatively sparse amounts of aquatic vegetation due primarily to significant (~7 feet) annual winter drawdowns. Nutrient analyses (e.g., phosphorus) have typically shown that the Flowage is moderately productive (mesotrophic in status). There are four public boat landings available. For more details, see the 2005 Gile Flowage Fishery Management Plan online at <http://dnr.wi.gov/water/basin/upchip/>.

Smallmouth Bass



Captured 22 per mile $\geq 7''$	
Quality Size $\geq 11''$	89%
Preferred Size $\geq 14''$	49%
Memorable Size $\geq 17''$	10%

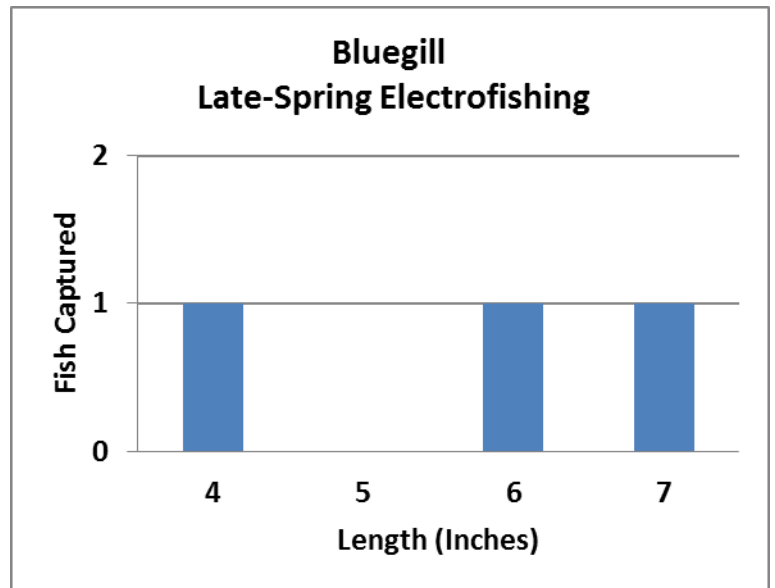


Smallmouth bass ≥ 7 inches were captured at a relatively high rate of 22 per mile or 48 per hour (target level 20-40 per hour in 2005 Management Plan) during the late-spring electrofishing survey. Size structure of our sample was very good, with all size classes represented, along with a notable increase in the proportion of memorable-size fish from 1% in 2011 to 10% in 2013. No largemouth bass were captured or observed during the 2013 survey.

Bluegill



Captured 2 per mile $\geq 3''$	
Quality Size $\geq 6''$	67%
Preferred Size $\geq 8''$	0%

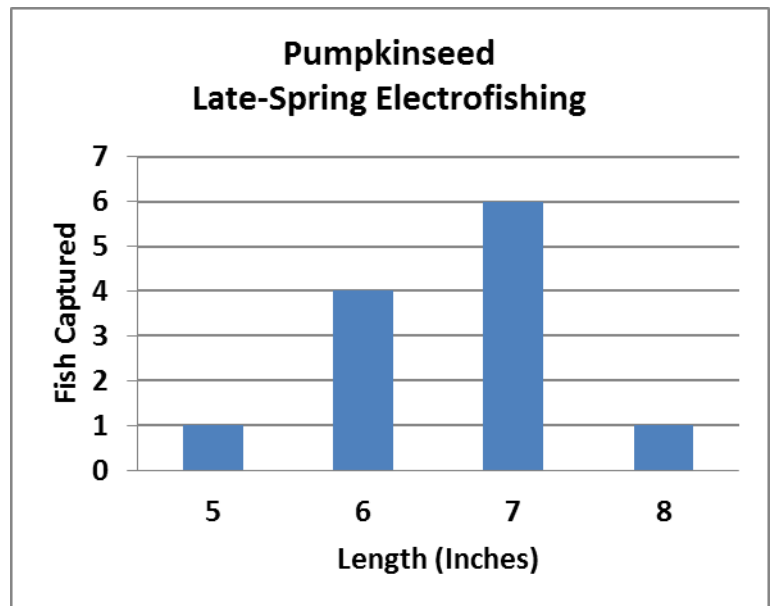


Bluegills ≥ 3 inches were captured at a very low rate of 2 per mile during the late-spring electrofishing survey, reflecting very low density. This sample was too small to accurately estimate population size distribution.

Pumpkinseed



Captured 8 per mile $\geq 3''$	
Quality Size $\geq 6''$	92%
Preferred Size $\geq 8''$	8%

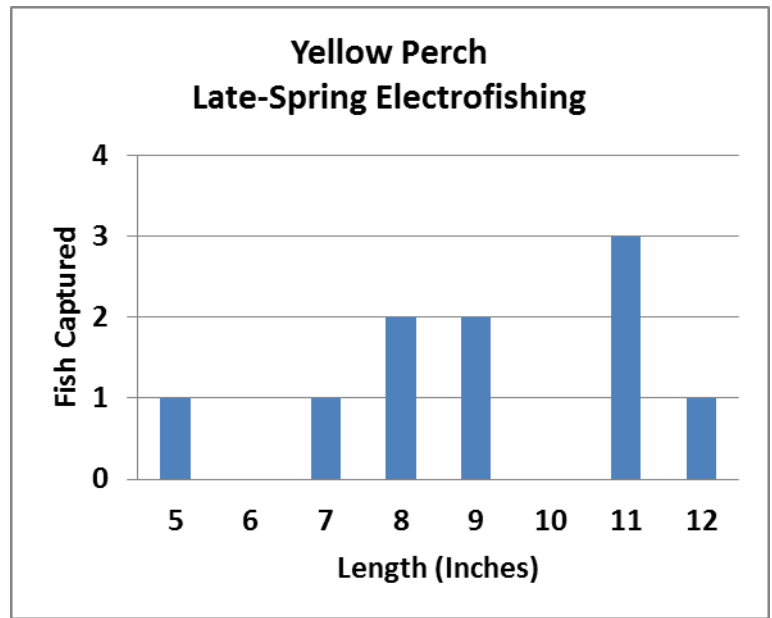


Pumpkinseeds ≥ 3 inches were captured at a low rate of 8 per mile during the late-spring electrofishing survey. Size structure of the population sample was good, with the majority of fish being of an acceptable size to anglers.

Yellow Perch

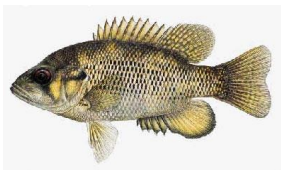


Captured 7 per mile $\geq 5''$	
Quality Size $\geq 8''$	80%
Preferred Size $\geq 10''$	40%
Memorable Size $\geq 12''$	10%

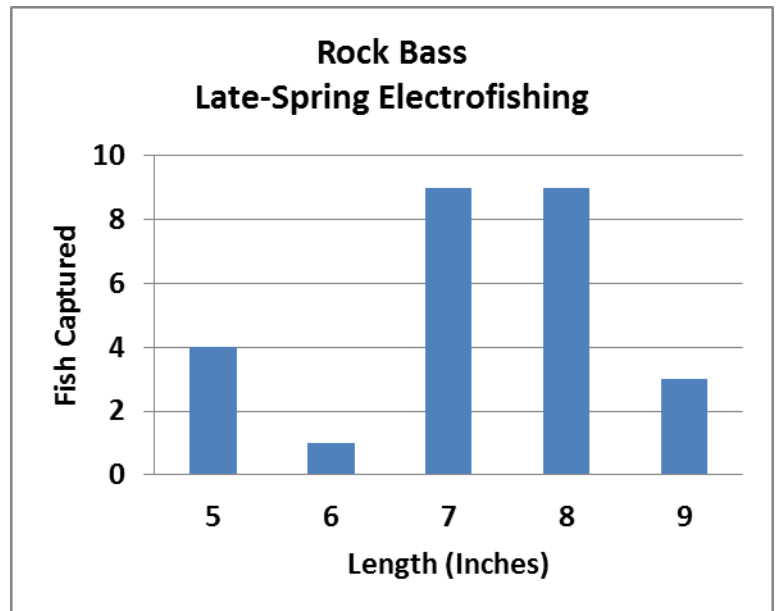


Yellow perch ≥ 5 inches were captured at a low rate of 7 per mile during the late-spring electrofishing survey. Although electrofishing is not the best way to document the relative abundance of perch, our sample does reveal there is a higher proportion of preferred-size perch in the Gile Flowage than in most nearby waters.

Rock Bass



Captured 17 per mile $\geq 4''$	
Quality Size $\geq 7''$	81%
Preferred Size $\geq 9''$	12%



Rock bass ≥ 4 inches were captured at a moderate rate of 17 per mile during the late-spring electrofishing survey. Size structure of our sample was good, with over 80% being of quality size or better.

Conclusions

The Gile Flowage currently contains one of the most robust smallmouth bass fisheries in Wisconsin. Survey results indicate that our capture rate of smallmouth bass ≥ 7 inches falls within the upper 93rd percentile amongst statewide populations. Gile Flowage bass are managed under a three-fish daily bag and no minimum length limit, however, 14- to 18-inch fish must be released, and only one fish over 18 inches may be kept. This regulation was implemented at the start of the 2008 angling season, and it appears that the smallmouth bass population is starting to respond favorably in terms of size structure. In 2013, 10% of bass ≥ 7 inches were also ≥ 17 inches; whereas in similar surveys conducted in 2006, 2008, and 2011, the proportion of memorable-size bass ≥ 17 inches ranged between 1% and 3%. Despite the fact that smallmouth bass < 14 inches long may be harvested in the Gile Flowage, numbers remain at slightly higher levels than the target range identified in the 2005 Gile Flowage Fishery Management Plan. We don't suspect that smallmouth are hindering other Flowage fish species, but anglers should be aware that harvesting a few smallmouth bass under the 14-18 inch protected slot would provide a good meal and do no harm from a fishery management perspective.

Panfish populations within the Gile Flowage continue to display characteristics of a panfishery that is dominated by predatory gamefish (e.g. walleye, northern pike, etc.). Relatively low numbers, but quality size, characterizes Gile Flowage panfish due primarily to high predation levels. Panfish that do make it past the large numbers of predators tend to experience fast growth (due to abundant food) which results in the quality size observed commonly by anglers and in our fish surveys. Anglers fortunate enough to experience some of the quality panfishing the Gile Flowage occasionally offers are encouraged to practice selective harvest (i.e., voluntarily refrain from harvesting the daily bag limit or the largest fish) in order to help sustain quality fishing opportunities.

The experimental fall fyke netting survey on the Gile Flowage resulted in an extremely low catch and did not provide meaningful insight into the black crappie population as hoped. Therefore, no results from that survey are presented. A 2014 early-spring fyke netting survey to assess the muskellunge population may provide a representative sample of the crappie population at that time if the adult crappies are in the shallows preparing to spawn.

Other species captured during these surveys, but not reported here due to low abundance and/or sampling bias, included: walleye, northern pike, muskellunge, black crappie, yellow bullhead, white sucker, and golden shiner.

Survey Data Collected and Analyzed By: Lawrence Eslinger, Jason Folstad, and Jim Zarzycki

Report By: Lawrence Eslinger, Fisheries Biologist, 2/11/2014

Edited and Approved By: Dave Neuswanger, Fisheries Supervisor, Hayward Field Unit, 2/21/14



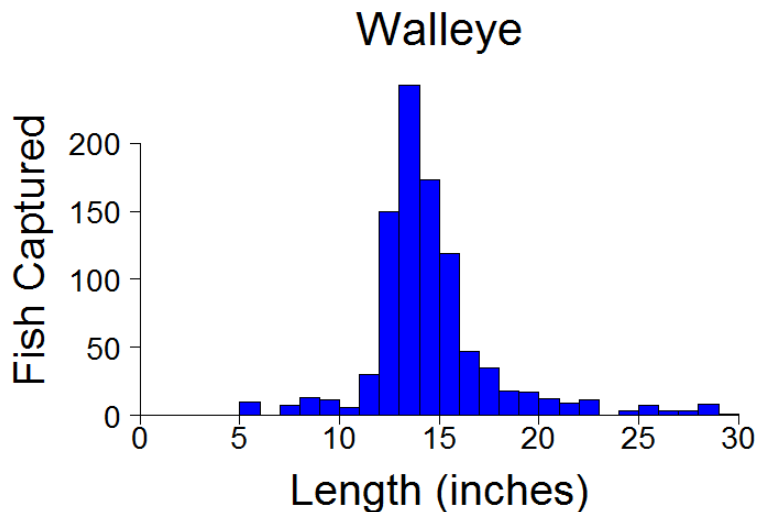
Summary of Fishery Surveys Gile Flowage, Iron County, 2015

The Gile Flowage is a soft water drainage impoundment with predominantly sand, muck, and gravel substrates. It has a surface area of 3,384 acres and a maximum depth of 25 feet. The Mercer DNR Fisheries Management Team conducted the following fishery surveys on the Gile Flowage in 2015: an early-spring fyke netting survey targeting the walleye population; a late-spring electrofishing survey to assess bass and panfish populations; and a summer fyke netting survey assess the panfish populations. Quality, preferred, and memorable sizes referenced in this summary are based on standard proportions of world record lengths developed for each species by the American Fisheries Society, and reflect the percentage of the adult population sampled larger than the specified size.



Walleye Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 15 in.)	33
Preferred (> 20 in.)	6
Memorable (> 25 in.)	2



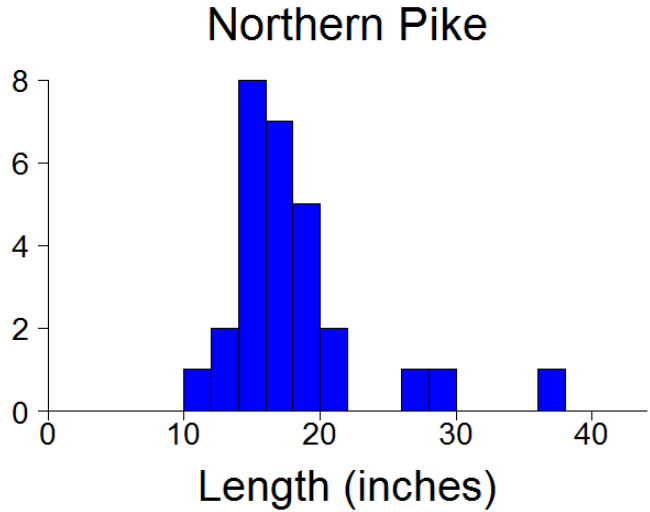
We captured a total of 799 individual walleyes during our early-spring netting period at a rate of 159.4/net-night. Walleyes ranged in length from 10.9” – 29.0” and averaged 14.9”. While the proportion of the adult walleyes present above 15” is relatively low (33%), there are still respectable numbers of large fish (over 20”) available. These results suggest that walleyes are present in moderate-high densities and the population exhibits a well-balanced size structure.



Northern Pike Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 21 in.)	12
Preferred (> 28 in.)	8
Memorable (> 34 in.)	4

Fish Captured



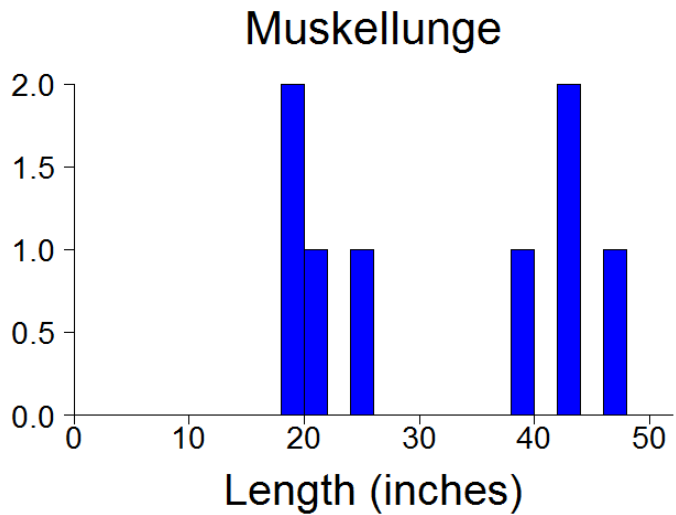
Although northern pike were not targeted during any 2015 surveys, they were detected at low levels in all survey efforts. We sampled a total of 28 individual northern pike ranging from 11.6” – 37.9”. While most fish sampled fall below the preferred size for anglers (as noted by low PSD and RSD values), the population exhibits trophy potential.



Muskellunge Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 30 in.)	67
Preferred (> 38 in.)	67
Memorable (> 42 in.)	50

Fish Captured

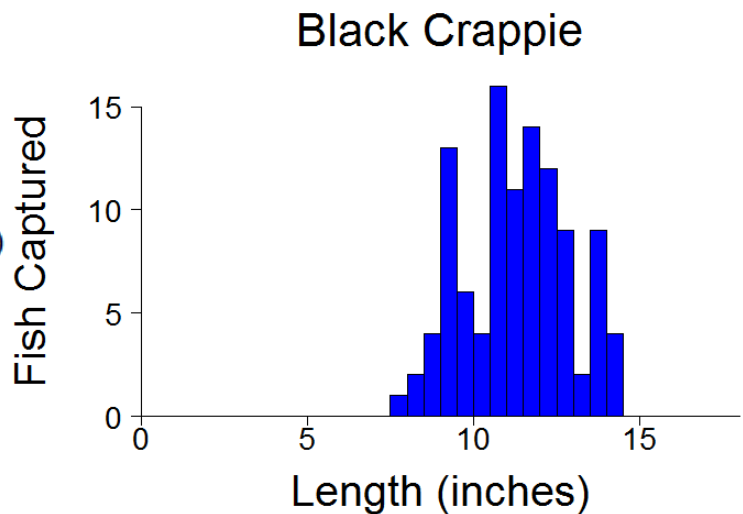


Muskellunge were not targeted in during our survey work during 2015, but were detected in all surveys conducted. We handled a total of 8 muskellunge ranging from 18.0” – 46.0”. Individuals observed in our survey work indicate that the muskellunge population exhibits a quality size structure.



Black Crappie Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 8 in.)	99
Preferred (> 10 in.)	76
Memorable (> 12 in.)	34

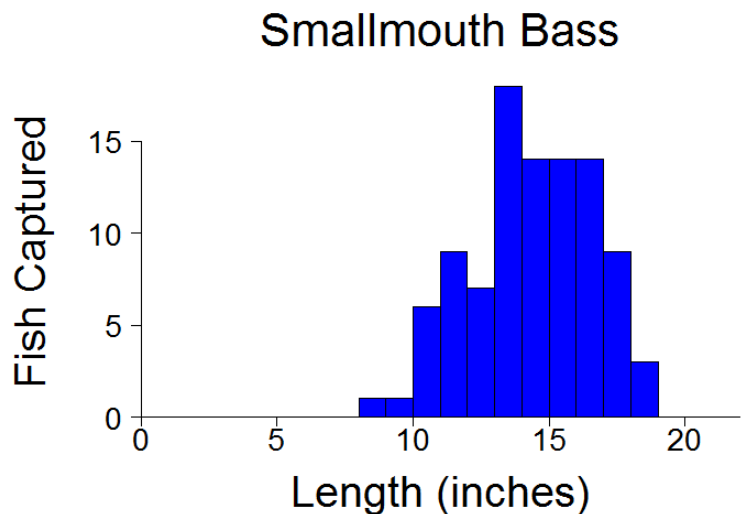


The summer fyke netting survey sampled a total of 78 black crappies at a rate of 5.3/net night. Crappies ranged in length from 8.4” – 14.3” and averaged 11.2”. These results suggest that black crappies are present in low densities, but the population exhibits a quality size structure.



Smallmouth Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 11 in.)	92
Preferred (> 14 in.)	56
Memorable (> 17 in.)	12

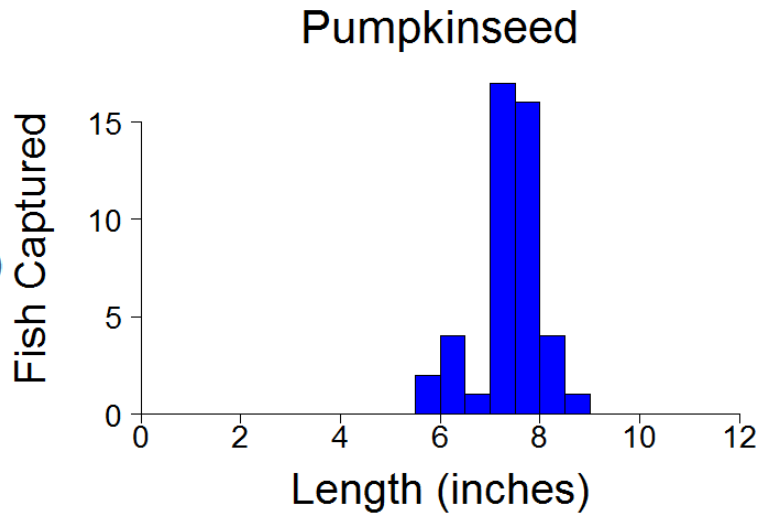


The targeted, late-spring electrofishing survey sampled a total of 85 smallmouth bass at a rate of 21.3/mile. Smallmouth bass ranged in length from 8.8” – 18.1” and averaged 14.2”. These results suggest that smallmouth bass are relatively abundant and the population exhibits a quality size structure.



Pumpkinseed Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 6 in.)	96
Preferred (> 8 in.)	11
Memorable (> 10 in.)	0

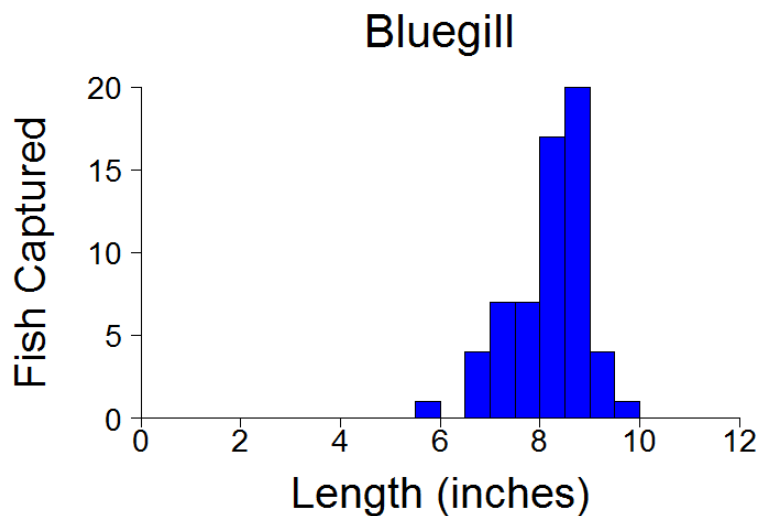


During a targeted summer fyke netting survey, pumpkinseeds were captured at a rate of 2.5/net night. A total of 38 individuals were sampled ranging in length from 5.5” – 8.7” and averaged 7.3”. These results suggest that pumpkinseeds are present in low densities but the population exhibits a quality size structure.



Bluegill Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 6 in.)	98
Preferred (> 8 in.)	69
Memorable (> 10 in.)	0



During a targeted summer fyke netting survey, bluegills were captured at a rate of 3.3/net night. A total of 59 individuals were sampled ranging in length from 5.8” – 9.6” and averaged 8.2”. These results suggest that bluegills are present in low densities but the population exhibits a quality size structure.

Additional Notes:

Results from all surveys conducted during 2015 suggest that the Gile Flowage is a predator-dominated system. Walleyes, northern pike, muskellunge, and smallmouth bass appear to be present in relatively strong numbers. While quality numbers may be the most notable feature of these populations, trophy potential exists for all gamefish species. On the other hand, panfish populations appear to be at low densities, but black crappies, bluegill, and pumpkinseeds all appear to have quality size structures.

Rock bass, brown and yellow bullheads, and yellow perch were also observed in these surveys. For questions or additional results from 2015 survey work contact:

Zach Lawson

Zachary.Lawson@Wisconsin.gov

Phone: (715) 476-7847

Survey Data Collected By: Jim Zarzycki and Zach Lawson

Analyzed and Report By: Zach Lawson, Fisheries Biologist, Iron County, 10/20/15

Approved for Posting By: Mike Vogelsang, North District Fisheries Supervisor, 2/3/16



Summary of Fishery Surveys Gile Flowage, Iron County, 2017

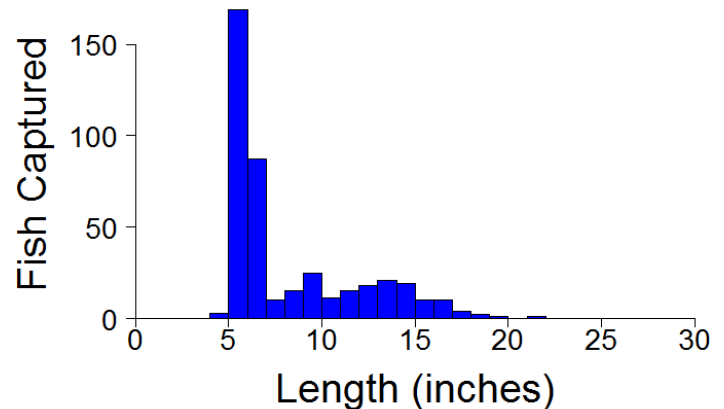
The Mercer DNR Fisheries Management Team conducted the following fishery surveys on the Gile Flowage in 2017: a late-spring electrofishing survey to assess bass and panfish populations; an early summer fyke-netting survey to assess panfish populations and a fall electrofishing survey to assess gamefish recruitment. Quality, preferred, and memorable sizes referenced in this summary are based on standard proportions of world record lengths developed for each species by the American Fisheries Society, and reflect the percentage of the adult population sampled larger than the specified size.



Walleye Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 15 in.)	25
Preferred (> 20 in.)	1
Memorable (> 25 in.)	0

Walleye

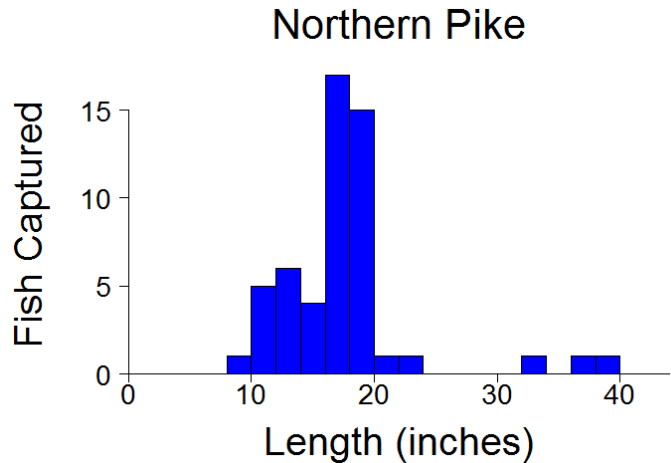


During the fall electrofishing survey a total of 409 individual walleyes were captured ranging in length from 4.7” – 21.8” and averaging 8.6”. This survey sampled young-of-the-year walleyes at a low rate of 4.9/mile and yearlings at a rate of 12.0/mile. While these results do not represent the adult population, this indicates that natural reproduction is currently occurring at a rate to sustain the adult walleye population.



Northern Pike Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 21 in.)	10
Preferred (> 28 in.)	7
Memorable (> 34 in.)	5

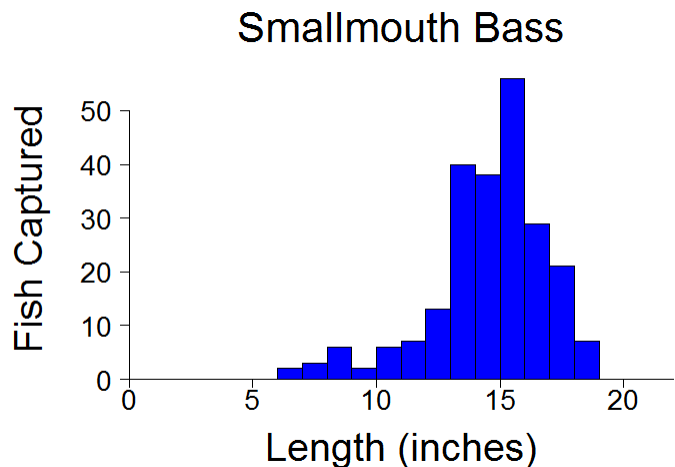


Although northern pike were not targeted during the late-spring electrofishing and early-summer fyke-netting surveys, we sampled pike at a rate of 6.3/mile and 2.0/net-night, respectively. We captured a total of 52 individuals ranging in length from 7.2” – 38.3” and averaging 17.6”. These results indicate that northern pike are currently present in low-moderate densities and while most of the individuals are relatively small, some quality fish are available to anglers.



Smallmouth Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 11 in.)	93
Preferred (> 14 in.)	66
Memorable (> 17 in.)	12

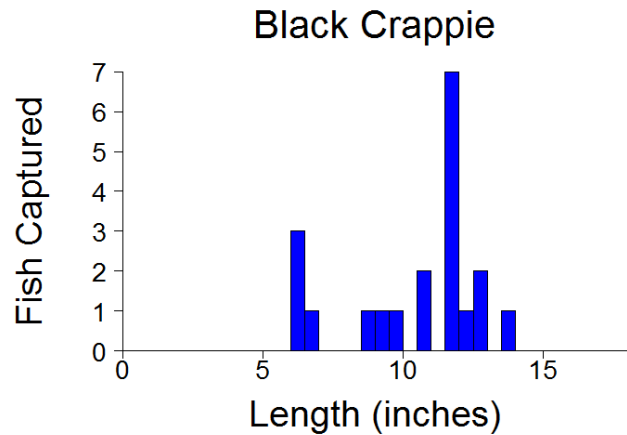


The targeted, late-spring electrofishing survey sampled a total of 227 smallmouth bass at a high rate of 28.4/mile. Smallmouth bass ranged in length from 6.5” – 18.9” and averaged 14.5”. These results indicate that smallmouth bass are present in relatively high abundance and the population exhibits a balanced size structure.



Black Crappie Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 8 in.)	80
Preferred (> 10 in.)	65
Memorable (> 12 in.)	20

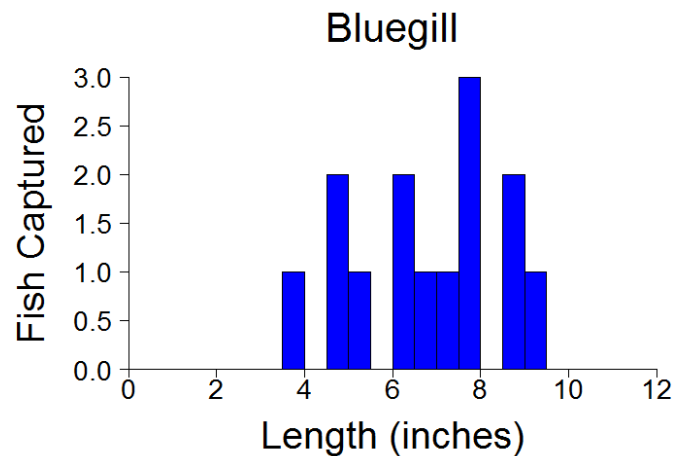


During the late-spring electrofishing and early summer fyke-netting surveys, we sampled black crappies at a rate of 4.0/mile and 1.5/net-night, respectively. A total of 20 black crappies were surveyed ranging in length from 6.0” – 13.5” and averaging 10.7”. These results suggest that black crappies are currently present in low abundance but the population exhibits a quality size structure. The presence of multiple juvenile year classes suggests successful recruitment in recent years, adding balance to the size structure and boding well for the future of the fishery.



Bluegill Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 6 in.)	71
Preferred (> 8 in.)	21
Memorable (> 10 in.)	0

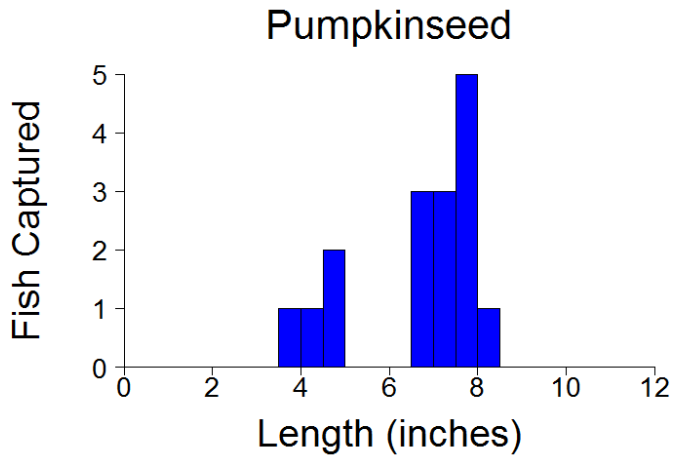


During the late-spring electrofishing and early summer fyke-netting surveys, we sampled bluegills at a rate of 2.0/mile and 1.3/net-night, respectively. A total of 14 bluegills were surveyed ranging in length from 2.7” – 9.1” and averaging 6.5”. These results suggest that bluegills are currently present in low abundance but the population exhibits a quality size structure. The presence of multiple juvenile year classes suggests successful recruitment in recent years, adding balance to the size structure and boding well for the future of the fishery.



Pumpkinseed Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 6 in.)	75
Preferred (> 8 in.)	6
Memorable (> 10 in.)	0

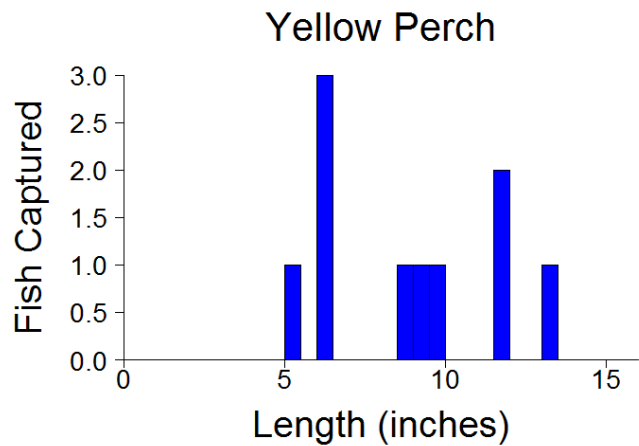


During the late-spring electrofishing and early summer fyke-netting surveys, we sampled pumpkinseeds at a rate of 2.5/mile and 1.4/net-night, respectively. A total of 16 pumpkinseeds were surveyed ranging in length from 3.9” – 8.4” and averaging 6.6”. These results suggest that pumpkinseeds are currently present in low abundance but the population exhibits a quality size structure. The presence of juvenile year classes suggests successful natural recruitment in recent years, adding balance to the size structure.



Yellow Perch Size Groups (PSD/RSD)

Size Class	% of Sample
Quality (> 8 in.)	60
Preferred (> 10 in.)	30
Memorable (> 12 in.)	10



During the late-spring electrofishing and early summer fyke-netting surveys, we sampled yellow perch at a rate of 2.0/mile and 0.3/net-night, respectively. A total of 10 yellow perch were surveyed ranging in length from 5.4” – 13.0” and averaging 8.8”. These results suggest that yellow perch are currently present in low abundance but the population exhibits a balanced size structure.

Additional Notes:

Muskellunge and rock bass were also observed in these surveys. For questions or additional results from 2017 survey work contact:

Zach Lawson

Zachary.Lawson@Wisconsin.gov

Phone: (715) 476-7847

Survey Data Collected By: Wisconsin Department of Natural Resources staff

Analyzed and Report By: Zach Lawson, Fisheries Biologist, Ashland County, 12/5/17



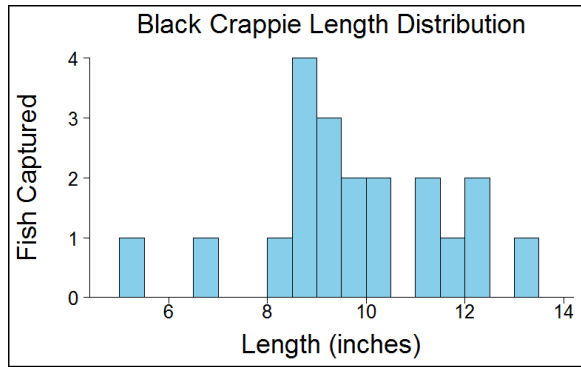
WISCONSIN DNR
FISHERIES INFORMATION SHEET

LAKE: GILE FLOWAGE

COUNTY: IRON

YEAR: 2018

Gile Flowage is a 3,128-acre impoundment with stained water and a maximum depth of 25 feet. In 2018, the Wisconsin DNR conducted a summer fyke-netting survey to assess panfish populations.

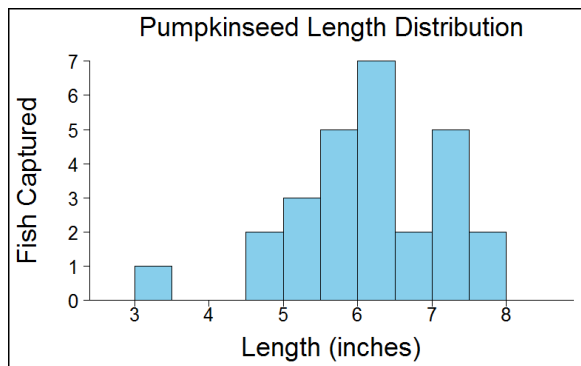
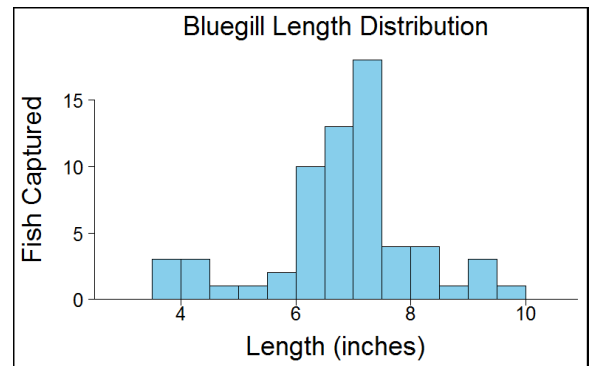


Black Crappie

During a summer fyke-netting survey, crews sampled a total of 20 black crappies at a low rate of 1.1/net-night. Black crappies ranged in length from 5.4"-13.2" and averaged 9.7". These results suggest that black crappies are currently at low densities but the population exhibits a quality size structure.

Bluegill

During a targeted summer fyke-netting survey, crews sampled a total of 64 bluegills at a low rate of 3.6/net-night. Bluegills ranged in length from 3.5"- 9.9" and averaged 6.6". These results suggest that bluegills are currently at low densities but the population exhibits a quality size structure.

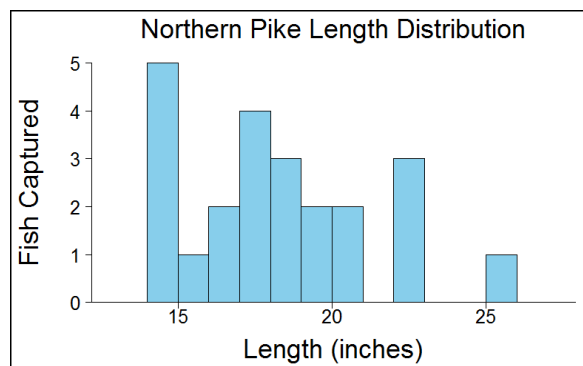
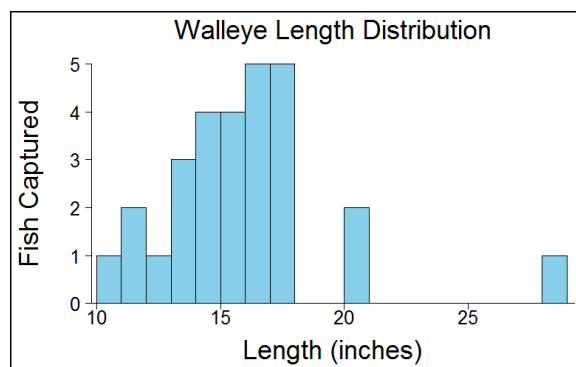


Pumpkinseed

During a targeted summer fyke-netting survey, crews sampled a total of 27 pumpkinseeds at a low rate of 1.5/net-night. Pumpkinseeds ranged in length from 3.4"-7.9" and averaged 6.1". These results suggest that pumpkinseeds are currently at low densities but the population exhibits a quality size structure.

Walleye

During the non-targeted summer fyke-netting survey, crews captured a total of 28 walleyes at a low rate of 1.6/net-night. Walleyes ranged in length from 10.8" - 28.2" and averaged 15.9".



Northern Pike

During the non-targeted summer fyke-netting survey, crews captured a total of 23 northern pike at a low rate of 1.3/net-night. Northern pike ranged in length from 14.3" - 25.9" and averaged 18.1".

For questions or additional information, contact:

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Mercer, WI 54547
(715) 476-7847
Email: Zachary.Lawson@wisconsin.gov

County	Waterbody N	WBIC	Site Seq	No Swims	Station	Survey Yea	Survey Seq	Primary Survey	Purpo	Survey Status	Species Code	Species	Gear Type	Hours				Species	Muske	gellun		
														Fish Count	Number	Each Net	Net				Total Net	H Net
IRON	GILE FLOWAC	2942300	122377	10002736	1993	63963978	COMPREHENSIVE	SUR DATA	ENTRY	COMPL L02		NORTHERN PIKE	FYKE NET	391	291	72	7224	301	1.3	-	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	1993	63963978	COMPREHENSIVE	SUR DATA	ENTRY	COMPL L03		MUSKELLUNGE	FYKE NET	86	291	72	7224	301	0.29	-	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	1993	63963978	COMPREHENSIVE	SUR DATA	ENTRY	COMPL W11		SMALLMOUTH BASS	FYKE NET	10	291	72	7224	301	0.03	-	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	1993	63963978	COMPREHENSIVE	SUR DATA	ENTRY	COMPL X22		WALLEYE	FYKE NET	4483	291	72	7224	301	14.89	-	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2000	50988	BASELINE	MONITORIN	DATA	ENTRY	COMPL L02	NORTHERN PIKE	MINI FYKE	26	16	24	384	16	1.63	0.068	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2000	50988	BASELINE	MONITORIN	DATA	ENTRY	COMPL M20	GOLDEN SHINER	MINI FYKE	1	16	24	384	16	0.06	0.003	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2000	50988	BASELINE	MONITORIN	DATA	ENTRY	COMPL N09	WHITE SUCKER	MINI FYKE	5	16	24	384	16	0.31	0.013	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2000	50988	BASELINE	MONITORIN	DATA	ENTRY	COMPL W04	ROCK BASS	MINI FYKE	42	16	24	384	16	2.63	0.109	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2000	50988	BASELINE	MONITORIN	DATA	ENTRY	COMPL W06	PUMPKINSEED	MINI FYKE	2399	16	24	384	16	149.94	6.247	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2000	50988	BASELINE	MONITORIN	DATA	ENTRY	COMPL W09	BLUEGILL	MINI FYKE	5	16	24	384	16	0.31	0.013	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2000	50988	BASELINE	MONITORIN	DATA	ENTRY	COMPL W11	SMALLMOUTH BASS	MINI FYKE	195	16	24	384	16	12.19	0.508	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2000	50988	BASELINE	MONITORIN	DATA	ENTRY	COMPL W14	BLACK CRAPPIE	MINI FYKE	73	16	24	384	16	4.56	0.19	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2000	50988	BASELINE	MONITORIN	DATA	ENTRY	COMPL X12	JOHNNY DARTER	MINI FYKE	4	16	24	384	16	0.25	0.01	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2000	50988	BASELINE	MONITORIN	DATA	ENTRY	COMPL X15	YELLOW PERCH	MINI FYKE	924	16	24	384	16	57.75	2.406	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2000	50988	BASELINE	MONITORIN	DATA	ENTRY	COMPL X22	WALLEYE	MINI FYKE	1	16	24	384	16	0.06	0.003	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2003	78529	BASELINE	MONITORIN	DATA	ENTRY	COMPL L02	NORTHERN PIKE	FYKE NET	150	168	24	4032	168	0.89	-	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2003	78529	BASELINE	MONITORIN	DATA	ENTRY	COMPL L03	MUSKELLUNGE	FYKE NET	63	168	24	4032	168	0.38	-	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2003	78529	BASELINE	MONITORIN	DATA	ENTRY	COMPL W11	SMALLMOUTH BASS	FYKE NET	64	168	24	4032	168	0.38	-	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2003	78529	BASELINE	MONITORIN	DATA	ENTRY	COMPL X22	WALLEYE	FYKE NET	7260	168	24	4032	168	43.21	-	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2003	78841	BASELINE	MONITORIN	DATA	ENTRY	COMPL L02	NORTHERN PIKE	MINI FYKE	2	8	24	192	8	0.25	0.01	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2003	78841	BASELINE	MONITORIN	DATA	ENTRY	COMPL M33	SPOTTAIL SHINER	MINI FYKE	2	8	24	192	8	0.25	0.01	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2003	78841	BASELINE	MONITORIN	DATA	ENTRY	COMPL W04	ROCK BASS	MINI FYKE	4	8	24	192	8	0.5	0.021	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2003	78841	BASELINE	MONITORIN	DATA	ENTRY	COMPL W06	PUMPKINSEED	MINI FYKE	26	8	24	192	8	3.25	0.135	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2003	78841	BASELINE	MONITORIN	DATA	ENTRY	COMPL W09	BLUEGILL	MINI FYKE	562	8	24	192	8	70.25	2.927	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2003	78841	BASELINE	MONITORIN	DATA	ENTRY	COMPL W11	SMALLMOUTH BASS	MINI FYKE	54	8	24	192	8	6.75	0.281	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2003	78841	BASELINE	MONITORIN	DATA	ENTRY	COMPL W14	BLACK CRAPPIE	MINI FYKE	1	8	24	192	8	0.13	0.005	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2003	78841	BASELINE	MONITORIN	DATA	ENTRY	COMPL X15	YELLOW PERCH	MINI FYKE	4	8	24	192	8	0.5	0.021	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2003	78841	BASELINE	MONITORIN	DATA	ENTRY	COMPL X22	WALLEYE	MINI FYKE	1	8	24	192	8	0.13	0.005	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2008	11025013	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL X22	WALLEYE	FYKE NET	1424	10	24	240	10	142.4	5.933	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2009	25005505	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL L02	NORTHERN PIKE	FYKE NET	11	6	24	144	6	1.83	0.076	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2009	25005505	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL L03	MUSKELLUNGE	FYKE NET	3	6	24	144	6	0.5	0.021	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2009	25005505	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL W04	ROCK BASS	FYKE NET	9	6	24	144	6	1.5	0.063	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2009	25005505	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL W06	PUMPKINSEED	FYKE NET	23	6	24	144	6	3.83	0.16	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2009	25005505	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL W09	BLUEGILL	FYKE NET	81	6	24	144	6	13.5	0.563	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2009	25005505	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL W11	SMALLMOUTH BASS	FYKE NET	6	6	24	144	6	1	0.042	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2009	25005505	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL W14	BLACK CRAPPIE	FYKE NET	23	6	24	144	6	3.83	0.16	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2009	25005505	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL X15	YELLOW PERCH	FYKE NET	7	6	24	144	6	1.17	0.049	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2009	25005505	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL X22	WALLEYE	FYKE NET	18	6	24	144	6	3	0.125	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2010	57585073	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL L02	NORTHERN PIKE	FYKE NET	33	6	24	144	6	5.5	0.229	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2010	57585073	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL L03	MUSKELLUNGE	FYKE NET	2	6	24	144	6	0.33	0.014	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2010	57585073	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL N09	WHITE SUCKER	FYKE NET	12	6	24	144	6	2	0.083	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2010	57585073	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL O05	BLACK BULLHEAD	FYKE NET	160	6	24	144	6	26.67	1.111	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2010	57585073	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL W14	BLACK CRAPPIE	FYKE NET	8	6	24	144	6	1.33	0.056	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2010	57585073	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL X15	YELLOW PERCH	FYKE NET	9	6	24	144	6	1.5	0.063	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2010	57585073	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL X22	WALLEYE	FYKE NET	730	6	24	144	6	121.67	5.069	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2011	1.83E+08	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL L02	NORTHERN PIKE	FYKE NET	50	18	24	432	18	2.78	0.116	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2011	1.83E+08	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL L03	MUSKELLUNGE	FYKE NET	7	18	24	432	18	0.39	0.016	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2011	1.83E+08	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL N09	WHITE SUCKER	FYKE NET	1	18	24	432	18	0.06	0.002	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2011	1.83E+08	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL O05	BLACK BULLHEAD	FYKE NET	4	18	24	432	18	0.22	0.009	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2011	1.83E+08	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL W04	ROCK BASS	FYKE NET	38	18	24	432	18	2.11	0.088	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2011	1.83E+08	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL W06	PUMPKINSEED	FYKE NET	20	18	24	432	18	1.11	0.046	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2011	1.83E+08	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL W09	BLUEGILL	FYKE NET	60	18	24	432	18	3.33	0.139	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2011	1.83E+08	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL W11	SMALLMOUTH BASS	FYKE NET	34	18	24	432	18	1.89	0.079	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2011	1.83E+08	FISHERIES	ASSESSMEN	DATA	ENTRY	COMPL W14	BLACK CRAPPIE	FYKE NET	60	18	24	432	18	3.33	0.139	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2011	1.83E+08	FISHERIES															

IRON	GILE FLOWAC	2942300	122377	10002736	2012	2.6E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL O05	BLACK BULLHEAD	FYKE NET	1520	20	24	480	20	76	3.167	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2012	2.6E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W04	ROCK BASS	FYKE NET	7	20	24	480	20	0.35	0.015	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2012	2.6E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W06	PUMPKINSEED	FYKE NET	12	20	24	480	20	0.6	0.025	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2012	2.6E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W09	BLUEGILL	FYKE NET	3	20	24	480	20	0.15	0.006	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2012	2.6E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W14	BLACK CRAPPIE	FYKE NET	13	20	24	480	20	0.65	0.027	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2012	2.6E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X15	YELLOW PERCH	FYKE NET	1	20	24	480	20	0.05	0.002	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2012	2.6E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X22	WALLEYE	FYKE NET	494	20	24	480	20	24.7	1.029	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2013	4.25E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L02	NORTHERN PIKE	FYKE NET	22	18	24	432	18	1.22	0.051	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2013	4.25E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L03	MUSKELLUNGE	FYKE NET	1	18	24	432	18	0.06	0.002	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2013	4.25E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL O06	YELLOW BULLHEAD	FYKE NET	7	18	24	432	18	0.39	0.016	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2013	4.25E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W04	ROCK BASS	FYKE NET	6	18	24	432	18	0.33	0.014	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2013	4.25E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W06	PUMPKINSEED	FYKE NET	3	18	24	432	18	0.17	0.007	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2013	4.25E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W11	SMALLMOUTH BASS	FYKE NET	3	18	24	432	18	0.17	0.007	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2013	4.25E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W14	BLACK CRAPPIE	FYKE NET	2	18	24	432	18	0.11	0.005	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2013	4.25E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X15	YELLOW PERCH	FYKE NET	1	18	24	432	18	0.06	0.002	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2013	4.25E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X22	WALLEYE	FYKE NET	40	18	24	432	18	2.22	0.093	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2014	5E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L02	NORTHERN PIKE	FYKE NET	41	40	24	960	40	1.03	0.043	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2014	5E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L03	MUSKELLUNGE	FYKE NET	21	40	24	960	40	0.53	0.022	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2014	5E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL N09	WHITE SUCKER	FYKE NET	2	40	24	960	40	0.05	0.002	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2014	5E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W04	ROCK BASS	FYKE NET	72	40	24	960	40	1.8	0.075	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2014	5E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W06	PUMPKINSEED	FYKE NET	18	40	24	960	40	0.45	0.019	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2014	5E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W09	BLUEGILL	FYKE NET	1	40	24	960	40	0.03	0.001	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2014	5E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W11	SMALLMOUTH BASS	FYKE NET	64	40	24	960	40	1.6	0.067	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2014	5E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W14	BLACK CRAPPIE	FYKE NET	264	40	24	960	40	6.6	0.275	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2014	5E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X15	YELLOW PERCH	FYKE NET	1	40	24	960	40	0.03	0.001	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2014	5E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X22	WALLEYE	FYKE NET	139	40	24	960	40	3.48	0.145	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L02	NORTHERN PIKE	FYKE NET	16	15	24	360	15	1.07	0.044	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L03	MUSKELLUNGE	FYKE NET	5	15	24	360	15	0.33	0.014	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W04	ROCK BASS	FYKE NET	7	15	24	360	15	0.47	0.019	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W06	PUMPKINSEED	FYKE NET	38	15	24	360	15	2.53	0.106	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W09	BLUEGILL	FYKE NET	59	15	24	360	15	3.93	0.164	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W11	SMALLMOUTH BASS	FYKE NET	11	15	24	360	15	0.73	0.031	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W14	BLACK CRAPPIE	FYKE NET	78	15	24	360	15	5.2	0.217	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X15	YELLOW PERCH	FYKE NET	1	15	24	360	15	0.07	0.003	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X22	WALLEYE	FYKE NET	58	15	24	360	15	3.87	0.161	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L02	NORTHERN PIKE	FYKE NET	3	5	24	120	5	0.6	0.025	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L03	MUSKELLUNGE	FYKE NET	2	5	24	120	5	0.4	0.017	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL O06	YELLOW BULLHEAD	FYKE NET	4	5	24	120	5	0.8	0.033	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL O07	BROWN BULLHEAD	FYKE NET	5	5	24	120	5	1	0.042	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W06	PUMPKINSEED	FYKE NET	2	5	24	120	5	0.4	0.017	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W14	BLACK CRAPPIE	FYKE NET	18	5	24	120	5	3.6	0.15	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X15	YELLOW PERCH	FYKE NET	3	5	24	120	5	0.6	0.025	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2015	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X22	WALLEYE	FYKE NET	798	5	24	120	5	159.6	6.65	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2016	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L02	NORTHERN PIKE	FYKE NET	5	4	24	96	4	1.25	0.052	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2016	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L03	MUSKELLUNGE	FYKE NET	1	4	24	96	4	0.25	0.01	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2016	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W04	ROCK BASS	FYKE NET	7	4	24	96	4	1.75	0.073	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2016	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W06	PUMPKINSEED	FYKE NET	12	4	24	96	4	3	0.125	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2016	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W09	BLUEGILL	FYKE NET	9	4	24	96	4	2.25	0.094	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2016	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W11	SMALLMOUTH BASS	FYKE NET	3	4	24	96	4	0.75	0.031	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2016	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W14	BLACK CRAPPIE	FYKE NET	13	4	24	96	4	3.25	0.135	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2016	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X22	WALLEYE	FYKE NET	20	4	24	96	4	5	0.208	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2017	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L02	NORTHERN PIKE	FYKE NET	16	8	24	192	8	2	0.083	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2017	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L03	MUSKELLUNGE	FYKE NET	2	8	24	192	8	0.25	0.01	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2017	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W04	ROCK BASS	FYKE NET	4	8	24	192	8	0.5	0.021	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2017	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W06	PUMPKINSEED	FYKE NET	11	8	24	192	8	1.38	0.057	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2017	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W09	BLUEGILL	FYKE NET	10	8	24	192	8	1.25	0.052	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2017	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W11	SMALLMOUTH BASS	FYKE NET	3	8	24	192	8	0.38	0.016	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2017	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W14	BLACK CRAPPIE	FYKE NET	12	8	24	192	8	1.5	0.063	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2017	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X15	YELLOW PERCH	FYKE NET	2	8	24	192	8	0.25	0.01	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2017	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X22	WALLEYE	FYKE NET	12	8	24	192	8	1.5	0.063	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2018	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L02	NORTHERN PIKE	FYKE NET	23	18	24	432	18	1.28	0.053	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2018	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L03	MUSKELLUNGE	FYKE NET	1	18	24	432	18	0.06	0.002	-	A1

IRON	GILE FLOWAC	2942300	122377	10002736	2018	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL O05	BLACK BULLHEAD	FYKE NET	1	18	24	432	18	0.06	0.002	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2018	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W04	ROCK BASS	FYKE NET	23	18	24	432	18	1.28	0.053	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2018	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W06	PUMPKINSEED	FYKE NET	27	18	24	432	18	1.5	0.063	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2018	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W09	BLUEGILL	FYKE NET	64	18	24	432	18	3.56	0.148	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2018	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W11	SMALLMOUTH BASS	FYKE NET	5	18	24	432	18	0.28	0.012	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2018	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W14	BLACK CRAPPIE	FYKE NET	20	18	24	432	18	1.11	0.046	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2018	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X15	YELLOW PERCH	FYKE NET	5	18	24	432	18	0.28	0.012	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2018	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X22	WALLEYE	FYKE NET	28	18	24	432	18	1.56	0.065	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2019	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L02	NORTHERN PIKE	FYKE NET	20	18	24	432	18	1.11	0.046	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2019	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL L03	MUSKELLUNGE	FYKE NET	2	18	24	432	18	0.11	0.005	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2019	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL N09	WHITE SUCKER	FYKE NET	4	18	24	432	18	0.22	0.009	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2019	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W04	ROCK BASS	FYKE NET	25	18	24	432	18	1.39	0.058	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2019	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W06	PUMPKINSEED	FYKE NET	80	18	24	432	18	4.44	0.185	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2019	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W09	BLUEGILL	FYKE NET	236	18	24	432	18	13.11	0.546	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2019	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W11	SMALLMOUTH BASS	FYKE NET	6	18	24	432	18	0.33	0.014	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2019	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL W14	BLACK CRAPPIE	FYKE NET	42	18	24	432	18	2.33	0.097	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2019	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X15	YELLOW PERCH	FYKE NET	15	18	24	432	18	0.83	0.035	-	A1
IRON	GILE FLOWAC	2942300	122377	10002736	2019	5.15E+08	FISHERIES ASSESSMEN DATA ENTRY COMPL X22	WALLEYE	FYKE NET	24	18	24	432	18	1.33	0.056	-	A1

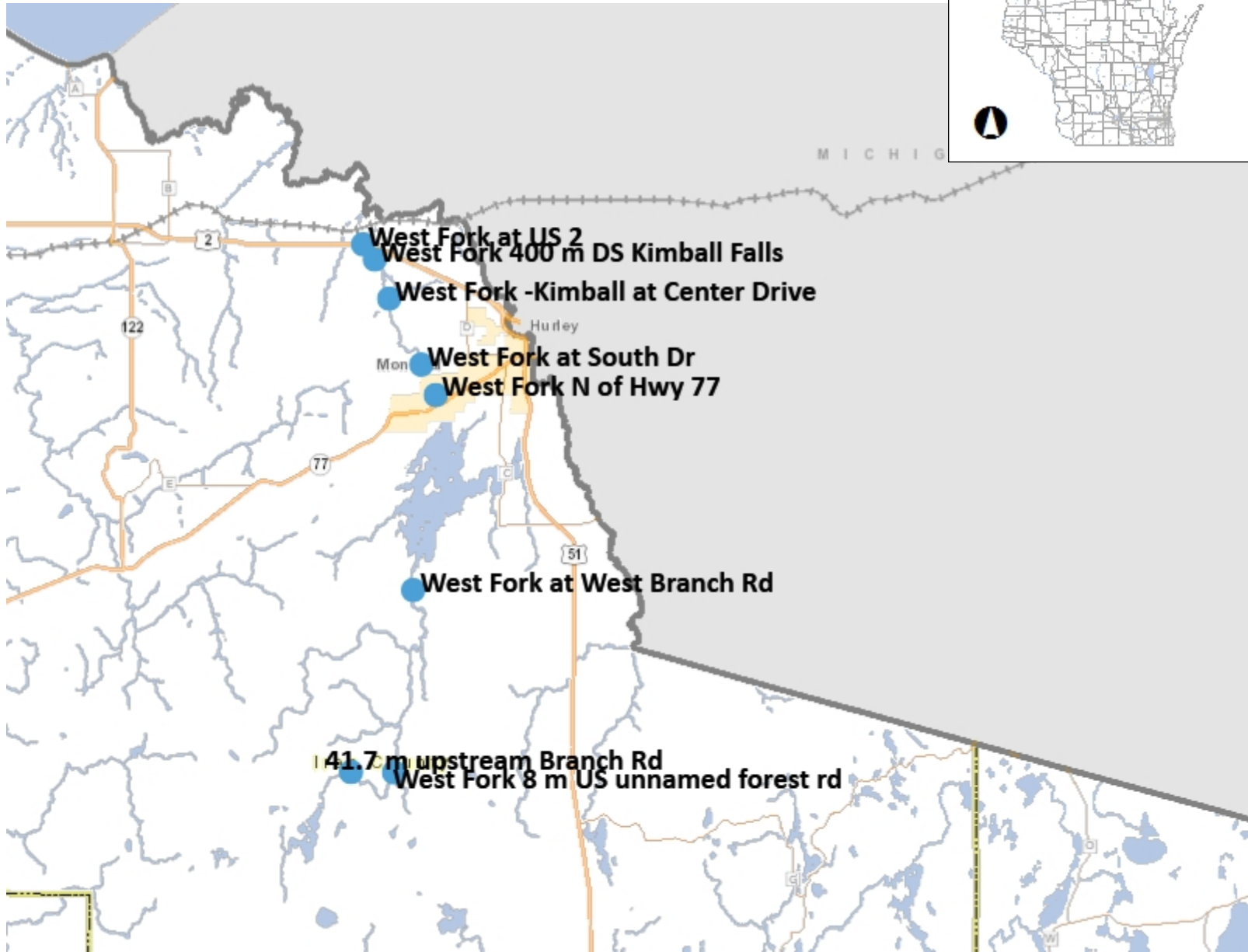
WBIC	Station Name	Site Seq No	Swims Station Id	Survey Year	Srvy Begin Date	Srvy End Date	Primary Survey Purpose	Srvy Seq No	Gear Type	Species Code	Species	Number of Miles	Number of Meters	Number of Hours	Number of Fish	CPE		CPE Hour	Muskegon Lake Class	
																CPE Mile	CPE Meter		Lake Class	ge Class
2942300	GILE FLOW	122377	10002736	1973	25-Sep-73	25-Sep-73	UNKNOWN	41713093	BOOM SHOCK L02		NORTHERN PIKE	-	-	2.75	2	-	-	0.73		4 A1
2942300	GILE FLOW	122377	10002736	1973	25-Sep-73	25-Sep-73	UNKNOWN	41713093	BOOM SHOCK L03		MUSKELLUNGE	-	-	2.75	1	-	-	0.36		4 A1
2942300	GILE FLOW	122377	10002736	1973	25-Sep-73	25-Sep-73	UNKNOWN	41713093	BOOM SHOCK X22		WALLEYE	-	-	2.75	92	-	-	33.46		4 A1
2942300	GILE FLOW	122377	10002736	1973	30-Apr-73	3-May-73	UNKNOWN	41713091	BOOM SHOCK L02		NORTHERN PIKE	-	-	5.17	3	-	-	0.58		4 A1
2942300	GILE FLOW	122377	10002736	1973	30-Apr-73	3-May-73	UNKNOWN	41713091	BOOM SHOCK L03		MUSKELLUNGE	-	-	5.17	4	-	-	0.77		4 A1
2942300	GILE FLOW	122377	10002736	1973	30-Apr-73	3-May-73	UNKNOWN	41713091	BOOM SHOCK X22		WALLEYE	-	-	5.17	216	-	-	41.81		4 A1
2942300	GILE FLOW	122377	10002736	1984	18-Sep-84	27-Sep-84	UNKNOWN	41713096	BOOM SHOCK L02		NORTHERN PIKE	-	-	6.97	22	-	-	3.16		4 A1
2942300	GILE FLOW	122377	10002736	1984	18-Sep-84	27-Sep-84	UNKNOWN	41713096	BOOM SHOCK L03		MUSKELLUNGE	-	-	6.97	3	-	-	0.43		4 A1
2942300	GILE FLOW	122377	10002736	1984	18-Sep-84	27-Sep-84	UNKNOWN	41713096	BOOM SHOCK X22		WALLEYE	-	-	6.97	363	-	-	52.11		4 A1
2942300	GILE FLOW	122377	10002736	1985	16-Sep-85	26-Sep-85	UNKNOWN	41713464	BOOM SHOCK L02		NORTHERN PIKE	-	-	6.23	51	-	-	8.18		4 A1
2942300	GILE FLOW	122377	10002736	1985	16-Sep-85	26-Sep-85	UNKNOWN	41713464	BOOM SHOCK L03		MUSKELLUNGE	-	-	6.23	55	-	-	8.82		4 A1
2942300	GILE FLOW	122377	10002736	1985	16-Sep-85	26-Sep-85	UNKNOWN	41713464	BOOM SHOCK X22		WALLEYE	-	-	6.23	265	-	-	42.51		4 A1
2942300	GILE FLOW	122377	10002736	1986	8-Sep-86	22-Sep-86	UNKNOWN	41713465	BOOM SHOCK L02		NORTHERN PIKE	-	-	5.7	17	-	-	2.98		4 A1
2942300	GILE FLOW	122377	10002736	1986	8-Sep-86	22-Sep-86	UNKNOWN	41713465	BOOM SHOCK L03		MUSKELLUNGE	-	-	5.7	4	-	-	0.7		4 A1
2942300	GILE FLOW	122377	10002736	1986	8-Sep-86	22-Sep-86	UNKNOWN	41713465	BOOM SHOCK L08		NORTHERN PIKE X MUSK	-	-	5.7	1	-	-	0.18		4 A1
2942300	GILE FLOW	122377	10002736	1986	8-Sep-86	22-Sep-86	UNKNOWN	41713465	BOOM SHOCK W11		SMALLMOUTH BASS	-	-	5.7	1	-	-	0.18		4 A1
2942300	GILE FLOW	122377	10002736	1986	8-Sep-86	22-Sep-86	UNKNOWN	41713465	BOOM SHOCK X22		WALLEYE	-	-	5.7	314	-	-	55.09		4 A1
2942300	GILE FLOW	122377	10002736	1987	14-Sep-87	16-Sep-87	UNKNOWN	41713466	BOOM SHOCK L02		NORTHERN PIKE	-	-	6.5	32	-	-	4.92		4 A1
2942300	GILE FLOW	122377	10002736	1987	14-Sep-87	16-Sep-87	UNKNOWN	41713466	BOOM SHOCK L03		MUSKELLUNGE	-	-	6.5	9	-	-	1.39		4 A1
2942300	GILE FLOW	122377	10002736	1987	14-Sep-87	16-Sep-87	UNKNOWN	41713466	BOOM SHOCK W11		SMALLMOUTH BASS	-	-	6.5	20	-	-	3.08		4 A1
2942300	GILE FLOW	122377	10002736	1987	14-Sep-87	16-Sep-87	UNKNOWN	41713466	BOOM SHOCK X22		WALLEYE	-	-	6.5	818	-	-	125.85		4 A1
2942300	GILE FLOW	122377	10002736	1988	12-Sep-88	14-Sep-88	UNKNOWN	41713468	BOOM SHOCK L02		NORTHERN PIKE	-	-	6.8	21	-	-	3.09		4 A1
2942300	GILE FLOW	122377	10002736	1988	12-Sep-88	14-Sep-88	UNKNOWN	41713468	BOOM SHOCK L03		MUSKELLUNGE	-	-	6.8	7	-	-	1.03		4 A1
2942300	GILE FLOW	122377	10002736	1988	12-Sep-88	14-Sep-88	UNKNOWN	41713468	BOOM SHOCK W11		SMALLMOUTH BASS	-	-	6.8	14	-	-	2.06		4 A1
2942300	GILE FLOW	122377	10002736	1988	12-Sep-88	14-Sep-88	UNKNOWN	41713468	BOOM SHOCK X22		WALLEYE	-	-	6.8	888	-	-	329.71		4 A1
2942300	GILE FLOW	122377	10002736	1989	11-Sep-89	13-Sep-89	UNKNOWN	41713469	BOOM SHOCK L02		NORTHERN PIKE	-	-	5.8	29	-	-	5		4 A1
2942300	GILE FLOW	122377	10002736	1989	11-Sep-89	13-Sep-89	UNKNOWN	41713469	BOOM SHOCK L03		MUSKELLUNGE	-	-	5.8	1	-	-	0.17		4 A1
2942300	GILE FLOW	122377	10002736	1989	11-Sep-89	13-Sep-89	UNKNOWN	41713469	BOOM SHOCK W11		SMALLMOUTH BASS	-	-	5.8	25	-	-	4.31		4 A1
2942300	GILE FLOW	122377	10002736	1989	11-Sep-89	13-Sep-89	UNKNOWN	41713469	BOOM SHOCK X22		WALLEYE	-	-	5.8	888	-	-	153.1		4 A1
2942300	GILE FLOW	122377	10002736	1990	12-Sep-90	18-Sep-90	UNKNOWN	41713470	BOOM SHOCK L02		NORTHERN PIKE	-	-	6.5	38	-	-	5.85		4 A1
2942300	GILE FLOW	122377	10002736	1990	12-Sep-90	18-Sep-90	UNKNOWN	41713470	BOOM SHOCK L03		MUSKELLUNGE	-	-	6.5	3	-	-	0.46		4 A1
2942300	GILE FLOW	122377	10002736	1990	12-Sep-90	18-Sep-90	UNKNOWN	41713470	BOOM SHOCK W11		SMALLMOUTH BASS	-	-	6.5	28	-	-	4.31		4 A1
2942300	GILE FLOW	122377	10002736	1990	12-Sep-90	18-Sep-90	UNKNOWN	41713470	BOOM SHOCK X22		WALLEYE	-	-	6.5	219	-	-	33.69		4 A1
2942300	GILE FLOW	122377	10002736	1991	17-Sep-91	19-Sep-91	UNKNOWN	41713471	BOOM SHOCK L02		NORTHERN PIKE	-	-	6.3	60	-	-	9.52		4 A1
2942300	GILE FLOW	122377	10002736	1991	17-Sep-91	19-Sep-91	UNKNOWN	41713471	BOOM SHOCK L03		MUSKELLUNGE	-	-	6.3	11	-	-	1.75		4 A1
2942300	GILE FLOW	122377	10002736	1991	17-Sep-91	19-Sep-91	UNKNOWN	41713471	BOOM SHOCK W11		SMALLMOUTH BASS	-	-	6.3	27	-	-	4.29		4 A1
2942300	GILE FLOW	122377	10002736	1991	17-Sep-91	19-Sep-91	UNKNOWN	41713471	BOOM SHOCK W12		LARGEMOUTH BASS	-	-	6.3	1	-	-	0.16		4 A1
2942300	GILE FLOW	122377	10002736	1991	17-Sep-91	19-Sep-91	UNKNOWN	41713471	BOOM SHOCK X22		WALLEYE	-	-	6.3	208	-	-	33.02		4 A1
2942300	GILE FLOW	122377	10002736	1992	28-Sep-92	30-Sep-92	UNKNOWN	41713472	BOOM SHOCK L02		NORTHERN PIKE	-	-	6.8	52	-	-	7.65		4 A1
2942300	GILE FLOW	122377	10002736	1992	28-Sep-92	30-Sep-92	UNKNOWN	41713472	BOOM SHOCK L03		MUSKELLUNGE	-	-	6.8	11	-	-	1.62		4 A1
2942300	GILE FLOW	122377	10002736	1992	28-Sep-92	30-Sep-92	UNKNOWN	41713472	BOOM SHOCK W11		SMALLMOUTH BASS	-	-	6.8	27	-	-	3.97		4 A1
2942300	GILE FLOW	122377	10002736	1992	28-Sep-92	30-Sep-92	UNKNOWN	41713472	BOOM SHOCK X22		WALLEYE	-	-	6.8	201	-	-	29.56		4 A1
2942300	GILE FLOW	122377	10002736	1993	28-Sep-93	29-Sep-93	COMPREHENSIVE SURVEY	73067985	BOOM SHOCK L02		NORTHERN PIKE	-	-	13.1	223	-	-	17.02		4 A1
2942300	GILE FLOW	122377	10002736	1993	28-Sep-93	29-Sep-93	COMPREHENSIVE SURVEY	73067985	BOOM SHOCK L03		MUSKELLUNGE	-	-	13.1	75	-	-	5.73		4 A1
2942300	GILE FLOW	122377	10002736	1993	28-Sep-93	29-Sep-93	COMPREHENSIVE SURVEY	73067985	BOOM SHOCK W11		SMALLMOUTH BASS	-	-	13.1	50	-	-	3.82		4 A1
2942300	GILE FLOW	122377	10002736	1993	28-Sep-93	29-Sep-93	COMPREHENSIVE SURVEY	73067985	BOOM SHOCK X22		WALLEYE	-	-	13.1	3009	-	-	229.7		4 A1
2942300	GILE FLOW	122377	10002736	1993	22-Apr-93	15-Jun-93	COMPREHENSIVE SURVEY	63963978	BOOM SHOCK L02		NORTHERN PIKE	-	-	-	220	-	-	-		4 A1
2942300	GILE FLOW	122377	10002736	1993	22-Apr-93	15-Jun-93	COMPREHENSIVE SURVEY	63963978	BOOM SHOCK L03		MUSKELLUNGE	-	-	-	53	-	-	-		4 A1
2942300	GILE FLOW	122377	10002736	1993	22-Apr-93	15-Jun-93	COMPREHENSIVE SURVEY	63963978	BOOM SHOCK W11		SMALLMOUTH BASS	-	-	-	792	-	-	-		4 A1
2942300	GILE FLOW	122377	10002736	1993	22-Apr-93	15-Jun-93	COMPREHENSIVE SURVEY	63963978	BOOM SHOCK X22		WALLEYE	-	-	-	3045	-	-	-		4 A1
2942300	GILE FLOW	122377	10002736	2000	9-May-00	9-May-00	BASELINE MONITORING	50897	BOOM SHOCK L02		NORTHERN PIKE	5	8,045.00	3	5	1	0	1.67		4 A1
2942300	GILE FLOW	122377	10002736	2000	9-May-00	9-May-00	BASELINE MONITORING	50897	BOOM SHOCK L03		MUSKELLUNGE	5	8,045.00	3	4	0.8	0	1.33		4 A1
2942300	GILE FLOW	122377	10002736	2000	9-May-00	9-May-00	BASELINE MONITORING	50897	BOOM SHOCK W04		ROCK BASS	1	1,609.00	0.8	40	40	0.03	50		4 A1
2942300	GILE FLOW	122377	10002736	2000	9-May-00	9-May-00	BASELINE MONITORING	50897	BOOM SHOCK W06		PUMPKINSEED	1	1,609.00	0.8	5	5	0	6.25		4 A1
2942300	GILE FLOW	122377	10002736	2000	9-May-00	9-May-00	BASELINE MONITORING	50897	BOOM SHOCK W09		BLUEGILL	1	1,609.00	0.8	3	3	0	3.75		4 A1
2942300	GILE FLOW	122377	10002736	2000	9-May-00	9-May-00	BASELINE MONITORING	50897	BOOM SHOCK W11		SMALLMOUTH BASS	5	8,045.00	3	105	21	0.01	35		4 A1
2942300	GILE FLOW	122377	10002736	2000	9-May-00	9-May-00	BASELINE MONITORING	50897	BOOM SHOCK W14		BLACK CRAPPIE	1	1,609.00	0.8	5	5	0	6.25		4 A1
2942300	GILE FLOW	122377	10002736	2000	9-May-00	9-May-00	BASELINE MONITORING	50897	BOOM SHOCK X15		YELLOW PERCH	1	1,609.00	0.8	9	9	0.01	11.25		4 A1
2942300	GILE FLOW	122377	10002736	2000	9-May-00	9-May-00	BASELINE MONITORING	50897	BOOM SHOCK X22		WALLEYE	5	8,045.00	3	225	45	0.03	75		4 A1
2942300	GILE FLOW	122377	10002736	2000	18-Apr-00	18-Apr-00	BASELINE MONITORING	50953	BOOM SHOCK L02		NORTHERN PIKE	5	8,045.00	2.8	20	4	0	7.14		4 A1
2942300	GILE FLOW	122377	10002736	2000	18-Apr-00	18-Apr-00	BASELINE MONITORING	50953	BOOM SHOCK L03		MUSKELLUNGE	5	8,045.00	2.8	5	1	0	1.79		4 A1
2942300	GILE FLOW	122377	10002736	2000	18-Apr-00	18-Apr-00	BASELINE MONITORING	50953	BOOM SHOCK X22		WALLEYE	5	8,045.00	2.8	240	48	0.03	85.71		4 A1
2942300	GILE FLOW	122377	10002736	2003	18-Sep-03	18-Sep-03	FALL RECRUITMENT SURVEY	79282	BOOM SHOCK L02		NORTHERN PIKE	-	-	12.5	46	-	-	3.68		4 A1

2942300	GILE FLOW	122377	10002736	2003	18-Sep-03	18-Sep-03	FALL RECRUITMENT SURVEY	79282	BOOM SHOCK L03	MUSKELLUNGE	-	-	12.5	8	-	-	0.64	4	A1
2942300	GILE FLOW	122377	10002736	2003	18-Sep-03	18-Sep-03	FALL RECRUITMENT SURVEY	79282	BOOM SHOCK W04	ROCK BASS	-	-	1.23	9	-	-	7.3	4	A1
2942300	GILE FLOW	122377	10002736	2003	18-Sep-03	18-Sep-03	FALL RECRUITMENT SURVEY	79282	BOOM SHOCK W06	PUMPKINSEED	-	-	1.23	2	-	-	1.62	4	A1
2942300	GILE FLOW	122377	10002736	2003	18-Sep-03	18-Sep-03	FALL RECRUITMENT SURVEY	79282	BOOM SHOCK W09	BLUEGILL	-	-	1.23	2	-	-	1.62	4	A1
2942300	GILE FLOW	122377	10002736	2003	18-Sep-03	18-Sep-03	FALL RECRUITMENT SURVEY	79282	BOOM SHOCK W11	SMALLMOUTH BASS	-	-	12.5	170	-	-	13.6	4	A1
2942300	GILE FLOW	122377	10002736	2003	18-Sep-03	18-Sep-03	FALL RECRUITMENT SURVEY	79282	BOOM SHOCK W14	BLACK CRAPPIE	-	-	1.23	2	-	-	1.62	4	A1
2942300	GILE FLOW	122377	10002736	2003	18-Sep-03	18-Sep-03	FALL RECRUITMENT SURVEY	79282	BOOM SHOCK X15	YELLOW PERCH	-	-	1.23	9	-	-	7.3	4	A1
2942300	GILE FLOW	122377	10002736	2003	18-Sep-03	18-Sep-03	FALL RECRUITMENT SURVEY	79282	BOOM SHOCK X22	WALLEYE	-	-	12.5	1115	-	-	89.2	4	A1
2942300	GILE FLOW	122377	10002736	2003	22-Apr-03	20-May-03	BASELINE MONITORING	78529	BOOM SHOCK L02	NORTHERN PIKE	54.4	87,529.60	-	106	1.95	0	-	4	A1
2942300	GILE FLOW	122377	10002736	2003	22-Apr-03	20-May-03	BASELINE MONITORING	78529	BOOM SHOCK L03	MUSKELLUNGE	54.4	87,529.60	-	22	0.4	0	-	4	A1
2942300	GILE FLOW	122377	10002736	2003	22-Apr-03	20-May-03	BASELINE MONITORING	78529	BOOM SHOCK W11	SMALLMOUTH BASS	54.4	87,529.60	-	699	12.85	0.01	-	4	A1
2942300	GILE FLOW	122377	10002736	2003	22-Apr-03	20-May-03	BASELINE MONITORING	78529	BOOM SHOCK X22	WALLEYE	54.4	87,529.60	-	2830	52.02	0.03	-	4	A1
2942300	GILE FLOW	122377	10002736	2008	21-May-08	22-May-08	FISHERIES ASSESSMENTS LA	1046771	BOOM SHOCK L02	NORTHERN PIKE	9	14,481.00	3.4	22	2.44	0	6.47	4	A1
2942300	GILE FLOW	122377	10002736	2008	21-May-08	22-May-08	FISHERIES ASSESSMENTS LA	1046771	BOOM SHOCK L03	MUSKELLUNGE	9	14,481.00	3.4	4	0.44	0	1.18	4	A1
2942300	GILE FLOW	122377	10002736	2008	21-May-08	22-May-08	FISHERIES ASSESSMENTS LA	1046771	BOOM SHOCK W04	ROCK BASS	2	3,218.00	0.8	16	8	0.01	20	4	A1
2942300	GILE FLOW	122377	10002736	2008	21-May-08	22-May-08	FISHERIES ASSESSMENTS LA	1046771	BOOM SHOCK W06	PUMPKINSEED	2	3,218.00	0.8	3	1.5	0	3.75	4	A1
2942300	GILE FLOW	122377	10002736	2008	21-May-08	22-May-08	FISHERIES ASSESSMENTS LA	1046771	BOOM SHOCK W09	BLUEGILL	2	3,218.00	0.8	4	2	0	5	4	A1
2942300	GILE FLOW	122377	10002736	2008	21-May-08	22-May-08	FISHERIES ASSESSMENTS LA	1046771	BOOM SHOCK W11	SMALLMOUTH BASS	9	14,481.00	3.4	95	10.56	0.01	27.94	4	A1
2942300	GILE FLOW	122377	10002736	2008	21-May-08	22-May-08	FISHERIES ASSESSMENTS LA	1046771	BOOM SHOCK W14	BLACK CRAPPIE	2	3,218.00	0.8	8	4	0	10	4	A1
2942300	GILE FLOW	122377	10002736	2008	21-May-08	22-May-08	FISHERIES ASSESSMENTS LA	1046771	BOOM SHOCK X15	YELLOW PERCH	2	3,218.00	0.8	5	2.5	0	6.25	4	A1
2942300	GILE FLOW	122377	10002736	2008	21-May-08	22-May-08	FISHERIES ASSESSMENTS LA	1046771	BOOM SHOCK X22	WALLEYE	9	14,481.00	3.4	387	43	0.03	113.82	4	A1
2942300	GILE FLOW	122377	10002736	2009	28-May-09	28-May-09	FISHERIES ASSESSMENTS LA	25218933	BOOM SHOCK L02	NORTHERN PIKE	2	3,218.00	0.8	1	0.5	0	1.25	4	A1
2942300	GILE FLOW	122377	10002736	2009	28-May-09	28-May-09	FISHERIES ASSESSMENTS LA	25218933	BOOM SHOCK W04	ROCK BASS	0.5	804.5	0.2	4	8	0.01	20	4	A1
2942300	GILE FLOW	122377	10002736	2009	28-May-09	28-May-09	FISHERIES ASSESSMENTS LA	25218933	BOOM SHOCK W06	PUMPKINSEED	0.5	804.5	0.2	1	2	0	5	4	A1
2942300	GILE FLOW	122377	10002736	2009	28-May-09	28-May-09	FISHERIES ASSESSMENTS LA	25218933	BOOM SHOCK W11	SMALLMOUTH BASS	2	3,218.00	0.8	121	60.5	0.04	151.25	4	A1
2942300	GILE FLOW	122377	10002736	2009	28-May-09	28-May-09	FISHERIES ASSESSMENTS LA	25218933	BOOM SHOCK W14	BLACK CRAPPIE	0.5	804.5	0.2	5	10	0.01	25	4	A1
2942300	GILE FLOW	122377	10002736	2009	28-May-09	28-May-09	FISHERIES ASSESSMENTS LA	25218933	BOOM SHOCK X22	WALLEYE	2	3,218.00	0.8	18	9	0.01	22.5	4	A1
2942300	GILE FLOW	122377	10002736	2011	25-May-11	26-May-11	FISHERIES ASSESSMENTS LA	181793219	BOOM SHOCK L02	NORTHERN PIKE	10	16,090.00	4.02	30	3	0	7.47	4	A1
2942300	GILE FLOW	122377	10002736	2011	25-May-11	26-May-11	FISHERIES ASSESSMENTS LA	181793219	BOOM SHOCK L03	MUSKELLUNGE	10	16,090.00	4.02	12	1.2	0	2.99	4	A1
2942300	GILE FLOW	122377	10002736	2011	25-May-11	26-May-11	FISHERIES ASSESSMENTS LA	181793219	BOOM SHOCK W04	ROCK BASS	4	6,436.00	1.7	7	1.75	0	4.12	4	A1
2942300	GILE FLOW	122377	10002736	2011	25-May-11	26-May-11	FISHERIES ASSESSMENTS LA	181793219	BOOM SHOCK W06	PUMPKINSEED	4	6,436.00	1.7	5	1.25	0	2.94	4	A1
2942300	GILE FLOW	122377	10002736	2011	25-May-11	26-May-11	FISHERIES ASSESSMENTS LA	181793219	BOOM SHOCK W11	SMALLMOUTH BASS	10	16,090.00	4.02	187	18.7	0.01	46.56	4	A1
2942300	GILE FLOW	122377	10002736	2011	25-May-11	26-May-11	FISHERIES ASSESSMENTS LA	181793219	BOOM SHOCK W14	BLACK CRAPPIE	4	6,436.00	1.7	3	0.75	0	1.77	4	A1
2942300	GILE FLOW	122377	10002736	2011	25-May-11	26-May-11	FISHERIES ASSESSMENTS LA	181793219	BOOM SHOCK X15	YELLOW PERCH	4	6,436.00	1.7	6	1.5	0	3.53	4	A1
2942300	GILE FLOW	122377	10002736	2011	25-May-11	26-May-11	FISHERIES ASSESSMENTS LA	181793219	BOOM SHOCK X22	WALLEYE	10	16,090.00	4.02	198	19.8	0.01	49.3	4	A1
2942300	GILE FLOW	122377	10002736	2013	4-Jun-13	4-Jun-13	FISHERIES ASSESSMENTS LA	388995637	BOOM SHOCK L02	NORTHERN PIKE	5.92	9,525.28	2.7	6	1.01	0	2.22	4	A1
2942300	GILE FLOW	122377	10002736	2013	4-Jun-13	4-Jun-13	FISHERIES ASSESSMENTS LA	388995637	BOOM SHOCK L03	MUSKELLUNGE	5.92	9,525.28	2.7	5	0.85	0	1.85	4	A1
2942300	GILE FLOW	122377	10002736	2013	4-Jun-13	4-Jun-13	FISHERIES ASSESSMENTS LA	388995637	BOOM SHOCK W04	ROCK BASS	1.5	2,413.50	0.6	26	17.33	0.01	43.33	4	A1
2942300	GILE FLOW	122377	10002736	2013	4-Jun-13	4-Jun-13	FISHERIES ASSESSMENTS LA	388995637	BOOM SHOCK W06	PUMPKINSEED	1.5	2,413.50	0.6	12	8	0.01	20	4	A1
2942300	GILE FLOW	122377	10002736	2013	4-Jun-13	4-Jun-13	FISHERIES ASSESSMENTS LA	388995637	BOOM SHOCK W09	BLUEGILL	1.5	2,413.50	0.6	3	2	0	5	4	A1
2942300	GILE FLOW	122377	10002736	2013	4-Jun-13	4-Jun-13	FISHERIES ASSESSMENTS LA	388995637	BOOM SHOCK W11	SMALLMOUTH BASS	5.92	9,525.28	2.7	130	21.96	0.01	48.15	4	A1
2942300	GILE FLOW	122377	10002736	2013	4-Jun-13	4-Jun-13	FISHERIES ASSESSMENTS LA	388995637	BOOM SHOCK W14	BLACK CRAPPIE	1.5	2,413.50	0.6	5	3.33	0	8.33	4	A1
2942300	GILE FLOW	122377	10002736	2013	4-Jun-13	4-Jun-13	FISHERIES ASSESSMENTS LA	388995637	BOOM SHOCK X15	YELLOW PERCH	1.5	2,413.50	0.6	10	6.67	0	16.67	4	A1
2942300	GILE FLOW	122377	10002736	2013	4-Jun-13	4-Jun-13	FISHERIES ASSESSMENTS LA	388995637	BOOM SHOCK X22	WALLEYE	5.92	9,525.28	2.7	27	4.56	0	10	4	A1
2942300	GILE FLOW	122377	10002736	2013	8-Oct-13	8-Oct-13	FISHERIES ASSESSMENTS LA	425651078	BOOM SHOCK L02	MUSKELLUNGE	6	9,654.00	2.33	4	0.67	0	1.71	4	A1
2942300	GILE FLOW	122377	10002736	2015	27-May-15	27-May-15	FISHERIES ASSESSMENTS LA	515078243	BOOM SHOCK L02	NORTHERN PIKE	4	6,436.00	1.72	9	2.25	0	5.24	4	A1
2942300	GILE FLOW	122377	10002736	2015	27-May-15	27-May-15	FISHERIES ASSESSMENTS LA	515078243	BOOM SHOCK L03	MUSKELLUNGE	4	6,436.00	1.72	1	0.25	0	0.58	4	A1
2942300	GILE FLOW	122377	10002736	2015	27-May-15	27-May-15	FISHERIES ASSESSMENTS LA	515078243	BOOM SHOCK W04	ROCK BASS	1	1,609.00	0.47	4	4	0	8.57	4	A1
2942300	GILE FLOW	122377	10002736	2015	27-May-15	27-May-15	FISHERIES ASSESSMENTS LA	515078243	BOOM SHOCK W06	PUMPKINSEED	1	1,609.00	0.47	5	5	0	10.71	4	A1
2942300	GILE FLOW	122377	10002736	2015	27-May-15	27-May-15	FISHERIES ASSESSMENTS LA	515078243	BOOM SHOCK W09	BLUEGILL	1	1,609.00	0.47	2	2	0	4.29	4	A1
2942300	GILE FLOW	122377	10002736	2015	27-May-15	27-May-15	FISHERIES ASSESSMENTS LA	515078243	BOOM SHOCK W11	SMALLMOUTH BASS	4	6,436.00	1.72	85	21.25	0.01	49.52	4	A1
2942300	GILE FLOW	122377	10002736	2015	27-May-15	27-May-15	FISHERIES ASSESSMENTS LA	515078243	BOOM SHOCK W14	BLACK CRAPPIE	1	1,609.00	0.47	11	11	0.01	23.57	4	A1
2942300	GILE FLOW	122377	10002736	2015	27-May-15	27-May-15	FISHERIES ASSESSMENTS LA	515078243	BOOM SHOCK X15	YELLOW PERCH	1	1,609.00	0.47	3	3	0	6.43	4	A1
2942300	GILE FLOW	122377	10002736	2015	27-May-15	27-May-15	FISHERIES ASSESSMENTS LA	515078243	BOOM SHOCK X22	WALLEYE	4	6,436.00	1.72	79	19.75	0.01	46.02	4	A1
2942300	GILE FLOW	122377	10002736	2017	31-May-17	5-Jun-17	FISHERIES ASSESSMENTS LA	515084339	BOOM SHOCK L02	NORTHERN PIKE	8	12,872.00	4.08	37	4.63	0	9.06	4	A1
2942300	GILE FLOW	122377	10002736	2017	31-May-17	5-Jun-17	FISHERIES ASSESSMENTS LA	515084339	BOOM SHOCK L03	MUSKELLUNGE	8	12,872.00	4.08	2	0.25	0	0.49	4	A1
2942300	GILE FLOW	122377	10002736	2017	31-May-17	5-Jun-17	FISHERIES ASSESSMENTS LA	515084339	BOOM SHOCK W04	ROCK BASS	2	3,218.00	1.15	27	13.5	0.01	23.48	4	A1
2942300	GILE FLOW	122377	10002736	2017	31-May-17	5-Jun-17	FISHERIES ASSESSMENTS LA	515084339	BOOM SHOCK W06	PUMPKINSEED	2	3,218.00	1.15	5	2.5	0	4.35	4	A1
2942300	GILE FLOW	122377	10002736	2017	31-May-17	5-Jun-17	FISHERIES ASSESSMENTS LA	515084339	BOOM SHOCK W09	BLUEGILL	2	3,218.00	1.15	4	2	0	3.48	4	A1
2942300	GILE FLOW	122377	10002736	2017	31-May-17	5-Jun-17	FISHERIES ASSESSMENTS LA	515084339	BOOM SHOCK W11	SMALLMOUTH BASS	8	12,872.00	4.08	227	28.38	0.02	55.59	4	A1
2942300	GILE FLOW	122377	10002736	2017	31-May-17	5-Jun-17	FISHERIES ASSESSMENTS LA	515084339	BOOM SHOCK W14	BLACK CRAPPIE	2	3,218.00	1.15	8	4	0	6.96	4	A1
2942300	GILE FLOW	122377	10002736	2017	31-May-17	5-Jun-17	FISHERIES ASSESSMENTS LA	515084339	BOOM SHOCK X15	YELLOW PERCH	2	3,218.00	1.15	8	4	0	6.96	4	A1
2942300	GILE FLOW	122377	10002736	2017	31-May-17	5-Jun-17	FISHERIES ASSESSMENTS LA	515084339	BOOM SHOCK X22	WALLEYE	8	12,872.00	4.08	409	51.13	0.03	100.16	4	A1
2942300	GILE FLOW	122377	1																

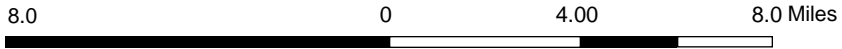
GILE FLOW	2019 GILE FLOWAGE_GENERAL L	10002736	122377	515090238	NETTING	FYKE NET	20-Jun-19 -	PANFISH	13100697	ALL	W09	BLUEGILL	1	8.5 -
GILE FLOW	2019 GILE FLOWAGE_GENERAL L	10002736	122377	515090238	NETTING	FYKE NET	20-Jun-19 -	PANFISH	13100698	ALL	W09	BLUEGILL	1	8.6 -
GILE FLOW	2019 GILE FLOWAGE_GENERAL L	10002736	122377	515090238	NETTING	FYKE NET	20-Jun-19 -	PANFISH	13100699	ALL	W09	BLUEGILL	1	9.3 -
GILE FLOW	2019 GILE FLOWAGE_GENERAL L	10002736	122377	515090238	NETTING	FYKE NET	20-Jun-19 -	PANFISH	13100700	ALL	W09	BLUEGILL	2	9.7 -



West Fork Fish Sampling Locations



- Legend**
- Municipality
 - State Boundaries
 - County Boundaries
 - Major Roads**
 - Interstate Highway
 - State Highway
 - US Highway
 - County and Local Roads**
 - County HWY
 - Local Road
 - Railroads
 - Tribal Lands
 - Rivers and Streams
 - Intermittent Streams
 - Lakes and Open water



NAD_1983_HARN_Wisconsin_TM

1: 253,440

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Notes

WBIC	Station Name	Site Seq No	Swims Stat	Survey Year	Survey Begin Date	Survey End Date	Primary Survey Purpose	Survey Seq No	Gear Type	Species	Number of Miles	Number of Meters	Number of Hours	Number of Fish	CPE Mile	CPE Meter	CPE Hour
2941600	WEST FORI	25583813	10029090	2014	25-Jul-14	25-Jul-14	WATERSHED NATUR.	515076598	BACKPACK SHOCKER	LARGEMOI	0.13	210	0.58	1	7.66	0.01	1.71
2941600	WEST FORI	25583813	10029090	2014	25-Jul-14	25-Jul-14	WATERSHED NATUR.	515076598	BACKPACK SHOCKER	YELLOW PE	0.13	210	0.58	1	7.66	0.01	1.71
2941600	WEST FORI	20660390	10022050	2011	1-Sep-11	1-Sep-11	NATURAL COMMUN	229793209	STREAM SHOCKER	BROOK TR	0.25	400	1.13	11	44.25	0.03	9.71
2941600	WEST FORI	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSME	325380846	STREAM SHOCKER	ROCK BASS	0.5	800	1.55	3	6.03	0	1.94
2941600	WEST FORI	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSME	325380846	STREAM SHOCKER	PUMPKINS	0.5	800	1.55	65	130.73	0.08	41.94
2941600	WEST FORI	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSME	325380846	STREAM SHOCKER	SMALLMOI	0.5	800	1.55	24	48.27	0.03	15.48
2941600	WEST FORI	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSME	325380846	STREAM SHOCKER	YELLOW PE	0.5	800	1.55	12	24.14	0.02	7.74
2941600	WEST FORI	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSME	325380846	STREAM SHOCKER	WALLEYE	0.5	800	1.55	5	10.06	0.01	3.23
2941600	WEST FORI	25583813	10029090	2008	28-Jul-08	6-Aug-08	NATURAL COMMUN	905246	BACKPACK SHOCKER	NORTHERN	0.13	210	1.08	1	7.66	0.01	0.92
2941600	WEST FORI	25583813	10029090	2008	28-Jul-08	6-Aug-08	NATURAL COMMUN	905246	BACKPACK SHOCKER	LARGEMOI	0.13	210	1.08	16	122.59	0.08	14.77
2941600	WEST FORI	25583813	10029090	2008	28-Jul-08	6-Aug-08	NATURAL COMMUN	905246	BACKPACK SHOCKER	YELLOW PE	0.13	210	1.08	1	7.66	0.01	0.92
2941600	West Fork	20660381	10022049	2007	1-Aug-07	1-Aug-07	FISHERIES ASSESSME	97335	STREAM SHOCKER	BROOK TR	0.06	100	1	44	707.97	0.44	44
2941600	WEST FORI	20660390	10022050	2007	6-Aug-07	6-Aug-07	FISHERIES ASSESSME	97339	STREAM SHOCKER	ROCK BASS	0.06	100	1	1	16.09	0.01	1
2941600	WEST FORI	20660390	10022050	2007	6-Aug-07	6-Aug-07	FISHERIES ASSESSME	97339	STREAM SHOCKER	PUMPKINS	0.06	100	1	1	16.09	0.01	1
2941600	WEST FORI	20660390	10022050	2007	6-Aug-07	6-Aug-07	FISHERIES ASSESSME	97339	STREAM SHOCKER	YELLOW PE	0.06	100	1	1	16.09	0.01	1
2941600	West Fork	28470599	10029743	2008	14-Aug-08	14-Aug-08	FISHERIES ASSESSME	8326493	BACKPACK SHOCKER	SMALLMOI	0.17	274.32	0.5	1	5.87	0	2
2941600	West Fork	28470599	10029743	2008	14-Aug-08	14-Aug-08	FISHERIES ASSESSME	8326493	BACKPACK SHOCKER	WALLEYE	0.17	274.32	0.5	1	5.87	0	2
2941600	WEST FORI	20660371	10022048	2007	1-Aug-07	1-Aug-07	FISHERIES ASSESSME	97332	STREAM SHOCKER	PUMPKINS	0.06	100	1	6	96.54	0.06	6
2941600	West Fork	20660381	10022049	2017	15-Sep-17	15-Sep-17	TARGETED WATERSH	515085907	STREAM SHOCKER	BROOK TR	0.25	400	0.92	5	20.11	0.01	5.46
2941600	West Fork	20660381	10022049	2017	15-Sep-17	15-Sep-17	TARGETED WATERSH	515085907	STREAM SHOCKER	YELLOW PE	0.25	400	0.92	1	4.02	0	1.09
2941600	West Fork	28470599	10029743	2017	1-Aug-17	1-Aug-17	TARGETED WATERSH	515085908	STREAM SHOCKER	NORTHERN	0.23	368	0.67	1	4.37	0	1.5
2941600	West Fork	28470599	10029743	2017	1-Aug-17	1-Aug-17	TARGETED WATERSH	515085908	STREAM SHOCKER	SMALLMOI	0.23	368	0.67	1	4.37	0	1.5
2941600	West Fork	28470599	10029743	2017	1-Aug-17	1-Aug-17	TARGETED WATERSH	515085908	STREAM SHOCKER	YELLOW PE	0.23	368	0.67	14	61.21	0.04	21
2941600	West Fork	28470599	10029743	2017	1-Aug-17	1-Aug-17	TARGETED WATERSH	515085908	STREAM SHOCKER	WALLEYE	0.23	368	0.67	1	4.37	0	1.5
2941600	West Moni	39277881	10032133	2017	15-Sep-17	15-Sep-17	TARGETED WATERSH	515085917	STREAM SHOCKER	BROOK TR	0.25	400	0.75	1	4.02	0	1.33
2941600	West Moni	39277881	10032133	2017	15-Sep-17	15-Sep-17	TARGETED WATERSH	515085917	STREAM SHOCKER	YELLOW PE	0.25	400	0.75	2	8.05	0.01	2.67
2941600	West Fork	1507929	10049507	2017	5-Sep-17	5-Sep-17	TARGETED WATERSH	515085918	BACKPACK SHOCKER	YELLOW PE	0.14	225	0.58	13	92.97	0.06	22.29
2941600	West Fork	1507931	10049508	2017	11-Aug-17	11-Aug-17	TARGETED WATERSH	515085919	STREAM SHOCKER	ROCK BASS	0.25	400	1	5	20.11	0.01	5
2941600	West Fork	1507931	10049508	2017	11-Aug-17	11-Aug-17	TARGETED WATERSH	515085919	STREAM SHOCKER	PUMPKINS	0.25	400	1	1	4.02	0	1
2941600	West Fork	1507931	10049508	2017	11-Aug-17	11-Aug-17	TARGETED WATERSH	515085919	STREAM SHOCKER	YELLOW PE	0.25	400	1	8	32.18	0.02	8
2941600	WEST FORI	20660371	10022048	2018	26-Jul-18	26-Jul-18	FISHERIES ASSESSME	515089177	STREAM SHOCKER	SMALLMOI	0.5	800	1.5	14	28.16	0.02	9.33
2941600	WEST FORI	20660371	10022048	2018	26-Jul-18	26-Jul-18	FISHERIES ASSESSME	515089177	STREAM SHOCKER	YELLOW PE	0.5	800	1.5	2	4.02	0	1.33
2941600	WEST FORI	20660371	10022048	2018	26-Jul-18	26-Jul-18	FISHERIES ASSESSME	515089177	STREAM SHOCKER	WALLEYE	0.5	800	1.5	3	6.03	0	2
2941600	West Fork	190758179	10052388	2018	25-Jul-18	25-Jul-18	FISHERIES ASSESSME	515089178	STREAM SHOCKER	SMALLMOI	0.25	400	1	1	4.02	0	1

Station Name	Site Seq No	Swims Station	Survey Year	Srvy Begin	Srvy End	Date	Primary Survey Purpose	Gear Type	Species	Cpe				Stream Order				
										Meters Amt	Miles Amt	Hour Amt	Number of Fish		Cpe Mile SUM	Meter SUM	Cpe Hour SUM	Ecoregion
WEST FORK MONTREAL RIVER - US 2	20660390	10022050	2011	1-Sep-11	1-Sep-11		NATURAL COMMUNIT	STREAM SHOCKER	BROOK TROUT	400	0.249	1.133	11	44.248	0.028	9.706	50	4
WEST FORK MONTREAL RIVER - US 2	20660390	10022050	2011	1-Sep-11	1-Sep-11		NATURAL COMMUNIT	STREAM SHOCKER	HORNHEAD CHUB	400	0.249	1.133	10	40.225	0.025	8.824	50	4
WEST FORK MONTREAL RIVER - US 2	20660390	10022050	2011	1-Sep-11	1-Sep-11		NATURAL COMMUNIT	STREAM SHOCKER	COMMON SHINER	400	0.249	1.133	2	8.045	0.005	1.765	50	4
WEST FORK MONTREAL RIVER - US 2	20660390	10022050	2011	1-Sep-11	1-Sep-11		NATURAL COMMUNIT	STREAM SHOCKER	WESTERN BLACKNOSE	400	0.249	1.133	2	8.045	0.005	1.765	50	4
WEST FORK MONTREAL RIVER - US 2	20660390	10022050	2011	1-Sep-11	1-Sep-11		NATURAL COMMUNIT	STREAM SHOCKER	LONGNOSE DACE	400	0.249	1.133	160	643.604	0.4	141.176	50	4
WEST FORK MONTREAL RIVER - US 2	20660390	10022050	2011	1-Sep-11	1-Sep-11		NATURAL COMMUNIT	STREAM SHOCKER	CREEK CHUB	400	0.249	1.133	3	12.068	0.008	2.647	50	4
WEST FORK MONTREAL RIVER - US 2	20660390	10022050	2011	1-Sep-11	1-Sep-11		NATURAL COMMUNIT	STREAM SHOCKER	MOTTLED SCULPIN	400	0.249	1.133	5	20.113	0.013	4.412	50	4
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2008	28-Jul-08	6-Aug-08		NATURAL COMMUNIT	BACKPACK SHOCKER	CENTRAL MUDMINNNO	210	0.131	1.083	1	7.662	0.005	0.923	50	3
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2008	28-Jul-08	6-Aug-08		NATURAL COMMUNIT	BACKPACK SHOCKER	NORTHERN PIKE	210	0.131	1.083	1	7.662	0.005	0.923	50	3
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2008	28-Jul-08	6-Aug-08		NATURAL COMMUNIT	BACKPACK SHOCKER	WESTERN BLACKNOSE	210	0.131	1.083	21	160.901	0.1	19.385	50	3
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2008	28-Jul-08	6-Aug-08		NATURAL COMMUNIT	BACKPACK SHOCKER	CREEK CHUB	210	0.131	1.083	32	245.183	0.152	29.538	50	3
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2008	28-Jul-08	6-Aug-08		NATURAL COMMUNIT	BACKPACK SHOCKER	WHITE SUCKER	210	0.131	1.083	4	30.648	0.019	3.692	50	3
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2008	28-Jul-08	6-Aug-08		NATURAL COMMUNIT	BACKPACK SHOCKER	LARGEMOUTH BASS	210	0.131	1.083	16	122.591	0.076	14.769	50	3
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2008	28-Jul-08	6-Aug-08		NATURAL COMMUNIT	BACKPACK SHOCKER	JOHNNY DARTER	210	0.131	1.083	1	7.662	0.005	0.923	50	3
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2008	28-Jul-08	6-Aug-08		NATURAL COMMUNIT	BACKPACK SHOCKER	YELLOW PERCH	210	0.131	1.083	1	7.662	0.005	0.923	50	3
West Fork Montreal River 8m US Unnamed Forest Road	1507929	10049507	2017	5-Sep-17	5-Sep-17		TARGETED WATERSHI	BACKPACK SHOCKER	CENTRAL MUDMINNNO	225	0.14	0.583	1	7.151	0.004	1.714	50	3
West Fork Montreal River 8m US Unnamed Forest Road	1507929	10049507	2017	5-Sep-17	5-Sep-17		TARGETED WATERSHI	BACKPACK SHOCKER	WESTERN BLACKNOSE	225	0.14	0.583	17	121.57	0.076	29.143	50	3
West Fork Montreal River 8m US Unnamed Forest Road	1507929	10049507	2017	5-Sep-17	5-Sep-17		TARGETED WATERSHI	BACKPACK SHOCKER	CREEK CHUB	225	0.14	0.583	70	500.581	0.311	120	50	3
West Fork Montreal River 8m US Unnamed Forest Road	1507929	10049507	2017	5-Sep-17	5-Sep-17		TARGETED WATERSHI	BACKPACK SHOCKER	WHITE SUCKER	225	0.14	0.583	3	21.453	0.013	5.143	50	3
West Fork Montreal River 8m US Unnamed Forest Road	1507929	10049507	2017	5-Sep-17	5-Sep-17		TARGETED WATERSHI	BACKPACK SHOCKER	JOHNNY DARTER	225	0.14	0.583	7	50.058	0.031	12	50	3
West Fork Montreal River 8m US Unnamed Forest Road	1507929	10049507	2017	5-Sep-17	5-Sep-17		TARGETED WATERSHI	BACKPACK SHOCKER	YELLOW PERCH	225	0.14	0.583	13	92.965	0.058	22.286	50	3
West Fork Montreal River 5m US Unnamed Forest Road	1507931	10049508	2017	11-Aug-17	11-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	CENTRAL MUDMINNNO	400	0.249	1	29	116.653	0.073	29	50	4
West Fork Montreal River 5m US Unnamed Forest Road	1507931	10049508	2017	11-Aug-17	11-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	COMMON SHINER	400	0.249	1	1	4.023	0.003	1	50	4
West Fork Montreal River 5m US Unnamed Forest Road	1507931	10049508	2017	11-Aug-17	11-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	BLACKNOSE SHINER	400	0.249	1	1	4.023	0.003	1	50	4
West Fork Montreal River 5m US Unnamed Forest Road	1507931	10049508	2017	11-Aug-17	11-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	WESTERN BLACKNOSE	400	0.249	1	13	52.293	0.033	13	50	4
West Fork Montreal River 5m US Unnamed Forest Road	1507931	10049508	2017	11-Aug-17	11-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	CREEK CHUB	400	0.249	1	20	80.451	0.05	20	50	4
West Fork Montreal River 5m US Unnamed Forest Road	1507931	10049508	2017	11-Aug-17	11-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	WHITE SUCKER	400	0.249	1	12	48.27	0.03	12	50	4
West Fork Montreal River 5m US Unnamed Forest Road	1507931	10049508	2017	11-Aug-17	11-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	BROOK STICKLEBACK	400	0.249	1	1	4.023	0.003	1	50	4
West Fork Montreal River 5m US Unnamed Forest Road	1507931	10049508	2017	11-Aug-17	11-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	ROCK BASS	400	0.249	1	5	20.113	0.013	5	50	4
West Fork Montreal River 5m US Unnamed Forest Road	1507931	10049508	2017	11-Aug-17	11-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	PUMPKINSEED	400	0.249	1	1	4.023	0.003	1	50	4
West Fork Montreal River 5m US Unnamed Forest Road	1507931	10049508	2017	11-Aug-17	11-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	JOHNNY DARTER	400	0.249	1	1	4.023	0.003	1	50	4
West Fork Montreal River 5m US Unnamed Forest Road	1507931	10049508	2017	11-Aug-17	11-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	YELLOW PERCH	400	0.249	1	8	32.18	0.02	8	50	4
West Fork Montreal River - Kimball At Center Dr	20660381	10022049	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	BROOK TROUT	400	0.249	0.917	5	20.113	0.013	5.455	50	4
West Fork Montreal River - Kimball At Center Dr	20660381	10022049	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	HORNHEAD CHUB	400	0.249	0.917	8	32.18	0.02	8.727	50	4
West Fork Montreal River - Kimball At Center Dr	20660381	10022049	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	COMMON SHINER	400	0.249	0.917	6	24.135	0.015	6.545	50	4
West Fork Montreal River - Kimball At Center Dr	20660381	10022049	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	LONGNOSE DACE	400	0.249	0.917	109	438.455	0.273	118.909	50	4
West Fork Montreal River - Kimball At Center Dr	20660381	10022049	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	WHITE SUCKER	400	0.249	0.917	1	4.023	0.003	1.091	50	4
West Fork Montreal River - Kimball At Center Dr	20660381	10022049	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	YELLOW PERCH	400	0.249	0.917	1	4.023	0.003	1.091	50	4
West Fork Montreal River - Kimball At Center Dr	20660381	10022049	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	MOTTLED SCULPIN	400	0.249	0.917	11	44.248	0.028	12	50	4
West Fork Montreal River at West Branch Road	28470599	10029743	2017	1-Aug-17	1-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	NORTHERN PIKE	368	0.229	0.667	1	4.372	0.003	1.5	50	4
West Fork Montreal River at West Branch Road	28470599	10029743	2017	1-Aug-17	1-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	WESTERN BLACKNOSE	368	0.229	0.667	6	26.234	0.016	9	50	4
West Fork Montreal River at West Branch Road	28470599	10029743	2017	1-Aug-17	1-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	LONGNOSE DACE	368	0.229	0.667	11	48.095	0.03	16.5	50	4
West Fork Montreal River at West Branch Road	28470599	10029743	2017	1-Aug-17	1-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	CREEK CHUB	368	0.229	0.667	1	4.372	0.003	1.5	50	4
West Fork Montreal River at West Branch Road	28470599	10029743	2017	1-Aug-17	1-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	WHITE SUCKER	368	0.229	0.667	9	39.351	0.024	13.5	50	4
West Fork Montreal River at West Branch Road	28470599	10029743	2017	1-Aug-17	1-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	SMALLMOUTH BASS	368	0.229	0.667	1	4.372	0.003	1.5	50	4
West Fork Montreal River at West Branch Road	28470599	10029743	2017	1-Aug-17	1-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	YELLOW PERCH	368	0.229	0.667	14	61.212	0.038	21	50	4
West Fork Montreal River at West Branch Road	28470599	10029743	2017	1-Aug-17	1-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	LOGPERCH	368	0.229	0.667	17	74.329	0.046	25.5	50	4
West Fork Montreal River at West Branch Road	28470599	10029743	2017	1-Aug-17	1-Aug-17		TARGETED WATERSHI	STREAM SHOCKER	WALLEYE	368	0.229	0.667	1	4.372	0.003	1.5	50	4
West Montreal River on South Drive	39277881	10032133	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	BROOK TROUT	400	0.249	0.75	1	4.023	0.003	1.333	50	4
West Montreal River on South Drive	39277881	10032133	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	CENTRAL MUDMINNNO	400	0.249	0.75	1	4.023	0.003	1.333	50	4
West Montreal River on South Drive	39277881	10032133	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	HORNHEAD CHUB	400	0.249	0.75	14	56.315	0.035	18.667	50	4
West Montreal River on South Drive	39277881	10032133	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	COMMON SHINER	400	0.249	0.75	10	40.225	0.025	13.333	50	4
West Montreal River on South Drive	39277881	10032133	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	WESTERN BLACKNOSE	400	0.249	0.75	3	12.068	0.008	4	50	4
West Montreal River on South Drive	39277881	10032133	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	LONGNOSE DACE	400	0.249	0.75	68	273.532	0.17	90.667	50	4
West Montreal River on South Drive	39277881	10032133	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	CREEK CHUB	400	0.249	0.75	1	4.023	0.003	1.333	50	4
West Montreal River on South Drive	39277881	10032133	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	WHITE SUCKER	400	0.249	0.75	1	4.023	0.003	1.333	50	4
West Montreal River on South Drive	39277881	10032133	2017	15-Sep-17	15-Sep-17		TARGETED WATERSHI	STREAM SHOCKER	YELLOW PERCH	400	0.249	0.75	2	8.045	0.005	2.667	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2007	1-Aug-07	1-Aug-07		FISHERIES ASSESSMEI	STREAM SHOCKER	HORNHEAD CHUB	100	0.062	1	3	48.27	0.03	3	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2007	1-Aug-07	1-Aug-07		FISHERIES ASSESSMEI											

WEST FORK MONTREAL RIVER - US 2	20660390	10022050	2007	6-Aug-07	6-Aug-07	FISHERIES ASSESSMEI	STREAM SHOCKER	HORNYHEAD CHUB	100	0.062	1	7	112.631	0.07	7	50	4
WEST FORK MONTREAL RIVER - US 2	20660390	10022050	2007	6-Aug-07	6-Aug-07	FISHERIES ASSESSMEI	STREAM SHOCKER	COMMON SHINER	100	0.062	1	4	64.36	0.04	4	50	4
WEST FORK MONTREAL RIVER - US 2	20660390	10022050	2007	6-Aug-07	6-Aug-07	FISHERIES ASSESSMEI	STREAM SHOCKER	ROCK BASS	100	0.062	1	1	16.09	0.01	1	50	4
WEST FORK MONTREAL RIVER - US 2	20660390	10022050	2007	6-Aug-07	6-Aug-07	FISHERIES ASSESSMEI	STREAM SHOCKER	PUMPKINSEED	100	0.062	1	1	16.09	0.01	1	50	4
WEST FORK MONTREAL RIVER - US 2	20660390	10022050	2007	6-Aug-07	6-Aug-07	FISHERIES ASSESSMEI	STREAM SHOCKER	YELLOW PERCH	100	0.062	1	1	16.09	0.01	1	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2018	26-Jul-18	26-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	BLACKNOSE SHINER	800	0.497	1.5	23	46.259	0.029	15.333	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2018	26-Jul-18	26-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	LONGNOSE DACE	800	0.497	1.5	234	470.636	0.293	156	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2018	26-Jul-18	26-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	CREEK CHUB	800	0.497	1.5	79	158.89	0.099	52.667	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2018	26-Jul-18	26-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	WHITE SUCKER	800	0.497	1.5	46	92.518	0.058	30.667	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2018	26-Jul-18	26-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	SMALLMOUTH BASS	800	0.497	1.5	14	28.158	0.018	9.333	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2018	26-Jul-18	26-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	YELLOW PERCH	800	0.497	1.5	2	4.023	0.003	1.333	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2018	26-Jul-18	26-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	WALLEYE	800	0.497	1.5	3	6.034	0.004	2	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2018	26-Jul-18	26-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	MOTTLED SCULPIN	800	0.497	1.5	9	18.101	0.011	6	50	4
West Fork Montreal River at West Branch Road	28470599	10029743	2008	14-Aug-08	14-Aug-08	FISHERIES ASSESSMEI	BACKPACK SHOCKER	SMALLMOUTH BASS	274.32	0.17	0.5	1	5.867	0.004	2	50	4
West Fork Montreal River at West Branch Road	28470599	10029743	2008	14-Aug-08	14-Aug-08	FISHERIES ASSESSMEI	BACKPACK SHOCKER	WALLEYE	274.32	0.17	0.5	1	5.867	0.004	2	50	4
West Fork Montreal River - 400 meters downstream Kimball F.	190758179	10052388	2018	25-Jul-18	25-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	COMMON SHINER	400	0.249	1	23	92.518	0.058	23	50	-
West Fork Montreal River - 400 meters downstream Kimball F.	190758179	10052388	2018	25-Jul-18	25-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	LONGNOSE DACE	400	0.249	1	123	494.771	0.308	123	50	-
West Fork Montreal River - 400 meters downstream Kimball F.	190758179	10052388	2018	25-Jul-18	25-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	CREEK CHUB	400	0.249	1	28	112.631	0.07	28	50	-
West Fork Montreal River - 400 meters downstream Kimball F.	190758179	10052388	2018	25-Jul-18	25-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	WHITE SUCKER	400	0.249	1	34	136.766	0.085	34	50	-
West Fork Montreal River - 400 meters downstream Kimball F.	190758179	10052388	2018	25-Jul-18	25-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	SMALLMOUTH BASS	400	0.249	1	1	4.023	0.003	1	50	-
West Fork Montreal River - 400 meters downstream Kimball F.	190758179	10052388	2018	25-Jul-18	25-Jul-18	FISHERIES ASSESSMEI	STREAM SHOCKER	MOTTLED SCULPIN	400	0.249	1	65	261.464	0.163	65	50	-
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSMEI	STREAM SHOCKER	HORNYHEAD CHUB	430	0.267	0.817	35	130.966	0.081	42.857	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSMEI	STREAM SHOCKER	COMMON SHINER	430	0.267	0.817	11	41.161	0.026	13.469	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSMEI	STREAM SHOCKER	LONGNOSE DACE	430	0.267	0.817	26	97.289	0.06	31.837	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSMEI	STREAM SHOCKER	CREEK CHUB	430	0.267	0.817	4	14.968	0.009	4.898	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSMEI	STREAM SHOCKER	WHITE SUCKER	430	0.267	0.817	2	7.484	0.005	2.449	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSMEI	STREAM SHOCKER	ROCK BASS	430	0.267	0.817	1	3.742	0.002	1.224	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSMEI	STREAM SHOCKER	PUMPKINSEED	430	0.267	0.817	4	14.968	0.009	4.898	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSMEI	STREAM SHOCKER	SMALLMOUTH BASS	430	0.267	0.817	18	67.354	0.042	22.041	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSMEI	STREAM SHOCKER	YELLOW PERCH	430	0.267	0.817	9	33.677	0.021	11.02	50	4
WEST FORK MONTREAL RIVER - NORTH OF HWY 77	20660371	10022048	2012	13-Aug-12	13-Aug-12	FISHERIES ASSESSMEI	STREAM SHOCKER	WALLEYE	430	0.267	0.817	2	7.484	0.005	2.449	50	4
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2014	25-Jul-14	25-Jul-14	WATERSHED NATURA	BACKPACK SHOCKER	CENTRAL MUDMINNO	210	0.131	0.583	2	15.324	0.01	3.429	50	3
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2014	25-Jul-14	25-Jul-14	WATERSHED NATURA	BACKPACK SHOCKER	WESTERN BLACKNOSE	210	0.131	0.583	7	53.634	0.033	12	50	3
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2014	25-Jul-14	25-Jul-14	WATERSHED NATURA	BACKPACK SHOCKER	CREEK CHUB	210	0.131	0.583	17	130.253	0.081	29.143	50	3
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2014	25-Jul-14	25-Jul-14	WATERSHED NATURA	BACKPACK SHOCKER	WHITE SUCKER	210	0.131	0.583	2	15.324	0.01	3.429	50	3
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2014	25-Jul-14	25-Jul-14	WATERSHED NATURA	BACKPACK SHOCKER	LARGEMOUTH BASS	210	0.131	0.583	1	7.662	0.005	1.714	50	3
WEST FORK MONTREAL RIVER - 41.7M UPSTREAM BRANCH RI	25583813	10029090	2014	25-Jul-14	25-Jul-14	WATERSHED NATURA	BACKPACK SHOCKER	YELLOW PERCH	210	0.131	0.583	1	7.662	0.005	1.714	50	3

APPENDIX E-13 Freshwater Mussel Study Report

**FRESHWATER MUSSEL STUDY FOR
THE GILE FLOWAGE STORAGE
RESERVOIR**
FERC No. 15055

Prepared for:



1702 Lawrence Drive
De Pere, WI 54115

Project No.: 16081
Date: 9/16/2022

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Freshwater Mussel Study for the Gile Flowage Storage Reservoir

Prepared for: Mr. Shawn Puzen
Mead & Hunt

Initial Study Report

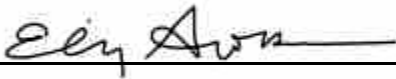
Document Date: 9/16/2022

Project No.: 16081

Authorization for Release

The analyses, opinions, and conclusions in this document are based entirely on EnviroScience's unbiased, professional judgment. EnviroScience's compensation is not in any way contingent on any action or event resulting from this study.

To the best of their knowledge, the undersigned attest that this document and the information contained herein are accurate and conform to EnviroScience's internal Quality Assurance standards.



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Appendix A. Scientific Collecting Permit and Survey Plan

Appendix B. Photographic Record

ACKNOWLEDGEMENTS

Xcel Energy provided funding for the project through Mead & Hunt. Mr. Shawn Puzen was the point of contact for Mead & Hunt, and Mr. Matthew Miller was the point of contact for Xcel Energy. The project manager for EnviroScience, Inc. was Ms. Becca Winterringer. The field lead and Wisconsin permitted malacologist was Ms. Emily Grossman. Also assisting with the survey effort were Mr. Robert Williams, Mr. Ben Ebert, Mr. Paul Moreno, and Mr. Matt Gilkay. Ms. Grossman authored the report, which was reviewed by Ms. Winterringer and Ms. Melissa Vaccarino.

1.0 INTRODUCTION

Northern States Power Company, a Wisconsin corporation (NSPW or applicant), owns and operates the Gile Flowage Storage Project (Project) located on the West Fork Montreal River in the town of Gile, Wisconsin (Figure 1). NSPW is applying for an original license from the Federal Energy Regulatory Commission (FERC or Commission) to continue to operate and maintain the Project (FERC Project No. 15055). As part of the federal licensing process, NSPW is required to evaluate existing freshwater mussel resources and the potential impacts from project operations on said resources. Thus, EnviroScience, Inc. was contracted by Mead & Hunt to perform freshwater mussel studies at the Gile Flowage.

Freshwater mussels have the potential to be affected by Project operations and maintenance. More specifically, flow modification downstream of the Project may alter mussel habitat and reservoir drawdowns may result in mussel stranding. There is no existing mussel data available for the West Fork Montreal River. However, two species, Cylindrical Papershell (*Anodontoidea ferussacianus*) and Eastern Elliptio (*Elliptio complanata*), have been reported in the Montreal River, which is the receiving waterbody of the West Fork (WDNR, 2022).

The Wisconsin Department of Natural Resources (WDNR) and River Alliance of Wisconsin (RAW) requested that a mussel survey be conducted as part of the FERC licensing process due to the potential effects of Project operation on mussel species. The objective of the survey was to characterize mussel habitat and determine mussel abundance and species richness in the Project vicinity. This survey provides baseline data on mussel resources and habitat conditions observed within the Project area.

2.0 METHODS

Mussel survey methods were developed following the 2015 WDNR Guidelines for Sampling Freshwater Mussels in Wadeable Streams (Guidelines; Piette, 2015). The study included surveys of two riverine reaches and one within the main basin of the reservoir (Figure 1). For the riverine reaches, Reach 1 (upstream reach) began near the Sucker Hole Boat Landing and extended 1,000 meters (m) upstream, while Reach 2 (downstream reach) began at the Project tailrace and extended 1,000 m downstream.

Surveys were led by a WDNR permitted malacologist and were conducted according to the survey plan approved by WDNR (Appendix A).

2.1 RIVERINE SURVEYS

A series of transects extending bank to bank was established every 100 m, creating 10 possible transects per reach. Transects were numbered sequentially from downstream to upstream, and a random number generating function in Microsoft Excel was used to select five transects for sampling within each reach. If a randomly selected transect fell within a hazardous area (e.g., Gile Falls), the nearest accessible transect was sampled in its place.

Searches along each sampled transect were conducted in 10-m segments and extended 0.5 m on each side of the transect line. Each transect was evaluated for mussels using an adaptive sampling approach. A rapid visual search was conducted first, which entailed an initial search of 0.2 minutes per m² (min/m²) along each 10-m segment to determine if mussels were present (i.e., living or shell material). If mussels were present in a segment, a semi-quantitative search was

triggered, and the search time was extended to 1 min/m². If no mussels or mussel evidence were observed in the rapid visual search, no additional effort was expended in that segment. During the semi-quantitative search, divers visually searched the area, probed the substrate, and turned over rocks to detect small, burrowed mussels.

General stream conditions and morphology were recorded within the study area. Water depth and river bottom substrate composition using the Wentworth Scale (% observed of silt, sand, gravel, etc.; Wentworth, 1922) were recorded for each 10-m transect segment. In addition, a general description of mussel habitat characteristics in the Project boundary was recorded.

2.2 RESERVOIR SURVEY

Reservoir sampling conducted in the Gile Flowage consisted of qualitative searches (Phase 1) and quantitative samples (Phase 2). Phase 1 included an initial reconnaissance-level habitat survey to determine if mussels were present in the reservoir. Eight sites were identified for evaluation in the mussel study plan provided by Mead & Hunt (Figure 1). A reconnaissance was conducted in the vicinity of each of the eight identified sites to detect shells or live mussels in areas of the littoral zone with the most suitable substrate. Whenever mussels were documented, a minimum of 8 person-hours (one person-hour at each of the eight sites) were spent conducting timed searches to establish a species list and inform the need for more intensive quantitative efforts under Phase 2.

Searches were divided into 15-min increments to facilitate development of a species richness curve. Half of the survey effort (four locations) was spent in littoral areas subject to winter drawdowns (between 1490.0 and 1483.0 feet [ft] NGVD) and the remaining effort (four locations) was spent in deeper areas (between 1483.0 and 1475.0 ft NGVD) (Figure 1).

Phase 2 involved quantitative sampling at those locations where mussel abundance was highest during the Phase 1 surveys. The team malacologist contacted WDNR with preliminary Phase 1 results to determine the extent to which quantitative surveys were necessary and then conducted abbreviated Phase 2 surveys as approved by WDNR. Abbreviated Phase 2 sampling was conducted at three locations where mussels were present during Phase 1. A 50-m transect was established within the Phase 1 search area and one 0.25-m² quantitative sample was collected in each 5-m transect segment for a total of 10 samples (2.5 m²) per location.

2.3 DATA AND MUSSEL HANDLING

Live mussels were kept submersed in ambient river water and kept cool and moist during processing. All live mussels were identified to species, counted, measured (length in millimeters), aged (external annuli count), and sexed (sexually dimorphic species only) by the team malacologist. Dead shell specimens were scored as fresh dead (dead less than one year, lustrous nacre), weathered dead (dead one to many years; chalky nacre, fragmented, and worn periostracum), or subfossil (dead many years to many decades; severely worn and fragmented). Detailed digital images of the study area and representative mussel species were recorded. Datasheets were populated and summarized per the Mussel Survey Summary Tables provided in Appendix 2 of the mussel study plan provided by Mead & Hunt. Mussel taxonomy followed the names presented by Williams et al., 2017.

3.0 RESULTS AND DISCUSSION

The mussel survey was conducted June 22 – 26, 2022. The Gile Flowage reservoir elevation was 1489.46 ft NGVD throughout the survey period. There are no gauging stations present on the West Fork Montreal River, but discharge was normal to low for most other streams in the region. Maximum visibility was approximately 1 m and the surface water temperature ranged from approximately 22.2°C (72°F) to 24.4°C (76°F). Photographs of sampling sites and species encountered are provided in Appendix B.

3.1 RIVERINE SURVEYS

Habitat conditions varied among the two riverine reaches. Habitat in Reach 1 was characterized by soft, silty substrate and very slow flow, while Reach 2 consisted of coarse substrate and swift flow. Mussels were scarce in both reaches.

3.1.1 Reach 1 (Upstream)

Reach 1 was situated at the southern end of the reservoir where the West Fork Montreal River flows into the flowage. Surrounding land use was primarily forested (54%; USEPA, 2022a). Large boulders and rock outcrops were scattered throughout the area. Streamflow velocity was not measured due to unobservable flow throughout the entire reach. Transects 2, 4, 5, 8, and 9 were randomly selected for sampling in Reach 1. Transects 8 and 9 were the upstream-most transects and were located within a narrow reach where the wetted width of the channel was approximately 20 m (66 ft). Patches of emergent vegetation were present on both banks. Water depth ranged from 1.2 m (4 ft) to 1.8 m (6 ft). Substrate in Transects 8 and 9 consisted of large boulders interspersed with cobble, gravel, sand, and silt (Table 1; Figure 2).

Transects 2, 4, and 5 were located in the upper portion of the reservoir and were considerably wider with transect length varying between 120 m (394 ft) and 240 m (787 ft). Emergent aquatic vegetation was present along both banks. Transect 5 was bisected by an approximately 15-m-wide (49-ft) strip of exposed lakebed and emergent vegetation (Figure 2). Water depth generally increased with distance downstream and reached a maximum of 4.6 m (15 ft) along the right descending bank at Transect 4. Substrate along Transects 4 and 5 contained some boulder and silt with submerged aquatic vegetation. Substrate along Transect 2 was exclusively deep silt and clay (Table 1; Figure 2). A visible water line was present along the right descending bank in the vicinity of Transect 4, marking previous lake levels/drawdown effects (Appendix B, Photo 3).

A single live Paper Pondshell (*Utterbackia imbecillis*) was collected along Transect 2 approximately 80 m (591 ft) from the left descending bank (Figure 3). No other evidence of mussels was observed in Reach 1. Mussel information and a summary of the survey effort are provided in Table 2.

3.1.2 Reach 2 (Downstream)

Reach 2 was located downstream of the Project tailrace. Surrounding land use was primarily forest (58%) and low intensity residential (15%; USEPA, 2022b). The reach is bisected by Gile Falls, where the stream is constricted by steep rock walls and undergoes a rapid elevation change. Transects 1, 3, 4, 8, and 9 were randomly selected for sampling. However, Transect 4 fell within Gile Falls and therefore could not be sampled safely. Transect 5 was located at the head of the falls; therefore Transect 6 was sampled in lieu of Transect 4.

Transects 8 and 9 were the upstream-most transects sampled and both featured similar habitat conditions. Substrate was primarily sand with silt and large woody debris on the surface. Depths

ranged from 0.61 m (2 ft) to 1.52 m (5 ft). Although located downstream of the Project tailrace, this portion of Reach 2 appears to be partially impounded by the constriction at Gile Falls. Current velocity was near zero along both transects. Transect 6 was located downstream of a riffle but upstream of the falls. Substrate consisted of cobble, gravel, and sand. Streamflow was categorized as swift. Transects 1 and 3 were located downstream of the falls in riffle habitat. Substrate was considerably more coarse than upstream of the falls, consisting entirely of boulder, cobble, and gravel (Figure 4). Depth along both transects was shallow, and current velocity, although not measured directly, was swift (Table 1). A summary of effort spent in Reach 2 is provided in Table 2; no mussels, living or dead, were observed.

3.2 RESERVOIR SURVEYS

Eight locations were designated for sampling in the reservoir. Reconnaissance at each location indicated that habitat was generally more suitable for mussels near the bank. Therefore, most of the sampling was conducted near the reservoir shoreline or islands, while still ensuring that a variety of water depths were included in the surveys.

Locations 1, 2, 7, and 8 were selected for sampling as they were located in an area that would be affected by winter drawdowns (Figure 1). Water depths during timed searches at these locations did not exceed 1.5 m (5 ft; Table 3). Locations 1 and 2 were located at the southeast and southwest ends of the reservoir, respectively. Substrate in both locations consisted of cobble, gravel, sand, and silt in varying proportions, with some boulders also present in Location 1. Locations 7 and 8 were in the eastern branch of the reservoir. Substrate in most searches consisted of varying proportions of boulder, cobble, gravel, sand, and silt, though silt was somewhat more abundant in Location 8 (Figure 5).

Locations 3, 4, 5, and 6 were selected for sampling as they were located in areas that are deep enough to remain inundated under drawdown conditions (Figure 1). Water depths in these locations ranged from 2.1 m (7 ft) to 3.7 m (12 ft). Although heterogeneous substrate was present along the shoreline in the shallower searches, substrate farther from the shore, at the depths required to avoid drawdown effects, was dominated by deep silt (Table 3; Figure 5). Smaller proportions of boulder, cobble, gravel, and sand were present at Locations 4 and 5. Location 3, which was the location farthest from shore, featured large deposits of woody debris (Figure 5).

Live mussels were collected at Locations 1, 2, 5, 7, and 8; however, species diversity was low (Figures 6a-6g). A total of 57 live Paper Pondshell and one live Giant Floater (*Pyganodon grandis*) were collected during timed searches from all locations combined. Fresh dead Paper Pondshell shells were also collected at Location 4. Both Paper Pondshell and Giant Floater are common, widespread species that are tolerant of impounded conditions and soft substrates such as those observed in the reservoir.

Catch per unit effort (CPUE) at the five locations ranged from 0.03 mussels per minute to 0.45 mussels per minute and averaged 0.12 per minute across all eight locations (Table 4). Despite the shallower sampling being subject to periodic drawdowns, mussel abundance was higher at these locations. Live mussels were present at all four of the shallow sampling locations but only at one of the deeper sampling locations. The heterogeneous substrate observed near the shoreline is likely more suitable for mussel colonization than the deep silt observed farther from shore.

An abbreviated Phase 2 quantitative effort was conducted at Locations 5, 7, and 8. Quantitative sampling yielded 1 live Paper Pondshell each in both Locations 5 and 7, for a density of 0.40 mussels/m² in each location. No live mussels were collected in quantitative samples collected at Location 8 (Table 4). The brief Phase 2 effort supports the conclusions from the Phase 1 survey that both abundance and species richness are low in the reservoir.

4.0 CONCLUSIONS

Historic information on mussel distribution for the West Fork Montreal River is lacking. The mussel and habitat information collected from this study, to be used as baseline conditions for the Gile Flowage, indicates that mussels are uncommon and that habitat is likely the limiting factor in regard to their abundance.

Mussel abundance and diversity were low in both the riverine and reservoir locations surveyed. Only one live mussel (Paper Pondshell) was collected in the upstream riverine reach, while no evidence of mussels was observed in the downstream riverine reach. Fifty-eight (58) Paper Pondshell and one Giant Floater were collected from the reservoir sample locations. Shallower areas near the reservoir shoreline provided more suitable substrate, despite potentially being affected by periodic drawdowns. Mussel abundance was higher near the shore than in the deep silt substrate observed in samples farther from shore. Truncated quantitative sampling supported the results of the Phase 1 reservoir sampling and indicated that mussel density was very low, even in those locations that had the highest abundance timed searches.

The riverine study reaches near the Gile Flowage do not appear to provide high-quality mussel habitat. The impounded conditions and loose, unstable substrate within the reservoir and above Gile Falls are also not generally considered suitable for mussels. These reaches appear to support only a few individuals of common, tolerant species. Habitat downstream of Gile Falls consisted of large, very coarse substrate and swift current, likely preventing mussels from burrowing and maintaining position in the substrate.

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Table 1. Habitat characteristics observed in Gile Project riverine surveys, West Fork Montreal River, 2022.

Reach	Transect/Segment	Depth (m)	Substrate Composition (%)											
			Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	LWD	Veg.	Shell	Detritus	
Reach 1 (US)	T2	0-10	1.22	0	0	0	0	0	100	0	0	0	0	0
	T2	10-20	1.52	0	0	0	0	0	100	0	0	0	0	0
	T2	20-30	1.83	0	0	0	0	0	100	0	0	0	0	0
	T2	30-40	1.83	0	0	0	0	0	100	0	0	0	0	0
	T2	40-50	2.13	0	0	0	0	0	100	0	0	0	0	0
	T2	50-60	2.44	0	0	0	0	0	100	0	0	0	0	0
	T2	60-70	2.13	0	0	0	0	0	100	0	0	0	0	0
	T2	70-80	2.13	0	0	0	0	0	100	0	0	0	0	0
	T2	80-90	1.83	0	0	0	0	0	100	0	0	0	0	0
	T2	90-100	1.83	0	0	0	0	0	100	0	0	0	0	0
	T2	100-110	1.83	0	0	0	0	0	100	0	0	0	0	0
	T2	110-120	1.83	0	0	0	0	0	100	0	0	0	0	0
	T2	120-130	1.83	0	0	0	0	0	100	0	0	0	0	0
	T2	130-140	1.83	0	0	0	0	0	100	0	0	0	0	0
	T2	140-150	1.83	0	0	0	0	0	100	0	0	0	0	0
	T2	150-160	1.83	0	0	0	0	0	100	0	0	0	0	0
	T2	160-170	1.83	0	0	0	0	0	100	0	0	0	0	0
	T2	170-180	1.83	0	0	0	0	0	100	0	0	0	0	0
	T2	180-190	1.83	0	0	0	0	0	100	0	0	0	0	0
	T2	190-200	1.83	0	0	0	0	0	100	0	0	0	0	0
T2	200-210	2.13	0	0	0	0	0	100	0	0	0	0	0	
T2	210-220	2.74	0	0	0	0	0	100	0	0	0	0	0	
T2	220-230	3.35	0	0	0	0	0	100	0	0	0	0	0	
T2	230-240	1.52	0	0	0	0	0	100	0	0	0	0	0	
Reach 1 (US)	T4	0-10	0.61	0	10	0	0	0	80	0	0	10	0	0
	T4	10-20	1.22	0	10	0	0	0	80	0	0	10	0	0
	T4	20-30	2.13	0	10	0	0	0	80	0	0	10	0	0
	T4	30-40	2.13	0	10	0	0	0	80	0	0	10	0	0
	T4	40-50	1.83	0	10	0	0	0	60	0	0	30	0	0
	T4	50-60	1.22	0	10	0	0	0	60	0	0	30	0	0
	T4	60-70	1.52	0	10	0	0	0	80	0	0	10	0	0
	T4	70-80	1.52	0	10	0	0	0	80	0	0	10	0	0

Table 1. Habitat characteristics observed in Gile Project riverine surveys, West Fork Montreal River, 2022.

Reach	Transect/Segment	Depth (m)	Substrate Composition (%)											
			Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	LWD	Veg.	Shell	Detritus	
Reach 1 (US)	T4	80-90	1.52	0	10	0	0	0	80	0	0	10	0	0
	T4	90-100	2.74	0	10	0	0	0	80	0	0	10	0	0
	T4	100-110	3.35	0	30	0	0	0	60	0	0	10	0	0
	T4	110-120	4.57	0	50	0	0	0	40	0	0	10	0	0
Reach 1 (US)	T5a	0-10	0.91	0	0	0	0	0	60	30	0	10	0	0
	T5a	10-20	0.91	0	0	0	0	0	60	30	0	10	0	0
	T5a	20-30	1.52	0	0	0	0	0	60	30	0	10	0	0
	T5a	30-40	2.13	0	0	0	40	0	60	0	0	0	0	0
	T5a	40-50	0.91	0	0	0	0	0	60	30	0	10	0	0
	T5b	0-10	1.22	0	20	0	0	0	40	0	0	40	0	0
	T5b	10-20	0.91	0	20	0	0	0	40	0	0	40	0	0
	T5b	20-30	1.22	0	20	0	0	0	40	0	0	40	0	0
	T5b	30-40	1.22	0	20	0	0	0	40	0	0	40	0	0
	T5b	40-50	1.22	0	20	0	0	0	40	0	0	40	0	0
	T5b	50-60	1.22	0	20	0	0	0	40	0	0	40	0	0
	T5b	60-70	0.91	0	20	0	0	0	40	0	0	40	0	0
	T5b	70-80	0.91	0	20	0	0	0	40	0	0	40	0	0
T5b	80-85	0.61	0	20	0	0	0	40	0	0	40	0	0	
Reach 1 (US)	T8	0-10	1.22	0	30	10	10	40	0	0	10	0	0	0
	T8	10-20	1.22	0	30	20	20	10	20	0	0	0	0	0
Reach 1 (US)	T9	0-10	1.83	0	40	10	20	10	0	0	20	0	0	0
	T9	10-20	1.52	0	30	10	30	10	20	0	0	0	0	0
Reach 2 (DS)	T1	0-10	0.30	0	50	40	10	0	0	0	0	0	0	0
Reach 2 (DS)	T3	0-10	0.30	0	50	40	10	0	0	0	0	0	0	0
	T3	10-15	0.30	0	20	80	0	0	0	0	0	0	0	0

Table 1. Habitat characteristics observed in Gile Project riverine surveys, West Fork Montreal River, 2022.

Reach	Transect/Segment	Depth (m)	Substrate Composition (%)											
			Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	LWD	Veg.	Shell	Detritus	
Reach 2 (DS)	T6	0-10	0.61	0	0	30	30	40	0	0	0	0	0	0
	T6	10-15	0.61	0	0	40	30	20	10	0	0	0	0	0
Reach 2 (DS)	T8	0-10	1.52	0	0	20	10	30	10	0	30	0	0	0
	T8	10-20	1.07	0	0	0	20	50	0	0	30	0	0	0
	T8	20-25	0.61	0	0	0	0	50	30	0	0	20	0	0
Reach 2 (DS)	T9	0-10	0.76	0	0	0	10	70	10	0	10	0	0	0
	T9	10-20	0.61	0	0	0	0	70	10	0	20	0	0	0
	T9	20-30	0.76	0	0	0	0	60	10	0	0	30	0	0

LWD = large woody debris

Table 2. Summary of effort and mussels collected in Gile Project riverine surveys, West Fork Montreal River, 2022.

Species	Common Name	Reach 1 (Upstream)							Reach 2 (Downstream)							Total		
		T2	T4	T5	T8	T9	Total	%	T1	T3	T6	T8	T9	Total	%	Total	%	
<u>Anodontini</u>																		
<i>Utterbackia imbecillis</i>	Paper Pondshell	1	-	-	-	-	1	100.0	-	-	-	-	-	-	-	-	1	100.0
Total Abundance		1	0	0	0	0	1	100.0	0	0	0	0	0	0	-		1	100.0
Live Species		1	0	0	0	0	1		0	0	0	0	0	0				
Effort (m ²)		240	120	135	20	20	535		10	15	15	25	30	95			630	
Surface Density (no./m ²)		0.004	0.000	0.000	0.000	0.000	0.002		0.000	0.000	0.000	0.000	0.000	0.000			0.002	

Table 3. Habitat characteristics observed in Gile Project reservoir surveys, West Fork Montreal River, 2022.

Location	Method	Replicate	Depth (m)	Substrate Composition (%)										
				Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	LWD	Veg.	Shell	Detritus
1	Qual.	1	1.22	0	20	0	20	30	20	0	10	0	0	0
	Qual.	2	1.22	0	10	20	20	30	20	0	0	0	0	0
	Qual.	3	1.22	0	20	10	20	20	20	0	10	0	0	0
	Qual.	4	1.22	0	10	20	30	10	30	0	0	0	0	0
2	Qual.	1	1.52	0	0	10	20	40	20	0	10	0	0	0
	Qual.	2	1.52	0	0	10	30	30	20	0	0	10	0	0
	Qual.	3	1.52	0	0	20	20	20	30	0	0	10	0	0
	Qual.	4	1.52	0	0	20	20	20	30	0	0	10	0	0
3	Qual.	1	3.66	0	0	0	0	0	20	0	60	0	0	20
	Qual.	2	3.35	0	0	0	0	0	20	0	60	0	0	20
	Qual.	3	3.35	0	0	0	0	0	20	0	60	0	0	20
	Qual.	4	3.05	0	0	0	0	0	50	0	50	0	0	0
4	Qual.	1	2.44	0	0	20	10	0	50	0	20	0	0	0
	Qual.	2	2.74	0	0	0	10	10	50	0	30	0	0	0
	Qual.	3	2.13	0	10	20	10	0	60	0	0	0	0	0
	Qual.	4	2.13	0	20	10	20	10	40	0	0	0	0	0
5	Qual.	1	2.44	0	0	0	0	0	80	20	0	0	0	0
	Qual.	2	2.44	0	0	0	0	0	95	0	5	0	0	0
	Qual.	3	2.44	0	0	30	20	20	30	0	0	0	0	0
	Qual.	4	2.44	0	0	0	0	30	30	0	20	0	0	20
	Quant.	1	2.13	0	0	0	10	0	80	0	0	10	0	0
	Quant.	2	2.13	0	0	0	10	0	80	0	0	10	0	0
	Quant.	3	2.13	0	0	0	10	0	80	0	0	10	0	0
	Quant.	4	2.13	0	0	0	10	0	80	0	0	10	0	0
	Quant.	5	2.13	0	0	0	10	0	80	0	0	10	0	0
	Quant.	6	2.13	0	0	0	10	0	80	0	0	10	0	0
	Quant.	7	2.13	0	0	0	10	0	80	0	0	10	0	0
	Quant.	8	2.13	0	0	0	10	0	80	0	0	10	0	0
	Quant.	9	2.13	0	0	0	10	0	80	0	0	10	0	0
	Quant.	10	2.13	0	0	0	10	0	80	0	0	10	0	0

Table 3. Habitat characteristics observed in Gile Project reservoir surveys, West Fork Montreal River, 2022.

Location	Method	Replicate	Depth (m)	Substrate Composition (%)										
				Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	LWD	Veg.	Shell	Detritus
6	Qual.	1	3.05	0	0	0	0	0	90	0	10	0	0	0
	Qual.	2	3.05	0	0	0	0	0	80	0	20	0	0	0
	Qual.	3	2.74	0	0	0	0	0	80	0	20	0	0	0
	Qual.	4	2.74	40	0	0	0	40	20	0	0	0	0	0
7	Qual.	1	1.52	0	50	30	20	0	0	0	0	0	0	0
	Qual.	2	1.52	0	30	30	30	10	0	0	0	0	0	0
	Qual.	3	1.52	0	0	0	0	10	30	0	0	60	0	0
	Qual.	4	1.52	0	10	20	20	10	30	0	10	0	0	0
	Quant.	1	1.83	0	30	20	0	0	50	0	0	0	0	0
	Quant.	2	1.83	0	30	10	0	0	60	0	0	0	0	0
	Quant.	3	1.83	0	50	10	0	0	40	0	0	0	0	0
	Quant.	4	1.83	0	20	10	0	0	70	0	0	0	0	0
	Quant.	5	1.83	0	20	10	0	0	60	0	10	0	0	0
	Quant.	6	1.83	0	70	0	0	0	30	0	0	0	0	0
	Quant.	7	1.52	0	30	30	0	0	40	0	0	0	0	0
	Quant.	8	1.52	0	10	30	0	0	60	0	0	0	0	0
	Quant.	9	1.52	0	50	10	0	0	40	0	0	0	0	0
	Quant.	10	1.52	0	50	10	0	0	40	0	0	0	0	0
8	Qual.	1	1.52	0	0	0	40	40	0	0	20	0	0	0
	Qual.	2	1.52	0	5	5	10	20	60	0	0	0	0	0
	Qual.	3	1.52	0	20	0	0	0	40	0	40	0	0	0
	Qual.	4	1.52	40	0	0	0	0	20	0	40	0	0	0
	Quant.	1	1.52	0	10	0	0	10	60	0	20	0	0	0
	Quant.	2	1.52	0	0	0	0	10	60	0	30	0	0	0
	Quant.	3	1.52	0	0	0	0	10	60	0	30	0	0	0
	Quant.	4	1.52	0	0	0	0	10	60	0	30	0	0	0
	Quant.	5	1.52	0	0	0	0	10	60	0	30	0	0	0
	Quant.	6	1.52	0	0	0	0	10	60	0	30	0	0	0
	Quant.	7	1.52	0	0	0	0	10	60	0	30	0	0	0
	Quant.	8	1.52	0	0	0	0	10	60	0	30	0	0	0
	Quant.	9	1.52	0	20	0	0	0	50	0	20	10	0	0
	Quant.	10	1.52	0	20	0	0	0	70	0	0	10	0	0

Qual. = qualitative samples, Quant. = quantitative samples, LWD = large woody debris

Table 4. Mussels collected in Gile Flowage reservoir surveys, West Fork Montreal River, 2022.

Species	Common Name	Location										Total		
		1	2	3	4	5		6	7		8		Total	%
		Qual.	Qual.	Qual.	Qual.	Qual.	Quant.	Qual.	Qual.	Quant.	Qual.	Quant.		
<u>Anodontini</u>														
<i>Pyganodon grandis</i>	Giant Floater	-	-	-	-	-	-	-	-	-	1	-	1	1.7
<i>Utterbackia imbecillis</i>	Paper Pondshell	2	9	-	FD	12	1	-	27	1	5	-	57	98.3
Total Abundance		2	9	0	0	12	1	0	27	1	6	0	58	100.0
Live Species		1	1	0	0	0	1	0	1	1	2	0		
Effort (min)		60	60	60	60	60	-	60	60	-	60	-	480	
CPUE (no./min)		0.03	0.15	0.00	0.00	0.20	-	0.00	0.45	-	0.10	-	0.12	
Effort (m ²)		-	-	-	-	-	2.5	-	-	2.5	-	2.5	7.5	
Density (no./m ²)		-	-	-	-	-	0.40	-	-	0.40	-	0.00	0.27	

Qual. = qualitative samples, quant. = quantitative samples, FD = fresh dead shell

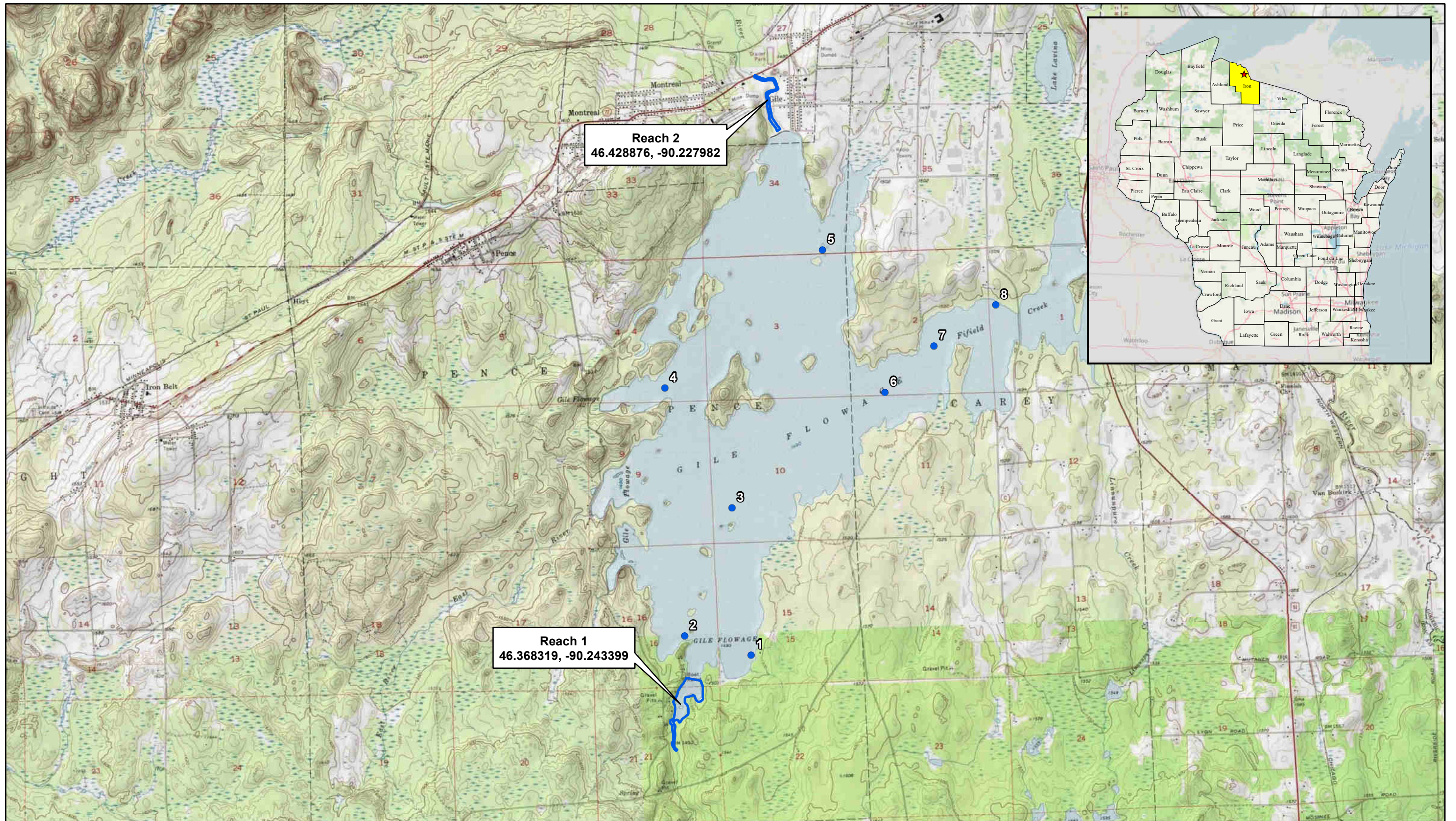
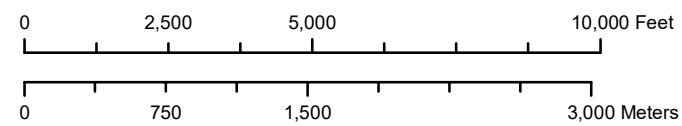
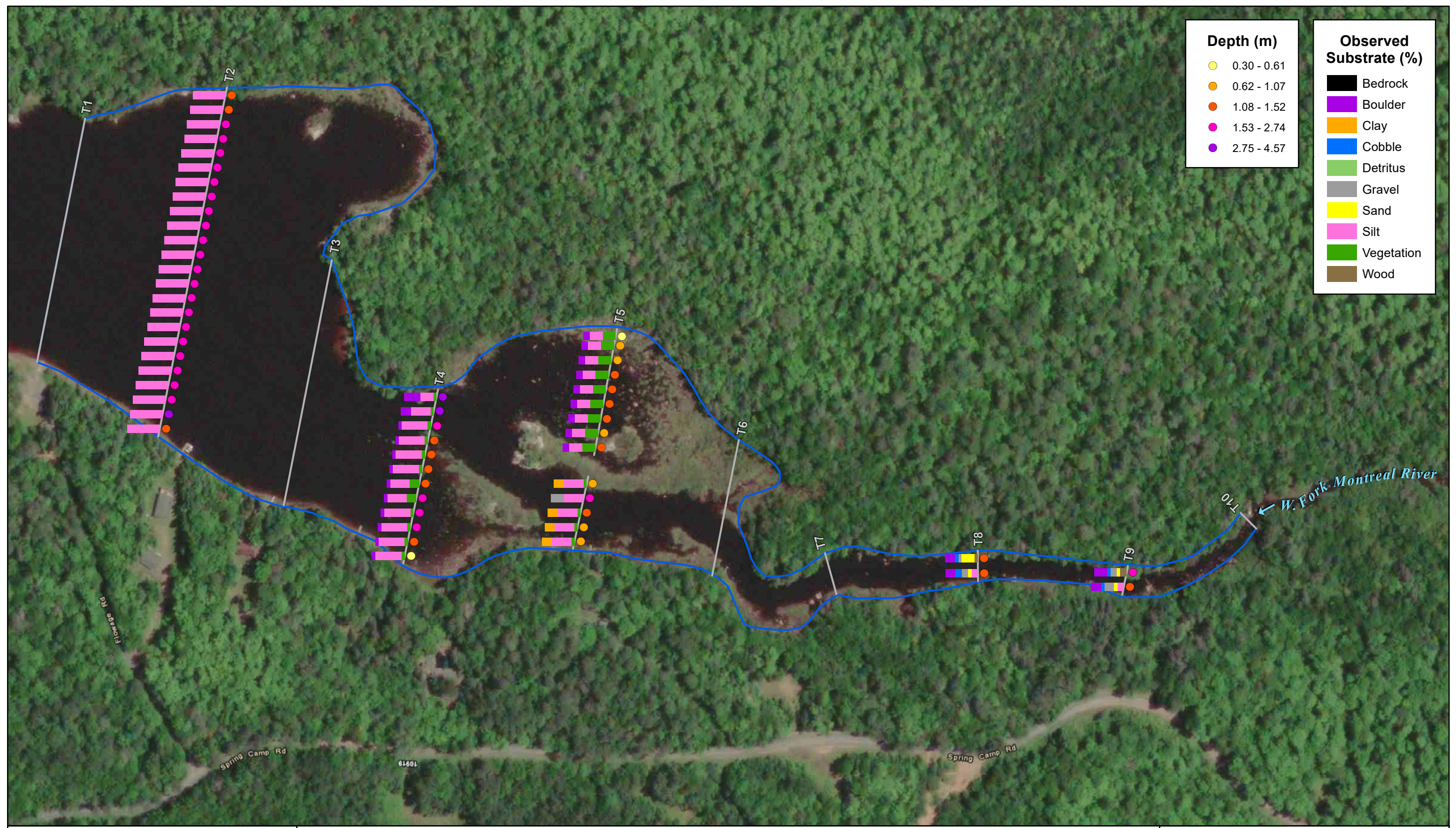


Figure 1. Gile Project Location on USGS 7.5-minute Topographic Map of Ironwood and Pine Lake Quadrangles. Iron County, Wisconsin.

- Reservoir Sampling Locations
- Riverine Reach Study Area



Date: 8/18/2022 Path: P:\10_Projects\MMead-and-Hunt\480M16082_GISMap2_Substrate_R1_Gile.mxd



Depth (m)		Observed Substrate (%)	
●	0.30 - 0.61	■	Bedrock
●	0.62 - 1.07	■	Boulder
●	1.08 - 1.52	■	Clay
●	1.53 - 2.74	■	Cobble
●	2.75 - 4.57	■	Detritus
		■	Gravel
		■	Sand
		■	Silt
		■	Vegetation
		■	Wood

Figure 2. Substrate and Depth for the Gile Project Reach One on the West Fork Montreal River. Iron County, Wisconsin.

— Survey Transect
 □ Riverine Reach Study Area

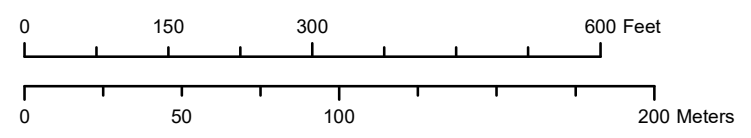
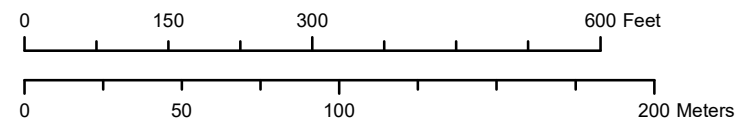




Figure 3. Mussel Abundance for the Gile Project Reach One on the West Fork Montreal River. Iron County, Wisconsin.

— Survey Transect



Date: 8/18/2022 Path: P:\10_Projects\MMead-and-Hunt\480M\16082_Wisconsin_Mussels\16082_GIS\Map3_Substrate_R2_Gile.mxd



Observed Substrate (%)

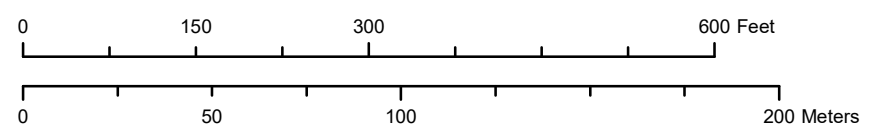
- Bedrock
- Boulder
- Clay
- Cobble
- Detritus
- Gravel
- Sand
- Silt
- Vegetation
- Wood

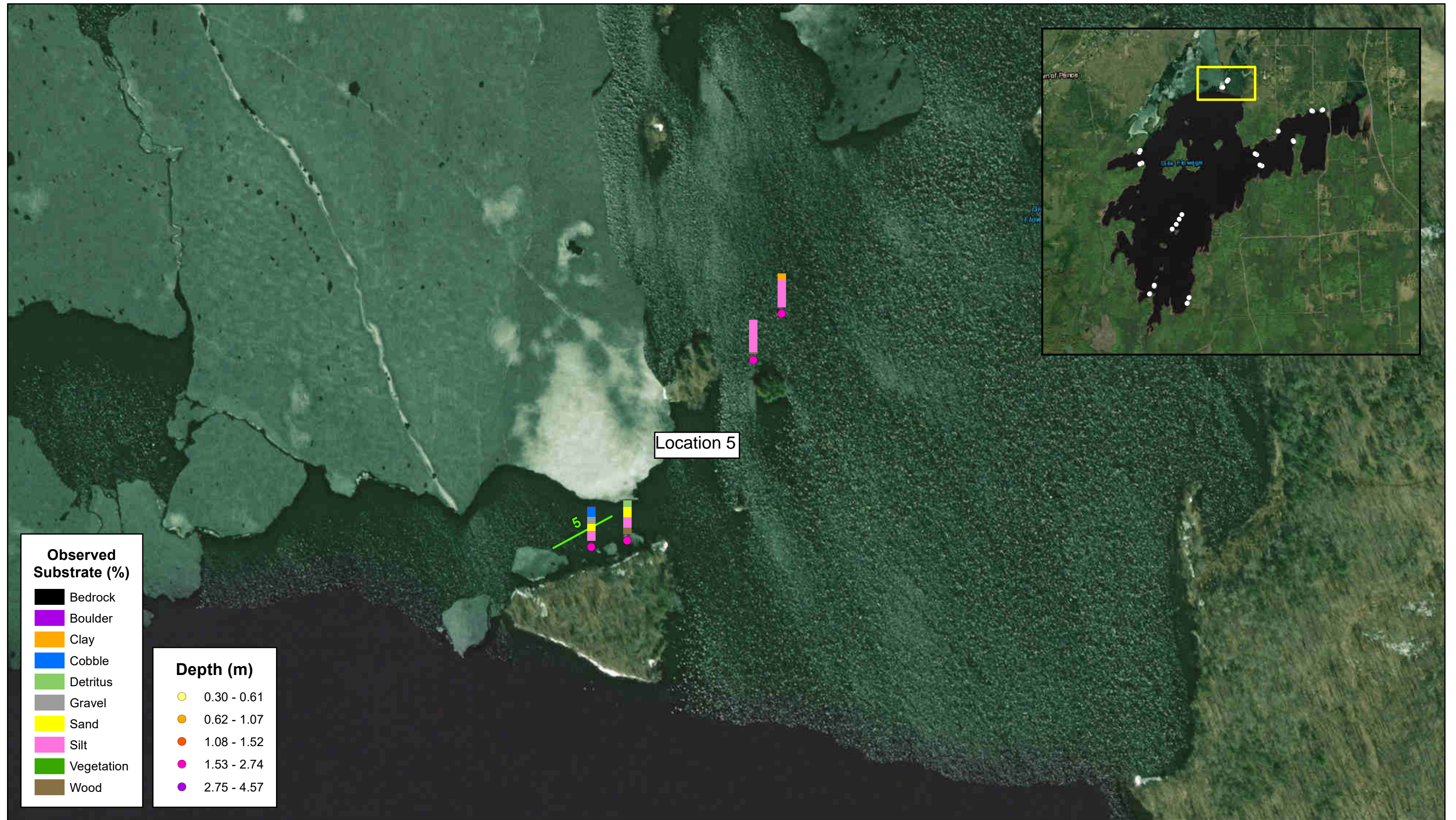
Depth (m)

- 0.30 - 0.61
- 0.62 - 1.07
- 1.08 - 1.52
- 1.53 - 2.74
- 2.75 - 4.57

Figure 4. Substrate and Depth for the Gile Project Reach Two on the West Fork Montreal River. Iron County, Wisconsin.

— Survey Transect
 Riverine Reach Study Area





Observed Substrate (%)

Black	Bedrock
Purple	Boulder
Orange	Clay
Blue	Cobble
Light Green	Detritus
Grey	Gravel
Yellow	Sand
Pink	Silt
Dark Green	Vegetation
Brown	Wood

Depth (m)

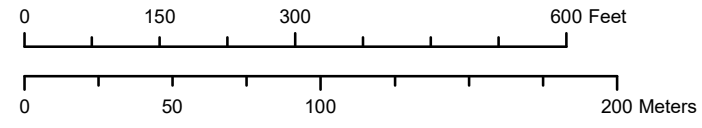
Light Yellow	0.30 - 0.61
Orange	0.62 - 1.07
Red	1.08 - 1.52
Pink	1.53 - 2.74
Purple	2.75 - 4.57

Location 5

5

Figure 5a. Substrate and Depth for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.

Quantitative Transect



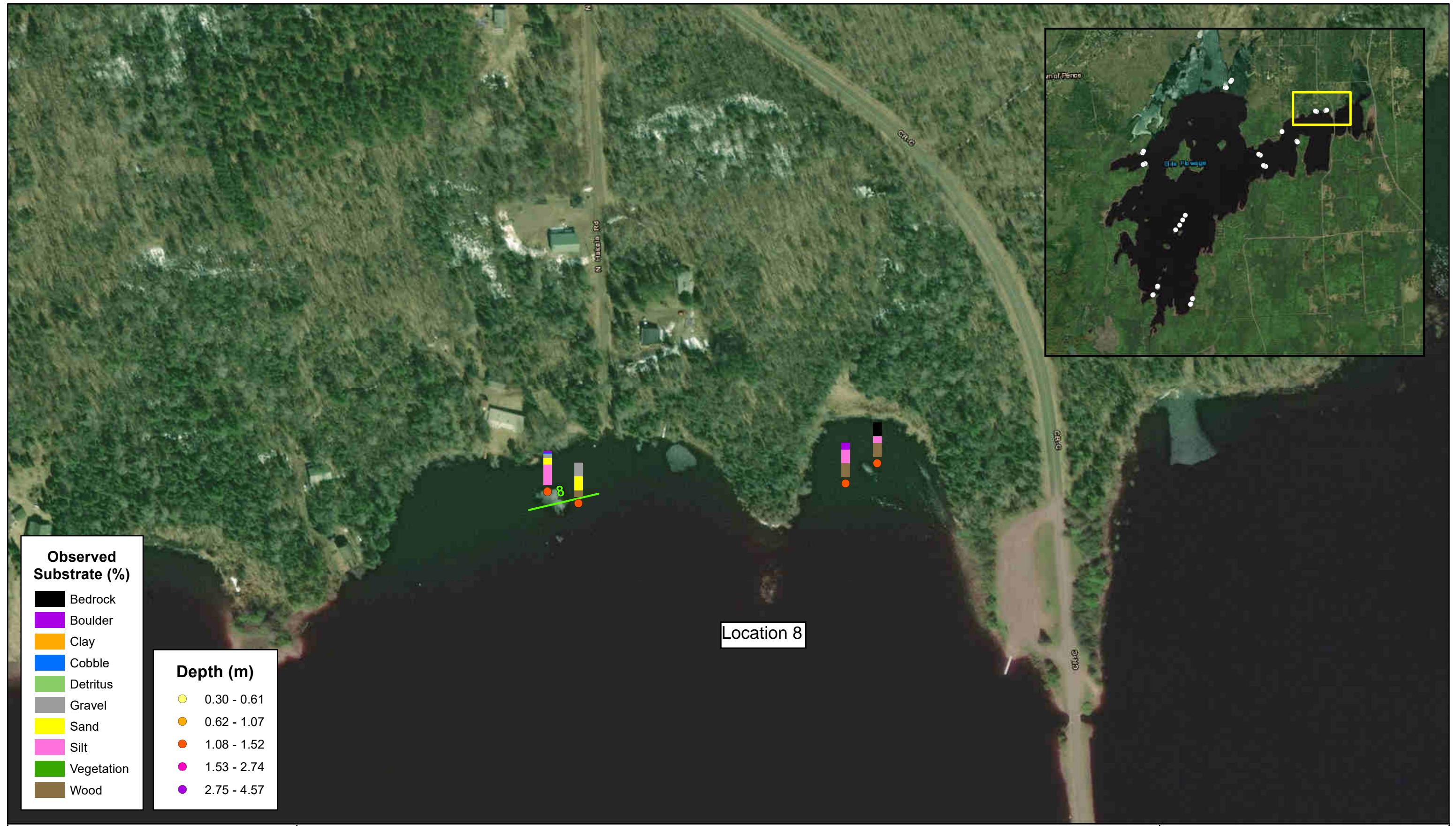
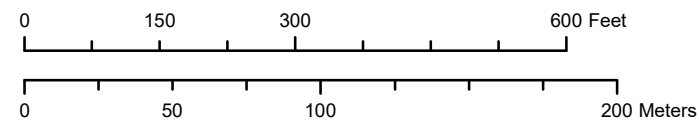


Figure 5b. Substrate and Depth for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.





Location 7

Observed Substrate (%)

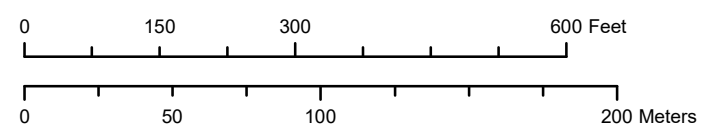
- Bedrock
- Boulder
- Clay
- Cobble
- Detritus
- Gravel
- Sand
- Silt
- Vegetation
- Wood

Depth (m)

- 0.30 - 0.61
- 0.62 - 1.07
- 1.08 - 1.52
- 1.53 - 2.74
- 2.75 - 4.57

Figure 5c. Substrate and Depth for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.

Quantitative Transect



Date: 8/18/2022 Path: P:\10_Projects\MMead-and-Hunt\480M16082_Wisconsin_Mussels\16082_GISMap4_Substrate_Quan_Gile.mxd



Location 6

Gile Flowage

Observed Substrate (%)

Black	Bedrock
Purple	Boulder
Orange	Clay
Blue	Cobble
Light Green	Detritus
Grey	Gravel
Yellow	Sand
Pink	Silt
Dark Green	Vegetation
Brown	Wood

Depth (m)

Light Yellow	0.30 - 0.61
Orange	0.62 - 1.07
Red	1.08 - 1.52
Pink	1.53 - 2.74
Purple	2.75 - 4.57

Figure 5d. Substrate and Depth for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.

Quantitative Transect

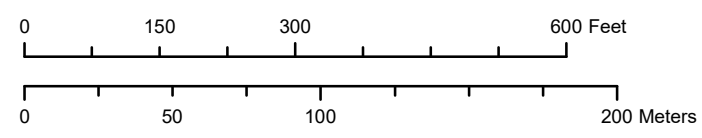
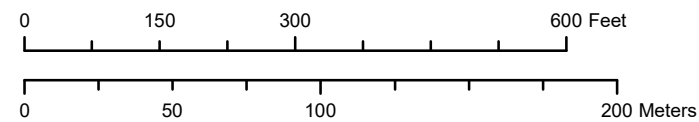




Figure 5e. Substrate and Depth for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.

Quantitative Transect



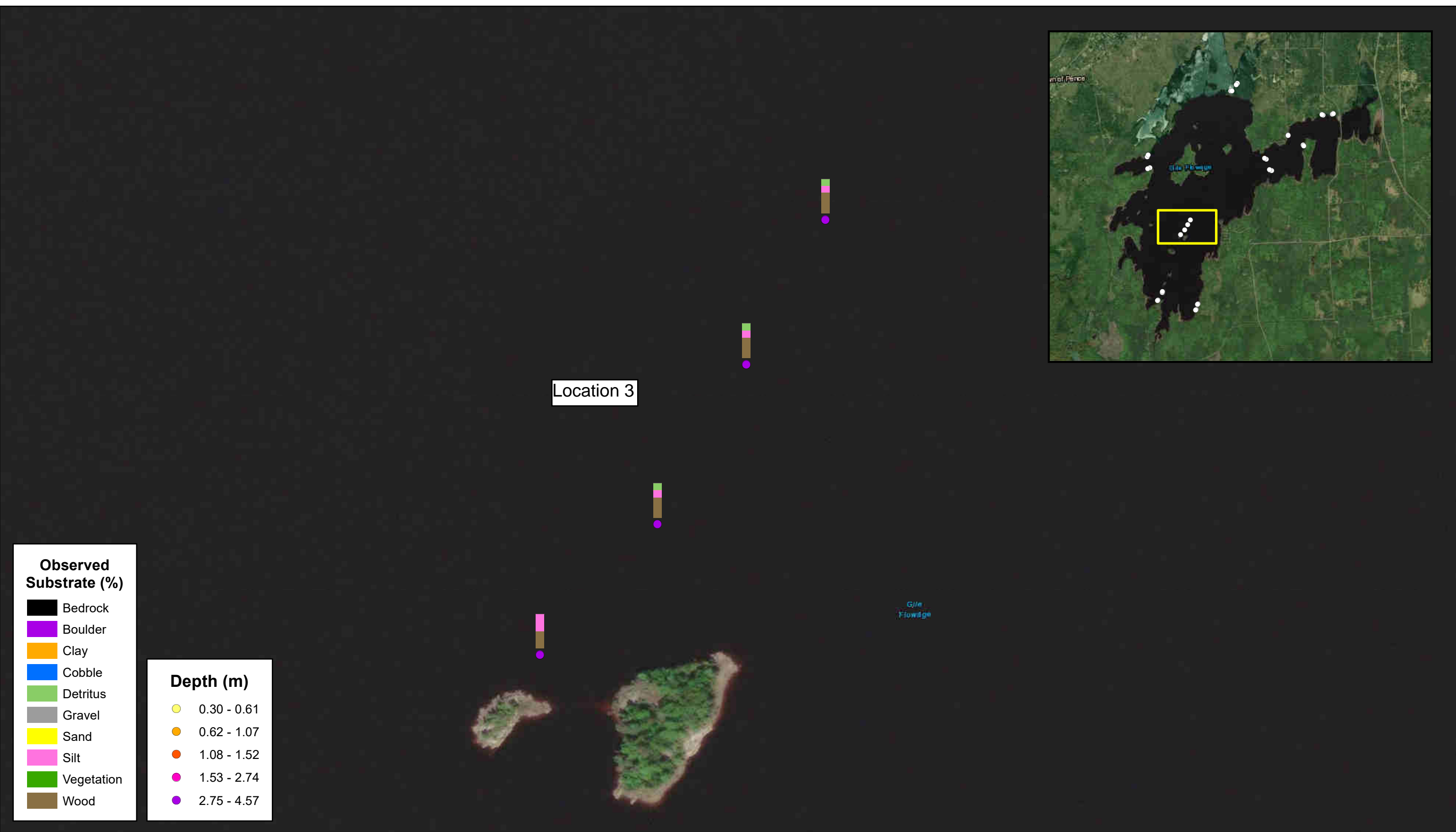
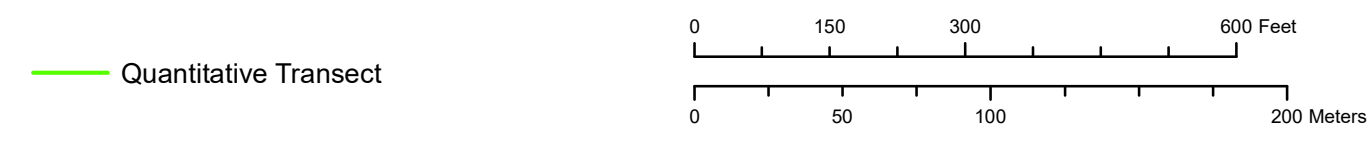


Figure 5f. Substrate and Depth for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.



Date: 8/18/2022 Path: P:\10_Projects\MMead-and-Hunt\480M16082_Wisconsin_Mussels\16082_GIS\Map4_Substrate_Quan_Gile.mxd

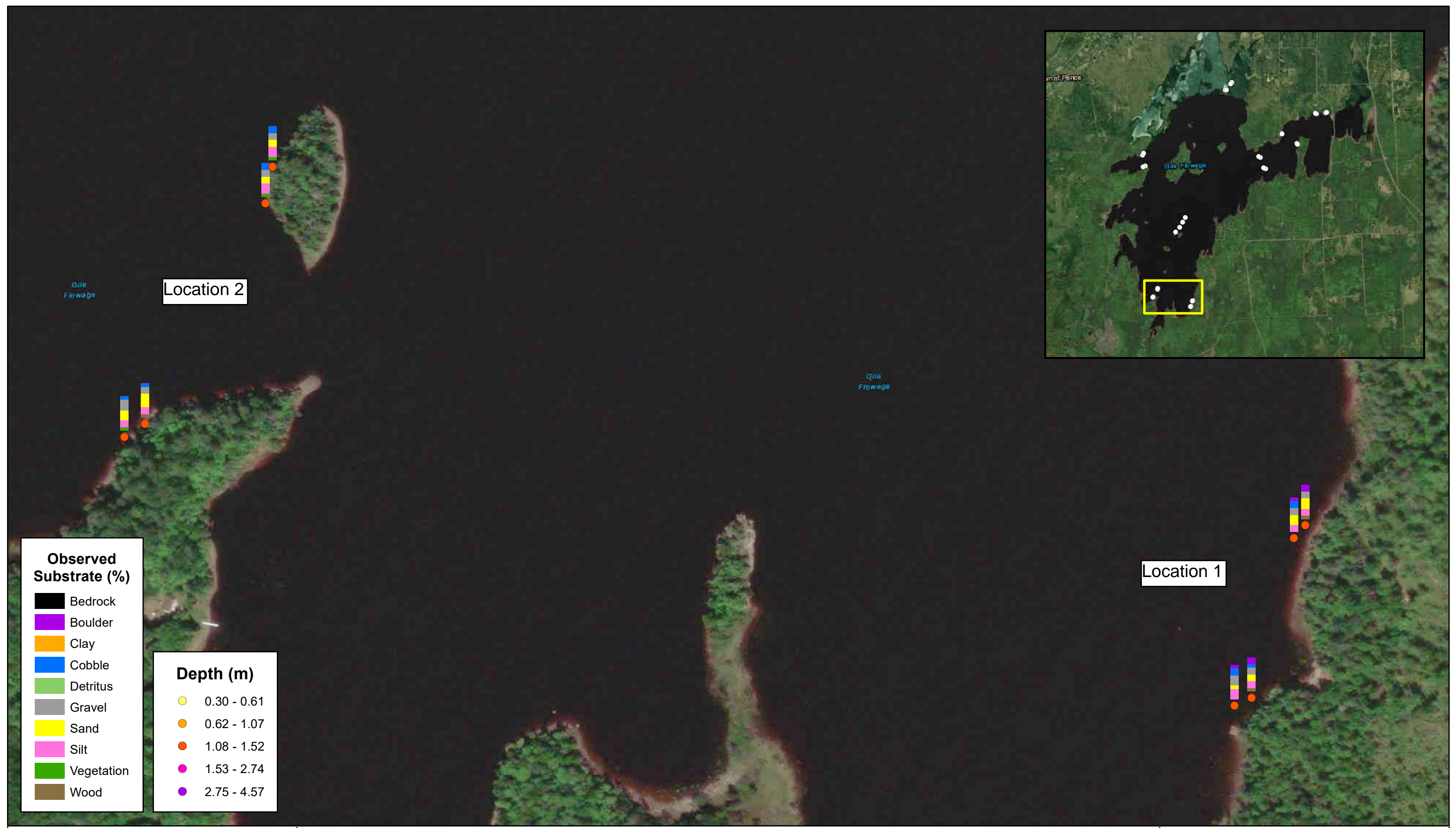
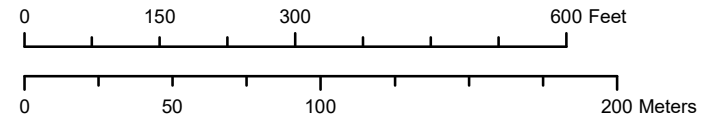


Figure 5g. Substrate and Depth for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.

Quantitative Transect



Date: 8/7/2022 Path: C:\Users\Anna Giordano\Desktop\GIS_Projects\W\Whead-and-Hunt\16082_Wisconsin_Mussels\Map6_Mussels_Quan_Gile.mxd

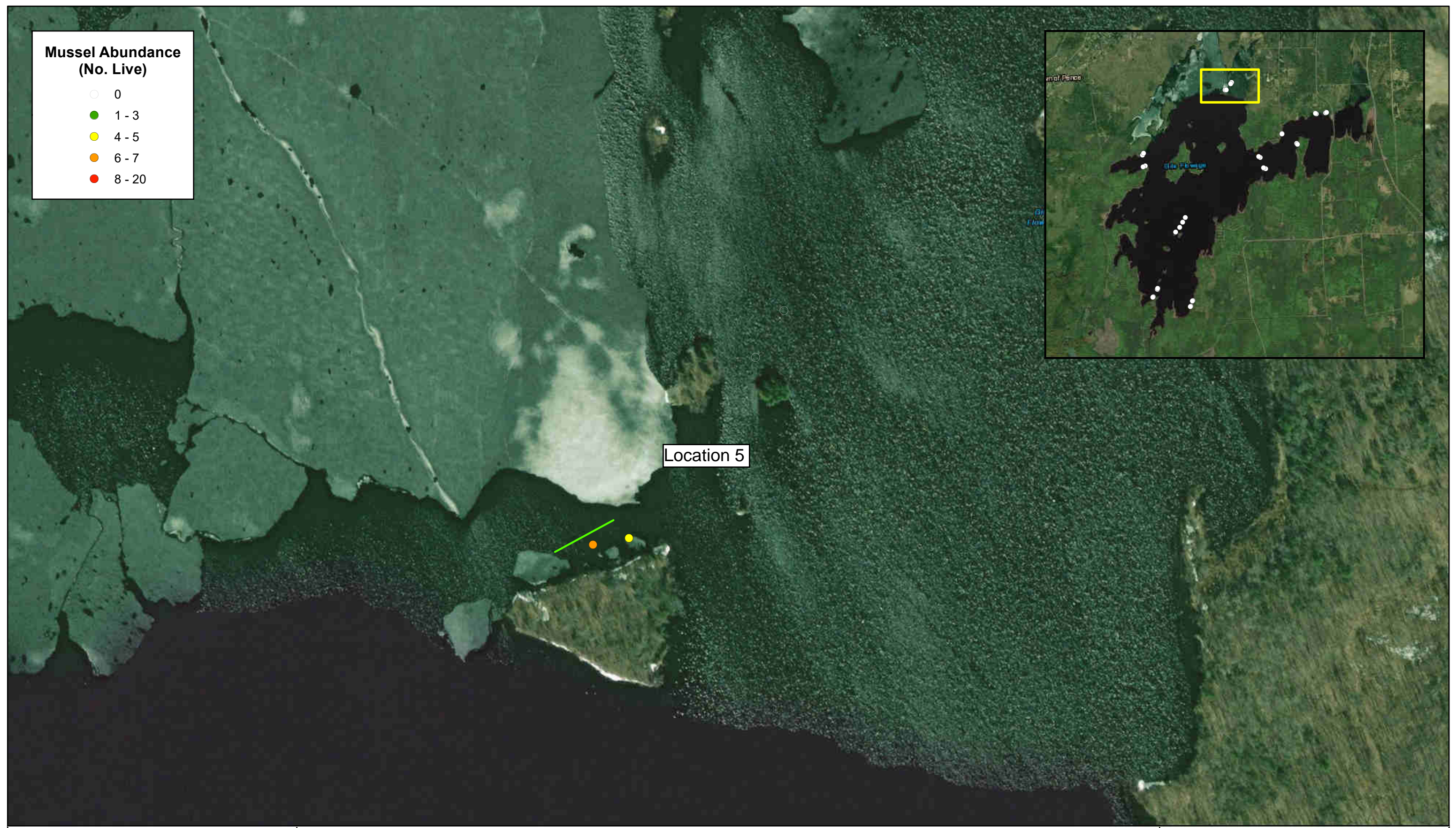
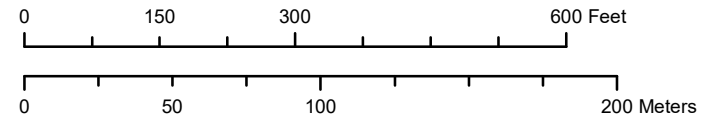


Figure 6a. Mussel Abundance for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.

Quantitative Transect



Date: 8/7/2022 Path: C:\Users\Anna Giordano\Desktop\GIS_Projects\W\Whead-and-Hunt\16082_Wisconsin_Mussels\Map6_Mussels_Quan_Gile.mxd

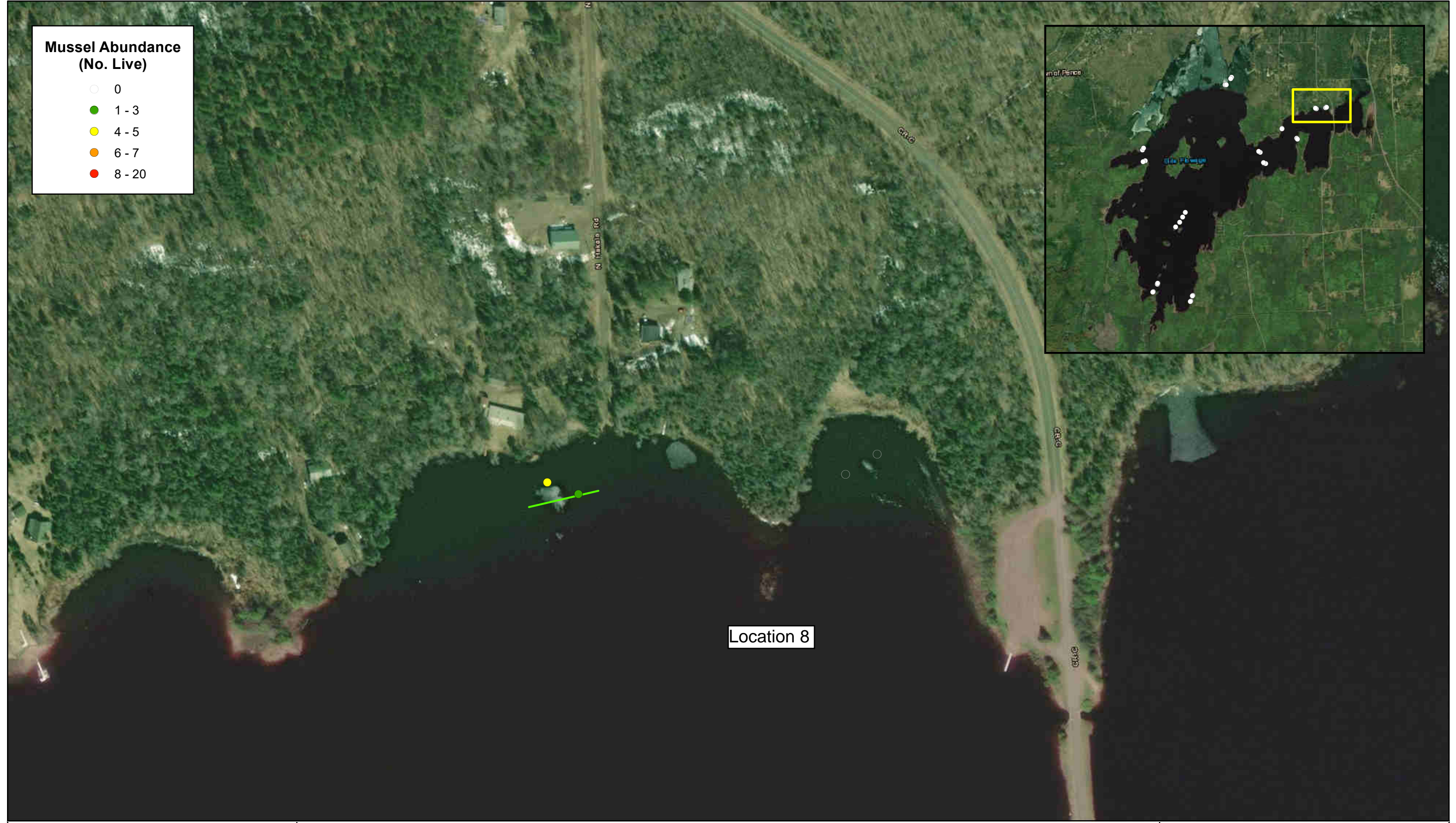


Figure 6b. Mussel Abundance for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.

Quantitative Transect

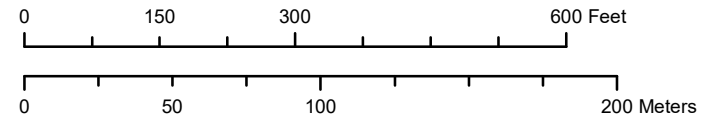
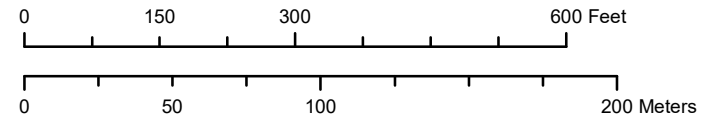




Figure 6c. Mussel Abundance for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.

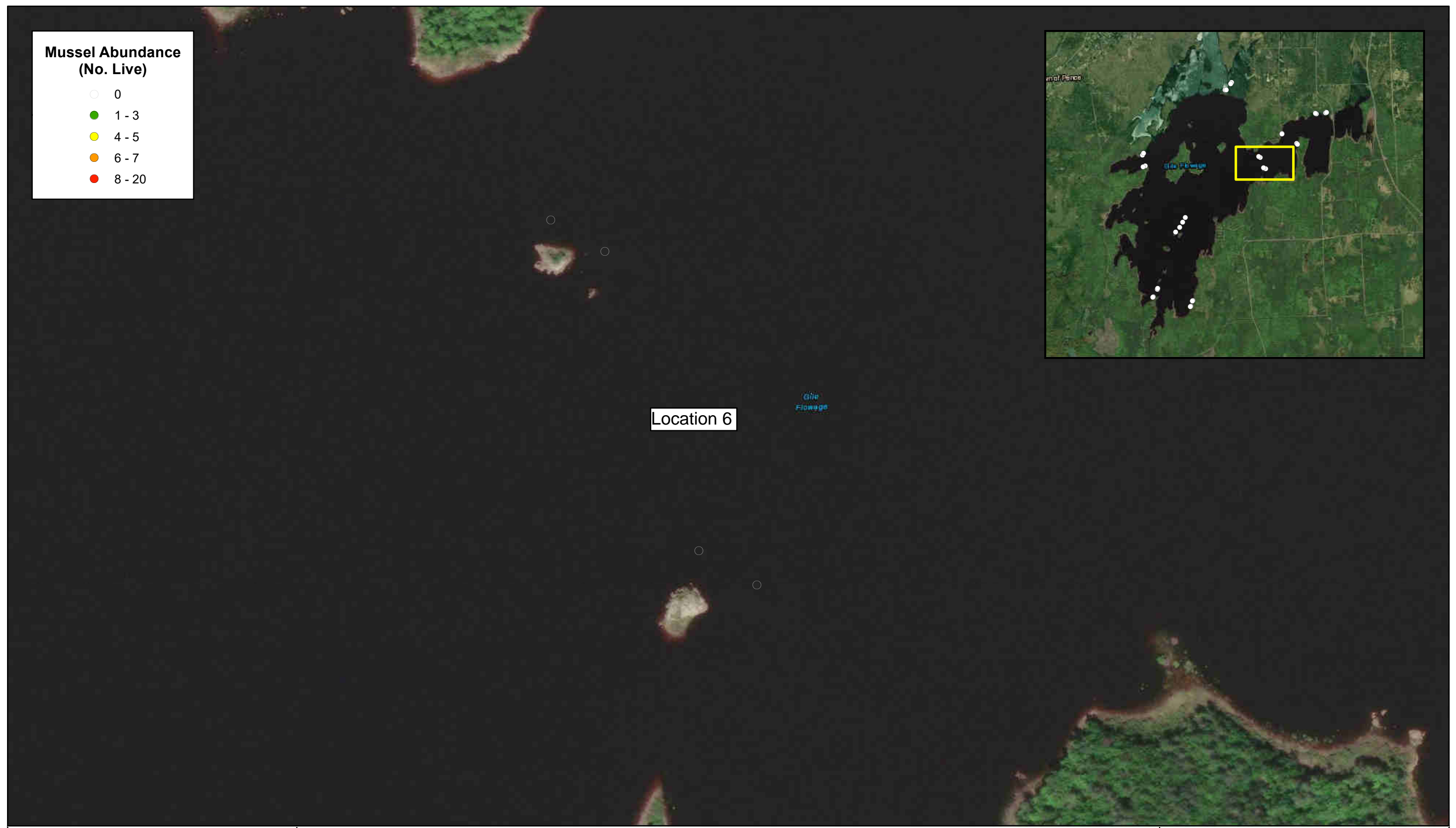
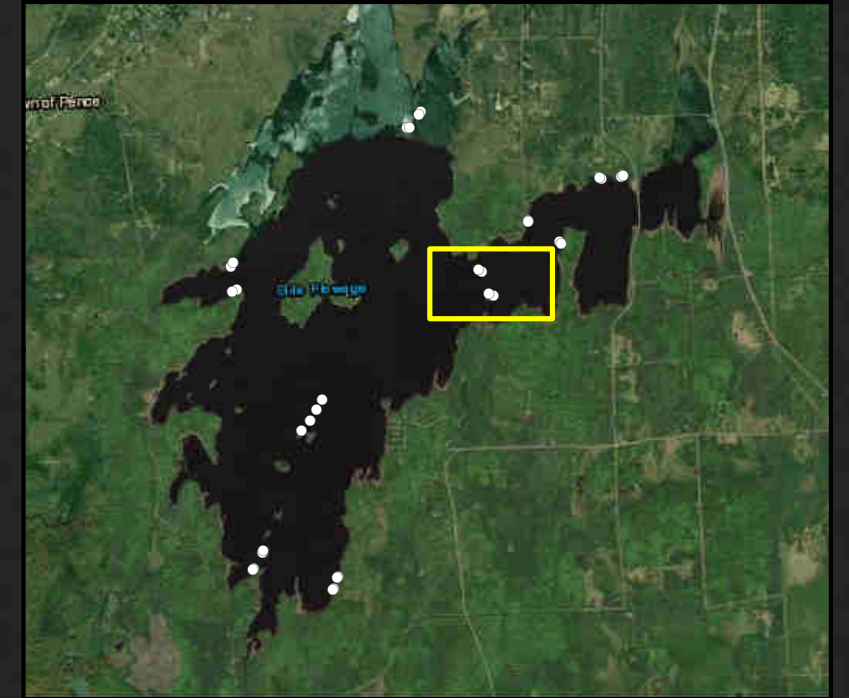
— Quantitative Transect



Date: 8/7/2022 Path: C:\Users\Anna Giordano\Desktop\GIS_Projects\W\Whead-and-Hunt\16082_Wisconsin_Mussels\Map6_Mussels_Quan_Gile.mxd

Mussel Abundance (No. Live)

- 0
- 1 - 3
- 4 - 5
- 6 - 7
- 8 - 20

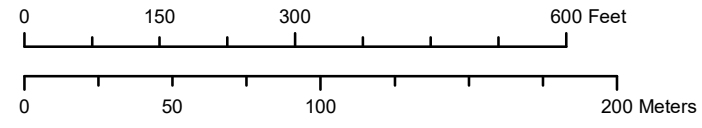


Location 6

Gile Flowage

Figure 6d. Mussel Abundance for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.

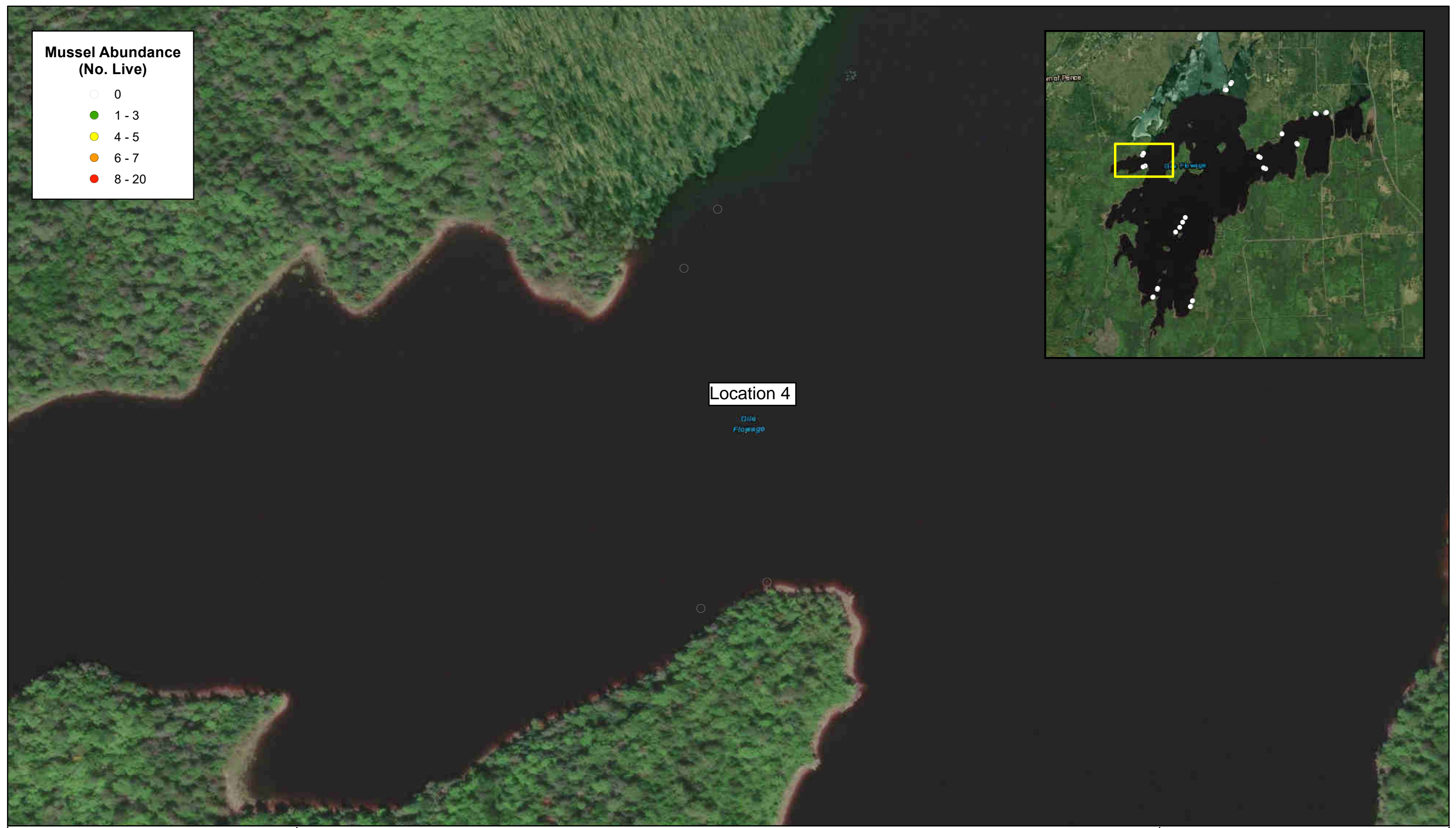
— Quantitative Transect



Date: 8/7/2022 Path: C:\Users\Anna Giordano\Desktop\GIS_Projects\W\Whead-and-Hunt\16082_Wisconsin_Mussels\Map6_Mussels_Quan_Gile.mxd

Mussel Abundance (No. Live)

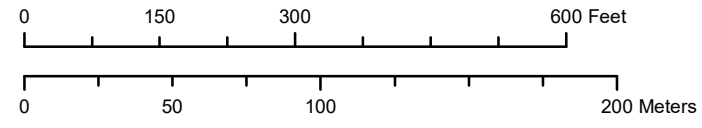
- 0
- 1 - 3
- 4 - 5
- 6 - 7
- 8 - 20



Location 4

Figure 6e. Mussel Abundance for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.

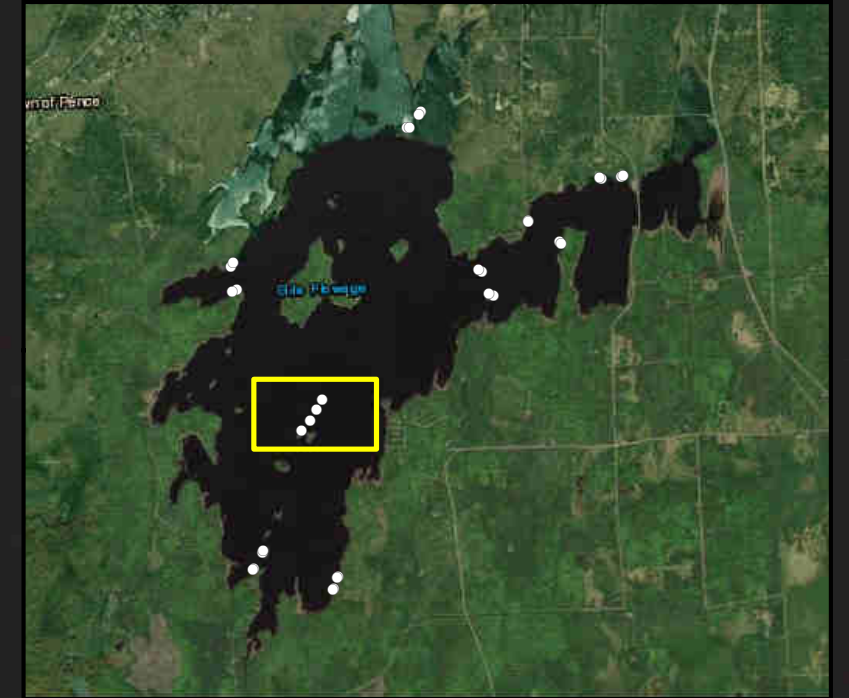
— Quantitative Transect



Date: 8/7/2022 Path: C:\Users\Anna Giordano\Desktop\GIS_Projects\W\Whead-and-Hunt\16082_Wisconsin_Mussels\Map6_Mussels_Quan_Gile.mxd

**Mussel Abundance
(No. Live)**

- 0
- 1 - 3
- 4 - 5
- 6 - 7
- 8 - 20



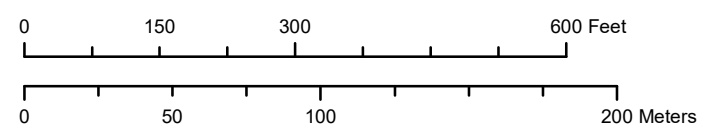
Location 3



Gile
Flowage

Figure 6f. Mussel Abundance for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.

— Quantitative Transect



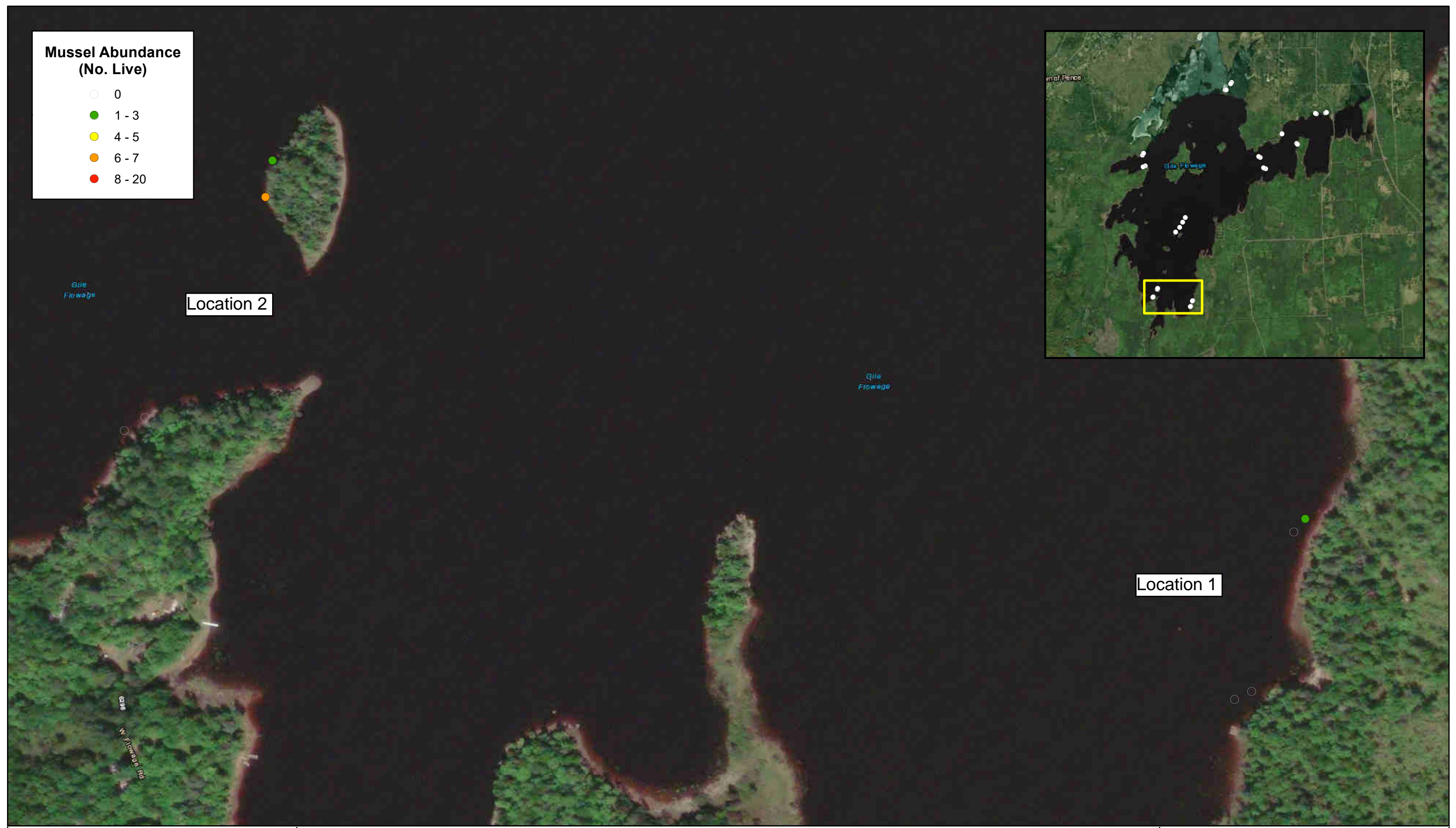
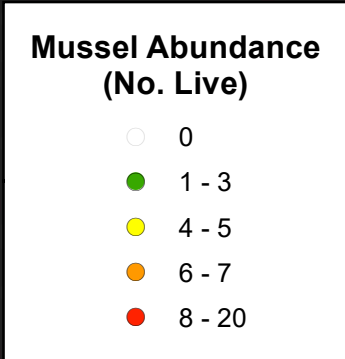
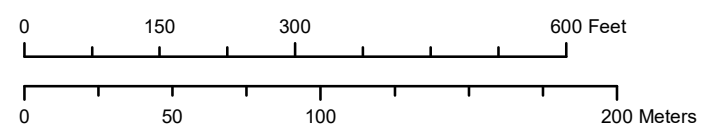


Figure 6g. Mussel Abundance for the Gile Project Reservoir Search Areas on the West Fork Montreal River. Iron County, Wisconsin.

— Quantitative Transect



Appendix A

Scientific Collecting Permit and Survey Plan

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Tony Evers, Governor
Preston D. Cole, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463



July 30, 2021

Emily Grossman
EnviroScience, Inc
2977 Hwy K #226
O'Fallon, MO 63368

Subject: WI E/T Permit Enclosed

Dear Emily:

With this letter we are updating your **ET Species Permit #1130**, per your request, as follows:

Species added to permit for removal and relocation to nearest suitable habitat outside impacted area:

- All Wisconsin threatened/endangered mussel species, collected as encountered on projects. Live mussels will be returned to the wild. Dead shells may be retained as vouchers and deposited in a reference collection, if permitted.

These updates are now part of your WI E/T Permit and will expire along with your original permit. Updated conditions are attached to this letter.

Please keep this letter and your E/T permit with you when conducting activities involving species listed on your permit.

Thank you for your efforts on behalf of Wisconsin's endangered and threatened resources.

Sincerely,

Drew Feldkirchner
Bureau Director

Wisconsin Endangered and Threatened Species Permit Conditions

The following conditions apply to Wisconsin E/T Species Permit #1130 issued to **Emily Grossman**:

1. Bureau of Natural Heritage Conservation Mussels should not be surveyed when water temperatures are less than 40 ° F and air temperatures are less than 32° F.
2. Permit holder must follow equipment disinfection protocols as outlined in WDNR Manual Code 9183.1, found online at the [DNR public site](#).
3. Permit holder agrees to follow Mussel Relocation Protocol (if applicable) and Wisconsin Wadeable Protocol for Mussel Sampling unless approved by the DNR species expert.
4. If you anticipate encountering a [federally listed mussel species](#) while conducting mussel surveys, a federal permit may also be required. For further information, contact U.S. Fish and Wildlife Service, Twin Cities Field Office at (952) 252-0092.
5. If a federally listed species is not anticipated, but is encountered during a survey or relocation, the surveyor must contact the U.S. Fish and Wildlife Service's Twin Cities Field Office (612) 725-3548 ext. 2206) within 24 hours of the encounter, unless the surveyor is already authorized to handle the species under a federal permit.
6. Permit holder must contact [Lisie Kitchel](#) (608) 266-5248) prior to conducting field work for each new project.

USACE GUIDELINES

1. Target and non-target species should be returned to point of capture, unless the project involves relocation. If the project involves relocation, please contact [Lisie Kitchel](#) (608) 266-5248).
2. Mussels should not be surveyed when water temperatures are less than 40 ° F and air temperatures are less than 32° F.
3. It is recommended to follow the equipment disinfection protocols for aquatic invasives as outlined in WDNR Manual Code 9183.1, found online at the [DNR public site](#).
4. It is recommended to follow the Mussel Relocation Protocol (if applicable) and Wisconsin Wadeable Protocol for Mussel Sampling.

State of Wisconsin
 Department of Natural Resources
 PO Box 7921, Madison WI 53707-7921

Endangered and Threatened Species Permit
 Form 1700-002 (R 3/06)

The below named person is authorized by the Wisconsin Department of Natural Resources, pursuant to section 29.604, Wis. Stats., and Chapter NR 27, Wis. Adm. Code, to conduct the described activities for scientific or educational purposes.

Permittee Information

Last Name		First		DNR Permit Number		DNR Metal Tag Number	
Grossman		Emily		1130			
Street or Route		City		Date DNR Permit Issued		Date DNR Permit Expires	
21 Fort Zumwalt Dr		O'Fallon		07/24/2018		01/31/2024	
Phone Number		Email Address		Federal Permit Number		Date Federal Permit Expires	
(847) 269-4159		egrossman@enviroscienceinc.com					
Date of Birth		Eye Color		Hair Color		Weight	
3/19/1987		Blue		Brown		150	
State		ZIP Code		Height			
MO		63366		5'6"			

Species or Study Information

County(ies) of Activity
 Statewide

Name and Number of Specimens or Description of Study

All Wisconsin threatened/endangered mussel species

Mussels will be collected as encountered on projects; specific numbers of each species are not known at this time

Source of Species or Area of Study	Where Species or Item Will Be Kept
Aquatic systems (rivers/streams/lakes) throughout Wisconsin	Live mussels will be returned to the wild. Dead shells may be retained as vouchers and deposited in a reference collection, if permitted.

Method of Taking and/or Transporting	During the Following Period of Time
Mussels will be collected by hand via wading/snorkeling/diving.	Duration of permit validity.

Purpose for Obtaining or Collection
 Mussel surveys and possible translocation for construction and/or ecological monitoring projects

Final Disposition of Specimens
 Live mussels will be returned to the wild. Dead shells may be retained as vouchers, if permitted.

Scientific Qualification of Permittee
 See permit file.

Additional Conditions of This Permit
 See attached letter with conditions.

Permittee Certification

I hereby certify that I have read, am familiar, and agree to comply with the regulations described herein. This permit is not transferable and must be exhibited to any authorized agent of the Department of Natural Resources on demand.

Permittee Signature	Date Signed
<i>Emily Grossman</i>	8/3/2021 12:23 PM CDT

BCABDB7B5AC8410...

STATE OF WISCONSIN
 DEPARTMENT OF NATURAL RESOURCES
 For the Secretary

DocuSigned by:
 By: *Drew Feldkordner*

F8586A547FC44E3...

Date: 7/30/2021 | 12:00 PM CDT

Address updated on 1/14/2022 by NRR.

Becca Winterringer

From: Kitchel, Lisie E - DNR <Lisie.Kitchel@wisconsin.gov>
Sent: Monday, June 6, 2022 4:00 PM
To: Emily Grossman; Weinzinger, Jesse J - DNR
Cc: Becca Winterringer
Subject: RE: Mussel survey plans

Emily – all three look good, the only thing I would add would be to please note if there is an obvious ‘drawdown zone’ in any of the river reaches as a result of either consistent drawdown or seasonal drawdown where no mussels are present due to being dewatered, the classic ‘bathtub ring’, to document habitat that is impacted by operation or seasonal maintenance. This is especially important for the Gile Flowage which has a significant drawdown.

By document I mean not just if its present but the extent to which it occurs, 1 foot, 2 feet, 1 meter, etc. in width, or however best to describe it, not if it is not present.

Hope that is clear, give me a call if you want to discuss.

Have fun in northern Wisconsin!!

Lisie Kitchel

Conservation Biologist
Bureau of Natural Heritage Conservation
Wisconsin Department of Natural Resources
101 S. Webster St.
Madison, WI 53707
Cell Phone: (608-220-5180)



dnr.wi.gov



From: Emily Grossman <egrossman@enviroscienceinc.com>
Sent: Monday, June 6, 2022 11:26 AM
To: Kitchel, Lisie E - DNR <Lisie.Kitchel@wisconsin.gov>; Weinzinger, Jesse J - DNR <Jesse.Weinzinger@wisconsin.gov>
Cc: Becca Winterringer <bwinterringer@enviroscienceinc.com>
Subject: Mussel survey plans

**CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.**

Lisie and Jesse,

EnviroScience was recently contracted by Mead and Hunt to conduct mussel surveys for four hydropower licensing/relicensing projects in northern Wisconsin. The locations and survey plans include:

- Hayward Lake and Trego Lake, Namekagon River near Hayward & Trego
- White River Flowage, White River near Ashland
- Gile Flowage, W. Fork Montreal River near Gile

Fieldwork will be led by either me (WI E/T permit #1130) or Becca Winterringer (WI E/T permit #1164). Per our permits, we wanted to notify you that we'll be conducting the surveys and request your review of the survey plans to ensure they're adequate. Based on the RFP we received, it looks like Mead and Hunt may have already discussed the survey methods with WIDNR, but please take a look at the attached plans and let me know if you have any comments or questions. We are hoping to start fieldwork in the next couple weeks, if possible, in order to complete the White River site before a planned drawdown of this reservoir in early July.

Again, please let me know if you have any questions/comments or need any additional info.

Thank you!

Emily Grossman

Senior Scientist/Project Manager



5070 Stow Road, Stow, OH 44224 | EnviroScienceInc.com

O. 800.940.4025 | C. 847.269.4159 | 24-HR 888.866.8540

OH | TN | VA | WV | NC   

Meet our new team in [North Carolina!](#)

SURVEY PLAN:

FRESHWATER MUSSEL STUDY FOR THE GILE FLOWAGE STORAGE RESERVOIR (FERC No. 15055)

Prepared for:



On Behalf of :

**Mead
& Hunt**

Prepared by:



5070 Stow Rd.
Stow, OH 44224
800-940-4025

www.EnviroScienceInc.com

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2.0	MUSSEL SURVEY SCOPE OF WORK.....	1
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	Mussel Survey Schedule	3
3.0	LITERATURE CITED	3

1.0 PROJECT OVERVIEW

EnviroScience, Inc. is pleased to submit this survey plan to the Wisconsin Department of Natural Resources (WDNR) on behalf of Mead & Hunt to perform freshwater mussel studies associated with the Federal Energy Regulatory Commission (FERC) licensing process for the Gile Flowage Storage Reservoir (FERC Project No. 15055). Northern States Power Company – Wisconsin, d/b/a Xcel Energy (Licensee/Applicant), is required to evaluate existing freshwater mussel resources and potential impacts to freshwater mussel resources associated with proposed project operations. The Gile Flowage Storage Reservoir project is located on the West Fork Montreal River near Gile, Iron County, Wisconsin.

2.0 MUSSEL SURVEY SCOPE OF WORK

TASK ONE: MUSSEL STUDIES

Mussel survey methods were developed following the 2015 WDNR Guidelines for Sampling Freshwater Mussels in Wadeable Streams (Guidelines; Piette, 2015). Mussel studies will include field surveys of two riverine reaches at the project location. In addition, a phased survey will be conducted within the Gile Flowage Storage Reservoir.

Riverine Surveys

Mussel studies within riverine habitat will be conducted at the project location. The upstream reach will begin near the Sucker Hole Boat Landing and extend 1,000 m upstream. The downstream reach will begin at the project tailrace and will extend 1,000 m downstream.

Within each reach, a series of transects extending bank to bank will be established every 100 m, creating a series of 10 possible transects per reach. Transects will be numbered sequentially from downstream to upstream, and a random number selector will be used to select five transects for the survey within each reach.

Searches along each transect will be conducted in 10-m segments and will extend 0.5 m on each side of the transect. A rapid visual search for signs of freshwater mussels (living or shell material) will be performed within each segment. The rapid visual search will entail an initial search of 0.2 minutes per m² (min/m²) along each 10-m segment to determine if mussels are present. If mussels are present in a segment, a semi-quantitative search will be triggered, and the time will be extended to 1 min/m². During the semi-quantitative search, divers will visually search, probe the substrate, and turn over rocks to detect small, burrowed mussels.

EnviroScience will record general stream conditions and morphology within the study area. Water depth and river bottom substrate composition using the Wentworth Scale (% observed of silt, sand, gravel, etc.) will be recorded. The survey will be conducted only when visibility at depth is at least 20 inches. In addition, a general description of mussel habitat in the project boundary will be provided.

Reservoir Survey

WDNR will be contacted before commencement of field work. Reservoir sampling will be conducted in the Gile Flowage Storage Reservoir using a phased approach consisting of qualitative searches and quantitative samples. Phase 1 will include an initial reconnaissance-level

habitat survey to determine if mussels are present in the reservoir. Reconnaissance searches will be conducted in the littoral zone at locations with suitable substrate to detect shells or live mussels. If mussels are documented, a minimum of 8 person-hours of search time will be spent conducting timed searches to establish a species list and inform the need for more intensive quantitative efforts under Phase 2. Eight general locations have been identified in the mussel study plan for evaluation. Half of the survey effort (four locations) will be spent in littoral areas subject to winter drawdowns (between 1490.0 and 1483.0 feet NGVD) and the remaining effort (four locations) will be spent in deeper areas (between 1483.0 and 1475.0 feet NGVD). One of the eight sites will be located along the old river channel if adequate depths are observed. At least 1 person-hour of search time will be spent at each of the eight sites. Searches will be divided into 15-min increments to facilitate development of a species richness curve.

Phase 2 will involve quantitative sampling at locations where mussel abundance was highest in Phase 1 surveys. Prior to initiating the Phase 2 survey, the team malacologist will contact WDNR to determine the extent to which quantitative surveys are necessary and the most efficient method for collecting the samples. If WDNR cannot be reached, the team malacologist will proceed using his or her professional judgement.

Phase 2 sampling will be conducted at the five Phase 1 locations with the highest mussel abundance. If mussels were not present in at least five stations during Phase 1, Phase 2 sampling will only be conducted at locations where mussels were present. Quantitative samples will be collected in grids or along transects, as determined in consultation with WDNR, at each Phase 2 location. If grids are used, a 5-m by 5-m grid will be established at each location and one 0.25-m² quantitative sample will be collected at 25 randomly selected points within the grid. If transects are used, a transect(s) will be established at each location and 0.25-m² quadrats will be sampled at random 1-m intervals along the transect. Regardless of sample design (grid or transects), 25 quantitative samples (totaling 6.25 m²) will be collected at each Phase 2 location.¹

Data and Mussel Handling

Live mussels found will be kept submersed in ambient river water and kept cool and moist during processing. All live mussels will be identified to species, counted, measured (length in millimeters), aged (external annuli count), and sexed (sexually dimorphic species only) by the team malacologist. Dead shell specimens will be scored as fresh dead (dead less than one year, lustrous nacre), weathered dead (dead one to many years; chalky nacre, fragmented, and worn periostracum), or subfossil (dead many years to many decades; severely worn and fragmented). Detailed digital images of the study area and representative mussel species will be recorded and reported. Datasheets will be populated and summarized per the Mussel Survey Summary Tables provided in Appendix 2 of the mussel study plan provided by Mead & Hunt. Mussel taxonomy will

¹ We understood Section 2.7.1, Phase 2 Reservoir Sampling, in the RFP to mean there will be twenty-five 0.25-m² quadrats in each grid (25 quadrats x 0.25 m² = 6.25 m² total sample area in each grid). If all five grids were to be sampled (5 grids x 6.25 m² sample area), this would yield a total sample area of 31.25 m² for the reservoir. The RFP reports a calculated "total quantitative sample area of 125 square meters for the reservoir". If the project intent is quantitatively sample a maximum area of 125 m², 500 quadrats maximum would need to be sampled (125 m² ÷ 0.25-m² quadrats = 500).

follow the names presented by Williams et al., 2017.

If any living or dead federal or state-listed species are encountered, EnviroScience will notify Mead & Hunt immediately; per surveyor collection permits, WDNR and the U.S. Fish & Wildlife Service (USFWS) will be notified within 24 hours. No live mussels will be harmed or taken during this project. Any specimens of federally listed species that are encountered will be individually hand placed in their original locations.

TASK TWO: REPORTING

EnviroScience will provide Mead & Hunt with a draft report for the Gile project by September 1, 2022, if fieldwork can be completed in time to meet this deadline. If fieldwork is not complete in time, a preliminary draft report will be provided by August 15, 2022, and will include all data collected for the project to date. The second draft will be provided by October 31, 2022. A final draft report for distribution to the licensing participants will be completed within seven days after receiving Mead & Hunt's comments. EnviroScience will review and address participant comments and provide a final study report within 30 days of receiving participant comments from Mead & Hunt.

The report will include a description of mussel survey activities and the prescribed Mussel Survey Summary Tables of all data collected, including mussel species numbers, sizes, and distribution within the study area. GIS-based mapping will provide further visual presentations of the findings of the survey. Geo-referenced photos and GIS shapefiles will be provided electronically to Mead & Hunt.

MUSSEL SURVEY SCHEDULE

Field work will be initiated following coordination with WDNR, receipt of permits, and when suitable weather and river conditions allow. Normal to low water conditions and good visibility must occur to conduct field work; project activities will be planned accordingly. Fieldwork is tentatively planned for mid-June 2022.

3.0 LITERATURE CITED

- Piette, R. R. (2015). Guidelines for sampling freshwater mussels in wadable streams. Wisconsin Department of Natural Resources. 50pp.
- Williams, J. D., Bogan, A. E., Butler, R. S., Cummings, K. S., Garner, J. T., Harris, J. L., ... & Watters, G. T. (2017). A revised list of the freshwater mussels (Mollusca: Bivalvia: Unionida) of the United States and Canada. *Freshwater Mollusk Biology and Conservation*, 20(2), 33-58.

Appendix B

Photographic Record

Appendix B. Index of photo locations, Gile Flowage Storage Reservoir Mussel Survey, June 2022.

Photo No.	Coordinates				View direction
	UTM Zone 15N		NAD 1983		
	Northing	Easting	Latitude	Longitude	
Photo 1	5138797	712182	46.36900	-90.24131	Southeast
Photo 2	5138653	711987	46.36800	-90.24390	South
Photo 3	5138649	712007	46.36800	-90.24365	Southeast
Photo 4	5138553	711919	46.36700	-90.24483	Northeast
Photo 5	5138282	711898	46.36500	-90.24523	South
Photo 6	5145686	712990	46.43100	-90.22768	West
Photo 7	5145599	713054	46.43000	-90.22688	Southwest
Photo 8	5145412	712955	46.42900	-90.22826	North
Photo 9	5145282	712978	46.42800	-90.22802	South
Photo 10	5139110	712768	46.37200	-90.23355	Northeast
Photo 11	5139307	711973	46.37400	-90.24379	South
Photo 12	5140993	712648	46.38900	-90.23426	South
Photo 13	5142063	711755	46.39900	-90.24537	Northeast
Photo 14	5143851	713630	46.41400	-90.22020	South
Photo 15	5142261	714237	46.40000	-90.21303	West
Photo 16	5142531	714704	46.40200	-90.20684	North
Photo 17	5143188	715425	46.40800	-90.19717	East
Photo 18	5138821	712064	46.37000	-90.24283	N/A
Photo 19	5143683	713493	46.41300	-90.22205	N/A
Photo 20	5143188	715425	46.40800	-90.19717	N/A

*Gile Flowage Storage Reservoir Mussel Survey
Gile, Wisconsin
Photographed June 22 – 26, 2022*



Photo 1. Riverine Reach 1, view looking southeast toward right descending bank at Transect 2.



Photo 2. Riverine Reach 1, view looking upstream from Transect 4.

*Gile Flowage Storage Reservoir Mussel Survey
Gile, Wisconsin
Photographed June 22 – 26, 2022*



Photo 3. Riverine Reach 1, view of visible waterline on right descending bank at Transect 4.



Photo 4. Riverine Reach 1, view looking northeast toward mid-channel vegetation patch and island from Transect 5.

*Gile Flowage Storage Reservoir Mussel Survey
Gile, Wisconsin
Photographed June 22 – 26, 2022*



Photo 5. Riverine Reach 1, view looking upstream from Transect 8.

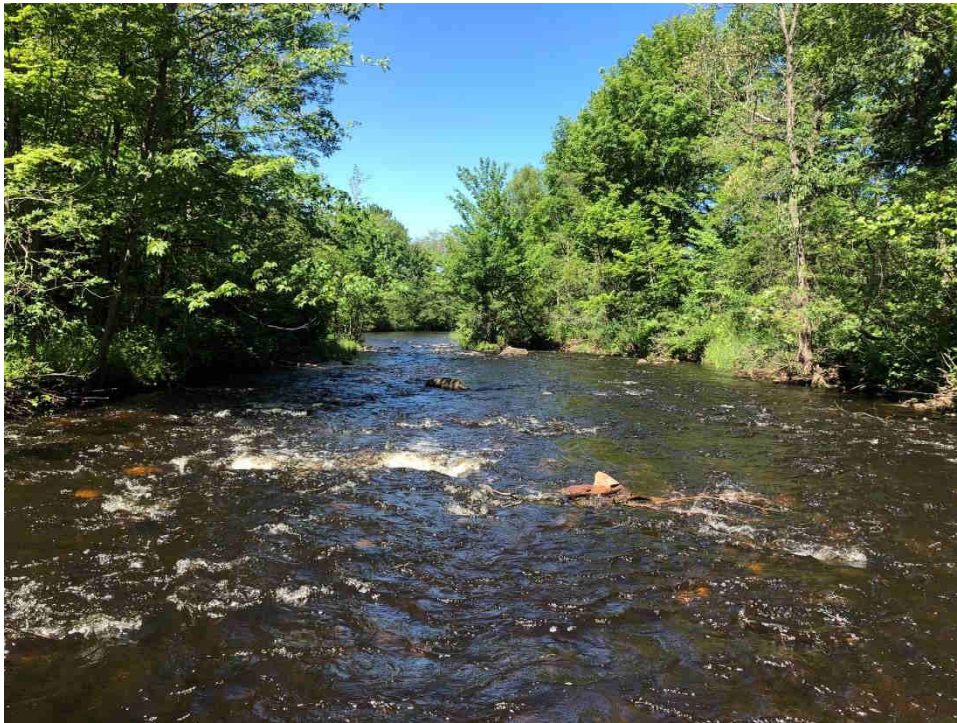


Photo 6. Riverine Reach 2, view looking downstream from Transect 3.

*Gile Flowage Storage Reservoir Mussel Survey
Gile, Wisconsin
Photographed June 22 – 26, 2022*



Photo 7. Riverine Reach 2, view of Gile Falls from the right descending bank.



Photo 8. Riverine Reach 2, view looking downstream toward Transect 6.

*Gile Flowage Storage Reservoir Mussel Survey
Gile, Wisconsin
Photographed June 22 – 26, 2022*

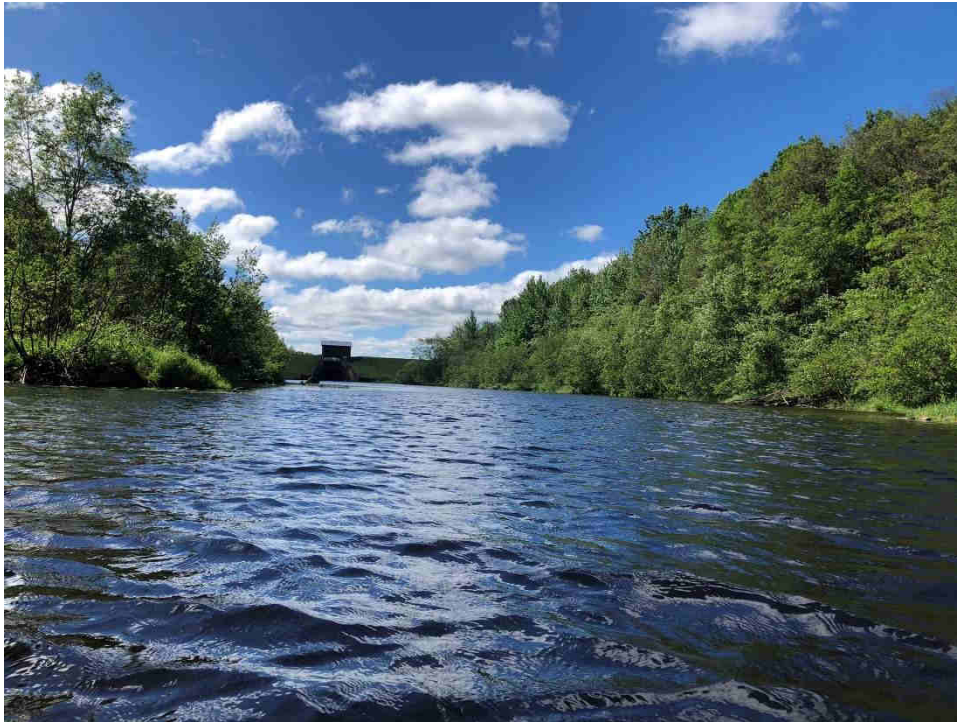


Photo 9. Riverine Reach 2, view looking upstream from Transect 8.



Photo 10. Reservoir Location 1, view looking northeast along the bank.

*Gile Flowage Storage Reservoir Mussel Survey
Gile, Wisconsin
Photographed June 22 – 26, 2022*



Photo 11. Reservoir Location 2, view looking south along the bank.



Photo 12. Reservoir Location 3, view looking south toward islands.

*Gile Flowage Storage Reservoir Mussel Survey
Gile, Wisconsin
Photographed June 22 – 26, 2022*



Photo 13. Reservoir Location 4, view looking northeast along bank.



Photo 14. Reservoir Location 5, view looking south toward islands.

*Gile Flowage Storage Reservoir Mussel Survey
Gile, Wisconsin
Photographed June 22 – 26, 2022*



Photo 15. Reservoir Location 6, view looking west toward northern island.



Photo 16. Reservoir Location 7, view looking north toward sampling locations.

Gile Flowage Storage Reservoir Mussel Survey
Gile, Wisconsin
Photographed June 22 – 26, 2022



Photo 17. Reservoir Location 8, view looking east toward bank.



Photo 18. Photo of Paper Pondshell (*Utterbackia imbecillis*) collected from Transect 2, Riverine Reach 1.

Gile Flowage Storage Reservoir Mussel Survey
Gile, Wisconsin
Photographed June 22 – 26, 2022



Photo 19. Representative photo of Paper Pondshell (*Utterbackia imbecillis*) collected in reservoir surveys.



Photo 20. Photo of Giant Floater (*Pyganodon grandis*) collected from Reservoir Location 8.

APPENDIX E-14 Macroinvertebrate Sampling Data

Monitoring Station

Station ID 10032141
Station Name Meads Creek on Spring Camp Road

Show specific parameter: 

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		570	UMHOS/CM		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DISSOLVED OXYGEN FIELD		10.0	MG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	OXYGEN, DISSOLVED, PERCENT OF SATURATION %		89.3	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PH FIELD		7.2	SU		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Average Stream Width of Reach (m)		2.0	METERS		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Average Stream Depth of Reach (m)		0.2	METERS		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Water Temperature		10.2	DEGREES C		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macro Habitat, Average across all reps: Estimated Velocity		Slow (<0.15 m/s)	m/s		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macro Habitat, Average across all reps: habitat type		Run			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Sand %		20	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Canopy Cover at sample site (%)?		70	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Embeddedness of substrate at sample site (%):		40	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Leaf Snags %		30	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Gravel %		20	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Coarse Woody Debris %		30	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macro Habitat, Pollutant Sources, Local: Streambank Erosion		PH - Present/High Impact			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macro Habitat, Factors Affecting Habitat, Local: Wetlands		PL - Present/Low Impact			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macro Habitat, Water Quality Indicators, local: Iron Bacteria		PL - Present/Low Impact			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Total sampling time in minutes?		1.0	Minutes		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Estimated area sampled (in m2)?		2.0	METERS SQUARE		

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Number of samples in composite?	3
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Reason for sampling?	Other: Montreal TWA
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Iron Bacteria	U - Uncertain
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Bank Erosion	PH - Present/High Impact
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Chlorine	U - Uncertain

Monitoring Station

Station ID 10032141
Station Name Meads Creek on Spring Camp Road

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macroinvertebrate habitat, Pollutant Source: Watershed-wide Streambank Erosion		U - Uncertain			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macroinvertebrate habitat Effect: Watershed-wide Wetland		U - Uncertain			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Wadeable Macroinvertebrate Field Data Report Comments:		Beaver impacts upstream and downstream.			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Percent Sample Sorted		7			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PLECOPTERA CAPNIIDAE ALLOCAPNIA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PLECOPTERA CAPNIIDAE PARACAPNIA ANGULATA		6			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PLECOPTERA NEMOURIDAE AMPHINEMURA		10			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PLECOPTERA TAENIOPTERYGIDAE TAENIOPTERYX BURKSI		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA BAETIDAE BAETIS		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA BAETIDAE BAETIS TRICAUDATUS		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA BAETIDAE ACERPENNA		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA BAETIDAE ACERPENNA MACDUNNOUGHII		6			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA EPHEMERELLIDAE EPHEMERELLA SUBVARIA		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE MACCAFFERTIUM VICARIUM		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA LEPTOPHLEBIIDAE		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA LEPTOPHLEBIIDAE LEPTOPHLEBIA		8			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA LEPTOPHLEBIIDAE LEPTOPHLEBIA CUPIDA		9			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA LEPTOPHLEBIIDAE PARALEPTOPHLEBIA		13			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE CHEUMATOPSYCHE		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE HYDROPSYCHE BETTENI		1			

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE CERATOPSYCHE SLOSSONAE	2
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA LEPIDOSTOMATIDAE LEPIDOSTOMA	3
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA MOLANNIDAE MOLANNA	2
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA PSYCHOMYIIDAE LYPE DIVERSA	1
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA UENOIDAE NEOPHYLAX	6

Monitoring Station

Station ID 10032141
Station Name Meads Creek on Spring Camp Road

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	COLEOPTERA ELMIDAE OPTIOSERVUS FASTIDITUS		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA EMPIDIDAE NEOPLASTA		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA SIMULIIDAE PROSIMILIUM		16			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA SIMULIIDAE STEGOPTERNA		5			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA TABANIDAE CHRYSOPS		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA TIPULIDAE DICRANOTA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA TANYPODINAE 0 ZAVRELIMYIA		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 BRILLIA PARVA		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 PARAMETRIOCNEMUS		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 TVETENIA BAVARICA GROUP BODE 1983		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 MICROPSECTRA		5			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 RHEOTANYTARSUS		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 STEPELLINA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 STEPELLINELLA		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 TANYTARSUS		10			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	HEMIPTERA VELIIDAE MICROVELIA AMERICANA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 PHAENOPSECTRA PUNCTIPES GROUP EPLER 2001		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 POLYPEDILUM (POLYPEDILUM) FALLAX GROUP EPLER 2001		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 POLYPEDILUM (URESIPEDILUM)		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 POLYPEDILUM (URESIPEDILUM) AVICEPS		2			

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA TANYPODINAE 0 THIENEMANNIMYIA GROUP	1	
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 PARATANYTARSUS LONGISTYLUS	1	
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRANSPARENCY TUBE MEASUREMENT	120	CM
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macroinvertebrate Index of Biological Integrity (IBI), Wadable	10.80577	
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	HILSENHOFF'S BIOTIC INDEX (HBI)	3.921	

Monitoring Station

Station ID 10032141
 Station Name Meads Creek on Spring Camp Road

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Project	Date/Time	DNR Parameter	Species Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	FAMILY-LEVEL BIOTIC INDEX (FBI)	4.075			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	HBI Max 10	4			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	SPECIES RICHNESS	38			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	GENERA RICHNESS	38			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT EPT INDIVIDUALS	57			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT EPT GENERA	45			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT CHIRONOMIDAE INDIVIDUALS	24			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	SHANNON'S DIVERSITY INDEX	4.652			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT SCRAPERS	9			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT FILTERER	26			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT SHREDDERS	20			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT GATHERERS	38			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Mean Pollution Tolerance Value	4.243			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DEPO Percent Individuals (DEP_PC_CNT)	31.293			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DEPO Genera (DEPO_G)	16			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DEPO, percent genera (DEP_PC_GEN)	42.105			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPT Genera (EPT_GENERA)	17			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPT Individuals (EPT_COUNT)	84			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPT Percent Individuals (EPT_PC_CNT)	57.143			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Amph Percent Individuals (AMP_PC_CNT)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPT Percent Genera (EPT_PC_GEN)	44.737			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Isop Percent Individuals (ISO_PC_CNT)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Isop Genera (ISOP_G)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Isop Percent Genera (ISO_PC_GEN)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Dipt Percent Genera (DIP_PC_GEN)	50			

Monitoring Station

Station ID 10032141
 Station Name Meads Creek on Spring Camp Road

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Project	Date/Time	DNR Parameter	Species Result	Units Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Dipt Percent Individuals (DIP_PC_CNT)	41.497		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Chir Percent Individuals (CHI_PC_CNT)	23.81		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Chir Percent Genera (CHI_PC_GEN)	36.842		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Gatherers Percent Individuals (GAT_PC_CNT)	38.194		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Gatherers Percent Genera (GAT_PC_GEN)	25		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Scrapers Percent Individuals (SCR_PC_CNT)	9.028		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Shredders Percent Individuals (SHR_PC_CNT)	20.139		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Insect Taxa (INSECT_T)	38		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Insect Percent Individuals (INSECT_PI)	100		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPT Taxa (EPT_T)	17		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Dominance 3 Percent Individuals (DOM3_PI)	33.333		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Intolerant EPT 2 Percent Individuals (INTOL_EPT2_PI)	21.769		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Tolerant Chir Percent Individuals (TOL_CHIR8_PI)	1.361		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Functional Trait Niches (ECOFTN)	14		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Amph Isop Percent Individuals (A_I_PC_CNT)	0		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Species Richness (Wadable IBI Intermediate)	38		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	WATER COLOR (VISUAL)	STAINED		

Monitoring Station

Station ID 10032145
 Station Name Black Creek on Spring Camp Road

Show specific parameter: <Show All>

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Sample Results

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		51.3	UMHOS/CM		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DISSOLVED OXYGEN FIELD		9.4	MG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	OXYGEN, DISSOLVED, PERCENT OF SATURATION %		83.9	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PH FIELD		6.6	SU		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Average Stream Width of Reach (m)		2.0	METERS		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Average Stream Depth of Reach (m)		0.2	METERS		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Water Temperature		10.3	DEGREES C		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macro Habitat, Average across all reps: Estimated Velocity		Moderate (0.15-0.5 m/s)	m/s		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macro Habitat, Average across all reps: habitat type		Riffle			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Sand %		20	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Canopy Cover at sample site (%)?		80	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Embeddedness of substrate at sample site (%):		30	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Leaf Snags %		20	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Rubble %		30	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Gravel %		20	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Coarse Woody Debris %		10	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macro Habitat, Factors Affecting Habitat, Local: Wetlands		PL - Present/Low Impact			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Total sampling time in minutes?		1.0	Minutes		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Estimated area sampled (in m2)?		1.0	METERS SQUARE		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Number of samples in composite?		3			

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Reason for sampling?	Other: Montreal TWA
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macroinvertebrate habitat Effect: Watershed-wide Wetland	U - Uncertain
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Percent Sample Sorted	7
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PLECOPTERA CAPNIIDAE PARACAPNIA ANGULATA	10
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PLECOPTERA NEMOURIDAE AMPHINEMURA	11

Monitoring Station

Station ID 10032145
 Station Name Black Creek on Spring Camp Road

Show specific parameter: <Show All>



Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA BAETIDAE BAETIS		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA BAETIDAE BAETIS BRUNNEICOLOR		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA BAETIDAE ACERPENNA		19			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA BAETIDAE ACERPENNA MACDUNNOUGHII		20			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA EPHEMERELLIDAE EURYLOPHELLA		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA EPHEMERELLIDAE EURYLOPHELLA FUNERALIS		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE MACCAFFERTIUM		4			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA LEPTOPHLEBIIDAE		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPHEMEROPTERA LEPTOPHLEBIIDAE PARALEPTOPHLEBIA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	ODONATA CORDULEGASTRIDAE CORDULEGASTER		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE DIPLECTRONA MODESTA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA HYDROPTILIDAE OXYETHIRA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA PHILOPOTAMIDAE		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA PHILOPOTAMIDAE CHIMARRA		4			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA PHILOPOTAMIDAE CHIMARRA ATERRIMA		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA RHYACOPHILIDAE RHYACOPHILA		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRICHOPTERA UENOIDAE NEOPHYLAX		6			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	COLEOPTERA ELMIDAE OPTIOSERVUS		4			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	COLEOPTERA ELMIDAE OPTIOSERVUS FASTIDITUS		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CERATOPOGONIDAE BEZZIA/PALPOMYIA HILSENHOFF 1995		3			

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CERATOPOGONIDAE PROBEZZIA	1
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CERATOPOGONIDAE CERATOPOGON CULICOIDITHORAX	1
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA SIMULIIDAE PROSIMILIUM	24
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA SIMULIIDAE PROSIMILIUM FUSCUM	57
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA SIMULIIDAE STEGOPTERNA	13

Monitoring Station

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA TIPULIDAE PSEUDOLIMNOPHILA		7			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA TIPULIDAE TIPULA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA TANYPODINAE 0 CONCHAPELOPIA		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA TANYPODINAE 0 ZAVRELIMYIA		9			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 LIMNOPHYES		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 PARAMETRIOCNEMUS		30			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 MICROPSECTRA		13			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 STEMPELLINELLA		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 TANYTARSUS		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	VENEROIDA PISIDIIDAE PISIDIUM		7			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 ORTHOCLADIUS (SYMPOSIACLADIUS) ANNECTENS		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 POLYPEDILUM (URESIPEDILUM) AVICEPS		22			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA TANYPODINAE 0 THIENEMANNIMYIA GROUP		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 HELENIELLA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	LUMBRICULIDA LUMBRICULIDAE LUMBRICULUS		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 PARATANYTARSUS LONGISTYLUS		5			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	TRANSPARENCY TUBE MEASUREMENT		120	CM		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Macroinvertebrate Index of Biological Integrity (IBI), Wadable		9.9634			

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	HILSENHOFF'S BIOTIC INDEX (HBI)	5.072
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	FAMILY-LEVEL BIOTIC INDEX (FBI)	5.088
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	HBI Max 10	4.709
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	SPECIES RICHNESS	35
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	GENERA RICHNESS	35

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 Station Name Black Creek on Spring Camp Road

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Project	Date/Time	DNR Parameter	Species Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT EPT INDIVIDUALS	30			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT EPT GENERA	34			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT CHIRONOMIDAE INDIVIDUALS	30			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	SHANNON'S DIVERSITY INDEX	4.048			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT SCRAPERS	6			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT FILTERER	37			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT SHREDDERS	17			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	PERCENT GATHERERS	33			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Mean Pollution Tolerance Value	4.31			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DEPO Percent Individuals (DEP_PC_CNT)	31.313			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DEPO Genera (DEPO_G)	14			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	DEPO, percent genera (DEP_PC_GEN)	42.424			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPT Genera (EPT_GENERA)	12			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPT Individuals (EPT_COUNT)	91			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPT Percent Individuals (EPT_PC_CNT)	30.64			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Amph Percent Individuals (AMP_PC_CNT)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPT Percent Genera (EPT_PC_GEN)	36.364			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Isop Percent Individuals (ISO_PC_CNT)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Isop Genera (ISOP_G)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Isop Percent Genera (ISO_PC_GEN)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Dipt Percent Genera (DIP_PC_GEN)	57.576			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Dipt Percent Individuals (DIP_PC_CNT)	66.667			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Chir Percent Individuals (CHI_PC_CNT)	30.64			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Chir Percent Genera (CHI_PC_GEN)	36.364			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Gatherers Percent Individuals (GAT_PC_CNT)	33.218			

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Project	Date/Time	DNR Parameter	Species Result	Units Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Gatherers Percent Genera (GAT_PC_GEN)	26.667		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Scrapers Percent Individuals (SCR_PC_CNT)	5.882		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Shredders Percent Individuals (SHR_PC_CNT)	17.647		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Insect Taxa (INSECT_T)	33		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Insect Percent Individuals (INSECT_PI)	97.059		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	EPT Taxa (EPT_T)	12		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Dominance 3 Percent Individuals (DOM3_PI)	36.275		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Intolerant EPT 2 Percent Individuals (INTOL_EPT2_PI)	4.575		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Tolerant Chir Percent Individuals (TOL_CHIR8_PI)	3.268		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Functional Trait Niches (ECOFTN)	14		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Amph Isop Percent Individuals (A_I_PC_CNT)	0		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	Species Richness (Wadable IBI Intermediate)	35		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/23/2017 12:00 AM	WATER COLOR (VISUAL)	STAINED		

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 Station Name Unnamed (2942900) trib to Gile Flowage 115m DS Island lake Rd

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		59.1	UMHOS/CM		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DISSOLVED OXYGEN FIELD		4.04	MG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	OXYGEN, DISSOLVED, PERCENT OF SATURATION %		35.6	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PH FIELD		6.4	SU		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Average Stream Width of Reach (m)		2.0	METERS		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Average Stream Depth of Reach (m)		0.25	METERS		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Water Temperature		9.8	DEGREES C		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macro Habitat, Average across all reps: Estimated Velocity		Slow (<0.15 m/s)	m/s		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macro Habitat, Average across all reps: habitat type		Shoreline Composite			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Canopy Cover at sample site (%)?		0	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Leaf Snags %		40	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Silt/Muck %		20	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Coarse Woody Debris %		40	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macro Habitat, Factors Affecting Habitat, Local: Wetlands		PH - Present/High Impact			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macro Habitat, Water Quality Indicators, local: Iron Bacteria		PL - Present/Low Impact			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Total sampling time in minutes?		1.0	Minutes		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Estimated area sampled (in m2)?		2.0	METERS SQUARE		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Number of samples in composite?		4			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Reason for sampling?		Other: TWA Project			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Iron Bacteria		U - Uncertain			

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Sedimentation	PH - Present/High Impact
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macroinvertebrate habitat Effect:Local Springs	PL - Present/Low Impact
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macroinvertebrate habitat Effect: Watershed-wide Springs	PL - Present/Low Impact
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macroinvertebrate habitat Effect: Watershed-wide Wetland	U - Uncertain
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Sedimentation	PH - Present/High Impact

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Project	Date/Time	DNR Parameter	Species	Result	Units Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Wadeable Macroinvertebrate Field Data Report Comments:		Major beaver impacts upstream and downstream of station.		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Percent Sample Sorted		27		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPHEMEROPTERA LEPTOPHLEBIIDAE LEPTOPHLEBIA		1		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	TRICHOPTERA LIMNephilidae		1		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	TRICHOPTERA PHRYGANEIDAE PTILOSTOMIS		2		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	COLEOPTERA		1		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA CERATOPOGONIDAE BEZZIA/PALPOMYIA HILSENHOFF 1995		6		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA CERATOPOGONIDAE CULICOIDES		1		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA TANYPODINAE 0 MEROPELOPIA		1		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA TANYPODINAE 0 NATARSIA		1		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA TANYPODINAE 0 PROCLADIUS		1		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA TANYPODINAE 0 ZAVRELIMYIA		2		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 BRILLIA PARVA		1		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 CHAETOCLADIUS		11		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 DIPLOCLADIUS		4		

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018- 2019	10/20/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 HETEROTRISSOCLADIUS MARCIDUS GROUP CRANSTON ET AL. 1983	1
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018- 2019	10/20/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 PARAMETRIOCNEMUS	60
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018- 2019	10/20/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 PARAPHAENOCLADIUS	1
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018- 2019	10/20/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 MICROPSECTRA	10
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018- 2019	10/20/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 TANYTARSUS	2
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018- 2019	10/20/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 TRIBELOS JUCUNDUS	2
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018- 2019	10/20/2017 12:00 AM	AMPHIPODA HYALELLIDAE HYALELLA AZTECA	1
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018- 2019	10/20/2017 12:00 AM	VENEROIDA PISIDIIDAE PISIDIUM	5
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018- 2019	10/20/2017 12:00 AM	ARHYNCHOBDELLIDA ERPOBDELLIDAE	1
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018- 2019	10/20/2017 12:00 AM	RHYNCHOBDELLIDA GLOSSIPHONIIDAE GLOSSIPHONIA COMPLANATA	1

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA TANYPODINAE 0 THIENEMANNIMYIA GROUP		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	RHYNCHOBDELLIDA GLOSSIPHONIIDAE HELOBDELLA		8			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA TIPULIDAE EPIPHRAGMA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	TRANSPARENCY TUBE MEASUREMENT		120	CM		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macroinvertebrate Index of Biological Integrity (IBI), Wadable		6.40264			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	HILSENHOFF'S BIOTIC INDEX (HBI)		5.622			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	FAMILY-LEVEL BIOTIC INDEX (FBI)		6.044			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	HBI Max 10		6.133			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	SPECIES RICHNESS		26			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	GENERA RICHNESS		26			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT EPT INDIVIDUALS		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT EPT GENERA		12			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT CHIRONOMIDAE INDIVIDUALS		78			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	SHANNON'S DIVERSITY INDEX		3.154			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT SCRAPERS		0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT FILTERER		6			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT SHREDDERS		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT GATHERERS		72			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Mean Pollution Tolerance Value		6.105			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DEPO Percent Individuals (DEP_PC_CNT)		69.298			

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DEPO Genera (DEPO_G)	9
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DEPO, percent genera (DEP_PC_GEN)	40.909
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPT Genera (EPT_GENERA)	3
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPT Individuals (EPT_COUNT)	4
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPT Percent Individuals (EPT_PC_CNT)	3.509

Monitoring Station

Station ID 10049233
 Station Name Unnamed (2942900) trib to Gile Flowage 115m DS Island lake Rd

Show specific parameter: <Show All>

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Project	Date/Time	DNR Parameter	Species Result	Units Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Amph Percent Individuals (AMP_PC_CNT)	.877		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPT Percent Genera (EPT_PC_GEN)	13.636		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Isop Percent Individuals (ISO_PC_CNT)	0		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Isop Genera (ISOP_G)	0		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Isop Percent Genera (ISO_PC_GEN)	0		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Dipt Percent Genera (DIP_PC_GEN)	77.273		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Dipt Percent Individuals (DIP_PC_CNT)	94.737		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Chir Percent Individuals (CHI_PC_CNT)	87.719		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Chir Percent Genera (CHI_PC_GEN)	63.636		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Gatherers Percent Individuals (GAT_PC_CNT)	81.25		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Gatherers Percent Genera (GAT_PC_GEN)	45		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Scrapers Percent Individuals (SCR_PC_CNT)	0		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Shredders Percent Individuals (SHR_PC_CNT)	3.571		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Insect Taxa (INSECT_T)	21		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Insect Percent Individuals (INSECT_PI)	87.597		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPT Taxa (EPT_T)	3		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Dominance 3 Percent Individuals (DOM3_PI)	62.791		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Intolerant EPT 2 Percent Individuals (INTOL_EPT2_PI)	0		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Tolerant Chir Percent Individuals (TOL_CHIR8_PI)	6.202		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Functional Trait Niches (ECOFTN)	4		

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Amph Isop Percent Individuals (A_I_PC_CNT)	.877
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Species Richness (Wadable IBI Intermediate)	26
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	WATER COLOR (VISUAL)	STAINED

Monitoring Station

Station ID 10032140
 Station Name Linnunpuro Creek on County Highway C

Show specific parameter: 

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		61.8	UMHOS/CM		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DISSOLVED OXYGEN FIELD		8.9	MG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	OXYGEN, DISSOLVED, PERCENT OF SATURATION %		79.0	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PH FIELD		6.8	SU		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Average Stream Width of Reach (m)		3.0	METERS		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Average Stream Depth of Reach (m)		0.6	METERS		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Water Temperature		10.2	DEGREES C		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macro Habitat, Average across all reps: Estimated Velocity		Slow (<0.15 m/s)	m/s		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macro Habitat, Average across all reps: habitat type		Shoreline Composite			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Canopy Cover at sample site (%)?		0	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Embeddedness of substrate at sample site (%):		40	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Rubble %		10	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Overhanging Vegetation %		20	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Aquatic Macrophytes %		70	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macro Habitat, Factors Affecting Habitat, Local: Wetlands		U - Uncertain			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Total sampling time in minutes?		1.0	Minutes		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Estimated area sampled (in m2)?		2.0	METERS SQUARE		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Number of samples in composite?		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Reason for sampling?		Other: Montreal TWA			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macroinvertebrate habitat Effect: Watershed-wide Wetland		U - Uncertain			

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Percent Sample Sorted	13
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPHEMEROPTERA BAETIDAE ACERPENNA	5
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPHEMEROPTERA EPHEMERELLIDAE EURYLOPHELLA	1
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE STENACRON	2
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPHEMEROPTERA LEPTOPHLEBIIDAE LEPTOPHLEBIA	2

Monitoring Station

Station ID 10032140
 Station Name Linnunpuro Creek on County Highway C

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPHEMEROPTERA LEPTOPHLEBIIDAE LEPTOPHLEBIA CUPIDA		39			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	TRICHOPTERA HYDROPTILIDAE OXYETHIRA		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	TRICHOPTERA LIMNEPHILIDAE LIMNEPHILUS		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	TRICHOPTERA LIMNEPHILIDAE PLATYCENTROPUS AMICUS		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	TRICHOPTERA MOLANNIDAE MOLANNA BLENDA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	COLEOPTERA ELMIDAE DUBIRAPHIA		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	COLEOPTERA ELMIDAE DUBIRAPHIA QUADRINOTATA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	COLEOPTERA ELMIDAE DUBIRAPHIA VITTATA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA CERATOPOGONIDAE SERROMYIA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA TANYPODINAE 0		4			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA TANYPODINAE 0 CONCHAPELOPIA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA TANYPODINAE 0 LARSIA		7			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA TANYPODINAE 0 NATARSIA BALTIMOREA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA TANYPODINAE 0 PROCLADIUS (PSILOTANYPUS) BELLUS		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA TANYPODINAE 0 PROCLADIUS (HOLOTANYPUS)		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA TANYPODINAE 0 ZAVRELIMYIA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA CHIRONOMINAE 4		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 MICROPSECTRA		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 TANYTARSUS		6			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 DICROTENDIPES		4			

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 MICROTENDIPES PEDELLUS GROUP PINDER, REISS 1983	4
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 TRIBELOS JUCUNDUS	2
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	AMPHIPODA HYALELLIDAE HYALELLA AZTECA	46
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	BASOMMATOPHORA PLANORBIDAE GYRAULUS	7
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	BASOMMATOPHORA PLANORBIDAE PROMENETUS	1

Monitoring Station

Station ID 10032140
 Station Name Linnunpuro Creek on County Highway C

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	VENEROIDA PISIDIIDAE SPHAERIUM		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	VENEROIDA PISIDIIDAE PISIDIUM		14			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	HEMIPTERA CORIXIDAE HESPEROCORIXA MINORELLA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	HEMIPTERA CORIXIDAE SIGARA COMPRESSOIDEA		7			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	HEMIPTERA CORIXIDAE SIGARA SIGNATA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	HEMIPTERA NOTONECTIDAE NOTONECTA LUNATA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	CYCLOPOIDA CYCLOPIDAE		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 CHIRONOMUS		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 PHAENOPSECTRA PUNCTIPES GROUP EPLER 2001		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	ARHYNCHOBDELLIDA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 PHAENOPSECTRA FLAVIPES		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	TRANSPARENCY TUBE MEASUREMENT		120	CM		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Macroinvertebrate Index of Biological Integrity (IBI), Wadable		5.74595			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	HILSENHOFF'S BIOTIC INDEX (HBI)		6.215			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	FAMILY-LEVEL BIOTIC INDEX (FBI)		5.431			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	HBI Max 10		6.214			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	SPECIES RICHNESS		35			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	GENERA RICHNESS		32			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT EPT INDIVIDUALS		30			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT EPT GENERA		25			

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT CHIRONOMIDAE INDIVIDUALS	21
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	SHANNON'S DIVERSITY INDEX	3.74
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT SCRAPERS	3
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT FILTERER	14
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT SHREDDERS	1

Monitoring Station

Station ID 10032140
 Station Name Linnunpuro Creek on County Highway C

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Sample Results

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Project	Date/Time	DNR Parameter	Species Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	PERCENT GATHERERS	66			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Mean Pollution Tolerance Value	6.25			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DEPO Percent Individuals (DEP_PC_CNT)	48.052			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DEPO Genera (DEPO_G)	14			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	DEPO, percent genera (DEP_PC_GEN)	48.276			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPT Genera (EPT_GENERA)	8			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPT Individuals (EPT_COUNT)	54			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPT Percent Individuals (EPT_PC_CNT)	35.065			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Amph Percent Individuals (AMP_PC_CNT)	29.87			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPT Percent Genera (EPT_PC_GEN)	30.769			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Isop Percent Individuals (ISO_PC_CNT)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Isop Genera (ISOP_G)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Isop Percent Genera (ISO_PC_GEN)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Dipt Percent Genera (DIP_PC_GEN)	50			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Dipt Percent Individuals (DIP_PC_CNT)	25.325			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Chir Percent Individuals (CHI_PC_CNT)	24.675			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Chir Percent Genera (CHI_PC_GEN)	46.154			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Gatherers Percent Individuals (GAT_PC_CNT)	73.377			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Gatherers Percent Genera (GAT_PC_GEN)	38.462			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Scrapers Percent Individuals (SCR_PC_CNT)	3.247			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Shredders Percent Individuals (SHR_PC_CNT)	1.299			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Insect Taxa (INSECT_T)	28			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Insect Percent Individuals (INSECT_PI)	59.341			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	EPT Taxa (EPT_T)	8			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Dominance 3 Percent Individuals (DOM3_PI)	54.396			

Monitoring Station

Station ID 10032140
 Station Name Linnunpuro Creek on County Highway C

Show specific parameter: 

Sample Results

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Project	Date/Time	DNR Parameter	Species Result	Units Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Intolerant EPT 2 Percent Individuals (INTOL_EPT2_PI)	0		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Tolerant Chir Percent Individuals (TOL_CHIR8_PI)	4.945		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Functional Trait Niches (ECOFTN)	8		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Amph Isop Percent Individuals (A_I_PC_CNT)	29.87		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	Species Richness (Wadable IBI Intermediate)	35		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/20/2017 12:00 AM	WATER COLOR (VISUAL)	STAINED		

Monitoring Station

Station ID 10022049
 Station Name West Fork Montreal River - Kimball At Center Dr

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/24/2017 03:00 PM	ZINC TOTAL REC		1.27	ug/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/24/2017 03:00 PM	CADMIUM TOTAL RECOVERABLE		ND	ug/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/24/2017 03:00 PM	LEAD TOTAL REC		0.200	ug/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/24/2017 03:00 PM	CHROMIUM TOTAL RECOVERABLE		0.477	ug/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/24/2017 03:00 PM	COPPER TOT REC		1.16	ug/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/24/2017 03:00 PM	MANGANESE, TOTAL RECOVERABLE		55.5	ug/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/24/2017 03:00 PM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/24/2017 03:00 PM	MERCURY TOTAL		4.31	ng/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	10/24/2017 03:00 PM	TURBIDITY, LAB NEPHELOMETRIC NTU		8.00	NTU		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		78	UMHOS/CM		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DISSOLVED OXYGEN FIELD		10.5	MG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	OXYGEN, DISSOLVED, PERCENT OF SATURATION %		107.3	%		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	PH FIELD		7.0	SU		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Average Stream Width of Reach (m)		13.0	METERS		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Average Stream Depth of Reach (m)		0.3	METERS		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Water Temperature		16.8	DEGREES C		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Measured Stream Velocity		0.6	m/s		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Average across all reps: Estimated Velocity		Fast (>0.5 m/s)	m/s		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Average across all reps: habitat type		Riffle			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Sand %		10	%		

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Canopy Cover at sample site (%)?	0	%
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Embeddedness of substrate at sample site (%):	0	%
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Rubble %	50	%
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Gravel %	40	%
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Pollutant Sources, Local: Point Sources	PL - Present/Low Impact	

Monitoring Station

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Pollutant Sources, Local: Construction Runoff		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Pollutant Sources, Local: Urban Runoff		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Pollutant Sources, Local: Streambank Erosion		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Pollutant Sources, Local: Septic Systems		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Pollutant Sources, Local: Tile Drains		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Pollutant Sources, Local: Cropland Runoff		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Pollutant Sources, Local: Barnyard Runoff		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Factors Affecting Habitat, Local: Wetlands		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Factors Affecting Habitat, Local: Low Flows		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Factors Affecting Habitat, Local: Downstream Channelization		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Factors Affecting Habitat, local: Sludge Deposits		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Water Quality Indicators, local: Iron Bacteria		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Water Quality Indicators, local: Slimes		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Water Quality Indicators, Local: Planktonic Algae		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Water Quality Indicators: Local Filamentous Algae		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Water Quality Indicators, Local: Macrophytes		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Water Quality Indicators, Local: Chlorine		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macro Habitat, Water Quality Indicators, Local: Turbidity		N - Not a problem			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Total sampling time in minutes?		1.0	Minutes		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Estimated area sampled (in m2)?		1.5	METERS SQUARE		

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Number of samples in composite?	1
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Reason for sampling?	Other: TWA Project
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Macrophytes	PL - Present/Low Impact
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Filamentous Algae	N - Not a problem
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Planktonic Algae	PL - Present/Low Impact

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Project	Date/Time	DNR Parameter	Species Result	Units Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Diatoms/Periphyton	PL - Present/Low Impact		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Diatoms/Periphyton	PL - Present/Low Impact		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Slimes	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Iron Bacteria	U - Uncertain		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Sludge Deposits	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Thermal	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Thermal	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Turbidity	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Sedimentation	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Scour/Channel Incision	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Scour/Channel Incision	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Bank Erosion	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Upstream Channelization	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Upstream Channelization	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Downstream Channelization	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Low Flow	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Upstream Impoundments	PL - Present/Low Impact		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Downstream Impoundment	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Downstream Impoundment	N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Chlorine	N - Not a problem		

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Organic Toxics	N - Not a problem
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Organic Toxics	N - Not a problem
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Inorganic Toxics	N - Not a problem
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Inorganic Toxics	N - Not a problem
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Nutrients	N - Not a problem

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Project	Date/Time	DNR Parameter	Species	Result	Units Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Nutrients		N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Dissolved Oxygen		N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Watershed-wide: Dissolved Oxygen		N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat, Pollutant Source: Watershed-wide Urban Runoff		PL - Present/Low Impact		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat, Pollutant Source: Watershed-wide Construction Runoff		N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat, Pollutant Source: Watershed-wide Point Sources		PL - Present/Low Impact		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat, Pollutant Source: Watershed-wide Cropland Runoff		N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat, Pollutant Source: Watershed-wide Streambank Erosion		PL - Present/Low Impact		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat, Pollutant Source: Watershed-wide Barnyard Runoff		N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat, Pollutant Source: Watershed-wide Tile Drains Organic Soil		N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat, Pollutant Source: Watershed-wide Septic Systems		N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat Effect: Local Tributaries		N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat Effect: Watershed-wide Tributaries		PL - Present/Low Impact		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat Effect: Local Springs		N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat Effect: Watershed-wide Springs		U - Uncertain		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat Effect: Watershed-wide Wetland		PL - Present/Low Impact		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat, Pollutant Source: Watershed-wide Tile Drains Mineral Soils		N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Upstream Impoundment		PL - Present/Low Impact		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Sedimentation		N - Not a problem		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate habitat influence, Local: Tile Drainage Mineral Soils		N - Not a problem		

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Percent Sample Sorted	13
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	PLECOPTERA CAPNIIDAE PARACAPNIA ANGULATA	1
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	PLECOPTERA PERLIDAE ACRONEURIA	2
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	PLECOPTERA PERLIDAE PARAGNETINA MEDIA	4
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPHEMEROPTERA BAETIDAE ACENTRELLA TURBIDA	1

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Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE EPEORUS VITREUS		10			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE MACCAFFERTIUM		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE MACCAFFERTIUM MODESTUM		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE MACCAFFERTIUM VICARIUM		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE LEUCROCUTA		9			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPHEMEROPTERA LEPTOPHLEBIIDAE PARALEPTOPHLEBIA		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPHEMEROPTERA ISONYCHIIDAE ISONYCHIA		4			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA GLOSSOSOMATIDAE GLOSSOSOMA		20			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE CHEUMATOPSYCHE		8			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE CERATOPSYCHE		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE CERATOPSYCHE BRONTA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE CERATOPSYCHE MOROSA MOROSA FORM SCHMUDE, HILSENHOFF 1986		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE CERATOPSYCHE SPARNA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE CERATOPSYCHE WALKERI		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA HYDROPTILIDAE LEUCOTRICHIA PICTIPES		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA LEPIDOSTOMATIDAE LEPIDOSTOMA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA PHILOPOTAMIDAE CHIMARRA		7			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA PHILOPOTAMIDAE CHIMARRA ATERRIMA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA PHILOPOTAMIDAE CHIMARRA SOCIA		3			

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA PHILOPOTAMIDAE -- PUPA	1
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRICHOPTERA RHYACOPHILIDAE RHYACOPHILA	1
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	MEGALOPTERA CORYDALIDAE NIGRONIA SERRICORNIS	1
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	COLEOPTERA ELMIDAE OPTIOSERVUS	6
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	COLEOPTERA ELMIDAE OPTIOSERVUS FASTIDITUS	1

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Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	COLEOPTERA ELMIDAE OPTIOSERVUS TRIVITTATUS		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	COLEOPTERA ELMIDAE STENELMIS		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	COLEOPTERA ELMIDAE STENELMIS CRENATA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DIPTERA TIPULIDAE ANTOCHA		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DIPTERA DIAMESINAE 2 DIAMESA		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 TANYTARSUS		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 MICROTENDIPES PEDELLUS GROUP PINDER, REISS 1983		2			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DIPTERA TANYPODINAE 0 RHEOPELOPIA ACRA GROUP EPLER 2001		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 NANOCLADIUS (PLECOPTERACOLUTHUS) SPECIES #5 JACOBSEN IN PRESS		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DIPTERA ORTHOCLADIINAE 1 ORTHOCLADIUS (EUORTHOCLADIUS) RIVICOLA		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 PHAENOPSECTRA OBEDIENS GROUP EPLER 2001		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 POLYPEDILUM (URESIPEDILUM) AVICEPS		20			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DIPTERA CHIRONOMINAE 4 POLYPEDILUM (URESIPEDILUM) FLAVUM		6			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	LUMBRICULIDA LUMBRICULIDAE LUMBRICULUS		3			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Ephemera		1			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	TRANSPARENCY TUBE MEASUREMENT		120	CM		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Macroinvertebrate Index of Biological Integrity (IBI), Wadable		8.77088			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	HILSENHOFF'S BIOTIC INDEX (HBI)		2.515			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	FAMILY-LEVEL BIOTIC INDEX (FBI)		3.723			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	HBI Max 10		2.518			

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	SPECIES RICHNESS	36
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	GENERA RICHNESS	29
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	PERCENT EPT INDIVIDUALS	63
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	PERCENT EPT GENERA	55
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	PERCENT CHIRONOMIDAE INDIVIDUALS	24

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Project	Date/Time	DNR Parameter	Species Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	SHANNON'S DIVERSITY INDEX	4.045			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	PERCENT SCRAPERS	37			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	PERCENT FILTERER	23			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	PERCENT SHREDDERS	19			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	PERCENT GATHERERS	15			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Mean Pollution Tolerance Value	2.889			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DEPO Percent Individuals (DEP_PC_CNT)	19.149			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DEPO Genera (DEPO_G)	9			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	DEPO, percent genera (DEP_PC_GEN)	25.714			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPT Genera (EPT_GENERA)	16			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPT Individuals (EPT_COUNT)	90			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPT Percent Individuals (EPT_PC_CNT)	63.83			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Amph Percent Individuals (AMP_PC_CNT)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPT Percent Genera (EPT_PC_GEN)	57.143			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Isop Percent Individuals (ISO_PC_CNT)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Isop Genera (ISOP_G)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Isop Percent Genera (ISO_PC_GEN)	0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Dipt Percent Genera (DIP_PC_GEN)	32.143			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Dipt Percent Individuals (DIP_PC_CNT)	26.241			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Chir Percent Individuals (CHI_PC_CNT)	24.823			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Chir Percent Genera (CHI_PC_GEN)	28.571			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Gatherers Percent Individuals (GAT_PC_CNT)	12.766			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Gatherers Percent Genera (GAT_PC_GEN)	21.429			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Scrapers Percent Individuals (SCR_PC_CNT)	37.589			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Shredders Percent Individuals (SHR_PC_CNT)	19.858			

Monitoring Station

Station ID 10022049
 Station Name West Fork Montreal River - Kimball At Center Dr

Show specific parameter:

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Insect Taxa (INSECT_T)		35			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Insect Percent Individuals (INSECT_PI)		97.917			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	EPT Taxa (EPT_T)		21			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Dominance 3 Percent Individuals (DOM3_PI)		40.972			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Intolerant EPT 2 Percent Individuals (INTOL_EPT2_PI)		47.917			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Tolerant Chir Percent Individuals (TOL_CHIR8_PI)		0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Functional Trait Niches (ECOFTN)		17			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Amph Isop Percent Individuals (A_I_PC_CNT)		0			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	Species Richness (Wadable IBI Intermediate)		36			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/29/2017 12:00 AM	WATER COLOR (VISUAL)		STAINED			
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/28/2017 01:25 PM	SUSPENDED SOLIDS TOTAL		1.6	MG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/28/2017 01:25 PM	ALKALINITY TOTAL CACO3		21.9	MG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/28/2017 01:25 PM	CALCIUM TOTAL		8900	UG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/28/2017 01:25 PM	MAGNESIUM TOTAL		2250	UG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/28/2017 01:25 PM	SODIUM TOTAL		2920	UG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/28/2017 01:25 PM	POTASSIUM, TOTAL		0.603	MG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/28/2017 01:25 PM	CHLORIDE		7.8	MG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/28/2017 01:25 PM	SULFATE TOTAL		2.5	MG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/28/2017 12:00 AM	NITROGEN TOTAL		0.647	MG/L		
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/28/2017 12:00 AM	PHOSPHORUS TOTAL		0.0451	MG/L		

Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/27/2017 01:30 PM	TEMPERATURE FIELD	16.9	C
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/27/2017 01:30 PM	CLOUD COVER	100	%
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/27/2017 01:30 PM	STREAM FLOW - CFS	54.0	CFS
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/27/2017 01:30 PM	CONDUCTIVITY FIELD	79	UMHOS/CM
Montreal River Targeted Watershed Assessment, Iron County, 2017-2018-2019	09/27/2017 01:30 PM	DISSOLVED OXYGEN FIELD	10.2	MG/L

Monitoring Station

Station ID 10022050
 Station Name West Fork Montreal River - Us 2

Show specific parameter:

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR NC Stream Stratified Sites 2010, 2011	09/02/2011 01:30 PM	TEMPERATURE FIELD		23.0	C		
NOR NC Stream Stratified Sites 2010, 2011	09/02/2011 01:30 PM	AMBIENT AIR TEMPERATURE - FIELD		26.0	C		
NOR NC Stream Stratified Sites 2010, 2011	09/02/2011 01:30 PM	CLOUD COVER		50	%		
NOR NC Stream Stratified Sites 2010, 2011	09/02/2011 01:30 PM	CONDUCTIVITY FIELD		86	UMHOS/CM		
NOR NC Stream Stratified Sites 2010, 2011	09/02/2011 01:30 PM	TEMPERATURE AT LAB		ICED	C		
NOR NC Stream Stratified Sites 2010, 2011	09/02/2011 01:30 PM	DISSOLVED OXYGEN FIELD		8.4	MG/L		
NOR NC Stream Stratified Sites 2010, 2011	09/02/2011 01:30 PM	OXYGEN, DISSOLVED, PERCENT OF SATURATION %		97.7	%		
NOR NC Stream Stratified Sites 2010, 2011	09/02/2011 01:30 PM	PH FIELD		7.3	SU		
NOR NC Stream Stratified Sites 2010, 2011	09/02/2011 01:30 PM	PHOSPHORUS TOTAL		0.036	MG/L		
NOR NC Stream Stratified Sites 2010, 2011	09/02/2011 01:30 PM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
2018 CWA Impairment Assessments	09/01/2011 12:00 AM	Wadeable Stream 10 Year Mean FIBI Assessment Value		90			
2018 CWA Impairment Assessments	09/01/2011 12:00 AM	Assessment River Station Natural Community		COOL-COLD MAINSTEM			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	PLECOPTERA CAPNIIDAE PARACAPNIA ANGULATA		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	PLECOPTERA PERLIDAE		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	PLECOPTERA PERLIDAE ACRONEURIA		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	PLECOPTERA PERLIDAE PARAGNETINA MEDIA		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPHEMEROPTERA BAETIDAE BAETIS INTERCALARIS		3			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPHEMEROPTERA BAETIDAE ACENTRELLA TURBIDA		12			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPHEMEROPTERA EPHEMERELLIDAE EPHEMERELLA		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE EPEORUS VITREUS		5			

2011

NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE MACCAFFERTIUM	8
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE LEUCROCUTA	19
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPHEMEROPTERA LEPTOPHLEBIIDAE PARALEPTOPHLEBIA	30
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPHEMEROPTERA LEPTOPHLEBIIDAE PARALEPTOPHLEBIA MOLLIS	11

Monitoring Station

Station ID 10022050
Station Name West Fork Montreal River - Us 2

Show specific parameter: <Show All>

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	TRICHOPTERA GLOSSOSOMATIDAE GLOSSOSOMA		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	TRICHOPTERA GLOSSOSOMATIDAE PROTOPTILA		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE CHEUMATOPSYCHE		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE CERATOPSYCHE		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE CERATOPSYCHE MOROSA MOROSA FORM SCHMUDE, HILSENHOFF 1986		2			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE CERATOPSYCHE SPARNA		6			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	TRICHOPTERA HYDROPSYCHIDAE CERATOPSYCHE WALKERI		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	TRICHOPTERA HYDROPTILIDAE LEUCOTRICHIA PICTIPES		7			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	TRICHOPTERA LEPIDOSTOMATIDAE LEPIDOSTOMA		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	TRICHOPTERA RHYACOPHILIDAE RHYACOPHILA VIBOX		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	COLEOPTERA ELMIDAE MACRONYCHUS GLABRATUS		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	COLEOPTERA ELMIDAE MICROCYLLOEPUS PUSILLUS		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	COLEOPTERA ELMIDAE OPTIOSERVUS		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	COLEOPTERA ELMIDAE OPTIOSERVUS TRIVITTATUS		15			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	COLEOPTERA ELMIDAE STENELMIS		2			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	DIPTERA ATHERICIDAE ATHERIX VARIEGATA		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	DIPTERA EMPIDIDAE HEMERODROMIA		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	DIPTERA TANYPODINAE 0 NATARSIA BALTIMOREA		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	DIPTERA ORTHOCLADIINAE 1 TVETENIA BAVARICA GROUP BODE 1983		1			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	DIPTERA CHIRONOMINAE 4		1			

NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	DIPTERA CHIRONOMINAE 4 RHEOTANYTARSUS	2
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	VENEROIDA PISIDIIDAE PISIDIUM	20
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	HAPLOTAXIDA TUBIFICIDAE	4
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	DIPTERA ORTHOCLADIINAE 1 ORTHOCLADIUS (EUORTHOCLADIUS) RIVICOLA	1
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	DIPTERA CHIRONOMINAE 4 POLYPEDILUM (URESIPEDILUM) FLAVUM	1

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Project	Date/Time	DNR Parameter	Species Result	Units Present/Absent	Lab Comments
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPHEMEROPTERA HEPTAGENIIDAE MACCAFFERTIUM VICARIUM/LUTEUM DIMICK, UNPUBL.	15		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPHEMEROPTERA BAETIDAE BAETIS FLAVISTRIGA GROUP	1		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPHEMEROPTERA EPHEMERELLIDAE TELOGANOPSIS DEFICIENS	25		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Macroinvertebrate Index of Biological Integrity (IBI), Wadable	10.06529		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	HILSENHOFF'S BIOTIC INDEX (HBI)	1.827		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	FAMILY-LEVEL BIOTIC INDEX (FBI)	3.102		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	HBI Max 10	2		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	SPECIES RICHNESS	34		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	GENERA RICHNESS	31		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	PERCENT EPT INDIVIDUALS	75		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	PERCENT EPT GENERA	58		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	PERCENT CHIRONOMIDAE INDIVIDUALS	3		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	SHANNON'S DIVERSITY INDEX	4.023		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	PERCENT SCRAPERS	33		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	PERCENT FILTERER	16		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	PERCENT SHREDDERS	1		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	PERCENT GATHERERS	46		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Macroinvertebrate Family Rank 1	HEPTAGENIIDAE		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Macroinvertebrate Family Rank 2	LEPTOPHLEBIIDAE		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Macroinvertebrate Family Rank 3	EPHEMERELLIDAE		

NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Macroinvertebrate Family Rank 4	ELMIDAE
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Macroinvertebrate Family Rank 5	PISIDIIDAE
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Macroinvertebrate Genus Rank 1	PARALEPTOPHLEBIA
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Macroinvertebrate Genus Rank 2	TELOGANOPSIS
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Macroinvertebrate Genus Rank 3	MACCAFFERTIUM

Monitoring Station

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Macroinvertebrate Genus Rank 4		PISIDIUM			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Macroinvertebrate Genus Rank 5		LEUCROCUTA			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Mean Pollution Tolerance Value		2.758			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	DEPO Percent Individuals (DEP_PC_CNT)		25.269			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	DEPO Genera (DEPO_G)		11			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	DEPO, percent genera (DEP_PC_GEN)		34.375			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPT Genera (EPT_GENERA)		18			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPT Individuals (EPT_COUNT)		157			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPT Percent Individuals (EPT_PC_CNT)		84.409			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Amph Percent Individuals (AMP_PC_CNT)		0			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPT Percent Genera (EPT_PC_GEN)		62.069			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Isop Percent Individuals (ISO_PC_CNT)		0			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Isop Genera (ISOP_G)		0			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Isop Percent Genera (ISO_PC_GEN)		0			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Dipt Percent Genera (DIP_PC_GEN)		24.138			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Dipt Percent Individuals (DIP_PC_CNT)		4.839			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Chir Percent Individuals (CHI_PC_CNT)		3.763			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Chir Percent Genera (CHI_PC_GEN)		17.241			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Gatherers Percent Individuals (GAT_PC_CNT)		50			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Gatherers Percent Genera (GAT_PC_GEN)		34.483			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Scrapers Percent Individuals (SCR_PC_CNT)		37.634			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Shredders Percent Individuals (SHR_PC_CNT)		1.613			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Insect Taxa (INSECT_T)		32			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Insect Percent Individuals (INSECT_PI)		88.571			
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	EPT Taxa (EPT_T)		21			

Monitoring Station

Station ID 10022050
 Station Name West Fork Montreal River - Us 2

Show specific parameter: <Show All> 

Sample Results

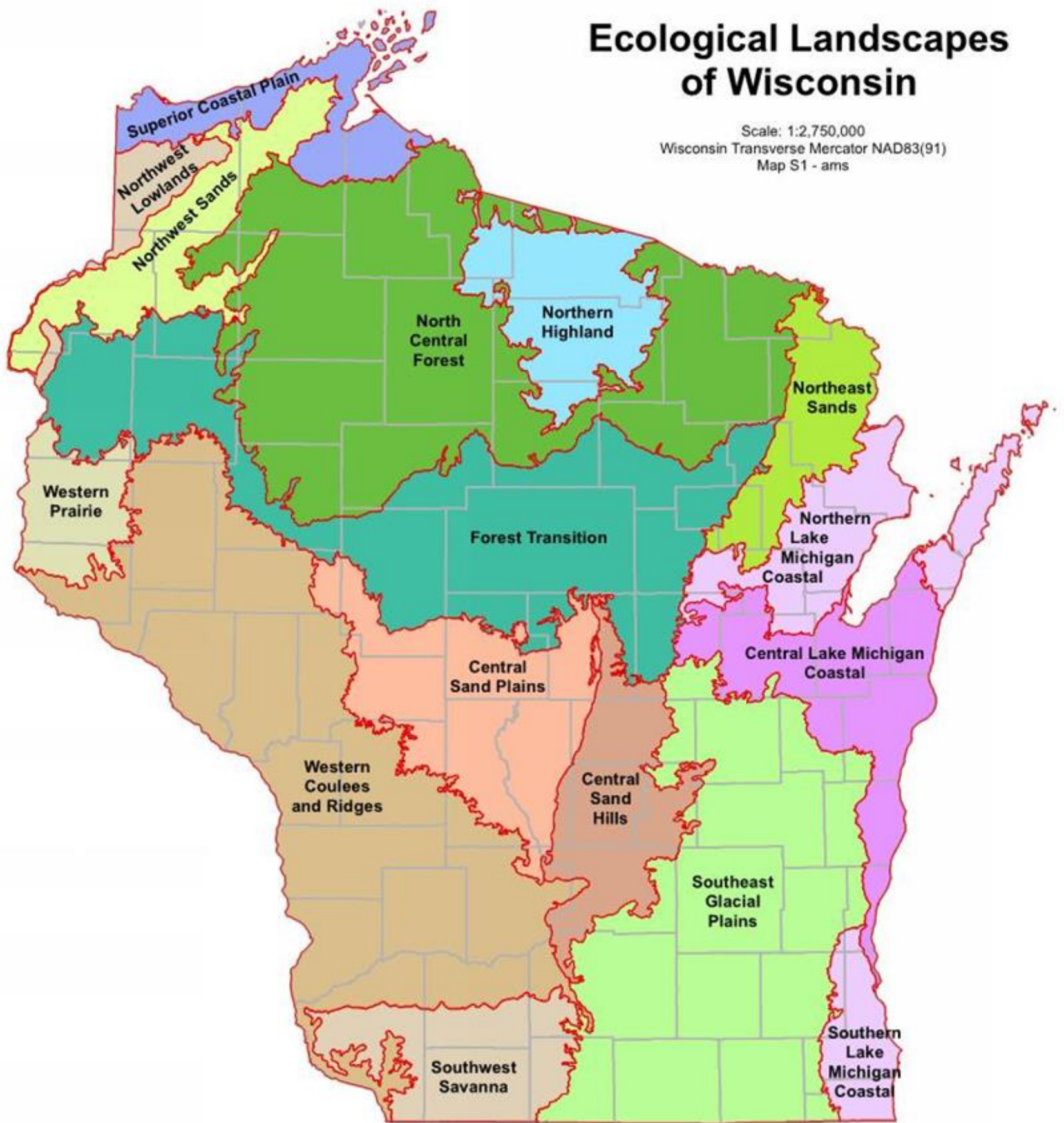
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Project	Date/Time	DNR Parameter	Species Result	Units Present/Absent	Lab Comments
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Dominance 3 Percent Individuals (DOM3_PI)	35.714		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Intolerant EPT 2 Percent Individuals (INTOL_EPT2_PI)	66.667		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Tolerant Chir Percent Individuals (TOL_CHIR8_PI)	.476		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Functional Trait Niches (ECOFTN)	14		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Amph Isop Percent Individuals (A_I_PC_CNT)	0		
NOR NC Stream Stratified Sites 2010, 2011	09/29/2010 12:00 AM	Species Richness (Wadable IBI Intermediate)	34		
2018 CWA Impairment Assessments	09/29/2010 12:00 AM	Wadeable Stream 10 Year Mean mIBI Assessment Value	10.06529		



APPENDIX E-15 Ecological Landscapes of Wisconsin

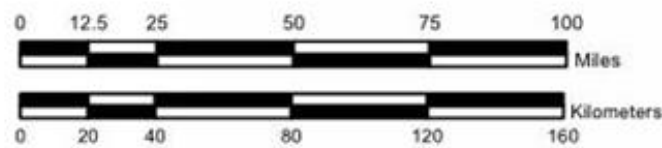
Ecological Landscapes of Wisconsin

Scale: 1:2,750,000
 Wisconsin Transverse Mercator NAD83(91)
 Map S1 - ams



Wisconsin was divided into 16 ecoregions with similar ecology and management opportunities. Each of these ecoregions is called an Ecological Landscape. The Ecological Landscapes are based on the National Hierarchical Framework of Ecological Units (NHFEU; Cleland et al. 1997). There were too many NHFEU Subsections and too few NHFEU Sections to be useful for management purposes. Ecological Landscapes use the same boundaries as NHFEU Sections or Subsections. However, some NHFEU Subsections were combined to reduce the number of geographical units in the state to a manageable number. Therefore, Ecological Landscapes are at a size (scale) between NHFEU Sections and Subsections.

 Ecological Landscapes
 County Boundaries



APPENDIX E-16

EBird Checklist for Gile Flowage Storage Reservoir

eBird Field Checklist

Gile Flowage

Iron, Wisconsin, US

ebird.org/hotspot/L913526

148 species (+19 other taxa) - Year-round, All years

Date: _____
Start time: _____
Duration: _____
Distance: _____
Party size: _____
Notes: _____

This checklist is generated with data from eBird (ebird.org), a global database of bird sightings from birders like you. If you enjoy this checklist, please consider contributing your sightings to eBird. It is 100% free to take part, and your observations will help support birders, researchers, and conservationists worldwide.

Go to ebird.org to learn more!

Waterfowl

- Snow Goose
- Canada Goose
- Trumpeter Swan
- Tundra Swan
- Wood Duck
- Blue-winged Teal
- Northern Shoveler
- American Wigeon
- Mallard
- American Black Duck
- Northern Pintail
- Green-winged Teal
- dabbling duck sp.
- Canvasback
- Redhead
- Ring-necked Duck
- Greater Scaup
- Lesser Scaup
- White-winged Scoter
- Bufflehead
- Common Goldeneye
- Hooded Merganser
- Common Merganser
- Red-breasted Merganser
- Common/Red-breasted Merganser
- merganser sp.
- duck sp.

Grouse, Quail, and Allies

- Wild Turkey

- Ruffed Grouse

Grebes

- Pied-billed Grebe
- Horned Grebe
- Red-necked Grebe

Pigeons and Doves

- Rock Pigeon
- Mourning Dove

Swifts

- Chimney Swift

Hummingbirds

- Ruby-throated Hummingbird

Rails, Gallinules, and Allies

- American Coot

Cranes

- Sandhill Crane

Shorebirds

- American Golden-Plover
- Semipalmated Plover
- Killdeer
- Least Sandpiper
- Pectoral Sandpiper
- Semipalmated Sandpiper
- peep sp.
- Short-billed/Long-billed Dowitcher
- American Woodcock
- Wilson's Snipe
- Spotted Sandpiper
- Solitary Sandpiper
- Greater Yellowlegs

___ Lesser Yellowlegs

Gulls, Terns, and Skimmers

___ Sabine's Gull
___ Bonaparte's Gull
___ Ring-billed Gull
___ Herring Gull
___ Larus sp.
___ Caspian Tern
___ Black Tern
___ Common Tern

Loons

___ Common Loon

Cormorants and Aningas

___ Double-crested Cormorant

Hérons, Ibis, and Allies

___ American Bittern
___ Great Blue Heron
___ Great Egret
___ Green Heron

Vultures, Hawks, and Allies

___ Turkey Vulture
___ Osprey
___ Sharp-shinned Hawk
___ Cooper's Hawk
___ Bald Eagle
___ Broad-winged Hawk
___ Red-tailed Hawk
___ Buteo sp.

Kingfishers

___ Belted Kingfisher

Woodpeckers

___ Yellow-bellied Sapsucker
___ Downy Woodpecker
___ Hairy Woodpecker
___ Downy/Hairy Woodpecker
___ Pileated Woodpecker
___ Northern Flicker
___ woodpecker sp.

Falcons and Caracaras

___ Merlin

Tyrant Flycatchers: Pewees, Kingbirds, and Allies

___ Eastern Wood-Pewee
___ Alder Flycatcher
___ Least Flycatcher
___ Empidonax sp.
___ Eastern Phoebe
___ Eastern Kingbird

Vireos

___ Warbling Vireo
___ Red-eyed Vireo
___ vireo sp.

Jays, Magpies, Crows, and Ravens

___ Blue Jay
___ American Crow
___ Common Raven
___ crow/raven sp.

Tits, Chickadees, and Titmice

___ Black-capped Chickadee

Larks

___ Horned Lark

Martins and Swallows

___ Northern Rough-winged Swallow
___ Tree Swallow
___ Bank Swallow
___ Barn Swallow
___ Cliff Swallow
___ swallow sp.

Kinglets

___ Ruby-crowned Kinglet
___ Golden-crowned Kinglet

Nuthatches

___ Red-breasted Nuthatch
___ White-breasted Nuthatch

Treecreepers

___ Brown Creeper

Wrens

___ House Wren
___ Winter Wren

Starlings and Mynas

___ European Starling

Catbirds, Mockingbirds, and Thrashers

___ Gray Catbird

Thrushes

___ Eastern Bluebird
___ Veery
___ Hermit Thrush
___ American Robin

Waxwings

___ Cedar Waxwing

This field checklist was generated using eBird (ebird.org)

Finches, Euphonias, and Allies

- Pine Grosbeak
- Purple Finch
- House/Purple Finch
- Common Redpoll
- Pine Siskin
- American Goldfinch

Longspurs and Snow Buntings

- Snow Bunting

New World Sparrows

- Chipping Sparrow
- Clay-colored Sparrow
- American Tree Sparrow
- Dark-eyed Junco
- White-crowned Sparrow
- White-throated Sparrow
- Savannah Sparrow
- Song Sparrow
- Lincoln's Sparrow
- Swamp Sparrow
- new world sparrow sp.

Blackbirds

- Red-winged Blackbird
- Brown-headed Cowbird
- Rusty Blackbird
- Brewer's Blackbird
- Common Grackle
- blackbird sp.

Wood-Warblers

- Ovenbird

- Northern Waterthrush
- Black-and-white Warbler
- Tennessee Warbler
- Nashville Warbler
- Mourning Warbler
- Common Yellowthroat
- American Redstart
- Cape May Warbler
- Northern Parula
- Magnolia Warbler
- Blackburnian Warbler
- Yellow Warbler
- Chestnut-sided Warbler
- Palm Warbler
- Pine Warbler
- Yellow-rumped Warbler
- Black-throated Green Warbler
- Canada Warbler
- new world warbler sp.

Cardinals, Grosbeaks, and Allies

- Scarlet Tanager
- Northern Cardinal
- Rose-breasted Grosbeak
- Indigo Bunting

Others

- passerine sp.

This field checklist was generated using eBird (ebird.org)

APPENDIX E-17 IPaC Official Species List



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Minnesota-Wisconsin Ecological Services Field Office
3815 American Blvd East
Bloomington, MN 55425-1659
Phone: (952) 858-0793 Fax: (952) 646-2873

In Reply Refer To:
Project Code: 2023-0049876
Project Name: Gile Flowage Storage Project FERC Licensing

February 27, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

This response has been generated by the Information, Planning, and Conservation (IPaC) system to provide information on natural resources that could be affected by your project. The U.S. Fish and Wildlife Service (Service) provides this response under the authority of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*).

Threatened and Endangered Species

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and may be affected by your proposed project. The species list fulfills the requirement for obtaining a Technical Assistance Letter from the U.S. Fish and Wildlife Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the ECOS IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS IPaC system by completing the same process used to receive the enclosed list.

Consultation Technical Assistance

Please refer to our [Section 7 website](#) for guidance and technical assistance, including [step-by-step instructions](#) for making effects determinations for each species that might be present and for specific guidance on the following types of projects: projects in developed areas, HUD, CDBG, EDA, USDA Rural Development projects, pipelines, buried utilities, telecommunications, and requests for a Conditional Letter of Map Revision (CLOMR) from FEMA.

We recommend running the project (if it qualifies) through our **Minnesota-Wisconsin Federal Endangered Species Determination Key (Minnesota-Wisconsin ("D-key"))**. A [demonstration video](#) showing how-to access and use the determination key is available. Please note that the Minnesota-Wisconsin D-key is the third option of 3 available d-keys. D-keys are tools to help Federal agencies and other project proponents determine if their proposed action has the potential to adversely affect federally listed species and designated critical habitat. The Minnesota-Wisconsin D-key includes a structured set of questions that assists a project proponent in determining whether a proposed project qualifies for a certain predetermined consultation outcome for all federally listed species found in Minnesota and Wisconsin (except for the northern long-eared bat- see below), which includes determinations of "no effect" or "may affect, not likely to adversely affect." In each case, the Service has compiled and analyzed the best available information on the species' biology and the impacts of certain activities to support these determinations.

If your completed d-key output letter shows a "No Effect" (NE) determination for all listed species, print your IPaC output letter for your files to document your compliance with the Endangered Species Act.

For Federal projects with a "Not Likely to Adversely Affect" (NLAA) determination, our concurrence becomes valid if you do not hear otherwise from us after a 30-day review period, as indicated in your letter.

If your d-key output letter indicates additional coordination with the Minnesota-Wisconsin Ecological Services Field Office is necessary (i.e., you get a "May Affect" determination), you will be provided additional guidance on contacting the Service to continue ESA coordination outside of the key; ESA compliance cannot be concluded using the key for "May Affect" determinations unless otherwise indicated in your output letter.

Note: Once you obtain your official species list, you are not required to continue in IPaC with d-keys, although in most cases these tools should expedite your review. If you choose to make an effects determination on your own, you may do so. If the project is a Federal Action, you may want to review our section 7 step-by-step instructions before making your determinations.

Using the IPaC Official Species List to Make No Effect and May Affect Determinations for Listed Species

1. If IPaC returns a result of "There are no listed species found within the vicinity of the project," then project proponents can conclude the proposed activities will have **no effect** on any federally listed species under Service jurisdiction. Concurrence from the Service is not required for **no effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.
 2. If IPaC returns one or more federally listed, proposed, or candidate species as potentially present in the action area of the proposed project – other than bats (see below) – then project proponents must determine if proposed activities will have **no effect** on or **may affect** those species. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain [Life History Information for Listed and Candidate Species](#) on our office website. If no impacts will occur to a species on the IPaC species list (e.g., there is no habitat present in the project area), the appropriate determination is **no effect**. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.
-

3. Should you determine that project activities **may affect** any federally listed, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

Northern Long-Eared Bats

Northern long-eared bats occur throughout Minnesota and Wisconsin and the information below may help in determining if your project may affect these species.

This species hibernates in caves or mines only during the winter. In Minnesota and Wisconsin, the hibernation season is considered to be November 1 to March 31. During the active season (April 1 to October 31) they roost in forest and woodland habitats. Suitable summer habitat for northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥ 3 inches dbh for northern long-eared bat that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat and evaluated for use by bats. If your project will impact caves or mines or will involve clearing forest or woodland habitat containing suitable roosting habitat, northern long-eared bats could be affected.

Examples of unsuitable habitat include:

- Individual trees that are greater than 1,000 feet from forested or wooded areas,
- Trees found in highly developed urban areas (e.g., street trees, downtown areas),
- A pure stand of less than 3-inch dbh trees that are not mixed with larger trees, and
- A monoculture stand of shrubby vegetation with no potential roost trees.

If IPaC returns a result that northern long-eared bats are potentially present in the action area of the proposed project, project proponents can conclude the proposed activities **may affect** this species **IF** one or more of the following activities are proposed:

- Clearing or disturbing suitable roosting habitat, as defined above, at any time of year,
- Any activity in or near the entrance to a cave or mine,
- Mining, deep excavation, or underground work within 0.25 miles of a cave or mine,
- Construction of one or more wind turbines, or
- Demolition or reconstruction of human-made structures that are known to be used by bats based on observations of roosting bats, bats emerging at dusk, or guano deposits or stains.

If none of the above activities are proposed, project proponents can conclude the proposed activities will have **no effect** on the northern long-eared bat. Concurrence from the Service is not required for **No**

Effect determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records.

If any of the above activities are proposed, and the northern long-eared bat appears on the user's species list, the federal project user will be directed to either the northern long-eared bat 4(d) D-key or the Federal Highways Administration, Federal Railways Administration, and Federal Transit Administration Indiana bat/ Northern long-eared bat D-key, depending on the type of project and federal agency involvement. Similar to the Minnesota-Wisconsin D-key, these d-keys helps to determine if prohibited take might occur and, if not, will generate an automated verification letter. The 4(d) D-key streamlines consultation under the 2016 range-wide programmatic biological opinion for the 4(d) rule.

Please note: On November 30, 2022, the Service published a proposal final rule to reclassify the northern long-eared bat as endangered under the Endangered Species Act. On January 26, 2023, the Service published a 60-day extension for the final reclassification rule in the Federal Register, moving the effective listing date from January 30, 2023, to March 31, 2023. This extension will provide stakeholders and the public time to preview interim guidance and consultation tools before the rule becomes effective. When available, the tools will be available on the Service's northern long-eared bat website (<https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis>). Once the final rule goes into effect on March 31, 2023, the 4(d) D-key will no longer be available (4(d) rules are not available for federally endangered species) and will be replaced with a new Range-wide NLEB D-key (range-wide d-key). For projects not completed by March 31, 2023, that were previously reviewed under the 4(d) d-key, there may be a need for reinitiation of consultation. For these ongoing projects previously reviewed under the 4(d) d-key that may result in incidental take of the northern long-eared bat, we recommend you review your project using the new range-wide d-key once available. If your project does not comply with the range-wide d-key, it may be eligible for use of the Interim (formal) Consultation framework (framework). The framework is intended to facilitate the transition from the 4(d) rule to typical Section 7 consultation procedures for federally endangered species and will be available only until spring 2024. Again, when available, these tools (new range-wide d-key and framework) will be available on the Service's [northern long-eared bat website](#).

Whooping Crane

Whooping crane is designated as a non-essential experimental population in Wisconsin and consultation under Section 7(a)(2) of the Endangered Species Act is only required if project activities will occur within a National Wildlife Refuge or National Park. If project activities are proposed on lands outside of a National Wildlife Refuge or National Park, then you are not required to consult. For additional information on this designation and consultation requirements, please review "[Establishment of a Nonessential Experimental Population of Whooping Cranes in the Eastern United States](#)."

Other Trust Resources and Activities

Bald and Golden Eagles - Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. Should bald or golden eagles occur within or near the project area please contact our office for further coordination. For communication and wind energy projects, please refer to additional guidelines below.

Migratory Birds - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically

authorized by the Service. The Service has the responsibility under the MBTA to proactively prevent the mortality of migratory birds whenever possible and we encourage implementation of [recommendations that minimize potential impacts to migratory birds](#). Such measures include clearing forested habitat outside the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

Communication Towers - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. However, the Service has developed [voluntary guidelines for minimizing impacts](#).

Transmission Lines - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. To minimize these risks, please refer to [guidelines](#) developed by the Avian Power Line Interaction Committee and the Service. Implementation of these measures is especially important along sections of lines adjacent to wetlands or other areas that support large numbers of raptors and migratory birds.

Wind Energy - To minimize impacts to migratory birds and bats, wind energy projects should follow the Service's [Wind Energy Guidelines](#). In addition, please refer to the Service's [Eagle Conservation Plan Guidance](#), which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

State Department of Natural Resources Coordination

While it is not required for your Federal section 7 consultation, please note that additional state endangered or threatened species may also have the potential to be impacted. Please contact the Minnesota or Wisconsin Department of Natural Resources for information on state listed species that may be present in your proposed project area.

Minnesota

[Minnesota Department of Natural Resources - Endangered Resources Review Homepage](#)

Email: Review.NHIS@state.mn.us

Wisconsin

[Wisconsin Department of Natural Resources - Endangered Resources Review Homepage](#)

Email: DNRRERReview@wi.gov

We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

Attachment(s):

- Official Species List
 - USFWS National Wildlife Refuges and Fish Hatcheries
 - Migratory Birds
 - Wetlands
-

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Minnesota-Wisconsin Ecological Services Field Office

3815 American Blvd East

Bloomington, MN 55425-1659

(952) 858-0793

PROJECT SUMMARY

Project Code: 2023-0049876

Project Name: Gile Flowage Storage Project FERC Licensing

Project Type: Dam - Operations

Project Description: Initial FERC Licencing of the Gile Flowage Storage Project which provides water for downstream hydroelectric power production.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@46.39489745,-90.2211713718795,14z>



Counties: Iron County, Wisconsin

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Canada Lynx <i>Lynx canadensis</i> Population: Wherever Found in Contiguous U.S. There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3652	Threatened
Gray Wolf <i>Canis lupus</i> Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is final critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\) list](#) or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31
Black Tern <i>Chlidonias niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20

NAME	BREEDING SEASON
<p>Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399</p>	Breeds May 15 to Oct 10
<p>Bobolink <i>Dolichonyx oryzivorus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 20 to Jul 31
<p>Canada Warbler <i>Cardellina canadensis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 20 to Aug 10
<p>Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Mar 15 to Aug 25
<p>Common Tern <i>Sterna hirundo hirundo</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds May 1 to Aug 31
<p>Connecticut Warbler <i>Oporornis agilis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Jun 15 to Aug 10
<p>Eastern Whip-poor-will <i>Antrostomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Aug 20
<p>Evening Grosbeak <i>Coccothraustes vespertinus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 15 to Aug 10
<p>Golden-winged Warbler <i>Vermivora chrysoptera</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8745</p>	Breeds May 1 to Jul 20
<p>Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679</p>	Breeds elsewhere
<p>Olive-sided Flycatcher <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914</p>	Breeds May 20 to Aug 31
<p>Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Olive-sided Flycatcher BCC Rangewide (CON)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
Wood Thrush BCC Rangewide (CON)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER FORESTED/SHRUB WETLAND

- [PSS1F](#)
- [PFO1C](#)
- [PFO1/SS1A](#)
- [PSS1A](#)
- [PFO2/SS3B](#)
- [PFO2B](#)
- [PFO1/4B](#)
- [PSS1/EM1C](#)
- [PFO1/SS1C](#)
- [PFO1/SS1F](#)
- [PFO5F](#)
- [PFO5/UBG](#)
- [PSS1C](#)
- [PFO1F](#)
- [PFO2/SS3Bg](#)
- [PFO2/EM1B](#)

LAKE

- [L1UBH](#)

FRESHWATER POND

- [PUBH](#)

RIVERINE

- [R2UBH](#)
 - [R4SBC](#)
 - [R5UBH](#)
-

FRESHWATER EMERGENT WETLAND

- [PEM1F](#)
- [PEM1C](#)

IPAC USER CONTACT INFORMATION

Agency: Mead & Hunt
Name: Darrin Johnson
Address: 2440 Deming Way
City: Middleton
State: WI
Zip: 53562
Email: darrin.johnson@meadhunt.com
Phone: 6084430313

APPENDIX E-18 WDNR NHI Review for Gile Project (Privileged)

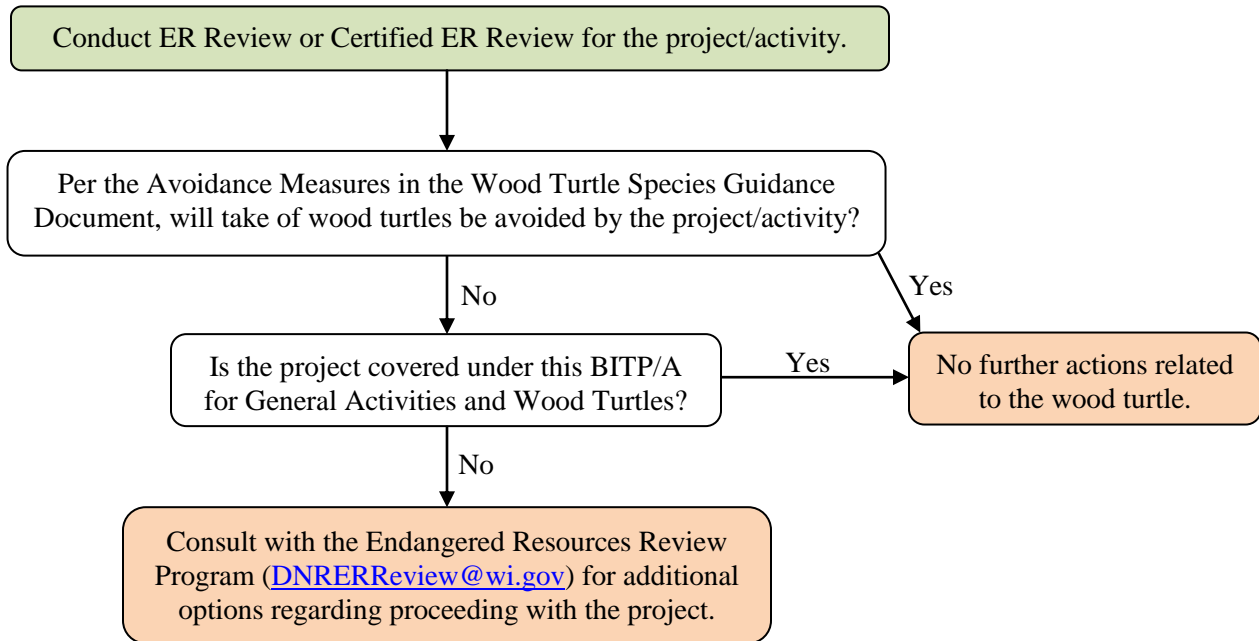
This document has been filed separately as privileged information

APPENDIX E-19 BITP/A for Wisconsin Wood Turtles

**Wisconsin Department of Natural Resources
Broad Incidental Take Permit/Authorization for Common Activities**

**General Activities
and
Wood Turtle (*Glyptemys insculpta*)**

If an Endangered Resources (ER) Review or Certified ER Review has indicated the likely presence of the wood turtle and avoidance is not possible (per the Wood Turtle Species Guidance document: <http://dnr.wi.gov/files/PDF/pubs/er/ER0684.pdf>), this Broad Incidental Take Permit/Authorization (BITP/A) should be followed. In general, this BITP/A covers most activities that do not permanently impact habitat (e.g., land management, forestry activities, utility activities) but does not cover land conversion activities (e.g., commercial development, residential development, road expansion).



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The following activities are NOT covered under this Broad Incidental Take Permit/Authorization but may be eligible to apply for an individual Incidental Take Permit/Authorization or an Endangered/Threatened (E/T) Permit¹:

1. Land conversion activities (e.g., commercial development, residential development, road expansion) that permanently alter or reduce habitat.
2. Ground disturbance, heavy equipment operation or supply/equipment storage within nesting habitat (exposed sand or gravel areas within 200 ft of a suitable stream/river) during the nesting season (May 20 – September 18), unless *erosion/sediment control fencing or amphibian/reptile exclusion fencing is installed around the project area during the inactive period (November 1 – March 14) to prevent turtles from accessing the work area.*
3. Prescribed burning during the egg laying period (May 20 – July 5) within nesting habitat (exposed sand or gravel areas within 200 ft of a suitable stream/river), unless *erosion/sediment control fencing or amphibian/reptile exclusion fencing is installed around the project area during the inactive period (November 1 – March 14) to prevent turtles from accessing the burn area.*
4. Instream work and drawdowns during the maximum overwintering period (October 1 – April 30). In stream work includes, but is not limited to, streambank/rip rap installation, ford installations, open cut trenching, and dredging.
5. Intentional killing or collection of wood turtles (includes eggs, hatchlings, juveniles and adults).

All projects not listed above are covered under this Broad Incidental Take Authorization if the following measures are followed:

1. Project personnel (individuals on site for project purposes rather than for the purpose of looking for turtles) must move any turtles observed on site out of harm's way.
2. Only the following herbicides may be used during periods when the turtles could be negatively impacted: 2, 4-D salt at concentrations of 40 ppm or less (2, 4-D ester should not be used), clopyralid (e.g., Transline), Cutrine without a surfactant, diquat (dibromide) at concentrations of 1.0 ppm or less, glyphosate without a surfactant (e.g., Aquaneat), hexazinone (e.g., Velpar), imazapyr (e.g., Arsenal, Chopper), Triclopyr ester and salt concentrations of less than 2.0 ppm. Other herbicides may be approved on a case by case basis by the Endangered Resources Review Program (DNRRERReview@wi.gov). *Note – these herbicide brand names are only provided for reference and are not an endorsement of any specific brand.*

Voluntary Conservation Measures (these are strictly voluntary measures at the discretion of the landowner but would help to conserve this species, wherever possible):

1. For streambank stabilization/rip rap projects, it is recommended that all voids in exposed rock above the Ordinary High Water Mark be filled with soil and seeded with a native seed mix

¹ Consult with the Endangered Resources Review Program (DNRRERReview@wi.gov) for more information

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appropriate for the habitat. It is recommended that any riprap not able to be top-dressed with soil and seeded will have the interstitial voids filled with 0.5 to 2.0 inch gravel to ensure that hatchling turtles cannot become entrapped in large voids between rocks.

2. It is recommended that activities during the turtle's active season that occur within 100 feet of a suitable wood turtle stream/river take place when 100% of the area is naturally snow covered.
3. It is recommended that activities during the turtle's active season that occur greater than 100 feet from a suitable wood turtle stream/river take place at any time of year when 50% or more of the harvest area is naturally snow covered.
4. Minimize work within wood turtle upland foraging areas (measured out from a suitable stream/river shoreline).

Dates*	Wood Turtle Upland Foraging Area (Recommend Minimizing Disturbance in These Areas)
Nov 1 - Mar 14	none
Mar 15 – May 14	0-75 m (0-264 ft)
May 15 – Sept 15	0-300 m (0-984 ft)
Sept 16 - Oct 31	0-75 m (0-264 ft)

**The dates listed can change each year based on annual weather conditions (e.g., cold spring, late snowfall, early frost). These changes will be posted on the DNR website:*

<http://dnr.wi.gov/topic/WildlifeHabitat/Herps.asp#regs>.

***Uplands are defined as any area that is not a stream/river (i.e., not overwintering habitat).*

5. If erosion matting (also known as an erosion control blanket, erosion mat or erosion mesh netting) will be used, the following matting (or something similar) should be installed: Use matting that incorporate a "leno" or "gauze" weave (where strands have independent movement). Ensure the weave is loose and the strands have good mobility. American Excelsior "FibreNet" or "NetFree" products; East Coast Erosion biodegradable jute products; Erosion Tech biodegradable jute products; ErosionControlBlanket.com biodegradable leno weave products; North American Green S75BN, S150BN, SC150BN or C125BN; or Western Excelsior "All Natural" products. *Note – these brand names are only provided for reference and are not an endorsement of any specific brand.*
6. Nest site creation/restoration/enhancement (if you are interested in this option, please contact a District Ecologist or the Endangered Resources Review Team for more information).
7. Invasives clearing from a nesting or foraging area (if you are interested in this option, please contact a District Ecologist or the Endangered Resources Review Team for more information).
8. Install culverts under roads with turtle exclusion fencing (if you are interested in this option, please contact a District Ecologist or the Endangered Resources Review Team for more information).

APPENDIX E-20

BITP/A for Wisconsin Cave Bats

Broad Incidental Take Permit and Broad Incidental Take Authorization for Wisconsin Cave Bats

Conservation Plan - November 2022

During this COVID-19 pandemic, there is increasing concern that symptomatic or asymptomatic humans could inadvertently pass the virus that causes COVID-19 disease in humans to mammals, including bats, during handling. As a reminder, any handling of bats by a pest control operator requires an Endangered/Threatened (E/T) Species Permit (this is not required for a landowner). In addition, please be sure to continue following disinfection protocols for any equipment used during bat removals or exclusions (see Appendix 4).

The department has issued this broad incidental take authorization (used by state agencies) and broad incidental take permit (used by non-state agencies and individuals), as provided for under s. 29.604, Wis. Stats., to allow for the incidental taking of state listed cave bats in Wisconsin that may occur as a result of specific public health concerns, bat removals, building demolitions, tree cutting, bridge demolitions, miscellaneous building repairs and wind energy development projects.

This permit and authorization cover the above activities only if the associated minimization measures are followed and take is reported (where required). These measures must be followed when a bat is present or suspected to be present (e.g., evidence of bat presence, Endangered Resources Review). Please note that the northern long-eared bat is currently listed as threatened in Wisconsin and threatened with 4(d) rule at the federal level by the United States Fish and Wildlife Service (USFWS, <http://www.fws.gov/Midwest/endangered/mammals/nleb/index.html>). For the activities listed above, this Conservation Plan includes both state and federal requirements. The state cannot permit or authorize take of a federally listed species, however this Conservation Plan was written to incorporate both state and federal requirements.

For activities not listed above, contact the Wisconsin Department of Natural Resources' Endangered Resources Review Program (DNRRERReview@wi.gov) for more information on state and federal requirements. Please note that building demolition, tree cutting, bridge projects, miscellaneous building projects and wind energy development typically require a full Endangered Resources Review <http://dnr.wi.gov/topic/ERReview/Review.html> to determine impacts to other wildlife species as well.

An incidental take permit or authorization is typically issued on a project-by-project basis, however a broad incidental take permit and broad incidental take authorization were created for this situation so that neither an application nor a permit fee are required. An individual following the minimization measures listed below is automatically covered by this broad incidental take permit/authorization. Take will be minimized by following specific minimization measures and the Department has concluded that the projects covered under this permit/authorization are not likely to jeopardize the continued existence and recovery of the state population of these bats or the whole plant-animal community of which they are a part; and has benefit to the public health, safety or welfare that justifies the action.

Project Location

Statewide

Project Information

This permit/authorization cover specific public health concerns, bat removals, building demolitions, forestry activities, bridge demolitions, miscellaneous building repairs and wind energy development projects as described in *Minimization Measures*.

Species Information

This permit/authorization cover all cave bats currently listed in Wisconsin (NR 27.07, Wis. Admin. Code):

- Big brown bat (*Eptesicus fuscus*) – State Threatened
The big brown bat is a large insectivorous bat, weighing 15.0-26.0 grams. Fur color is russet to dark brown, and the muzzle is black and hairless. In summer, big brown bats commonly roost in artificial structures such as barns, but these bats will also use crevices in trees and rock faces. Big brown bats migrate short distances to caves and mines where they will hibernate for the winter.
- Tricolored bat (*Perimyotis subflavus*) – State Threatened
The tricolored bat (formerly eastern pipistrelle) is Wisconsin's smallest bat weighing 4.0-8.0 grams. Fur color ranges from golden brown to reddish brown, and the wing membrane is black with red forearms. The tricolored bat is an insectivorous bat. In summer, these bats commonly roost in the branches of deciduous trees disguised as a leaf. This species migrates short distances to caves and mines in the fall where they hibernate over the winter.
- Little brown bat (*Myotis lucifugus*) – State Threatened
The little brown bat is a medium-sized member of the genus *Myotis*. This insectivorous bat weighs 5.0-12.5 grams, and has tan, reddish-brown or dark brown fur. This species commonly uses artificial structures such as attics and barns as summer roosting sites, but will also roost in crevices and cavities of trees. In fall, little brown bats make local long-distance migrations of up to 279 miles to caves and mines where they will hibernate for the winter.
- Northern long-eared bat (*Myotis septentrionalis*) – State Threatened and Federally Threatened
The northern long-eared bat is dark brown with a gray belly, weighing 5.0-8.0 grams and is insectivorous. In summer this bat roosts in trees behind loose bark and in cracks/crevices/holes along the trunk of the tree. It rarely roosts in artificial structures. Unlike most of the state's bats, this species commonly forages in forest interior. In fall the northern long-eared bat migrates to caves and mines where they will hibernate for the winter.

Likely Impact to Species

Although minimization measures to protect the big brown, tricolored, little brown and northern long-eared bats are incorporated into this broad incidental take permit/authorization, it is not possible to fully avoid incidental take of these species in all situations. Due to the nature of activities covered under this permit/authorization, it is difficult to determine the exact number of individuals that could be taken as a result of the project; however take will be minimized by following specific minimization measures. The Department has concluded that the take allowed for under this permit/authorization is not likely to jeopardize the continued existence and recovery of the state

population of these bats or the whole plant-animal community of which they are a part.

Alternative Actions

The following alternatives were considered for this permit/authorization:

Alternative 1: Do not allow for any take of cave bats.

This alternative was determined to not be feasible, due to the large number of affected activities, and is not an appropriate public health decision.

Alternative 2: Do not allow for any take of cave bats during the summer roosting period but allow for some take throughout the remainder of the year.

This alternative was determined to not be feasible, due to the large number of affected activities that occur during the summer roosting period, and is not an appropriate public health decision.

Alternative 3: Allow for some take of cave bats, with minimization measures in place, during the summer roosting period and throughout the remainder of the year.

This option was the preferred alternative because it addresses public health concerns; protects a large number of bats; and allows for most affected activities to continue as planned, or with minimal modifications.

Minimization Measures

This permit/authorization covers the activities listed below only if the associated minimization measures are followed and take is reported (where required). These measures must be followed when a bat is present or suspected to be present (e.g., evidence of bat presence, Endangered Resources Review). Please note that the northern long-eared bat is currently listed as threatened in Wisconsin and threatened with 4(d) rule at the federal level by the United States Fish and Wildlife Service (USFWS, <http://www.fws.gov/Midwest/endangered/mammals/nleb/index.html>). For the activities listed below, this Conservation Plan includes both state and federal requirements. The state cannot permit or authorize take of a federally listed species, however this Conservation Plan was written to incorporate both state and federal requirements.

For activities not listed below, contact the Wisconsin Department of Natural Resources' Endangered Resources Review Program (DNRRERReview@wi.gov) for more information on state and federal requirements. Please note that building demolition, tree cutting, bridge projects, miscellaneous building projects and wind energy development typically require a full Endangered Resources Review <http://dnr.wi.gov/topic/ERReview/Review.html> to determine impacts to other wildlife species as well.

Note: Take covered under this permit/authorization must be reported within 5 working days (where required below). Take not reported within 5 working days is not legally covered and is in violation of the Wisconsin Endangered Species Law (s. 29.604, Wis. Stats.). Reports can be submitted via email (DNRBats@wi.gov), or by submitting a sick/dead bat report using the form: <http://wiatri.net/Inventory/Bats/Report/BatForm.cfm>. When using the form, state that you are reporting take in the "Additional Comments" section.

A. Health Exceptions

The landowner, rather than the DNR, is allowed to determine if they believe there is a health risk under this section (Section A).

Centers for Disease Control and Prevention (CDC) protocols should be followed for all situations where rabies or histoplasmosis is a possibility or may become a possibility if action is not taken (see Appendix 1).

Additionally, exclusions completed from June 1 through August 15 must be reported to the Department by submitting a Health Exemption Form in order to be covered under this permit or authorization. The landowner is responsible for completing and submitting the form, which is available online (<http://dnr.wi.gov/topic/erreview/itbats.html>). This form must be completed and submitted to the Department within **5 working days of start of work**.

If an activity qualifies as a health exception, it is exempt from timing minimization measures, and maximum take limits, but exclusions done during the non-exclusion period for human health reasons must still minimize take by following the approved exclusion protocols listed in Appendix 5. Exclusion practices used that are not described in Appendix 5 are in violation of this permit/authorization.

B. Bat Removals and Exclusions

Exclusion is defined as the process of allowing a colony of bats to leave the structure but not re-enter (i.e., use of one-way doors, see Appendices 2 and 5). Physically removing the colony of bats is not included in the definition of exclusion and is not covered under this section of the permit/authorization. Bats may be removed from the living space of a building at any time (see B.1. below).

Approved exclusion practices may be reviewed in Appendix 5. Exclusion practices used that are not described in Appendix 5 are in violation of this permit/authorization

If bats must be handled or transported for any reason during the exclusion process, the person conducting the exclusion must possess a valid Endangered/Threatened (E/T) Species Permit (<http://dnr.wi.gov/topic/endangeredresources/permits.html>). By obtaining the E/T Permit, the pest control operator can assure the landowner that practices used by the pest control company are in accordance with state law and no fines should incur while exclusion is completed. If bats must be handled during the exclusion, an E/T Permit holder (i.e. a rehabilitator or licensed pest control operator) may be contacted to handle the bats.

Practices that cause intentional take of the bats (i.e., sticky traps, sealing the entry/exit points to the roost with bats inside, large-hole netting that traps bats) are not considered exclusion methods, are not covered under this permit/authorization and are in violation of Wisconsin's Endangered Species Law (s. 29.604, Wis. Stats.).

1. Living Space or Place of Work

A living space is defined as a place of residence that is routinely and consistently inhabited. A living space does not include attics that are empty or used as storage.

If individual bats (5 or fewer) enter a living space or place of work, reasonable attempts must first be made to remove or exclude the bats alive and unharmed (see Appendix 2). If individual bats cannot realistically be removed unharmed, up to 5 bats may be killed for the purpose of removing them from a living space or place of work. No more than 5 bats may be

killed within any 24 hour period and a maximum of 10 bats may be killed from June 1 – August 15 (**take report recommended** – see “**Note**” above).

Removals and exclusions from June 1 – August 15 are allowed in hospitals, medical clinics, day cares centers, nursing homes, assisted living facilities and restaurants.

2. Storage Areas, Attics, Barns, etc.

Bats found in storage areas, attics, barns, etc., may be excluded from the area August 16 – May 31 (see Appendix 2). Exclusion may not occur from June 1 – August 15 unless a health exemption report form is filed (see Section A).

3. In an effort to help curb the spread of white-nose syndrome (WNS), bat exclusion professionals and pest control operators must follow these guidelines concerning cleaning equipment (NR 40, Wis. Admin. Code.):

- Equipment used outside of Wisconsin should be thoroughly cleaned and disinfected before use in Wisconsin following the protocols in Appendix 4.
- Equipment used at multiple sites within Wisconsin should be cleaned thoroughly and disinfected between uses following the protocols in Appendix 4. Materials that come in direct contact with bats such as bat cones or exclusion devices should not be used at multiple sites and should be discarded after use.

C. Building Demolition

Please note that timing restrictions in this section vary slightly from those listed for other activities. Bats typically leave summer roosts (in buildings or other locations) in late fall and begin to return in early spring. However, one bat species in Wisconsin is known to hibernate in buildings in winter. Bats are not actively flying during winter hibernation and can appear dead. As a result, traditional exclusion methods do not work.

1. For projects occurring where there is no evidence of bat presence (see Appendix 3), there are no restrictions.
2. For building demolition occurring from June 1 – August 15, where there is evidence of bat presence (see Appendix 3):
 - Building demolition and bat exclusions are generally not permitted during this time period in order to protect flightless pups in the roost. Exclusion and subsequent demolition may occur only if the bats are considered by the landowner to be a health risk. In these situations, a health exemption form must be completed within 5 days of starting work (see section A).
3. For building demolition occurring from August 16 – October 31 or March 16 – May 31, where there is evidence of bat presence (see Appendix 3):
 - Bats must be excluded from the building for at least 7 consecutive days immediately prior to demolition. Full exclusion is not required if the building is unsafe to enter, however reasonable attempts should still be made to exclude as many bats as possible while keeping all people safe. (Report required for unsafe buildings – see “Note” on Page 3.)
4. For building demolition occurring from November 1 – March 15, where there is evidence of bat presence (see Appendix 3):

- For any bats found prior to demolition work or encountered during the demolition phase, attempts must be made to transfer the bats to a wildlife rehabilitator for the remainder of the hibernation period OR the DNR's bat biologists must be consulted for additional options (Paul White, 608-267-0813 and john.white@wi.gov, or Heather Kaarakka, 608-266-2576 and heather.kaarakka@wi.gov).

D. Tree Cutting

Northern long-eared bats are federally protected in trees that are known maternity roosts (from June 1 – July 31) and in areas where known hibernacula could be impacted (including tree removal within 0.25 miles of a hibernacula entrance). If you will be cutting trees, please have an Endangered Resources Review <http://dnr.wi.gov/topic/ERReview/Review.html> conducted to determine if known northern long-eared bat maternity roosts or hibernacula exist near your project. If the Endangered Resources Review states that these areas do not exist near your project, there are no restrictions for tree cutting; however special consideration should be given to protecting snags or dying trees, particularly from June 1 – August 15.

E. Bridge Projects

The process for assessing transportation project impacts to listed species and the associated minimization measures will follow existing protocols.

1. Bridge repairs or demolition occurring from August 16 – May 31 do not have any restrictions. If bats are present, reasonable attempts should be made to prevent take by excluding the bats from the structure prior to demolition.
2. Emergency bridge repairs or demolition occurring from June 1 – August 15 are covered under this permit/authorization but must be reported within 5 working days (**report required – see “Note” above**).
3. Non-emergency bridge repairs or demolition may not occur from June 1 - August 15 unless bats are excluded prior to April 1 to prevent bats from using the bridge during the maternity period.

F. Miscellaneous Building Projects (e.g., roofing, painting, siding)

1. For projects occurring where there is no evidence of bat presence (see Appendix 3):
 - Full bat exclusions are not required.
 - If roofing, painting or siding and bats are found incidentally under shingles or roof vents, or behind shutters or siding, set the shutters or siding down and leave the area. Once the bats have left, continue with repairs. If bats do not leave, attempts should be made to transfer the bats to a wildlife rehabilitator OR the DNR's bat biologists should be consulted for additional options (Paul White, 608-267-0813 and john.white@wi.gov, or Heather Kaarakka, 608-266-2576 and heather.kaarakka@wi.gov).
2. For projects occurring from June 1 – August 15, where there is known bat presence (see Appendix 3):
 - Building projects with the potential to impact bats and bat exclusions are generally not permitted during this time period in order to protect flightless pups in the roost. Exclusion and subsequent building repairs may occur only if the bats are considered

by the landowner to be a health risk. In these situations, a health exemption form must be completed within 5 days of starting work (see section A).

- If roofing, painting or siding and bats are found incidentally under shingles or roof vents, or behind shutters or siding, set the shutters or siding down and leave the area. Once the bats have left, continue with repairs. If bats do not leave, attempts should be made to transfer the bats to a wildlife rehabilitator OR the DNR's bat biologists should be consulted for additional options (Paul White, 608-267-0813 and john.white@wi.gov, or Heather Kaarakka, 608-266-2576 and heather.kaarakka@wi.gov). Note that full bat exclusions are not required when bats are only incidentally found during miscellaneous building projects.
3. Projects occurring from August 16 – May 31 where there is known bat presence (see Appendix 3):
- Take should be minimized during the course of the project by following applicable exclusion protocols listed in Appendix 5. Exclusion practices used that are not described in Appendix 5 are in violation of this permit/authorization.
 - If roofing, painting or siding and bats are found incidentally under shingles or roof vents, or behind shutters or siding, set the shutters or siding down and leave the area. Once the bats have left, continue with repairs. If bats do not leave, attempts should be made to transfer the bats to a wildlife rehabilitator OR the DNR's bat biologists should be consulted for additional options (Paul White, 608-267-0813 and john.white@wi.gov, or Heather Kaarakka, 608-266-2576 and heather.kaarakka@wi.gov). Note that full bat exclusions are not required when bats are only incidentally found during miscellaneous building projects.

G. Wind Energy Development

Wind energy projects typically affect tree bat species (not currently listed) and only impact cave bat species in certain situations (e.g., projects located near cave bat hibernacula may increase the occurrence of impacts to cave bats especially during fall migration in August and September). Further, there is not enough data at this time to determine the impact of potential mortality to local bat populations. Because of this uncertainty and the scope of impacts, no additional actions, above those currently requested by the Department, will be required of this industry at this time.

Mitigation

For every take of a cave bat that occurs, reasonable attempts must be made to prevent future take in the same area (e.g., exclusion of bats from the area, sealing of siding or eaves after bats are gone).

Responsible Parties

Landowners are responsible for all actions and costs incurred as a result of following this Broad Incidental Take Permit/Authorization.

Funding

Landowners are responsible for all costs incurred as a result of following this Broad Incidental Take Permit/Authorization.

Appendix 1: Health Information

Appendix 2: Removing and Excluding Bats

Appendix 3: Determining Bat Presence

Appendix 4. Cleaning and Disinfection Protocols for Bat Exclusion Professionals

Appendix 5. WDNR Exclusion Protocol

Appendix 1: Health Information

The following information was created by the Center for Disease Control and Prevention (CDC): <http://www.cdc.gov/rabies/bats/contact/index.html>. This information should be followed when handling or testing bats for rabies or histoplasmosis.

Recent data suggest that transmission of rabies virus can occur from minor, seemingly unimportant, or unrecognized bites from bats. Human and domestic animal contact with bats should be minimized, and bats should never be handled by untrained and unvaccinated persons or be kept as pets.

In all instances of potential human exposures involving bats, the bat in question should be safely collected, if possible, and submitted for rabies diagnosis. Rabies postexposure prophylaxis is recommended for all persons with bite, scratch, or mucous membrane exposure to a bat, unless the bat is available for testing and is negative for evidence of rabies.

Postexposure prophylaxis should be considered when direct contact between a human and a bat has occurred, unless the exposed person can be certain a bite, scratch, or mucous membrane exposure did not occur.

In instances in which a bat is found indoors and there is no history of bat-human contact, the likely effectiveness of postexposure prophylaxis must be balanced against the low risk such exposures appear to present. Postexposure prophylaxis can be considered for persons who were in the same room as a bat and who might be unaware that a bite or direct contact had occurred (e.g., a sleeping person awakens to find a bat in the room or an adult witnesses a bat in the room with a previously unattended child, mentally disabled person, or intoxicated person) and rabies cannot be ruled out by testing the bat. Postexposure prophylaxis would not be warranted for other household members.

If you woke up because a bat landed on you while you were sleeping or if you awakened and found a bat in your room, you should try to safely capture the bat and have it tested. The same precautions should be used if you see a bat in a room with an unattended child, or see a bat near a mentally impaired or intoxicated person.

The small teeth of the bat can make a bite difficult to find. Be safe and in these situations, try to safely capture the bat, have the bat tested, and seek medical advice.

Appendix 2: Removing and Excluding Bats



Bat Exclusion

Method used by The Wisconsin Bat Program

A PROVEN SOLUTION

Do you have bats that you would like to remove from your living space? The following description is the widely accepted, non-lethal approach for excluding bats from your home. Killing the bats you will find does not solve the root problem which involves locating and sealing the actual access point that the bats are using. The remaining bats and future bats will still find their way into your attic or similar roosting space until you locate and seal all access points. Bats are NOT rodents and therefore will NOT chew their way into your house if you close off the opening. They use only existing openings.

As you may already know, bats are extremely beneficial to have in your neighborhood and many property owners spend a lot of effort trying to attract bats to their area by providing artificial roosts for them. If you have bats in your home you are half-way to experiencing the benefits of these insect-eating mammals without having to share your living space. The first step is already done; you have the bats interested in your location. The second step involves providing these bats with alternative roosting options that allows them to remain on the property without having access to your home. Finally, after a successful exclusion, the bats you saved will have a good chance of staying nearby. Why should you care if they stay? A single bat can eat 1,000 or more mosquito-sized insects in one hour

and the equivalent of the bat's own body weight per night. As that is just a single bat, you can imagine what a colony of 20 to 100 bats can eat in one night.

Bats will NOT attack you while you are enjoying an evening on your porch. Instead, they are enjoyable to view as they capture 100's and 1,000's of insect pests that would normally be interrupting your relaxing night outside. They conduct this service to you for free. You simply need to provide these bats with an alternative place to live that is not in your home. Like bird houses, a bat house is relatively easy to build yourself, inexpensive to purchase, and readily available from a variety of organizations.

Let's get started with the process.

First of all, timing is important when excluding bats from the home. Do not attempt to exclude bats during the summer months when the colony is established and the young are unable to fly. Bat exclusions should not be conducted from May 1st through August 31. Exclusions occurring during this time period will separate mothers from their pups, leaving the pups to die of starvation. Frantic mothers, searching for an opening to reach their pups, may enter your living space and be more difficult to deal with than what you started with. By trapping the flightless young inside, you may also have created another unexpected

problem involving the smell of dead animals.

Step 1: OBSERVE

Where are the bats entering?

At sunset or just before sunrise, have one or more persons located around the house observe where the bats are exiting the building. Observers should be able to see the entire structure without turning their heads; bats can exit and take flight in a matter of seconds. Make observations



Bat Guano

for several nights. This will ensure that all or most exit-points are identified. Pay special attention to areas in which bats commonly find access to your home: corners, eaves, louvers, loose siding, window air conditioners, and loose or damaged screens. Search the building for other various structural defects needing maintenance as the bats may search for alternative openings to their former roosting site after exclusion. It may take a second year of observation to ensure you have located all possible entry points.

Visible signs such as staining and guano (bat droppings) will also help identify openings. The body oils of bats can cause



Bat guano in front of garage

staining on the main access areas of the building, though you will need to look carefully because it is not always obvious. One of the best ways to find an opening is somewhat counter-intuitive: looking down instead of up. Guano found on the ground indicates bat activity from their opening above. When you find a concentration of these small droppings on the ground next to the foundation, you will often have a better chance of finding the access point.

Step 2: INSTALL

Can we still keep the bats here in my yard by putting up a bat house?

YES. Want to provide bats with a home, just not your own? We recommend installing an alternative roost, commonly referred to as a “bat house”, in the general vicinity of the entry-points. If you exclude in the fall, installing the bat house a year before the exclusion or during the start of summer, provides the best chance for



Two types of bat houses

success. As bats come and go, they will become familiar with the structure. Upon exclusion, this familiarity will provide the best possible chance for the successful inhabitation of the bat house by the recently excluded bats. If you are interested in purchasing or building bat houses, contact the Wisconsin Bat Monitoring program. The program staff can help you decide on where to purchase the best bat house design with proven success. The Wisconsin Bat Monitoring program can also give you instructions for building your own bat house. Read our information pamphlet titled: "Building a Bat House" to learn how to build and locate your bat house. Location and design are critical pieces as bats are more difficult to attract to a bat house than birds are to a bird house.

Step 3: EXCLUDE

- 1. One-way doors**
- 2. One-week wait,**
- 3. Seal all of the holes.**

After all openings have been discovered, install one-way exits. These exits will allow bats to leave, but will not allow them to re-enter. Keep in mind the time of year as you do not want to trap the flightless young inside. Avoid excluding bats between May 1st and August 31st.

One-way exclusion devices can be created using plastic netting with one-sixth inch (0.4 centimeter) or smaller mesh. Shape the plastic netting so that it covers the opening entirely and extends at least two feet below it. Using staples or duct tape, attach the top and side edges of the



Applying screen for one-way door

plastic netting to the building, leaving the bottom edge open. Be conscious of the netting's tautness; you should be able to slide your hand into the bottom opening though not so loose that the bats may easily crawl back up the opening. At sunset the following night, some of the bats will escape through the open, bottom portion. Leave the netting up for five to seven days; this will ensure that all bats have exited the building. After all bats have been excluded, you may then seal the openings permanently with appropriate construction materials.



Space on bottom for bats to escape

Remember that bats will not chew their way back inside your house. So, after you've found and sealed all of the access points you will have successfully excluded the bats from your living space.

Other materials can be used to create one-way exits, such as plastic sheeting or PVC pipe. Install the plastic sheeting in the exact manner as the plastic netting. A portion of PVC pipe, which should be similar in size to a tube of caulk, can be inserted into the opening. Seal the



PVC one-way door

remaining portion of the opening that surrounds the outer rim of the pipe.

Clean-up

After the bats have been successfully excluded, most people will want to clean the guano out of the building. When cleaning enclosed spaces, there is one simple precaution you should take in protecting yourself from being exposed to a disease known as histoplasmosis. Histoplasmosis is a respiratory disease caused by a fungus that can grow on accumulations of bird and bat guano and may become airborne if disturbed during the cleaning process. The fungus is not necessarily present at your site; however it is best to approach any clean-up with some safety measures. Symptoms of histoplasmosis usually appear within 3 to 17 days after exposure, and may resemble a cold or chronic cough. The risk of histoplasmosis can be reduced and even prevented by wearing a face mask and gloves while working. Wash all clothes and equipment after cleaning out the previously occupied space. If you want nothing to do with a possible risk to your health there are professional cleaning services that can do this for you. Search online or in your phone directory for a local business. There are also a number of exclusion professionals that deal specifically with bat removal in the State of Wisconsin if you are not comfortable with the do-it-yourself method.

Summary

This is how you conduct widely accepted, non-lethal approach to excluding bats from your living space.

1. Observe your building around sunset or sunrise to detect all locations bats are using for access.
2. Install a bat house prior to conducting exclusion in order to maintain the beneficial insect-eating service of the bats in your back yard.
3. Install a one-way door over the opening(s) and wait a week until all of the bats have left.
4. Permanently seal the access points with appropriate materials.
5. Enjoy a night on your deck or patio and watch your relocated colony of bats eat 100's to 1,000's of mosquito-sized insects.
6. Let us know how it worked out as we would like to hear your success story about relocating bats from your attic to their own bat house.
7. For additional information on bats of Wisconsin check out our bat website.

Wisconsin Bat Monitoring Program

<http://wiatri.net/inventory/bats>

Bat Access points to your living space

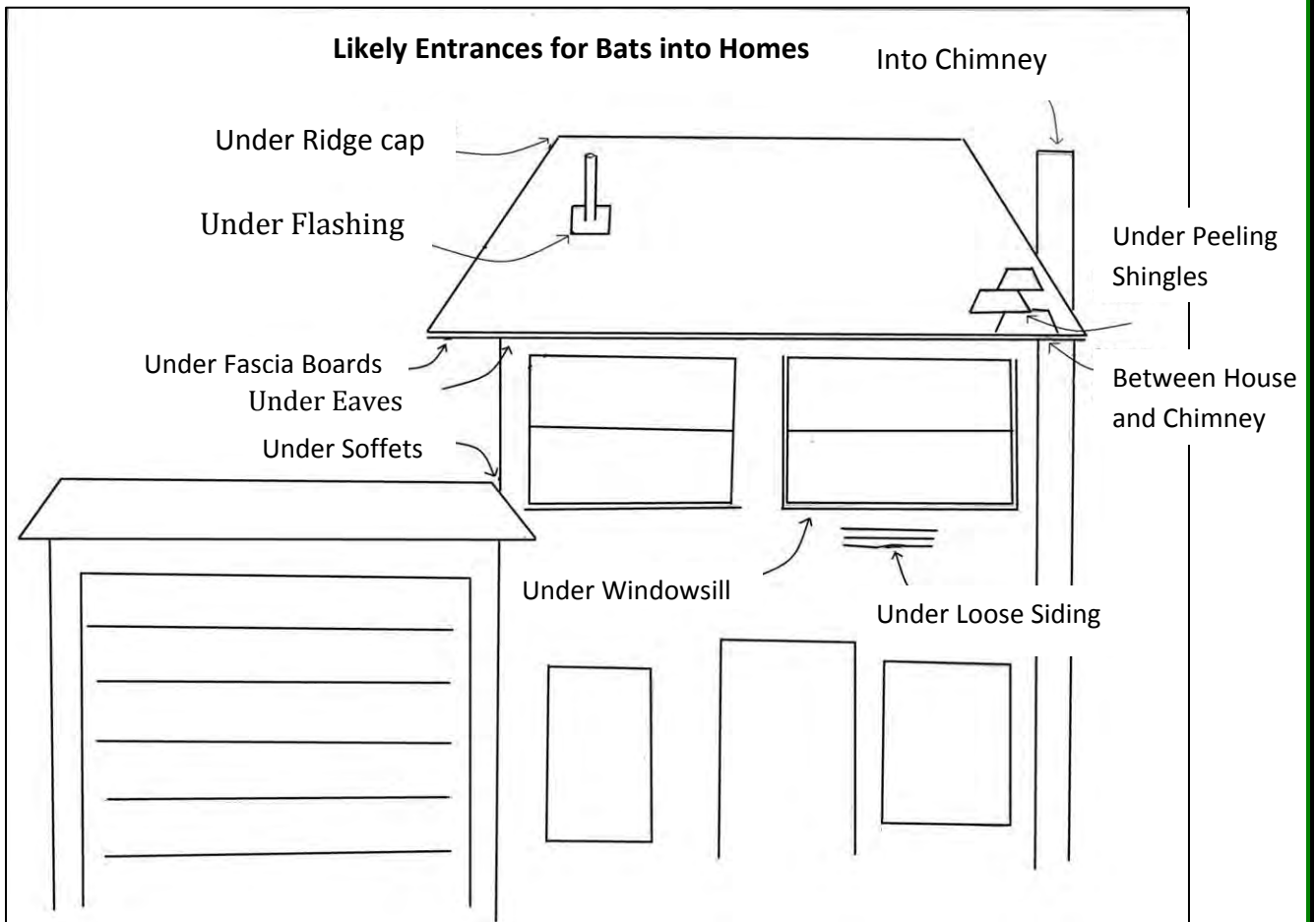


Figure 1: There are several common entry points for bats to find their way into your home. Check for guano piles and stains around these points first in locating the entry points.

Exit Only

One-way Doors for Bat Exclusion

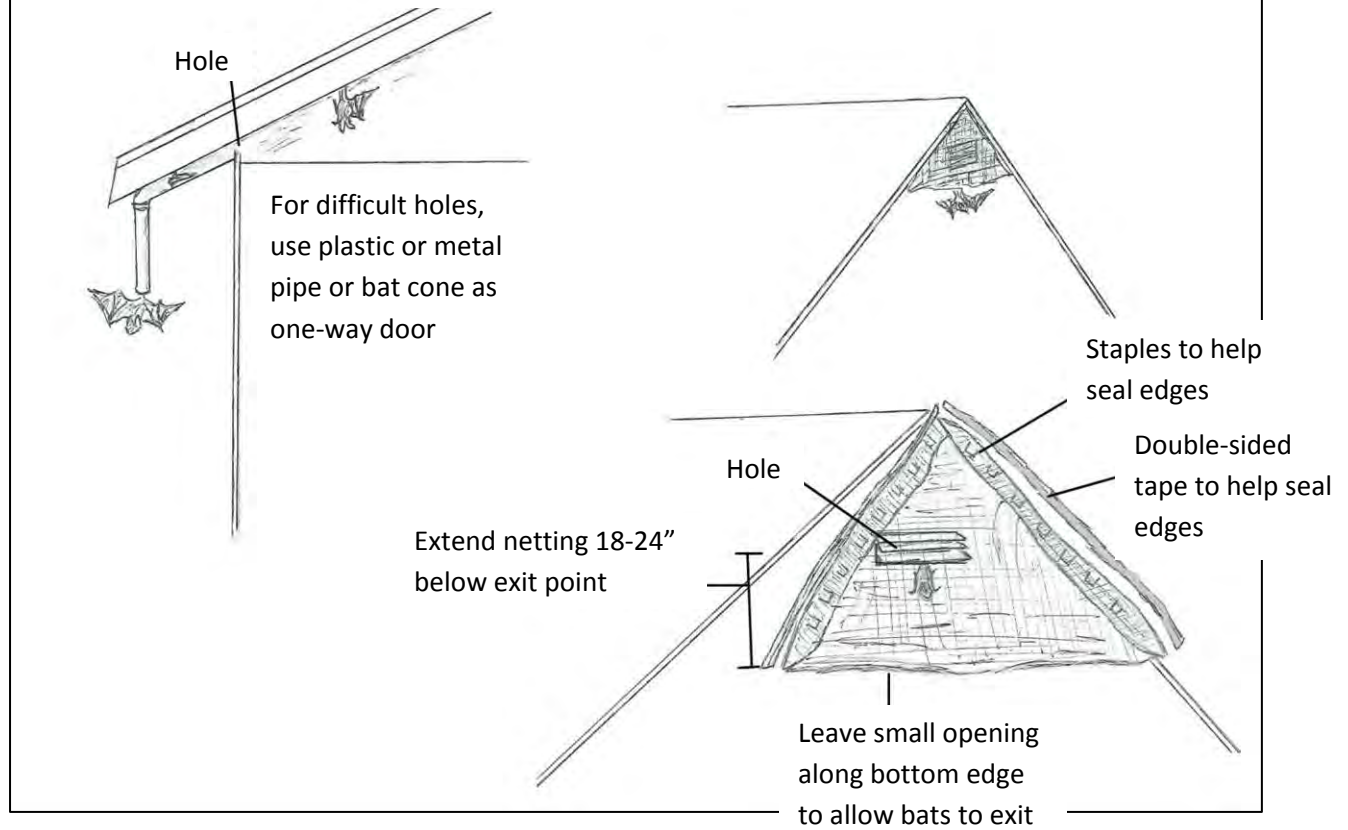


Figure 2: Two common one-way door designs: PVC tube for a small oddly-shaped hole, and netting or mesh for larger holes.

Appendix 3: Determining Bat Presence

1. Take note of places where bats are likely to enter your home. Bats can enter through holes smaller than a quarter in size. Places like fascia boards, where two buildings meet, between the building and a chimney, under loose shingles, under ridge caps, under windows, through vents into attics, under flashing, under eaves and under loose siding are all common places for bats to enter.
2. Look for evidence on the ground. Bats will defecate while they roost, and piles of guano usually indicate where bats are roosting.
3. Look for evidence on the building itself. Places where bats enter and exit often have stains from urine and skin oils on the siding and holes. These can be good indications of where bats are entering.
4. Monitor in the evening. Even if no visible signs occur, bats may still be roosting in a building. Observe the building at dusk to see if any bats fly out of openings. Listening at this time can also alert the observer to the presence of bats. Bats will often become very vocal 5-10 minutes before they take flight to forage. Bats make an audible buzzing and clicking while they are roosting.

Appendix 4.

The WDNR is requiring cleaning of all equipment and clothing that comes in contact with cave bats and their habitat at any point during the year in an effort to control human transmission of white-nose syndrome. The fungus that causes white-nose syndrome, *Pseudogymnoascus destructans* was listed as prohibited invasive species in 2011 under NR. 40, and allow for the following control measures.

All equipment and clothing that is used outside of the state of Wisconsin and at multiple sites within the state during exclusion must be cleaned according to the protocols listed in appendix 4. Protocols are in accordance with U.S. Fish and Wildlife Service white-nose syndrome decontamination procedures: <http://whitenosesyndrome.org>.

Additionally, to minimize risk of possible transfer of the SARS-CoV-19 to North American bats, follow these guidelines for proper Personal Protective Equipment during work.

1. Per CDC guidelines for COVID-19, to block or minimize exchange of respiratory droplets wear a mask when doing work involving bats, including installation of one-way doors and cleaning of attics.
2. Use of disposable equipment and coverings (gloves, coveralls and booties) is highly recommended.
3. All equipment used during the exclusion process should be thoroughly scrubbed or brushed to remove all organic material.
4. Once scrubbed of organic material, clothing and equipment must be sealed in a plastic container or bag to be transported to a suitable site for cleaning. Anything that can be disposed of must be sealed in a plastic trash bag and discarded.
 - a. All equipment and clothing that can be **completely submersed** must be washed with Woolite in wash cycle, rinsed, then
 - i. submersed in hot water (>131 degrees F) for a minimum 20 minutes
 - ii. soaked in 1:10 bleach solution for a minimum of 10 minutes,
 - iii. soaked in 1:128 Lysol for a minimum of 10 minutes.
 - b. All equipment that **cannot be completely submerged** in a solution or hot water or must be used immediately between sites must be scrubbed to remove all organic material and wiped with Lysol disinfecting wipes so that the entire surface is disinfected.
5. All equipment and clothing must air dry.
6. Prior to entering the vehicle, clean or remove clothing and footwear to avoid contaminating vehicles.

Appendix 5: WDNR Exclusion Protocol

Exclusion activities outside of the following protocol are not covered under the Broad Incidental Take Permit/Authorization and mortality may incur fines. The landowner and/or the pest control operator completing the work may be liable for fines.

Exclusion is the act of allowing bats to leave but not return to a building through the use of one-way doors. One-way doors may be comprised of the following materials and design:

1. **Tubing**- Tubes for exclusion may be plastic or metal and should hang down at least 10-15 inches from the opening. Netting may be installed at the end of the tube to prevent re-entry but the mesh must be plastic with holes smaller than 1/6th inch.
2. **Mesh or netting**- Netting may be installed over entry/exit points, but the netting must have holes 1/6th inch or smaller so as to not trap bats, and must extend at least two feet below the entry point. The mesh/netting must be open at the bottom to allow bats to exit under the screen.
 - a. If it is found the netting used is tangling and trapping bats, the pest control operator must remove the bats and release them, and the netting must be replaced with smaller mesh or with a different type of one-way door.
3. **Plastic sheeting**- Plastic sheeting may be installed in a similar fashion to the mesh. There should be enough space behind the plastic to allow the bats to crawl out from behind the sheeting. It must be open at the bottom to allow the bats to exit.
4. **Changes to roosting environment**- changes can be made to the roosting habitat to discourage use by bats. These may include, but are not limited to, installation of windows to increase light in the roost, or installation of sheet metal on roosting surface to limit ability of bats to hang. Any changes to the roost environment must not cause take.

Exclusion devices must remain up for at least 5 days prior to sealing the openings, and there must not be bats in the roost when building is sealed.

APPENDIX E-21 Wood Turtle Study Report (Public)

This Appendix has been filed separately with FERC as privileged information.

APPENDIX E-22

Iron County Outdoor Recreation Plan

Iron County Outdoor Recreation Plan 2021-2025

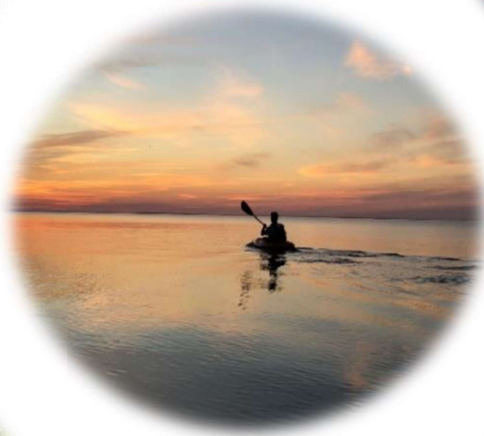


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PURPOSE

The purpose of this plan is to update Iron County's existing outdoor recreation resources, anticipate future demands and to identify recommendations for public outdoor recreation facilities. Submission of this report to the Wisconsin Department of Natural Resources (WDNR) maintains eligibility for the County and local units of government for a variety of Federal and State Aids to purchase land, maintain and to add facilities to existing outdoor recreation lands. Preparation of this plan will be conducted in accordance with guidance found in Wisconsin Statute 23.30 Outdoor Recreation Program and the Wisconsin Statewide Comprehensive Outdoor Recreation Plan (SCORP).

PROCESS DOCUMENTATION

The Iron County Outdoor Recreation Plan was updated over a three-month period from February of 2021 through May of 2021. Iron County cities, towns, schools and outdoor recreation clubs and organizations were sent letters containing their inventory of recreation facilities as listed in the current outdoor recreation plan, asked to update their inventory and to comment on their outdoor recreation facility plans and needs for the next five years. In order to solicit public feedback on recreation issues within Iron County, an online outdoor recreation survey was developed in February, 2021. The survey became active on February 25th, 2021 and remained active until April 12, 2021. Survey results are included in **Appendix A**.

VISIONING FRAMEWORK

During the development of the Iron County Outdoor Recreation Plan 2016-2020, Iron County prepared a number of goals and objectives to address the outdoor recreational needs of the residents. The goals and objectives are intended to assist the County Board and other community leaders in implementing actions deemed important and in the best interest of the County. It is imperative that the goals and objectives continue to be implemented.

GOALS AND OBJECTIVES

GOAL

The Outdoor Recreation Plan shall serve to meet their varied recreation needs of Iron County residents and visitors while at the same time protecting, conserving, and enhancing the County's natural, historical, and cultural resources.

FACILITIES

OBJECTIVE 1.0:

Provide high quality recreation facilities for all users.

Policy 1.1

Improve and maintain existing facilities.

Policy 1.2

Develop new recreational facilities that will expand recreational opportunities for all residents and visitors.

Policy 1.3

Park and recreation facilities shall provide opportunities for all persons regardless of race, creed, age, sex, or economic status.

Policy 1.4

Develop, improve and maintain recreational facilities according to the Americans with Disabilities Act standard.

Policy 1.5

Encourage communities and local school districts to cooperate in the development of community recreational and playground facilities.

Policy 1.6

Measure the economic impacts provided by high quality recreation facilities in Iron County.

Policy 1.7

Include an educational component with recreational facilities, where appropriate.

OPPORTUNITIES

OBJECTIVE 2.0:

Provide a network of parks and recreation areas that offer a diversity of high quality recreational opportunities.

Policy 2.1

Explore alternatives to expand recreational opportunities and programs throughout Iron County.

Policy 2.2

Expand recreational opportunities by proactively developing partnerships with public agencies and private entities.

Policy 2.3

Ensure balance of use, enjoyment and separation where appropriate between motorized and non-motorized modes of recreation.

Policy 2.4

Encourage/coordinate the multiple uses of recreational land, areas or facilities.

Policy 2.5

Measure the economic impacts of recreational opportunities and programs in Iron County

Policy 2.6

Include an educational component with outdoor recreational opportunities and programs, where appropriate.

RESOURCES

OBJECTIVE 3.0:

Protect, conserve and enhance natural, historical, and cultural resources.

Policy 3.1

Minimize recreational impacts to natural, scenic and historical resources.

Policy 3.2

Provide an appropriate level of access to publicly-owned areas unique in natural, historical or cultural resources.

Policy 3.3

Partner with communities, area school districts and other organizations to achieve a high level of educational benefits from the county's unique natural, historical and cultural resources.

Policy 3.4

Promote economic sustainability through natural, historical, and cultural resources protection.

PROMOTION

OBJECTIVE 4.0

Promote outdoor recreation in Iron County.

Policy 4.1

Improve funding opportunities for outdoor recreation

Policy 4.2

Focus on developing and maintaining partnerships to promote outdoor recreation in Iron County.

Policy 4.3

Improve public access to data and information about outdoor recreation in Iron County.

Policy 4.4

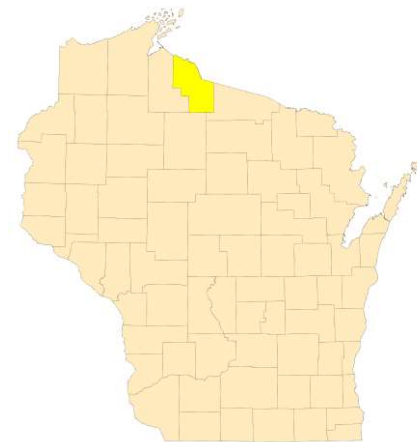
Promotional efforts should include an educational component, where appropriate.

DESCRIPTION OF THE PLANNING REGION

SOCIAL CHARACTERISTICS

PHYSICAL SETTING

Iron County is located in northern Wisconsin and borders the south shore of Lake Superior and the Upper Peninsula of the State of Michigan. Iron County borders the counties of Ashland, Price, and Vilas in Wisconsin, and Gogebic County in Michigan. Iron County is 757.23 square miles in size and had a 2019 estimated population of 5,687. Local units of government within Iron County include ten civil towns and two cities. The City of Hurley is the largest municipality in the county and is the county seat.



2019 Population: 5,687

Median Age: 54 Years

Land Area: 757.23 mi²

Water Area: 162.01mi²

Percent Public: 51.6%

Percent Private: 48.4 %

County Forest: 176,214 Acres

State Land: 85,738 Acres

**Private Lands Open to
Public Recreation:** 64,205
Acres (2015)

Public Land Per Capita: 46
Acres/person
(*Statewide 1.2 Acres/Person*)

Number of Lakes: 494

Miles of Shoreline: 740

Miles of Streams: 633

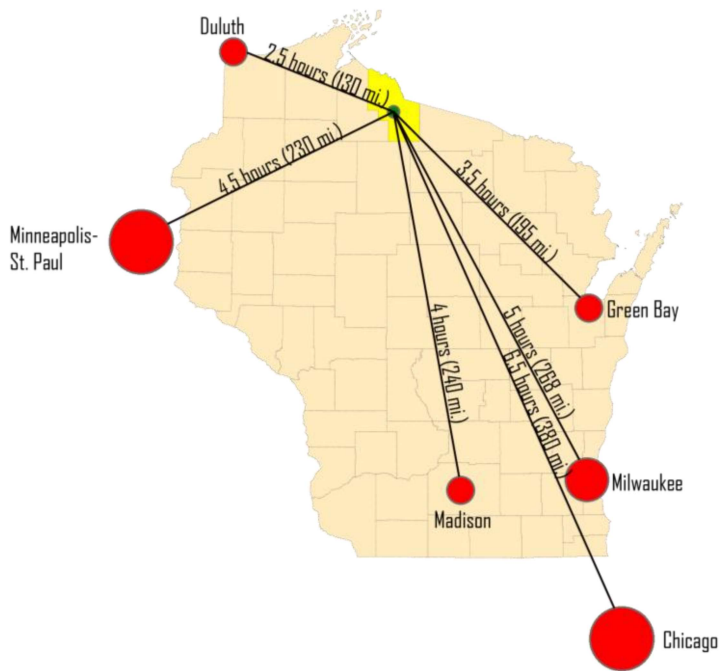
Miles of Trout Streams: 304

**Direct Visitor Spending
(2014):**

\$19 million (64th of 72 Counties)

**Tourism Employment
(2014):**

264



Situated in the remote northern tier of Wisconsin, Iron County is one of the least densely populated counties in the state. Iron County is generally 4 or more hours, by vehicle, to major regional population centers.

POPULATION CHARACTERISTICS

NOTE: 2020 Census data was not available at the time of this writing.

Since the creation of Iron County from Ashland and Oneida Counties in 1893, the county's population has been quite erratic. The population increased the most in the ten years from 1910 to 1920, gaining 1,955 people, and sustained its greatest loss from 1940 to 1950, losing 1,335 residents. Recent data suggests the county's population has stabilized.

Figure 1: Iron County: Population 1900-2010

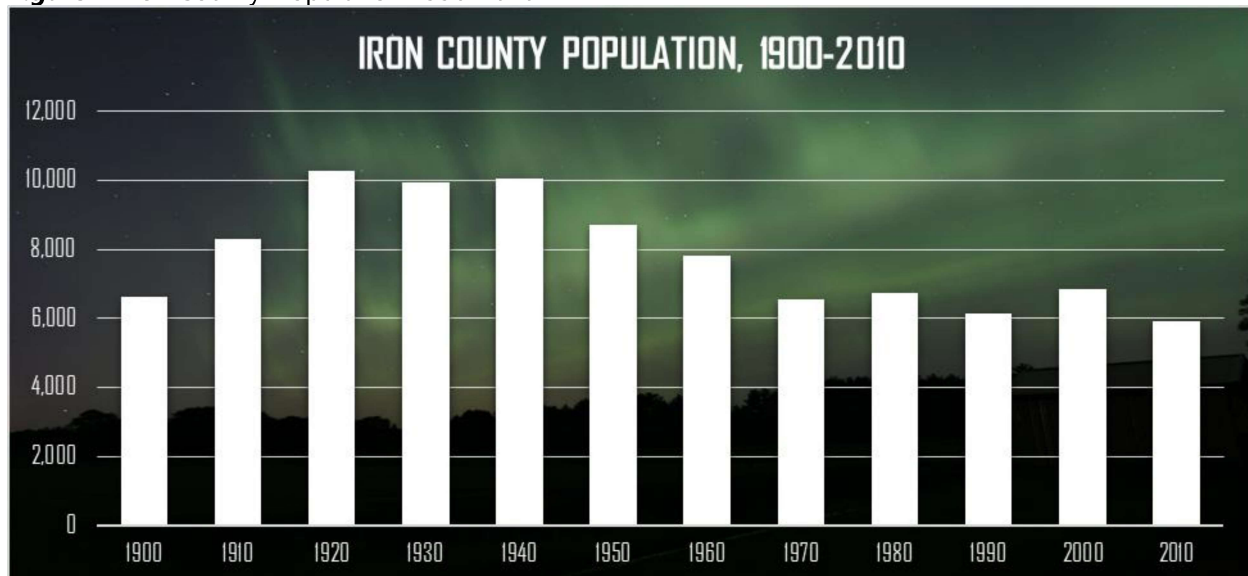
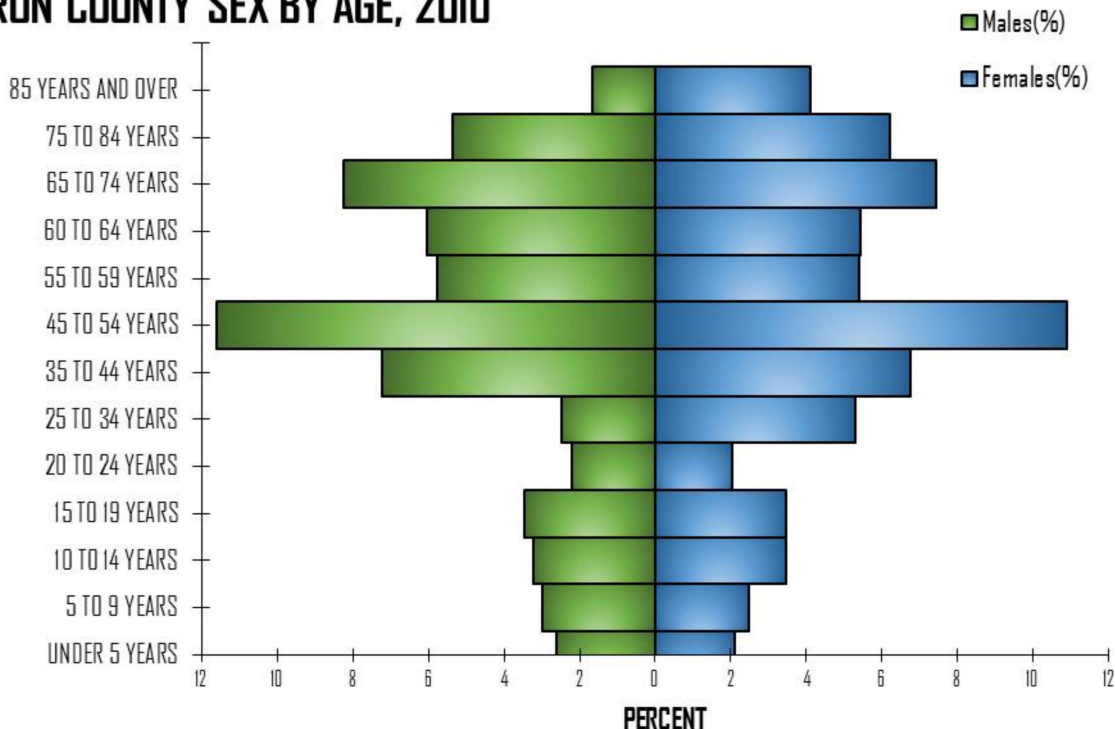


Figure 2: Iron County Population Pyramid

IRON COUNTY SEX BY AGE, 2010



The population distribution of Iron County residents across age classes is reflective of many rural counties in northern Wisconsin. The graphical depiction of sex by age reveals a top-heavy structure, indicative of an aging population. A classic pyramidal shape is indicative of a young, rapidly growing population.

Table 1: Iron County Demographic Change, 2000-2010

Age Category	Absolute Change: 2000-2010	Percent Change: 2000-2010
Under 5	-61	-22.3%
5 to 14	-237	-30.1%
15 to 24	-171	-25.2%
25 to 34	-1241	-73.3%
35 to 44	-439	-40.8%
45 to 54	48	4.9%
55 to 64	170	19.8%
65 to 74	-92	-11.4%
75 to 84	-47	-8.2%
84 and over	50	23.5%

Source: U.S. Census Bureau, American FactFinder

The recreational needs of all Iron County age groups will be represented in this plan. Generally speaking, older residents are interested in more passive recreation, such as enjoying scenic views through the provision of seating and benches that allows for the enjoyment of nature trails and paths. Younger people tend to enjoy more active recreation, such as fishing and fitness trails and motorized recreation. Families often enjoy a broad range of activities such as camping and picnicking as well as motorized recreation.

POPULATION PROJECTIONS

Table 1.2 shows population projections for Iron County from 2010 to 2030. These projections are based on past and current population trends and are intended to be a baseline guide for county decision makers. The projections indicated that Iron County will experience a slow decline in population over the next 25 years. Although Iron County is “projected” to decline in population over the next 25 years, many feel that the county will actually increase in population like it has over the last decade.

Table 2: Population Projections

Year	Iron County
2020	5,680
2030	5,970
2040	5,420
Absolute Change 2010-2040	-496

Source: <http://www.doa.state.wi.us/Divisions/Intergovernmental-Relations/Demographic-Services-Center/Wisconsin-Population-Projections/>

RECREATION AND COUNTY ECONOMICS

In 2015, there were 1,945 jobs in Iron County (EMSI, 2015). A total of 648 (33.3%) jobs fall within the tourism and recreation-related categories of retail trade, accommodation and food services, real estate and rental/leasing, and arts entertainment and recreation. This means that one out of every three jobs in Iron County is either partially or wholly dependent upon tourism and recreation.

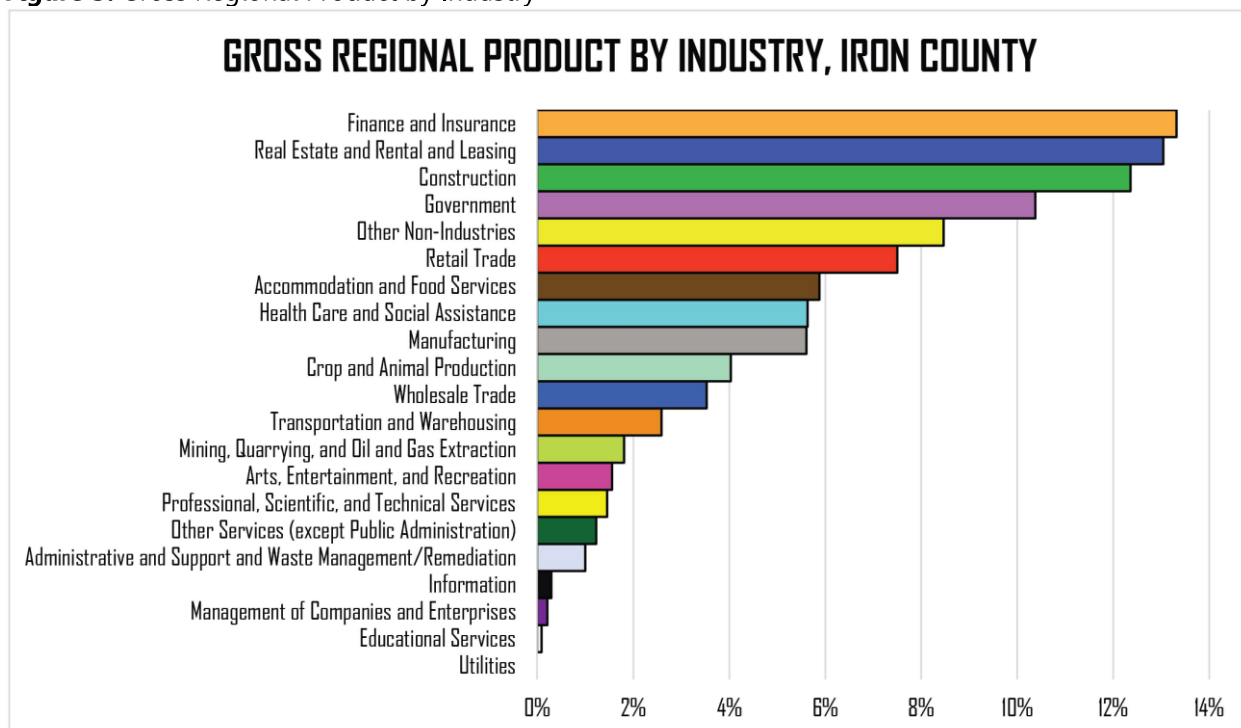
Table 3: Employment by Industry, 2015

Industry	2015 Jobs
Government	347
Retail Trade	261
Accommodation and Food Services	245
Health Care and Social Assistance	231
Construction	210
Manufacturing	183
Real Estate and Rental and Leasing	90
Wholesale Trade	60
Arts, Entertainment, and Recreation	52
Professional, Scientific, and Technical Services	50
Transportation and Warehousing	49
Other Services (except Public Administration)	42
Finance and Insurance	35
Administrative and Support/Waste Management and Remediation	33
Crop and Animal Production	20
Mining, Quarrying, and Oil and Gas Extraction	16
Information	11
Management of Companies and Enterprises	<10
Educational Services	<10

EMSI, 2015

Gross Regional Product (GRP) is a measurement of total economic output. GRP is defined as the market value of all final goods and services produced by all firms in a regional economy. In 2013, the total GRP for Iron County was \$207.1 million, resulting in \$129 million in earnings, \$15.2 million in taxes on production and \$63 million in property income. The total GRP for tourism-related categories was \$58 million, or 28% of total county GRP.

Figure 3: Gross Regional Product by Industry



According to the Wisconsin Department of Tourism, direct visitor spending was \$19 million in 2014. Total business sales related to recreation and tourism were \$26.1 million, while the total labor income was \$4.7 million. State and local tax revenue generated by tourism was \$2.4 million.

In Iron County, forestry is the largest employer in the county, providing 15.4% of all jobs. Forestry and logging account for \$3.3 million in output and \$1.3 million in value-added economic impacts. Sawmills and wood products provide \$77.7 million in total output and an additional \$18.5 million in value added impacts.

County forests are essential to Wisconsin's forest products industry and economy. Each year, these lands generate anywhere from \$25 to \$30 million in timber revenues for counties and towns. Statewide, approximately 16,000 jobs and \$4.6 billion in forest products production result from the timber harvested from county forests. County forests also provide many recreation and tourism opportunities.

Revenues from county forest lands is an important part of the county's annual budget portfolio. Under Wisconsin's Severance Tax Law, 10% of the gross revenue generated by timber sales on County Forest must be paid to towns. These individual payments are based on the acreage of county forest within each town.

ECONOMY

In addition to having one of the highest unemployment rates in the state, Iron County also has some of the lowest incomes in the state. As shown in Table 1.7, annual average wages earned by workers in Iron County in 2007 fell short of the statewide average for all industry sectors. Workers employed in the industry sectors of Manufacturing, Financial Activities, and Professional & Business Services received less than 60 percent of the State of Wisconsin average for workers in those same fields. Workers in the Construction industry sector earned the highest annual wage followed by the Public Administration industry.

Table 4: Annual Average Wages by Industry Division

	Iron County Average Annual Wage	State Average Annual Wage	Percent of State Average
All Industries	\$26,162	\$41,985	62.3%
Construction	\$32,035	\$51,670	62.0%
Education & Health Services	\$33,379	\$43,781	76.2%
Financial Activities	\$21,827	\$58,493	37.3%
Information	ND	\$56,015	NA
Leisure & Hospitality	\$12,868	\$15,221	84.5%
Manufacturing	\$27,968	\$52,413	53.4%
Natural Resources	\$57,579	\$33,047	174.2%
Other Service	ND	\$23,598	NA
Professional & Business Services	\$26,668	\$49,451	53.9%
Public Administration	\$33,011	\$42,198	78.2%
Trade, Transportation, Utilities	\$23,361	\$35,946	65.0%

Sources: Wisconsin Dept. of Workforce Development-Iron Co Workforce Profile 2012. ND = Non Disclosable—data do not meet BLS or State agency disclosure standards

PHYSICAL CHARACTERISTICS

TOPOGRAPHY

Iron County is divided by the Penoquee-Gogebic Range, two parallel ridges running southwesterly from Hurley, that separate the Lake Superior lowlands to the north from the Northern Highland Peneplain to the south. This geologic feature is part of a large regional landscape that extends eastward to the Keweenaw Peninsula in the Upper Peninsula of Michigan. Ore deposits were mined extensively in these highlands from the 1880's through the 1960's. The northern third of Iron County slopes generally downward from the Penoquee Range northward to Lake Superior, forming a large coastal plain. Numerous rivers and streams bisect this area. To the south of the range, the northern rim of the Northern Highland Peneplain begins its gradual rise. This region contains undulating gravelly pitted outwash containing many lakes and wetlands. The highest elevation found in Iron County is approximately 1,877 feet above sea level at the former Pleasant Lake Lookout in Section 34, T44N-R1E in the Town of Knight. The lowest elevation of 603 feet above sea level is found at the Lake Superior coast in the Town of Saxon. Information related to topography was obtained through the United States Geological Survey.

GLACIAL GEOLOGY & SOILS

With the exception of the outcrop areas, all of Iron County is covered with a variety of glacial deposits. Clay deposits cover most of the northern end of the county and ground and end moraine glacial till deposits cover most of the center of the county. Pitted outwash covers the southern part of the county, and outwash is found in narrow areas, primarily stream beds. The clayey deposits consist of mostly clayey till, covered by a thin layer of clayey lake deposits in a few areas. The ground and end moraine till deposits consist of a mixture of sand, gravel, boulders, silt and clay. Most of these deposits in the county have a high proportion of sand except for end moraine deposits in the far northern part of the county which are mostly clayey till.

Soil survey interpretations are provided for specific soil uses. Interpretations for each soil use are based on a set of interpretative soil properties. Soil suitability ratings are usually made on the basis of restrictive soil interpretative properties such as slope, occurrence of internal free water, and texture of surface horizons. A rating of "very limited" indicates that the soil has one or more features that are unfavorable for the specified use. A rating of "moderately limited" indicates that the soil has features that are moderately favorable for the specified use. These limitations can be sometimes be overcome through special designs or planning.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock are the main concerns affecting the development of camp areas.

In general, soil limitations for camping areas and trails in Iron County are primarily due to wetness and ponding (wetlands), slope, and sandiness.

BEDROCK GEOLOGY

Iron County is underlain by three general bedrock formations. Sedimentary rocks, which include sandstone, shale and conglomerate, are found under the extreme northwest corner of the county. Under the area along and to the north of the Gogebic Range are lava flows, formed mostly of basalt and crystalline rocks consisting of steeply dipping and complexly faulted layers of slate, iron formation and dolomitic marble. The remainder of the county is underlain by undifferentiated crystalline rocks. Numerous bedrock outcrop areas exist in the county, especially along streams, in the Hurley-Montreal area along the Gogebic Range, in the Saxon Harbor area and in an area west of Mercer. Depths to bedrock vary widely in the county from over 400 feet in the northwest corner to less than 50 feet in and around the Gogebic Range and other areas.

WATER RESOURCES

Water resources are an important component of the natural landscape. These dynamic resources provide many benefits to both humans and wildlife. Lakes, rivers, streams, waterfalls, wetlands and floodplains are part of a natural cycle and provide many outdoor recreational opportunities. These resources not only provide direct recreational opportunities, such as fishing and boating, but they also enhance wildlife habitat that offer wildlife hiking, viewing and hunting activities.

CLIMATE

The climate of Iron County is separated into two general classifications: a *lake modified continental* climate along the Lake Superior shoreline area and a continental climate throughout the rest of the county. The continental climate is generally characterized by hot summers and cold winters. This pattern is modified along the Lake Superior coast by the cold lake waters that serve to moderate summertime temperatures and increase wintertime temperatures. Average temperatures in Iron County range from 13° F in January to 67° F in July. Average temperatures along the lakeshore can be as much as 10-15° cooler in the summer and slightly warmer during the winter months.

Average annual precipitation varies from about 36 inches in the Penokee highlands of north central Iron County, to 32 inches along the lake and in the far southern part of the county. Average annual snowfall ranges from 160 inches at Hurley to 80 inches in the southwestern part of the county. Lake enhanced winter storms produce generally higher snowfalls across northern Iron County, particularly in areas of high elevation.

LAND OWNERSHIP

Land ownership has a significant impact on the natural resource base by influencing development patterns, land use, management, policy, and public use/access.

Table 5: Land Ownership

Total Area	514,292 acres
County	176,214 acres
Federal	0 acres
State	85,738 acres
Municipal	3,012 acres
Tribal Lands	16,982 acres

Sources: Iron County GIS

SUPPLY

OUTDOOR RECREATION INVENTORY

Table 6: Inventory of Existing Recreational Facilities

	TABLE	TRASH CAN	GRILL	SHELTER	DOCK	LANDING	TOILET	PLAYGROUND	SHOWER	CAMPING	SWIMMING
COUNTY PARKS											
Lake of the Falls	✓	✓		✓	✓	✓	✓		✓	32	✓
Schomberg Park	✓	✓		✓			✓		✓	14	
Weber Lake	✓	✓		✓	✓	✓	✓	✓	✓	11	✓
Saxon Harbor	✓	✓	✓	✓	✓	✓	✓	✓	✓	31	✓
Potato River Falls	✓	✓		✓			✓			7	
CITY PARKS											
Al Riccelli Park	✓			✓			✓	✓			
Veteran's Memorial Field		✓					✓				
Cary Road Park							✓	✓			
Albert C. Morzenti Sr. Memorial Park	✓	✓	✓					✓			
Slugger Baron Park	✓							✓			
Gile Park on Gile Flowage	✓			✓	✓	✓	✓	✓			✓
Dan Young Park								✓			
TOWN PARKS											
Carow Community Park	✓			✓			✓	✓			✓
Upton Community Park	✓			✓			✓			✓	
Kimball Park	✓			✓			✓	✓		✓	
Kimball Town Baseball Field							✓				
Oma Town Park	✓			✓			✓	✓			✓
STATE CAMPGROUNDS											
Sandy Beach Campgrounds	✓					✓	✓			37	✓
Turtle Flambeau Flowage Islands	✓						✓			✓	
PRIVATE CAMPGROUNDS											
Frontier Bar Campgrounds	✓						✓	✓		✓	
Loon Lagoon Campground										✓	

There are many recreational facilities owned and managed by the towns, county and state that are available to residents and visitors of Iron County. In addition to the maintained recreational facilities, county forests and bodies of water also provide countless recreational opportunities. In addition to the campgrounds, the public is allowed to set up and camp on the County Forest for up to two weeks in the same location.

COUNTY PARKS



Figure 4: County Parks

Lake of the Falls

A 40-acre county park and campground (32 units) located at the beginning of the Turtle Flambeau Flowage, 6 miles west of Mercer on County Road FF. Facilities include picnic area, tables, fire rings, drinking water, restrooms, showers, swimming, boat ramp, fishing, pavilion, electrical hookups, dumpstation, and a caretaker.

Schomberg Park

A 160-acre county park and campground (14 units) located off Highway 51 in the Town of Oma along Layman's Creek. Facilities include a restrooms and showers, pavilion and picnic area, tables, fire rings, electrical hookups, drinking water, dump station, ATV wash station, ATV trail access. Schomberg Park also has a 1.7 mile snowshoe trail loop with parking available in the winter.

Weber Lake

This County Park and campground (12 units) is located west of Hurley off County Road E in the Town of Anderson. The park consists of ten acres with a picnic area, tables, fire rings, drinking water, pavilion, restrooms, changing rooms, boat ramp, fishing, swimming and electrical hookups.

Saxon Harbor

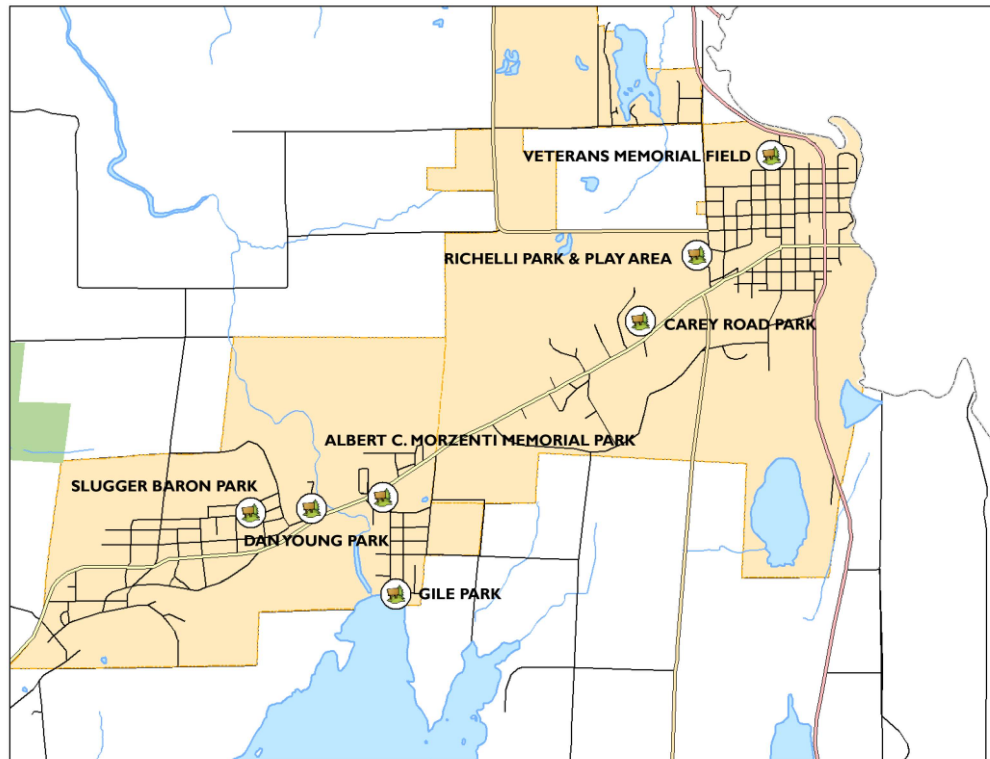
This County Park and campground (31 units) is at Lake Superior, north of U.S. 2 off Highway 122 and County Road A. The Harbor includes 81 slips for boats up to 45 feet long, 12 transient moorings, three boat launches, parking for 50 trailers, gas & fuel for sale, boat septic system pump out, water, boat-lift, restroom and shower facilities and dump station. Picnic tables, a pavilion, playground, fire rings, electrical hookup and swimming area are available. ATV trail access. In 2016 the entire campground and marina were destroyed in a flood. The campground and marina were rebuilt and opened in 2020.

Potato River Falls

Located two miles west of Highway 169 in the town of Gurney, rustic campsites (7 units) with fire rings & picnic tables are available at Potato River Falls. Hiking/biking trails, restrooms, picnic tables and a pavilion surround the waterfalls and trout fishing possibilities.

CITY PARKS

Figure 5: City Parks



Al Ricelli Park

This five-acre community park is located at 805 Maple Street in the City of Hurley. Facilities include playground equipment, picnic tables, basketball court, pavilion and restrooms. Little League fields are located adjacent to Ricelli Park, which includes bleacher seating and a concession stand.

Veteran's Memorial Field

Located on Fifth Avenue in Hurley, Veteran's Memorial Field offers opportunity for various forms of recreation. A football field with two large sets of bleachers offers a location for home football games in the fall accompanied by concession stands, restrooms and locker room facilities. Also, at Veteran's Memorial Field, there are basketball and tennis courts for public use.

Cary Road Park

This park is located off Highway 77 in the City of Hurley. Facilities include a softball field, volleyball court, horseshoe pits, bocce ball court, playground equipment, combination concession stand/restrooms and a paved walking trail.

Albert C. Morzenti Sr. Memorial Park

This 10-acre park is located on Highway 77 in the City of Montreal. The west fork of the Montreal River flows along this park near the picnic area. Facilities include picnic tables, grills, swing set, trash containers, and a historical marker commemorating the site of the world's deepest iron mine. Montreal baseball fields are adjacent to this park.

Slugger Baron Park

Located on Ohio Avenue in the City of Montreal, this park consists of picnic tables and new

playground equipment.

Gile Park of Gile Park Flowage

Gile Park is a park owned by the City of Montreal, located west of Hurley on Hwy 77, left into Gile to Flowage. The park has a picnic area, tables, fireplaces, drinking water, pavilion, restrooms, changing rooms, slide and swings, swimming, boat launching ramps and fishing.

Dan Young Park

Located in the City of Montreal. The park includes a local softball field, swing sets and other play equipment.

TOWN PARKS



Figure 6: Town Parks

Carow Community Park

This town park is located on County Road J on Grand Portage Lake in Mercer. Facilities include a picnic area, tables, fireplaces, pavilion, and restrooms, swimming area, playground equipment, bike racks, ball field and paved walking track.

Upton Community Park

This town park is maintained by the Town of Anderson, and is located on the Potato River west of Upton. Facilities include picnic area, tables, fireplaces, pavilion, restrooms, overnight camping, electrical hookups, waterfall and trout fishing.

Kimball Town Park

The Kimball Town Park west of Hurley and south on Park Road on the Montreal River offers a beautiful view of Kimball Falls. Other facilities include a picnic area, tables, fire rings, pavilion, restrooms, overnight camping, trout and walleye fishing, walking trails, and kayak options.

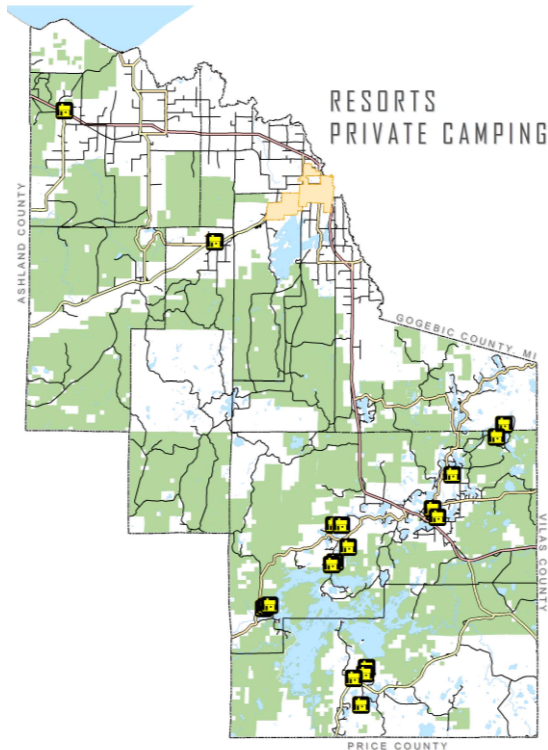
Kimball Town Baseball field

The Town of Kimball owns a baseball field situated on US Highway 2. This facility includes fences and an outhouse. This field has been neglected over the years and is in need of maintenance before any future use.

Oma Town Park

This town park located on County Road G is found on Pine Lake. Facilities include picnic area, tables, fireplaces, pavilion, restrooms, swimming and a playground.

PRIVATE CAMPGROUNDS



Frontier Bar Campgrounds

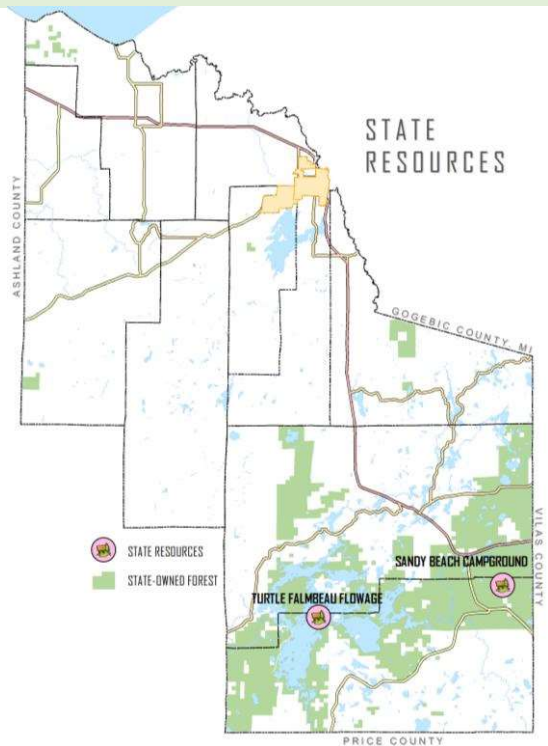
Camping options can be found just behind the Frontier Bar in Cedar off Highway 2. Facilities include fireplaces, drinking water, restrooms, picnic area and tables. Sewer, electrical, water, laundromat and pull thru sites are available to RVs. Easy access to ATV trail 2.

Loon Lagoon Campground

Located two blocks east of Highway 51 in Mercer, Wisconsin, on the outlet of Grand Portage Lake. It is an open, grassy park within walking distance of stores and restaurants. The grounds are centrally located for day trips and fishing in historic Iron County. Camping on Grand Portage Lake can be found at 2580 Margaret St., Mercer.

Figure 7: Private Campgrounds

STATE CAMPGROUNDS



Sandy Beach Campgrounds

This state campground is located on Powell Marsh Road in the northeastern corner of the Town of Sherman. Facilities include rustic campsites, toilets, tables, picnic area, fire rings, drinking water, swimming and a boat launch. Maps are available at the Mercer Ranger Station and the Mercer Area Chamber of Commerce or by visiting the DNR web site. (<http://dnr.wi.gov/topic/lands/turtleflambeau/>) Boat launches are available in several locations.

Turtle Flambeau Flowage Islands

The Turtle Flambeau Flowage offers excellent fishing, canoeing and kayaking opportunities. Six group sites on Big Island are available by reservation only. There is a fee for these sites. Reservations can be made by contacting Reserve America or the WDNR website.

Figure 8: State Resources

WATERFALLS



Figure 9: Waterfalls

Superior Falls - 90 feet
Montreal River (Lake Superior/Saxon Area)

Potato River Falls – 90 feet
Potato River (Gurney Area)

Peterson Falls – 35 feet
West Branch Montreal River (Gile Area)

Upson Falls – 18 feet
Potato River (Upson Area)

Gile Falls – 15 feet
West Branch Montreal River (Gile Area)

Shay's Dam Falls – 15 feet
Turtle River (Mercer Area)

Kimball Falls – 10 feet
West Branch Montreal River (Hurley Area)

Lake of the Falls – 10 feet
Turtle River (Flambeau Flowage Area)

Rock Cut Falls – 15 feet – (No Public Access)
West Branch Montreal River (Hurley Area)

Spring Camp Falls – 20 feet
East Branch Montreal River (Hurley Area)

Wren Falls – 15 feet
Tyler Forks River (Gurney Area)

Foster Falls – 25 feet
Potato River (Gurney Area)

Rice Lake Falls – 10 feet
Turtle River (Mercer Area)

Rouse Falls – 15 feet
Rouse Creek (Upson Area)

Little Balsam Falls – 8 feet
Tyler Forks River (Upson Area)

Saxon Falls – 78 feet
Montreal River (Lake Superior/Saxon Area)

NON-MOTORIZED TRAILS

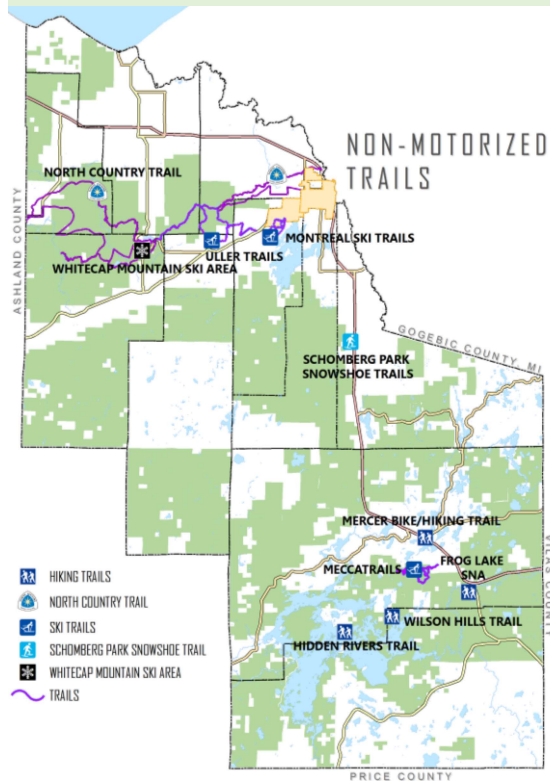


Figure 10: Non-Motorized Trails

Non-motorized recreational facilities in Iron County include scenic hiking and walking trails, off-road biking, cross country ski trails, and canoe routes. What follows is a listing and descriptions of current and proposed non-motorized trails in Iron County.

MECCA Trail

The MECCA (Mercer Cross-Country Association) Trail system is located in the Town of Mercer and consists of hiking, snowshoeing and cross-country ski trails. These trails also serve as hunter walking trails in the fall. There are 3 miles of looping snowshoe trails and new boardwalks for summer hiking. MECCA grooms 20 km for skiing through the woods and around the Little Turtle Flowage. The trails are on Iron County Forest and State lands. The club operates a log chalet at the main trailhead 2 miles off Hwy 51 on the south side of Mercer, via Beachway Street.

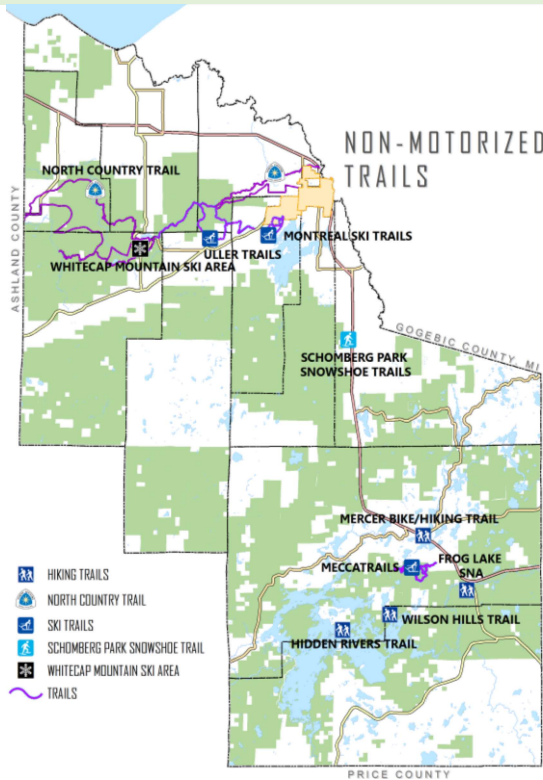
Flambeau Trail

The Flambeau Trail was the key transportation route for Native Americans long before European exploration. Later, the trail hosted voyagers, fur traders and settlers during their journeys throughout the region. The Flambeau Trail crossed the Continental Divide linking the Lake Superior and Mississippi watersheds. Today, the Flambeau Trail is used as an auto tour highlighting historic sites along the trail.

North Country Trail

The North Country National Scenic Trail is a premier footpath that stretches more than 4,000 miles to link communities and wilderness areas across seven northern states. Wisconsin has the smallest distance of any of the seven states the North Country Trail crosses, and the second smallest amount of trail developed to date. The trail crosses from Michigan on Hwy 122 Ironwood into Saxon and into Ashland County near Copper Falls State Park on Hwy 169.

NON-MOTORIZED TRAILS CONT...



Historic Montreal Ski Trails

The Historic Montreal Ski Trails are 11km of trails located in Montreal and Pence, WI. Trails are groomed for classic skiing with room for snowshoers, walkers and dogs. The trail winds through remnants of the old Montreal Mine. Interpretive signs highlight a few of the mining era artifacts that remain along the trail. The trail is maintained by Penoque Ranger volunteers.

Uller Trail

The Uller Trail is part of the Nordic Ski Trails system and is located along the Penoque Range from Pence and Iron Belt to Weber Lake. Three loops have recently been constructed and are accessed from Weber Lake. Improved signage and a warming cabin have been added. The trail's terrain is hilly and remote and is approximately 23 km in length. Iron Co Forestry & Penoque Ranger volunteers maintain the trail.

Pines and Mines Mountain Bike Trail System

This trail system offers 300 miles of marked and mapped mountain biking opportunities in the abundant public lands of Iron County and the nearby Ottawa National Forest.

Hidden Rivers Nature Trail

This interpretive trail is located at Fisherman's Landing on the Turtle Flambeau Flowage in the Town of Mercer. The trail is two miles long and includes signage describing the history and resources of the Flowage.

Downtown Mercer Biking/Walking Trail Project

A paved hiking/biking trail has been constructed from the Mercer Chamber of Commerce on Hwy 51 in Mercer for 7.8 miles and into Vilas County hooking up with the 52 miles Heart of Vilas Trail System. The next segment planned is from the Mercer Chamber to Carow Park. A following segment would be from Carow Park to CTH J and CTH W.

NON-MOTORIZED TRAILS CONT...

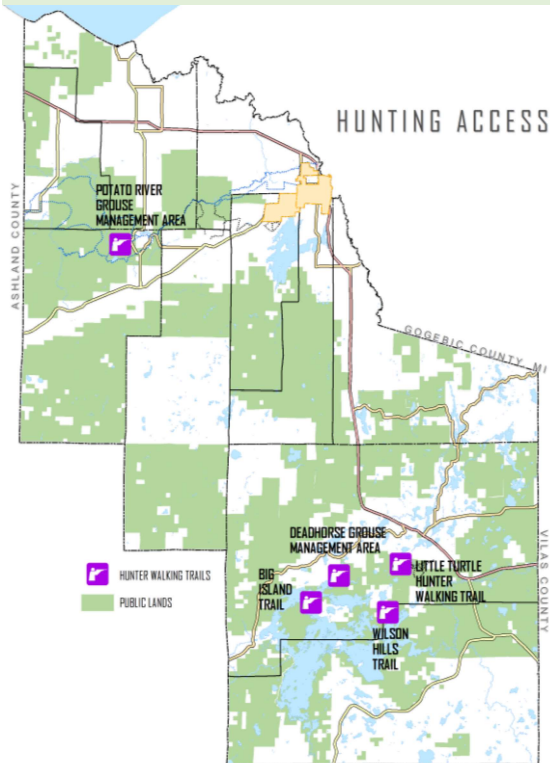


Figure 11: Hunting Access

Schomberg Park Snowshoe Trail

Two loops totaling 1.7 miles of snowshoe trail. Parking is available on the south parking lot. Future plans include bridges over the creeks in order to allow grooming for ski trails. This trail may also be used as a hiking trail in the summer.

Hunter Walking Trails

The Iron County Forestry Department has received a grant from the Ruffed Grouse Society to map and print hunting trails throughout Iron County on the County Forest. This project began in 2009 and continues on.

Deadhorse Trail

This hunter walking trail is located off of Popko Circle West in the Town of Mercer. The trail includes interpretive and informational signs about grouse habitat management and a deer/hare enclosure. It is managed in cooperation with the Ruffed Grouse Society.

MOTORIZED TRAILS

ATV Trails

Iron County boasts one of Wisconsin's largest ATV system starting in the Hurley area, with more than 250 miles of trails and routes to take riders deep into the heart of Iron County. Along the routes, motorists will find a variety of pit stops offering food, beverages, gas, lodging and scenic outlooks. For maps on Iron County's ATV trails, contact the Iron County Development Zone Council or the Hurley and Mercer Chamber of Commerce.

The Iron County Forestry Department, along with the Iron County ATV Association and Mercer Dusty Loons, maintains 120 miles of ATV trails throughout the County. The Forestry Department also contracts with the White Thunder Riders and Mercer SnoGoers to maintain 167.5 miles of winter ATV trails.

Snowmobile Trails

Over 300 miles of well-groomed, uncrowded snowmobile trails traverse Iron County. Unmatched beauty, with a unique microclimate, along with the most reliable snow in the Midwest guarantees Iron County snow even when other areas are without hence Governor Doyle's designation of Iron County as the Snow Capital of Wisconsin in 2009. In 2019, Iron County was designated a Snowmobile Friendly County.

Iron County's snowmobile trails connect and incorporate many of the county's historic communities, transportation corridors, mining and lumbering sites, as well as plenty of forests and lakes. As with the ATV trail system, varieties of establishments offer food, beverages, gas and lodging along the journey. Experienced riders may visit scenic outlooks.

The Iron County Forestry Department contracts with the White Thunder Riders and the Mercer SnoGoers to maintain 303 miles of snowmobile trails throughout the County.

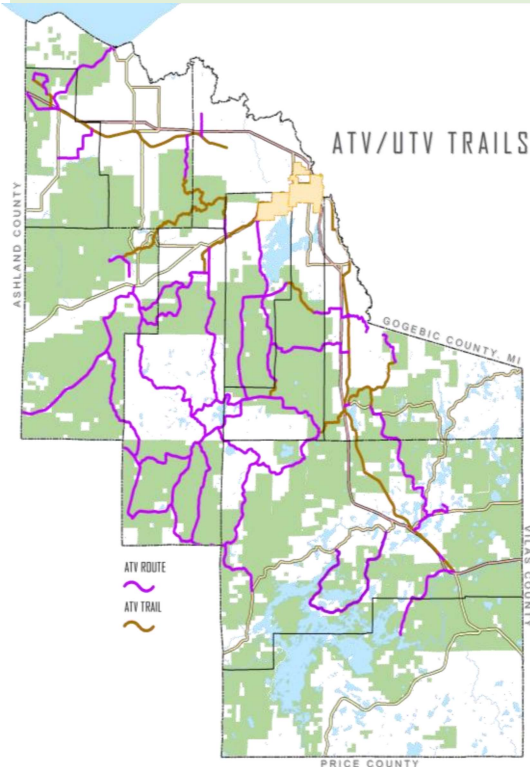


Figure 12: ATV/UTV Trails

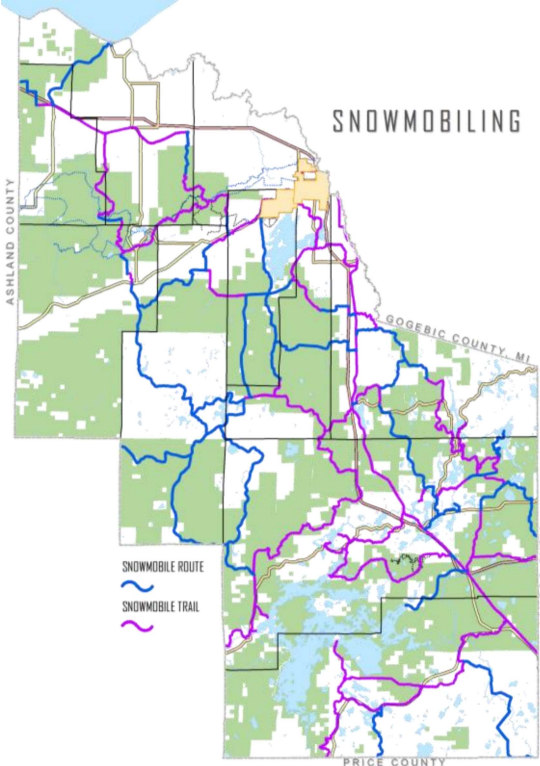


Figure 13: Snowmobile Trails

FISHING

Boat Landings

There are a number of boat landings found within Iron County. Many are county and state owned, offering access to spectacular lakes as large as Lake Superior and as small as Lake Obadash. The number of landings located at each lake is listed. Depending on the lake, landings may be paved or rustic and vary from powerboat use to canoe.

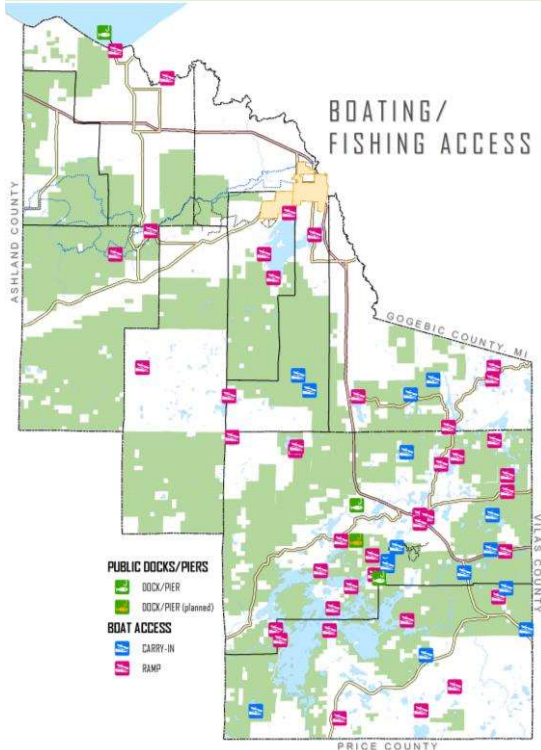


Figure 14: Boating/Fishing Access

Table 7: Iron County Lakes with Public Boating Access

Lake	Lake	Lake
Bass Lake	Lake Obadash	Randall Lake
Bearskull Lake	Lake of the Falls	Sandy Beach Lake
Beaver Lake	Lake One	Saskatoon Lake
Brandis Lake	Lake Six	Saxon Falls
Cedar Lake	Little Moose	Saxon Harbor
Deer Lake	L. Turtle Flowage	Shay's Dam
Deer Tail Lake	Long Lake	Shirley Lake
Du Page Lake	McDermott Lake	Spider Lake
Echo Lake	Mercer Lake	Tamarack Lake
Fisher Lake	Moose Lake	Trude Lake
Fox Lake	Mud Lake	Turtle Flambeau
Gile Flowage	North Bass Lake	Twin Lakes
Grand Portage Lake	One Man Lake	Upton Lake
Hewitt Lake	Owl Lake	Weber Lake
Island Lake	Pike Lake	Wilson Lake
Lake Evelyn	Pine Lake	
Lake O'Brien	Plunkett Lake	

Source: Wisconsin Department of Natural Resources, 2016. Statewide inventory of public boat access and fishing sites. *Note: Public access data may not be complete and additional access points may exist.*

BICYCLING

Bike Routes

The Wisconsin State Bike Map, published and distributed through the Bicycle Federation of Wisconsin, identifies and classifies state and county roads in terms of their bicycling conditions. The bicycle map for Iron County can be accessed on the WisDOT web site at <http://wisconsin.gov/Documents/travel/bike/bike-maps/county/iron.pdf>

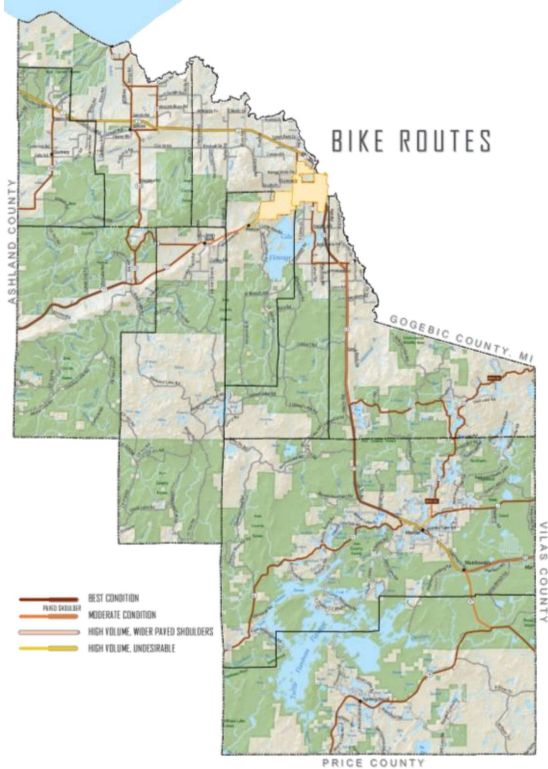


Figure 15: Bike Routes

GOLF

Eagle Bluff Golf Club

Public, 18-hole golf course located in Hurley. The course features 5,870 yards of golf from the longest tees for a par of 70.

Skye Golf Course

The 18-hole "Whitecap Skye" course at the Skye Golf in the Whitecap Mountains facility in Upson, features 5,320 yards of golf from the longest tees for a par of 70.

Tahoe Lynx Golf Course

This 9-hole public golf course in Mercer opened in 1994 and measures 2606 yards from the longest tees. The course features 3 sets of tees for different skill levels.

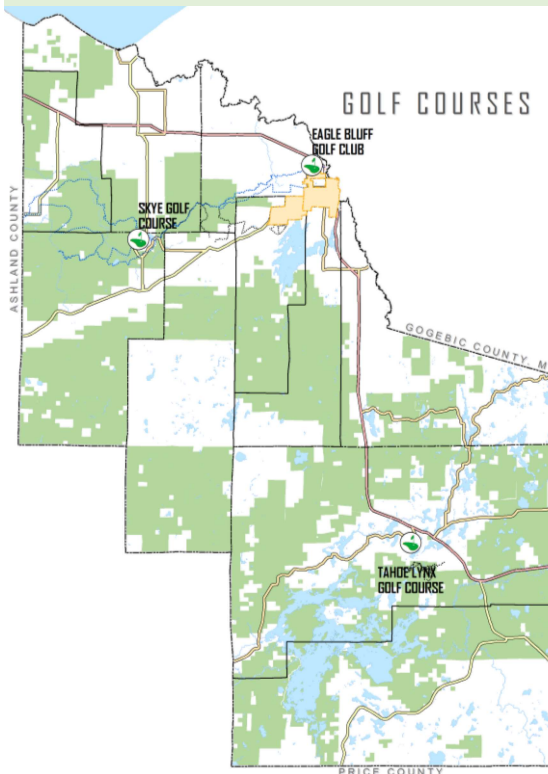


Figure 16: Golf Courses

SCENIC SITES/POINTS OF INTEREST

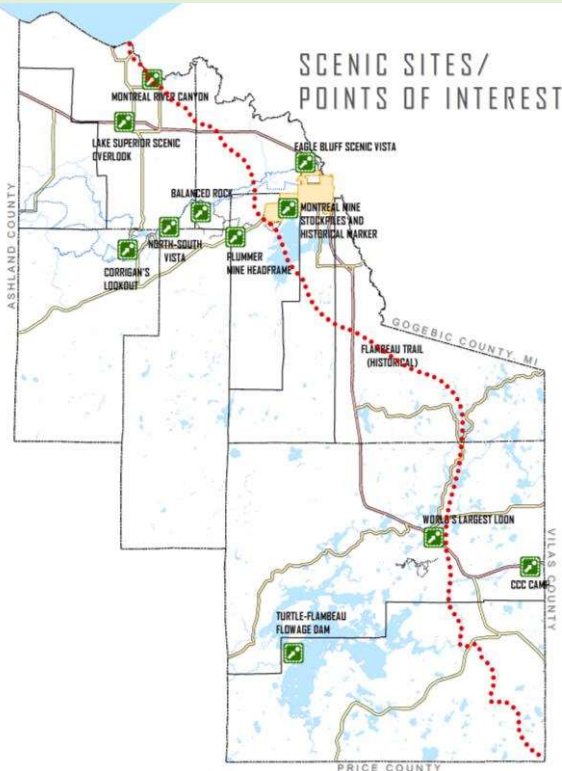
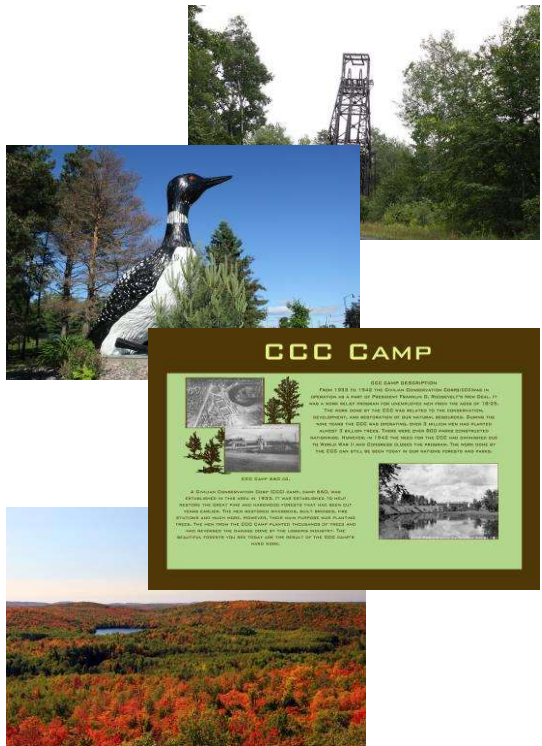


Figure 17: Scenic Sites/Points of Interest



Montreal River Canyon

Scenic and remote canyon on the Montreal River in northern Iron County. The canyon's contains high sheer rock walls straddle whitewater rapids (class II – class V) and boulder gardens which make this a destination for adventurous whitewater rafters. Located on private property.

Lake Superior Scenic Overlook

WisDOT overlook and rest area along US Highway 2.

Corrigan's Lookout

Rock outcrop overlooking Upson Lake and the Penokee Hills. Located on Iron County Forest lands, near Upson.

North-South Vista

Scenic views of the Penokee Hills landscape. ATV & snowmobile access via Trail 6.

Balanced Rock

Natural geologic feature located near the midpoint of the Uller Trail. ATV & snowmobile access via Trail 6.

Plummer Mine Headframe

The Plummer Mine Headframe is the last standing headframe in Wisconsin, and is listed on the National Register of Historic Places.

Eagle Bluff Scenic Vista

A spectacular vista of two states and Lake Superior. South of U.S. 2 on County D at the Eagle Bluff Golf Club, one mile west of Hurley.

Montreal Mine Stockpiles and Historical Marker

Neat white frame houses, gently curving streets, and gracious landscaping mark the City of Montreal—the only planned mining company town in Wisconsin.

World's Largest Loon

Statue of Claire d'Loon", the world's largest loon, in front of the Mercer Chamber of Commerce.

Turtle-Flambeau Dam

Dam constructed in 1926 on the Flambeau River which created the Turtle-Flambeau Flowage.

Flambeau Trail

Historical travel trade route trips from La Pointe, on Madeline Island, to Lac du Flambeau, 90 miles to the south.

CCC Camp (Mercer Trail)

Historical site of former Civilian Conservation Corp camp 660 established along the Manitowish River in the Town of Mercer.

PUBLIC ACCESS LANDS

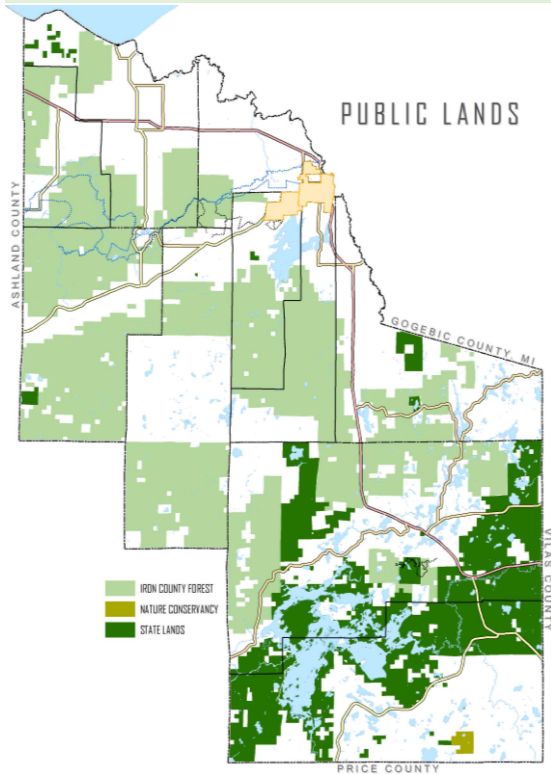


Figure 18: Public Lands

Iron County Forest

Encompassing over 176,000 acres, the Iron County Forest is an actively managed, working forest that provides tremendous recreational opportunities, jobs and timber products.

State Forest

The State of Wisconsin owns and manages over 85,000 acres of public access lands in Iron County, including the 35,500 acre Turtle-Flambeau Scenic Waters Area.

Nature Conservancy Lands

The Bass Lake Preserve in southern Iron County contains a diversity of trees, including aspen, sugar and red maple, yellow and white birch. This area was designated as a State Natural Area in 1986.

Forest Tax Law

Approximately 64,000 acres of privately-owned lands enrolled in Wisconsin's Forest Tax Law programs are open to public access and recreation. These programs encourage sustainable forest management on private lands by providing a property tax incentive to landowners. Two different forest tax law programs currently exist: the Managed Forest Law (MFL) and the Forest Crop Law (FCL).

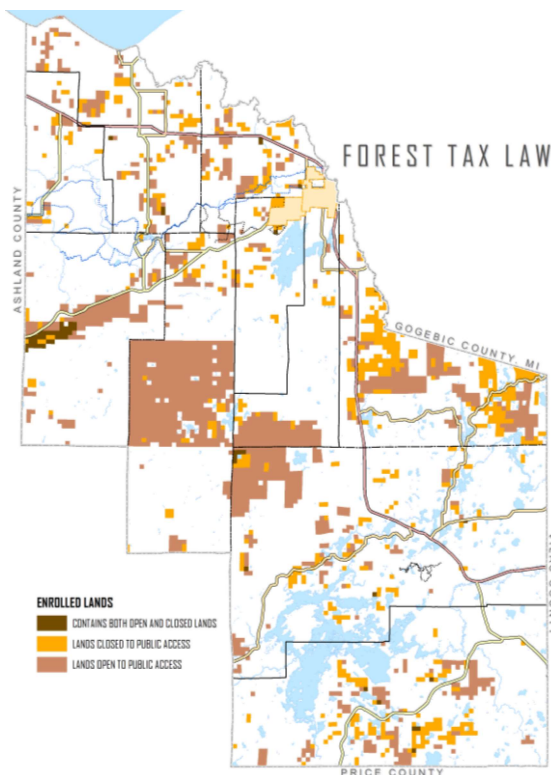


Figure 19: Forest Tax Law Lands

STATE OWNED AND MANAGED PROPERTIES

Underwood State Wildlife Area (SWA)

Located in the Town of Oma, the Underwood State Wildlife Area is a 1,600 acre state-owned tract managed primarily for wildlife species such as ruffed grouse, deer, woodcock, bears, and wolves. Habitat types found within this area include forested uplands and cedar swamps.

Hay Creek-Hoffman Lake Wildlife Area (SWA)

This SWA encompasses portions of Ashland and Iron Counties. Within Iron County, the Wildlife Area is found within the Town of Sherman and a small portion of the Town of Mercer. The total acreage of this SWA is 13,424 acres, with 7,412 acres in Iron County. This SWA provides habitat for a wide range of wildlife species including ruffed grouse, deer, woodcock, bears, loons, waterfowl, beavers, otters, fishers, coyotes, bobcat, muskrats, ospreys, eagles, and timber wolves.

Moose Lake State Natural Area (SNA)

The Moose Lake SNA encompasses 1,113 acres within the Town of Mercer. This area contains high quality forest with several patches of old-growth hemlock forest. This SNA also contains rare plants and an important warbler breeding area. Frog Lake and Pines State Natural Area (SNA) This 192-acre SNA located in the Town of Mercer features an undisturbed wilderness lake surrounded by old-growth northern dry-mesic forest in a large lowland bordering the Manitowish River. This SNA is located entirely within the Northern Highland American Legion State Forest.

Bass Lake Preserve State Natural Area (SNA)

This 30-acre preserve is located within the Northern Highland American Legion State Forest in the Town of Sherman. This property features a wilderness type lake, conifer swamp and bog and northern hardwoods forest.

Lake Evelyn State Natural Area (SNA)

The Lake Evelyn State Natural Area encompasses 26 acres in Section 23, T44N R3E, in the Town of Oma. This SNA features an undeveloped soft-water seepage lake surrounded by wetlands and upland forest.

Caroline Lake State Natural Area (SNA)

The Caroline Lake SNA is located in T44N-R1W, Section 19, in the Town of Anderson. This SNA encompasses 118 total acres of northern hardwoods, conifer, wetland, and mixed forest. Caroline lake also forms the headwaters of the Bad River and contains unique plant communities and forested wetlands.

Springstead Muskeg State Natural Area (SNA)

The Springstead Muskeg SNA is a large peatland featuring an extensive undisturbed bog located at the headwaters area of the South Fork of the Flambeau River. This SNA encompasses 200 acres in Section 28 of the Town of Sherman.

Powell Marsh Wildlife Area (SWA)

This SWA lies within the boundary of the Northern Highland American Legion State Forest on the western edge of the Town of Sherman. Since 1980, management activities in this SWA have focused on enhancing habitat for waterfowl and sharp-tailed grouse. Total acreage of this SWA within Iron County is approximately 105 acres.

Turtle-Flambeau Flowage State Natural Area (SNA)

This 3,145 SNA is found in the Towns of Mercer and Sherman in Iron County. The Flowage was created in 1926 by the inundation of lowland wetlands and contains numerous unique and varied plant and animal communities.

Turtle-Flambeau Scenic Waters Area

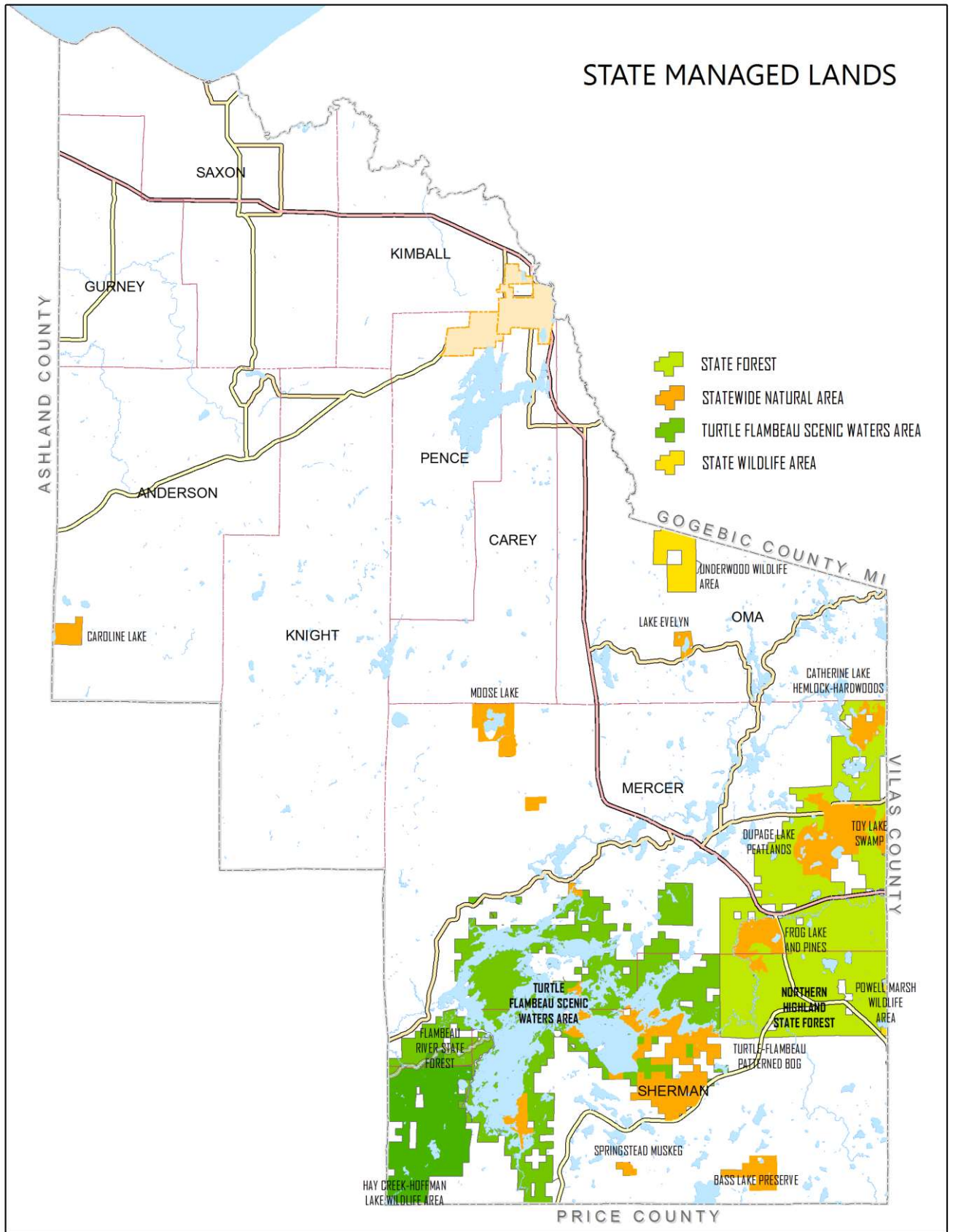
The Turtle-Flambeau Scenic Waters Area contains several thousand state-owned acres of water and miles of undeveloped shoreline. The Flowage itself is a 19,000-acre reservoir with 212 miles of predominantly wilderness shoreline. This area is a popular recreation destination for those seeking fishing and wilderness camping experiences. This area includes the once separate Boot Lake State Wildlife Area.

Northern Highland American Legion State Forest

This state forest was established in 1925 to protect the streamflow at the headwaters of the Wisconsin, Flambeau and Manitowish Rivers. The NHAL State Forest is the largest in Wisconsin, encompassing over 222,000 acres in Vilas, Oneida and Iron Counties. Within Iron County there are approximately 30,000 acres of land within the NHAL State Forest.

Flambeau River State Forest

The Flambeau River State Forest was established in 1930. This forest occupies a total of 90,000 acres of land surrounding the North and South Forks of the Flambeau River. Within Iron County, this forest occupies about 335 total acres.



WAYSIDES/PICNIC AREAS

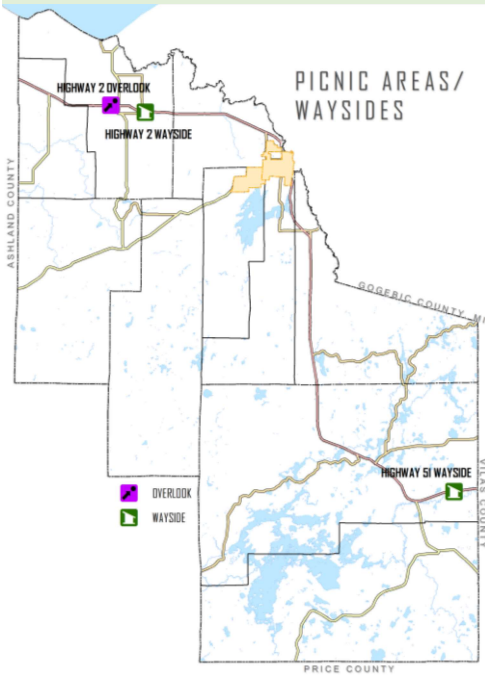


Figure 20: Picnic Areas/Waysides

Highway 2 Overlook (Apostle Islands)

WisDOT overlook along US Highway 2 in the Town of Saxon. No facilities.

Highway 2 Wayside

WisDOT wayside along US Highway 2 in the Town of Saxon. Interpretive signage and limited day-use facilities are present.

Highway 51 Wayside

WisDOT wayside along US Highway 51 in the Town of Mercer.

LOCAL EVENTS/FESTIVALS



Figure 21: Public Events

Iron County Fair

The Iron County Fair is one of the best small county fairs in Wisconsin. Located in the town of Saxon, the fair offers a multitude of activities for every age. Activities include, agricultural exhibits, animals, rides, food, entertainment, midway rides and games, and other fun.

Paavo Nurmi Marathon

Named for the Finnish winner of nine Olympic gold medals in the 1920s, this marathon draws about 300 participants annually. It starts in Upson, WI and finishes in downtown Hurley. It was established in 1969 and is considered to be the oldest running marathon in Wisconsin.

Loon Day

An annual art & craft show in Mercer with more than 250 exhibitors. Loon calling contest (trophies awarded), food, music, dancing, demonstrations, sidewalk and bake sales, face painting for kids and a flea market

SISU Ski Fest (Ironwood, MI)

XC Ski races and snowshoe events, held annually.

Festivale Italiano

Annual family fun event held in Hurley celebrating Italian heritage.

Heritage Festival

Two weeks of events to celebrate Iron County's rich cultural heritage. Held annually.

Musky Fishing Challenge

A catch and release musky fishing tournament that allows the use of both artificial and live bait. Held annually in Mercer

Lupine Junefest

Annual festival held in Mercer, featuring bike/hike tours, live music, arts/crafts, silent auction, photography, informational booth and classic car show.

Mercer Open All-Species Fishing Tournament

Fishing, Trade Show, Demos, and Live Music. Held in Mercer

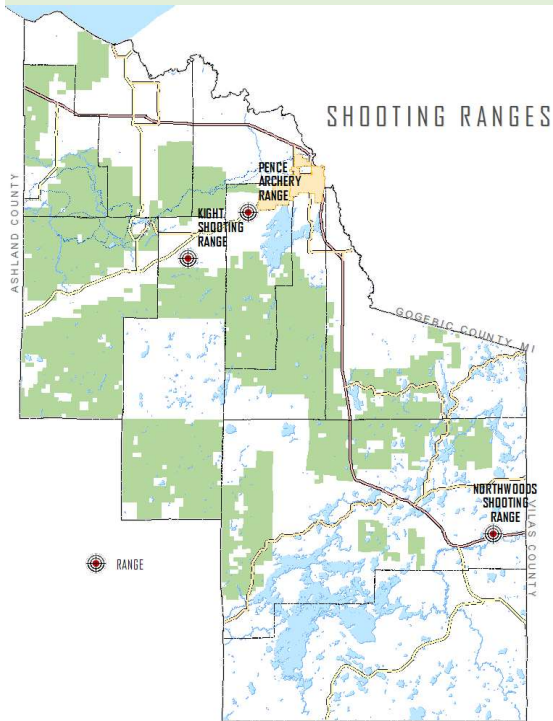
Saxon Harbor Fishing Tournament

Annual spring fishing tournament on Lake Superior.

Winterfest (MECCA)

Turtle River Pursuit & Snowshoe tour

SHOOTING RANGES



Northwood's Shooting Range

The Northwood's Shooting Range is maintained by the Northwood's Wildlife & Wetlands Club and is open to the public from April 1 to November 30. The range is located five miles south of Mercer, just off Hwy 51 on Range Road. The facility includes a 200-yard rifle and 100-yard pistol range and field course. Shooting events are held weekly throughout the summer.

The Knight Shooting Range

The Knight Shooting Range is located on Snake Track Road, two miles southwest of Iron Belt. This range is open to the public, and shooting benches and target backstops are provided.

Figure 22: Shooting Ranges

PADDLESPORTS

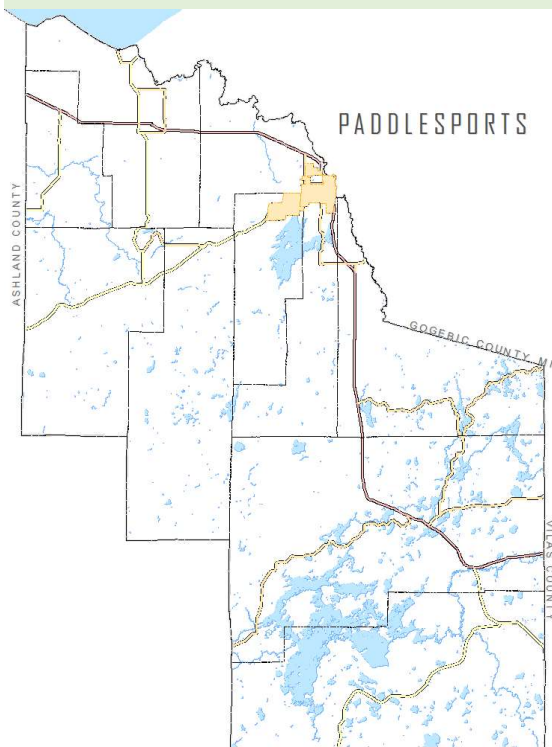


Figure 23: Paddlesports

Inland Lakes and Streams

Iron County has 217 named inland lakes along with 277 smaller, unnamed lakes totaling 29,902 acres of surface water. The county also has 724 miles of perennial streams.

Turtle River Trail

The 27-mile Turtle River Trail connects 17 different lakes. There are many put-in and take-out possibilities on the Turtle River offering a wide variety of trips

Bear River

This trip is tranquil and unspoiled by development. Only one low hazard rapids, better described as a "riffle," will be encountered at the second bridge crossing. The usual put-in is below the outlet of Flambeau Lake. This makes for a 25-mile paddle to the Murray's landing take-out.

Manitowish River

This 20-mile route is a continuation of the popular Manitowish trip that begins at High Lake (Vilas County) at the river's origin on County Road B east of Presque Isle.

Gile Flowage

Gile Flowage, a 3,380-acre lake in northern Iron County, is the last large underdeveloped "Laurentian Shield" lake in Wisconsin. Most of the shoreline is ancient exposed bedrock and the flowage is dotted with bedrock islands reminiscent of the Boundary Waters and Quetico canoe- country region of northern Minnesota.

Turtle-Flambeau Scenic Waters Area

The Turtle-Flambeau Scenic Waters Area encompasses over 38,000 acres with its star attraction being the Turtle-Flambeau Flowage. A voluntary quiet area has been established on approximately the eastern one-fifth of the Flowage.

Montreal River – West Branch

Expert-only paddle route which includes high hazard Class V rapids, dams and inaccessible canyon-like areas.

Lake Superior Water Trail (LSWT)

The LSWT is a network of mapped access points and recreational resources along Wisconsin's Lake Superior south shore. The water trail provides a framework for a wealth of environmental, historical, and cultural experiences accessible along the Lake Superior coastline. A kayak launch is available at Saxon Harbor.

RUSTIC ROADS

Rustic Road 100

A 13.5 mile designated Rustic Road extending from County Highway G from the Michigan/Wisconsin border, continuing south along County Highway H to Mercer. This route along part of the historic Flambeau Trail is Wisconsin's 100th designated Rustic Road.

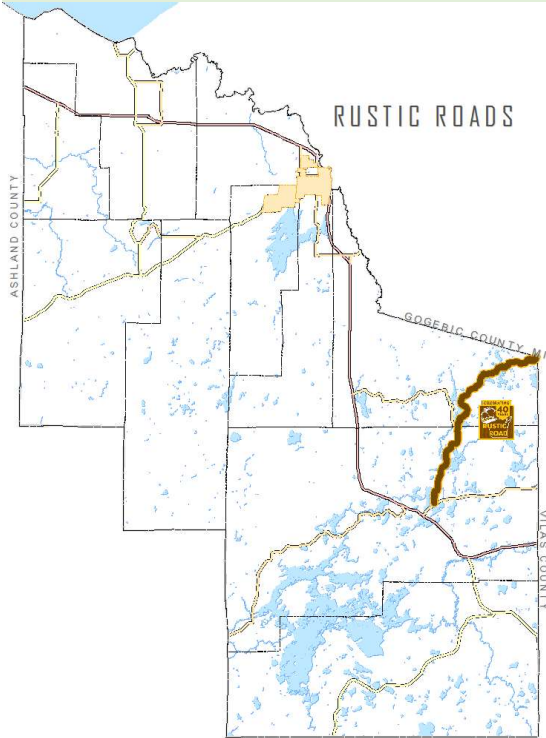


Figure 24: Rustic Roads

OUTDOOR RECREATION NEEDS ASSESSMENT

To ensure that the needs of the public are served by this plan, a significant amount of time has been expressed gaining public input into the plan development. Gaining public input and support is a critical element to assessing the needs, development and implementation of this outdoor recreation plan.

RECREATION NEEDS STANDARDS

The National Recreation and Parks Association (NRPA) and Wisconsin Statewide Comprehensive Outdoor Recreation Plan (SCORP) identify standards for designing recreation facilities. The NRPA suggests that a park system, at a minimum, be composed of a “core” system of parklands, with a total of **6.25 to 10.5 acres** of developed open space per **1,000 population**. The size and amount of “adjunct” parklands will vary from community to community but must be taken into account when considering a total, well-rounded system of parks and recreation areas.

While not classified as parks *per se*, public lands including county and state forestlands provide many of the same park functions in terms of providing open space for a wide range of outdoor activities. Using the NRFA definition, Iron County would need between 37.0 and 59.1 acres of parks to satisfy the demands of county residents. Considering that Iron County has more than 230,000 acres of public recreation land available, the resource is more than sufficient to meet current and projected demands for residents and visitors alike.

PUBLIC INPUT ASSESSMENT

An online survey was developed requesting information from the public regarding their personal interest in the development and maintenance of outdoor recreation in Iron County. On February 25th, 2021, a press release was also submitted and published in the Iron County Miner. Social media was also used to distribute the survey link and solicit comments. The online survey became active on February 25th, 2021 and remained active until April 13th, 2021. A total of 356 unique responses were recorded. A letter was mailed to city and town elected officials on February 25th, 2021, requesting community input in the recreation plan (see appendix). A similar letter of was sent to the following key recreation stakeholders, school districts and interest groups in Iron County.

- ✚ Bad River Tribal Council
- ✚ Eagle Bluff Golf Course
- ✚ Fat Tire Bike Club
- ✚ Friends of the Gile Flowage
- ✚ Frontier Campground
- ✚ Gogebic Range Health Foundation
- ✚ Hurley Area Chamber of Commerce
- ✚ Hurley School District
- ✚ Iron County ATV Association
- ✚ Iron County Development Zone
- ✚ Iron County Lakes & Rivers Alliance
- ✚ Iron County Trail Safety Committee
- ✚ Iron County Outdoor Recreation Enthusiasts
- ✚ Iron County Recreation Council
- ✚ Iron County UW-Extension
- ✚ Lac Du Flambeau Tribal Council
- ✚ Loon Lagoon
- ✚ MECCA Ski Club

- ✚ Mercer Area Chamber of Commerce
- ✚ Mercer Dusty Loons
- ✚ Mercer School District
- ✚ Mercer SnoGoers
- ✚ NICER
- ✚ North Country Trail Association
- ✚ Northern Highland-American Legion State Forest
- ✚ Northland Wildlife & Wetlands Club
- ✚ Penokee Rangers
- ✚ Saxon Harbor Boating Club
- ✚ Tahoe Lynx
- ✚ Turtle Flambeau Flowage Business Owners Assoc
- ✚ Turtle Flambeau Flowage Lake Association
- ✚ Turtle Flambeau Flowage – Trude Lake
- ✚ White Thunder Riders
- ✚ Whitecap Resort
- ✚ Whitecap Kayak
- ✚ Wisconsin Department of Natural Resources

PUBLIC INPUT SUMMARY

Recreation Uses

Popular outdoor recreation opportunities included:

- ATVing/UTVing
- Waterfall Viewing
- Fishing
- Boating
- Hiking
- Snowmobiling
- Kayaking
- Snowshoeing
- Road/Paved Biking
- Hunting
- Cross Country Skiing
- Camping
- Birding
- Other Water Sports
- Downhill Skiing
- Mountain Biking
- Playgrounds
- Horseback Riding

Key “other” identified recreational uses included hunting/nature activities, running, golfing, geochaching, pickleball, dirt bike/OHM riding.

Facilities Demand

In terms of county-owned and managed facilities, the most visited/used facilities identified in the survey include Saxon Harbor, campgrounds, ATV/UTV trails, boat landings, snowmobile trails, Potato River Falls, and Lake of the Falls County Park. Developed county parks also tended to receive much higher usage/visitation rates than minimally developed or primitive sites. The most popular boat landings included those on the Turtle-Flambeau Flowage, Gile Flowage and Saxon Harbor.

Local waterfalls, Montreal Trails, the Turtle-Flambeau Flowage and the Gile Flowage were the most popular non-county-owned or managed facilities or resources in Iron County.

Facilities Satisfaction

In terms of overall satisfaction with the condition of county-owned and managed facilities, 89 percent of survey respondents said they were either very or somewhat satisfied.

Public Water Access

More than 67 percent of survey respondents indicated that Iron County currently has adequate public water access. Less than 10 percent of respondents stated that there are additional needs for public water access in the county, 25 percent had no opinion. When asked where there were public access concerns, respondents identified the following:

1. Gile Flowage CTH C Landing
2. Weber Lake Parking
3. Montreal River
4. Little Oxbow Landing
5. Fisher Lake Landing
6. Turtle Flambeau Flowage Landings

When asked what improvements were needed at public boat landings and water access points, survey respondents indicated issues related to bathrooms, general maintenance, addition/repair or improvement of docks, piers and slips, more aquatic invasive species signage, concerns with the condition of the boat landing itself and parking.

Campgrounds

Nearly 20 percent of survey respondents felt that there is a need for additional campground facilities in Iron County was adequate. Only 7 percent of respondents felt that improvements are needed to existing facilities while 29 percent felt Iron County had an adequate number of campground facilities. Improvements needed most frequently cited included improving/expanding facilities, providing more utilities such as electric and Internet access and general maintenance concerns. When asked where additional camping facilities are needed, respondents listed the following:

1. Gile Flowage
2. Remote camping
3. Casey Sag area
4. Additional ATV/UTV friendly campgrounds

When asked what general concerns they had about county-owned campgrounds, survey respondents most often cited issues related to the camping experience (noise, privacy, visual), need for expanding opportunities (adding additional sites, backcountry opportunities, adding trails, etc.), and additional dump stations.

Snowmobile Trails

Nearly 64 percent of survey respondents felt that Iron County has an adequate number of snowmobile trails. The need for additional signage, addressing safety and trespassing, relocating trails off of routes and private land and onto public land when possible and expanding trails into new areas were commented on most often as concerns.

ATV/UTV Trails

One half (50%) of survey respondents felt that Iron County has an adequate number of ATV/UTV trails. Nearly 20 percent had no opinion and 30 percent felt more trails are needed most often commented in the southern part of the County. The most frequently expressed improvements needed included better signage, trail maintenance and a need for grading to fix rough trails. When asked to provide other concerns regarding ATV/UTV trails, respondents cited adding or expanding trails and allowing multi-use on existing trails (OHV/dirt bikes), the need for additional enforcement, and the need for a special use area with mud, sand, obstacles, etc.

Ski Trails

Nearly 24 percent of survey respondents felt that Iron County has an adequate number of kilometers of cross-country ski trails. Nearly 60 percent of respondents had no opinion. When asked to provide other concerns regarding ski trails, respondents cited the need to expand trails and develop new trails and keeping snowmobiles off of the trails.

Bike Trails

Over 32 percent of survey respondents felt that Iron County needs additional bike trails with 46 percent with no opinion. When asked to identify improvements needed, respondents cited construction of a bike trail between Hurley and Mercer and west to Montreal, the need for mountain bike trails, continue the Mercer trail to CTH J & W and just generally adding more bike trails.

Expanding Recreational Opportunities

Survey respondents were asked to identify recreational opportunities which the county should explore or investigate for possible future development. The most cited opportunity was the expansion of biking across the county, including the development new of trails for both mountain and road biking (paved). Another highly cited activity was the expansion of walking/hiking opportunities, including the development of new hiking/walking trails. Increasing opportunities for dual sport motorcycling was also highly cited. This activity involves motorcycles that are designed for both on and off-road use, which are currently not-permitted on the ATV/UTV trail system. A number of other recreational opportunities were identified including development and/or expansion of:

1. Kayak/Canoe
2. Other Recreation (swimming, dogsledding, etc.)
3. Remote Camping
4. Motorcycling
5. Horse Trails
6. Pickleball
7. Nature/Birding
8. Disc Golf
9. Camping
10. Snowshoe
11. Shooting Range
12. Rock Climbing
13. Dog Park
14. Skate Park
15. Winter Camping

Demographics

Residency of Respondents

- 47% Live in & own property in Iron County
- 1 % Live in but do not own property in Iron County
- 26% Own property but do not live in Iron County
- 27% Do not live in or own property in Iron County

Residency of Respondents living in Iron County

- 27% Mercer
- 8% Oma
- 5.5% Hurley
- 3.5% and less made up each of the other towns

Age of Respondents

- 22% 65+
- 27% 55-64
- 22% 45-54
- 19% 35-44

- 7% 25-34
- 2% 18-24

How far respondents travel to recreate in Iron County

- 36% 1-25 miles
- 15% 26-75 miles
- 9% 76-150 miles
- 13% 151-250 miles
- 24% 251+ miles

How much respondents spend per day recreating in Iron County

- 24% \$0-\$25
- 30% \$26-\$75
- 23% \$76-\$125
- 15% \$126-\$200
- 6% \$201-\$300
- 3% \$301-\$400

Annual household income of respondents

- 17% over \$150,000
- 22% \$100,000 - \$150,000
- 20% \$75,000 - \$99,000
- 21% \$50,000 - \$75,000
- 14% \$30,000 - \$50,000
- 4% \$15,000 - \$30,000
- 2% Under \$15,000

COMMUNITY INPUT

TOWN & MUNICIPAL PARKS AND RECREATION ASSETS

MCD	PUBLIC RECREATION FACILITIES			
	NAME	TYPE	AMENITIES AVAILABLE	IMPROVEMENTS MADE (LAST 5 YEARS)
TOWN OF CAREY	Island Lake Boat Landing	Boat Landing		
TOWN OF KIMBALL	Kimball Town Park & Falls	Park	Picnic Tables, Handicap Toilet, Grills, Fire Pits, Basketball Court, Playground Equipment, Handicap Fishing Deck, Pavilion, Electrical Power, Walk-in Accessible, Walking Trail	Bear proof trash cans
	Softball/Volley ball Field	Field Area		
	Interstate Falls Park	Park		Viewing platform, hiking trail, benches, railings, stairs, kiosk, picnic tables, handicap accessible portapotty, bear proof trash cans
	Kimball Community Center	Community Center	Multi-use hall, bar, kitchen, basketball court	Playground, benches, picnic tables, lighting upgraded on basketball court, caution & safety signs
TOWN OF KNIGHT	Community Center	Community Center	Picnic Tables, playground	
	Snake Track Shooting Range	Shooting Range	Shooting Benches	DNR owned

MCD	PUBLIC RECREATION FACILITIES			
	NAME	TYPE	AMENITIES AVAILABLE	IMPROVEMENTS MADE (LAST 5 YEARS)
TOWN OF OMA	Oma Town Park	Park, Boat Landing	Boat Landing on Pine Lake, swimming, Pier, Open space, Pavilion, Picnic Tables, Grills Playground, Paved Parking, Pit Toilets	Extended boat landing pad 12', painted pavilion and pit toilets, updated signage, added 3 grills and 3 picnic tables, new pier
	Oma Community Forest	80 acres of undisturbed woodland recreation area	Unimproved road access adjacent to US Hwy 51	None

**TOWN & MUNICIPAL PARKS AND RECREATION ASSETS PLAN FOR IMPROVEMENTS
2021-2025**

FUTURE OUTDOOR RECREATIONAL IMPROVEMENTS DESIRED FROM JANUARY 2021 TO DECEMBER 2025. (SUCH AS PLANNED TRAILS OR OTHER NEW RECREATION SITES).	
TOWN OF CAREY	Improvements to the Island Lake boat landing are needed.
TOWN OF GURNEY	Improvements to the Community Park, playground equipment, picnic tables and ballfield.
TOWN OF KIMBALL	Expanding our trail system at Interstate Falls.
	Expanding our Community Center.
	Expanding the playgrounds at Community Center and at Kimball Falls Park.
	Improving all existing trail systems.
	Adding new pads at Interstate Falls Park.
	Upgrading small foot bridge at Interstate Falls Park.
TOWN OF KNIGHT	Add picnic tables at the Community Center.
	Construct small pavilion.
TOWN OF OMA	Renovate pit toilets at Town Park.
	Replace pavilion at Town Park with modern structure that is ADA compliant.

TOWN & MUNICIPAL INPUT ON COUNTYWIDE AND LOCAL RECREATIONAL PLANNING ISSUES

MCD	WHAT ARE THE TOP THREE RECREATIONAL ISSUES FACING YOUR COMMUNITY?	HOW DO YOU PLAN TO ADDRESS THE LOCAL RECREATION ISSUES IDENTIFIED.	ARE THERE OTHER TYPES OF RESOURCES THAT WOULD BE HELPFUL TO YOUR COMMUNITY IN PLANNING & IMPLEMENTING OUTDOOR RECREATION NEEDS?
TOWN OF CAREY			
TOWN OF GURNEY	Lack of cross-country ski trails & walking trails.	Need Funding	More Funding
	Dust from ATV/UTV trails.		
TOWN OF KIMBALL	COVID-19 activity restrictions	We have completed a town survey of residents for further planning.	Funding
	Determining top recreation needs vs Town budget	Searching for opportunities as available.	A centralized county committee or group comprised of representatives from each entity to tackle the issue on a strength through numbers basis.
	Winter recreational opportunities		
TOWN OF KNIGHT	ATV/snowmobile trail & road usage.	Not sure.	
	Trail access from CTH E into Iron Belt		
TOWN OF OMA		Be alert for grant opportunities.	

CLUB/ORGANIZATIONAL INPUT

WHAT ARE THE TOP THREE RECREATIONAL ISSUES FACING IRON COUNTY?				
CLUB/ORG.	ISSUE 1	ISSUE 2	ISSUE 3	HOW SHOULD RECREATION ISSUES BE STAISFIED?
MERCER DUSTY LOONS	Lack of promoting our trail system. We have a great trail system, but need to market it more.	We need more trails in southern Iron County, including some challenging ones.	Need a "play area" for ATVs/UTVs.	<p>More advertising & promotion.</p> <p>Open up logging trails in southern Iron Co. Put in a play area with several mud pits and hills.</p>
NORTH COUNTRY TRAIL ASSOCIATION – HERITAGE CHAPTER	Completion of the North Country National Scenic Trail across the County Forest.			<p>Iron Co should continue to support Heritage Chapter of the NCTA.</p> <p>Help the NCTA, NPS, and WDNR acquire the remaining private property gaps along the NCT route in Iron County.</p>
WHITE THUNDER RIDERS	Developing silent sports opportunities without impacting well established motorized trail system.	Loss of trail access as properties are bought and sold.	Development of an online mapping system for both snowmobile and ATV/UTV.	<p>Involve both motorized and non-motorized in planning and development of any new trail system.</p> <p>Secure permanent or long term easements for trails when possible.</p> <p>Create subcommittee of Rec Council to explore options for online mapping systems. Work with WDNR Snowmobile Council as they work on this as well.</p>

WHAT ARE THE TOP THREE RECREATIONAL ISSUES FACING IRON COUNTY?

CLUB/ORG.	ISSUE 1	ISSUE 2	ISSUE 3	HOW SHOULD RECREATION ISSUES BE STAISFIED?
UW EXTENSION – IRON COUNTY	The need to further develop non-motorized trails.	Help local municipalities expand and maintain recreational facilities.	Expand promotion of recreational opportunities on Iron County.	<p>Work with local non-profits and municipalities to apply for and administer grant funds to expand the Iron Belle Trail into WI.</p> <p>Locate additional hiking & biking trails on public land.</p> <p>Work with county partners to update promotional strategies and resources.</p>

CLUB/ORGANIZATIONAL RECREATIONAL IMPROVEMENTS

	DESIRED IMPROVEMENTS AT COUNTY MANAGED FACILITY OR TRAILS		NEW RECREATION FACILITIES OR TRAILS DESIRED AND FUNDING SOURCES	
CLUB/ORG.	FACILITY OR TRAIL	IMPROVEMENT NEEDED	NEW FACILITIES OR TRAILS	FUNDING SOURCES
MERCER DUSTY LOONS	ATV/UTV Trails	More challenging trails. Picnic areas, gazebos, tables, outhouses & fishing areas with ATV/UTV access.		WDNR Grants
NORTH COUNTRY TRAIL ASSOCIATION – HERITAGE CHAPTER	North Country Trail	<p>Parking area at northern 169 crossing on ICF land.</p> <p>Parking area at Hwy 2 crossing on ICF land.</p> <p>Parking area on Harbor Drive crossing on ICF land.</p>	Public purchase of the Kenyon Trust parcel between Saxon Harbor and Michigan boarder.	KN Stewardship funding, LWCF funding, NCTA Trail Protection grant and private funding.
WHITE THUNDER RIDERS	<p>15a, 2 and others</p> <p>All</p> <p>13c</p>	<p>Get trails off of roads/routes.</p> <p>Public parking/park & ride areas.</p> <p>Bathroom facility at B-47 Memorial Site.</p>	<p>Relocate Trail 13 onto more upland ground.</p> <p>Relocate Trail 8 west from W. Branch to eliminate wet areas.</p> <p>Relocate Trail 11 off of Gerry Rd.</p>	WDNR Grants
UW EXTENSION – IRON COUNTY	<p>Trails to waterfalls</p> <p>Rustic camping near waterfalls</p> <p>Signage</p>	<p>Alternate trails to waterfalls where ATV/UTVs are not allowed.</p> <p>Backpacking and hike-in sites available for tent camping near waterfalls.</p> <p>Continue to develop signage that promotes & directs people to our County's attractions.</p>		Grant Opportunities

PLAN IMPLEMENTATION

Findings from the surveys of Iron County citizens, recreation users and outdoor recreation interest groups clearly show a high level of interest in outdoor recreation in Iron County, as well as the need to invest in the development, improvement and maintenance of facilities.

With finite resources available for outdoor recreation, it is critical to prioritize needs across the county. However, funding alone is not the answer. Active partnerships are also essential to meeting the outdoor recreation needs of county residents and visitors. At the core of the county's parks and recreation system are local, state and nonprofit agencies and organizations which can provide the resources and support that will be necessary to continue to grow and maintain the recreation system.

The Iron County Outdoor Recreation Plan Steering Committee, with input from the county's outdoor recreation stakeholders and communities, has identified one overall goal and four supporting objectives which serve as the vision to guide the management and development of Iron County's outdoor recreation base over the next five years. The plan's goals and objectives are implemented through a series of related policies, which guide future decision-making, and specific programs and actions which identify the priorities and outcomes for the next 5-year planning cycle.

IRON COUNTY OUTDOOR RECREATION IMPLEMENTATION PLAN

The Iron County Forestry Department (ICF) will continue maintenance of existing facilities. Iron County Forestry will increase promotion of recreation opportunities on the Iron County Forest via website, social media, Chambers, maps & brochures. ICF will also explore opportunities to promote outdoor recreation through outreach with local schools. ICF will also continue to assess the need to offer WIFI at the campgrounds as it becomes available. Funding for these activities continue to come from user fees set and assessed by the Forestry Committee annually, grant opportunities when applicable and Iron County.

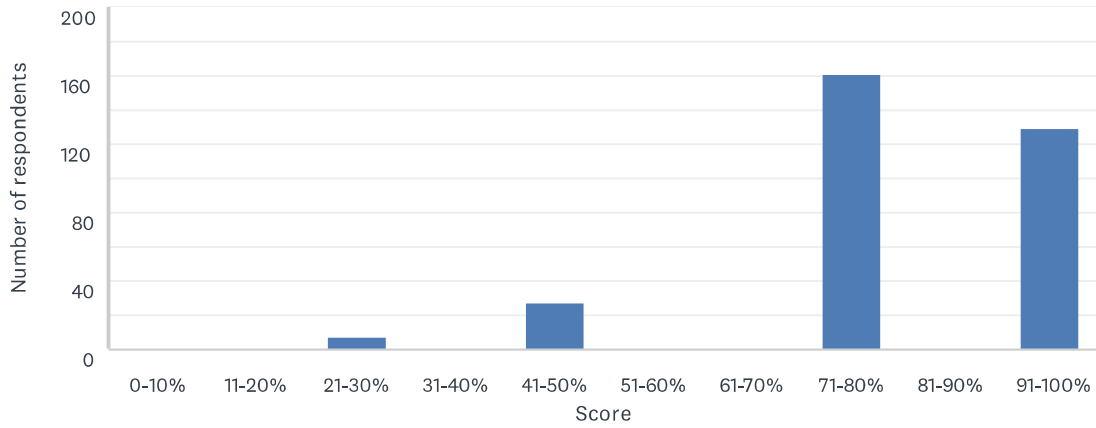
RESOURCE	ACTIVITY	COST	SOURCE
COUNTY PARKS			
Lake of the Falls	Explore new water supply and add electrical service to sites for Side 2.	Est. \$7,000	To Be Determined
	Assess the need for campground expansion and additional restroom/shower buildings, plan & build if needed.	To Be Determined	Grant funding from WDNR Recreational Boating, Stewardship, Xcel Energy or any other eligible opportunities.
Schomberg Park	Continue maintenance.	To Be Determined	Co Parks Budget
Weber Lake	Construct Pavilion	Est. \$25,000	Co Parks Budget
Saxon Harbor	Explore management options	To Be Determined	Saxon Harbor Revenue
	Explore options for access to east side of Oronto Creek	To Be Determined	ATV/Snowmobile funding, North Country Trail Association
	Assess the need for rustic camping east of Oronto Creek	To Be Determined	Saxon Harbor Budget
Potato River Falls	Additional signage on Hwy 169 and trails within park. Tree and brush removal around viewing platforms.	Est. signing & brushing \$3,000	Unknown
	Upgrade bathroom	Unknown	Unknown
Waterfalls	Continue maintenance of trails and viewing areas.	Unknown	Unknown
NON-MOTORIZED TRAILS			
MECCA	Continue to work in cooperation with MECCA Ski Club in maintaining the MECCA trails by assisting in grant funding opportunities.	Unknown	Grant Funding Opportunities
Uller Trail	Continue to work with Penokee Rangers in maintaining the Uller Trail by providing some labor and equipment and continue to seek grant funding opportunities.	Unknown	Grant Funding Opportunities
	Level trail loops and make them suitable for year around use.	Unknown	Unknown
North Country Trail	Continued cooperation with the North Country Trail Association in expansion of certified portions of NCT.	Unknown	Funding sources from North Country Trail.
Schomberg Park Snowshoe Trail	Continue maintenance. Install footbridges over drainages.	Unknown	Unknown

RESOURCE	ACTIVITY	COST	SOURCE
Hunter walking trails	Continue to maintain the Potato River Grouse Management Area in Saxon/Upson. Continue to improve and develop additional hunting opportunities in cooperation with Ruffed Grouse Society and other interest groups. These trails may also be an opportunity for winter Fat Bike and snowshoeing use.	Unknown	Unknown
Other Projects/Activities	Work with organized interest group to assess the need for mountain bike trails and fat tire bike trails (winter use). Help to plan and develop a trail system within Iron County Forest.	Unknown	Assist in seeking grant funding from WDNR and other sources
	Work with interested groups to continue expansion of Iron Belle Trail.	Unknown	Assist in seeking grant funding from WDNR, Coastal Management, WDOT and any other sources.
	Work with WisDOT to install bike trails or lanes when highways are rebuilt.	Unknown	WisDOT
	Explore the possibility of a bike path from Hurley to Mercer.	Unknown	Unknown
	Explore areas for additional campgrounds.	Unknown	Unknown
	Cooperate with interest groups and Chambers on special events and races with the use of County Forest for resources and event locations.	Unknown	Unknown
MOTORIZED TRAILS			
ATV/UTV Trails Snowmobile Trails	Continue maintenance of existing ATV trails in cooperation with the Iron County ATV Association, Mercer Dusty Loons, Mercer Sno-Goers and White Thunder Riders by providing grant administration, labor, equipment and supplies.	Unknown	Funding from WDNR ATV/UTV maintenance and development grants.
	Continue improving signage throughout the system.	Unknown	Funding from WDNR ATV/UTV Maintenance grants.
	Provide trail location assistance, easement acquisition, engineering and development, construction, funding opportunities and administration of required ATV trail relocations with priority of placement on public lands where possible.	Unknown	Unknown

RESOURCE	ACTIVITY	COST	SOURCE
ATV/UTV Trails Snowmobile Trails	Continue assessment of existing trails and bridges and assist clubs in engineering, construction, funding opportunities and administration of rehab projects needed on existing ATV trails.	Unknown	WDNR ATV & Snowmobile Grants
	Work with Enbridge to construct a trail from Gurney to Mellen in conjunction with Line 5 relocation.	Unknown	WDNR ATV & Snowmobile Grants

Quiz Summary

AVERAGE SCORE
82% • 3.3/4 PTS



STATISTICS

Lowest Score
0%

Median
75%

Highest Score
100%

Mean: 82%

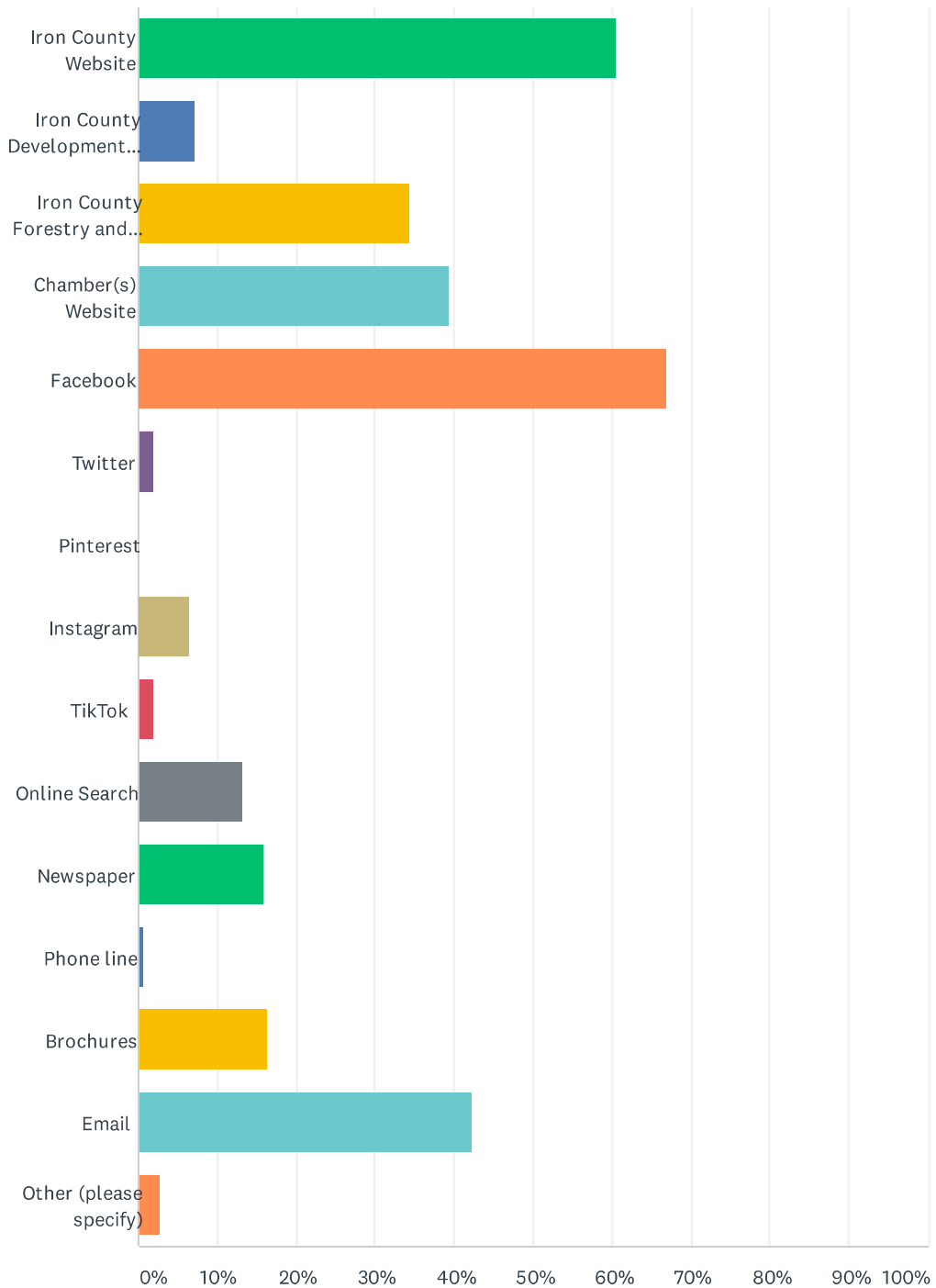
Standard Deviation: 18%

Question Ranking

QUESTIONS (1)	DIFFICULTY	AVERAGE SCORE
Q4 What is your overall satisfaction with the condition of the Iron County Forestry & Parks managed facilities, listed in the last question, that you visit?	1	82%

Q1 How would you like to obtain information about Outdoor Recreation activities in Iron County, WI. (Check all that apply)

Answered: 326 Skipped: 0



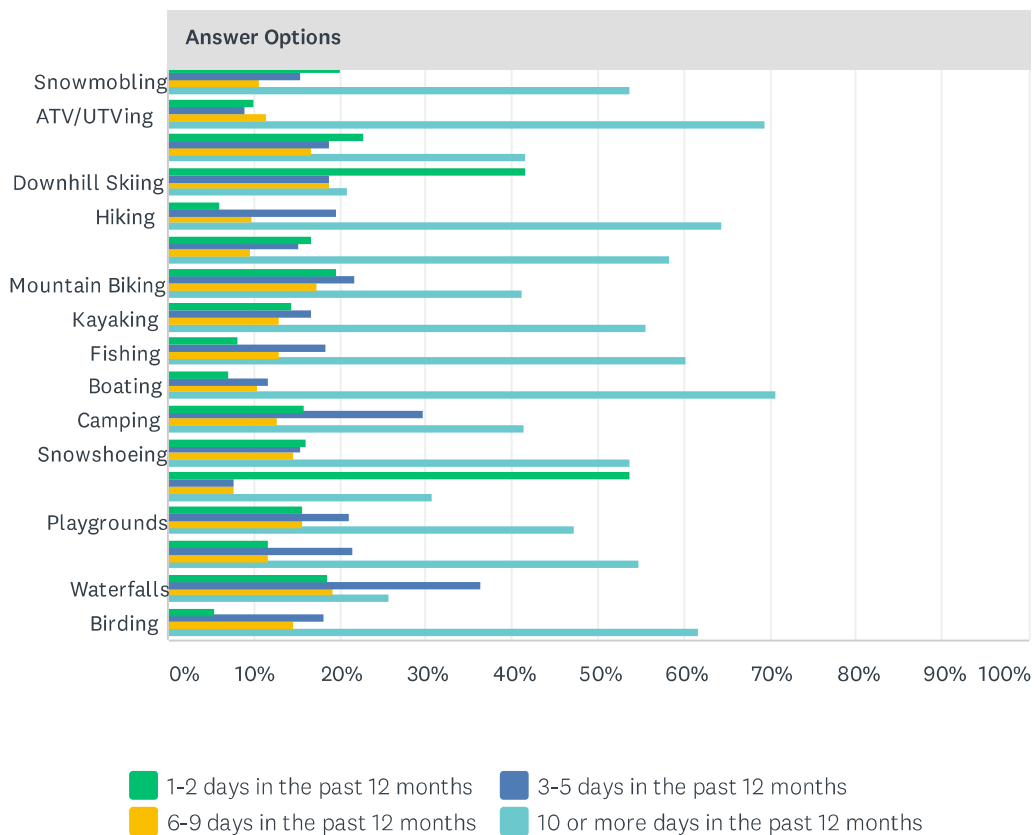
Iron County, WI Outdoor Recreation Plan 2021-2025

ANSWER CHOICES	RESPONSES	
Iron County Website	60.43%	197
Iron County Development Zone Website	7.06%	23
Iron County Forestry and Parks Website	34.36%	112
Chamber(s) Website	39.26%	128
Facebook	66.87%	218
Twitter	1.84%	6
Pinterest	0.00%	0
Instagram	6.44%	21
TikTok	1.84%	6
Online Search	13.19%	43
Newspaper	15.95%	52
Phone line	0.61%	2
Brochures	16.26%	53
Email	42.33%	138
Other (please specify)	2.76%	9
Total Respondents: 326		

#	OTHER (PLEASE SPECIFY)	DATE
1	ICORE website	3/30/2021 4:31 PM
2	MECCA members newsletters	3/29/2021 4:45 PM
3	TripAdvisor	3/23/2021 1:45 PM
4	personal knowledge	3/22/2021 2:19 PM
5	Mailing to tax roll address	3/17/2021 8:21 PM
6	Radio	3/16/2021 8:10 AM
7	radio	3/8/2021 7:40 AM
8	North Country Trail in Wisconsin Facebook	3/7/2021 12:32 PM
9	Silent Sport Clubs	3/5/2021 12:27 PM

Q2 How many days have you participated in the following Outdoor Recreation activities in Iron County, WI in the past 12 months?

Answered: 326 Skipped: 0



Iron County, WI Outdoor Recreation Plan 2021-2025

Answer Options						
	1-2 DAYS IN THE PAST 12 MONTHS	3-5 DAYS IN THE PAST 12 MONTHS	6-9 DAYS IN THE PAST 12 MONTHS	10 OR MORE DAYS IN THE PAST 12 MONTHS	TOTAL	
Snowmobling	20.12% 34	15.38% 26	10.65% 18	53.85% 91	169	
ATV/UTVing	10.00% 20	9.00% 18	11.50% 23	69.50% 139	200	
Cross Country Skiing	22.77% 23	18.81% 19	16.83% 17	41.58% 42	101	
Downhill Skiing	41.67% 20	18.75% 9	18.75% 9	20.83% 10	48	
Hiking	6.01% 11	19.67% 36	9.84% 18	64.48% 118	183	
Road/Paved Trail Biking	16.80% 21	15.20% 19	9.60% 12	58.40% 73	125	
Mountain Biking	19.57% 9	21.74% 10	17.39% 8	41.30% 19	46	
Kayaking	14.50% 19	16.79% 22	12.98% 17	55.73% 73	131	
Fishing	8.15% 15	18.48% 34	13.04% 24	60.33% 111	184	
Boating	7.02% 12	11.70% 20	10.53% 18	70.76% 121	171	
Camping	15.96% 15	29.79% 28	12.77% 12	41.49% 39	94	
Snowshoeing	16.15% 21	15.38% 20	14.62% 19	53.85% 70	130	
Horseback Riding	53.85% 7	7.69% 1	7.69% 1	30.77% 4	13	
Playgrounds	15.79% 6	21.05% 8	15.79% 6	47.37% 18	38	
Other Water Sports	11.76% 6	21.57% 11	11.76% 6	54.90% 28	51	
Waterfalls	18.72% 35	36.36% 68	19.25% 36	25.67% 48	187	
Birding	5.45% 3	18.18% 10	14.55% 8	61.82% 34	55	

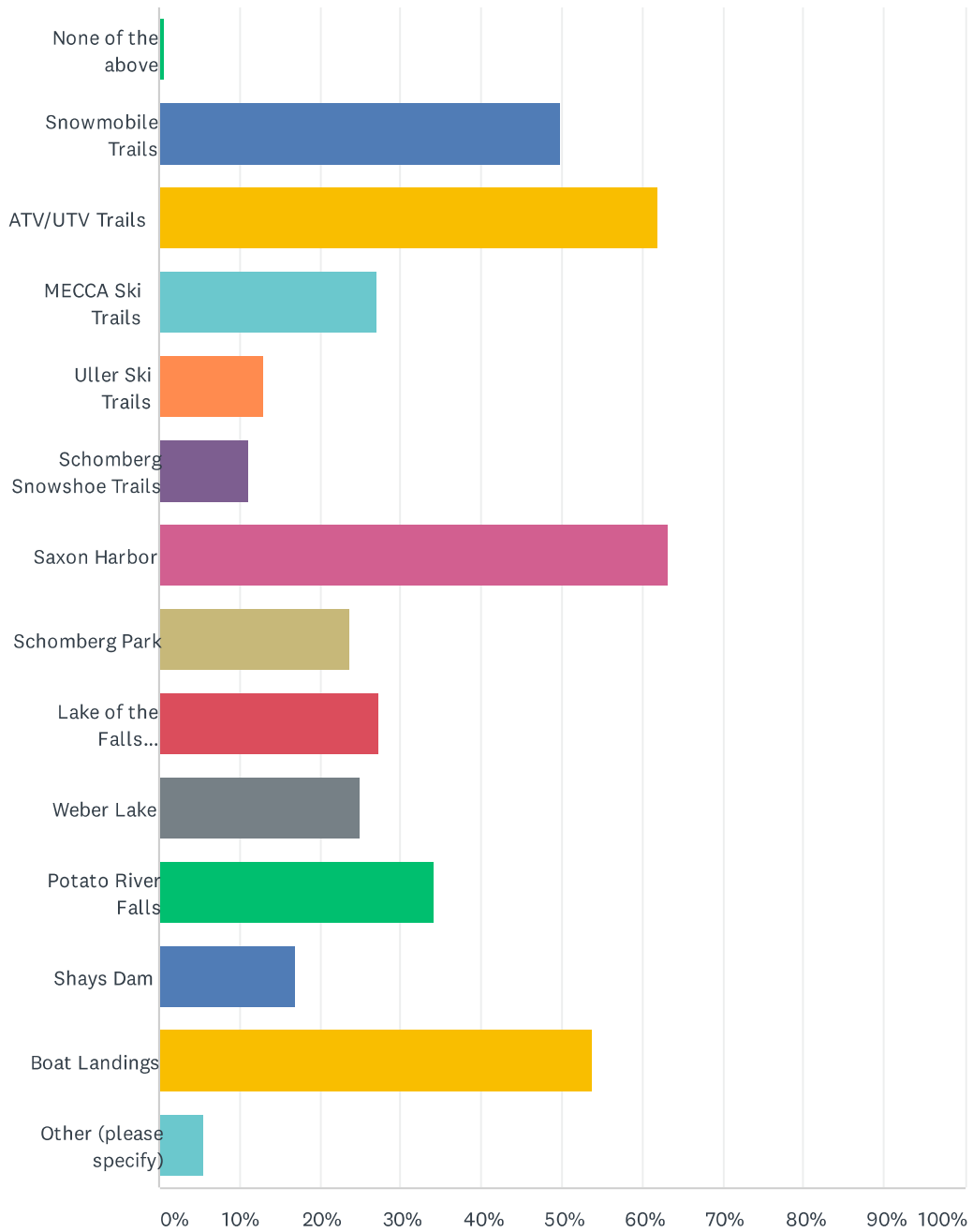
#	OTHER ACTIVITIES (PLEASE SPECIFY)	DATE
1	Hunting	4/8/2021 6:31 AM
2	Off Highway Motorcycling	4/4/2021 5:02 PM
3	paddle boarding, swimming	3/31/2021 11:34 AM
4	observing wildlife, flora & fauna 10 or more days	3/30/2021 4:50 PM
5	Sight Seeing from Truck - 6-10 days.	3/30/2021 10:06 AM
6	Hunting	3/29/2021 4:45 PM
7	swimming	3/29/2021 4:11 PM

Iron County, WI Outdoor Recreation Plan 2021-2025

8	Grouse Hunting	3/24/2021 11:35 AM
9	Motorcycle rides	3/23/2021 3:04 PM
10	Grooming snowmobile trails for around 200 hours. Many days fishing at Saxon harbor	3/23/2021 2:16 PM
11	Dirt bike riding	3/23/2021 1:51 PM
12	Historical Sites	3/23/2021 1:45 PM
13	Rock climbing 6-9 days	3/23/2021 1:38 PM
14	Pickleball	3/22/2021 7:45 AM
15	Running	3/21/2021 7:29 PM
16	Stand - up Paddleboard	3/18/2021 6:00 PM
17	Geocaching	3/17/2021 10:56 AM
18	Golfing. 10 days	3/16/2021 12:11 PM
19	Hunting	3/16/2021 11:13 AM
20	Hunting (Deer and Grouse)	3/16/2021 7:44 AM
21	Swimming	3/8/2021 11:35 AM
22	off highway motorcycle riding	3/8/2021 11:21 AM
23	Trail running > 10 days	3/8/2021 7:52 AM
24	Hunting	3/5/2021 2:44 PM
25	regular biking on paved trails	3/4/2021 5:39 PM
26	Wildflower Identification/picking wild foods	2/28/2021 5:06 PM
27	Swimming, walking beach, rock hounding	2/27/2021 11:23 AM
28	hunting	2/27/2021 10:24 AM
29	Rock hounding 10+ days	2/26/2021 8:08 PM
30	Shopping	2/26/2021 7:59 AM
31	Geocaching	2/25/2021 12:49 PM
32	Hunting	2/25/2021 11:52 AM

Q3 Which of the following Iron County Forestry & Parks facilities have you used/visited in the past 12 months? (check all that apply)

Answered: 326 Skipped: 0



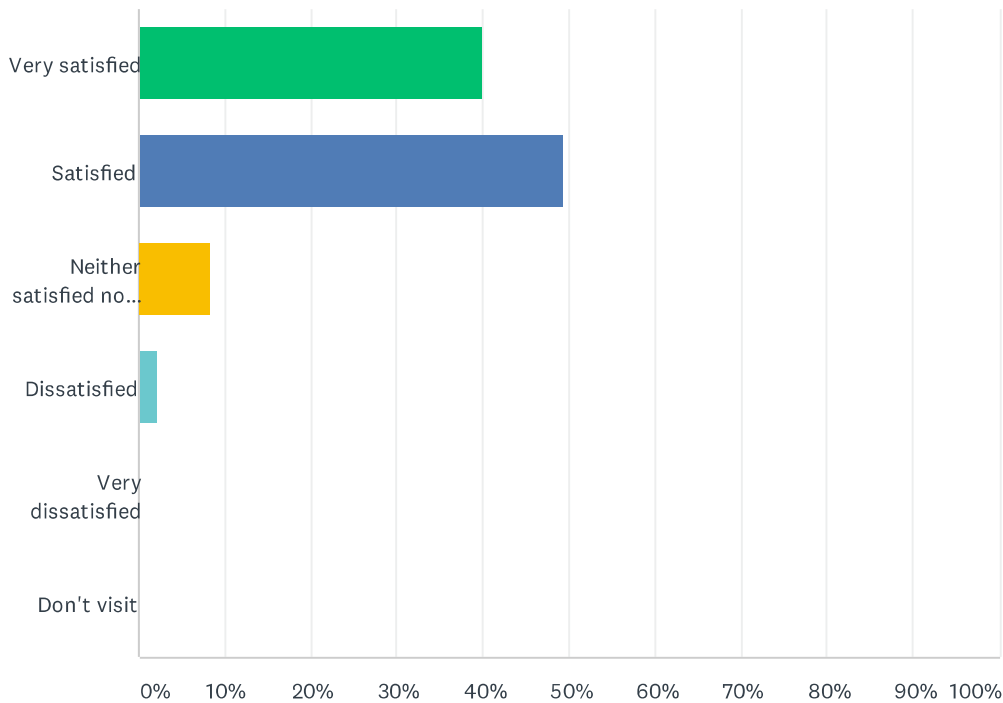
Iron County, WI Outdoor Recreation Plan 2021-2025

ANSWER CHOICES	RESPONSES	
None of the above	0.61%	2
Snowmobile Trails	49.69%	162
ATV/UTV Trails	61.96%	202
MECCA Ski Trails	26.99%	88
Uller Ski Trails	12.88%	42
Schomberg Snowshoe Trails	11.04%	36
Saxon Harbor	63.19%	206
Schomberg Park	23.62%	77
Lake of the Falls Campground	27.30%	89
Weber Lake	24.85%	81
Potato River Falls	34.05%	111
Shays Dam	16.87%	55
Boat Landings	53.68%	175
Other (please specify)	5.52%	18
Total Respondents: 326		

#	OTHER (PLEASE SPECIFY)	DATE
1	Montreal snowshoe trails	4/5/2021 2:50 PM
2	kayak small lakes without people	3/31/2021 11:34 AM
3	Hidden Rivers Trail, Big Island Trails, Gill Falls, Penokees	3/30/2021 4:50 PM
4	Turtle Flambeau Scenic Waterway	3/30/2021 4:31 PM
5	we are on Echo lake	3/29/2021 7:00 PM
6	Penske rangers	3/28/2021 11:59 AM
7	Black river harbor	3/27/2021 8:40 AM
8	Frontier Bar & Campground	3/26/2021 3:32 AM
9	Other waterfalls	3/23/2021 3:07 PM
10	Gravel Road biking	3/22/2021 11:08 AM
11	Corrigan's Lookout, County Forest Trails	3/17/2021 8:21 PM
12	Foster Falls, Wren Falls, North Country Trail	3/8/2021 9:24 AM
13	North Country Trail/Foster Falls	3/8/2021 8:37 AM
14	County forest land	3/5/2021 2:44 PM
15	Gile Flowage	2/28/2021 10:40 AM
16	SSchomberg Park is crème of the crop	2/26/2021 1:16 PM
17	Montreal XC Ski Trail	2/25/2021 8:16 PM
18	Turtle flambeau floweage	2/25/2021 2:17 PM

Q4 What is your overall satisfaction with the condition of the Iron County Forestry & Parks managed facilities, listed in the last question, that you visit?

Answered: 326 Skipped: 0



QUIZ STATISTICS

Percent Correct 40%	Average Score 3.3/4.0 (82%)	Standard Deviation 0.73	Difficulty 1/1
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ANSWER CHOICES	SCORE	RESPONSES	
✓ Very satisfied	4/4	39.88%	130
Satisfied	3/4	49.39%	161
Neither satisfied nor dissatisfied	2/4	8.28%	27
Dissatisfied	1/4	2.15%	7
Very dissatisfied	0/4	0.31%	1
Don't visit	0/4	0.00%	0
Total Respondents: 326			

#	COMMENT	DATE
1	Atv trails certainly can stand work railroad grade is normally in terrible condition and no reason for that. Signs need fixing, cabin on trail 6 really needs work, clean it up make it a stop to look forward to.	4/5/2021 6:55 PM
2	I think it's terrible what happened to Shey Dam r.e. the clear cutting. The clear cutting around Beaver lake was the worst job I have ever seen in my life. Ugly. I think if you are going to log,	3/31/2021 11:34 AM

Iron County, WI Outdoor Recreation Plan 2021-2025

you should be more selective! And don't leave such a mess.

3	trails need more maintenance, we often are clearing deadfall as we hike	3/30/2021 4:50 PM
4	Haven't visited yet but planning	3/30/2021 4:22 PM
5	Trails are being ruined with crushed rock and gravel. Not likely to return after last fall. Trails were better right after Memorial Day in 2019.	3/30/2021 1:29 PM
6	Need to expand Atv/Utv trail system to attract more users.	3/28/2021 6:20 PM
7	Saxon needs better access to the beach	3/28/2021 11:59 AM
8	I wish the atv trails were expanded to more non gravel trails and possibly single direction trails. If there were One Direction trails possibly the trail could be Not as wide.	3/24/2021 2:47 PM
9	Open more Atv/Utv trails south of Manitowish. South on 17 to Powell rd	3/24/2021 11:35 AM
10	Did a nice job on Shay Dam park area last year.	3/24/2021 6:25 AM
11	The care taker at weber lake was VERY RUDE. She chased us out of our camp spot even though we were payed up an extra day, because someone complained to her that they wanted our spot. Our family has been camping at weber lake for years and never had any issues. The care taker there is on a power trip.	3/23/2021 11:32 PM
12	With the amount of ATV/UTV users, I'd hope that more time/money would be put into this as it would bring A LOT more to Iron County. This sport is not dependent on weather either. People can ATV/UTV no matter what!	3/23/2021 4:58 PM
13	Please ad dirt bike trails	3/23/2021 1:51 PM
14	Boat landings need work	3/23/2021 1:46 PM
15	We are only pissed off about scalping off all the trees around Shay Dam. Damn you.	3/21/2021 7:39 PM
16	Fisher lake boat landing is rough and no parking. Would like more atv trails and less gravel. More "trails". Snowmobile trail from fisher lake to winchester.	3/21/2021 3:27 PM
17	Southern County ATV Trails need more grading during the holiday weekends	3/21/2021 3:04 PM
18	A few boat landings need work	3/16/2021 8:12 AM
19	Need more UTV/ATV trails near Mercer	3/10/2021 1:07 PM
20	DESIGNATED HORSE TRAILS ARE NEEDED	3/9/2021 9:28 PM
21	Would like easier access to Saxon Harbor's Lake Superior shoreline/beach. Also dogs on leash advisory?	3/8/2021 11:35 AM
22	Fee at Saxon Harbor way too high. I pay taxes! Should be free or discount for residents. Disappointed in logging close to Falls and North Country Trail.	3/8/2021 9:24 AM
23	Depends on the location, facility	3/8/2021 9:01 AM
24	Our cottage is near Shay Dam and we like the improvements there, although it took awhile aesthetically given all the trees that were cut down.	3/8/2021 7:52 AM
25	With the except of Shay's Dam. Not a great camping area.	3/5/2021 1:57 PM
26	Could use some clean up, but understand this year, willing to carry out trash.	2/27/2021 11:23 AM
27	ATV's and UTVs tear up the trails that lead to the waterfalls, leaving mud and puddles that need to be crossed. there should be walking trails for people that hike or mt bike to see the county waterfalls. Snowmobilers tear up the xc ski trails despite the 100s of miles of trails specifically for them.	2/26/2021 2:40 PM
28	How about allowing self contained RV camping in the winter?	2/26/2021 6:59 AM
29	The Uller trail is magical.	2/25/2021 8:32 PM
30	Each facility should have a kiosks that tell about other nearby trails or recreational sites.	2/25/2021 6:40 PM
31	Constant maintenance must be planned for.	2/25/2021 3:35 PM
32	Boat launch on fisher lake is in need of serious repair	2/25/2021 1:03 PM

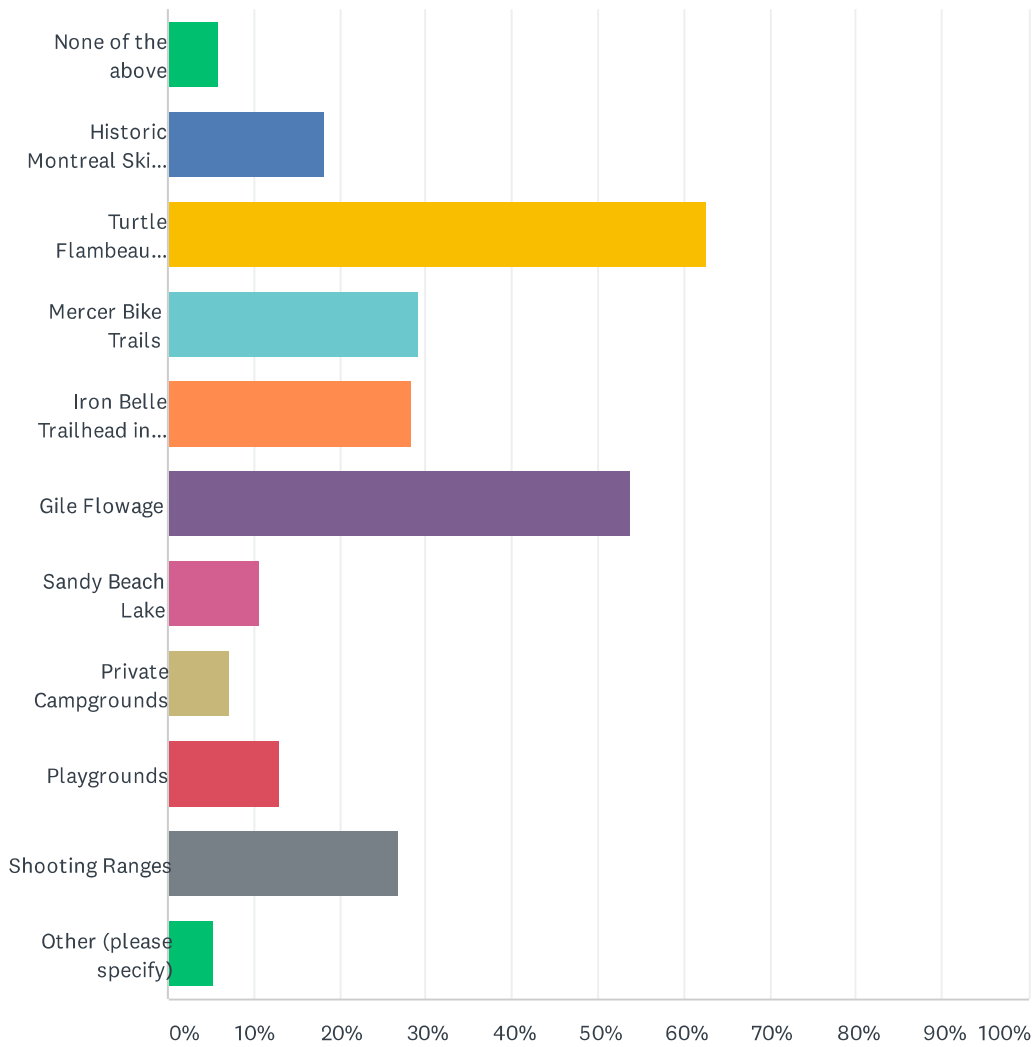
33

Please keep boat landings plowed during the winter.

2/25/2021 12:23 PM

Q5 Which of the following other Outdoor Recreation facilities that are located in Iron County, WI have you used/visited in the past 12 months.
(Check all that apply)

Answered: 326 Skipped: 0



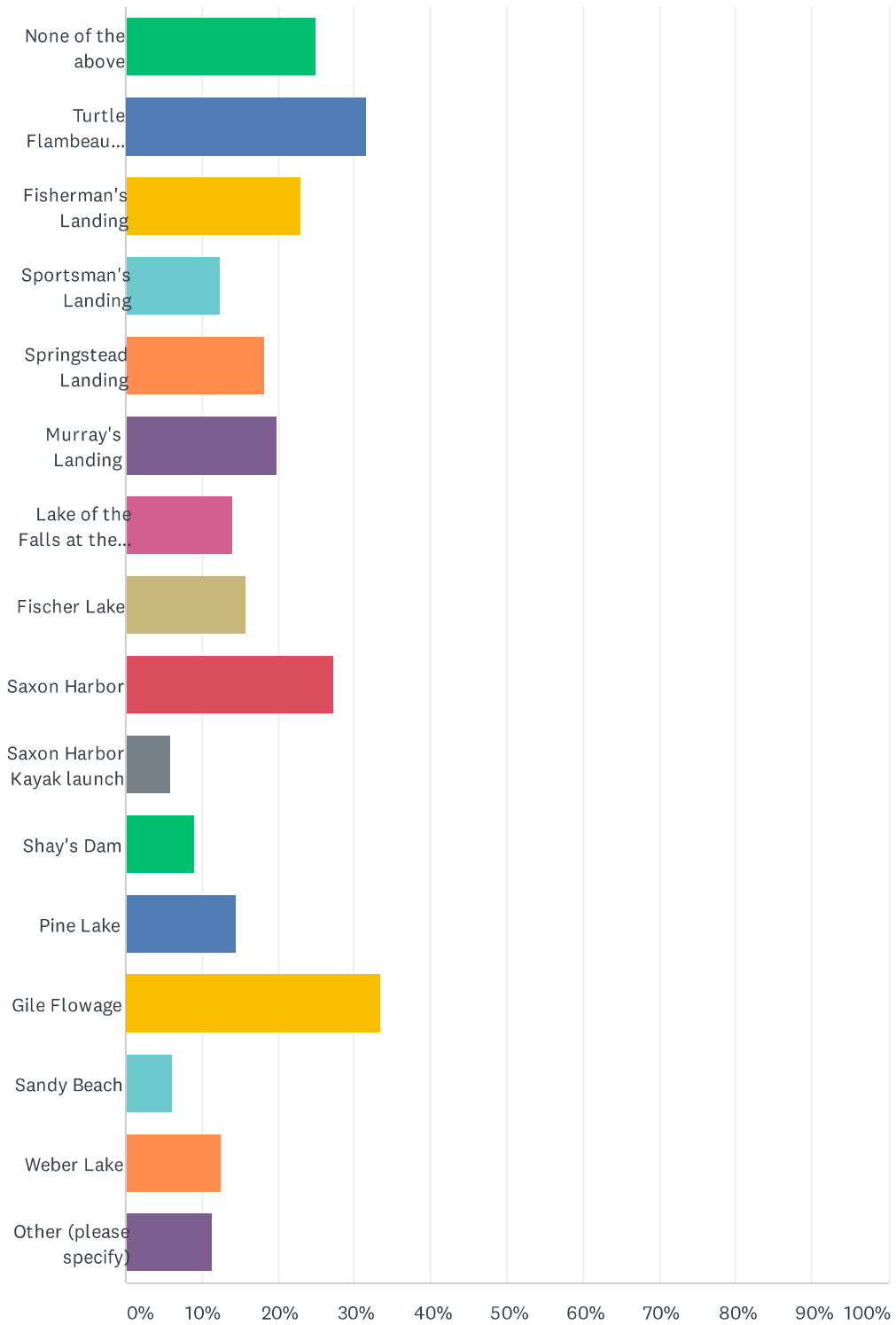
Iron County, WI Outdoor Recreation Plan 2021-2025

ANSWER CHOICES	RESPONSES
None of the above	5.83% 19
Historic Montreal Ski Trails	18.10% 59
Turtle Flambeau Flowage	62.58% 204
Mercer Bike Trails	29.14% 95
Iron Belle Trailhead in Hurley	28.22% 92
Gile Flowage	53.68% 175
Sandy Beach Lake	10.74% 35
Private Campgrounds	7.06% 23
Playgrounds	12.88% 42
Shooting Ranges	26.69% 87
Other (please specify)	5.21% 17
Total Respondents: 326	

#	OTHER (PLEASE SPECIFY)	DATE
1	B47 memorial	4/8/2021 6:31 AM
2	B47 Memorial	4/5/2021 6:55 PM
3	Pine Lake, Mercer lakes/streams	4/4/2021 5:02 PM
4	Superior Falls, Interstate Falls	3/30/2021 4:50 PM
5	Logging roads for bird hunting	3/24/2021 11:13 AM
6	We've been on all ATV/UTV trails, but are starting to go elsewhere as they are the same.	3/23/2021 4:58 PM
7	Scenic Vistas Corrigan's, Upson	3/23/2021 1:45 PM
8	Mercer ATV trails	3/21/2021 3:04 PM
9	Memorial sites	3/21/2021 1:43 PM
10	Kimball Falls & Interstate Falls	3/17/2021 10:56 AM
11	WinMan MTB Trails	3/16/2021 2:56 PM
12	SXo harbor	3/16/2021 10:29 AM
13	North Country National Scenic Trail	3/7/2021 12:32 PM
14	State Natural Areas	3/5/2021 1:57 PM
15	numerous undeveloped lakes (Brandt, Evelyn, Moose, Little Moose,	2/28/2021 5:06 PM
16	North country trail	2/27/2021 11:23 AM
17	Saxon Flowage	2/25/2021 11:52 AM

Q6 Which Iron County, WI boat landings have you used in the past 12 months?

Answered: 326 Skipped: 0



Iron County, WI Outdoor Recreation Plan 2021-2025

ANSWER CHOICES	RESPONSES
None of the above	24.85% 81
Turtle Flambeau Flowage	31.60% 103
Fisherman's Landing	23.01% 75
Sportsman's Landing	12.27% 40
Springstead Landing	18.10% 59
Murray's Landing	19.94% 65
Lake of the Falls at the Campground	14.11% 46
Fischer Lake	15.64% 51
Saxon Harbor	27.30% 89
Saxon Harbor Kayak launch	5.83% 19
Shay's Dam	8.90% 29
Pine Lake	14.42% 47
Gile Flowage	33.44% 109
Sandy Beach	6.13% 20
Weber Lake	12.58% 41
Other (please specify)	11.35% 37
Total Respondents: 326	

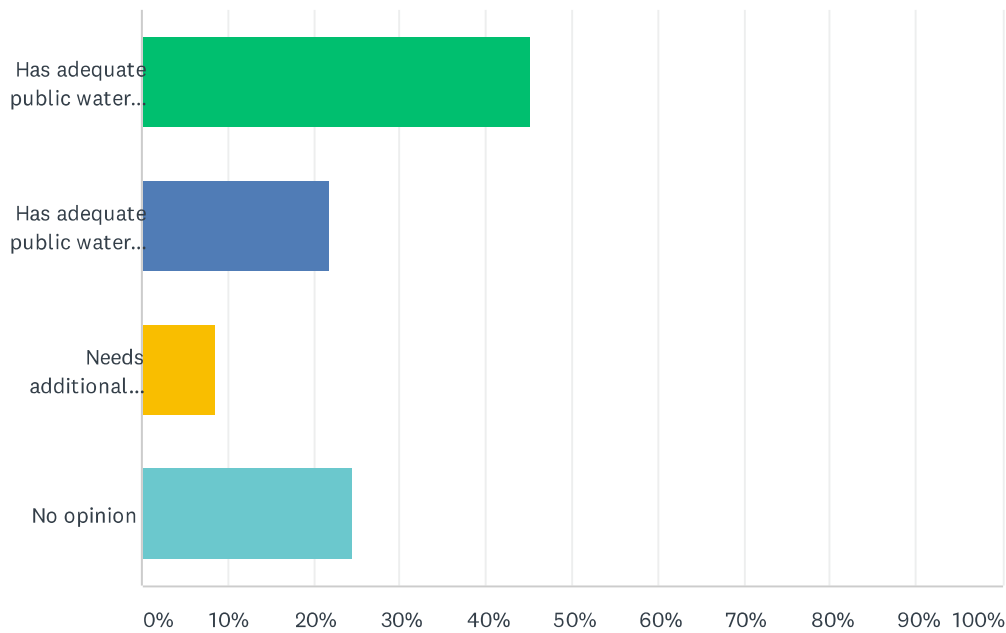
#	OTHER (PLEASE SPECIFY)	DATE
1	Island lake	4/5/2021 6:55 PM
2	landing in Mercer off J by the church	4/1/2021 10:00 AM
3	Echo Lake	4/1/2021 10:00 AM
4	North Bass Lake	3/31/2021 11:34 AM
5	mercero lake boat landing	3/31/2021 8:28 AM
6	Long Lake, Manitowish River (all), Pine Lake, Mercer Lake, Turtle River	3/30/2021 4:50 PM
7	Long Lake	3/30/2021 4:45 PM
8	Kichaks Landing	3/30/2021 11:20 AM
9	echo lake	3/29/2021 7:00 PM
10	Wilson Lake	3/24/2021 3:21 PM
11	Island lake and moose lake and lake six	3/24/2021 2:47 PM
12	WILSON lake	3/24/2021 10:59 AM
13	East echo lake	3/24/2021 5:07 AM
14	Spider	3/23/2021 5:58 PM
15	Island Lake	3/23/2021 4:38 PM
16	Island lake	3/23/2021 4:05 PM
17	Island Lake	3/23/2021 3:37 PM

Iron County, WI Outdoor Recreation Plan 2021-2025

18	Private on our lake	3/23/2021 3:07 PM
19	Island lake	3/23/2021 3:04 PM
20	Trude Lake	3/23/2021 2:31 PM
21	Winchester. Lake	3/21/2021 3:27 PM
22	Sturgeon bay, oxbow lake, spider lake	3/16/2021 8:12 AM
23	Bearskull lake	3/16/2021 8:10 AM
24	private	3/13/2021 7:47 AM
25	Spider	3/11/2021 8:46 PM
26	Multiple boat landings on various lakes	3/9/2021 7:09 PM
27	Upson Lake	3/8/2021 9:24 AM
28	sturgeon. bay	3/8/2021 7:47 AM
29	cedar lake, north bass lake	3/8/2021 7:40 AM
30	Various small lakes on state and county land	3/5/2021 2:44 PM
31	Echo lake	3/4/2021 11:22 PM
32	Long Lake, Turtle River/Oxbow Lake	2/28/2021 5:06 PM
33	Island Lake	2/26/2021 1:16 PM
34	Echo lake	2/26/2021 7:59 AM
35	Mercer lake, echo Lake, Grand Portage, lake of the falls & North bass	2/25/2021 12:23 PM
36	Saxon Flowage	2/25/2021 11:52 AM
37	long lake	2/25/2021 11:42 AM

Q7 Regarding public boat landing and water access do you feel Iron County, WI:

Answered: 326 Skipped: 0



ANSWER CHOICES	RESPONSES	
Has adequate public water access.	45.09%	147
Has adequate public water access but facilities need improvement.	21.78%	71
Needs additional public water access.	8.59%	28
No opinion	24.54%	80
Total Respondents: 326		

Q8 What improvements are needed in Iron County, WI at public boat landings and water access? Be sure to specify landing or lake.

Answered: 161 Skipped: 165

#	RESPONSES	DATE
1	Clean up litter	4/8/2021 6:31 AM
2	Weber Lake needs more area for parking	4/6/2021 7:49 AM
3	Some docks need upgrades	4/5/2021 6:55 PM
4	None	4/4/2021 5:02 PM
5	lights at the springstead turtle flambeau flowage landing	4/1/2021 9:16 PM
6	None	4/1/2021 7:39 AM
7	Properly repair roads such as fixing pot holes.	3/31/2021 12:49 PM
8	Clean waters, clean boats: is there something you can set up so people can clean up their motors to prevent the spread of invasive species/plants?	3/31/2021 11:34 AM
9	Gile Flowage landing on C needs to be widened	3/31/2021 10:29 AM
10	No opinion	3/31/2021 10:26 AM
11	Gile Flowage Park enforcing the rule of keeping swimmers off dock where boats enter/exit water. DNR has been involved at times. People ignore one sign.... more signs, education needed of danger.	3/31/2021 8:28 AM
12	Lake of the Falls landing needs work	3/31/2021 7:58 AM
13	don't know	3/30/2021 6:32 PM
14	Restrooms or porta-potties at all public landings	3/30/2021 4:50 PM
15	Signage and monitoring of invasive species. Inspection of boats for invasive species.	3/30/2021 4:45 PM
16	Parking, Porta Potties, Signage	3/30/2021 4:31 PM
17	Little Oxbow Landing (Co Hwy H): unsafe, collapsing	3/30/2021 11:20 AM
18	no comment	3/30/2021 10:40 AM
19	We use Saxon Harbor mostly which was just completely rebuilt after the flood so its awesome.	3/30/2021 10:06 AM
20	More parking for kayaks.	3/30/2021 10:00 AM
21	N/A	3/29/2021 8:44 PM
22	Porta pottie at sturgeon bay landing	3/29/2021 7:44 PM
23	-	3/29/2021 7:00 PM
24	Cement ramp at fisherman's landing	3/29/2021 4:03 PM
25	Gile landing parking lot needs work county c	3/29/2021 2:48 PM
26	none	3/29/2021 10:49 AM
27	ramp improvement and parking area,more ramps	3/28/2021 7:44 PM
28	N/a	3/27/2021 8:40 AM
29	More toilet facilities	3/25/2021 4:48 AM
30	They are good	3/24/2021 11:01 PM

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31	N/a	3/24/2021 7:03 PM
32	No problems	3/24/2021 6:57 PM
33	I don't use them so N/A	3/24/2021 5:40 PM
34	Lake six needs a wider Turn around and possible concrete area.Moose lake in Island lake and Pine Lake are pretty good	3/24/2021 2:47 PM
35	Na	3/24/2021 1:45 PM
36	Na	3/24/2021 1:23 PM
37	None	3/24/2021 1:03 PM
38	Some of the landings need to have piers installed for opener (sportsmens) for the seniors, county park could have a more access for bigger boats and pontoons, sturgeon bays could improved	3/24/2021 12:50 PM
39	So are all good	3/24/2021 11:57 AM
40	N/A	3/24/2021 11:53 AM
41	None at the locations I have used.	3/24/2021 11:35 AM
42	None	3/24/2021 11:35 AM
43	Na	3/24/2021 11:12 AM
44	Spider lake	3/24/2021 10:49 AM
45	more small canoe / kayak landings with parking for just a few vehicals. All over all waterways.	3/24/2021 10:42 AM
46	Fisher Lake Boat landing has needed repair. Boat landing is destroyed. Told it would be fixed this year.	3/24/2021 6:25 AM
47	Concrete boat landings	3/24/2021 5:07 AM
48	4H on the gile flowage landing should have a removable boat dock.	3/23/2021 11:32 PM
49	NA	3/23/2021 7:49 PM
50	Open bathrooms	3/23/2021 6:53 PM
51	They are good enough for us. We focus on a few lakes.	3/23/2021 4:58 PM
52	Don't use	3/23/2021 4:39 PM
53	Needs new dock at Island Lake	3/23/2021 4:38 PM
54	Need piers at many county landings. The ramps on some are in dire need of replacement and additional parking at some of the landings would be nice.	3/23/2021 3:48 PM
55	Na	3/23/2021 3:37 PM
56	Nothing	3/23/2021 3:07 PM
57	NA	3/23/2021 2:57 PM
58	Specify area for kayak landing to keep them out of the way for boat trailers	3/23/2021 2:31 PM
59	Bathrooms and pavement	3/23/2021 2:10 PM
60	NA	3/23/2021 1:47 PM
61	Garbage cans. Better ramps. Docks	3/23/2021 1:46 PM
62	Montreal river whitewater access needs improvement specifically at saxon falls and the gile flowage dam.	3/23/2021 1:38 PM
63	No concern	3/23/2021 1:22 PM
64	Some boat landings are in terrible shape. Ruts, holes, large rocks near landings, etc.	3/23/2021 8:07 AM
65	Dont know	3/22/2021 5:51 PM

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66	Trude lake needs a peir.	3/22/2021 12:13 PM
67	More parking	3/22/2021 8:48 AM
68	Fischer Lake needs more parking area.	3/22/2021 7:45 AM
69	I like when boat landings allow enough access to launch a boat and tie up on the other side if need be. Some boat landing are busy and I have family that needs the extra time. Maybe access to launch off both sides if we have room.	3/21/2021 11:16 PM
70	New ramps. Allow private ramps to refurbish their ramps.	3/21/2021 7:39 PM
71	Fisher lake landing needs work and more parking room.	3/21/2021 3:27 PM
72	Fox lake	3/21/2021 3:05 PM
73	none	3/21/2021 3:04 PM
74	MORE LANDINGS	3/21/2021 2:43 PM
75	Gile flowage	3/21/2021 1:43 PM
76	I am very happy overall with all that you do for our boat landings	3/19/2021 11:19 AM
77	Need more information and avoidance of invasive species, loons, and wake rules	3/18/2021 6:00 PM
78	I would like to see a dock at the boat landing on spring camp road in the Town of Pence.	3/18/2021 7:31 AM
79	the access roads - move from gravel and dirt to pavement	3/17/2021 8:21 PM
80	None	3/17/2021 10:56 AM
81	Weber Lake-larger turn around area for landing, Lake One-gravel/chunk rock at landing	3/16/2021 3:08 PM
82	Weber lake needs work, huge rocks in the pavement and the turnaround/parking area is to small. Lots of other landings that need work, especially limited access landings.	3/16/2021 1:10 PM
83	None	3/16/2021 12:11 PM
84	Murray's Landing: Parking lot improvements, boat launch improvements Fisherman's Landing: Bathroom facility upgrades Manitowish River Canoe Landings (Circle Lily, HWY47 Landing, Wayside Landing): Signage to identify landing. Upgrades and maintenance of river landings to manage erosion and runoff.	3/16/2021 10:55 AM
85	Toilet	3/16/2021 10:54 AM
86	?	3/16/2021 10:29 AM
87	Gile flowage county C dock needed work all summer.	3/16/2021 9:07 AM
88	.	3/16/2021 8:12 AM
89	Landing pads, piers, water depth	3/16/2021 8:12 AM
90	More parking at some of the smaller lakes	3/16/2021 7:49 AM
91	Trash cans	3/16/2021 7:44 AM
92	The Pence Park boat landing on the gile flowage would benefit from having a dock.	3/16/2021 7:44 AM
93	Restroom, drinking water and garbage receptacles are not always available at Gile boat landing.	3/12/2021 11:34 AM
94	Improved in-water concrete ramps. Paved and wider approaches to ramps.	3/12/2021 8:43 AM
95	Sportsman's Landing needs lighting and public restrooms.	3/10/2021 12:32 PM
96	Garbage cans. Moose Lake, Long Lake, Pike Lake, Turtle River	3/9/2021 7:09 PM
97	Keep invasive species signs and loon alerts up to date on all waters. Would be great to have some programs offered at Saxon Harbor for campers and others.	3/8/2021 11:35 AM
98	more access to gile	3/8/2021 11:21 AM
99	Saxon Harbor parking should be free for residents to walk the beach. Launch should have a	3/8/2021 9:24 AM

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resident and nonresident fee. My taxes should support my launching as a resident - especially the kayak launch, which requires no equipment.

100	Just general upgrades	3/8/2021 9:14 AM
101	Toilets	3/8/2021 9:13 AM
102	Nicer toilet facilities.	3/8/2021 8:23 AM
103	We kayak so we don't need much. We use Cedar Lake launch a lot and it's primo.	3/8/2021 7:52 AM
104	Landings at fisher lake, oxbow, and spider lake are almost unusable for boats.	3/8/2021 7:17 AM
105	Would be nice to have a landing at Twin Lake Couldn't find a landing at Little Pike Lake, Crystal Lake	3/6/2021 4:13 PM
106	Turtle River landing needs better signage	3/6/2021 7:55 AM
107	Brushing of backwoods launches. Purchase land on private lakes to provide access to all of the counties waters	3/5/2021 2:44 PM
108	They are good shape	3/4/2021 8:36 PM
109	A landing at Pike Lake would be awesome...not sure how long Ruggers will be there.	3/4/2021 6:57 PM
110	None, that I'm aware of.	3/4/2021 2:21 PM
111	n.a	3/4/2021 1:43 PM
112	none	3/4/2021 12:42 PM
113	None	3/4/2021 6:49 AM
114	None	3/2/2021 10:08 PM
115	none	3/2/2021 10:34 AM
116	N/A	3/2/2021 9:29 AM
117	Kayaks out of the way at Saxon Harbor. They don't use their launch	3/2/2021 9:12 AM
118	na	3/2/2021 8:55 AM
119	none	3/1/2021 11:48 AM
120	Murrays Landing could be improved to launch boats	2/28/2021 7:05 PM
121	Gile	2/28/2021 2:58 PM
122	N/a	2/28/2021 9:53 AM
123	Additional landings	2/27/2021 2:26 PM
124	Adequate	2/27/2021 2:00 PM
125	Piers and launches need improvements	2/27/2021 11:07 AM
126	It is too fancy. Just the basics please.	2/27/2021 10:24 AM
127	None	2/26/2021 8:06 PM
128	WE should have access to the rivers in the area. a put in and take out along the Montreal would be nice.	2/26/2021 2:40 PM
129	Ok	2/26/2021 11:47 AM
130	Sturgeonbay landing is too small. Not enough parking and no launch surface. Fisherman's landing needs to be widened to allow multiple launching sites. Springstead landing receives far too much attention and obvious favoritism towards the wealthy residents.	2/26/2021 11:25 AM
131	Improve boat launch ramps. Improve boat cleaning to reduce invasive species.	2/26/2021 8:34 AM
132	Lighting. Suggest Solar	2/26/2021 7:59 AM
133	None	2/26/2021 6:59 AM

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134	None	2/26/2021 5:11 AM
135	Fish	2/25/2021 8:53 PM
136	Obadash boat landing, wider paved launch at Gile Flowage Cty C landing, Parking lot at Gile Flowage Cty C is getting frost heave.	2/25/2021 8:16 PM
137	No opinion	2/25/2021 7:02 PM
138	Pine lake and some others could use restroom facilities.	2/25/2021 6:40 PM
139	none	2/25/2021 6:39 PM
140	Saxon harbor needs better signing so kayaks are not launch from boat launches.	2/25/2021 4:41 PM
141	It would be nice if fischer lake landing was a little bigger so there could be more than 3 trailers and it would make it easier to turn around or back up.	2/25/2021 4:09 PM
142	Constant maintenance must be planned for.	2/25/2021 3:35 PM
143	Have not used boat landings	2/25/2021 3:22 PM
144	Na	2/25/2021 3:19 PM
145	good	2/25/2021 3:15 PM
146	Na	2/25/2021 2:29 PM
147	None that I use. Spring stead landing on the flowage is great	2/25/2021 2:17 PM
148	n/a	2/25/2021 1:33 PM
149	Gile Flowage docks and boat landings need to be upgraded and/or replaced. the water level is too high for the docks and water goes them. The lighting at both Gile Flowage landings is inadequate to see during a fog or rain. The lights should be brighter and the parking lots well lit. the Gile Park landing parking lot light goes out often every night.	2/25/2021 1:23 PM
150	Toilets, garbage cans	2/25/2021 1:19 PM
151	Gile Flowage east and south landings need ramp repair- very easy to fall off and break an axle due to settling over time	2/25/2021 1:15 PM
152	Fisher lake boat landing	2/25/2021 1:03 PM
153	None	2/25/2021 12:51 PM
154	Fisher Lake public boat launch is in rough shape	2/25/2021 12:49 PM
155	More space for turnarounds & parking at Oxbow Lake and Sturgeon Bay landing. A pier at Trude lake, a new pier at Echo Lake, and new concrete pad and pier at Fisher Lake and a concrete pad at Murray's Landing.	2/25/2021 12:23 PM
156	Need a bathroom at boat landing by dam.... not sure what the name of the landing is. This is a very popular landing	2/25/2021 12:20 PM
157	Gile landing on CTH C is in very poor shape. Hewitt and Owl lake could use improvements	2/25/2021 11:46 AM
158	long lake- dredged out, sportsmans landing docks put in on time	2/25/2021 11:42 AM
159	More public access to lakes	2/25/2021 11:41 AM
160	na	2/25/2021 11:36 AM
161	Make sure WDNR has TFF docks installed and/or removed on timely basis. Have had problems with this sdue over the last few years. When docks are not in for fishing opener its a problem.	2/25/2021 11:31 AM

Q9 Please provide concerns or comments regarding public water access in Iron County, WI.

Answered: 127 Skipped: 199

#	RESPONSES	DATE
1	None	4/8/2021 6:31 AM
2	na	4/6/2021 7:49 AM
3	None	4/4/2021 5:02 PM
4	None	4/1/2021 7:39 AM
5	I strongly recommend the DNR changing their requirement for a group to get a grant to NOT have the lake install a boat landing. This will be very counter productive on Rice lake (they will receive a grant but have to have a public boat landing installed; the grant is to get rid of curly leaf pond weed). Obviously the new boat landing would further compound the invasive plant problem on Rice L. Also, on an entirely different topic, jet skis are becoming quite a nuisance on Fisher L. Can we have certain hours for this loud obnoxious activity?	3/31/2021 11:34 AM
6	No opinion	3/31/2021 10:26 AM
7	Gile Park needs improvement, lawn groomed better, clean up, open bathrooms, people can wear masks and wash hands to use bathrooms!. Enforcement of dock safety for boating--swimmers and their parents aren't following rules!!! Would help if Montreal Council would encourage swim area to be grass and rock free for swimmers. Rake, pick rocks, pull weeds. This park is lovely but not properly maintained. Cookie and Dale do a lot of volunteer work there now. Can't expect them to do more. Workers of Gile need to clean up park. So many people come to Gile Park. There are issues of people running dogs in park and dog dirt/ plus there are geese issues which can't be controlled.	3/31/2021 8:28 AM
8	Public toilets would be nice	3/30/2021 6:32 PM
9	Highlight attention to invasive species awareness & control. The same for loon protection. I frequently see people too close to nests or birds in the water.	3/30/2021 4:50 PM
10	No major concerns	3/30/2021 4:31 PM
11	access to Pike Lake	3/30/2021 11:20 AM
12	no comment	3/30/2021 10:40 AM
13	none	3/30/2021 10:06 AM
14	Mostly good access	3/30/2021 10:00 AM
15	N/A	3/29/2021 8:44 PM
16	None	3/29/2021 7:44 PM
17	-	3/29/2021 7:00 PM
18	Great access	3/29/2021 4:11 PM
19	None	3/29/2021 4:03 PM
20	Good	3/29/2021 2:48 PM
21	none	3/29/2021 10:49 AM
22	could be more	3/28/2021 7:44 PM
23	N/a	3/27/2021 8:40 AM
24	None	3/25/2021 4:48 AM

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25	None	3/24/2021 11:01 PM
26	N/a	3/24/2021 7:03 PM
27	I appreciate the no fee boat launches. Please keep them.	3/24/2021 6:57 PM
28	N/A	3/24/2021 5:40 PM
29	NA	3/24/2021 1:45 PM
30	None	3/24/2021 1:23 PM
31	None	3/24/2021 1:03 PM
32	for the most part all is pretty well accessible	3/24/2021 12:50 PM
33	Turtle flambeau ramps are good	3/24/2021 11:57 AM
34	Invasive species	3/24/2021 11:53 AM
35	N/A	3/24/2021 11:53 AM
36	None	3/24/2021 11:35 AM
37	None	3/24/2021 11:35 AM
38	Na	3/24/2021 11:12 AM
39	None	3/24/2021 5:07 AM
40	None	3/23/2021 11:32 PM
41	None.	3/23/2021 4:58 PM
42	None	3/23/2021 4:39 PM
43	Need a larger turn around area at Island Lake for launching pontoons	3/23/2021 4:38 PM
44	Na	3/23/2021 3:37 PM
45	0	3/23/2021 3:07 PM
46	NA	3/23/2021 2:57 PM
47	Kayaks do not need to land on the trailer ramps	3/23/2021 2:31 PM
48	There is plenty	3/23/2021 2:22 PM
49	NnA	3/23/2021 1:47 PM
50	I would like the county to support scheduled, controlled dam releases as part of the repermitting process for the Montreal river dams.	3/23/2021 1:38 PM
51	No concern	3/23/2021 1:22 PM
52	We wish there were more public boat landings.	3/23/2021 8:07 AM
53	None	3/22/2021 5:51 PM
54	None at this time.	3/22/2021 12:13 PM
55	Vegetation overgrown	3/22/2021 8:48 AM
56	Clean bathrooms, and additional garbage cans.	3/21/2021 11:16 PM
57	Need additional vehicle parking.	3/21/2021 7:39 PM
58	NONE	3/21/2021 2:43 PM
59	Better boat launches	3/21/2021 1:43 PM
60	I would like to see more landings/parking spaces for kayaks.	3/21/2021 12:58 PM
61	None	3/19/2021 11:19 AM
62	Too many people who dont know the rules	3/18/2021 6:00 PM

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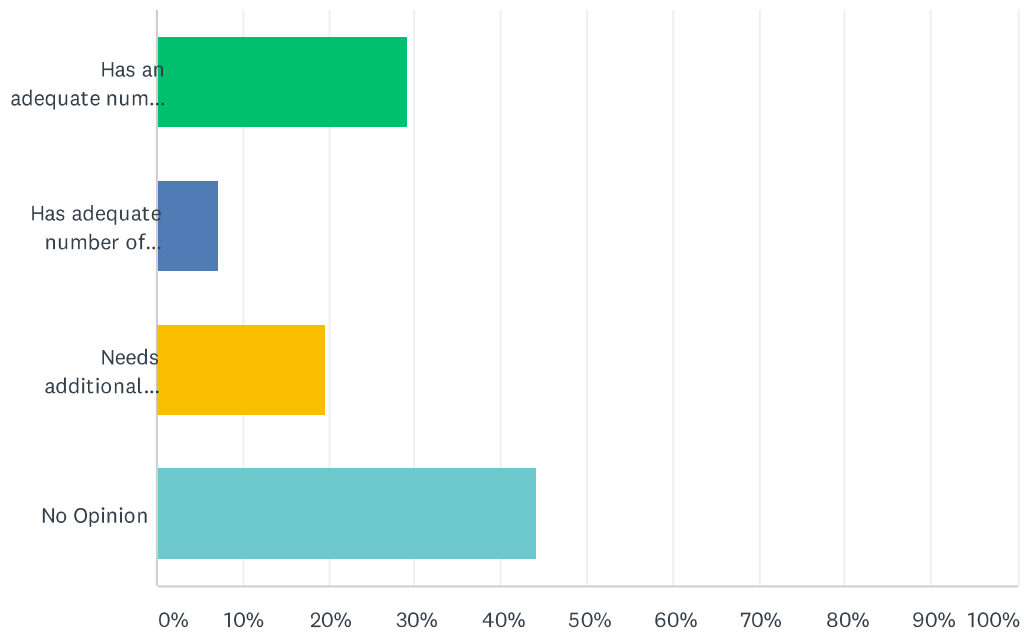
63	N/A	3/18/2021 7:31 AM
64	None	3/17/2021 10:56 AM
65	Better markings showing access points would be helpful, pit toilets would be a nice addition	3/16/2021 3:08 PM
66	Better maps would be great, we have awesome resources and a lot are hard to find. Or the trails are so run down they are almost impassible. Even ITV access to these would be spectacular. Opening our trails and stuff to dual sport bikes would make sense.	3/16/2021 1:10 PM
67	None	3/16/2021 12:11 PM
68	Canoe landings are neglected.	3/16/2021 10:55 AM
69	.	3/16/2021 8:12 AM
70	It would be nice to see more life jacket boxes like the one at lake of the falls campground.	3/16/2021 7:49 AM
71	Litter	3/16/2021 7:44 AM
72	None	3/16/2021 7:44 AM
73	I greatly appreciate how much publicly owned land there is in Iron County. It offers unique experiences of wilderness, especially compared to other communities like Minocqua.	3/12/2021 11:34 AM
74	Better informative signage on AIS and preventative measures.	3/12/2021 8:43 AM
75	none	3/10/2021 12:32 PM
76	None	3/9/2021 7:09 PM
77	overall good	3/8/2021 11:21 AM
78	No concerns, but would love to see more and better access to waterways especially for kayaking and canoeing	3/8/2021 9:14 AM
79	Thank you for providing these access	3/8/2021 9:13 AM
80	Invasive Species	3/8/2021 8:23 AM
81	The more the merrier. Not an issue for us. We go to the Gile and will launch from a leeward shore given the many options.	3/8/2021 7:52 AM
82	None	3/8/2021 7:17 AM
83	See above. It would be nice to have boat landings at more of the lakes.	3/6/2021 4:13 PM
84	Overall ok	3/6/2021 7:55 AM
85	There are 490 lakes in Iron county and about 5-10 maintained launches/ access points on county land	3/5/2021 2:44 PM
86	None	3/4/2021 8:36 PM
87	See above...	3/4/2021 6:57 PM
88	Good	3/4/2021 2:21 PM
89	n.a	3/4/2021 1:43 PM
90	none	3/4/2021 12:42 PM
91	None	3/4/2021 6:49 AM
92	None	3/2/2021 10:08 PM
93	none	3/2/2021 10:34 AM
94	N/A	3/2/2021 9:29 AM
95	None	3/2/2021 9:12 AM
96	na	3/2/2021 8:55 AM
97	none	3/1/2021 11:48 AM

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98	Water access could be improved at Oxbow Lake, for instance. Otherwise, pretty darn good.	2/28/2021 5:06 PM
99	N/a	2/28/2021 9:53 AM
100	Additiinal landings	2/27/2021 2:26 PM
101	concerns of transfer of plant growth from lake to lake,	2/27/2021 2:00 PM
102	no concerns	2/27/2021 10:24 AM
103	None	2/26/2021 8:06 PM
104	There need to be garbage cans installed at boat landings and popular fishing spots. my family and my kids 4-H club shouldn't have to clean up after the pigs who leave their trash everywhere.	2/26/2021 2:40 PM
105	Ok	2/26/2021 11:47 AM
106	Parking is the biggest issue.	2/26/2021 11:25 AM
107	.	2/26/2021 8:34 AM
108	No concerns	2/26/2021 6:59 AM
109	None	2/26/2021 5:11 AM
110	None at this time	2/25/2021 8:53 PM
111	No opinion	2/25/2021 7:02 PM
112	none	2/25/2021 6:39 PM
113	Very important. Provided by law	2/25/2021 3:35 PM
114	None	2/25/2021 3:22 PM
115	Na	2/25/2021 3:19 PM
116	Na	2/25/2021 2:29 PM
117	None	2/25/2021 2:17 PM
118	n/a	2/25/2021 1:33 PM
119	Boat docking fees are not being universally collected	2/25/2021 1:23 PM
120	great	2/25/2021 1:15 PM
121	All good	2/25/2021 12:51 PM
122	The towns and county need to maintain, not just have, access to Iron County waters.	2/25/2021 12:23 PM
123	Very accessible on all parts of Flowage	2/25/2021 12:20 PM
124	I feel a lot of smaller lakes could use public landings	2/25/2021 11:46 AM
125	better access to small lakes	2/25/2021 11:42 AM
126	Need more fishing access from shore	2/25/2021 11:41 AM
127	na	2/25/2021 11:36 AM

Q10 Regarding Iron County, WI Campgrounds, do you feel Iron County, WI:

Answered: 326 Skipped: 0



ANSWER CHOICES	RESPONSES	
Has an adequate number of campground facilities.	29.14%	95
Has adequate number of campground facilities, but improvements are needed.	7.06%	23
Needs additional campground facilities.	19.63%	64
No Opinion	44.17%	144
Total Respondents: 326		

Q11 What improvements are needed at Iron County, WI Campgrounds. Be sure to identify location and improvements needed.

Answered: 125 Skipped: 201

#	RESPONSES	DATE
1	NA	4/13/2021 2:51 PM
2	None	4/8/2021 6:31 AM
3	More showers at Lake of the Falls	4/6/2021 5:18 PM
4	Consider adding other small, non-obtrusive, cozy campground facilities, similar to what is at Weber Lake, but at other locations.	4/4/2021 5:02 PM
5	None	4/1/2021 7:39 AM
6	I love Sandy Beach State Park but I like to be spontaneous in my plans. I really wish one did not have to go online to reserve i.e. would prefer to register when you get there.	3/31/2021 11:34 AM
7	50 amp service is becoming standard on campers and should always be considered for improvement	3/31/2021 10:26 AM
8	Signs for & maps of area hiking & bicycle trails are inadequate at all the campgrounds. Finish Saxon Harbor Campground	3/30/2021 4:50 PM
9	No concerns about existing campgrounds except maybe kiosks with hiking information.	3/30/2021 4:31 PM
10	none come to mind	3/30/2021 10:40 AM
11	none	3/30/2021 10:06 AM
12	Could have more remote, boondocking sites	3/30/2021 10:00 AM
13	N/A	3/29/2021 8:44 PM
14	Na	3/29/2021 7:44 PM
15	-	3/29/2021 7:00 PM
16	No opinion	3/29/2021 4:03 PM
17	None	3/29/2021 2:48 PM
18	Finish upgrades at Weber lake	3/29/2021 10:49 AM
19	more and larger camper sites	3/28/2021 7:44 PM
20	Bathrooms with plumbing. Campsites that are private/have trees so it's more camping and less trailer park	3/28/2021 11:59 AM
21	Lighting to bathrooms at night especially at black river harbor	3/27/2021 8:40 AM
22	NA	3/25/2021 4:48 AM
23	None	3/24/2021 11:01 PM
24	N/a	3/24/2021 7:03 PM
25	None	3/24/2021 6:57 PM
26	I don't use them so N/A	3/24/2021 5:40 PM
27	Na	3/24/2021 1:45 PM
28	Na	3/24/2021 1:23 PM
29	None	3/24/2021 1:03 PM

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30	The county park at lake of the falls could use more room to lunch a boat, and some kind of a beach and better swimming aera	3/24/2021 12:50 PM
31	Only camp on turtle	3/24/2021 11:57 AM
32	N/A	3/24/2021 11:53 AM
33	No opinion	3/24/2021 11:35 AM
34	None	3/24/2021 11:35 AM
35	access to ATV Trails from there locations	3/24/2021 11:13 AM
36	Na	3/24/2021 11:12 AM
37	I think Iron County needs more ATV/UTV friendly campgrounds.	3/24/2021 10:59 AM
38	None	3/24/2021 5:07 AM
39	Need more places to dump grey water and black water waste.	3/23/2021 11:32 PM
40	None	3/23/2021 4:39 PM
41	N/a	3/23/2021 4:38 PM
42	Na	3/23/2021 3:37 PM
43	Dont use	3/23/2021 3:07 PM
44	NA	3/23/2021 2:57 PM
45	Pavement and on-site help	3/23/2021 2:10 PM
46	None	3/23/2021 1:51 PM
47	NA	3/23/2021 1:47 PM
48	Dispersed camping in the iron county forest would be a value add.	3/23/2021 1:38 PM
49	No concern	3/23/2021 1:22 PM
50	dont know	3/22/2021 5:51 PM
51	None	3/22/2021 12:13 PM
52	Na	3/22/2021 8:48 AM
53	I only stay at lake of the falls for camping and very happy with the bathroom and showers. Just keep them clean and I am good.	3/21/2021 11:16 PM
54	Need more private campgrounds.	3/21/2021 7:39 PM
55	NONE	3/21/2021 2:43 PM
56	None	3/21/2021 1:43 PM
57	More ATV/ UTV friendly campgrounds like Schomberg park	3/21/2021 1:26 PM
58	None	3/19/2021 11:19 AM
59	None	3/17/2021 10:56 AM
60	Development of a camping area near Casey Sag for waterfalls/hunting	3/16/2021 3:08 PM
61	Upgrades to older facilities/additional spaces with electrical hookup	3/16/2021 2:56 PM
62	Just better access to open access in iron county lands. Lots of nice remote spots that could be enjoyed!	3/16/2021 1:10 PM
63	None	3/16/2021 12:11 PM
64	Need more campsites.	3/16/2021 9:06 AM
65	.	3/16/2021 8:12 AM
66	Quiet space	3/16/2021 8:12 AM

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67	Bathrooms	3/16/2021 8:10 AM
68	If ever possible, another shower building at lake of the falls campground would be great. It would also be nice to have a fish cleaning station there.	3/16/2021 7:49 AM
69	Quiet hours	3/16/2021 7:44 AM
70	None	3/16/2021 7:44 AM
71	More sites at current facilities or more campgrounds. Occupancy is 100% during holiday weekends.	3/12/2021 8:43 AM
72	none	3/10/2021 12:32 PM
73	Keep campgrounds for everyone, not just ATV's.	3/8/2021 11:35 AM
74	none	3/8/2021 11:21 AM
75	No comment	3/8/2021 9:24 AM
76	Signage potato river. Regular garbage checks.	3/8/2021 9:17 AM
77	I haven't looked at the new Saxon Harbor campground yet, but it looks promising. I like the marked backcountry campsites near Wren Falls on the NCT. The campground at Weber Lake could be an awesome spot but it has become run down over the years. That little lake is a gem with Whitecap and the Uller Trail right there. I like that there are water accessible sites on the Turtle-Flambeau.	3/8/2021 9:14 AM
78	Remote sites for day camping need to be protected from ATV's . Wren falls is an example	3/8/2021 8:37 AM
79	Reservation system could be more user friendly online	3/8/2021 8:23 AM
80	We don't camp much but certainly shower/restroom facilities are key for "glamming". Expensive though so as a taxpayer perhaps keep them rustic.	3/8/2021 7:52 AM
81	None	3/8/2021 7:17 AM
82	Stop catering to big rv s. Some rustic or back country sites would be great.	3/5/2021 2:44 PM
83	Add more remote camping areas. The campgrounds are too crowded	3/5/2021 1:57 PM
84	Be able to buy firewood at sites	3/4/2021 8:36 PM
85	Don't know	3/4/2021 6:57 PM
86	NA	3/4/2021 2:21 PM
87	no opinion	3/4/2021 1:43 PM
88	just looking for more campgrounds like lake of the falls as that one gets fairly full	3/4/2021 12:42 PM
89	None	3/4/2021 6:49 AM
90	More campgrounds	3/2/2021 10:08 PM
91	restrooms at weber lake, glad to see they are in for this season	3/2/2021 10:34 AM
92	N/A	3/2/2021 9:29 AM
93	None	3/2/2021 9:12 AM
94	na	3/2/2021 8:55 AM
95	none	3/1/2021 11:48 AM
96	Walk-in sites, backpacker sites.	2/28/2021 5:06 PM
97	N/a	2/28/2021 9:53 AM
98	Trees pruned to allow height access for 5th wheel trailers. 13.5' clearance needed.	2/27/2021 2:26 PM
99	Just clean up and trash removal.	2/27/2021 11:23 AM
100	More campsites in turtle flow age	2/27/2021 11:07 AM
101	none	2/27/2021 10:24 AM

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102	Please always have at least some tent sites, if possible in a quiet area	2/26/2021 8:08 PM
103	None	2/26/2021 8:06 PM
104	.	2/26/2021 6:53 PM
105	More tent camping locations. all the public land in this county you would think there could be some hike-in camping available.	2/26/2021 2:40 PM
106	Not used	2/26/2021 11:47 AM
107	Parking at Lake of the falls could be added for boaters.	2/26/2021 11:25 AM
108	No place for winter RV camping. Why not allow this somewhere close to Hurley? We take the motor home over for snowmobiling and skiing.	2/26/2021 6:59 AM
109	None	2/26/2021 5:11 AM
110	More packing	2/25/2021 8:53 PM
111	none	2/25/2021 6:39 PM
112	All campgrounds need constant maintenance. Budgets must include such work.	2/25/2021 3:35 PM
113	None	2/25/2021 3:22 PM
114	Na	2/25/2021 3:19 PM
115	A	2/25/2021 2:29 PM
116	None	2/25/2021 2:17 PM
117	n/a	2/25/2021 1:33 PM
118	I would like to see more primitive sites throughout the county parks in remote locations for privacy.	2/25/2021 1:23 PM
119	Year round camping	2/25/2021 1:19 PM
120	na	2/25/2021 1:15 PM
121	Nic	2/25/2021 12:51 PM
122	Need more picnic tables on the Flowage campsites, some do not have them	2/25/2021 12:20 PM
123	None	2/25/2021 11:46 AM
124	more campgrounds considering how many lakes	2/25/2021 11:42 AM
125	na	2/25/2021 11:36 AM

Q12 What types of, or locations for Campgrounds or facilities are needed in Iron County, WI?

Answered: 134 Skipped: 192

#	RESPONSES	DATE
1	NA	4/13/2021 2:51 PM
2	No opinion	4/8/2021 6:31 AM
3	One small lakes, rivers, Gile Flowage, possibly.	4/4/2021 5:02 PM
4	Some electric hookups as more campers are using units needing electricity	4/3/2021 9:46 AM
5	Sites with electricity	4/1/2021 10:00 AM
6	None	4/1/2021 7:39 AM
7	Rv with electricity sites, dumping stations	3/31/2021 10:26 AM
8	Improve what's there as suggested.	3/30/2021 4:50 PM
9	Camping with horses near trails	3/30/2021 4:45 PM
10	Expanding camping opportunities within Turtle Flambeau Scenic waterway.	3/30/2021 4:31 PM
11	Rustic with water on site.	3/30/2021 1:29 PM
12	n/a	3/30/2021 11:20 AM
13	more lodging and camping needed during spring/summer/fall months	3/30/2021 10:40 AM
14	na	3/30/2021 10:06 AM
15	More remote, boondocking sites or dispersed camping type areas.	3/30/2021 10:00 AM
16	N/A	3/29/2021 8:44 PM
17	NA	3/29/2021 7:44 PM
18	-	3/29/2021 7:00 PM
19	No opinion	3/29/2021 4:03 PM
20	Toilets at the B47 bomber crash site	3/29/2021 2:48 PM
21	no additional	3/29/2021 10:49 AM
22	larger and more room between sites	3/28/2021 7:44 PM
23	N/a	3/27/2021 8:40 AM
24	NA	3/25/2021 4:48 AM
25	None	3/24/2021 11:01 PM
26	N/a	3/24/2021 7:03 PM
27	RV and camper drain and fill stations	3/24/2021 6:57 PM
28	N/A	3/24/2021 5:40 PM
29	NA	3/24/2021 1:45 PM
30	Na	3/24/2021 1:23 PM
31	Atv/ITV accessible	3/24/2021 1:03 PM
32	more group sites and camper sites, other parts of TFF	3/24/2021 12:50 PM

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33	None	3/24/2021 11:57 AM
34	N/A	3/24/2021 11:53 AM
35	No Opinion	3/24/2021 11:35 AM
36	More ATV/UTV accessible campgrounds	3/24/2021 11:35 AM
37	Doesn't need to be fancy, don't need water or sewer hookups, Electric would be nice	3/24/2021 11:13 AM
38	Na	3/24/2021 11:12 AM
39	ATV/UTV friendly and quiet campgrounds so people have a choice.	3/24/2021 10:59 AM
40	Good	3/24/2021 5:07 AM
41	RV accessible, and RV dump sites	3/23/2021 11:32 PM
42	Utv	3/23/2021 4:39 PM
43	N/a	3/23/2021 4:38 PM
44	Na	3/23/2021 3:37 PM
45	0	3/23/2021 3:07 PM
46	IDK	3/23/2021 2:57 PM
47	Mercer	3/23/2021 2:10 PM
48	None	3/23/2021 1:51 PM
49	NA	3/23/2021 1:47 PM
50	Dispersed camping in the iron county forest	3/23/2021 1:38 PM
51	No concern	3/23/2021 1:22 PM
52	Dont know	3/22/2021 5:51 PM
53	None	3/22/2021 12:13 PM
54	Na	3/22/2021 8:48 AM
55	n/a	3/21/2021 11:16 PM
56	Lake Of The Falls	3/21/2021 7:39 PM
57	NONE	3/21/2021 2:43 PM
58	I would like to see some State Forest campgrounds in Iron County.	3/21/2021 12:58 PM
59	Gile flowage campsites	3/19/2021 11:56 AM
60	Need more campgrounds	3/19/2021 11:33 AM
61	None	3/19/2021 11:19 AM
62	Quieter campgrounds with no ATVs	3/17/2021 8:21 PM
63	None	3/17/2021 10:56 AM
64	Frisbee golf course, Casey Sag campground, transient slips on Gile Flowage	3/16/2021 3:08 PM
65	More mountain bike trails!! Contact Rock Solid Trail Contracting out of Copper Harbor, MI	3/16/2021 2:56 PM
66	Just opening up our resources to have better access would be a good start.	3/16/2021 1:10 PM
67	None	3/16/2021 12:11 PM
68	atv utv friendly	3/16/2021 10:54 AM
69	Rv campsites with atv trail access.	3/16/2021 9:06 AM
70	.	3/16/2021 8:12 AM
71	Pristine walk in camping locations, yerts	3/16/2021 8:12 AM

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72	Just need more options. Only a couple and its a long summer	3/16/2021 8:10 AM
73	Near lakes or ATV trails	3/16/2021 7:49 AM
74	Have plenty	3/16/2021 7:44 AM
75	Not sure	3/16/2021 7:44 AM
76	I think campgrounds and cabins like those along the North Country trail/Uller trail are exciting, offering a more wild experience for users.	3/12/2021 11:34 AM
77	Located near some of the many waterfalls and hiking trails.	3/12/2021 8:43 AM
78	none	3/10/2021 12:32 PM
79	HORSE CAMPGROUNDS	3/9/2021 9:28 PM
80	none	3/8/2021 11:21 AM
81	I prefer more rustic sites, and there are a number but would focus on those where you are close to nature. Others near waterfalls would be nice. Maybe a car camping accessible site near Wren/Foster/Rouse falls. Something on the Gile Flowage would be nice too. It's an amazing body of water. I've never used Schomberg Park campground, but it seemed very much geared toward ATV traffic and that's not something I am looking for.	3/8/2021 9:14 AM
82	Remote yurts on the Uller trail.	3/8/2021 8:23 AM
83	Can always add more for the busy weekends	3/8/2021 7:17 AM
84	Dispersed or back country	3/5/2021 2:44 PM
85	Again more remote campsites. Add one to the end of Upson Lake Road.	3/5/2021 1:57 PM
86	More tent sites would be great! More secluded tent sights, walk in sites for more privacy	3/5/2021 12:27 PM
87	They are good	3/4/2021 8:36 PM
88	Don't know	3/4/2021 6:57 PM
89	NA	3/4/2021 2:21 PM
90	n/a	3/4/2021 1:43 PM
91	camper campsites electric is not even needed.	3/4/2021 12:42 PM
92	None	3/4/2021 6:49 AM
93	Lakefront.	3/2/2021 10:08 PM
94	Weber Lake or Upson area small campground like Shaumberg Park	3/2/2021 8:55 PM
95	none	3/2/2021 10:34 AM
96	N/A	3/2/2021 9:29 AM
97	None	3/2/2021 9:12 AM
98	na	3/2/2021 8:55 AM
99	none	3/1/2021 11:48 AM
100	Work with the state to add a trail into state lands at Lake of the Falls campground. Perhaps have a small campground just for hikers.	2/28/2021 5:06 PM
101	Some camping facilities would be appreciated on the Gile flowage	2/28/2021 1:02 PM
102	N/a	2/28/2021 9:53 AM
103	The more, the better.	2/27/2021 2:26 PM
104	I think they are great for how I like to camp, small private no electric. I don't like camping with RVs or big groups	2/27/2021 11:23 AM
105	More paddle in campsites and back pack in sites	2/27/2021 11:07 AM
106	none	2/27/2021 10:24 AM

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107	Can't think of any	2/26/2021 8:06 PM
108	.	2/26/2021 6:53 PM
109	hike in camping, rustic camping	2/26/2021 2:40 PM
110	Not used	2/26/2021 11:47 AM
111	Murray's Landing could stand a large camping property with expanded restroom facilities and with an improved boat launch	2/26/2021 11:25 AM
112	More campgrounds in general, with tent camping available. Electric and water necessary with and dump station a plus.	2/26/2021 10:27 AM
113	Winter time camping for RV	2/26/2021 6:59 AM
114	None	2/26/2021 5:11 AM
115	None	2/25/2021 8:53 PM
116	North Country Trail remote campsites are great and appreciated as a backcountry option	2/25/2021 8:16 PM
117	It would be nice if there were hiking trails associated with the campground. There a lot of county and state land adjacent to some of the campgrounds (Lake of the Falls).	2/25/2021 6:40 PM
118	none	2/25/2021 6:39 PM
119	Maybe another one geared specifically towards atv/utv. Wash bay or showers.	2/25/2021 4:09 PM
120	Tents, small campers, RVs.	2/25/2021 3:35 PM
121	None	2/25/2021 3:22 PM
122	Na	2/25/2021 3:19 PM
123	Na	2/25/2021 2:29 PM
124	None	2/25/2021 2:17 PM
125	n/a	2/25/2021 1:33 PM
126	kayak routes mapped on our rivers and lakes with in and out access points.	2/25/2021 1:23 PM
127	na	2/25/2021 1:15 PM
128	Nic	2/25/2021 12:51 PM
129	Free rustic campgrounds like Shay Dam are GREAT	2/25/2021 12:49 PM
130	More with dump stations	2/25/2021 12:20 PM
131	None	2/25/2021 11:46 AM
132	bathrooms at sportmans landing	2/25/2021 11:42 AM
133	na	2/25/2021 11:36 AM
134	More campgrounds in or near Mercer and Springstead	2/25/2021 11:22 AM

Q13 Please provide concerns or comments regarding Campgrounds within Iron County, WI.

Answered: 114 Skipped: 212

#	RESPONSES	DATE
1	NA	4/13/2021 2:51 PM
2	None	4/8/2021 6:31 AM
3	None	4/4/2021 5:02 PM
4	None	4/1/2021 7:39 AM
5	I would really like to self register at a camp ground vs doing this online. I like to see what the camp site is like not to mention the weather.	3/31/2021 11:34 AM
6	Expanding number of rv sites with electric	3/31/2021 10:26 AM
7	No comment	3/30/2021 4:31 PM
8	n/a	3/30/2021 11:20 AM
9	none come to mind	3/30/2021 10:40 AM
10	NA	3/30/2021 10:06 AM
11	Usually pretty good.	3/30/2021 10:00 AM
12	N/A	3/29/2021 8:44 PM
13	None	3/29/2021 7:44 PM
14	-	3/29/2021 7:00 PM
15	No opinion	3/29/2021 4:03 PM
16	None	3/29/2021 2:48 PM
17	The County has priced Saxon harbor campground the same as higher end campgrounds and Marinas with more ammenities. The camping price is too high.	3/29/2021 12:04 PM
18	none	3/29/2021 10:49 AM
19	none	3/28/2021 7:44 PM
20	N/a	3/27/2021 8:40 AM
21	NA	3/25/2021 4:48 AM
22	None	3/24/2021 11:01 PM
23	N/a	3/24/2021 7:03 PM
24	None	3/24/2021 6:57 PM
25	N/A	3/24/2021 5:40 PM
26	Na	3/24/2021 1:45 PM
27	Na	3/24/2021 1:23 PM
28	Over crowded	3/24/2021 1:03 PM
29	They are well maintained and cleaned	3/24/2021 12:50 PM
30	None	3/24/2021 11:57 AM
31	N/A	3/24/2021 11:53 AM

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32	None	3/24/2021 11:35 AM
33	None	3/24/2021 11:35 AM
34	Na	3/24/2021 11:12 AM
35	Same above. Choices.	3/24/2021 10:59 AM
36	No	3/24/2021 5:07 AM
37	None	3/23/2021 11:32 PM
38	N	3/23/2021 4:39 PM
39	None	3/23/2021 4:38 PM
40	Na	3/23/2021 3:37 PM
41	Dont use	3/23/2021 3:07 PM
42	none	3/23/2021 2:57 PM
43	Most are north	3/23/2021 2:10 PM
44	None	3/23/2021 1:51 PM
45	NA	3/23/2021 1:47 PM
46	Need better stairs to water at Lake of the Falls	3/23/2021 1:46 PM
47	No concern	3/23/2021 1:22 PM
48	None	3/22/2021 5:51 PM
49	None	3/22/2021 12:13 PM
50	Na	3/22/2021 8:48 AM
51	keeping bathrooms clean and bug free, and plenty of garbage cans.	3/21/2021 11:16 PM
52	None	3/21/2021 7:39 PM
53	NONE	3/21/2021 2:43 PM
54	No concerns	3/19/2021 11:19 AM
55	None	3/17/2021 10:56 AM
56	Schomberg Park is a fantastic campground	3/16/2021 3:08 PM
57	Easier access, in small sites limit the amount of seasonal campsites being used by one person. Also having a year round pass that isn't attached to a vehicle would be good, I shouldn't be restricted on what I drive to the sites etc.	3/16/2021 1:10 PM
58	None	3/16/2021 12:11 PM
59	1	3/16/2021 10:29 AM
60	Need another Public campground further north.	3/16/2021 9:06 AM
61	.	3/16/2021 8:12 AM
62	They're being overran by ATVs. And I understand we need these locations, but camping is meant to get out in the silence of nature	3/16/2021 8:12 AM
63	More people coming up with covid and not enough space	3/16/2021 8:10 AM
64	It's too expensive to stay at Saxon harbor campground.	3/16/2021 7:49 AM
65	Litter	3/16/2021 7:44 AM
66	None	3/16/2021 7:44 AM
67	A facility that offers tent camping with facilities to draw the non-motorized tourist.	3/12/2021 8:43 AM
68	none	3/10/2021 12:32 PM

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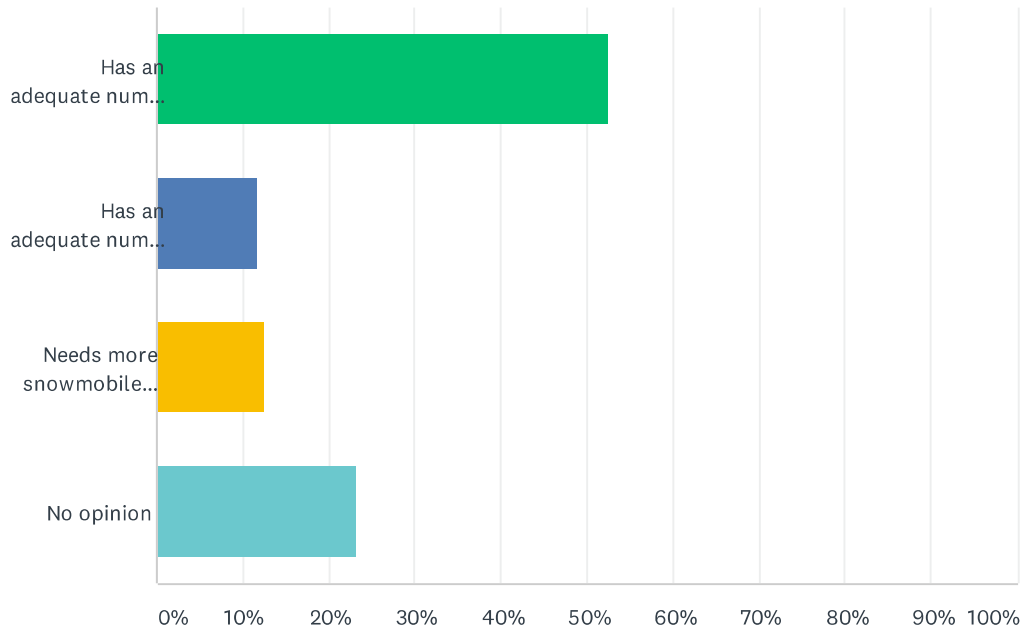
69	none	3/8/2021 11:21 AM
70	none	3/8/2021 9:14 AM
71	ATV's need to be confined to roads, not hiking trails	3/8/2021 8:37 AM
72	Unkown site availability	3/8/2021 8:23 AM
73	None	3/8/2021 7:17 AM
74	They were too crowded last year	3/6/2021 7:55 AM
75	Additional campgrounds needed	3/6/2021 7:04 AM
76	Provide firewood	3/4/2021 8:36 PM
77	...	3/4/2021 6:57 PM
78	NA	3/4/2021 2:21 PM
79	n/a	3/4/2021 1:43 PM
80	None	3/4/2021 6:49 AM
81	That's all.	3/2/2021 10:08 PM
82	are well taken care of	3/2/2021 10:34 AM
83	N/A	3/2/2021 9:29 AM
84	None	3/2/2021 9:12 AM
85	na	3/2/2021 8:55 AM
86	none	3/1/2021 11:48 AM
87	With the natural beauty of Iron Co., it is a shame that more sites are not available	2/28/2021 1:02 PM
88	N/a	2/28/2021 9:53 AM
89	NA	2/27/2021 2:26 PM
90	Need more of them in wilderness areas	2/27/2021 11:07 AM
91	Too many people don't need any more promotion	2/27/2021 10:24 AM
92	None	2/26/2021 8:06 PM
93	.	2/26/2021 6:53 PM
94	Not used	2/26/2021 11:47 AM
95	Far too much emphasis on out of state rv campers. That's not camping at all, that's rich people demanding to be pampered with deluxe amenities. Alot of folks getting back to nature or discovering it for the first time, want simple things like being able to shower after hiking all day	2/26/2021 11:25 AM
96	Saxon is great. Need more like that along side by side and along snowmobile route in winter.	2/26/2021 6:59 AM
97	None	2/26/2021 5:11 AM
98	Space	2/25/2021 8:53 PM
99	We need to give visitors access to hiking trails - Saxon Harbor also has a lot of near by public lands that could support trails.	2/25/2021 6:40 PM
100	don't camp	2/25/2021 6:39 PM
101	Noise and over use can be a problem.	2/25/2021 3:35 PM
102	None	2/25/2021 3:22 PM
103	Na	2/25/2021 3:19 PM
104	Na	2/25/2021 2:29 PM
105	None	2/25/2021 2:17 PM

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106	n/a	2/25/2021 1:33 PM
107	The Saxon Harbor campground looks amazing	2/25/2021 1:23 PM
108	na	2/25/2021 1:15 PM
109	Nic	2/25/2021 12:51 PM
110	Na	2/25/2021 12:20 PM
111	None	2/25/2021 11:46 AM
112	need more	2/25/2021 11:42 AM
113	na	2/25/2021 11:36 AM
114	My only concern was late night noise at Saxon Harbor. People partying on big boats in the harbor kept us awake until 1am until the police were called.	2/25/2021 11:18 AM

Q14 Regarding Snowmobile Trails, do you feel Iron County, WI:

Answered: 326 Skipped: 0



ANSWER CHOICES	RESPONSES	
Has an adequate number of miles of snowmobile trails.	52.45%	171
Has an adequate number of miles of snowmobile trails but improvements are needed.	11.66%	38
Needs more snowmobile trails.	12.58%	41
No opinion	23.31%	76
Total Respondents: 326		

Q15 Please list areas and Snowmobile Trail improvement(s) needed in Iron County, WI. Please identify locations and improvements needed.

Answered: 152 Skipped: 174

#	RESPONSES	DATE
1	Better trails / more trails near Springstead	4/13/2021 2:51 PM
2	Don't snowmobile	4/8/2021 6:31 AM
3	less road use more trails	4/6/2021 5:26 PM
4	Trails out to Island lake	4/5/2021 6:55 PM
5	None	4/4/2021 5:02 PM
6	None	4/1/2021 7:39 AM
7	Better signing on the south end of the flambeau flowage	3/31/2021 10:29 AM
8	No opinion	3/31/2021 10:26 AM
9	Signage to slow down at all ski trail crossings. Snowmobile clubs can pay a larger share through trail fees for improvements to their trails	3/30/2021 4:50 PM
10	need grooming where trail goes along a road. Need alternative routes when roads plowed.	3/30/2021 4:45 PM
11	There appear to be adequate snowmobile trails however we need to keep snowmobiles off of paved bike trails.	3/30/2021 4:31 PM
12	keep them off Co Hwy H Mercer	3/30/2021 11:20 AM
13	Better signage on Iron county trails would really help people that are new to the county trails be able to get around	3/30/2021 10:47 AM
14	no opinion	3/30/2021 10:40 AM
15	More snow next year please. :)	3/30/2021 10:06 AM
16	no opinion	3/30/2021 10:00 AM
17	Island lake area	3/30/2021 9:20 AM
18	N/A	3/29/2021 8:44 PM
19	None	3/29/2021 7:44 PM
20	could always have more	3/29/2021 7:00 PM
21	Snowmobilers should strive to be less dangerous so there are less deaths in Iron County doing that activity.	3/29/2021 4:45 PM
22	road crossing repavements	3/29/2021 4:11 PM
23	None needed	3/29/2021 4:03 PM
24	Bulldozer work on Graveling on 77/6-7/2	3/29/2021 2:48 PM
25	Trail 182 in Springstead	3/29/2021 1:26 PM
26	WE need to relocate routes onto Iron County land for safer snowmobiling. We have enough County forest land to accomodate more trails and eliminate routes - especially the ones that are not safe because of more vehicular traffic.	3/29/2021 12:04 PM
27	Efforts are still needed for safety purposes, to move some sections of trail off the county roads. one area is Obrian Lake rd, Hoyt rd, and Anderson Rd	3/29/2021 10:49 AM
28	?	3/28/2021 7:44 PM

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29	Upson Lake Rd, O'Brian Rd, Hoyt Rd, Snack Track, Spring Camp RD	3/28/2021 2:43 PM
30	N/a	3/27/2021 8:40 AM
31	Trails are awesome and maintained and groomed often!	3/26/2021 9:48 AM
32	Trail to Price Co.	3/25/2021 7:23 AM
33	Springstead. Low lying areas with water	3/25/2021 4:48 AM
34	Flambeau Flowage access on the Springstead side. A trail could be put in off of Boot Lake Road going north to Flowage.	3/24/2021 11:01 PM
35	Spring stead area	3/24/2021 7:03 PM
36	None	3/24/2021 6:57 PM
37	I can't think of any improvements needed.	3/24/2021 5:40 PM
38	Na	3/24/2021 1:45 PM
39	Na	3/24/2021 1:23 PM
40	All are fine	3/24/2021 1:03 PM
41	We are having more and more issues with beavers and swamps across the county, they do not seem to be looked ate the same way as with trails within town.	3/24/2021 12:50 PM
42	Only use for utv	3/24/2021 11:57 AM
43	Trail 182 in southern Iron county needs work	3/24/2021 11:53 AM
44	N/A	3/24/2021 11:53 AM
45	More snow	3/24/2021 11:35 AM
46	None	3/24/2021 11:35 AM
47	Less gravel road routes, more woodland trails	3/24/2021 10:42 AM
48	8A is example where bridge is needed so all of trail can be groomed over creek area.	3/24/2021 6:25 AM
49	Good	3/24/2021 5:07 AM
50	Many of the trails south of the gile flowage are not labeled well enough for snow goers or atvers to know where they are in the even of an accident. I think its necessary to start labeling the trails in more areas on the trail so that people are aware of their location. Maybe make trail marker signs bigger.	3/23/2021 11:32 PM
51	Stop opening trails on a specific date, open them like everyone else does, on snow totals only!! When you open on 6" of snow it's tough to ever have good and safe conditions, I believe it's greed by the business owners who could care less about the public safety!!	3/23/2021 7:49 PM
52	None	3/23/2021 4:39 PM
53	None	3/23/2021 4:38 PM
54	Signage everywhere	3/23/2021 4:16 PM
55	Public parking and restrooms along trails	3/23/2021 3:37 PM
56	None	3/23/2021 3:07 PM
57	NA	3/23/2021 2:57 PM
58	Another trail to Saxon and improvements on TRAIL 3 to Saxon harbor	3/23/2021 2:16 PM
59	More trail on county and state land	3/23/2021 2:10 PM
60	Springstead area trail reroutes and swamp issues	3/23/2021 2:04 PM
61	N	3/23/2021 1:47 PM
62	More	3/23/2021 1:46 PM
63	It would be nice to see additional trails in the north central part of the county. Seems trail 2,	3/23/2021 1:22 PM

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and 77 are the only option at this time. Additional trail to Ashland county in the western part of Iron would also be beneficial.

64	N/A	3/22/2021 5:51 PM
65	None	3/22/2021 12:13 PM
66	None	3/22/2021 8:48 AM
67	Need work on wetland areas and some widening.	3/22/2021 7:45 AM
68	n/a	3/21/2021 11:16 PM
69	Need additional trails to allow snowmobiles to go to different towns and additional locations.... especially Mercer area.	3/21/2021 7:39 PM
70	Widening of trails	3/21/2021 6:46 PM
71	Better signs at some intersections	3/21/2021 3:32 PM
72	Need a trail from fisher lake over to Winchester area.	3/21/2021 3:27 PM
73	NONE	3/21/2021 2:43 PM
74	Just need more woods trails than road	3/21/2021 1:43 PM
75	None	3/19/2021 11:19 AM
76	Get snowmobiles off of town roads! Fewer snowmobile trails. More law enforcement on the trails!	3/17/2021 8:21 PM
77	None	3/17/2021 10:56 AM
78	Boomer Creek area, west on Hwy 77 towards Ashland County for trail development, extend Trail 2 towards Ashland County	3/16/2021 3:08 PM
79	Just more would be good! Also opening areas for off trail riding would be nice, like MI has.	3/16/2021 1:10 PM
80	Would like to see the trail go through the rock cut again	3/16/2021 11:13 AM
81	General signage is a continuous improvement, constantly evolving directional signage to help new riders to the area stay on trail and going in the right direction.	3/16/2021 10:55 AM
82	1	3/16/2021 10:29 AM
83	.	3/16/2021 8:12 AM
84	South of Mercer the trail was moved to the bike trail at the end of the season. To keep good relations with the silent sports crowd, I recommend not doing this again in the future. Better signage to stay off of the trail is needed as well or fencing.	3/16/2021 8:12 AM
85	Springstead area has a section that never gets groomed	3/16/2021 8:10 AM
86	Possibly widen some of the woods trails.	3/16/2021 7:49 AM
87	None	3/16/2021 7:44 AM
88	N/a	3/12/2021 8:43 AM
89	none	3/10/2021 12:32 PM
90	More signage on roads to keep snowmobiles off , where they are not alliwed	3/9/2021 7:09 PM
91	none	3/8/2021 11:21 AM
92	It sounds like several folks died in a similar location. It is heartbreaking	3/8/2021 9:17 AM
93	I don't snowmobile	3/8/2021 9:14 AM
94	Lake Obrien Rd-signs protecting residents from traffic	3/8/2021 8:37 AM
95	A much better sign system is required, universal bar/restraint signs, every intersection signed and more trail map kiosks. Lots of visitors complain about poor signage on trails	3/8/2021 7:17 AM
96	Spring stead/park Falls connector	3/5/2021 2:44 PM

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97	None	3/4/2021 8:36 PM
98	.	3/4/2021 6:57 PM
99	NA	3/4/2021 2:21 PM
100	n/a	3/4/2021 1:43 PM
101	None	3/4/2021 6:49 AM
102	None	3/2/2021 10:08 PM
103	Apple Creek road to Upson trail, not road. Better high-ground trail between Westbranch 15 and trail 8 by Island Lake Road and all the way to Apple Creek road (to stay off plowed roads)	3/2/2021 8:55 PM
104	Wider. Signage	3/2/2021 8:51 PM
105	need to get off roadways...Hoyt Road for example	3/2/2021 8:08 PM
106	none	3/2/2021 10:34 AM
107	N/A	3/2/2021 9:29 AM
108	None	3/2/2021 9:12 AM
109	Upson area	3/1/2021 11:48 AM
110	Some areas that are trails get plowed down too much to allow snowmobile to use. Murrays Landing Rd and Cramer Lake Rd are 2 examples	2/28/2021 7:05 PM
111	More trails in the Saxon area that connects to Hurley	2/28/2021 5:49 PM
112	Road crossings with little visibility to see snowmobiles/cars in advanced	2/28/2021 2:30 PM
113	Enforced slower speed limits, especially through community areas	2/28/2021 10:40 AM
114	None	2/28/2021 9:53 AM
115	NA	2/27/2021 2:26 PM
116	don't know	2/27/2021 10:24 AM
117	Trails could always be wider	2/26/2021 8:14 PM
118	None	2/26/2021 8:06 PM
119	Anywhere possible to have more trails	2/26/2021 7:01 PM
120	None	2/26/2021 6:53 PM
121	Signage can be better. Too bad people don't know what stop signs are and stay on the trail means	2/26/2021 1:16 PM
122	Trails are good. More in the springstead area	2/26/2021 11:47 AM
123	Signage has come a long way but still needs statewide standardization.	2/26/2021 11:25 AM
124	Please consider recommending no ATV/UTV's on snowmobile trails from December thru March.	2/26/2021 11:17 AM
125	More trails	2/26/2021 8:34 AM
126	Ways to bypass the grade when snow is light.	2/26/2021 7:59 AM
127	More	2/26/2021 6:59 AM
128	None	2/26/2021 5:11 AM
129	None, you get to much money for lack of trail conditions	2/25/2021 8:53 PM
130	don't snowmobile	2/25/2021 6:39 PM
131	It would be nice if flowage road had a trail instead of a road route. I see springstead area already improving but more trail and more trail where its not so swampy. Maybe some different routes or a bridge in a certain bad wet spot.	2/25/2021 4:09 PM

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132	Improve run-off drainage.	2/25/2021 3:35 PM
133	None. We love riding iron county. It's our favorite place to ride	2/25/2021 3:22 PM
134	Na	2/25/2021 3:19 PM
135	Connector from Saxon/Gurney to Mellen	2/25/2021 3:15 PM
136	Would be nice to move the trails off the plowed roads	2/25/2021 2:42 PM
137	Na	2/25/2021 2:29 PM
138	Just more snow	2/25/2021 2:17 PM
139	n/a	2/25/2021 1:33 PM
140	better signs for closed trails and to encourage them to stay on the trails	2/25/2021 1:23 PM
141	Keep trails off roadways	2/25/2021 1:19 PM
142	do a signage check for direction accuracy	2/25/2021 1:15 PM
143	Better identify road intersections with road name and also trail number on orange diamonds.	2/25/2021 1:03 PM
144	Trails to springstead	2/25/2021 12:51 PM
145	They plow some of the roads too much.... I know vehicles still need to travel. Do like Springstead does, always keep 4 inches on the road. The maps need some improvements	2/25/2021 12:20 PM
146	Need to fix the swamp that always detours trail 9 onto ff by the turtle flambeau flowage	2/25/2021 11:58 AM
147	Signage is poor and needs to be updated. Easy to get lost because of old and damaged signs	2/25/2021 11:46 AM
148	County plow trucks could cut the road sides with the wing blade to make usable shelf to ride snowmobile	2/25/2021 11:46 AM
149	iron county to the main corridor to ashland county out at the flowage	2/25/2021 11:42 AM
150	The fact that Iron County loses 30-50% of its snowmobile trails year in and year out to logging.	2/25/2021 11:40 AM
151	stop plowing the road routes bare	2/25/2021 11:36 AM
152	Try to get trail off of Flowage Road in Springstead.	2/25/2021 11:31 AM

Q16 Please provide any other concerns or comments regarding Iron County, WI Snowmobile Trails.

Answered: 139 Skipped: 187

#	RESPONSES	DATE
1	NA	4/13/2021 2:51 PM
2	None	4/8/2021 6:31 AM
3	loggers scaping the roads down to bare ground and plowing the roads that are part of the trails down to bare ground	4/6/2021 5:26 PM
4	Too many roads need trails through woods	4/5/2021 6:55 PM
5	None	4/4/2021 5:02 PM
6	None	4/1/2021 7:39 AM
7	No opinion	3/31/2021 10:26 AM
8	Keep them sober & away from homes late at night. The noise & lights are very annoying, wake the whole house. Noisy, rude, smelly, a pain in the posterior, pollute the air, damage the environment	3/30/2021 4:50 PM
9	Very difficult to access trails from roads because no snow shoulder is left for snowmobiles. Our snowmobiling is cut short because we can't access trails when roads are bare.	3/30/2021 4:45 PM
10	Speed of newer snowmobiles seems to increase accidents.	3/30/2021 4:31 PM
11	n/a	3/30/2021 11:20 AM
12	Enjoy riding in Iron county every winter	3/30/2021 10:47 AM
13	no opinion	3/30/2021 10:40 AM
14	Done well	3/30/2021 10:06 AM
15	Good trails	3/30/2021 10:00 AM
16	Some signage is not correct	3/30/2021 9:20 AM
17	N/A	3/29/2021 8:44 PM
18	NA	3/29/2021 7:44 PM
19	-	3/29/2021 7:00 PM
20	See above. It's tragic how deadly snowmobiling is in general, but specifically Iron County. It's a blackmark on that activity to be sure.	3/29/2021 4:45 PM
21	None	3/29/2021 4:03 PM
22	Mostly groomed excellent. 6 and 7 more offen.	3/29/2021 2:48 PM
23	see above Grooming has been great	3/29/2021 10:49 AM
24	?	3/28/2021 7:44 PM
25	Plowing on the town roads that are used for the trails. They should not be plowed or move the trails.	3/28/2021 2:43 PM
26	N/a	3/27/2021 8:40 AM
27	Local clubs do a good job maintaining the trails.	3/26/2021 3:32 AM
28	Get off flowage road and change trail behind Birches and leave snow on the side of Springstead Rd.	3/25/2021 7:23 AM

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29	NA	3/25/2021 4:48 AM
30	Na	3/24/2021 11:01 PM
31	N/a	3/24/2021 7:03 PM
32	None	3/24/2021 6:57 PM
33	None	3/24/2021 5:40 PM
34	Na	3/24/2021 1:45 PM
35	Na	3/24/2021 1:23 PM
36	None	3/24/2021 1:03 PM
37	Bridges do not seem to be looked into on a timely factor	3/24/2021 12:50 PM
38	Nice to have winter utv access	3/24/2021 11:57 AM
39	It's going to be hard to get the use of private land without some benefit to the landowner (property tax break)	3/24/2021 11:53 AM
40	N/A	3/24/2021 11:53 AM
41	Keeping people on the trail	3/24/2021 11:35 AM
42	None	3/24/2021 11:35 AM
43	better signage and mile charts to things at more intersections.	3/24/2021 10:42 AM
44	Tracking of groomers hours is great. Would like to have county assess traffic on trails and make recommendations of grooming schedules. For example trail counters that could upload and notify clubs as to snowmobile traffic to help keep trails groomed. This will benefit businesses in the county.	3/24/2021 6:25 AM
45	Good	3/24/2021 5:07 AM
46	None	3/23/2021 11:32 PM
47	None	3/23/2021 4:39 PM
48	None	3/23/2021 4:38 PM
49	Need public bathroom facilities and dedicated snowmobile parking areas. Private properties around the bars are being used as public restrooms when people stop at the bars along the trails.	3/23/2021 3:37 PM
50	No	3/23/2021 3:07 PM
51	NA	3/23/2021 2:57 PM
52	All trails need to be brushed more often	3/23/2021 2:16 PM
53	Always and more trails and better unforced laws on trails	3/23/2021 2:10 PM
54	N	3/23/2021 1:47 PM
55	Additional trail from Fisher lake heading north that connects to 8A would be nice to have. Fisher lake trail is currently a dead end. Something to make a North loop after leaving that area would benefit any businesses out that way as well.	3/23/2021 1:22 PM
56	None	3/22/2021 5:51 PM
57	None	3/22/2021 12:13 PM
58	None	3/22/2021 8:48 AM
59	Signage	3/22/2021 7:45 AM
60	n/a	3/21/2021 11:16 PM
61	Iron Co rocks when the snow is blowing	3/21/2021 7:39 PM
62	Need additional trails.	3/21/2021 7:39 PM

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63	Awesome co to ride	3/21/2021 3:32 PM
64	More trails that are not on plowed roads. Cedar lake rd for example	3/21/2021 3:27 PM
65	Clubs do an excellent job	3/21/2021 2:47 PM
66	NONE	3/21/2021 2:43 PM
67	None	3/19/2021 11:19 AM
68	Snowmoiles do not stay on the trais, especially when the railroad grades deteriorate, then they use ditches and the paved bike trail in Mercer. Snowmobiles operate too fast and with disregard to pedestrians on town roads. Snowmobiles operate off the trails on to private property without permission. Snowmobiles do not stop at stop signs especially where they cross town roads causeing many near miss accidents throughout the year. Iron County needs to provide significantly more law enforcement! Need to enforce noise violations!	3/17/2021 8:21 PM
69	There are more than enough motorized trails in Iron County. I don't think you can go anywhere without hearing them.	3/17/2021 8:03 PM
70	None	3/17/2021 10:56 AM
71	Reduce road routes through trail development	3/16/2021 3:08 PM
72	None	3/16/2021 1:10 PM
73	Can Iron Co snowmobile trails be used by cyclists during the summer?	3/16/2021 10:55 AM
74	1	3/16/2021 10:29 AM
75	.	3/16/2021 8:12 AM
76	I appreciate the trails and like to snowmobile, but we need to be aware of building relations with those who don't and keeping the relationships we have by respecting others.	3/16/2021 8:12 AM
77	It may be beneficial to allow ATV'S on the town roads as usual in the winter, but I believe it would be beneficial for the snowmobile trails to not allow ATV'S on the trails in the winter. This past winter there was a lot of rutting from ATV'S on the snowmobile trails.	3/16/2021 7:49 AM
78	None	3/16/2021 7:44 AM
79	Lots of excellent cooperation around keeping Iron County snowmobile trails at their best!	3/12/2021 11:34 AM
80	Very well maintained trail system.	3/12/2021 8:43 AM
81	none	3/10/2021 12:32 PM
82	No more needed near me. Snowmobiles and ATV's are often on the state highway near Gurney - not safe due to ditch line slopes and hilly terrain, plus it's not legal.	3/8/2021 11:35 AM
83	none	3/8/2021 11:21 AM
84	I wish snowmobiles would stay on trails and not veer off onto private property	3/8/2021 9:24 AM
85	Is there anything we can do to prevent snowmobile deaths?	3/8/2021 9:17 AM
86	n/a	3/8/2021 9:14 AM
87	People who throw trash on trails from either snowmobile or atv's	3/8/2021 7:52 AM
88	Love the joint trail signage that Michigan uses	3/8/2021 7:17 AM
89	I have to pick up their garbage after the snow melts every spring. Hundreds of beer cans.	3/6/2021 7:55 AM
90	We have more than enough, we don't need anymore snowmobile trails.	3/5/2021 12:27 PM
91	None	3/4/2021 8:36 PM
92	.	3/4/2021 6:57 PM
93	NA	3/4/2021 2:21 PM
94	n/a	3/4/2021 1:43 PM
95	None	3/4/2021 6:49 AM

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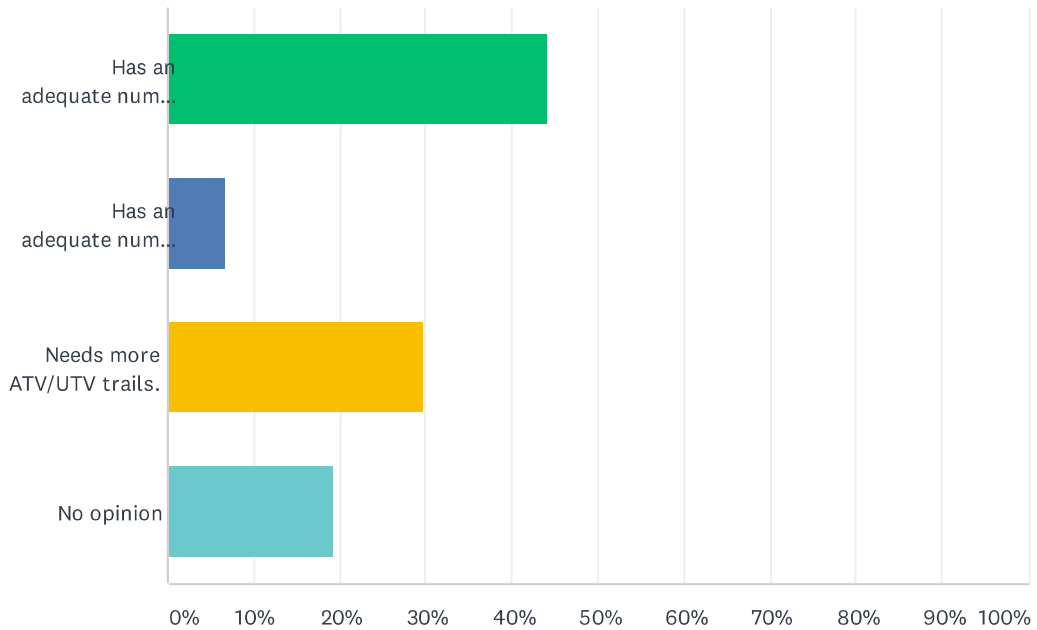
96	None	3/2/2021 10:08 PM
97	Signs should be unified for Summer and Winter use (both symbols or no symbols on speed signs)	3/2/2021 8:55 PM
98	speed needs to be monitored, off trail riders need to be ticketed, stop overserving at bars	3/2/2021 8:08 PM
99	none	3/2/2021 10:34 AM
100	N/A	3/2/2021 9:29 AM
101	None	3/2/2021 9:12 AM
102	Several trails run on roads that are typically plowed all winter. Finding alternate routes for these trails would take this traffic off those roads and be a safer situation not mixing use.	3/1/2021 11:48 AM
103	More signage at intersections	2/28/2021 7:05 PM
104	Great club that does ALOT for the community in keeping up the trails, encouraging tourism	2/28/2021 2:30 PM
105	Need to keep snowmobileres off xc trails!	2/28/2021 10:40 AM
106	None	2/28/2021 9:53 AM
107	NA	2/27/2021 2:26 PM
108	none	2/27/2021 10:24 AM
109	None	2/26/2021 8:06 PM
110	None	2/26/2021 6:53 PM
111	Atv's and UTV's need to be prohibited on trails between Dec and March.	2/26/2021 11:50 AM
112	Always great trails.	2/26/2021 11:47 AM
113	Please consider recommending no ATV/UTV's on snowmobile trails from December thru March.	2/26/2021 11:17 AM
114	Concerned about the deaths due to drinking and speeding and the disrespect for private landowners property. Going off trail and driving too fast past residences on roads.	2/26/2021 10:27 AM
115	Keep ATV/UTV's off snowmobile trails December thru March!!!	2/26/2021 8:34 AM
116	Couple of the woods trails could use culverts to get rid of the wet holes. Trail 13 is one that comes to mind	2/26/2021 7:59 AM
117	Need more	2/26/2021 6:59 AM
118	Great trails	2/26/2021 5:11 AM
119	Be honest with time out on trails! Don't be pigs with supplemental	2/25/2021 8:53 PM
120	none	2/25/2021 6:39 PM
121	Maybe a trail from upson to mellen.. Or somewhere else on the western side of.iron county.	2/25/2021 4:09 PM
122	More patrol by sheriff and warden during weekends.	2/25/2021 3:35 PM
123	None	2/25/2021 3:22 PM
124	Na	2/25/2021 3:19 PM
125	The signage on the trails could be better.	2/25/2021 2:42 PM
126	Na	2/25/2021 2:29 PM
127	Love iron county trails	2/25/2021 2:17 PM
128	n/a	2/25/2021 1:33 PM
129	I am very concerned when I encounter a snowmobile on a nonmotorized trail, usually with my dog running free.	2/25/2021 1:23 PM
130	allow sponsorship of trail signs (maybe even trail segments) by restaurant/gas station/other owners so that the sigs are correct, updated, and informative	2/25/2021 1:15 PM

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131	Mercer snow goers do an amazing job of grooming the trails even with little snow. Very creative to keep the trails around mercer going. Thank you	2/25/2021 1:03 PM
132	To late now, but don't clear cut right up to the logging roads. Leave a little buffer. Prettier and will hold the snow keeping the full sun out.	2/25/2021 12:55 PM
133	Need to get to Midway easier. New bridge, log the swamp	2/25/2021 12:51 PM
134	Trails are great	2/25/2021 12:49 PM
135	Signing on trails have gotten better the last couple years, but need improvement. Can't always go by the bar signs, which alot of people do.	2/25/2021 12:20 PM
136	None	2/25/2021 11:46 AM
137	certain areas are not well grommed ashland trail out by midway	2/25/2021 11:42 AM
138	na	2/25/2021 11:36 AM
139	More trails, so much county land to be used.	2/25/2021 11:22 AM

Q17 Regarding ATV/UTV Trails, do you feel Iron County, WI:

Answered: 326 Skipped: 0



ANSWER CHOICES	RESPONSES	
Has an adequate number of miles of ATV/UTV trails.	44.17%	144
Has an adequate number of miles of ATV/UTV trails but improvements are needed.	6.75%	22
Needs more ATV/UTV trails.	29.75%	97
No opinion	19.33%	63
Total Respondents: 326		

Q18 Please identify ATV/UTV Trail improvement(s) needed in Iron County. Please identify locations and improvements needed.

Answered: 153 Skipped: 173

#	RESPONSES	DATE
1	Need trails to connect Price County and Iron County	4/13/2021 2:51 PM
2	The grade needs additional grader work for washboarding	4/8/2021 6:31 AM
3	More trails on county land	4/6/2021 5:18 PM
4	More woods trails needed too much road riding	4/5/2021 6:55 PM
5	A lot of the trails are in need of gravel and other improvements. Especially lakehead to Cedar. Also trail east of squeaks needs to be redone with out all the sharp rocks. is terrible on tires. expensive hobby as is we dont need things like that to keep people away.	4/5/2021 2:39 PM
6	Permit Off Highway Motorcycles	4/4/2021 5:02 PM
7	access from Springstead to Mercer	4/1/2021 9:16 PM
8	More trails around mercer	4/1/2021 7:39 AM
9	Need more, some widening will help	3/31/2021 10:26 AM
10	Need to groom trails better	3/30/2021 9:40 PM
11	Signs & enforcement to slow down in towns. Get them off the roads. Get all the kids off the machines	3/30/2021 4:50 PM
12	None	3/30/2021 4:31 PM
13	Stop filling trails with rock and gravel.	3/30/2021 1:29 PM
14	Should not be on County highways	3/30/2021 11:20 AM
15	great area for atv/utv, no improvements come to mind	3/30/2021 10:40 AM
16	STOP UPDATING THE TRAILS. I want to trail ride and now everything is like gravel roads. Gone are the days of fun muddy trails. Now they are mostly super highways.	3/30/2021 10:06 AM
17	Need more trails that are not road routes.	3/30/2021 10:00 AM
18	All	3/30/2021 9:20 AM
19	An organized club	3/29/2021 8:44 PM
20	NA	3/29/2021 7:44 PM
21	into Vilas	3/29/2021 7:00 PM
22	ATV/UTV trails need a heckuva lot more understanding that forestry gets the right-of-way, not them. What they call their playground is our workplace. ATV/UTV use in Iron County needs way more respect of forestry and particularly private lands that trails cross.	3/29/2021 4:45 PM
23	No opinion	3/29/2021 4:03 PM
24	17 and 77 and 2 and 6 need to be graded at least twice a month	3/29/2021 2:48 PM
25	Add a trail in the Springstead area	3/29/2021 1:26 PM
26	None	3/29/2021 10:49 AM
27	off ditch trails	3/28/2021 7:44 PM
28	N/a	3/27/2021 8:40 AM

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29	More trails	3/25/2021 6:18 PM
30	Need trails in town of Sherman to be able to access all the other trails in the area	3/25/2021 4:48 AM
31	Na	3/24/2021 11:01 PM
32	Springstead	3/24/2021 7:03 PM
33	More ATV trails and update signs. Some trails are confusing to know if they are open to ATV's and when.	3/24/2021 6:57 PM
34	I don't ride ATV/UTV	3/24/2021 5:40 PM
35	If there could be one way trails and then keep them not so wide this would reduce speeds and give it more of a trail feel instead of everything being gravel roads	3/24/2021 2:47 PM
36	Need a trail along by highway 182 to price county.	3/24/2021 2:27 PM
37	You do your best and don't get paid for it so none.	3/24/2021 1:45 PM
38	Na	3/24/2021 1:23 PM
39	Opening up railroad grade south all the way to Powell rd.	3/24/2021 1:03 PM
40	section of Iron Ashland and Knight need looked into soon, more and more people are gettin stranded on Chippewa Fire lane	3/24/2021 12:50 PM
41	Always good to be able to get to businesses	3/24/2021 11:57 AM
42	Springstead needs trails	3/24/2021 11:53 AM
43	N/A	3/24/2021 11:53 AM
44	No Opinion	3/24/2021 11:35 AM
45	None	3/24/2021 11:35 AM
46	nice when they connect and make a circle so you don't have to come back on the same trail	3/24/2021 11:13 AM
47	More winding aggressive trails	3/24/2021 11:12 AM
48	There needs to be more trails in Mercer, in the woods.	3/24/2021 10:59 AM
49	The railroad tracks to Hurley	3/24/2021 5:07 AM
50	Truly, we need more. A HUGE benefit would be if they would connect to Price and other counties to the south. That would really benefit those businesses too!	3/23/2021 4:58 PM
51	None	3/23/2021 4:39 PM
52	Some trails (trail6) has been changed to make it less challenging than it had been. This was not a positive change.	3/23/2021 4:38 PM
53	Signage	3/23/2021 4:16 PM
54	Catherine/Cedar Lake area could use some additional trails. Trail 10E could use a brushing...	3/23/2021 3:48 PM
55	Trails need to be developed to replace town road routes. With thousands of acres of open forest there is no reason ATV traffic should be going so close to homes and cabins. Also we have experienced many close calls with UTV traffic driving too fast down the town road that accesses our lake.	3/23/2021 3:37 PM
56	None	3/23/2021 3:07 PM
57	Iron Horse trail from Hurley to Pence	3/23/2021 2:57 PM
58	With the opening of county highways to ATV/UTV I fear they will stop developing trails. I don't go trail riding to ride on asphalt.	3/23/2021 2:31 PM
59	Needs grading more often. Always rough	3/23/2021 2:16 PM
60	Rough which makes snowmobile trails rough when ground freezes	3/23/2021 2:10 PM
61	Access to Price co trails along 182 through Springstead	3/23/2021 2:04 PM

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62	N	3/23/2021 1:47 PM
63	Additional trails would be nice, similar to the snowmobile trail system but not as many needed with county road access already in place	3/23/2021 1:22 PM
64	Better Grooming	3/22/2021 5:51 PM
65	North of Yukon51, trail needs better grooming	3/22/2021 12:13 PM
66	More trails	3/22/2021 8:48 AM
67	Signage thru out especially when atv/utv trails are not on the snowmobile trails.	3/22/2021 7:45 AM
68	I think we need to keep some mud trails and not convert all trails to road. I like the balance right now, and the key work that has been done.	3/21/2021 11:16 PM
69	Chippewa Fire lane Needs work	3/21/2021 10:19 PM
70	Connections to lakes are important. As in Long Lake since Luckys closed.	3/21/2021 7:39 PM
71	Need additional trails... especially in Mercer. There are very few trails in Mercer. Need to provide a destination to allow ATV's to have some fun.	3/21/2021 7:39 PM
72	Need some hard trails	3/21/2021 3:32 PM
73	More actual trails and less gravel	3/21/2021 3:27 PM
74	More grading during the holiday weekends.	3/21/2021 3:04 PM
75	I LIKE TO SEE BETTER MAINTENACE AND MORE MILES	3/21/2021 2:43 PM
76	More trails need to be added on the southern end of the county, including Springstead area.	3/21/2021 1:26 PM
77	I feel many of the trails are over-improved right now. We need some back to basics missing, and technical trails as well as the smooth ones	3/19/2021 11:19 AM
78	Require them to use trails where they exist from point "A" to point "B" instead of using the Town roads as short cuts or to avoid eating each others dust. If the railroad grade is 50 feet away and operagting parallel to the town road they need to be on the railroad grade.	3/17/2021 8:21 PM
79	None	3/17/2021 10:56 AM
80	Some culverts exposed	3/16/2021 3:08 PM
81	We need more access. More roads open to use and allowing use in the county/state owned lands.	3/16/2021 1:10 PM
82	Need some unimproved trail options	3/16/2021 12:42 PM
83	Need to open up Hwy 122 and county road A to Saxon Harbor	3/16/2021 12:11 PM
84	better signage	3/16/2021 10:54 AM
85	1	3/16/2021 10:29 AM
86	Need more difficult trails	3/16/2021 9:06 AM
87	.	3/16/2021 8:12 AM
88	Better wetland crossings and fencing to keep ATVs out of wetlands.	3/16/2021 8:12 AM
89	Southern Iron county	3/16/2021 8:10 AM
90	The crown on trail 8 is dangerous when meeting another ATV, just flattening it some would help	3/16/2021 7:49 AM
91	More mud	3/16/2021 7:44 AM
92	More routine grading during summer months.	3/12/2021 8:43 AM
93	Need to have more trails off road	3/10/2021 1:07 PM
94	A trail that some refer to as the "Chippewa" needs improvement.	3/10/2021 12:32 PM
95	More signage to keep ATVs off of roads, where they should not be	3/9/2021 7:09 PM
96	Spend our money on non-motorized opportunities for everyone, birders, hikers, waterfallers,	3/8/2021 11:35 AM

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	etc.	
97	motorcycle only singletrack trails. also motorcycle access to all of the atv trail system	3/8/2021 11:21 AM
98	n/a	3/8/2021 9:14 AM
99	Speed limit/caution signs Lake Obrien rd to protect residents	3/8/2021 8:37 AM
100	Trash cans so people stop throwing their crap all over.	3/8/2021 7:52 AM
101	Signage as well	3/8/2021 7:17 AM
102	They should not be allowed on county and town roads, or they should conform to the same noise regulations that cars do.	3/6/2021 7:55 AM
103	None	3/4/2021 8:36 PM
104	.	3/4/2021 6:57 PM
105	NA	3/4/2021 2:21 PM
106	Would love to see more trails to more scenic areas	3/4/2021 1:43 PM
107	Bumpy, rough	3/4/2021 6:49 AM
108	None	3/2/2021 10:08 PM
109	Wider	3/2/2021 8:51 PM
110	none	3/2/2021 10:34 AM
111	N/A	3/2/2021 9:29 AM
112	None	3/2/2021 9:12 AM
113	na	3/2/2021 8:55 AM
114	Penokee range	3/1/2021 11:48 AM
115	ATV clubs should be required to do maintenance like snowmobile clubs	2/28/2021 7:05 PM
116	Need an open ridding area for miss and sand ridding. A special use park for ATV and UTV	2/28/2021 5:49 PM
117	Erosion control to keep sediments from getting into nearby streams and wetlands.	2/28/2021 10:45 AM
118	Same as snowmobiles, enforced lower speed limits especially in communities	2/28/2021 10:40 AM
119	N/a	2/28/2021 9:53 AM
120	NA	2/27/2021 2:26 PM
121	sinage on trails	2/27/2021 2:00 PM
122	Less trails, more silent sport opportunities	2/27/2021 11:07 AM
123	don't know	2/27/2021 10:24 AM
124	None	2/26/2021 8:06 PM
125	None	2/26/2021 6:53 PM
126	better signage about speed limit. since the board decided they should have the run of all cty roads there have not been any signs in my area to control the speed or direct them back to trails.	2/26/2021 2:40 PM
127	Signage	2/26/2021 1:16 PM
128	More grading and maintenance in general.	2/26/2021 11:50 AM
129	Need trails in springstead area. Would be nice to get to Mercer from springstead	2/26/2021 11:47 AM
130	More maintenance	2/26/2021 8:34 AM
131	Would like more woods trails. The system as a whole is great but riding roads gets old. Would love to connect with other counties in more areas to allow for longer loops. Would like J in Mercer open to the boat landing so we could use the Utv to launch the jet ski.	2/26/2021 7:59 AM

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132	Continue past Saxon to Bessemer	2/26/2021 6:59 AM
133	None	2/26/2021 5:11 AM
134	They need to groom atv trails	2/25/2021 8:53 PM
135	17 needs to be Leveled more often to remove the moguls	2/25/2021 7:45 PM
136	grading	2/25/2021 6:39 PM
137	There are not enough wooded trails	2/25/2021 5:23 PM
138	Could use more trails with more technical riding .. I'm worried the trails getting to smooth with gravel will increase people riding to fast and make it to dangerous to bring my family on trails	2/25/2021 4:43 PM
139	Trail hardening, surface water protection, drainage	2/25/2021 3:35 PM
140	Like riding iron county but would like to see more technical trails and less gravel roads	2/25/2021 3:22 PM
141	Na	2/25/2021 3:19 PM
142	Na	2/25/2021 2:29 PM
143	None	2/25/2021 2:17 PM
144	n/a	2/25/2021 1:33 PM
145	Symbiotic relationship with nonmotorized trails	2/25/2021 1:23 PM
146	na	2/25/2021 1:15 PM
147	Need to connect Springstead	2/25/2021 12:51 PM
148	More "rough" trails	2/25/2021 12:49 PM
149	More trails all around to help get Atvs/UTV's off of roads where practical.	2/25/2021 12:23 PM
150	Just need more.... and fix the big hole where a truck went through on trail 14,(Chippewa Fire Lane)totally impassable in spring, summer and fall!	2/25/2021 12:20 PM
151	Better East-West west of iron belt	2/25/2021 11:46 AM
152	none	2/25/2021 11:42 AM
153	na	2/25/2021 11:36 AM

Q19 Please provide any other concerns or comments regarding Iron County ATV/UTV trails.

Answered: 138 Skipped: 188

#	RESPONSES	DATE
1	NA	4/13/2021 2:51 PM
2	Many of the more difficult/ technical trails have been "improved " . There can all be used by novice atvers. To find mud etc. many riders go "off trail" which they are not supposed to do. Trails are often littered, especially where they go over private land in Pence and Ironwood. In some cases locals are worse stewards of the trails than visitors. Many culverts are buried too shallow. The old culverts are left in the woods.	4/8/2021 6:31 AM
3	Railroad grade needs much more grading during summer	4/5/2021 6:55 PM
4	Designate some as Off Highway Motorcycling. Iron County has very nice trails that allow for casual cruising or technical riding, and this may be a mecca for motorcycle enthusiasts and particularly adventure/technical riders.	4/4/2021 5:02 PM
5	Too many ATV's not staying on trails	4/1/2021 10:00 AM
6	None	4/1/2021 7:39 AM
7	Trails connected with road access to fuel and restaurants should be continued	3/31/2021 10:26 AM
8	Could use more city street access.	3/30/2021 6:16 PM
9	Keep them sober & away from homes late at night. The noise & lights are very annoying, wake the whole house. Noisy, rude, smelly, a pain in the posterior, pollute the air, damage the environment	3/30/2021 4:50 PM
10	Adequate trails. No need to use the roads.	3/30/2021 4:45 PM
11	None	3/30/2021 4:31 PM
12	Need more technical/challenging trails.	3/30/2021 1:29 PM
13	n/a	3/30/2021 11:20 AM
14	Love the trail system!	3/30/2021 10:40 AM
15	While i appreciate all the work done on the trails can we please stop making them graveled super highways. Its a trail it should be rough and muddy and rocky. THose that dont want to ride that have hundreds of miles of open gravel roads to ride.	3/30/2021 10:06 AM
16	Good trails	3/30/2021 10:00 AM
17	Seems that most trails are being turned into roads from logging. Need more trails that are not logging roads	3/30/2021 9:20 AM
18	None	3/29/2021 8:44 PM
19	None	3/29/2021 7:44 PM
20	-	3/29/2021 7:00 PM
21	See above. ATV/UTV trails are quite obviously the last outpost of booze cruising. This is a problem and plays out in lack of respect of the livelihoods and the land resources these trails traverse.	3/29/2021 4:45 PM
22	more enforcement from county and DNR regarding illegal highway use	3/29/2021 4:11 PM
23	No opinion	3/29/2021 4:03 PM
24	Grade 17 and 2 every two weeks not 3 times a year	3/29/2021 2:48 PM

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25	None	3/29/2021 10:49 AM
26	none	3/28/2021 7:44 PM
27	Need sections for people to play in the mud. Will help to keep them out of areas they should not be in.	3/28/2021 6:20 PM
28	N/a	3/27/2021 8:40 AM
29	Many of the ATV trails are also snowmobile trails and makes for good riding on either.	3/26/2021 3:32 AM
30	Need trails running thru Town of Sherman	3/25/2021 4:48 AM
31	South iron county has no atv trails. Springstead.	3/24/2021 11:01 PM
32	Seems Springstead area is forgotten about.	3/24/2021 7:03 PM
33	None	3/24/2021 6:57 PM
34	N/A	3/24/2021 5:40 PM
35	If an area could be designed to be a play area that gives ppl. The chance to Play in the mud and then when they get on the trails hopefully they will stay on the trail. And expansion of the memorial day rally because it has been the same for years may be closing down main street for bands and outdoor bars. And a possible late winter ATV rally when the snowmobile trails are no longer in good condition for snow mobiles this would give businesses a last boost in the economy	3/24/2021 2:47 PM
36	Need a trail on the south end of county.	3/24/2021 2:27 PM
37	They are great some of the best in the state	3/24/2021 1:45 PM
38	Na	3/24/2021 1:23 PM
39	None	3/24/2021 1:03 PM
40	could use some trails to make Springstead more easy to get to and out of	3/24/2021 12:50 PM
41	None	3/24/2021 11:57 AM
42	N/A	3/24/2021 11:53 AM
43	No opinion	3/24/2021 11:35 AM
44	Opening up railroad bed south to the county line.	3/24/2021 11:35 AM
45	On trail 9 in Mercer there are some large dangerous holes that should be filled in.	3/24/2021 10:59 AM
46	Trails are great	3/24/2021 10:49 AM
47	I would like more trails that go through the woods instead of just Rhodes open up the snowmobile trails for Atv utv	3/24/2021 5:07 AM
48	If Iron County trails connected to the counties all around us (we have a cabin in Iron County), more people would end up using these trails. It would be GREAT if ATV/UTV trails were more like the snowmobile trails and each county flawlessly ran into the next one. Again, this sport would be and if we had more trails is becoming a better money generator for businesses than the snowmobile trails because we don't depend on the weather. No matter what, we will be on the trails, rain, sleet, sun or clouds.	3/23/2021 4:58 PM
49	None	3/23/2021 4:39 PM
50	None	3/23/2021 4:38 PM
51	Need public bathroom facilities and dedicated atv/utv parking areas. Private properties around the bars are being used as public restrooms when people stop at the bars along the trails. More then once our kids have walked up our driveway and seen guys pissing along our property.	3/23/2021 3:37 PM
52	0	3/23/2021 3:07 PM
53	Very poor condition in that area	3/23/2021 2:57 PM
54	Keep them off snowmobile trails	3/23/2021 2:10 PM

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55	More roads open and access along highway 182	3/23/2021 2:04 PM
56	N	3/23/2021 1:47 PM
57	No other concern	3/23/2021 1:22 PM
58	Better grooming	3/22/2021 5:51 PM
59	None	3/22/2021 12:13 PM
60	None	3/22/2021 8:48 AM
61	As adjacent counties add trails we need to be sure that we hook up with their trails.	3/22/2021 7:45 AM
62	Expansion needed as demand increases	3/22/2021 6:54 AM
63	n/a	3/21/2021 11:16 PM
64	Need strategic area where ATV's to have obstacles, water hazards, etc. Especially in Mercer area.	3/21/2021 7:39 PM
65	Great area to ride	3/21/2021 3:32 PM
66	Need more ATV/UTV trails in Mercer area.	3/21/2021 3:04 PM
67	Glad to see roads opened as an option	3/21/2021 2:47 PM
68	NONE	3/21/2021 2:43 PM
69	Other counties are opening up trails and Iron County is losing tourist revenue. Having been on trails in other parts of the country, I feel we need some trails that are more changeling. These could be marked like ski trails are. Beginner to expert. We have seen people enjoying more riding especially since covid so we need to improve what we have to bring and keep them in Iron County!	3/21/2021 1:26 PM
70	More technical and a mud trail or two	3/19/2021 11:19 AM
71	Iron County needs to provide more law enforcement, espically for noise.	3/17/2021 8:21 PM
72	There are more than enough motorized trails in Iron County. I don't think you can go anywhere without hearing them.	3/17/2021 8:03 PM
73	None	3/17/2021 10:56 AM
74	None	3/16/2021 3:08 PM
75	Allow motorcycles!	3/16/2021 1:10 PM
76	1	3/16/2021 10:29 AM
77	More trails less routes and better signs please.	3/16/2021 9:06 AM
78	.	3/16/2021 8:12 AM
79	We don't need any more. Hunting is becoming more difficult, silence is getting harder to find. We have plenty of tourists and can keep them with what we have. I do not like that we've opened up all county roads to ATVs. It's dangerous to ATVs (especially on FF) and to bikers who have to go around turns littered with gravel. Who's paying for the destruction of our roads? At the meeting regarding the opening of our roads to ATVs, there were more folks against it than for it and it board didn't listen.	3/16/2021 8:12 AM
80	Southern Iron county has no trails	3/16/2021 8:10 AM
81	A few more trails would be nice throughout the county	3/16/2021 7:49 AM
82	None	3/16/2021 7:44 AM
83	Heavy used trails need grading bi-weekly and before holiday weekends.	3/12/2021 8:43 AM
84	Need more trails	3/10/2021 1:07 PM
85	unknown	3/10/2021 12:32 PM
86	none	3/8/2021 11:21 AM

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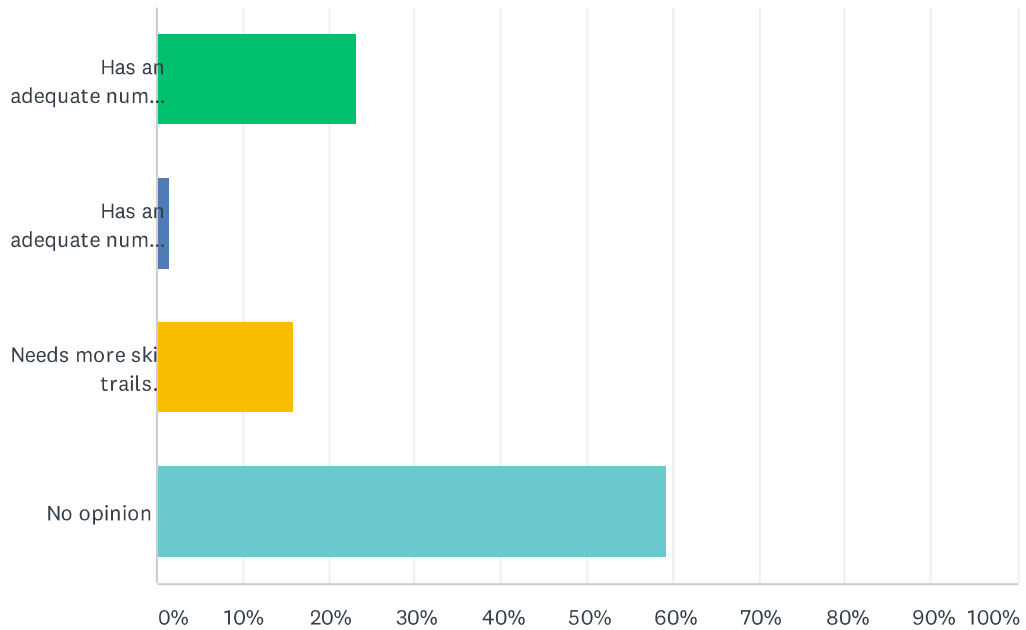
87	I have seen ATVs driving through creeks and into Upson lake to clean the vehicles. I wish they would stay out of streams and lakes	3/8/2021 9:24 AM
88	n/a	3/8/2021 9:14 AM
89	Signs needed to protect residents on the trails/roads. Speed of UTV's is endangering the people that have cabins on the roads.	3/8/2021 8:37 AM
90	We don't ride but I support atv's as long as they don't litter. We've noticed more trash in recent years so per other comment, placing bear proof trash cans may help and have the local clubs service them. If people are willing to groom snowmobile trails in the middle of a winter night (bless them) then certainly someone will volunteer to empty trash cans in the summertime. It's usually Illinoying riders cuz it's a lot of Old Style cans.	3/8/2021 7:52 AM
91	More effort should be made to prevent use on those trails (usually snowmobile) which are wet and therefore prone to rutting.	3/8/2021 7:40 AM
92	None	3/8/2021 7:17 AM
93	They are too loud	3/6/2021 7:55 AM
94	We have more than enough ATV trails, we don't need any more!	3/5/2021 12:27 PM
95	None	3/4/2021 8:36 PM
96	.	3/4/2021 6:57 PM
97	NA	3/4/2021 2:21 PM
98	n/a	3/4/2021 1:43 PM
99	None	3/4/2021 6:49 AM
100	None	3/2/2021 10:08 PM
101	none	3/2/2021 10:34 AM
102	Best trails in the local area!	3/2/2021 9:29 AM
103	None	3/2/2021 9:12 AM
104	na	3/2/2021 8:55 AM
105	some of the trails in the Penokee Range are so degraded they are almost impassable. Those trails are also very eroded and rutted they are contributing a lot of sediments to lakes and streams.	3/1/2021 11:48 AM
106	N/a	2/28/2021 9:53 AM
107	NA	2/27/2021 2:26 PM
108	None	2/27/2021 11:07 AM
109	none	2/27/2021 10:24 AM
110	None	2/26/2021 8:06 PM
111	None	2/26/2021 6:53 PM
112	Good trails, but need something in the 182 area	2/26/2021 11:47 AM
113	Please consider recommending no ATV/UTV's on snowmobile trails from December thru March.	2/26/2021 11:17 AM
114	Driving to fast past residences.	2/26/2021 10:27 AM
115	Keep ATV/UTV's off snowmobile trails December thru March!!	2/26/2021 8:34 AM
116	Over all good.	2/26/2021 7:59 AM
117	More	2/26/2021 6:59 AM
118	None	2/26/2021 5:11 AM
119	None	2/25/2021 8:53 PM

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120	Iron county has a great number of motorized trails, more than any other county in the state. I have heard that they are not maintained as well as they should be. Maybe the clubs and the county could concentrate on improving what is present.	2/25/2021 6:40 PM
121	no concerns	2/25/2021 6:39 PM
122	Bumpy rough trails slow down riders and reduce speed related accidents	2/25/2021 4:43 PM
123	More sheriff and warden patrol.	2/25/2021 3:35 PM
124	None	2/25/2021 3:22 PM
125	Na	2/25/2021 3:19 PM
126	Na	2/25/2021 2:29 PM
127	None	2/25/2021 2:17 PM
128	n/a	2/25/2021 1:33 PM
129	Sharing the trails	2/25/2021 1:23 PM
130	na	2/25/2021 1:15 PM
131	No	2/25/2021 12:51 PM
132	More rough/muddy/challenging trails would be great	2/25/2021 12:49 PM
133	More money needs to be allocated to the trails. Either through a DNR Trail Pass(like snowmobiling) or \$\$ from county funds	2/25/2021 12:23 PM
134	Na	2/25/2021 12:20 PM
135	None	2/25/2021 11:46 AM
136	none	2/25/2021 11:42 AM
137	na	2/25/2021 11:36 AM
138	Keep ATV trails and routes out of the Turtle Flambeau Scenic Waters Area.	2/25/2021 11:31 AM

Q20 Regarding Cross-country Ski Trails, do you feel Iron County, WI:

Answered: 326 Skipped: 0



ANSWER CHOICES	RESPONSES	
Has an adequate number of kilometers of ski trails.	23.31%	76
Has an adequate number of kilometers of ski trails, but improvements are needed.	1.53%	5
Needs more ski trails.	15.95%	52
No opinion	59.20%	193
Total Respondents: 326		

Q21 Please identify Cross-country Ski Trail improvement(s) needed in Iron County, WI. Please identify locations and improvements needed.

Answered: 110 Skipped: 216

#	RESPONSES	DATE
1	NA	4/13/2021 2:51 PM
2	None	4/8/2021 6:31 AM
3	Iron County would surely benefit from a more spread out, well maintained area closer to municipalities similar to ABR in Gogebic County (which is getting more and more crowded).	4/4/2021 5:02 PM
4	New trails developed	4/1/2021 10:00 AM
5	None	4/1/2021 7:39 AM
6	No opinion	3/31/2021 10:26 AM
7	More frequent grooming at MECCA. Fix the classic track groomer, it skips & jogs or is it the operator?	3/30/2021 4:50 PM
8	Signage improvements	3/30/2021 4:31 PM
9	n/a	3/30/2021 11:20 AM
10	No opinion	3/30/2021 10:40 AM
11	NA	3/30/2021 10:06 AM
12	0	3/30/2021 10:00 AM
13	Ongoing trail maintenance is always needed.	3/30/2021 8:22 AM
14	none needed	3/30/2021 8:05 AM
15	N/A	3/29/2021 8:44 PM
16	Montreal Ski Trails seem like a local secret and it's hard to find the trails heads.	3/29/2021 7:46 PM
17	NA	3/29/2021 7:44 PM
18	Snowmobiles on Fierek Road at Mecca trailhead is a safety concern. they are driving too fast.	3/29/2021 4:11 PM
19	Good trails	3/29/2021 4:03 PM
20	none	3/29/2021 10:49 AM
21	add to meca	3/28/2021 7:44 PM
22	N/a	3/27/2021 8:40 AM
23	NA	3/25/2021 4:48 AM
24	Na	3/24/2021 11:01 PM
25	N/a	3/24/2021 7:03 PM
26	None	3/24/2021 6:57 PM
27	N/A	3/24/2021 5:40 PM
28	It's for losers lol	3/24/2021 1:45 PM
29	Na	3/24/2021 1:23 PM
30	N/a	3/24/2021 1:03 PM
31	Do not use them	3/24/2021 12:50 PM

Iron County, WI Outdoor Recreation Plan 2021-2025

32	None	3/24/2021 11:57 AM
33	N/A	3/24/2021 11:53 AM
34	None	3/24/2021 11:35 AM
35	Done	3/24/2021 5:07 AM
36	None	3/23/2021 4:39 PM
37	None	3/23/2021 4:38 PM
38	Na	3/23/2021 3:37 PM
39	0	3/23/2021 3:07 PM
40	NA	3/23/2021 2:57 PM
41	N	3/23/2021 1:47 PM
42	None	3/23/2021 1:22 PM
43	None	3/22/2021 5:51 PM
44	Na	3/22/2021 8:48 AM
45	n/a	3/21/2021 11:16 PM
46	None	3/21/2021 7:39 PM
47	NONE	3/21/2021 2:43 PM
48	I would like to see the bike trail groomed for cross country skiing.	3/21/2021 12:58 PM
49	None	3/19/2021 11:19 AM
50	Maybe help the clubs with funding for improved equipment to maintain the trails	3/17/2021 8:21 PM
51	None	3/17/2021 10:56 AM
52	Gated access to prevent snowmobiles entering trails	3/16/2021 3:08 PM
53	MECCA Trails is fantastic, and needs support to continue to develop. Utilize state trail systems for XC and fat bike, allowing grooming.	3/16/2021 10:55 AM
54	1	3/16/2021 10:29 AM
55	.	3/16/2021 8:12 AM
56	Warning shacks at Montreal and Uller. Increase awareness of the amazing Uller Trail.	3/16/2021 8:12 AM
57	No opinion	3/16/2021 7:49 AM
58	None	3/16/2021 7:44 AM
59	The Penokee Rangers have created intrigue with the Pence connector...make for a much larger adventure involving the Uller Trails, and could be a helpful connector to downtown for the North Country Trail in the summer.	3/12/2021 11:34 AM
60	N/a	3/12/2021 8:43 AM
61	unknown	3/10/2021 12:32 PM
62	lots of room for more trails!	3/8/2021 11:21 AM
63	More trails needed in the northern part of the county	3/8/2021 9:24 AM
64	Uller sounds progressive. I am novice to intermediate and still too nervous to ski it as it sounds like falling is guaranteed. We could groom short segments along the walking path in Montreal/Hurley. It'd be awesome if the Hurley school ones were open to public also.	3/8/2021 9:17 AM
65	The Uller Trail and the Montreal Trails are awesome! I love that there is now a connection between them. I would build off this connection and try to continue into Hurley and connect with the Iron Belle Trail for both skiing and hiking.	3/8/2021 9:14 AM
66	Regular grooming. Brushing along the edges of the trails. Improved promotion of trails to	3/8/2021 8:23 AM

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	people outside the area.	
67	None	3/8/2021 7:17 AM
68	It would be good to have additional trails with both skate and classic skiing available in the western and southern parts of the county.	3/7/2021 12:32 PM
69	More and better maps at MECCA showing "you are here"	3/6/2021 4:13 PM
70	MECCA needs a new warming shack in the middle of the trail system.	3/5/2021 1:57 PM
71	They are great	3/4/2021 8:36 PM
72	.	3/4/2021 6:57 PM
73	More variety	3/4/2021 2:21 PM
74	n/a	3/4/2021 1:43 PM
75	None	3/4/2021 6:49 AM
76	None	3/2/2021 10:08 PM
77	More grooming Tracking	3/2/2021 8:51 PM
78	none	3/2/2021 10:34 AM
79	N/A	3/2/2021 9:29 AM
80	na	3/2/2021 8:55 AM
81	Volunteer groups doing a great job with maintenance and grooming	3/1/2021 11:48 AM
82	I'd like to see Iron County work more with the Penokee Rangers, if possible.	2/28/2021 5:06 PM
83	Family friendly infrastructure to trailheads. Addition on shorter flatter loops where possible for beginners and little kids.	2/28/2021 10:45 AM
84	Develop xc and bike trail between Mercer and Hurley, that can link with Mercer to Manitowish trails	2/28/2021 10:40 AM
85	N/a	2/28/2021 9:53 AM
86	More locations please	2/27/2021 2:26 PM
87	Add trails on new forest legacy land in western iron county	2/27/2021 11:07 AM
88	none	2/27/2021 10:24 AM
89	None	2/26/2021 8:06 PM
90	None	2/26/2021 6:53 PM
91	just need more trails	2/26/2021 2:40 PM
92	Not used	2/26/2021 11:47 AM
93	Groom Uller	2/26/2021 6:59 AM
94	None	2/26/2021 5:11 AM
95	They are good just need more	2/25/2021 8:53 PM
96	Connect Montreal Trails to the Iron Belle, for an unrivaled network!	2/25/2021 8:32 PM
97	don't ski	2/25/2021 6:39 PM
98	Drainage, grade improvement and signage needed.	2/25/2021 3:35 PM
99	None	2/25/2021 3:22 PM
100	Na	2/25/2021 3:19 PM
101	Na	2/25/2021 2:29 PM
102	None	2/25/2021 2:17 PM

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103	n/a	2/25/2021 1:33 PM
104	We have great trails, but it would be nice to connect them to the Iron Belle in Hurley	2/25/2021 1:23 PM
105	na	2/25/2021 1:15 PM
106	N	2/25/2021 12:51 PM
107	Na	2/25/2021 12:20 PM
108	None	2/25/2021 11:46 AM
109	none	2/25/2021 11:42 AM
110	na	2/25/2021 11:36 AM

Q22 Please provide any other concerns or comments regarding Iron County Cross-country Ski Trails.

Answered: 104 Skipped: 222

#	RESPONSES	DATE
1	NA	4/13/2021 2:51 PM
2	None	4/8/2021 6:31 AM
3	None	4/4/2021 5:02 PM
4	None	4/1/2021 7:39 AM
5	No opinion	3/31/2021 10:26 AM
6	Warning signs & reduced speeds for snowmobilers at trail crossings	3/30/2021 4:50 PM
7	No othet	3/30/2021 4:31 PM
8	n/a	3/30/2021 11:20 AM
9	No opinion	3/30/2021 10:40 AM
10	NA	3/30/2021 10:06 AM
11	0	3/30/2021 10:00 AM
12	Iron county has beautiful cross country ski trails. Many volunteer hours are spent maintaining the trails. Any assistance from the county with maintenance is always appreciated.	3/30/2021 8:22 AM
13	N/A	3/29/2021 8:44 PM
14	None	3/29/2021 7:44 PM
15	it is a carbon friendly activity.	3/29/2021 4:11 PM
16	None	3/29/2021 4:03 PM
17	None	3/29/2021 2:48 PM
18	none	3/29/2021 10:49 AM
19	?	3/28/2021 7:44 PM
20	N_a	3/27/2021 8:40 AM
21	None	3/25/2021 4:48 AM
22	Na	3/24/2021 11:01 PM
23	N/a	3/24/2021 7:03 PM
24	None	3/24/2021 6:57 PM
25	N/A	3/24/2021 5:40 PM
26	Na	3/24/2021 1:45 PM
27	Na	3/24/2021 1:23 PM
28	N/a	3/24/2021 1:03 PM
29	Will leave that for those who have more information	3/24/2021 12:50 PM
30	Nine	3/24/2021 11:57 AM
31	N/A	3/24/2021 11:53 AM

Iron County, WI Outdoor Recreation Plan 2021-2025

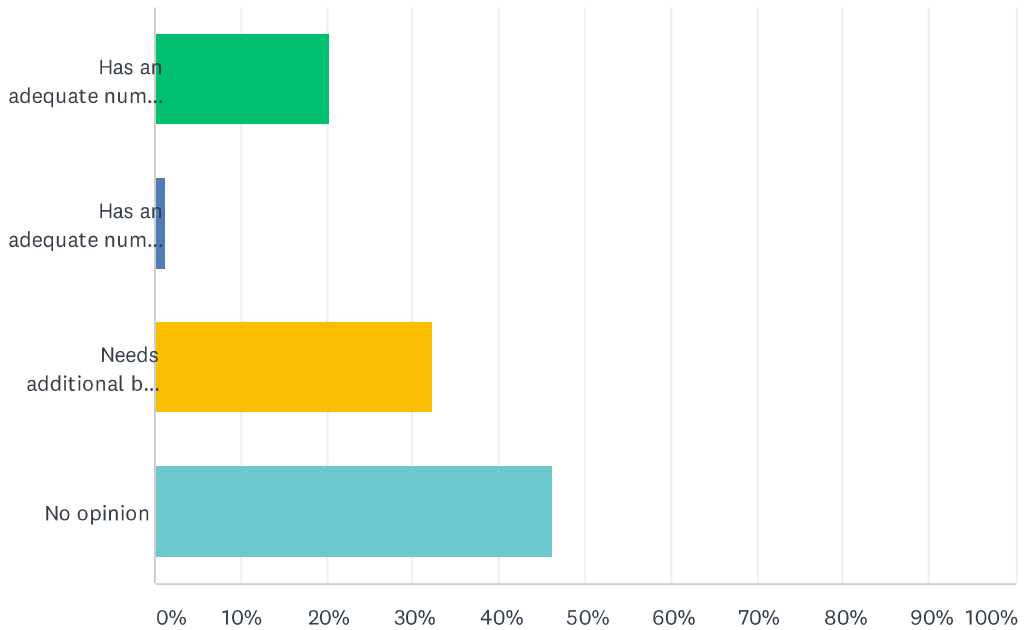
32	None	3/24/2021 11:35 AM
33	Done	3/24/2021 5:07 AM
34	None	3/23/2021 4:39 PM
35	None	3/23/2021 4:38 PM
36	Na	3/23/2021 3:37 PM
37	0	3/23/2021 3:07 PM
38	NA	3/23/2021 2:57 PM
39	Already more than enough	3/23/2021 2:22 PM
40	N	3/23/2021 1:47 PM
41	The new uller to Pence connector was a welcome addition.	3/23/2021 1:38 PM
42	None	3/23/2021 1:22 PM
43	None	3/22/2021 5:51 PM
44	Na	3/22/2021 8:48 AM
45	n/a	3/21/2021 11:16 PM
46	None	3/21/2021 7:39 PM
47	NONE	3/21/2021 2:43 PM
48	I would like to see the Mercer bike trail groomed for cross country skiing.	3/21/2021 12:58 PM
49	None	3/19/2021 11:19 AM
50	Need more skate skiing trails - both Montreal and Uller are only classic.	3/17/2021 8:21 PM
51	Needs ski trails that aren't crossed a dozen times by snowmobile trails.	3/17/2021 8:03 PM
52	None	3/17/2021 10:56 AM
53	Map kiosks would be nice	3/16/2021 3:08 PM
54	1	3/16/2021 10:29 AM
55	.	3/16/2021 8:12 AM
56	Thank you for assisting MECCA with the expansion of their trail system!!	3/16/2021 8:12 AM
57	No opinion	3/16/2021 7:49 AM
58	None	3/16/2021 7:44 AM
59	Excellent work on the Uller and its amenities!	3/12/2021 11:34 AM
60	N/a	3/12/2021 8:43 AM
61	unknown	3/10/2021 12:32 PM
62	MORE CROSS COUNTRY SKI TRAILS WHICH CAN ALSO SERVE AS HIKING/HORSEBACK RIDING TRAILS OFF SEASON	3/9/2021 9:28 PM
63	the existing ones could use better and more consistent grooming	3/8/2021 11:21 AM
64	Uller Trail can get rough, but with the makeup of that trail, that's probalby something you have to deal with. It's awesome that it's groomed as it is and maybe the conditions add to it.	3/8/2021 9:14 AM
65	None	3/8/2021 7:17 AM
66	Great trails...Keep supporting the clubs they bring new people to the area.	3/5/2021 1:57 PM
67	We could use more trails, greater miles of trails.	3/5/2021 12:27 PM
68	They are great	3/4/2021 8:36 PM
69	.	3/4/2021 6:57 PM

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70	Good	3/4/2021 2:21 PM
71	n/a	3/4/2021 1:43 PM
72	Nj one	3/4/2021 6:49 AM
73	None	3/2/2021 10:08 PM
74	none	3/2/2021 10:34 AM
75	N/A	3/2/2021 9:29 AM
76	na	3/2/2021 8:55 AM
77	none	3/1/2021 11:48 AM
78	More County support for Penokee Rangers. This year's support was appreciated and should be increased	2/28/2021 10:40 AM
79	N/a	2/28/2021 9:53 AM
80	Grooming has been wonderful. Thank you.	2/27/2021 2:26 PM
81	Need to groomed regularly	2/27/2021 11:07 AM
82	none	2/27/2021 10:24 AM
83	None. Great trails!	2/26/2021 8:06 PM
84	None	2/26/2021 6:53 PM
85	keep the snowmobiles off the xc ski trails	2/26/2021 2:40 PM
86	Not used	2/26/2021 11:47 AM
87	Great opportunities for more trails	2/26/2021 6:59 AM
88	None	2/26/2021 5:11 AM
89	None	2/25/2021 8:53 PM
90	Love the new online updates on the Montreal and Uller Trails... and the new Pence-Uller connection, and new signage. Thank you!	2/25/2021 8:32 PM
91	don't ski	2/25/2021 6:39 PM
92	Improve parking at Hoyt Rd. Summer dirt work from Hoyt to.Pence.	2/25/2021 3:35 PM
93	None	2/25/2021 3:22 PM
94	Na	2/25/2021 3:19 PM
95	Na	2/25/2021 2:29 PM
96	None	2/25/2021 2:17 PM
97	n/a	2/25/2021 1:33 PM
98	I absolutely love the Penokee rangers trails from Montreal to Iron Belt, however there are times when motorized snowmobiles and ATVs use them and come up fast on walkers and skiers.	2/25/2021 1:23 PM
99	na	2/25/2021 1:15 PM
100	N	2/25/2021 12:51 PM
101	Na	2/25/2021 12:20 PM
102	None	2/25/2021 11:46 AM
103	none	2/25/2021 11:42 AM
104	na	2/25/2021 11:36 AM

Q23 Regarding Bike Trails, do you feel Iron County, WI:

Answered: 326 Skipped: 0



ANSWER CHOICES	RESPONSES	
Has an adequate number of miles of bike trails.	20.25%	66
Has an adequate number of miles of bike trails but improvements are needed.	1.23%	4
Needs additional bike trails.	32.21%	105
No opinion	46.32%	151
Total Respondents: 326		

Q24 Please identify Bike Trail improvement(s) needed in Iron County, WI. Please identify location and trail improvements needed.

Answered: 142 Skipped: 184

#	RESPONSES	DATE
1	NA	4/13/2021 2:51 PM
2	Charge user fees	4/8/2021 6:31 AM
3	This is a huge opportunity to have more and attract people. Look at Bentonville, AR.	4/4/2021 5:02 PM
4	None	4/1/2021 7:39 AM
5	Would like to see a trail along J to meet up with Existing trail. Would be nice to also see a trail to go further north from Mercer. There is nothing between the Iron Bell and Mercer.	3/31/2021 1:08 PM
6	No opinion	3/31/2021 10:26 AM
7	connections to other trails in neighboring towns	3/30/2021 6:32 PM
8	Finish the Mercer loop back to Manitowish Waters on County J. Bicycle traffic will increase bringing shoppers, diners & other business to Mercer. Extend trails out to Popko Circle & up to Pine Lake Park looping through the Spider Lake area. Then on to Hurley. Extend the Hurley Trail out to Upson & Weber Lake. Then down to Mercer.	3/30/2021 4:50 PM
9	Connecting existing bike trails between Hurley and Mercer would a huge improvement	3/30/2021 4:31 PM
10	provide bike lane on Hwy J Mercer, sweep roads more often	3/30/2021 11:20 AM
11	No opinion	3/30/2021 10:40 AM
12	NA	3/30/2021 10:06 AM
13	0	3/30/2021 10:00 AM
14	It would be great to have a bike trail from Carow Park to County Road W. It would be a great way to connect to WinMan trails and the paved bike trail along W.	3/30/2021 8:22 AM
15	N/A	3/29/2021 8:44 PM
16	Going out Hwy J	3/29/2021 7:44 PM
17	Bike washing stations to minimize invasive species translocation.	3/29/2021 4:45 PM
18	Could use more routes where one does not have to ride on busy roadways.	3/29/2021 4:11 PM
19	Trails to other towns would be nice	3/29/2021 4:03 PM
20	More trails	3/29/2021 2:48 PM
21	More bike trails need to be added to keep them off the motorized trail systems we have. This is a severe safety issue. Also, they do not belong on trails that were developed and paid for by motorized user groups which pay annually to use them.	3/29/2021 12:04 PM
22	Ensure bike trails do not conflict with motor trails	3/29/2021 10:49 AM
23	popko circle could use bike and walking lane	3/28/2021 7:44 PM
24	Need a loop from Mercer back to Winchester	3/28/2021 5:28 PM
25	N/a	3/27/2021 8:40 AM
26	Newly retired and would love to spend time biking your area	3/26/2021 9:48 AM
27	Would like to see a trail thru Town of Sherman area. The highway is NOT A SAFE place to try and bike	3/25/2021 4:48 AM

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28	Springstead has none	3/24/2021 11:01 PM
29	N/a	3/24/2021 7:03 PM
30	None	3/24/2021 6:57 PM
31	N/A	3/24/2021 5:40 PM
32	YUPPIES	3/24/2021 1:45 PM
33	Na	3/24/2021 1:23 PM
34	N/a	3/24/2021 1:03 PM
35	Know comment	3/24/2021 12:50 PM
36	None	3/24/2021 11:57 AM
37	N/A	3/24/2021 11:53 AM
38	None	3/24/2021 11:35 AM
39	None	3/24/2021 11:35 AM
40	More trail north	3/24/2021 10:49 AM
41	Done	3/24/2021 5:07 AM
42	Charge the bikers a user fee like every other recreation sport, the funds could help maintain the trails.	3/23/2021 7:49 PM
43	None	3/23/2021 4:39 PM
44	None	3/23/2021 4:38 PM
45	Na	3/23/2021 3:37 PM
46	0	3/23/2021 3:07 PM
47	NA	3/23/2021 2:57 PM
48	N	3/23/2021 1:47 PM
49	There are currently no real mountain biking trails in the county, despite a booming mountain bike tourism industry and plentiful underutilized land. And no, trying to call your snowmobile/atv trails bike trails again isn't going to do it.	3/23/2021 1:38 PM
50	None	3/23/2021 1:22 PM
51	None	3/22/2021 5:51 PM
52	Those people that use them need to be monitored.	3/22/2021 12:13 PM
53	Na	3/22/2021 8:48 AM
54	I love the paved trail in Mercer.	3/21/2021 11:16 PM
55	Don't need to improve trails. They are brand new. Bicyclists do not spend money, nor do they pay for their trail systems like snowmobile or ATV owners do. Need to implement a trail pass system for bicycling.	3/21/2021 7:39 PM
56	More trails in the mercer area	3/21/2021 3:27 PM
57	NO	3/21/2021 2:43 PM
58	None	3/19/2021 11:19 AM
59	Bike trail from Mercer to othwr areas wirhin Iron County besides just Manitowish Waters	3/18/2021 6:00 PM
60	It would be nice to have a trail connecting Mercer and Hurley. Creating more mountain biking opportunities.	3/17/2021 8:21 PM
61	It would be nice if a bike trail from the Iron Belle trailhead could connect to the Mercer bike trail along Hwy 51.	3/17/2021 10:56 AM
62	NA	3/16/2021 3:08 PM

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63	More flow style single track trails to compete with Minnesota and UP (Copper Harbor/Marquette MI)	3/16/2021 2:56 PM
64	Mercer: Need development of bike trail along HWY J to connect to HWY W section of Heart of Vilas trail. Need development of bike trail along HWY 47 to connect to Powell Rd. Need winter grooming of all paved trails for fat bikes. Need support for additional groomed fat bike/MTB trail systems developed in the Mercer area. Fat biking has become a significant economic driver for tourism in the area. Need expansion or access to forest road network as a mapped gravel road riding opportunity to drive additional tourism.	3/16/2021 10:55 AM
65	1	3/16/2021 10:29 AM
66	.	3/16/2021 8:12 AM
67	Change trailhead location in Mercer to Portage Lake park. Improve bike trail to get them off the less developed roads south of Mercer on old 51 and Plunkett Rd. I often drive down to Manitowish Waters to avoid this portion.	3/16/2021 8:12 AM
68	No opinion	3/16/2021 7:49 AM
69	Trails that would go into Gile along the Montreal River/ Gile Flowage.	3/16/2021 7:48 AM
70	None	3/16/2021 7:44 AM
71	N/c	3/12/2021 8:43 AM
72	Would like to see mountain bike trails. Win-Man trails are close to us and great, but not familiar with any in Iron.	3/11/2021 8:46 PM
73	unknown	3/10/2021 12:32 PM
74	lots of room for more singletrack mtb trails	3/8/2021 11:21 AM
75	There are no bike trails in the Hurley - Montreal area. This is something that we are completely lacking in our area. It is sad that every other area around the country is making this a priority but Iron County is so far behind the times. At least we are fortunate to be able to access the Iron Belle Trail. We should have trails all the way to Mercer so they can connect with all of the beautiful trails in the Manitowish area. There should also be trails going to Upson from Hurley. With the mental and physical needs of children these days, we need to provide opportunities for them to get outdoor exercise in a safe environment. This needs to be a priority for Iron County.	3/8/2021 11:08 AM
76	Wider shoulders or bike lanes on some of the lesser (i.e., other than HWY 2 & 51) traveled roads. 169, 122, and B would be great biking with wider shoulders.	3/8/2021 9:24 AM
77	We donated to get Iron Belle into Hurley. It'd be great to see safe areas for kids to bike near the school and elsewhere.	3/8/2021 9:17 AM
78	There is so much potential for bike trails in the area. There needs to be an extension from the Iron Belle trail into Montreal. The Montreal Trails and Uller Trail could be used for Mountain Biking and there is so much awesome terrain in the area to build mountain bike trails. Whitecap has looked into building bike trails and you could connect all of that pretty easily. First, get a paved trail into Montreal or further then branch off of that with dirt or gravel trails to different areas. Build the backbone and grow from there.	3/8/2021 9:14 AM
79	I would like to see more bike trails that lead to places of business/restaurants but I wonder if there is a sufficient number of people using the trails to justify creating more. So while I say the number of trails is adequate, I'd always like to promote more if it makes sense financially.	3/8/2021 9:01 AM
80	Improved signage. Connector from Hurley though Montreal along railroad grade from existing ironbelle trail	3/8/2021 8:23 AM
81	The new Mercer segment of the paved trail is awesome. We ride all over in Iron County as traffic is light and drivers are for the most part respectful of bikers.	3/8/2021 7:52 AM
82	Need to connect hurley to Mercer, need to identify and market gravel road system. Need to connect Mercer to Winchester Win Man with trail or extended shoulder.	3/8/2021 7:17 AM
83	Trails needed in northern Iron County.	3/6/2021 7:00 PM
84	Would be nice to connect Mercer trail to Iron Belle. A loop trail would be nice too. 5-15 miles	3/6/2021 4:13 PM

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85	Ff needs a bike trail adjacent to it. All fed, state Andy county Highways should have adjacent trails	3/5/2021 2:44 PM
86	This is a huge opportunity to attract young people to the area. Very popular recreation activity.	3/5/2021 1:57 PM
87	It would be great to hook up a paved system from Mercer to Hurley, the Mercer bike path gets a lot of use, it would be great to have more available.	3/5/2021 12:27 PM
88	Designated bike trail to connect with Winchester/ Winman trails	3/4/2021 11:22 PM
89	Need trails in Hurley	3/4/2021 8:51 PM
90	Montreal to hurley	3/4/2021 8:36 PM
91	need off the road bike trails from Mercer to the Turtle Flambeau Flowage and then around the flowage. These trails should be connected to the Heart of Vilas County bike trail	3/4/2021 5:39 PM
92	All paved and biking or foot travel only. Out to Lake of the Falls, Hurley, other spots.	3/4/2021 2:21 PM
93	N/a	3/4/2021 1:43 PM
94	None	3/4/2021 6:49 AM
95	None	3/2/2021 10:08 PM
96	Paving	3/2/2021 8:51 PM
97	expand the bike trail east from Hurley	3/2/2021 8:08 PM
98	extend trail from hurley to montreal	3/2/2021 10:34 AM
99	N/A	3/2/2021 9:29 AM
100	na	3/2/2021 8:55 AM
101	Connector south to Mercer and west to local communities would be great.	3/1/2021 11:48 AM
102	Expanding the bike trail system would be great.	2/28/2021 7:05 PM
103	The Mercer bike trail just dies at Snow's grocery. Could it be extended through Mercer, and down J to connect to the existing trail that ends at the intersection of J and W?	2/28/2021 5:06 PM
104	Connecting to Mercer would be awesome	2/28/2021 2:58 PM
105	A connection to the Iron Belle trail thru Hurley and at least up into Montreal would be helpful to reduce exposure to heavy traffic on 77 and Silver St.	2/28/2021 1:02 PM
106	Mercer to Hurley?	2/28/2021 11:18 AM
107	Need Bike trails. Great safe riding spaces for those of us that don't enjoy road riding. Rails to trails make nice riding experience. I realize it takes money and planning but hwy 77 along those old RR grades would be nice riding.	2/28/2021 10:45 AM
108	Finish bike trail connection between Iron Belle Hurley trailhead and Gile Flowage	2/28/2021 10:40 AM
109	N/a	2/28/2021 9:53 AM
110	More...	2/27/2021 2:26 PM
111	would like to see bike trails from Mercer to hwy J by Winman trails, to complete a circle for riders	2/27/2021 2:00 PM
112	Expand Mercer trail to connect to Iron Belle in Hurley	2/27/2021 12:04 PM
113	More trails that are located further away from Main roads	2/27/2021 11:07 AM
114	none	2/27/2021 10:24 AM
115	Would like to see more.	2/26/2021 8:06 PM
116	None	2/26/2021 6:53 PM
117	More "Share the Road" signs on all county highways. A route between Hurley and Mercer would be great	2/26/2021 5:32 PM

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118	help work with local groups to get a paved trail to extend the Iron Belle into WI. county leadership seems to work against this, saying one thing and then doing nothing to help make it happen. they seem fine bringing drunk atv/utv riders and drunk snowmobilers here and do nothing to provide options that will actually add a new economic stream. non motorized enthusiasts are an untapped (and seemingly unwanted) revenue stream.	2/26/2021 2:40 PM
119	Don't use	2/26/2021 11:47 AM
120	Though paved trails are great, they all don't have to be. Trails geared toward mountain biking and fat bikes would be a plus.	2/26/2021 10:27 AM
121	Mountain biking near Saxon would be great.	2/26/2021 6:59 AM
122	None	2/26/2021 5:11 AM
123	More advertising	2/25/2021 8:53 PM
124	Connect Iron Belle to Montreal.	2/25/2021 8:32 PM
125	Montreal to Ironwood bike trail is needed.	2/25/2021 8:16 PM
126	There is only one trail in southern Iron county (Mercer bike trail). I would like to be able to ride my bike to Mercer from my house 7 miles from Mercer on county Hwy FF. I realize this is a very long term project or goal. Popko Circle is a very nice road to ride bike on but it runs into FF on both ends (FF is dangerous). So I ride the entire length and then turn around and return the same way I came. I see campers from the Lake of the Falls riding bike all the time. Trails in that area would be used and bring tourist here.	2/25/2021 6:40 PM
127	don't bike	2/25/2021 6:39 PM
128	Bike trail needed from Upson to Hurley. Good drainage, needn't be paved.	2/25/2021 3:35 PM
129	None	2/25/2021 3:22 PM
130	Na	2/25/2021 3:19 PM
131	Connection from Hurley to Mercer and the trailhead to Carey Park.	2/25/2021 3:15 PM
132	Na	2/25/2021 2:29 PM
133	None	2/25/2021 2:17 PM
134	n/a	2/25/2021 1:33 PM
135	Connect the Iron Belle trail to the Montreal trails	2/25/2021 1:23 PM
136	na	2/25/2021 1:15 PM
137	N	2/25/2021 12:51 PM
138	Na	2/25/2021 12:20 PM
139	Iron Belle needs to expand west	2/25/2021 11:46 AM
140	expanding both the Iron Belle trail to Montreal and in Mercer. The Mercer trail could expand to Hurley or out County J and connect to the trail that ends at J&W	2/25/2021 11:46 AM
141	waste of money, not used or very little	2/25/2021 11:42 AM
142	ns	2/25/2021 11:36 AM

Q25 Please provide any other concerns or comments regarding Iron County Bike Trails.

Answered: 117 Skipped: 209

#	RESPONSES	DATE
1	NA	4/13/2021 2:51 PM
2	None	4/8/2021 6:31 AM
3	None	4/4/2021 5:02 PM
4	Silent sports, particularly biking, have grown in popularity and draw families to the Northwoods contributing to tourism.	4/1/2021 10:00 AM
5	None	4/1/2021 7:39 AM
6	No opinion	3/31/2021 10:26 AM
7	They are an important attraction for families and other tourists	3/30/2021 6:32 PM
8	What we have is only a tease. Give us more!	3/30/2021 4:50 PM
9	Keeping motorized vehicles off of bike trails	3/30/2021 4:31 PM
10	n/a	3/30/2021 11:20 AM
11	No opinion	3/30/2021 10:40 AM
12	NA	3/30/2021 10:06 AM
13	0	3/30/2021 10:00 AM
14	N/A	3/29/2021 8:44 PM
15	NA	3/29/2021 7:44 PM
16	silent sports are better for the environment	3/29/2021 4:11 PM
17	None	3/29/2021 4:03 PM
18	They should be funded by users	3/29/2021 2:48 PM
19	Add more trails - keep the non motorized traffic off the motorized trails - this is a safety issue	3/29/2021 12:04 PM
20	None	3/29/2021 10:49 AM
21	safety	3/28/2021 7:44 PM
22	N/a	3/27/2021 8:40 AM
23	NA	3/25/2021 4:48 AM
24	Springstead has none	3/24/2021 11:01 PM
25	N/a	3/24/2021 7:03 PM
26	None	3/24/2021 6:57 PM
27	N/A	3/24/2021 5:40 PM
28	YUPPIES	3/24/2021 1:45 PM
29	Na	3/24/2021 1:23 PM
30	Bike people need to buy trail passes just like atv/ITV or snowmobile folks	3/24/2021 1:03 PM
31	No comment	3/24/2021 12:50 PM

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32	None	3/24/2021 11:57 AM
33	N/A	3/24/2021 11:53 AM
34	None	3/24/2021 11:35 AM
35	None	3/24/2021 11:35 AM
36	None	3/24/2021 10:49 AM
37	Done	3/24/2021 5:07 AM
38	No e	3/23/2021 4:39 PM
39	None	3/23/2021 4:38 PM
40	Na	3/23/2021 3:37 PM
41	0	3/23/2021 3:07 PM
42	NA	3/23/2021 2:57 PM
43	There's plenty	3/23/2021 2:22 PM
44	Bikers need to fund their trail systems	3/23/2021 2:04 PM
45	N	3/23/2021 1:47 PM
46	Improved Maps	3/23/2021 1:45 PM
47	None	3/23/2021 1:22 PM
48	None	3/22/2021 5:51 PM
49	It would be great to see some paved walking and bike paths in and around the Hurley area connecting the communities to the Iron Belle Trail. It would be great to see the Iron Belle extended into Montreal area as well. It would also be great to see some mountain bike trails professionally designed and built in Iron County.	3/22/2021 11:08 AM
50	Na	3/22/2021 8:48 AM
51	n/a	3/21/2021 11:16 PM
52	Need a system of self funding like ATV and snowmobiles have.	3/21/2021 7:39 PM
53	NO	3/21/2021 2:43 PM
54	I'd like to see a bike trail from Mercer to Hurley. Also along FF to the flow age.	3/21/2021 12:58 PM
55	None	3/19/2021 11:19 AM
56	More - maybe connect to the Iron Bell	3/18/2021 6:00 PM
57	There really aren't any except the one from Mercer to Manitowish Waters.	3/17/2021 8:21 PM
58	Needs ski trails that aren't also ATV trails.	3/17/2021 8:03 PM
59	None	3/17/2021 10:56 AM
60	NA	3/16/2021 3:08 PM
61	Out of date, modern trails will attract greater tourism! Rock Solid Trail Contracting out of Copper Harbor does amazing work!	3/16/2021 2:56 PM
62	1	3/16/2021 10:29 AM
63	.	3/16/2021 8:12 AM
64	No opinion	3/16/2021 7:49 AM
65	None	3/16/2021 7:44 AM
66	Bike trails serve residents and visitors. They are long term and heavy lift efforts, but Iron County is well versed in such with the accomplishments of motorized trails.	3/12/2021 11:34 AM
67	Non-motorized tourism is growing and trails are needed to draw those interested. Critical any	3/12/2021 8:43 AM

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new trails be located away from current motorized trails to avoid future conflicts (noise, dust, etc).

68	unknown	3/10/2021 12:32 PM
69	none	3/8/2021 11:21 AM
70	Needs to be a priority.	3/8/2021 11:08 AM
71	It doesn't feel safe to ride a bike on most county roads.	3/8/2021 9:17 AM
72	The county focuses too much on motorized recreation and should put more effort into biking, hiking, skiing.	3/8/2021 9:14 AM
73	Connecting the Mercer and Hurley areas with a safe bike route or trail would be a great improvement	3/8/2021 8:23 AM
74	None	3/8/2021 7:17 AM
75	The Mercer trails are wonderful. Often times we drive to Manitowish to ride and the Merced trailhead offers us the opportunity to ride and spend locally.	3/6/2021 7:00 PM
76	Provide a way to keep snowmobiles off	3/6/2021 4:13 PM
77	Build a fat tire trail	3/5/2021 1:57 PM
78	We need to keep the snowmobiles and ATV's OFF the paved bike paths. It's very frustrating that with all the trails they have, they can't stay off the bike path.	3/5/2021 12:27 PM
79	Need a loop between Manotwish, Winchester, and Mercer. Also extend North of Mercer	3/4/2021 11:22 PM
80	Needs more from iron belt to Hurley safer for children to ride	3/4/2021 8:36 PM
81	off the road but paved bike trails are needed throughout Iron County much like the heart of vilas county bike trail	3/4/2021 5:39 PM
82	Love what we have	3/4/2021 2:21 PM
83	They're beautiful.	3/4/2021 1:43 PM
84	None	3/4/2021 6:49 AM
85	None	3/2/2021 10:08 PM
86	none	3/2/2021 10:34 AM
87	N/A	3/2/2021 9:29 AM
88	na	3/2/2021 8:55 AM
89	New trails can not be at the expense of our historic and established motorized uses.	3/1/2021 11:48 AM
90	Any way that Iron County can work with ICORE to help create the bike trail from Hurley to Montreal would be great. It's a ton of work and money to do it.	2/28/2021 5:06 PM
91	In some distant future, I'm sure not in my lifetime, a connection to the Mercer trail from Hurley would be an awesome goal.	2/28/2021 1:02 PM
92	Iron County needs to realize the economic potential of bike trails to bring visitors here, but also the health and safety benefits for local residents. We have fought thus fight for years, but now this the time to realign priorities to shift an equitable levels of resources to non-motorized recreation. Establish the Mellen to Hurley to Ashland bike trail using the WI Central grade via rails to trails. We almost had this established years ago, but naysayers stopped it. Ashland Recreation (Sarah Hudson) is interested in cooperating on this. It will take much work, but is doable.	2/28/2021 10:40 AM
93	N/a	2/28/2021 9:53 AM
94	NA	2/27/2021 2:26 PM
95	Mountain biking trails would be great	2/27/2021 11:07 AM
96	none	2/27/2021 10:24 AM
97	More paved bike /walk trails.	2/26/2021 8:06 PM

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98	None	2/26/2021 6:53 PM
99	Don't use	2/26/2021 11:47 AM
100	Mountain biking	2/26/2021 6:59 AM
101	None	2/26/2021 5:11 AM
102	More well marked trails	2/25/2021 8:53 PM
103	There needs to be more opportunity to ride bikes safely in Iron county. We need to provide health activities for our residents and visitors. I see people hauling there bikes to Vilas county all the time.	2/25/2021 6:40 PM
104	don't bike	2/25/2021 6:39 PM
105	Ensure adequate room on sides of 77, 51 and 2.	2/25/2021 3:35 PM
106	None	2/25/2021 3:22 PM
107	Na	2/25/2021 3:19 PM
108	Na	2/25/2021 2:29 PM
109	None	2/25/2021 2:17 PM
110	n/a	2/25/2021 1:33 PM
111	More trails would be welcome	2/25/2021 1:23 PM
112	na	2/25/2021 1:15 PM
113	N	2/25/2021 12:51 PM
114	Na	2/25/2021 12:20 PM
115	None	2/25/2021 11:46 AM
116	waste of money	2/25/2021 11:42 AM
117	na	2/25/2021 11:36 AM

Q26 Iron County, WI should explore/investigate the possibility for the following outdoor recreation opportunities. Please list up to 3 and include locations.

Answered: 143 Skipped: 183

ANSWER CHOICES	RESPONSES	
Opportunity 1	100.00%	143
Opportunity 2	57.34%	82
Opportunity 3	39.86%	57

#	OPPORTUNITY 1	DATE
1	ATV trails near Springstead	4/13/2021 2:51 PM
2	more access to trail 6 areas	4/6/2021 7:49 AM
3	Off Highway Motorcycles (all or portions of existing trail system)	4/4/2021 5:02 PM
4	None	4/1/2021 7:39 AM
5	more silent sports opportunities in general	3/31/2021 11:34 AM
6	Improved shooting ranges. Consider dedicated handgun range and longer distance targets	3/31/2021 10:29 AM
7	Expanding camping	3/31/2021 10:26 AM
8	Use Gile Park for children events...	3/31/2021 8:28 AM
9	Walking/bike trails	3/30/2021 7:15 PM
10	Bike trail to Hurley	3/30/2021 6:32 PM
11	Bicycle trails in Hurley area	3/30/2021 4:50 PM
12	Kayaking routes with hiking opportunities in the Turtle Flambeau Scenic Waterway	3/30/2021 4:31 PM
13	.	3/30/2021 10:06 AM
14	A new bike trail along county road J	3/30/2021 8:22 AM
15	ATV/UTV Park	3/29/2021 8:44 PM
16	Na	3/29/2021 7:44 PM
17	public outdoor winter skating rink	3/29/2021 7:00 PM
18	Snowshoe trail off of Little Turtle parking lot. Mecca trail	3/29/2021 4:11 PM
19	Bike trail to minocqua	3/29/2021 4:03 PM
20	none	3/29/2021 10:49 AM
21	?	3/28/2021 7:44 PM
22	More camping	3/27/2021 8:40 AM
23	At trails. Town of Sherman	3/25/2021 4:48 AM
24	Springstead trail to the flowage	3/24/2021 11:01 PM
25	At trails	3/24/2021 7:03 PM
26	More ATV trails	3/24/2021 6:57 PM

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27	None	3/24/2021 5:40 PM
28	The island lake area to Highway 77 appears to have a lot of open area that may be used for outdoor activities	3/24/2021 2:47 PM
29	More atv. Trails	3/24/2021 2:27 PM
30	More atv trails	3/24/2021 2:12 PM
31	Helicopter Rides over lake superior	3/24/2021 1:45 PM
32	N	3/24/2021 1:23 PM
33	Atv acessable camping	3/24/2021 1:03 PM
34	Atv	3/24/2021 11:57 AM
35	More Atv/ Utv trails	3/24/2021 11:35 AM
36	Arc/utv	3/24/2021 11:12 AM
37	Better shooting range	3/24/2021 10:49 AM
38	Create snowmobile trails to waterfalls in county.	3/24/2021 6:25 AM
39	I would just like more trails for the UTV	3/24/2021 5:07 AM
40	Zip line somewhere would be cool! Maybe near eagle bluff or lake lavina	3/23/2021 11:32 PM
41	None	3/23/2021 4:38 PM
42	More ATV trails to replace routes on town roads	3/23/2021 3:37 PM
43	More walleye	3/23/2021 3:07 PM
44	Sledding hill	3/23/2021 2:57 PM
45	more atv utv trails and access	3/23/2021 2:04 PM
46	Dirt bike trails	3/23/2021 1:51 PM
47	N	3/23/2021 1:47 PM
48	More campgrounds	3/23/2021 1:46 PM
49	Designated Bike Routes with topo maps (Columbia County, WI)	3/23/2021 1:45 PM
50	Mountain biking - penokee range, iron county forest	3/23/2021 1:38 PM
51	Additional snowmobile trails	3/23/2021 1:22 PM
52	More ATV UTV Trails	3/22/2021 5:51 PM
53	Mountain Bike trails on public land	3/22/2021 11:08 AM
54	Na	3/22/2021 8:48 AM
55	Pickleball, Mercer area	3/22/2021 7:45 AM
56	n/a	3/21/2021 11:16 PM
57	Canoe and kayak access!!!	3/21/2021 7:39 PM
58	ATV destination with areas to test skills of the operators.	3/21/2021 7:39 PM
59	Atv/snowmobile trail from fisher lake to winchester.	3/21/2021 3:27 PM
60	More ATV/UTV trails in Mercer area	3/21/2021 3:04 PM
61	0	3/21/2021 2:43 PM
62	Hiking trails along the Turtle Flambeau Flowage.	3/21/2021 12:58 PM
63	More hiking and snow showing trails with parking	3/18/2021 6:00 PM
64	Foster Falls better parking	3/17/2021 10:56 AM

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65	Foot paths connecting communities	3/16/2021 3:08 PM
66	Mountain Biking - Mercer area	3/16/2021 2:56 PM
67	Ymca in Hurley or kimball	3/16/2021 2:50 PM
68	Off trail riding and camping	3/16/2021 1:10 PM
69	Fat bike trails, Mercer	3/16/2021 10:55 AM
70	less hiking Trails	3/16/2021 10:54 AM
71	1	3/16/2021 10:29 AM
72	Outdoor kickball and softball leagues	3/16/2021 9:07 AM
73	Another atv access campground further north	3/16/2021 9:06 AM
74	.	3/16/2021 8:12 AM
75	No expansion of ATV trails	3/16/2021 8:12 AM
76	Some type of playground or activity center for kids	3/16/2021 8:10 AM
77	Mountain Bike Trails	3/16/2021 7:48 AM
78	Atv park/campground for mudding opportunities. Many located around the country. Jacksonville, TX for example.	3/16/2021 7:44 AM
79	Hiking trails	3/11/2021 8:46 PM
80	ATV/UTV near Mercer and Flowage	3/10/2021 1:07 PM
81	HORSE BACK TRAILS AND CAMPGROUNDS	3/9/2021 9:28 PM
82	Connect the non-motorized trail from Mercer to Hurley.	3/9/2021 7:09 PM
83	Make a birding highlight map or trail	3/8/2021 11:35 AM
84	Singletrack motorcycle only trails in county forest areas	3/8/2021 11:21 AM
85	Ski, snowshoe, hiking trail at Corrigan's Bluff	3/8/2021 9:24 AM
86	Mountain biking maybe Saxon harbor or other areas/uller/whitecap	3/8/2021 9:17 AM
87	Non-motorized trail from Iron Belle to Montreal and further	3/8/2021 9:14 AM
88	Pickleball courts in Mercer area	3/8/2021 9:01 AM
89	North Country Trail from Saxon Harbor to Copper Falls	3/8/2021 8:37 AM
90	More bike trails Hurley to Montreal and Hurley to Merver	3/8/2021 8:23 AM
91	A silent sport race with swimming, kayaking, running, biking being the legs of the race. Like swim part of the gile, kayak another part, bike some and then finish with a run.	3/8/2021 7:52 AM
92	improve signage	3/8/2021 7:51 AM
93	More bike trails	3/8/2021 7:17 AM
94	A hiking trail along the Penokees, to connect with the North Country and Iron Belle trails, extending and improving the Uller Trail	3/7/2021 12:32 PM
95	Bike trails	3/6/2021 7:00 PM
96	Dog Sledding trail	3/5/2021 1:57 PM
97	Dogsledding trails - connect logging roads anywhere and create loops. There's a whole community	3/5/2021 12:27 PM
98	Bike trails	3/4/2021 8:51 PM
99	Bike path iron belt to hurley	3/4/2021 8:36 PM
100	More bike trails	3/4/2021 5:39 PM

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101	River routes for canoe/kayak with Portage opportunities.	3/4/2021 2:21 PM
102	more hiking	3/4/2021 1:43 PM
103	skating trails like riveroak	3/4/2021 12:42 PM
104	None	3/2/2021 10:08 PM
105	Winter snowmobile hauler parking area for day use	3/2/2021 8:55 PM
106	bike trail to mercer	3/2/2021 10:34 AM
107	N/A	3/2/2021 9:29 AM
108	na	3/2/2021 8:55 AM
109	Partner with DNR for more hiking trails around Mercer	2/28/2021 5:06 PM
110	Better access to lakes	2/28/2021 2:58 PM
111	Another campground in the Gile flowage location	2/28/2021 1:02 PM
112	Acquire Gile Flowage islands and Xcel owned Flowage uplands using Knowles Nelson funding. This is a once in a life time opportunity!	2/28/2021 10:40 AM
113	N/a	2/28/2021 9:53 AM
114	More kayak landings all rivers and lakes	2/27/2021 2:26 PM
115	Cross country ski trails in forest legacy land in western iron county	2/27/2021 11:07 AM
116	none	2/27/2021 10:24 AM
117	Expanding the walking /biking trails west from hurley to Montreal.	2/26/2021 8:06 PM
118	.	2/26/2021 6:53 PM
119	better swimming hole somewhere (improve weber lake maybe)	2/26/2021 2:40 PM
120	Utv trails in springstead	2/26/2021 11:47 AM
121	Sledding park with tow rope system (Mercer)	2/26/2021 11:25 AM
122	Outdoor Ice skating rink somewhere in/near Hurley	2/26/2021 10:27 AM
123	Increase the hours jet skis can run on the lakes. We use ours to fish off of in addition to play	2/26/2021 7:59 AM
124	Mountain biking from Saxon harbour	2/26/2021 6:59 AM
125	None	2/26/2021 5:11 AM
126	Police snowmobiles	2/25/2021 8:53 PM
127	Connect Montreal ski trails to iron belle	2/25/2021 7:02 PM
128	Bike and hiking trails in northern and southern Iron county	2/25/2021 6:40 PM
129	camping	2/25/2021 6:39 PM
130	Frisbee golf	2/25/2021 4:09 PM
131	Ski Race. Weber Lk to Montreal (Hurley?)	2/25/2021 3:35 PM
132	Na	2/25/2021 3:19 PM
133	Additional paved bike trails	2/25/2021 3:15 PM
134	Na	2/25/2021 2:29 PM
135	None	2/25/2021 2:17 PM
136	Connecting the Iron Belle to the Montreal trails	2/25/2021 1:23 PM
137	W	2/25/2021 12:51 PM
138	Better playgrounds and equipment(Mercer area)	2/25/2021 12:23 PM

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139	Allow Off Highway motorcycle	2/25/2021 11:46 AM
140	fat bike trails	2/25/2021 11:46 AM
141	fisher lake	2/25/2021 11:42 AM
142	Frisbee park	2/25/2021 11:41 AM
143	Hiking trail on WDNR property near Springstead landing.	2/25/2021 11:31 AM
#	OPPORTUNITY 2	DATE
1	Mountain Bike Trail Systems for technical/challenging riding and causing (make more)	4/4/2021 5:02 PM
2	Atv/Utv playground	3/31/2021 10:26 AM
3	Music in Gile Park weekly	3/31/2021 8:28 AM
4	Bike trail to WinMan trails	3/30/2021 6:32 PM
5	Bicycle trails in Mercer area	3/30/2021 4:50 PM
6	Mountain Biking within the Turtle Flambeau Scenic Waterway	3/30/2021 4:31 PM
7	More walking trails	3/30/2021 8:22 AM
8	Bike trails heading north	3/29/2021 4:03 PM
9	Mork playground	3/27/2021 8:40 AM
10	Bike trails. Town of Sherman	3/25/2021 4:48 AM
11	Safe bike trail in Springstead area	3/24/2021 11:01 PM
12	Camper and RV drain and fill station	3/24/2021 6:57 PM
13	None	3/24/2021 5:40 PM
14	If possible connecting some of the old logging trails to each other to make loops off of gravel roads.	3/24/2021 2:47 PM
15	Hiking trails for the south end	3/24/2021 2:27 PM
16	More challenging trails	3/24/2021 2:12 PM
17	N	3/24/2021 1:23 PM
18	Bike	3/24/2021 11:57 AM
19	North bound bike trails	3/24/2021 10:49 AM
20	Ensure ATV trails to waterfalls and Saxon Harbor in county.	3/24/2021 6:25 AM
21	Done	3/24/2021 5:07 AM
22	An outdoor band shell, near or on silver street next to silver st pub (formerly the krash) would be handy for use during Heritage festival.	3/23/2021 11:32 PM
23	None	3/23/2021 4:38 PM
24	improve snowmobile trails	3/23/2021 2:04 PM
25	Montreal river whitewater access - gile dam and saxon falls	3/23/2021 1:38 PM
26	Additional ATV trails	3/23/2021 1:22 PM
27	More boat landings	3/22/2021 5:51 PM
28	Improve and expand the Montreal and MECCA ski trails	3/22/2021 11:08 AM
29	Need additional trails. Maybe a trail that can be used by both snowmobiles and ATV's. Have it cross Turtle River between Donner's Bay and Iron County line. This would allow access to Springstead area for everyone.	3/21/2021 7:39 PM
30	More trails, less gravel	3/21/2021 3:27 PM
31	More ATV/UTV grading/grooming in Mercer area for trail 17	3/21/2021 3:04 PM

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32	0	3/21/2021 2:43 PM
33	Hiking trails in the area around Pine lake	3/21/2021 12:58 PM
34	Kayak trail and camping along Turtle river	3/18/2021 6:00 PM
35	Access to Gile Falls along the Montreal River from the dam	3/17/2021 10:56 AM
36	Dog park	3/16/2021 3:08 PM
37	ATV	3/16/2021 2:56 PM
38	Public pool in kimball	3/16/2021 2:50 PM
39	Motorcycles allowed on trails.	3/16/2021 1:10 PM
40	MTB trails, Mercer	3/16/2021 10:55 AM
41	Outdoor volleyball league	3/16/2021 9:07 AM
42	.	3/16/2021 8:12 AM
43	No expansion of snowmobile trails	3/16/2021 8:12 AM
44	Connecting the trail in Gile along the Falls/ Flowage	3/16/2021 7:48 AM
45	Improve the North Country Trail	3/9/2021 7:09 PM
46	Keep up waterfall focus, but that's a slippery slope.	3/8/2021 11:35 AM
47	Re-establish ski trail between Saxon harbor and the Frontier	3/8/2021 9:24 AM
48	Cross country skiing promote Montreal. Make parts of uller safer	3/8/2021 9:17 AM
49	Mountain bike trails	3/8/2021 9:14 AM
50	Ski trail connector Whitecap to Montreal to Ironbelle	3/8/2021 8:23 AM
51	Frisbee golf near Mercer	3/8/2021 7:52 AM
52	advertise to bring people to the area	3/8/2021 7:51 AM
53	UTV trail with a difficult rating-black diamond	3/8/2021 7:17 AM
54	Mountain bike trails on snowmobile trails	3/6/2021 7:00 PM
55	Non-motorized Canoe route, lake to lake with portages	3/5/2021 1:57 PM
56	Kayak gile away from boat landing	3/4/2021 8:36 PM
57	kayak launches	3/4/2021 1:43 PM
58	None	3/2/2021 10:08 PM
59	more campsites at weber lake	3/2/2021 10:34 AM
60	Partner with DNR to explore ways to gain access to SNAs	2/28/2021 5:06 PM
61	More snowshoe events	2/28/2021 2:58 PM
62	A bike trail interconnect with the MI. Iron Belle trail system from Montreal to MI.	2/28/2021 1:02 PM
63	Find ways to link natural & heritage attractions with non-motorized trails	2/28/2021 10:40 AM
64	More cross country ski trails	2/27/2021 2:26 PM
65	Mountain biking trails	2/27/2021 11:07 AM
66	.	2/26/2021 6:53 PM
67	xc skiing in Oma or Carey	2/26/2021 2:40 PM
68	Outdoor park complex with showers for sports (Mercer)	2/26/2021 11:25 AM
69	Horseback riding trails void of motorized vehicles	2/26/2021 10:27 AM

Iron County, WI Outdoor Recreation Plan 2021-2025

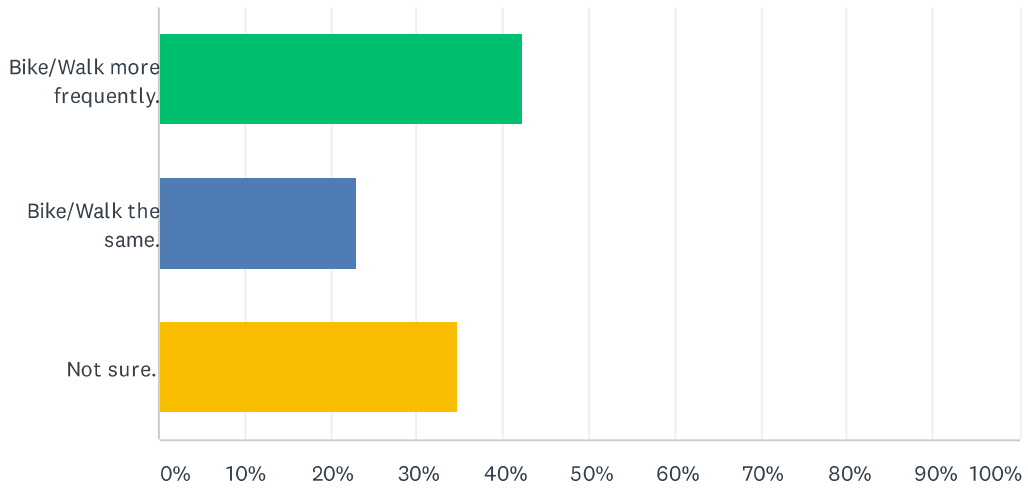
70	Allow tracks on the atvs n utv's in winter to limit the damage to snowmobile trails.	2/26/2021 7:59 AM
71	ATV and snowmobile trails Saxon harbour to Bessemer	2/26/2021 6:59 AM
72	None	2/26/2021 5:11 AM
73	Promote quite out door recommendations	2/25/2021 8:53 PM
74	Expand Xc ski trail grooming	2/25/2021 7:02 PM
75	Kiosks at tourist stops that give information about other nearby points of interest.	2/25/2021 6:40 PM
76	fishing	2/25/2021 6:39 PM
77	Advanced mountain bike course	2/25/2021 3:35 PM
78	Improve the boat landings on Gile Flowage	2/25/2021 1:23 PM
79	An actual Sandy beach on grand Portage lake(Mercer)	2/25/2021 12:23 PM
80	ATV terrain park	2/25/2021 11:46 AM
81	long lake	2/25/2021 11:42 AM
82	Dog park	2/25/2021 11:41 AM
#	OPPORTUNITY 3	DATE
1	Cross County Ski Trails (closer to town or more developed facilities at trailheads)	4/4/2021 5:02 PM
2	Music night weekly in summer in town	3/31/2021 8:28 AM
3	Improve our XC ski and hiking trails	3/30/2021 4:50 PM
4	Designated Hikes throughout the Turtle Flambeau Scenic Waterway	3/30/2021 4:31 PM
5	More public hunting area	3/24/2021 6:57 PM
6	None	3/24/2021 5:40 PM
7	A connector trail from Saxon harbor to superior Falls	3/24/2021 2:47 PM
8	Fixing of current trails	3/24/2021 2:12 PM
9	N	3/24/2021 1:23 PM
10	Hike	3/24/2021 11:57 AM
11	Done	3/24/2021 5:07 AM
12	County scavenger hunt during the summer months to get people motivated to visit our parks and trails!	3/23/2021 11:32 PM
13	None	3/23/2021 4:38 PM
14	towns need to recognize the need to cooperate with clubs	3/23/2021 2:04 PM
15	Rock climbing - corrigan's lookout and other locations in the penokee range	3/23/2021 1:38 PM
16	Additional bike trails	3/23/2021 1:22 PM
17	Improvement of the North Country Trail through Iron County	3/22/2021 11:08 AM
18	Add additional trails for ATV's in Mercer. Nearly all ATV riding is done on routes, roads or logging roads.	3/21/2021 7:39 PM
19	Atv mud bog area	3/21/2021 3:27 PM
20	0	3/21/2021 2:43 PM
21	Hiking trails in the Sandy Beach area.	3/21/2021 12:58 PM
22	More care towards invasive species in ourwaterways	3/18/2021 6:00 PM
23	Spring Camp Falls better parking	3/17/2021 10:56 AM
24	Teen center in kimball	3/16/2021 2:50 PM

Iron County, WI Outdoor Recreation Plan 2021-2025

25	Better maps and use age of the existing iron county/state lands	3/16/2021 1:10 PM
26	Expansion of paved bike paths north to Hurley from Mercer, and from Mercer to Presque Isle/Winchester.	3/16/2021 10:55 AM
27	.	3/16/2021 8:12 AM
28	Yurt camping	3/16/2021 8:12 AM
29	Cater equally to motorized and nonmotorized audiences/citizens.	3/8/2021 11:35 AM
30	Keep ski/snowshoe trails away from snowmobile trails	3/8/2021 9:24 AM
31	Safer snowmobiling	3/8/2021 9:17 AM
32	Work with the North Country Trail to decrease the road walk and maybe bring the trail across Whitecap and onto the Uller Trail and Montreal Trails before heading up to Lake Superior	3/8/2021 9:14 AM
33	Improved signage to waterfalls in the region from highways and towns	3/8/2021 8:23 AM
34	Kayak race with a portage involved to recreate and connect with local history. Use the portage in Mercer.	3/8/2021 7:52 AM
35	Hut to Hut skiing and hiking. Keep adding to the Uller Trail	3/5/2021 1:57 PM
36	kids exploration center	3/4/2021 1:43 PM
37	None	3/2/2021 10:08 PM
38	More campsites	2/28/2021 2:58 PM
39	A bike lane or trail system to Lake Superior	2/28/2021 1:02 PM
40	Increase County funding for recreation management to the Iron County Forestry. Create an Iron County Recreation Committee on the County Board.to coordinate all County recreation.	2/28/2021 10:40 AM
41	More campgrounds	2/27/2021 2:26 PM
42	Backpacking trails	2/27/2021 11:07 AM
43	.	2/26/2021 6:53 PM
44	back packing and hike in campsites out near a waterfall (spring Camp falls)	2/26/2021 2:40 PM
45	Park for picnicking including pavilions, restrooms, tables and grilling stations (Mercer)	2/26/2021 11:25 AM
46	Winter camping by trails for RVs	2/26/2021 6:59 AM
47	None	2/26/2021 5:11 AM
48	Advertise quite sports	2/25/2021 8:53 PM
49	Increase paved off road bike trails	2/25/2021 7:02 PM
50	A bike trail that connects Hurley to Mercer	2/25/2021 6:40 PM
51	atving	2/25/2021 6:39 PM
52	??	2/25/2021 3:35 PM
53	Protect and map the Montreal river to identify kayak routes	2/25/2021 1:23 PM
54	A skate park(summer) and ice skating rink (winter)	2/25/2021 12:23 PM
55	Additional swimming space and dock to allow better swimming at Weber lake	2/25/2021 11:46 AM
56	pine lake	2/25/2021 11:42 AM
57	Skate park	2/25/2021 11:41 AM

Q27 If there were more biking/walking trails in Iron County, WI, would you:

Answered: 326 Skipped: 0



ANSWER CHOICES	RESPONSES	
Bike/Walk more frequently.	42.33%	138
Bike/Walk the same.	23.01%	75
Not sure.	34.66%	113
Total Respondents: 326		

Q28 Please provide any other comments to help us improve Outdoor Recreation opportunities in Iron County, WI.

Answered: 125 Skipped: 201

#	RESPONSES	DATE
1	NA	4/13/2021 2:51 PM
2	Generally iron county does a pretty good job	4/8/2021 6:31 AM
3	More work needed on signage and upkeep clubs get paid for this the money needs to be spent on them	4/5/2021 6:55 PM
4	With the most recent season's snowmobile deaths in Iron County, the county should consider causes and address them--particularly promoting safe riding. Safety should not be more concern for allowing another mode of off road riding--motorcycles (which is more popular and permitted in Upper Michigan and Lower Wisconsin). Often certain segments of trails are designated OHM and allow for challenging, technical riding and point to point cruising that does not interfere with ATV/UTV.	4/4/2021 5:02 PM
5	None	4/1/2021 7:39 AM
6	I know you are going to log, but I would recommend looking at this from more of an aesthetic point of view. Remember your tourism money too.	3/31/2021 11:34 AM
7	Dumping stations are always a welcome addition for campers	3/31/2021 10:26 AM
8	Appreciate all the work the Volunteers are establishing with the NICER group. Looks so good for Iron County Public image!!! Hooray	3/31/2021 8:28 AM
9	More utv friendly	3/30/2021 6:16 PM
10	Extend/add to area snowshoe trails	3/30/2021 4:50 PM
11	Silent Sports are growing and Iron County would be wise to provide more opportunities for silent sports.	3/30/2021 4:31 PM
12	n/a	3/30/2021 11:20 AM
13	keep expanding and allowing use of atv and utv activities.	3/30/2021 10:40 AM
14	.	3/30/2021 10:06 AM
15	There is never enough	3/30/2021 10:00 AM
16	N/A	3/29/2021 8:44 PM
17	Signage	3/29/2021 7:46 PM
18	Love Mercer Area! More bike trails	3/29/2021 7:44 PM
19	-	3/29/2021 7:00 PM
20	Iron County pretty much does it better than anyone.	3/29/2021 4:45 PM
21	None	3/29/2021 4:03 PM
22	none	3/29/2021 10:49 AM
23	?	3/28/2021 7:44 PM
24	Add a shower at black river harbor campground	3/27/2021 8:40 AM
25	NA	3/25/2021 4:48 AM
26	Na	3/24/2021 11:01 PM
27	N/a	3/24/2021 7:03 PM

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28	None	3/24/2021 6:57 PM
29	None	3/24/2021 5:40 PM
30	If you turn Iron County into Bike And Hiking village those YUPPIES will run the atv/utv riders out of town.	3/24/2021 1:45 PM
31	Na	3/24/2021 1:23 PM
32	N/a	3/24/2021 1:03 PM
33	Keep working to connect more towns to the trail systems.	3/24/2021 11:57 AM
34	None	3/24/2021 11:35 AM
35	More Atv/Utv trails would benefit people with disabilities to enjoy nature in the woods, not everyone is able to hike and bike! Thank you	3/24/2021 11:35 AM
36	More ATV trails in the woods.	3/24/2021 10:59 AM
37	Review and work with-in County roads that are currently utilized as snowmobile trails to not scrape down to no snow or if possible move to side easements if possible.	3/24/2021 6:25 AM
38	Done	3/24/2021 5:07 AM
39	None	3/23/2021 4:38 PM
40	It seems that outdoor recreation for ATVers means drinking at the bars, partying and driving intoxicated. Thats fine. But please try to separate them from the road traffic, lake property, and those wanting to enjoy the other outdoor benefits in Iron County.	3/23/2021 3:37 PM
41	0	3/23/2021 3:07 PM
42	NA	3/23/2021 2:57 PM
43	ATV/UTV and snowmobile trails should be a priority. They bring in the tourist revenue to the economy. Enough about cross country skiing and biking. Boating and fishing should also be a priority, not kayaking.	3/23/2021 2:22 PM
44	Snowmobiling is the money maker	3/23/2021 2:10 PM
45	most recreation in Iron co is very imprtant for our small buisnesses to survive.	3/23/2021 2:04 PM
46	You and the clubs do a great job on the snowmobile trails	3/23/2021 1:47 PM
47	No other comments, iron county is already a great place for my family to vacation and spend time enjoying the recreational activities	3/23/2021 1:22 PM
48	None	3/22/2021 5:51 PM
49	Na	3/22/2021 8:48 AM
50	Keep up the good work	3/21/2021 11:16 PM
51	Canoe and kayak access is precious.	3/21/2021 7:39 PM
52	Pay less attention to silent sport that don't add to the economy. Add additional trails and destinations for ATV's and snowmobiles as they provide 95% of the business revenue in Mercer.	3/21/2021 7:39 PM
53	Great area to ride	3/21/2021 3:32 PM
54	More trails and better signage on trails	3/21/2021 3:27 PM
55	NO	3/21/2021 2:43 PM
56	I'd like to see hiking trails that are accessible from the town of Mercer.	3/21/2021 12:58 PM
57	Many of your questions only provide answers for more, improve, or stay the same. You should have options for fewer or none. Also should have the option for zero as far as using trails, etc. Question 36 does not allow you to select more than one of the options.	3/17/2021 8:21 PM
58	I would probably hike/bike the same amount, but would love more variety.	3/17/2021 8:03 PM

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59	None	3/17/2021 10:56 AM
60	Iron County Forestry does an amazing job providing rec opportunities. Thank you!	3/16/2021 3:08 PM
61	Really need to focus on the teen to 20 yr olds who need a well lit area til midnight ,town of Kimball along the hwy is great access, wide open	3/16/2021 2:50 PM
62	Just make things more accessible, and maps that show what we have to offer! The current maps are outdated/low quality and are missing lots of things.	3/16/2021 1:10 PM
63	1	3/16/2021 10:29 AM
64	Advertise locations	3/16/2021 9:07 AM
65	.	3/16/2021 8:12 AM
66	Please use the last survey data as well when making these decisions. As a resident, it's frustrating when tourists get to make our decisions for us, yet they wouldn't want loud engines or habitat destruction in their backyard.	3/16/2021 8:12 AM
67	Not alot of things for younger kids	3/16/2021 8:10 AM
68	None	3/16/2021 7:44 AM
69	Recreational opportunities are only as good as the landscapes they utilize, I applaud and encourage the stewardship efforts Forestry engages in to maintain the natural resources!	3/12/2021 11:34 AM
70	Thanks for all you do. We hope that Saxon Harbor doesn't become increasingly busy and detract from the natural beauty of the area. Same can be said for the waterfall parks and single sites for camping. Examples like Wren Falls may become too occupied to allow visitors an enjoyable experience during peak season.	3/8/2021 11:35 AM
71	so many cool things in iron county, should focus a little less on the utv crowd in the summer	3/8/2021 11:21 AM
72	Keep surveys short. I have small kids at home and this one was very time consuming.	3/8/2021 9:17 AM
73	I live in Gogebic County and spend most of my recreation time here or other parts of the UP or find my way to Vilas County for outdoor activity. I do get across the Montreal more and see that there is a lot of potential and love what is there and would love to see it grow more and be able to use it more.	3/8/2021 9:14 AM
74	More emphasis on non motorized sports/rec	3/8/2021 8:37 AM
75	Bring back Woodsy owl for some "give a hoot, don't pollute" training. The northwoods should be pristine but it seems some people don't care and selfishly throw trash anywhere they please.	3/8/2021 7:52 AM
76	None	3/8/2021 7:17 AM
77	The North Country National Scenic Trail continues to expand toward completion in the county. It should play a larger role in your future plans.	3/7/2021 12:32 PM
78	Thanks for the opportunity to provide input!	3/6/2021 7:00 PM
79	Generally very good but the noise from ATVs has gotten much worse recently and is a big problem for us.	3/6/2021 7:55 AM
80	Manage the county forest with recreation in mind as well as forestry. Buffer waterfalls and scenic areas. Keep the ATV's out of the waterfalls. Spring Camp Falls is a mess. Also, work in the vista's they are amazing. No ATVs up to the vistas.	3/5/2021 1:57 PM
81	If you can build trails with large parking areas and have them groomed, with routes varying in lengths you could attract the dogsledding community. Currently their races are in central WI and are often cancelled due to lack of snow, Iron County could be a destination for races and also training, attracting a whole new recreation group to our area.	3/5/2021 12:27 PM
82	More bike path	3/4/2021 8:36 PM
83	Love what we have so far	3/4/2021 2:21 PM
84	would like more for kids	3/4/2021 1:43 PM
85	i just keep looking for a place in wisconsin that has skating trails. My kids and I love to skate	3/4/2021 12:42 PM

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and its a nice change of pace to leave regular rinks to explore while having our skates on.

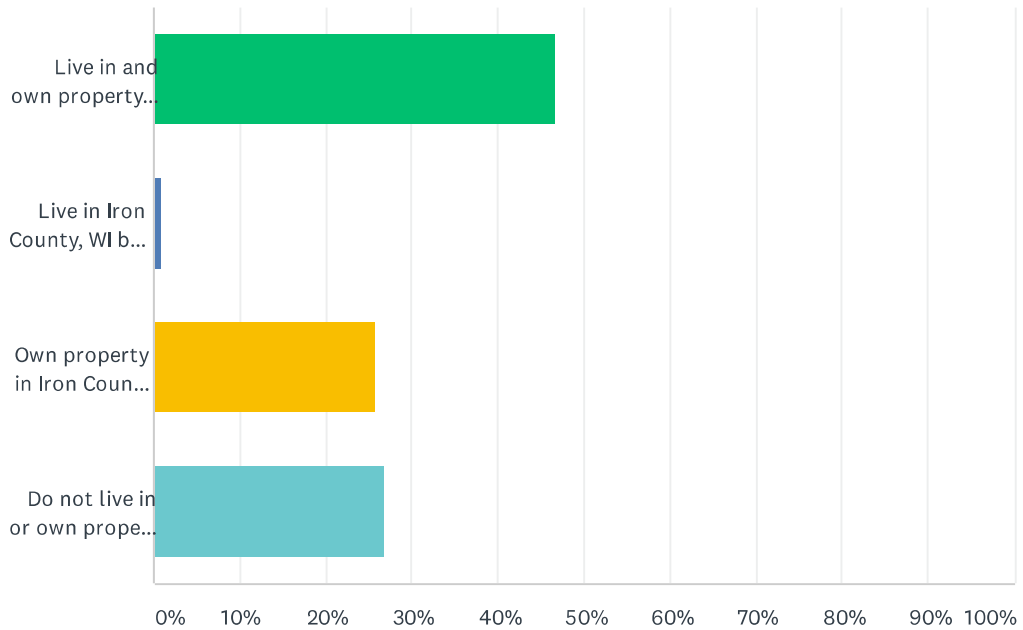
86	Make a better survey.	3/2/2021 10:08 PM
87	Obtain more grant funding	3/2/2021 8:51 PM
88	keep on doing as you are. getting better each year	3/2/2021 10:34 AM
89	N/A	3/2/2021 9:29 AM
90	na	3/2/2021 8:55 AM
91	none	3/1/2021 11:48 AM
92	Need trails to have destination points the support the local business	2/28/2021 5:49 PM
93	Would love to see festivals last more than one day. Better for commerce...in my humble opinion	2/28/2021 2:30 PM
94	My wife and I could have chosen anywhere to live and we chose this area...natural beauty, varied recreational opportunities and a sense of community support for outdoor recreation and self-reliance.	2/28/2021 1:02 PM
95	Thank you for this survey	2/28/2021 10:45 AM
96	The opportunity to purchase the Gile Flowage islands and non build able uplands from Xcel as they are liquidating these properties. This is a once in a lifetime opportunity that will manage it to preserve this unique waterbody in a natural state, and stay open to the public and visitors. We need to make this happen!	2/28/2021 10:40 AM
97	None	2/28/2021 9:53 AM
98	Thank you for what you do.	2/27/2021 2:26 PM
99	I enjoy getting away to iron county and appreciate its rustic outdoor opportunities. I know you are probably looking for ways to bring \$\$ into the area. I would say people should smile more there. It's not especially friendly. But I also understand not everyone loves outsiders. More beach access for just walking, but realize Mother Nature needs to cooperate. Would love to relocate here.	2/27/2021 11:23 AM
100	Develop water trails for canoeing/kayaking. More mountain biking trails. Backpacking trails. Backcountry campsites. Less snowmobile trails.	2/27/2021 11:07 AM
101	This county is getting too crowded	2/27/2021 10:24 AM
102	Can't think of any	2/26/2021 8:06 PM
103	.	2/26/2021 6:53 PM
104	Kudos to the Forestry/Rec folks. Tough job and you guys always seem to do well overall.	2/26/2021 1:16 PM
105	Overall, all trails are great	2/26/2021 11:47 AM
106	Look to see what works in other communities.	2/26/2021 11:25 AM
107	Please consider recommending no ATV/UTV's on snowmobile trails from December thru March.	2/26/2021 11:17 AM
108	More RV camping and more trails. Allow overnight self contained parking at trail heads like they do out West.	2/26/2021 6:59 AM
109	None	2/26/2021 5:11 AM
110	Police more trails/ hours	2/25/2021 8:53 PM
111	Please consider the location of trails - avoid noise pollution from motorized vehicles. There is also a safety issue when it comes to placement of non-motorized trails being too close to motorized trails.	2/25/2021 6:40 PM
112	Your doing a fine job	2/25/2021 6:39 PM
113	It would be a nice improvement to provide access from saxon harbor to the state line for atv use to access the trails in the powers road area in Michigan	2/25/2021 4:43 PM

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114	Have a warming shack like luggerville does down in price county for snowmobilers.	2/25/2021 4:09 PM
115	Embrace winter. Protect soil and water. Patrol crowded activities.	2/25/2021 3:35 PM
116	Have all roads open to ATV Utv besides major roads	2/25/2021 3:19 PM
117	na	2/25/2021 3:15 PM
118	Na	2/25/2021 2:29 PM
119	None	2/25/2021 2:17 PM
120	Increase local support of the volunteers and groups maintaining these trails	2/25/2021 1:23 PM
121	Spend more on SnoMo/ATV trail marking, maps, and maintenance- they bring so much revenue to the county. Signage and marking for most waterfalls needs investment.	2/25/2021 1:15 PM
122	N	2/25/2021 12:51 PM
123	I would like to see more county rec dollars spent in the Southern part of Iron County.	2/25/2021 12:23 PM
124	Weber lake park could benefit from better swimming area. Install longer dock to allow a jumping area into water	2/25/2021 11:46 AM
125	need better access	2/25/2021 11:42 AM

Q29 Do you live in or own property in Iron County, WI?

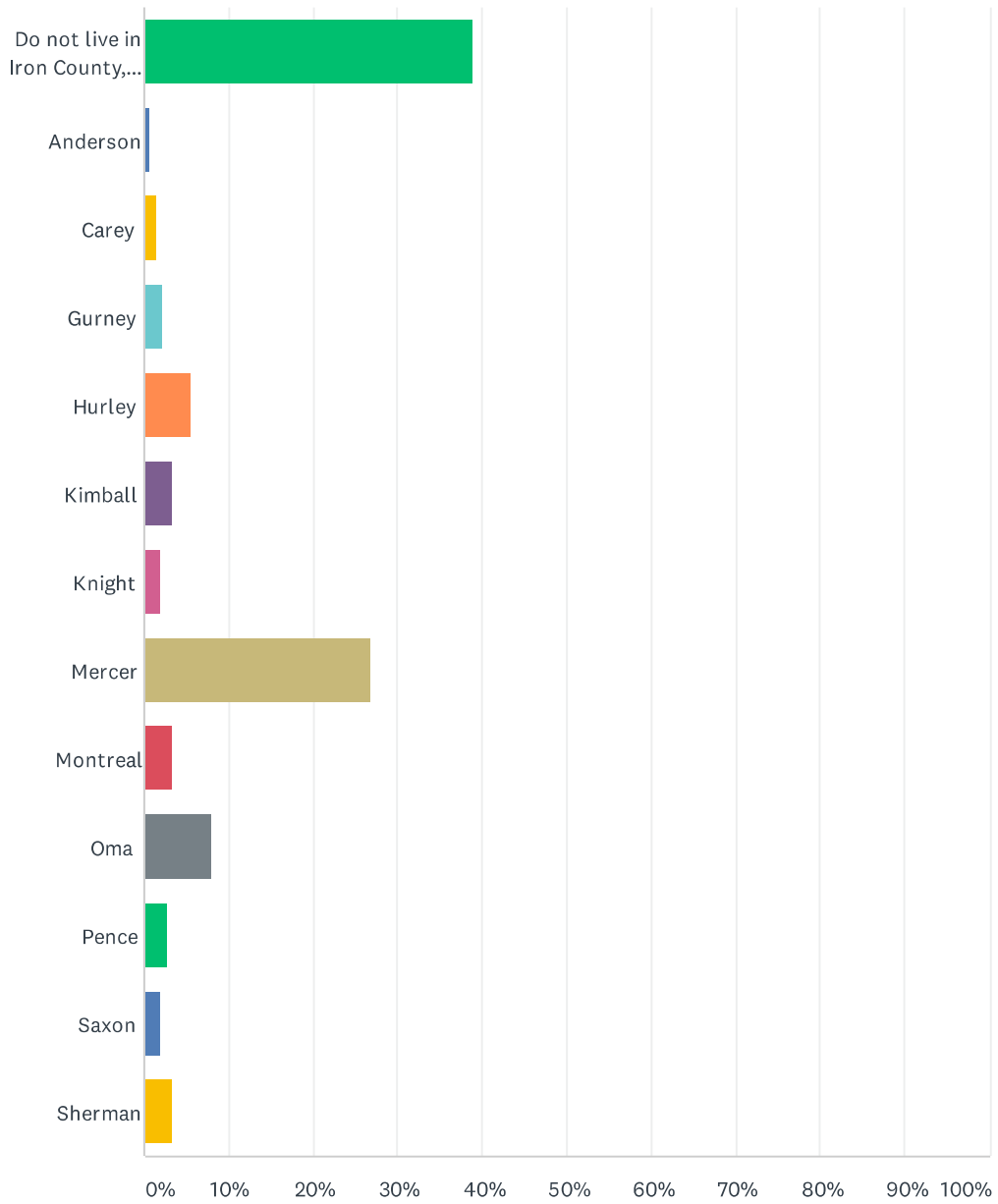
Answered: 326 Skipped: 0



ANSWER CHOICES	RESPONSES	
Live in and own property in Iron County, WI.	46.63%	152
Live in Iron County, WI but do not own property.	0.92%	3
Own property in Iron County, WI but do not live in.	25.77%	84
Do not live in or own property in Iron County, WI.	26.69%	87
Total Respondents: 326		

Q30 If you live in Iron County, WI, what municipality do you live in?

Answered: 326 Skipped: 0

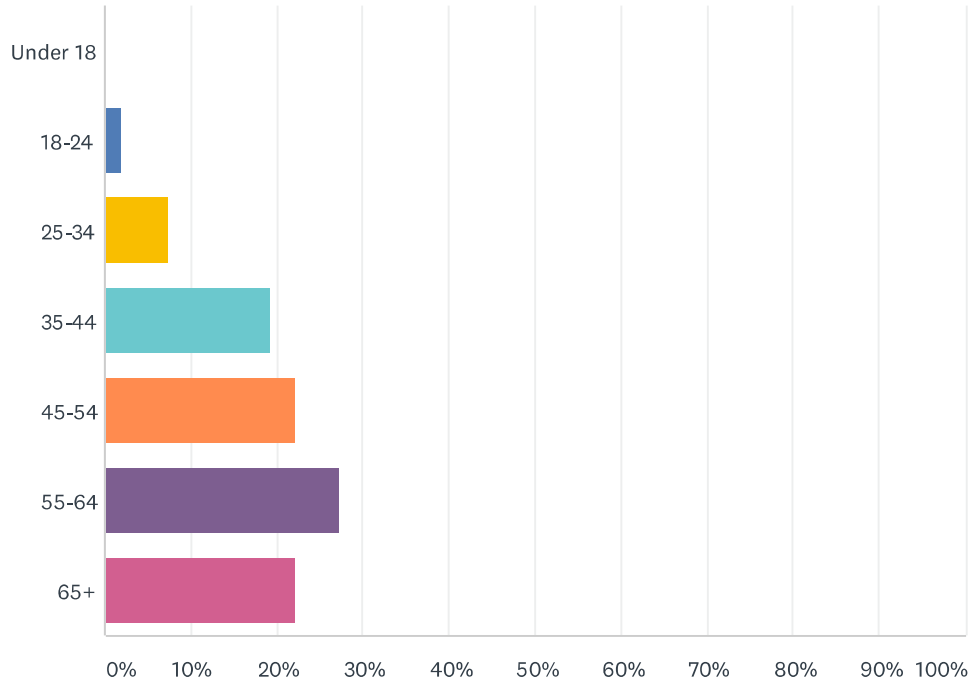


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ANSWER CHOICES	RESPONSES	
Do not live in Iron County, WI.	38.96%	127
Anderson	0.61%	2
Carey	1.53%	5
Gurney	2.15%	7
Hurley	5.52%	18
Kimball	3.37%	11
Knight	1.84%	6
Mercer	26.69%	87
Montreal	3.37%	11
Oma	7.98%	26
Pence	2.76%	9
Saxon	1.84%	6
Sherman	3.37%	11
Total Respondents: 326		

Q31 What is your age?

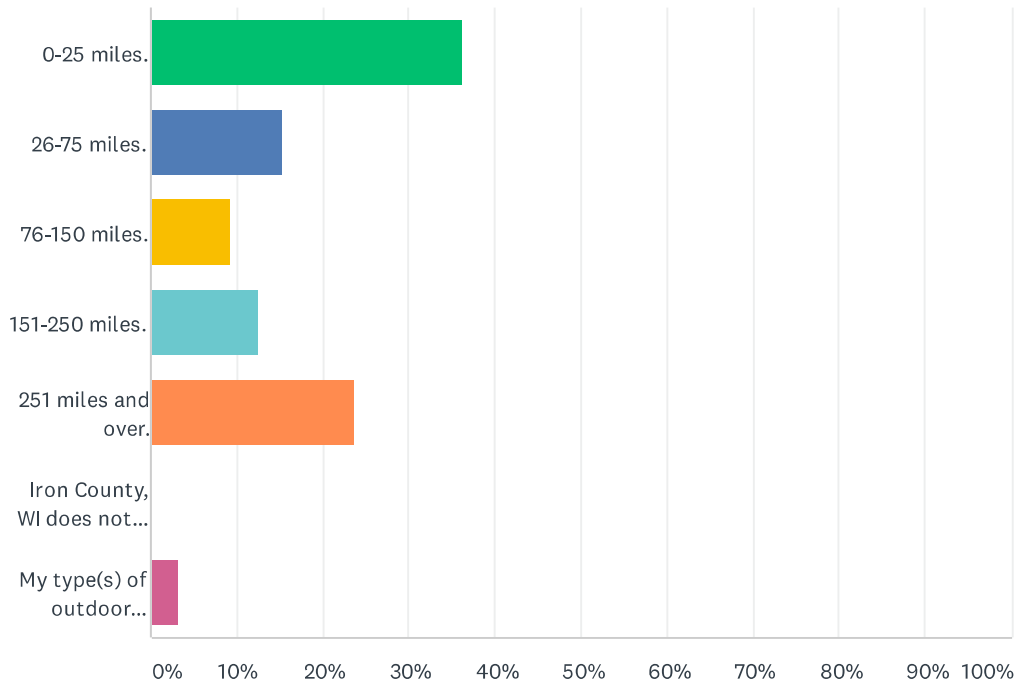
Answered: 326 Skipped: 0



ANSWER CHOICES	RESPONSES	
Under 18	0.00%	0
18-24	1.84%	6
25-34	7.36%	24
35-44	19.33%	63
45-54	22.09%	72
55-64	27.30%	89
65+	22.09%	72
Total Respondents: 326		

Q32 How far do you travel to enjoy Outdoor Recreation in Iron County, WI.

Answered: 326 Skipped: 0



ANSWER CHOICES	RESPONSES	
0-25 miles.	36.20%	118
26-75 miles.	15.34%	50
76-150 miles.	9.20%	30
151-250 miles.	12.58%	41
251 miles and over.	23.62%	77
Iron County, WI does not offer my type of outdoor recreation.	0.00%	0
My type(s) of outdoor recreation is:	3.07%	10
Total Respondents: 326		

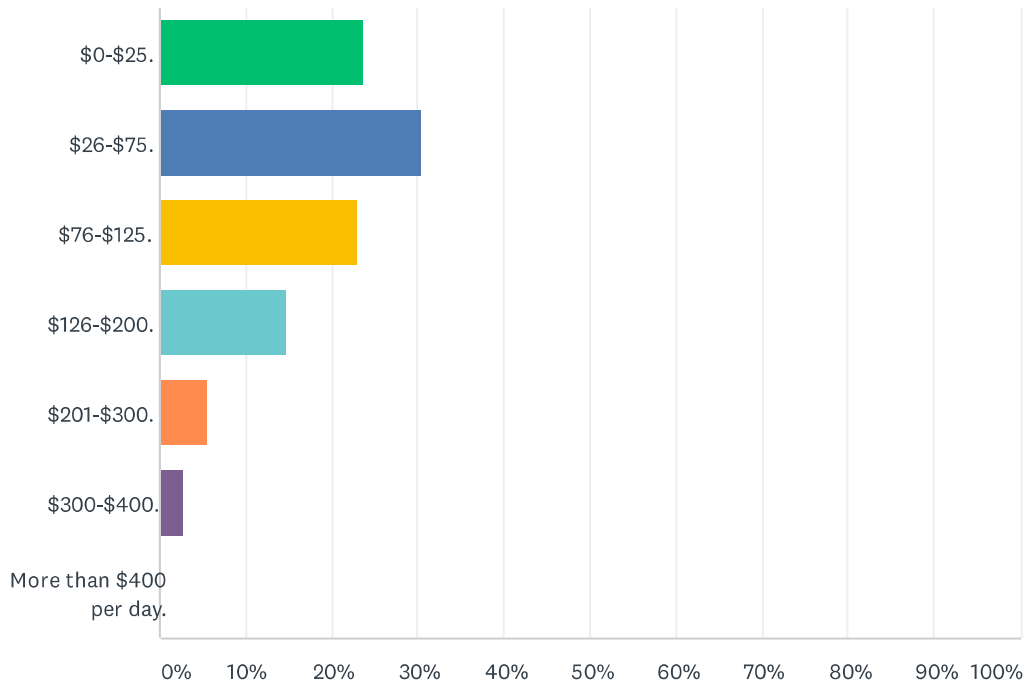
#	MY TYPE(S) OF OUTDOOR RECREATION IS:	DATE
1	Work in Iron County in private forestry. Anything outdoors besides trail riding snowmobiles or ATVs.	3/29/2021 4:45 PM
2	ATV/UTV, snowmobiles, boating	3/23/2021 2:22 PM
3	boating, UTV and snowmobiling	3/23/2021 2:04 PM
4	Rock crawling	3/21/2021 3:27 PM
5	Mountain biking	3/16/2021 2:56 PM
6	CROSS COUNTRY SKIING, HIKING, HORSEBACK RIDING	3/9/2021 9:28 PM
7	Hiking, Biking, Snowshoeing, Cross Country Skiing, Downhill Skiing	3/8/2021 11:08 AM

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8	hiking/snowshoeing/x-country skiing	3/8/2021 8:37 AM
9	Biking running kayaking	2/26/2021 8:06 PM
10	hiking, swimming, xc skiing, biking, fishing hunting	2/26/2021 2:40 PM

Q33 Approximately, how much do you spend per day while enjoying Outdoor Recreation in Iron County, WI?

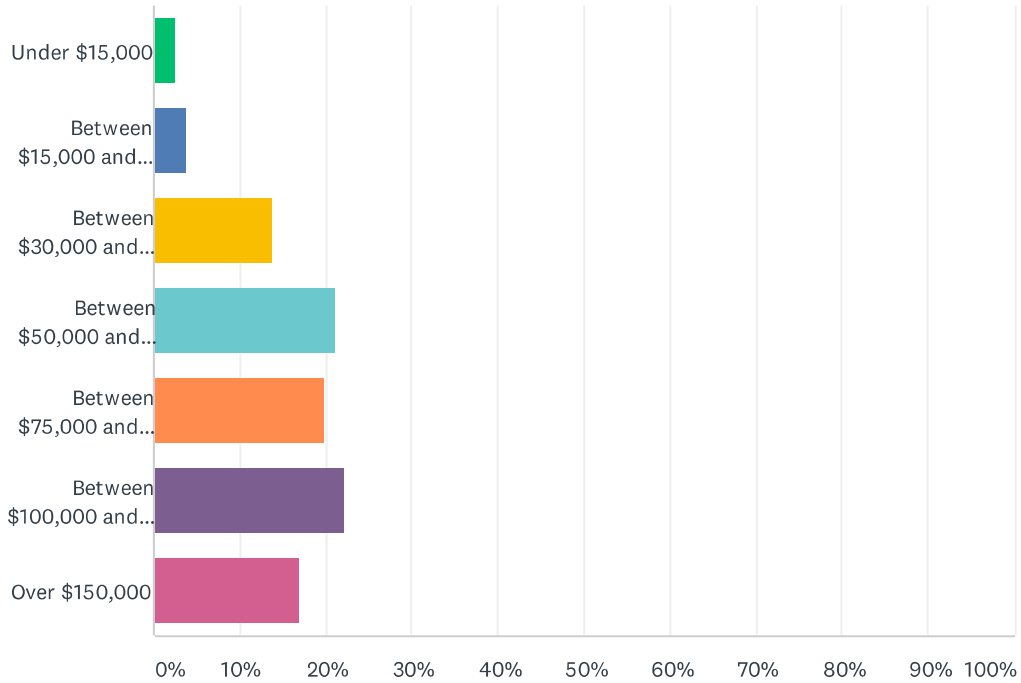
Answered: 326 Skipped: 0



ANSWER CHOICES	RESPONSES	
\$0-\$25.	23.62%	77
\$26-\$75.	30.37%	99
\$76-\$125.	23.01%	75
\$126-\$200.	14.72%	48
\$201-\$300.	5.52%	18
\$300-\$400.	2.76%	9
More than \$400 per day.	0.00%	0
Total Respondents: 326		

Q34 What is your annual household income?

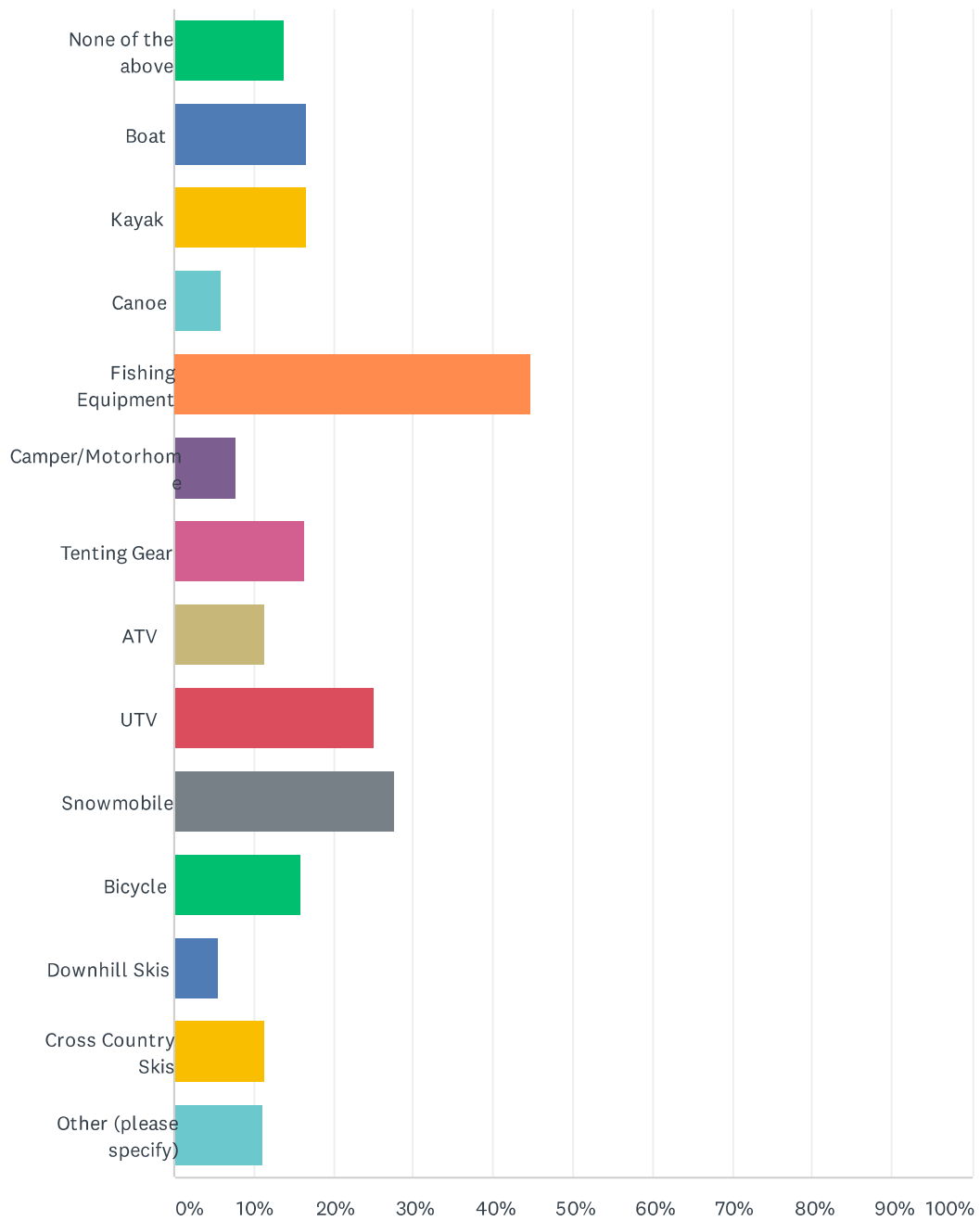
Answered: 326 Skipped: 0



ANSWER CHOICES	RESPONSES
Under \$15,000	2.45% 8
Between \$15,000 and \$29,999	3.68% 12
Between \$30,000 and \$49,999	13.80% 45
Between \$50,000 and \$74,999	21.17% 69
Between \$75,000 and \$99,999	19.94% 65
Between \$100,000 and \$150,000	22.09% 72
Over \$150,000	16.87% 55
Total Respondents: 326	

Q35 In the past 12 months, have you purchased any of the following? (check all that apply)

Answered: 326 Skipped: 0



Iron County, WI Outdoor Recreation Plan 2021-2025

ANSWER CHOICES	RESPONSES	
None of the above	13.80%	45
Boat	16.56%	54
Kayak	16.56%	54
Canoe	5.83%	19
Fishing Equipment	44.79%	146
Camper/Motorhome	7.67%	25
Tenting Gear	16.26%	53
ATV	11.35%	37
UTV	25.15%	82
Snowmobile	27.61%	90
Bicycle	15.95%	52
Downhill Skis	5.52%	18
Cross Country Skis	11.35%	37
Other (please specify)	11.04%	36
Total Respondents: 326		

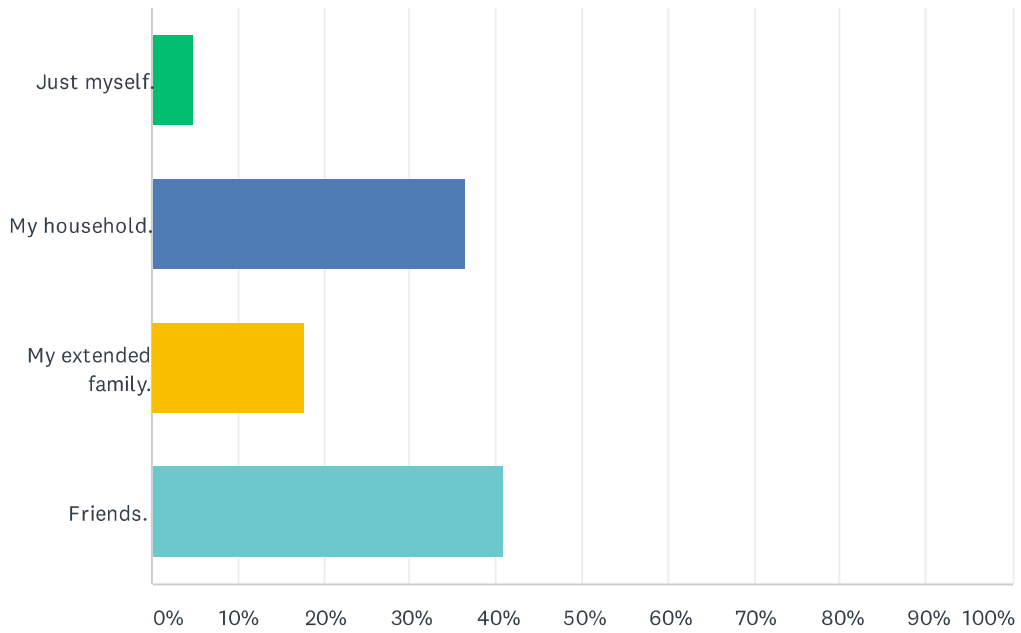
#	OTHER (PLEASE SPECIFY)	DATE
1	Hunting	4/8/2021 6:31 AM
2	Motorcycle	4/4/2021 5:02 PM
3	Snow shoes also would check all four on the following question but was not able to do so.	4/1/2021 9:10 AM
4	paddle board	3/31/2021 11:34 AM
5	clothing & accessories for my activities	3/30/2021 4:50 PM
6	Snowshoes	3/30/2021 4:31 PM
7	bicycle car rack	3/30/2021 11:20 AM
8	Snow shoes	3/29/2021 7:44 PM
9	as much ammo as I can whenever I can. And ski wax I guess.	3/29/2021 4:45 PM
10	Snowshoes	3/28/2021 11:59 AM
11	Tritoon	3/26/2021 9:48 AM
12	Snow shoes	3/25/2021 4:48 AM
13	Trail passes	3/24/2021 1:03 PM
14	Ebike	3/24/2021 6:25 AM
15	Snowshoes	3/23/2021 4:38 PM
16	PWC (thanks for being prejudiced against us like half of the population)	3/22/2021 2:19 PM
17	Snow shoes and hiking boots	3/18/2021 6:00 PM
18	snow shoes	3/18/2021 7:31 AM
19	Dual sport motorcycle	3/16/2021 1:10 PM

Iron County, WI Outdoor Recreation Plan 2021-2025

20	Ice fishing gear	3/16/2021 9:07 AM
21	accessory gear for camping and skiing	3/12/2021 11:34 AM
22	Why are you asking me this? My spending should not enter into my opinions on Iron County rec. Same thoughts for the past 2 questions!	3/8/2021 11:35 AM
23	motorcycles	3/8/2021 11:21 AM
24	Kite for kite skiing on the Gile	3/8/2021 8:23 AM
25	snowshoes	3/2/2021 8:08 PM
26	already own kayaks, skis, etc.	2/28/2021 5:06 PM
27	Pontoon boat	2/28/2021 10:40 AM
28	have them all	2/27/2021 2:00 PM
29	Snowshoes	2/27/2021 12:54 PM
30	Backpacking gear	2/27/2021 11:23 AM
31	Snowshoes	2/26/2021 8:08 PM
32	W	2/26/2021 11:17 AM
33	Jet ski	2/26/2021 7:59 AM
34	Ice fishing gear	2/25/2021 3:15 PM
35	Snow shoes	2/25/2021 12:23 PM
36	snowshoes	2/25/2021 11:36 AM

Q36 When Outdoor Recreating in Iron County, WI, who is with you? (check all that apply)

Answered: 326 Skipped: 0



ANSWER CHOICES	RESPONSES	
Just myself.	4.91%	16
My household.	36.50%	119
My extended family.	17.79%	58
Friends.	40.80%	133
TOTAL		326

Q37 If you would like more information about Iron County, WI Outdoor Recreation, please provide your name and email or mailing address.

Answered: 107 Skipped: 219

ANSWER CHOICES	RESPONSES	
Name	93.46%	100
Company	0.00%	0
Address	83.18%	89
Address 2	0.00%	0
City/Town	85.05%	91
State/Province	87.85%	94
ZIP/Postal Code	85.05%	91
Country	0.00%	0
Email Address	92.52%	99
Phone Number	0.00%	0

#	NAME	DATE
1	NA	4/13/2021 2:51 PM
2	Gregory Loeser	4/8/2021 6:31 AM
3	Gary HOLEHOUSE	4/6/2021 5:26 PM
4	Scott	4/6/2021 5:18 PM
5	Robert Jackson	4/4/2021 5:02 PM
6	Betsy Wulff	4/1/2021 9:10 AM
7	Jeff Turchi	3/31/2021 5:08 PM
8	Chris Weber	3/31/2021 10:26 AM
9	David zuleger	3/30/2021 6:16 PM
10	Gail Ondresky	3/30/2021 4:31 PM
11	John Salomone	3/30/2021 10:40 AM
12	dean horbach	3/30/2021 10:00 AM
13	Chris Shaw	3/30/2021 9:20 AM
14	Neil Zevitz	3/30/2021 8:05 AM
15	Dan Nelson	3/29/2021 8:44 PM
16	Rosalie Richter	3/29/2021 4:11 PM
17	Paul Liss	3/29/2021 4:03 PM
18	Robert J Alexander	3/29/2021 10:49 AM
19	David Schmidt	3/28/2021 7:44 PM

Iron County, WI Outdoor Recreation Plan 2021-2025

20	Randy Abramson	3/28/2021 6:20 PM
21	Brianna Blucher	3/27/2021 8:40 AM
22	kathleen simon	3/26/2021 9:48 AM
23	EARL HERMAN	3/25/2021 7:23 AM
24	Ken	3/24/2021 11:01 PM
25	Brad Schwarz	3/24/2021 6:57 PM
26	Chris Palmer	3/24/2021 5:40 PM
27	Dan Eger	3/24/2021 1:45 PM
28	Shane Kenneth	3/24/2021 12:50 PM
29	John Gauss	3/24/2021 11:57 AM
30	Keith Godfrey	3/24/2021 11:53 AM
31	Emily Canelakes	3/24/2021 11:53 AM
32	Kim Milner	3/24/2021 11:35 AM
33	Mark Munson	3/24/2021 10:49 AM
34	Kurt Gresser	3/24/2021 5:07 AM
35	David Utrie	3/23/2021 6:32 PM
36	Tim Forcier	3/23/2021 4:38 PM
37	No	3/23/2021 3:37 PM
38	d	3/23/2021 2:57 PM
39	Bryan Swartz	3/23/2021 2:16 PM
40	Kim Koch	3/23/2021 2:10 PM
41	Les Bergquist	3/23/2021 1:42 PM
42	Danny Gardner	3/23/2021 1:38 PM
43	Joshua Pfohl	3/23/2021 1:22 PM
44	jacki cisewski	3/23/2021 8:07 AM
45	Greg O'Connell	3/22/2021 2:19 PM
46	Jon Rill	3/22/2021 8:48 AM
47	James Storck	3/22/2021 7:45 AM
48	Scott OSullivan	3/22/2021 6:54 AM
49	Mark Zietlow	3/21/2021 7:39 PM
50	Rich Grady	3/21/2021 3:32 PM
51	Alexander Barnes	3/21/2021 3:27 PM
52	TONY LEWKOWSKI	3/21/2021 2:43 PM
53	Tim schwab	3/21/2021 1:43 PM
54	Robin Schoenbeck	3/21/2021 1:26 PM
55	Martha Pierpont	3/21/2021 12:58 PM
56	Eric Hallen	3/19/2021 11:33 AM
57	Brenda Nelson	3/18/2021 6:00 PM
58	Scott Yahle	3/18/2021 7:31 AM

Iron County, WI Outdoor Recreation Plan 2021-2025

59	Kelly Martinko	3/17/2021 8:21 PM
60	Chris McMurray	3/16/2021 10:55 AM
61	Steve Woloszyk	3/16/2021 10:54 AM
62	Rick Stanley	3/16/2021 8:12 AM
63	joanne wagge	3/13/2021 7:47 AM
64	Melissa S. Barnhart	3/9/2021 7:09 PM
65	Diane Daulton	3/8/2021 11:35 AM
66	Mae Moderson	3/8/2021 11:08 AM
67	Brianne Lehrkamp	3/8/2021 9:17 AM
68	Pat Kangas	3/8/2021 9:13 AM
69	Jonathon Rulseh	3/8/2021 8:23 AM
70	Jeff Wiley	3/8/2021 7:52 AM
71	Peter Nordgren	3/7/2021 12:32 PM
72	Steven Kopf	3/6/2021 7:04 AM
73	Dave Mathson	3/4/2021 2:21 PM
74	Nick MacDonald	3/4/2021 12:42 PM
75	Denise Schmitz-Enking	3/2/2021 8:08 PM
76	joseph pinardi	3/2/2021 10:34 AM
77	Peter Johnson	3/2/2021 8:55 AM
78	Britt Tucker	2/28/2021 2:58 PM
79	Cathy Techtmann	2/28/2021 10:40 AM
80	Darin Hauswirth	2/28/2021 9:57 AM
81	Shellie Graden	2/28/2021 9:53 AM
82	Randall K Payne	2/27/2021 3:22 PM
83	Steven Elmore	2/27/2021 11:07 AM
84	Philip Lutgen	2/27/2021 10:24 AM
85	Emily Stoddard	2/26/2021 8:08 PM
86	Q	2/26/2021 11:50 AM
87	James S Guild	2/26/2021 11:25 AM
88	Gaetano Salvo	2/26/2021 11:17 AM
89	Borg isaksen	2/26/2021 6:59 AM
90	Sue Schroeder	2/25/2021 8:32 PM
91	Dan Funk	2/25/2021 7:45 PM
92	Diane OKrongly	2/25/2021 6:40 PM
93	Joseph R Hora	2/25/2021 6:39 PM
94	Dave Schank	2/25/2021 5:23 PM
95	Robert kurth	2/25/2021 4:43 PM
96	CHRISTINE HUCKER	2/25/2021 3:15 PM
97	SEAN M FARNEY	2/25/2021 1:15 PM

Iron County, WI Outdoor Recreation Plan 2021-2025

98	Joel Talarcz	2/25/2021 12:55 PM
99	Kelly Klein	2/25/2021 11:46 AM
100	Robert	2/25/2021 11:40 AM
#	COMPANY	DATE
	There are no responses.	
#	ADDRESS	DATE
1	NA	4/13/2021 2:51 PM
2	N7982 County Road J	4/8/2021 6:31 AM
3	S38W22275 Arlo Dr.	4/6/2021 5:26 PM
4	Santini	4/6/2021 5:18 PM
5	509 2nd Ave N	4/4/2021 5:02 PM
6	926 25th st	3/31/2021 5:08 PM
7	1713 n 5th street	3/31/2021 10:26 AM
8	N 4574 Mall Lane	3/30/2021 6:16 PM
9	4792W Camp Nokomis Rd	3/30/2021 4:31 PM
10	4440 Lilly Rd	3/30/2021 10:40 AM
11	619 shady lane ne	3/30/2021 10:00 AM
12	6657 winding way	3/30/2021 9:20 AM
13	P.O. Box 582	3/30/2021 8:05 AM
14	408 6th Ave N	3/29/2021 8:44 PM
15	PO box 371	3/29/2021 4:11 PM
16	8510 E Bues Point Rd	3/29/2021 4:03 PM
17	11808N Alpine Dr	3/29/2021 10:49 AM
18	Po Box 97	3/28/2021 7:44 PM
19	N9047 S Davis Rd	3/28/2021 6:20 PM
20	5322 n Lakeview Rd Apt a8	3/27/2021 8:40 AM
21	1100 Dover Court	3/26/2021 9:48 AM
22	320 Reed St	3/25/2021 7:23 AM
23	509 Walworth St	3/24/2021 6:57 PM
24	2304 MI-KEVINCE TRAIL	3/24/2021 5:40 PM
25	W3810 County Rd J	3/24/2021 1:45 PM
26	89281 County Rd F	3/24/2021 12:50 PM
27	4709 Grand View Dr	3/24/2021 11:57 AM
28	1727N Boot Lake Rd	3/24/2021 11:53 AM
29	26700 W Woodland Ave	3/24/2021 11:53 AM
30	W367N5646 Mohawk Ridge	3/24/2021 11:35 AM
31	N117 w15550 Williams dr	3/24/2021 10:49 AM
32	6040 Kristof Rd	3/24/2021 5:07 AM
33	319 Farwell	3/23/2021 6:32 PM

Iron County, WI Outdoor Recreation Plan 2021-2025

34	2558 Tournament Players Court S	3/23/2021 4:38 PM
35	6113w Center Dr	3/23/2021 2:16 PM
36	4240 N Northbrook Ct	3/23/2021 2:10 PM
37	6506 Deerwood Drive	3/23/2021 1:42 PM
38	1401 fox ridge rd	3/23/2021 1:22 PM
39	5244 pioneer road	3/23/2021 8:07 AM
40	20770 W. Cleveland Ave	3/22/2021 2:19 PM
41	250 Buckingham dr	3/22/2021 8:48 AM
42	2046W Beaver Rd	3/22/2021 7:45 AM
43	329 S Stone Ridge Dr	3/22/2021 6:54 AM
44	W8122 creek rd	3/21/2021 3:32 PM
45	720 w fisher lake rd	3/21/2021 3:27 PM
46	P.O. BOX 233`	3/21/2021 2:43 PM
47	11545 n maki rd	3/21/2021 1:43 PM
48	5548N Arrowhead Dr	3/21/2021 1:26 PM
49	5216N Lake Tahoe Dr	3/21/2021 12:58 PM
50	605 218th st	3/19/2021 11:33 AM
51	761 W Lori Ann Lane	3/18/2021 6:00 PM
52	6719 Whiteside St	3/18/2021 7:31 AM
53	PO Box 204	3/17/2021 8:21 PM
54	PO225	3/16/2021 10:55 AM
55	1916 Kingston Lane	3/16/2021 8:12 AM
56	134 winding trl	3/13/2021 7:47 AM
57	408 W. Ridge Street	3/9/2021 7:09 PM
58	14353N STATE HWY 169	3/8/2021 11:35 AM
59	5905W Range View Dr.	3/8/2021 11:08 AM
60	13624N STATE HIGHWAY 169, Apt, suite, floor, etc.	3/8/2021 9:17 AM
61	127 Iron Lane	3/8/2021 9:13 AM
62	145 East Coolidge Ave	3/8/2021 8:23 AM
63	407 Woodruff Crossing	3/8/2021 7:52 AM
64	22140 Old Highway 13	3/7/2021 12:32 PM
65	224 E Coolidge Ave	3/6/2021 7:04 AM
66	1583 Chadwick Dr	3/4/2021 12:42 PM
67	11336N Center Drive	3/2/2021 8:08 PM
68	406 MAPLE ST 406 Maple St	3/2/2021 10:34 AM
69	108 Acacia Lane	3/2/2021 8:55 AM
70	13740 North County Road D	2/28/2021 2:58 PM
71	629 Whiteside St	2/28/2021 10:40 AM
72	10690 q98th St	2/28/2021 9:57 AM

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73	205 Potter Street	2/27/2021 11:07 AM
74	2119W Carls Park Rd	2/27/2021 10:24 AM
75	8327W HENDRICKSON RD	2/26/2021 8:08 PM
76	5768N County Road H	2/26/2021 11:25 AM
77	2138 Carlas Way	2/26/2021 11:17 AM
78	P.O. Box 129	2/26/2021 6:59 AM
79	1005 Margaret St	2/25/2021 8:32 PM
80	286 n fairview	2/25/2021 7:45 PM
81	4522N JOHN DUL RD	2/25/2021 6:40 PM
82	19247 Puritan Dr	2/25/2021 6:39 PM
83	692 t ave	2/25/2021 5:23 PM
84	4400 markgraff	2/25/2021 4:43 PM
85	30114 52nd Street	2/25/2021 3:15 PM
86	W328S8845 S Oak Tree Dr	2/25/2021 1:15 PM
87	6289 Green Valley Rd	2/25/2021 12:55 PM
88	8032 N Flandrena Rd	2/25/2021 11:46 AM
89	Stuhr	2/25/2021 11:40 AM

#	ADDRESS 2	DATE
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There are no responses.

#	CITY/TOWN	DATE
1	NA	4/13/2021 2:51 PM
2	Iola	4/8/2021 6:31 AM
3	Waukesha	4/6/2021 5:26 PM
4	Hurley	4/6/2021 5:18 PM
5	Hurley	4/4/2021 5:02 PM
6	Peru	3/31/2021 5:08 PM
7	Sheboygan	3/31/2021 10:26 AM
8	Medford	3/30/2021 6:16 PM
9	Mercer	3/30/2021 4:31 PM
10	Brookfield	3/30/2021 10:40 AM
11	outing	3/30/2021 10:00 AM
12	Deforest	3/30/2021 9:20 AM
13	Mercer	3/30/2021 8:05 AM
14	Hurley	3/29/2021 8:44 PM
15	Mercer	3/29/2021 4:11 PM
16	Baileys Harbor	3/29/2021 4:03 PM
17	Upton	3/29/2021 10:49 AM
18	SHAWANO	3/28/2021 7:44 PM
19	Ironwood	3/28/2021 6:20 PM

Iron County, WI Outdoor Recreation Plan 2021-2025

20	Mercer	3/27/2021 8:40 AM
21	waunakee	3/26/2021 9:48 AM
22	Pecatonica	3/25/2021 7:23 AM
23	Genoa City	3/24/2021 6:57 PM
24	BELVIDERE	3/24/2021 5:40 PM
25	Montello	3/24/2021 1:45 PM
26	Butternut	3/24/2021 12:50 PM
27	Eagle River	3/24/2021 11:57 AM
28	Springstead	3/24/2021 11:53 AM
29	Antioch	3/24/2021 11:53 AM
30	Oconomowoc	3/24/2021 11:35 AM
31	Germantown	3/24/2021 10:49 AM
32	Hatley	3/24/2021 5:07 AM
33	Beaver Dam	3/23/2021 6:32 PM
34	Blaine	3/23/2021 4:38 PM
35	Hurley	3/23/2021 2:16 PM
36	Peoria	3/23/2021 2:10 PM
37	Crystal Lake	3/23/2021 1:42 PM
38	Eldridge	3/23/2021 1:22 PM
39	stevens point	3/23/2021 8:07 AM
40	New Berlin	3/22/2021 2:19 PM
41	Grayslake	3/22/2021 8:48 AM
42	Mercer	3/22/2021 7:45 AM
43	Lake Geneva	3/22/2021 6:54 AM
44	Delavan	3/21/2021 3:32 PM
45	Mercer	3/21/2021 3:27 PM
46	MERCER	3/21/2021 2:43 PM
47	Hurley	3/21/2021 1:43 PM
48	MERCER	3/21/2021 1:26 PM
49	Mercer	3/21/2021 12:58 PM
50	Osceola	3/19/2021 11:33 AM
51	Mercer	3/18/2021 6:00 PM
52	Pence	3/18/2021 7:31 AM
53	Mercer	3/17/2021 8:21 PM
54	Manitowish Waters	3/16/2021 10:55 AM
55	Montello	3/16/2021 10:54 AM
56	Schaumburg	3/16/2021 8:12 AM
57	diamond	3/13/2021 7:47 AM
58	Yorkville	3/9/2021 7:09 PM

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59	SAXON	3/8/2021 11:35 AM
60	Hurley	3/8/2021 11:08 AM
61	SAXON	3/8/2021 9:17 AM
62	Montreal	3/8/2021 9:13 AM
63	IRONWOOD	3/8/2021 8:23 AM
64	Woodstock	3/8/2021 7:52 AM
65	Cornucopia	3/7/2021 12:32 PM
66	Ironwood	3/6/2021 7:04 AM
67	Arbor Vitae	3/4/2021 12:42 PM
68	Hurley	3/2/2021 8:08 PM
69	Hurley	3/2/2021 10:34 AM
70	Monona	3/2/2021 8:55 AM
71	Hurley	2/28/2021 2:58 PM
72	Pence	2/28/2021 10:40 AM
73	Sperry	2/28/2021 9:57 AM
74	Mercer	2/27/2021 2:00 PM
75	Madison	2/27/2021 11:07 AM
76	Mercer	2/27/2021 10:24 AM
77	SAXON	2/26/2021 8:08 PM
78	MERCER	2/26/2021 11:25 AM
79	Mount pleasant	2/26/2021 11:17 AM
80	Brule	2/26/2021 6:59 AM
81	Ironwood	2/25/2021 8:32 PM
82	North Prairie	2/25/2021 7:45 PM
83	MERCER	2/25/2021 6:40 PM
84	Mokena	2/25/2021 6:39 PM
85	Boone	2/25/2021 5:23 PM
86	Fall creek	2/25/2021 4:43 PM
87	Salem	2/25/2021 3:15 PM
88	MUKWONAGO	2/25/2021 1:15 PM
89	Neenah	2/25/2021 12:55 PM
90	Hurley	2/25/2021 11:46 AM
91	Ashland	2/25/2021 11:40 AM
#	STATE/PROVINCE	DATE
1	WI	4/13/2021 2:51 PM
2	WI	4/8/2021 6:31 AM
3	WI	4/6/2021 5:26 PM
4	WI	4/6/2021 5:18 PM
5	WI	4/4/2021 5:02 PM

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6	IL	3/31/2021 5:08 PM
7	WI	3/31/2021 10:26 AM
8	WI	3/31/2021 8:28 AM
9	WI	3/30/2021 6:16 PM
10	WI	3/30/2021 4:31 PM
11	WI	3/30/2021 10:40 AM
12	MN	3/30/2021 10:00 AM
13	WI	3/30/2021 9:20 AM
14	WI	3/30/2021 8:05 AM
15	WI	3/29/2021 8:44 PM
16	WI	3/29/2021 4:11 PM
17	WI	3/29/2021 4:03 PM
18	WI	3/29/2021 10:49 AM
19	WI	3/28/2021 7:44 PM
20	MI	3/28/2021 6:20 PM
21	WI	3/27/2021 8:40 AM
22	WI	3/26/2021 9:48 AM
23	IL	3/25/2021 7:23 AM
24	WI	3/24/2021 6:57 PM
25	IL	3/24/2021 5:40 PM
26	WI	3/24/2021 1:45 PM
27	WI	3/24/2021 12:50 PM
28	WI	3/24/2021 11:57 AM
29	WI	3/24/2021 11:53 AM
30	IL	3/24/2021 11:53 AM
31	WI	3/24/2021 11:35 AM
32	WI	3/24/2021 10:49 AM
33	WI	3/24/2021 5:07 AM
34	WI	3/23/2021 6:32 PM
35	MN	3/23/2021 4:38 PM
36	WI	3/23/2021 2:16 PM
37	IL	3/23/2021 2:10 PM
38	IL	3/23/2021 1:42 PM
39	IA	3/23/2021 1:22 PM
40	WI	3/23/2021 8:07 AM
41	WI	3/22/2021 2:19 PM
42	IL	3/22/2021 8:48 AM
43	WI	3/22/2021 7:45 AM

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44	WI	3/22/2021 6:54 AM
45	WI	3/21/2021 3:32 PM
46	WI	3/21/2021 3:27 PM
47	WI	3/21/2021 2:43 PM
48	WI	3/21/2021 1:43 PM
49	WI	3/21/2021 1:26 PM
50	WI	3/21/2021 12:58 PM
51	WI	3/19/2021 11:33 AM
52	WI	3/18/2021 6:00 PM
53	WI	3/18/2021 7:31 AM
54	WI	3/17/2021 8:21 PM
55	WI	3/16/2021 10:55 AM
56	WI	3/16/2021 10:54 AM
57	IL	3/16/2021 8:12 AM
58	IL	3/13/2021 7:47 AM
59	IL	3/9/2021 7:09 PM
60	WI	3/8/2021 11:35 AM
61	WI	3/8/2021 11:08 AM
62	WI	3/8/2021 9:17 AM
63	WI	3/8/2021 9:13 AM
64	MI	3/8/2021 8:23 AM
65	GA	3/8/2021 7:52 AM
66	WI	3/7/2021 12:32 PM
67	MI	3/6/2021 7:04 AM
68	WI	3/4/2021 12:42 PM
69	WI	3/2/2021 8:08 PM
70	WI	3/2/2021 10:34 AM
71	WI	3/2/2021 8:55 AM
72	WI	2/28/2021 2:58 PM
73	WI	2/28/2021 10:40 AM
74	IA	2/28/2021 9:57 AM
75	WI	2/27/2021 3:22 PM
76	WI	2/27/2021 2:00 PM
77	WI	2/27/2021 11:07 AM
78	WI	2/27/2021 10:24 AM
79	WI	2/26/2021 8:08 PM
80	WI	2/26/2021 2:40 PM
81	WI	2/26/2021 11:25 AM
82	WI	2/26/2021 11:17 AM

Iron County, WI Outdoor Recreation Plan 2021-2025

83	WI	2/26/2021 6:59 AM
84	MI	2/25/2021 8:32 PM
85	WI	2/25/2021 7:45 PM
86	WI	2/25/2021 6:40 PM
87	IL	2/25/2021 6:39 PM
88	IA	2/25/2021 5:23 PM
89	WI	2/25/2021 4:43 PM
90	WI	2/25/2021 3:15 PM
91	WI	2/25/2021 1:15 PM
92	WI	2/25/2021 12:55 PM
93	WI	2/25/2021 11:46 AM
94	WI	2/25/2021 11:40 AM
#	ZIP/POSTAL CODE	DATE
1	NA	4/13/2021 2:51 PM
2	54945	4/8/2021 6:31 AM
3	53189	4/6/2021 5:26 PM
4	54533	4/6/2021 5:18 PM
5	54534	4/4/2021 5:02 PM
6	61354	3/31/2021 5:08 PM
7	53081	3/31/2021 10:26 AM
8	54451	3/30/2021 6:16 PM
9	54547	3/30/2021 4:31 PM
10	53005	3/30/2021 10:40 AM
11	56662	3/30/2021 10:00 AM
12	53532	3/30/2021 9:20 AM
13	54547	3/30/2021 8:05 AM
14	54534	3/29/2021 8:44 PM
15	54547	3/29/2021 4:11 PM
16	54202	3/29/2021 4:03 PM
17	54565-9226	3/29/2021 10:49 AM
18	54166	3/28/2021 7:44 PM
19	49938	3/28/2021 6:20 PM
20	54547	3/27/2021 8:40 AM
21	53597	3/26/2021 9:48 AM
22	61063	3/25/2021 7:23 AM
23	53128	3/24/2021 6:57 PM
24	61008	3/24/2021 5:40 PM
25	53949	3/24/2021 1:45 PM
26	54514	3/24/2021 12:50 PM

Iron County, WI Outdoor Recreation Plan 2021-2025

27	54521	3/24/2021 11:57 AM
28	54552	3/24/2021 11:53 AM
29	60002	3/24/2021 11:53 AM
30	53066	3/24/2021 11:35 AM
31	53022	3/24/2021 10:49 AM
32	54440	3/24/2021 5:07 AM
33	53916	3/23/2021 6:32 PM
34	55449	3/23/2021 4:38 PM
35	54534	3/23/2021 2:16 PM
36	61614	3/23/2021 2:10 PM
37	60012 1724	3/23/2021 1:42 PM
38	52748	3/23/2021 1:22 PM
39	54482	3/23/2021 8:07 AM
40	53146	3/22/2021 2:19 PM
41	60030	3/22/2021 8:48 AM
42	54547	3/22/2021 7:45 AM
43	53147	3/22/2021 6:54 AM
44	53114	3/21/2021 3:32 PM
45	54547	3/21/2021 3:27 PM
46	54547	3/21/2021 2:43 PM
47	54534	3/21/2021 1:43 PM
48	54547	3/21/2021 1:26 PM
49	54547	3/21/2021 12:58 PM
50	54020	3/19/2021 11:33 AM
51	54547	3/18/2021 6:00 PM
52	54550	3/18/2021 7:31 AM
53	54547	3/17/2021 8:21 PM
54	54545	3/16/2021 10:55 AM
55	53949	3/16/2021 10:54 AM
56	60193	3/16/2021 8:12 AM
57	60416	3/13/2021 7:47 AM
58	60560	3/9/2021 7:09 PM
59	54559	3/8/2021 11:35 AM
60	54534	3/8/2021 11:08 AM
61	54559	3/8/2021 9:17 AM
62	54550	3/8/2021 9:13 AM
63	49938	3/8/2021 8:23 AM
64	30189	3/8/2021 7:52 AM
65	54827	3/7/2021 12:32 PM

Iron County, WI Outdoor Recreation Plan 2021-2025

66	49938	3/6/2021 7:04 AM
67	54531	3/4/2021 12:42 PM
68	54534	3/2/2021 8:08 PM
69	54534	3/2/2021 10:34 AM
70	53716	3/2/2021 8:55 AM
71	54534	2/28/2021 2:58 PM
72	54550	2/28/2021 10:40 AM
73	52650	2/28/2021 9:57 AM
74	54547	2/27/2021 2:00 PM
75	53715	2/27/2021 11:07 AM
76	54547	2/27/2021 10:24 AM
77	54559	2/26/2021 8:08 PM
78	54547	2/26/2021 11:25 AM
79	53406	2/26/2021 11:17 AM
80	54820	2/26/2021 6:59 AM
81	49938	2/25/2021 8:32 PM
82	53153	2/25/2021 7:45 PM
83	54547	2/25/2021 6:40 PM
84	60448	2/25/2021 6:39 PM
85	50036	2/25/2021 5:23 PM
86	54742	2/25/2021 4:43 PM
87	53168	2/25/2021 3:15 PM
88	53149	2/25/2021 1:15 PM
89	54956	2/25/2021 12:55 PM
90	54534	2/25/2021 11:46 AM
91	54806	2/25/2021 11:40 AM

#	COUNTRY	DATE
	There are no responses.	

#	EMAIL ADDRESS	DATE
1	nA	4/13/2021 2:51 PM
2	gregl_54945@yahoo.com	4/8/2021 6:31 AM
3	hh@wi.rr.com	4/6/2021 5:26 PM
4	titoshel@gmail.com	4/6/2021 5:18 PM
5	donivano@yahoo.com	4/4/2021 5:02 PM
6	betsywulff@yahoo.com	4/1/2021 9:10 AM
7	turchi80@sbcglobal.net	3/31/2021 5:08 PM
8	Mtwmilkman@gmail.com	3/31/2021 10:26 AM
9	zulegers@live.com	3/30/2021 6:16 PM
10	ondreskyge@gmail.com	3/30/2021 4:31 PM

Iron County, WI Outdoor Recreation Plan 2021-2025

11	john.salomone@outlook.com	3/30/2021 10:40 AM
12	jnj@brainerd.net	3/30/2021 10:00 AM
13	wisupra@gmail.com	3/30/2021 9:20 AM
14	nhzviazra@aol.com	3/30/2021 8:05 AM
15	daniel.nelson09@gmail.com	3/29/2021 8:44 PM
16	Rosalie.Richter@wisconsin.gov	3/29/2021 4:11 PM
17	lisspl1024@gmail.com	3/29/2021 4:03 PM
18	rockersbmw@gmail.com	3/29/2021 10:49 AM
19	davidschmidt2014@gmail.com	3/28/2021 7:44 PM
20	abesmail@gogebicrange.net	3/28/2021 6:20 PM
21	briannablucher@gmail.com	3/27/2021 8:40 AM
22	kjsimon1100@gmail.com	3/26/2021 9:48 AM
23	skinersautobody@yahoo.com	3/25/2021 7:23 AM
24	kenmg31@hotmail.com	3/24/2021 11:01 PM
25	bsbiker12@yahoo.com	3/24/2021 6:57 PM
26	chrispalmer513@gmail.com	3/24/2021 5:40 PM
27	eger59@gmail.com	3/24/2021 1:45 PM
28	shanemollysmidway@gmail.com	3/24/2021 12:50 PM
29	mke59jrg@gmail.com	3/24/2021 11:57 AM
30	kg3425@yahoo.com	3/24/2021 11:53 AM
31	ermcdonald4@gmail.com	3/24/2021 11:53 AM
32	sandybeach3226@yahoo.com	3/24/2021 11:35 AM
33	cbrrider247.aol.com	3/24/2021 10:49 AM
34	kgresser71@icloud.com	3/24/2021 5:07 AM
35	bsdrowe1966@gmail.com	3/23/2021 7:49 PM
36	dutrie@charter.net	3/23/2021 6:32 PM
37	timothy426@comcast.net	3/23/2021 4:38 PM
38	mkraft@millspec.com	3/23/2021 2:31 PM
39	bryanswartz@live.com	3/23/2021 2:16 PM
40	kim.koch@outlook.com	3/23/2021 2:10 PM
41	bergquitzimmerman@comcast.net	3/23/2021 1:42 PM
42	gardnerdd@gmail.com	3/23/2021 1:38 PM
43	Harleyboy6@hotmail.com	3/23/2021 1:22 PM
44	ccjc1974@gmail.com	3/23/2021 8:07 AM
45	goconnell@kingwireinc.com	3/22/2021 2:19 PM
46	jfish606@aol.com	3/22/2021 8:48 AM
47	jamkat24@gmail.com	3/22/2021 7:45 AM
48	sosullivan67@hotmail.com	3/22/2021 6:54 AM
49	weaponjr@icloud.com	3/21/2021 3:32 PM

Iron County, WI Outdoor Recreation Plan 2021-2025

50	redneck22ms@yahoo.com	3/21/2021 3:27 PM
51	AJLEWK5554@GMAIL.COM	3/21/2021 2:43 PM
52	tjshollie2@yahoo.com	3/21/2021 1:43 PM
53	lazyacesaloon@gmail.com	3/21/2021 1:26 PM
54	pierponm@hotmail.com	3/21/2021 12:58 PM
55	eric.hallen@oneok.com	3/19/2021 11:33 AM
56	brendaloon761@gmail.com	3/18/2021 6:00 PM
57	sryscooter@gmail.com	3/18/2021 7:31 AM
58	chris.mcmurray@riversedgemw.com	3/16/2021 10:55 AM
59	stwatv12@aol.com	3/16/2021 10:54 AM
60	imagerek1313@gmail.com	3/16/2021 8:12 AM
61	buyer4@gmail.com	3/13/2021 7:47 AM
62	barnhartski@gmail.com	3/9/2021 7:09 PM
63	ddaulton@centurytel.net	3/8/2021 11:35 AM
64	maemoderson@gmail.com	3/8/2021 11:08 AM
65	rowe_ba@yahoo.com	3/8/2021 9:17 AM
66	kangaspat@hotmail.comfourso	3/8/2021 9:13 AM
67	jrulseh@yahoo.com	3/8/2021 8:23 AM
68	trrulseh@me.com	3/8/2021 8:12 AM
69	atlbadger@yahoo.com	3/8/2021 7:52 AM
70	pnordgre@yahoo.com	3/7/2021 12:32 PM
71	kopfs1122@gmail.com	3/6/2021 7:04 AM
72	Browewake32@gmail.com	3/4/2021 6:57 PM
73	dave.mathson@gmail.com	3/4/2021 2:21 PM
74	nmacd1984@gmail.com	3/4/2021 12:42 PM
75	dsenking@gmail.com	3/2/2021 8:08 PM
76	josephpinardi@yahoo.com	3/2/2021 10:34 AM
77	pete.johnson10801@gmail.com	3/2/2021 8:55 AM
78	tuckerbritt91@gmail.com	2/28/2021 2:58 PM
79	cathyt220@hotmail.com	2/28/2021 10:40 AM
80	djhaus96@gmail.com	2/28/2021 9:57 AM
81	missh224@yahoo.com	2/28/2021 9:53 AM
82	rpayne3868@charter.net	2/27/2021 3:22 PM
83	sselmore@sbcglobal.net	2/27/2021 11:07 AM
84	northlover@centurytel.net	2/27/2021 10:24 AM
85	eclairwilliams@gmail.com	2/26/2021 8:08 PM
86	jguild45@yahoo.com	2/26/2021 11:25 AM
87	gsalvo787@gmail.com	2/26/2021 11:17 AM

Iron County, WI Outdoor Recreation Plan 2021-2025

88	borg@northbaytrading.com	2/26/2021 6:59 AM
89	sas@umn.edu	2/25/2021 8:32 PM
90	dfunk4727@yahoo.com	2/25/2021 7:45 PM
91	jeffokrongly@gmail.com	2/25/2021 6:40 PM
92	joshora@sbcglobal.net	2/25/2021 6:39 PM
93	dschank@msn.com	2/25/2021 5:23 PM
94	ro_kurt@live.com	2/25/2021 4:43 PM
95	chucker@krauseelectric.com	2/25/2021 3:15 PM
96	seanfarney@outlook.com	2/25/2021 1:15 PM
97	jtalarczyk@hotmail.com	2/25/2021 12:55 PM
98	kelly@ironcountywi.com	2/25/2021 11:46 AM
99	stuey_1990@yahoo.com	2/25/2021 11:40 AM
#	PHONE NUMBER	DATE
	There are no responses.	