

Appendix 1
**Results of Nuisance Plant Control Plan
Monitoring**

2020 MONITORING REPORT

Monitoring the Bergland Dam Project (Lake Gogebic) for Purple Loosestrife and Eurasian Watermilfoil Part of the Bond Falls Hydroelectric Project (FERC No. 01864)

Prepared for:

Upper Peninsula Power Company
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September 2020

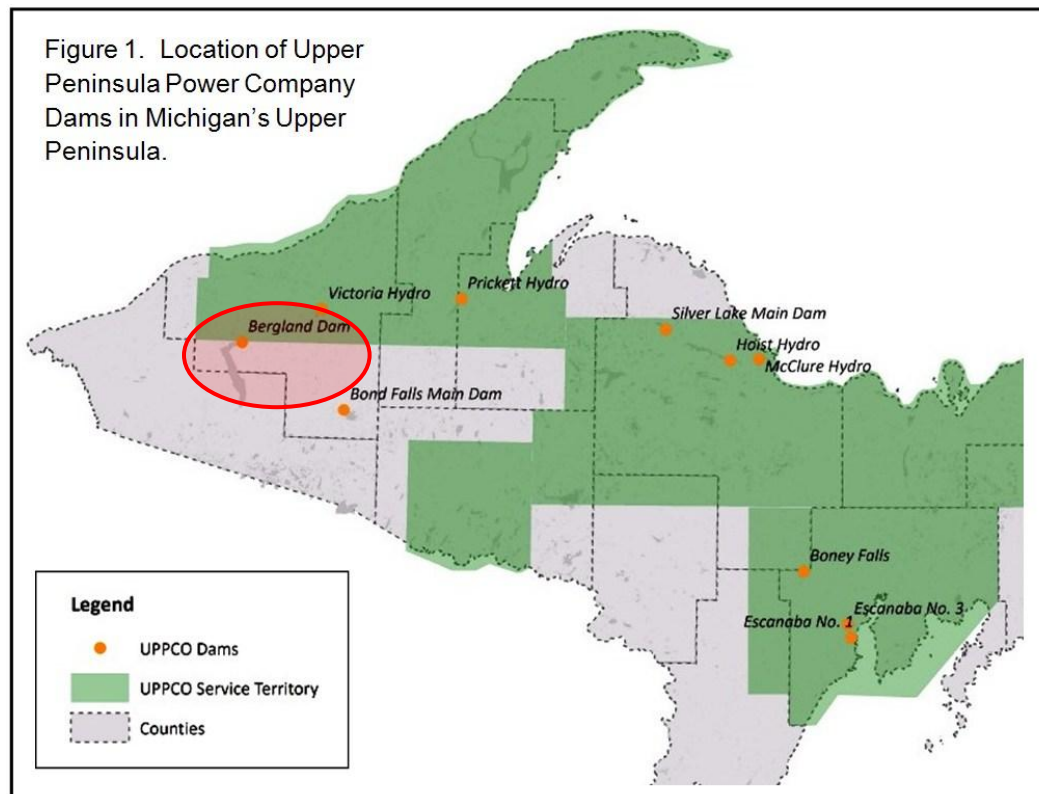


Introduction

In 2020, the Upper Peninsula Power Company (UPPCO) contracted with White Water Associates, Inc. to conduct monitoring for the aquatic invasive species (AIS) Purple Loosestrife (*Lythrum salicaria*) and Eurasian Watermilfoil (*Myriophyllum spicatum*) for the Bond Falls Hydroelectric Project (FERC No. 01864). This project is comprised of three dams (Bergland, Bond Falls, and Victoria). This document reports our findings from the monitoring conducted on the Bergland Dam Project (also known as Lake Gogebic).

Project Area Location

The Bergland Dam Project area is contained in Ontonagon and Gogebic Counties (Michigan) and is comprised of Lake Gogebic. It is a part of the Bond Falls Hydroelectric Project (FERC No. 01864). Figure 1 is a map of UPPCO Dams and highlights Bergland Dam.



Monitoring Methods

The monitoring work followed the methodology described in the Bond Falls Hydroelectric Project (FERC No. 01864) Nuisance Plant Control Plan (Article 411) prepared by the UPPCO in 2005. According to the Nuisance Plant Control Plan, the entire perimeter of the water body and associated wetlands were examined for Purple Loosestrife and five pre-established transects were sampled for Eurasian Watermilfoil. Additionally, an informed meander search by boat was used to look for Eurasian Watermilfoil in the impoundment.

Scientists from White Water Associates conducted fieldwork from a Jon boat outfitted with a 60 HP engine. Pedestrian surveys were conducted when the boat did not provide adequate access for observation. Monitoring was conducted at the time of year when both Purple Loosestrife and Eurasian Watermilfoil are readily identified by an experienced field biologist. Binoculars were used to assist in search (specifically for purple loosestrife). A fifteen foot plant sampling rake was used to collect aquatic plants for inspection during the Eurasian Watermilfoil sampling. Field work for the Bergland Dam Project took place on August 18, 2020.

Survey Results

The survey results for Purple Loosestrife and Eurasian Watermilfoil are reported below under respective headings.

Purple Loosestrife

A total of thirteen sites were found to contain Purple Loosestrife on Lake Gogebic in 2020. The locations of these sites are shown on Figure 2. Except for one site (10), the sites are located in the south portion of Lake Gogebic. Table 1 provides information regarding geographic location (latitude and longitude coordinates), colony size (*small* at 1-5 plants, *medium* at 6-50 plants, and *dense* for any site with greater than 50 plants), and whether any management action was taken at the time of the monitoring activity.

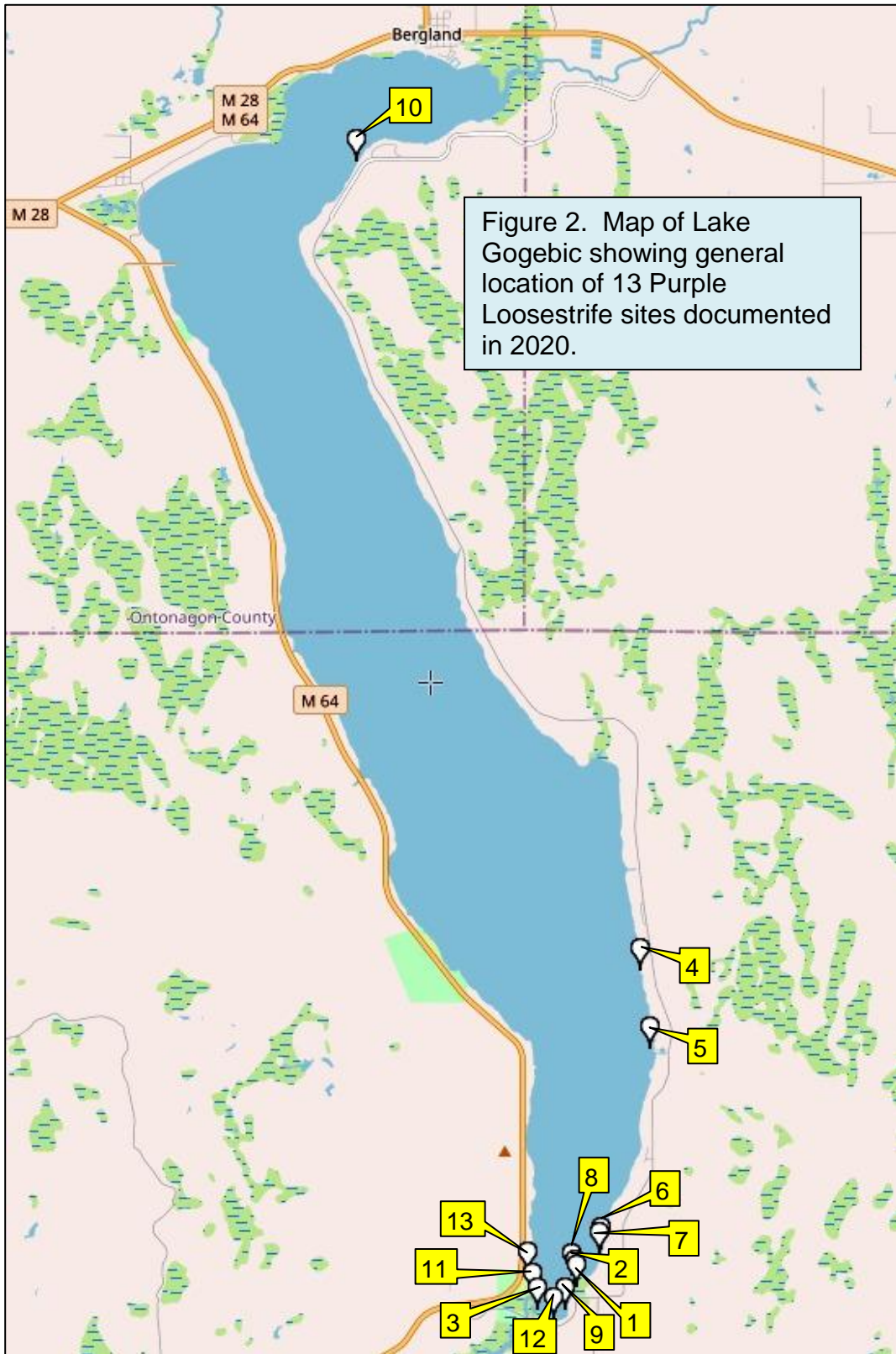


Table 1. Purple Loosestrife Colonies Observed on Lake Gogebic in 2020				
Site #	Latitude	Longitude	Colony Size	Management / Notes
1	46.410869	-89.541748	Medium	Present 2019 – no action
2	46.411585	-89.542072	Medium	Present 2019 - no action
3	46.407450	-89.550010	Medium	Present 2019 - no action
4	46.456680	-89.528300	Small	No action
5	46.445390	-89.526150	Small	No action
6	46.416370	-89.536500	Small	No action
7	46.415680	-89.537010	Medium	No action
8	46.412560	-89.542860	Small	No action
9	46.407450	-89.544180	Small	No action
10	46.573881	-89.588090	Small	Present 2019- no action
11	46.409769	-89.550860	Small	Pulled 2 plants
12	46.40613	-89.54654	Small	No action
13	46.412690	-89.551920	Small	Same as 2019 – no action

Eurasian Watermilfoil

Figure 3 shows an aerial photo of Lake Gogebic with the origin points for the five transects used for monitoring for Eurasian Watermilfoil.

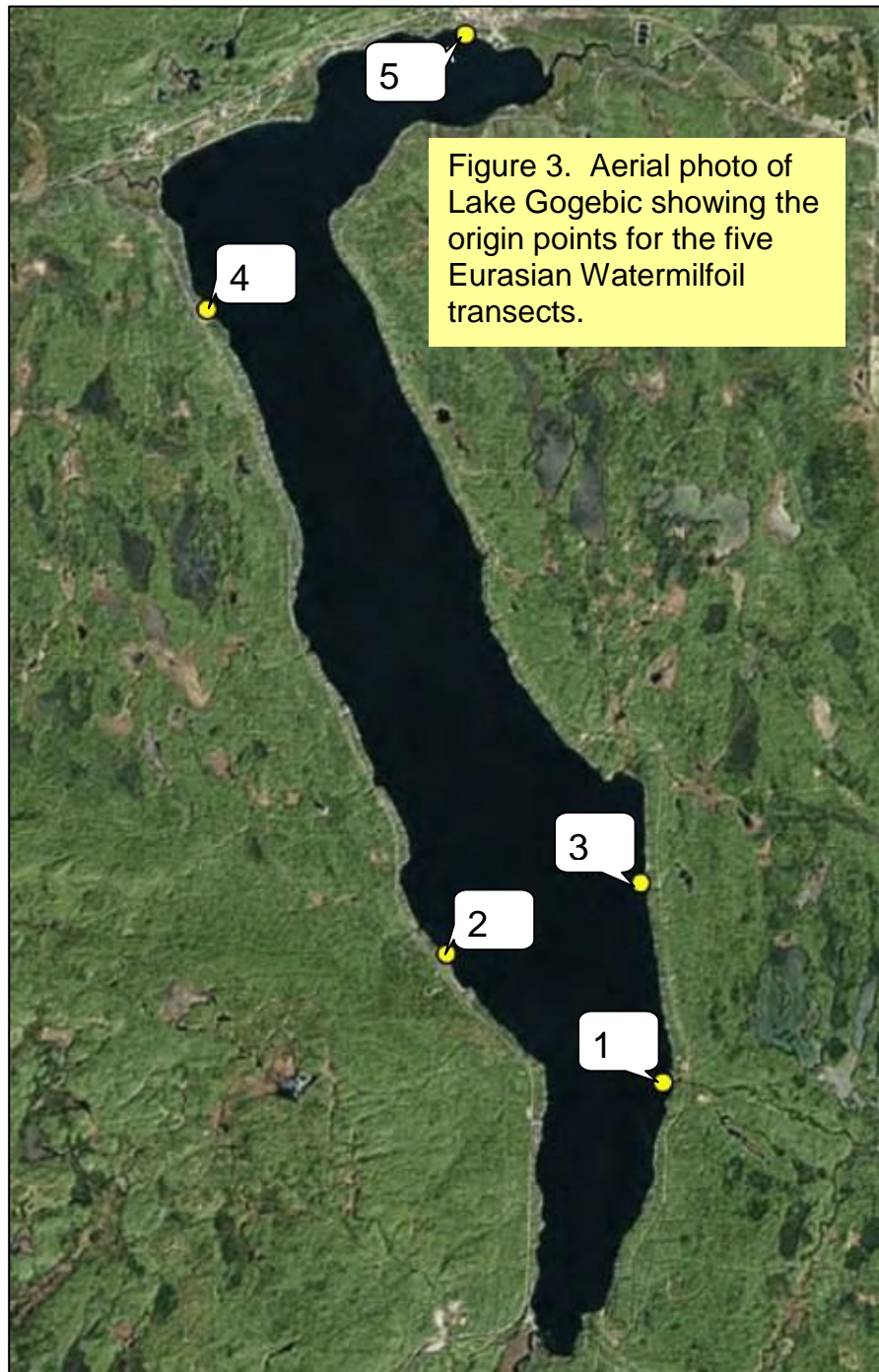


Table 2 provides sampling results from each of the transects sampled at Lake Gogebic. Each transect had three circular plots from which samples were collected in four depth quadrants. If a depth was not represented in the circular plot, “NA” (not applicable) was entered. No Eurasian Watermilfoil was found on transects or at boat landings in 2020.

Table 2. Results from Lake Gogebic Eurasian Watermilfoil transects in 2020						
Transect #	0-0.5 m	0.5-1.5 m	1.5-3.0 m	>3.0 m	Origin	Notes
1A	0	0	0	NA	N 46 26.642 W 89 31.587 (46.44403, -89.52645)	BRG1
1B	0	0	0	NA		
1C	0	0	0	NA		
2A	0	0	NA	NA	N 46 27.653 W 89 34.259 (46.46088, -89.57098)	BRG2
2B	0	0	0	NA		
2C	0	0	0	NA		
3A	0	0	NA	NA	N 46 28.294 W 89 31.883 (46.47157, -89.53138)	BRG3
3B	0	0	0	NA		
3C	0	0	0	NA		
4A	0	0	0	NA	N 46 32.964 W 89 37.401 (46.54940, -89.62335)	BRG4
4B	0	0	0	NA		
4C	0	0	0	0		
5A	0	NA	NA	NA	N 46 35.338 W 89 34.391 (46.58897, -89.57318)	BRG5
5B	0	0	NA	NA		
5C	0	0	NA	NA		
Boat Landings: No EWM was found at the boat landings. NA: Not Applicable Abundance Scale: 0-EWM absent, 1-EWM present, 2 –EWM presence less than half, 3-EWM equal presence compared to other species, 4-EWM dominant species present, 5-EWM total infestation. Note: Transects are 36 ft long & proceed perpendicular away from the shoreline						

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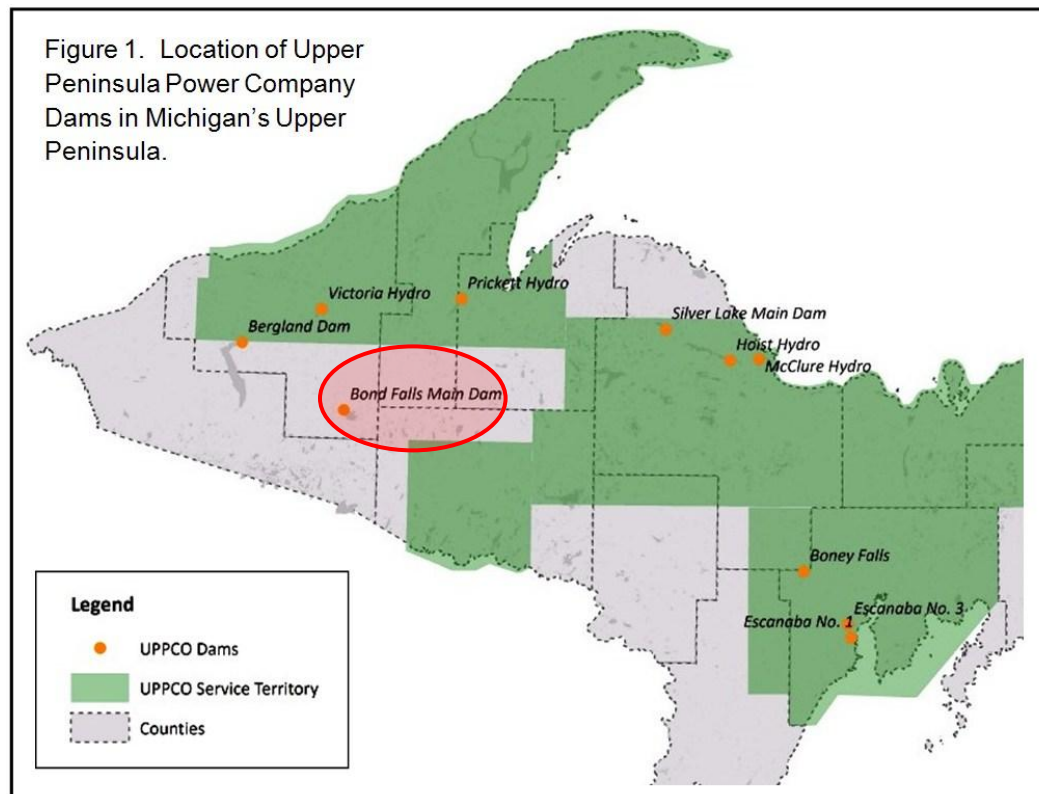


Introduction

In 2020, the Upper Peninsula Power Company (UPPCO) contracted with White Water Associates, Inc. to conduct monitoring for the aquatic invasive species (AIS) Purple Loosestrife (*Lythrum salicaria*) and Eurasian Watermilfoil (*Myriophyllum spicatum*) for the Bond Falls Hydroelectric Project (FERC No. 01864). This project is comprised of three dams (Bergland, Bond Falls, and Victoria). This document reports our findings from the monitoring conducted on the Bond Falls Dam Project.

Project Area Location

The Bond Falls Dam Project area is contained in Ontonagon County (Michigan). It is a part of the Bond Falls Hydroelectric Project (FERC No. 01864). Figure 1 is a map of UPPCO Dams and highlights the Bond Falls Dam.



Monitoring Methods

The monitoring work followed the methodology described in the Bond Falls Hydroelectric Project (FERC No. 01864) Nuisance Plant Control Plan (Article 411) prepared by the UPPCO in 2005. According to the Nuisance Plant Control Plan, the entire perimeter of the water body and associated wetlands were examined for Purple Loosestrife. For Eurasian Watermilfoil, three pre-established transects were sampled with a rake according to the methods described in the monitoring plan. Additionally, an informed meander search by boat was used to look for Eurasian Watermilfoil in the impoundment.

Scientists from White Water Associates conducted fieldwork from a Jon boat outfitted with a 60 HP engine. Pedestrian surveys were conducted when the boat did not provide adequate access for observation. Monitoring was conducted at the time of year when both Purple Loosestrife and Eurasian Watermilfoil are readily identified by an experienced field biologist. Binoculars were used to assist in search (specifically for purple loosestrife). A fifteen foot plant sampling rake was used to collect aquatic plants for inspection during the Eurasian Watermilfoil sampling. Field work for the Bond Falls Dam Project took place on August 3, 2020.

Survey Results

The survey results for Purple Loosestrife and Eurasian Watermilfoil are reported below under respective headings.

Purple Loosestrife

No Purple Loosestrife plants were documented on the Bond Falls Flowage or associated wetlands in 2020.

Eurasian Watermilfoil

Figure 2 shows an aerial photo of the project area with the origin points for the three transects used for monitoring for Eurasian Watermilfoil.

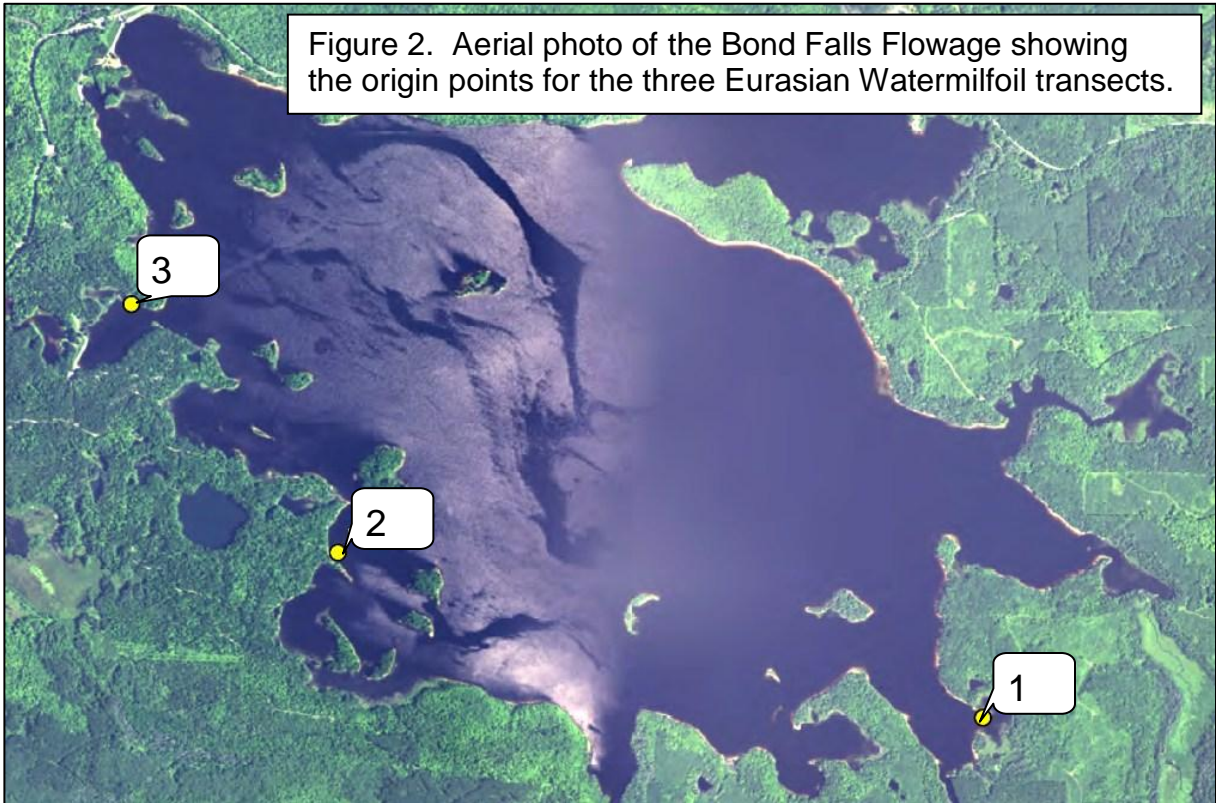


Table 2 provides sampling results from each of the transects sampled at the Bond Falls Flowage. Each transect had three circular plots from which samples were collected in four depth quadrants. If a depth was not represented in the circular plot, “NA” (not applicable) was entered. No Eurasian Watermilfoil was found on transects, during meander searching, or at boat landings in 2020.

Table 2. Results from Bond Falls Eurasian Watermilfoil transects in 2020						
Transect #	0-0.5 m	0.5-1.5 m	1.5-3.0 m	>3.0 m	Origin	Notes
1A	0	0	0	NA	N 46 22.917 W 89 04.757 (46.382096, -89.079496)	BFAEM01
1B	0	0	0	NA		
1C	0	0	0	0		
2A	0	0	NA	NA	N 46 23.553 W 89 07.631 (46.387846, -89.115993)	BFAEM02
2B	0	0	0	0		
2C	0	0	0	0		
3A	0	0	0	0	N 46 23.827 W 89 07.631 (46.397290, -89.127960)	BFAEM03
3B	0	0	0	0		
3C	0	0	0	0		
Boat Landings: No EWM was found at the boat landings. NA: Not Applicable Abundance Scale: 0-EWM absent, 1-EWM present, 2 –EWM presence less than half, 3-EWM equal presence compared to other species, 4-EWM dominant species present, 5-EWM total infestation. Note: Transects are 36 ft long & proceed perpendicular away from the shoreline						

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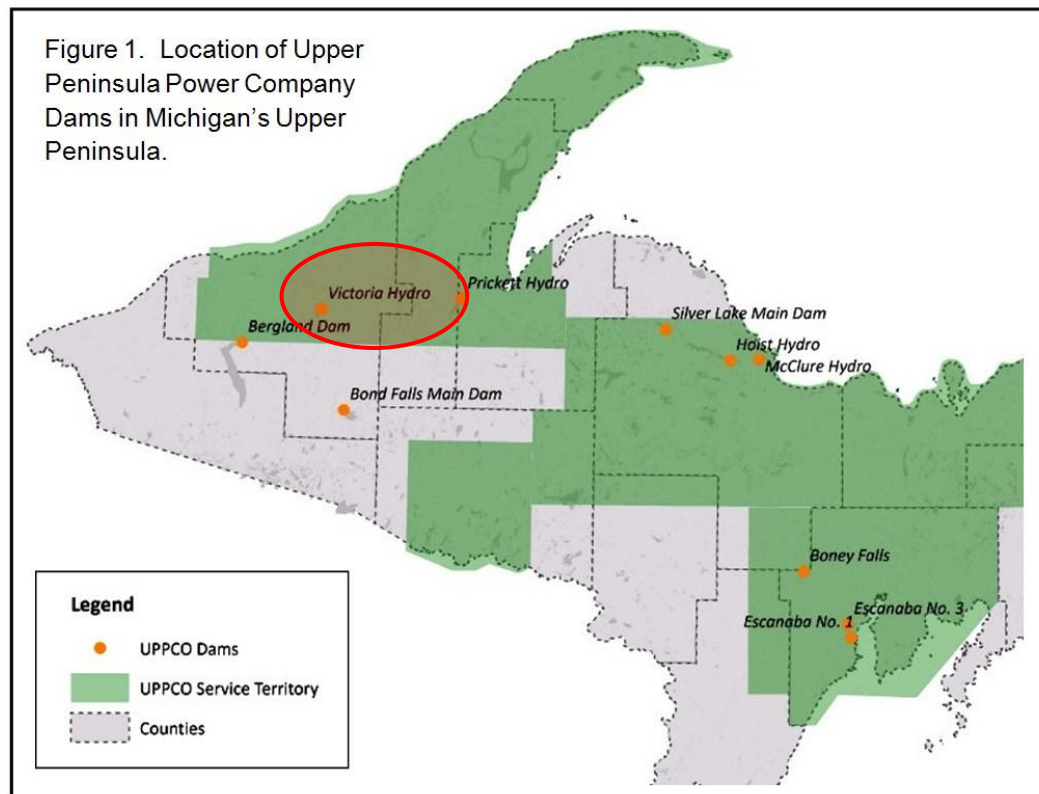


Introduction

In 2020, the Upper Peninsula Power Company (UPPCO) contracted with White Water Associates, Inc. to conduct monitoring for the aquatic invasive species (AIS) Purple Loosestrife (*Lythrum salicaria*) and Eurasian Watermilfoil (*Myriophyllum spicatum*) for the Bond Falls Hydroelectric Project (FERC No. 01864). This project is comprised of three dams (Bergland Dam, Bond Falls Dam, and Victoria Hydro). This document reports our findings from the monitoring conducted on the Victoria Hydro Project.

Project Area Location

The Victoria Hydroelectric Project area is contained in Ontonagon County (Michigan). It is a part of the Bond Falls Hydroelectric Project (FERC No. 01864). Figure 1 is a map of UPPCO Dams and highlights the Victoria Hydroelectric project.



Monitoring Methods

The monitoring work followed the methodology described in the Bond Falls Hydroelectric Project (FERC No. 01864) Nuisance Plant Control Plan (Article 411) prepared by the UPPCO in 2005. According to the Nuisance Plant Control Plan, the entire perimeter of the water body and associated wetlands were examined for Purple Loosestrife and two pre-established transects were sampled for Eurasian Watermilfoil.

Scientists from White Water (an independent consulting firm) conducted fieldwork from a Jon boat outfitted with a 60 HP engine. Pedestrian surveys were conducted when the boat did not provide adequate access for observation. Monitoring was conducted at the time of year when both Purple Loosestrife and Eurasian Watermilfoil are readily identified by an experienced field biologist. Binoculars were used to assist in search (specifically for purple loosestrife). For Eurasian Watermilfoil, the two pre-established transects were sampled with a rake according to the methods described in the monitoring plan. Additionally, an informed meander search by boat was used to look for Eurasian Watermilfoil in the impoundment. A fifteen-foot plant sampling rake was used to collect aquatic plants for inspection during the Eurasian Watermilfoil sampling. Field work for the Victoria Dam Project took place on August 4, 2020.

Survey Results

The survey results for Purple Loosestrife and Eurasian Watermilfoil are reported below under respective headings.

Purple Loosestrife

No Purple Loosestrife plants were documented on the Victoria Flowage or associated wetlands in 2020.

Eurasian Watermilfoil

Figure 2 shows an aerial photo of the project area with the origin points for the two transects used for monitoring for Eurasian Watermilfoil.

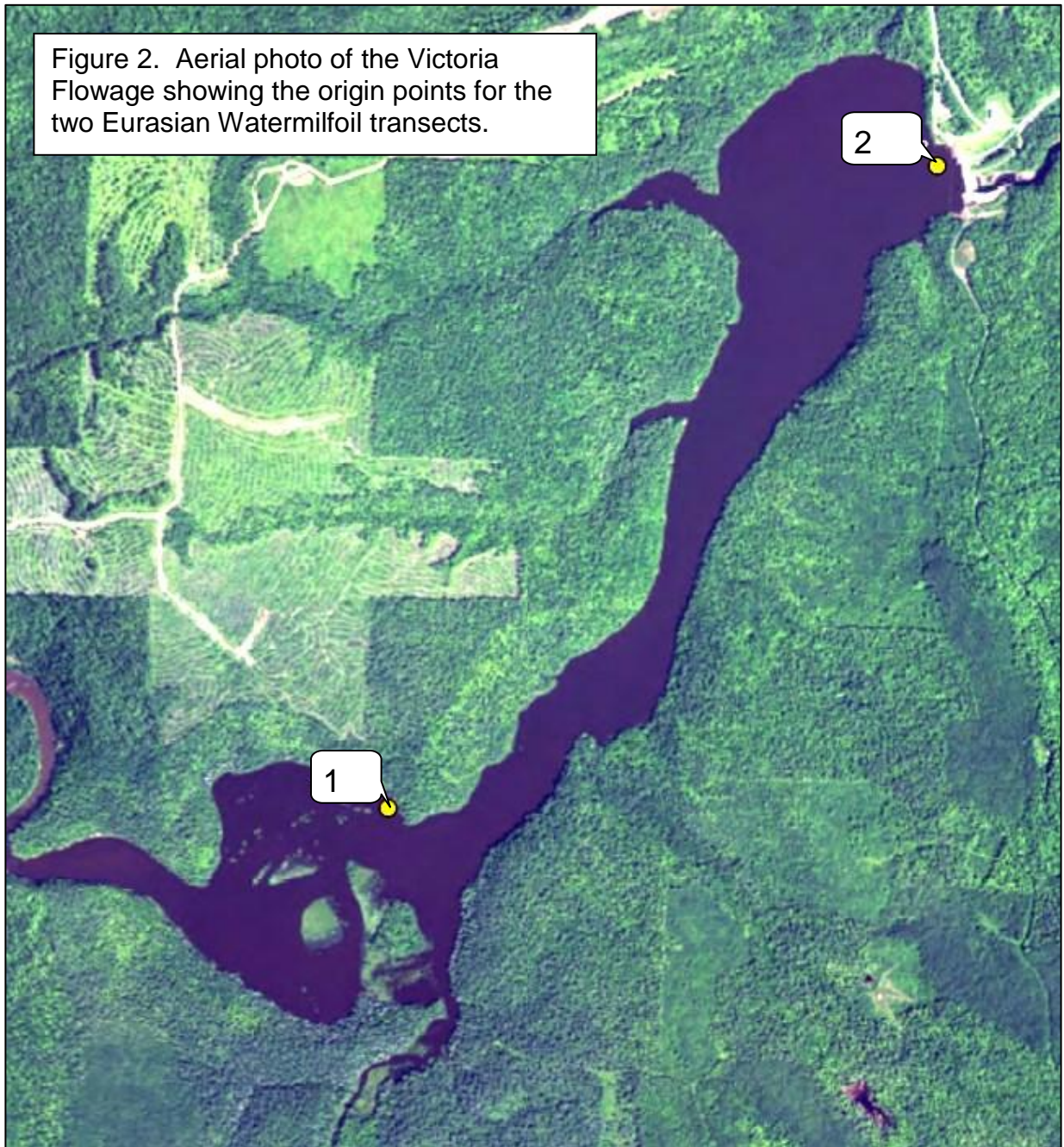


Table 2 provides sampling results from each of the Victoria Flowage transects. Each transect had three circular plots from which samples were collected in four depth quadrants. If a depth was not represented in the plot, “NA” (not applicable) was entered. No Eurasian Watermilfoil was found on transects, during meander searching, or at the launch site in 2020.

Table 2. Results from Victoria Hydro Eurasian Watermilfoil transects in 2020						
Transect #	0-0.5 m	0.5-1.5 m	1.5-3.0 m	>3.0 m	Origin	Notes
1A	0	0	0	0	N 46 40.259	VFAEM01
1B	0	0	0	0	W 89 15.038	
1C	0	0	0	NA	(46.671240, -89.249568)	
2A	0	0	0	0	N 46 41.266	VFAEM02
2B	0	0	0	0	W 89 13.837	
2C	0	0	0	0	(46.687347, -89.230673)	
<p>Boat Landings: No EWM was found at the boat landing.</p> <p>NA: Not Applicable</p> <p>Abundance Scale: 0-EWM absent, 1-EWM present, 2 –EWM presence less than half, 3-EWM equal presence compared to other species, 4-EWM dominant species present, 5-EWM total infestation.</p> <p>Note: Transects are 36 ft long & proceed perpendicular away from the shoreline</p>						