



January 30, 2018

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

**RE: Flambeau Crowley FERC Project Number 2473  
Flambeau Hydro LLC  
Final Report 2017 Purple Loosestrife Inventory Report**

Dear Ms. Bose:

On behalf of Flambeau Hydro LLC, "Flambeau" (Licensee), Renewable World Energies, LLC (RWE) is submitting a copy of the *Final Report 2017 Purple Loosestrife Inventory Report* for the Flambeau Crowley Hydroelectric Project. The report is a requirement of Flambeau's Federal license pursuant to article 410.

Monitoring was conducted on August 29, 2017. No out of the ordinary issues were encountered. The impoundment was surveyed by boat and no purple loosestrife was found. On the south side of HWY 70 at 6 Mile Creek there were 5 sites that had purple loosestrife. Sites FLCR PL001 (1 plant), FLCR PL008 (4 plants), FLCR PL009 (3 plants), and FLCR PL010 (10-15 plants) had no treatment due to accessibility and location. Site FLCR PL011 had 1 plant observed, pulled and disposed of in an approved manner. The draft report was sent to the agencies by an attachment to an e-mail on November 16, 2017 for review and comment. No comments have been received from the WDNR. No comments have been received from the USFWS. The next scheduled monitoring event will be conducted in 2018.

If you have any questions concerning this submittal, please contact Brian Kreuzscher at the Renewable World Energies, LLC offices @ 855-994-9376 Ext 230. He can also be reached by e-mail at [bkreusch@rwehydro.com](mailto:bkreusch@rwehydro.com).

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Sincerely,  
**Renewable World Energies, LLC**  
**Agent for Licensee**

A handwritten signature in black ink, appearing to read "J. Kreuzer", written over a white background.

Handwritten initials "JCK" in black ink, enclosed in a small square box.

Mr. Jason Kreuzer  
Vice President

Attachment: Flambeau Crowley Final Purple Loosetrife Inventory Report

Cc: Ms. Cheryl Laatsch, WDNR  
Mr. Nick Utrup, USFWS  
RWE, Corporate

2017 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 29, 2017, 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.

### 2017 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 no purple loosestrifes were found. On the south side of HWY 70 at 6 Mile Creek there were five sites that had purple loosestrife plants. 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 FLCRPL001 had one plant and no treatment was conducted due to accessibility. Site FLCRPL008 had 4 purple loosestrife plants observed. No treatment was conducted due to accessibility. Site

FLCRPL009 had 3 plants and were not removed due to location. Site FLCRPL010 had 10-15 plants and they were not removed due to the location. Site FLCRPL011 had 1 plant and it was removed.

A map of purple loosestrife locations observed in 2017 is available in Appendix A. Appendix B provides tables of historical purple loosestrife data as well as observations made in 2017. Appendix C provides scans of field data sheets. Appendix D provides photos taken at the project area.

# **Appendix A**

## **Map**



Map 1. Locations of purple loosestrife at Flambeau Crowley in 2017.

# **Appendix B**

## **Table**

<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'-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.  2017-1 plant observed 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>

<i>GPS Point</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Plant Height</i>	<i>Stand Area</i>	<i>Comments</i>
FLCRPL003	45.86429	-90.54673	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.
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'	3'x5'	2015-first observed. No treatment. 2016-no plants observed.
FLCRPL008 (CR PLA)	45.86396	-90.54697	N/A	N/A	2016-first observed. 55 plants observed. No treatment. 2017-4 plants observed. No treatment.
FLCRPL009	45.86377	-90.54746	3'	1'x1'	2017-first observed. Three plants observed. No treatment.
FLCRPL010	45.86410	-90.54667	4'	4'x10'	2017-first observed. Ten plants observed. No treatment.
FLCRPL011	45.86431	-90.54614	3'	1'x1'	2017-first observed. Three plants observed. No treatment.

Appendix B

# **Appendix C**

## **Scans of Datasheets**

## Purple Loosestrife Survey

Crowley Flambeau Hydroelectric Project – FERC # 2473

Page 1 of 2

Date 8/29/17 Conducted By Stine, A. S. Haag  
 HWL 142.18 TWL 140.7 CFS 729 Equipment Used: GPS, RWE Boat, Binoculars  
 Air Temp: 63 °F Wind Speed: 5-8 mph Barometer: 30.1 Sky Conditions: 100% Clouds  
 Time Survey Started 10:10 Time Survey Ended 12:00 Boat (14ft or Canoe) and/or Foot  
 Latitude Start Boat Landing Longitude End \_\_\_\_\_  
 Location of Survey Area: Tailrace \_\_\_\_\_ Bypass Reach \_\_\_\_\_ Impoundment  FHLLC Property \_\_\_\_\_  
 Description of Location Approx. 500 ft downstream of the Pixley Dam to Crowley Dam  
 Historic Info: 16-20 plants across road Boat Landing 3/15  
 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:

2 Swans, 2 Otters, 1005 Hawk, 6 geese, Bald eagle

## Purple Loosestrife Survey

Crowley Hydroelectric Project - FERC # 2473 Page 1 of 2

Date 7-29-17 Conducted By Stina Haag

HWL 129 TWL 140.4 CFS 729 Equipment Used: GPS, Camera

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

Time Survey Started 9:45 Time Survey Ended 10:05 Boat (14ft or Canoe) and/or Foot

Latitude Start Boat landing Longitude End Boat landing across road

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

Description of Location across Hwy from Boat landing

Historic Info: Same area as 2016

Purple Loosestrife Found: Yes or No

Information	FLCR PLO09			FLCR PLO10	
Site	PL 001	PL 0 (134)	PL 008	PL 008	(135) nu
Time	9:51	9:52	9:54		9:56
Photo ID	4152	4153	4154		4156
Location	across road	1'	across road		across road
Single or Multi-stem	Single	Single	Single		Multi-stem
# of Plants	1	3	3	1	10-15
Acreage est.		1x1'			4x10
Stand Area Density					
Size Colony S=0-5, M=6-50, L=>50~	S	S	S		M
Plant Height ~ Ft	2-3'	2'-3'	2'		3'-4'
Flowering %	yes 70%	yes	yes		yes 100%
Beetle Feeding?					
Plant Vigor (Very poor to good)	OK	OK	OK	OK	good
Plant Removed (explain)	NO	in wetland	in wetland	in wetland	wetland

Information	FLCR 011				
Site	136				
Time	9:58				
Photo ID	4157				
Location	across road				
Single or Multi-stem	Multi				
# of Plants	1				
Acreage est.					
Stand Area Density	1x1'				
Size Colony S=0-5, M=6-50, L=>50~	S				
Plant Height ~ Ft	3'				
Flowering %	yes				
Beetle Feeding?					
Plant Vigor (Very poor to good)	good				
Plant Removed (explain)	yes				

Other Species Observed:

## Purple Loosestrife Survey

Crowley Hydroelectric Project – FERC # 2473 Page 1 of 1

Date 8-28-17 Conducted By Stine A. S. Haag

HWL 112.8 TWL 111.4 CFS 729 Equipment Used: Binoculars, GPS, Camera

Air Temp: 63 °F Wind Speed: ENE 5 mph Barometer: 30.1 Sky Conditions: 100% clouds

Time Survey Started 12:15 Time Survey Ended 12:35 Boat (14ft or Canoe) and/or Foot

Latitude Start \_\_\_\_\_ Longitude End \_\_\_\_\_

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

Description of Location Dam and powerhouse to approx. 500 feet downstream

Historic Info: 2016 no PL

Purple Loosestrife Found: Yes or 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:

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# **Appendix D**

## **Photos**



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



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



**Photo 3. White Water scientist hand-pulling purple loosestrife grown on water's edge.**

## Brian Kreuscher

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**From:** Brian Kreuscher  
**Sent:** Thursday, November 16, 2017 10:45 AM  
**To:** Cheryl Laatsch; Nick Utrup  
**Subject:** Crowley (P-2473) Pixley (P-2395) Upper (P-2640) Lower (P-2421) 2017 Purple Loosestrife Draft Reports  
**Attachments:** Crowley PL Draft Report 2017-Complete.pdf; Lower Flambeau PL Draft Report 2017-Complete.pdf; Pixley PL Draft Report 2017-Complete.pdf; Upper Flambeau PL Draft Report 2017-Complete.pdf; Grantsburg High School Purple Loosestrife Beetle Release on Clam Flowage\_Clam River Delta 7 5 17.pdf

Cheryl and Nick,

Attached are copies of the Purple Loosestrife Draft Reports for the surveys conducted at Flambeau Upper (P-2640), Flambeau Lower (P-2421), Flambeau Pixley (P-2395) and Flambeau Crowley (P-2473). Danbury (P-9184) and Clam River (P-9185) did not require a Survey in Odd years. Clam River did have approximately 6,000 Galerucella Beetles released by the Grantsburg High School. I have attached the report that Science teacher Matt Berg wrote.

Please return any comments on the draft reports to me within 30 days.

Thanks

Brian Kreuscher  
Renewable World Energies  
Regulatory & Compliance  
855-994-9376 x230