

2020 Purple Loosestrife Inventory  
for  
Flambeau Crowley Hydroelectric Project  
FERC Project #2473  
Flambeau Hydro, LLC  
Price County, Wisconsin

Submitted by:



429 River Lane, P.O. Box 27  
Amasa, Michigan 49903  
Phone: 906-822-7889

## Summary of Purple Loosestrife Inventory for Flambeau Crowley Hydroelectric Project, FERC #2473

On August 12, 2020, White Water Associates, Inc. performed an inventory of purple loosestrife at the Flambeau Crowley Project. The method of inventory approved and modified by a Federal Energy Regulatory Commission (FERC) Order (June 18, 2003) was defined as follows:

While purple loosestrife is blooming in mid-July to early August, the inventory should be conducted using a boat to survey the impoundment above the dam within the Project Boundary and on foot or by boat below the dam within the Project Boundary. County wetland maps may be used to determine other areas where Purple Loosestrife could be found on lands owned by Flambeau Hydro, LLC (FHLLC) within the Project Boundary. Lands owned by FHLLC within the Project Boundary will be surveyed on foot. A pair of binoculars should be used to search for the purple flowered spikes of the plant. When plants are located, the person(s) inventorying should get close enough to make a positive identification without disturbing the plants or the immediate area around the plants as this could cause them to spread. A GPS will be used to establish a GPS coordinate for the location of the plants. If it is not possible to get close enough to establish an accurate location, an approximate location will be established with reference to an established GPS coordinate. The plants should be inventoried by marking and numbering the location on a project map along with notes approximating size of plants, stand area, percent cover, stem density, plant density, and location with reference to established GPS coordinates. Photos and/or videotape will be taken of the largest occurrences.

### 2020 Observations

The Flambeau Crowley Project boundary was divided into three different areas; *the impoundment* (from approximately 500 feet downstream of the Pixley Dam to the Crowley Dam), *FHLLC-owned property within the project boundary* (FHLLC-owned property adjacent to the dam and powerhouse), and *the tailrace* (from the dam and powerhouse to approximately 500 feet downstream of the dam).

*The impoundment* was surveyed by boat and one purple loosestrife plant was found. On the south side of HWY 70 at 6 Mile Creek there were five sites that had purple loosestrife plants (Table 1). These sites were observed on foot.

*The FHLLC-owned property within the project boundary* was surveyed on foot and no purple loosestrife plants were found.

*The tailrace* was surveyed by boat and no purple loosestrife plants were observed.

Site FLCRPL008, FLCRPL010, and FLCRPL011 had 20+ plants with no treatment. FLCRPL009 had two plants that were removed. Site FLCRPL013 had one multi-stem plant. No treatment because it was

on private property. Site FLCR014 had 20+ plants across the highway past the wetland area and no plants were removed due to the location.

Maps of purple loosestrife locations observed in 2020 is available in Appendix A. Appendix B provides tables of historical purple loosestrife data as well as observations made in 2020. Appendix C provides scans of field data sheets. Appendix D provides photos taken at the project area.

# **Appendix A**

## **Maps**



Map 1. Locations of purple loosestrife at Flambeau Crowley in 2020.



Map 2. Locations of purple loosestrife at Flambeau Crowley in 2020.



Map 3. Locations of purple loosestrife at Flambeau Crowley in 2020.

# **Appendix B**

## **Tables**



<b>Table 1. GPS points for purple loosestrife inventory at Flambeau Crowley, FERC#2473.</b>					
<i>GPS Point</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Plant Height</i>	<i>Stand Area</i>	<i>Comments</i>
FLCRPL001	45.86360	-90.54765	1'-4'	~180'x25'	<p>2002-first observed. 11 plants observed.  2003-2008-treated with herbicide.  2009-area of purple loosestrife had declined by 50%  2010-area of purple loosestrife similar, but number of plants increased. Treated with herbicide.  2011-number of plants decreased. Treated with herbicide.  2012-number of plants increased. Treated with herbicide.  2013, 2014, &amp; 2015-plants were hand pulled.  2016-14 plants observed and pulled.  2017-1 plant observed no treatment.  2018- Multi-stem out of reach no treatment.</p>
FLCRPL002	45.86417	-90.54643	1'-3'	~180'x25'	<p>2002-first observed. 11 plants observed.  2003-2008-treated with herbicide.  2009-area of purple loosestrife had declined by 50%  2010-area of purple loosestrife similar, but number of plants increased. Treated with herbicide.  2011-number of plants decreased. Treated with herbicide.  2012-number of plants increased. Treated with herbicide.  2013, 2014, &amp; 2015-plants were hand pulled.  2016-14 plants observed and pulled.</p>
FLCRPL003	45.86429	-90.54673	N/A	N/A	<p>2002-first observed. Flowering heads clipped  2003-treated with herbicide. 2004-no plants observed.  2005-1 plant observed and pulled.  2006-some plants observed. Treated with herbicide.  2007, 2008, &amp; 2009-no plants observed.  2010-1 plant observed. Treated with herbicide.  2011-1 plant observed and pulled.  2012, 2013, 2014, &amp; 2015-no plants observed.  2016-no plants observed.</p>

<i>GPS Point</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Plant Height</i>	<i>Stand Area</i>	<i>Comments</i>
FLCRPL004	45.86421	-90.54690	N/A	N/A	2002-first observed. Flowering heads clipped 2003-treated with herbicide. 2004-no plants observed. 2005-1 plant observed and pulled. 2006-some plants observed. Treated with herbicide. 2007, 2008, & 2009-no plants observed. 2010-1 plant observed. Treated with herbicide. 2011-1 plant observed and pulled. 2012, 2013, 2014, & 2015-no plants observed. 2016-no plants observed.
FLCRPL005	45.86544	-90.54646	N/A	N/A	2002-first observed. Flowering heads clipped. 2003-2015-no plants observed. 2016-no plants observed
FLCRPL006	45.86356	-90.54909	N/A	N/A	2008-first observed. Plants pulled. 2009-plants observed. Plants pulled. 2010-2015-No plants observed. 2016-no plants observed.
FLCRPL007	45.86385	-90.54592	1'-3'	2'x2'	2015-first observed. No treatment. 2016-no plants observed. 2018- no treatment.
FLCRPL008 (CR PLA)	45.86396	-90.54697	3'	1'x1'	2016-first observed. 55 plants observed. No treatment. 2017-4 plants observed. No treatment. 2018-ten plants observed and pulled. 2020- 20 + no treatment.
FLCRPL009	45.86377	-90.54746	3'	1'x1'	2017-first observed. Three plants observed. No treatment. 2018- Multi-stemmed plant three by edge pulled – two plants across water no treatment. 2020- 2 plants pulled.
FLCRPL010	45.86410	-90.54667	3'	2'x2'	2017-first observed. Ten plants observed. No treatment. 2018- ~ 12 plants pulled. 2020-+15 no treatment.
FLCRPL011	45.86431	-90.54614	3'	1'x1'	2017-first observed. Three plants observed. No treatment. 2018- two plants pulled. 2020-no treatment.
FLCRPL013	45.87027	-90.54172	4'	2'x2'	First observed 2020-private property by a dock. No treatment.
FLCRPL014	45.86364	-90.54777	4'	20'x10'	First observed in 2020 – 20+ no treatment wetland area.

Appendix B

# **Appendix C**

## **Scans of Datasheets**

## Purple Loosestrife Survey

Crowley

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Date 8-12-10 Conducted By Angie Shie Sean Coram

HWL 1427.22 TWL 1497.0 CFS 1126 Equipment Used: Binocular camera, GPS

Air Temp: 82 °F Wind Speed: SSW 8 mph Barometer: 30.07 Sky Conditions: 90 Clouds

Time Survey Started 13:30 Time Survey Ended 15:40 Boat  (14ft or Canoe) and/or Foot

Latitude Start BL Longitude End BL

Location of Survey Area: Tailrace  Bypass Reach  Impoundment  FHLLC Property

Description of Location \_\_\_\_\_

Historic Info: \_\_\_\_\_

Purple Loosestrife Found:  Yes or No

across Road

Information				
Site	<u>Crowley PL 013</u>	<u>CRPL14</u>	<u>FLCR PLO09</u>	<u>FLCR PLO09, 10, 11</u>
Time		<u>15:29</u>	<u>15:30</u>	
Photo ID	<u>455</u>	<u>456</u>	<u>457</u>	<u>459-462</u>
Location	<u>Persans Land</u>	<u>Wetland</u>	<u>Side Road</u>	<u>Side Road</u>
Single or Multi-stem	<u>Multi</u>	<u>Multi</u>	<u>Multi</u>	<u>Multi</u>
# of Plants	<u>1</u>	<u>20</u>	<u>2</u>	<u>20+</u>
Acreage est.				
Stand Area Density	<u>2x2'</u>	<u>20x10'</u>	<u>2x2'</u>	<u>100x10'</u>
Size Colony				
S=0-5, M=6-50, L=>50~	<u>S</u>	<u>M</u>	<u>S</u>	<u>M</u>
Plant Height ~ Ft	<u>4'</u>	<u>4'</u>	<u>4'</u>	<u>4'</u>
Flowering %	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>
Beetle Feeding?				
Plant Vigor (Very poor to good)	<u>Good</u>	<u>Good</u>	<u>Good</u>	<u>Good</u>
Plant Removed (explain)	<u>NO</u>	<u>wet</u>	<u>yes</u>	<u>NO</u>

private property by someone trail + dock

Too many

Information				
Site				
Time				
Photo ID				
Location				
Single or Multi-stem				
# of Plants				
Acreage est.				
Stand Area Density				
Size Colony				
S=0-5, M=6-50, L=>50~				
Plant Height ~ Ft				
Flowering %				
Beetle Feeding?				
Plant Vigor (Very poor to good)				
Plant Removed (explain)				

Other Species Observed:

\_\_\_\_\_

## Purple Loosestrife Survey

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Date 8-13-20 Conducted By Angie Sbrini Sean Caran

HWL 1423 TWL 1493 CFS 1470 Equipment Used: \_\_\_\_\_

Air Temp: \_\_\_\_\_ °C Wind Speed: \_\_\_\_\_ Barometer: \_\_\_\_\_ Sky Conditions: 100 clouds

Time Survey Started 2:00 Time Survey Ended 2:10 Boat (14ft or Canoe) and/or Foot

Latitude Start Dan Longitude End DAA

Location of Survey Area: Tailrace  Bypass Reach  Impoundment \_\_\_\_\_ FHLLC Property

Description of Location \_\_\_\_\_

Historic Info: \_\_\_\_\_

Purple Loosestrife Found: Yes or No No

Information					
Site					
Time					
Photo ID					
Location					
Single or Multi-stem					
# of Plants					
Acreage est.					
Stand Area Density					
Size Colony S=0-5, M=6-50, L=>50~					
Plant Height ~ Ft					
Flowering %					
Beetle Feeding?					
Plant Vigor (Very poor to good)					
Plant Removed (explain)					

Information					
Site					
Time					
Photo ID					
Location					
Single or Multi-stem					
# of Plants					
Acreage est.					
Stand Area Density					
Size Colony S=0-5, M=6-50, L=>50~					
Plant Height ~ Ft					
Flowering %					
Beetle Feeding?					
Plant Vigor (Very poor to good)					
Plant Removed (explain)					

Other Species Observed: \_\_\_\_\_

# **Appendix D**

## **Photos**



**Photo 1. Purple loosestrife growing along roadside.**



**Photo 2. Purple loosestrife growing on wooded bank.**





**Photo 3. Purple loosestrife growing along roadside.**