



January 31, 2019

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 2018 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 2018 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 21, 2018. 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 (3 plants) had none pulled, FLCR PL007 (5 plants) had none pulled, FLCR PL008 (10 plants) had all pulled, FLCR PL009 (5 plants) had 3 plants pulled, FLCR PL010 (10 plants) had all pulled, FLCR PL011 (2 plants) had all pulled. The draft report was sent to the agencies by an attachment to an e-mail on November 30, 2018 for review and comment. We did receive comments from Cheryl Laatsch of the DNR about standardizing the Purple Loosestrife reporting with a form created by the DNR, characterizing site conditions and observing for other AIS. A conference call was attempted to be set up, but schedules have not allowed time for it yet. No comments have been received from the USFWS. The next scheduled monitoring event will be conducted in 2019.

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 bkreuscher@rwehydro.com.

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Sincerely,
Renewable World Energies, LLC
Agent for Licensee

A handwritten signature in black ink, appearing to read "J. Kreuzscher".

Handwritten initials "FJR" in blue ink, positioned to the left of the typed name.

Mr. Jason Kreuzscher
Vice President

Attachment: Flambeau Crowley Final Purple Loosestrife Inventory Report
Correspondence

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

2018 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 21, 2018, 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.

2018 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 six 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 three plants and no treatment was conducted due to accessibility. Site FLCRPL007 had five plants and no treatment was conducted due to accessibility. Site FLCRPL008 had ten purple loosestrife plants observed and the plants were pulled. Site FLCRPL009 had 5 plants and two were not

removed due to location. Site FLCRPL010 had ten plants and they were removed. Site FLCRPL011 had two plants and they were removed.

A map of purple loosestrife locations observed in 2018 is available in Appendix A. Appendix B provides tables of historical purple loosestrife data as well as observations made in 2018. 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 2018.

Appendix B

Tables

Table 1. GPS points for purple loosestrife inventory at Flambeau Crowley, FERC#2473.					
<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, & 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, & 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, & 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.</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.
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.
FLCRPL010	45.86410	-90.54667	3'	2'x2'	2017-first observed. Ten plants observed. No treatment. 2018- ~ 12 plants pulled.
FLCRPL011	45.86431	-90.54614	3'	1'x1'	2017-first observed. Three plants observed. No treatment. 2018- two plants pulled.

Appendix B

Appendix C

Scans of Datasheets

Purple Loosestrife Survey

Crowley Hydroelectric Project – FERC # 2473 Page 1 of 2

Date 8-21-18 Conducted By Stine Warmboe

HWL 1421.31 TWL 1406.6 CFS 733 Equipment Used: binocular, camera, clipper, GPS

Air Temp: 65 °F Wind Speed: 14 mph Barometer: 30 Sky Conditions: 100 clouds

Time Survey Started 1:55 pm Time Survey Ended 15:32 Boat (14ft or Canoe) and/or Foot

Latitude Start _____ Longitude End _____

Location of Survey Area: Tailrace Bypass Reach _____ Impoundment _____ FHLIC Property _____

Description of Location _____

Historic Info: _____

Purple Loosestrife Found: Yes or No

Information					
Site	<u>P1001</u>				
Time					
Photo ID	<u>2911</u>				
Location					
Single or Multi-stem					
# of Plants					
Acreage est.					
Stand Area Density					
Size Colony S=0-5, M=6-50, L=>50~	<u>5</u>				
Plant Height ~ Ft					
Flowering %	<u>100%</u>				
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:

Loon

Purple Loosestrife Survey

Crowley Hydroelectric Project - FERC # 2473 Page 2 of 2
 Date 8-21-18 Conducted By A Stine R Wurmbe
 HWL 142.3 TWL 140.6 CFS 733 Equipment Used: Gloria Bin
 Air Temp: °C Wind Speed: Barometer: Sky Conditions: Cloudy
 Time Survey Started 15.45 Time Survey Ended 15.59 Boat (14ft or Canoe) and/or Foot
 Latitude Start Longitude End
 Location of Survey Area: Tailrace Bypass Reach Impoundment FHLLC Property
 Description of Location across Road
 Historic Info:
 Purple Loosestrife Found: Yes or No

Information						
Site	-	P1001	009	008	010	011
Time						
Photo ID		7711	7712-13	7714	7715-16	7717-18
Location		across Road	"			
Single or Multi-stem		Multi	Multi	Multi	Multi	Multi + Single
# of Plants		3	3/2 across water	10	12	2
Acreage est.						
Stand Area Density		2x2'	1x1	1x1 (10)	2x2 (10)	1x1 1x2
Size Colony S=0-5, M=6-50, L=>50~		S	S	M	M	S
Plant Height ~ Ft		4'	3'	3'	3'	3'
Flowering %		100%	100%	90%	90%	90%
Beetle Feeding?			some	only few bites	a few	no
Plant Vigor (Very poor to good)		good	good	good	good	good
Plant Removed (explain)		out of reach	pulled	pulled	pulled	pulled

Information						
Site		P1007				
Time						
Photo ID		7719-20				
Location						
Single or Multi-stem		Multi				
# of Plants		5				
Acreage est.						
Stand Area Density		2x2				
Size Colony S=0-5, M=6-50, L=>50~		S				
Plant Height ~ Ft		5'				
Flowering %						
Beetle Feeding?						
Plant Vigor (Very poor to good)		Good				
Plant Removed (explain)		NO LAND PP				
Notes Observed:						

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

From: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>
Sent: Monday, December 03, 2018 11:59 AM
To: Brian Kreuscher; Nick Utrup
Cc: Wirt, Alan W - DNR; Mushel, Joelle A - DNR
Subject: RE: Crowley (P-2473) Pixley (P-2395) Upper (P-2640) Lower (P-2421) 2017 Purple Loosestrife Draft Reports

Hi Brian – Thanks for the AIS Reports. Staff have reviewed the reports and we offer the following comments. We would like to have a conf call with you and Whitewater to go over a few things in the report, and offer suggestions to streamline the reporting process/forms.

1. In review of all 4 project areas, we noticed some inconsistent approaches to PL management. We would like to discuss a more consistent approach to PL mgt.
2. Some of the comments (ex. Out or reach) are very subjective and difficult to interpret. Lets discuss options to better characterize site conditions.
3. We would like to discuss using a standard DNR form for the PL reporting. It is very user friendly, and would simplify your reporting requirements.
4. Other AIS reporting – we would like to ask that other obvious AIS observations be reported to the DNR, using the standard forms. We ask that this effort be outside of the FERC license process, as a partner on early detection of AIS species. We can discuss more during our conf call.

Please provide me with some dates and times that we can discuss your reports. Thanks

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Cheryl Laatsch
Statewide FERC Coordinator
Bureau of Environmental Analysis and Sustainability
Wisconsin Dept of Natural Resources
N7725 Hwy 28
Horicon WI 53032
(T) 920-387-7869 (Fax) 920-387-7888
Cheryl.laatsch@wisconsin.gov



From: Brian Kreuscher <bkreuscher@rwehydro.com>
Sent: Friday, November 30, 2018 6:06 PM
To: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>; Nick Utrup <nick_utrup@fws.gov>
Subject: Crowley (P-2473) Pixley (P-2395) Upper (P-2640) Lower (P-2421) 2017 Purple Loosestrife Draft Reports

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).

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

Thanks

Brian Kreuzer

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

Brian Kreuscher

From: Brian Kreuscher
Sent: Thursday, December 06, 2018 3:58 PM
To: Laatsch, Cheryl - DNR
Subject: Re: Flambeau Upper (P-2640) Flambeau Lower (P-2421) Pixley (P-2395) Crowley (P-2473) Water Quality Draft Reports

Cheryl,

We are open next week Dec 12th 9AM to 2PM, or December 17th through the 20th 9AM to 3PM, December 18th only open until 2PM. Do any of these work?

Thanks
Brian Kreuscher

From: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>
Sent: Tuesday, December 4, 2018 11:34 AM
To: Brian Kreuscher
Subject: RE: Flambeau Upper (P-2640) Flambeau Lower (P-2421) Pixley (P-2395) Crowley (P-2473) Water Quality Draft Reports

Yes. I think we can make things simpler and more effective for you and the DNR.

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Cheryl Laatsch
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Cheryl.laatsch@wisconsin.gov



From: Brian Kreuscher <bkreuscher@rwehydro.com>
Sent: Tuesday, December 04, 2018 9:30 AM
To: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>
Subject: Re: Flambeau Upper (P-2640) Flambeau Lower (P-2421) Pixley (P-2395) Crowley (P-2473) Water Quality Draft Reports

Cheryl,

Yes we can. I have asked Angie Stine of White Water Associates for her free time regarding the AIS. Is this something you want to cover during the same conference call? Personally I am free this whole month.

Thanks
Brian Kreuscher

From: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>
Sent: Tuesday, December 4, 2018 9:06 AM
To: Brian Kreuscher
Subject: RE: Flambeau Upper (P-2640) Flambeau Lower (P-2421) Pixley (P-2395) Crowley (P-2473) Water Quality Draft Reports

Can we get a date on the calendar to go over the report and help streamline a few things?

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Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Cheryl Laatsch
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From: Brian Kreuscher <bkreuscher@rwehydro.com>
Sent: Tuesday, December 04, 2018 9:00 AM
To: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>
Cc: Mushel, Joelle A - DNR <Joelle.Mushel@wisconsin.gov>
Subject: Re: Flambeau Upper (P-2640) Flambeau Lower (P-2421) Pixley (P-2395) Crowley (P-2473) Water Quality Draft Reports

Cheryl,
Here you are.

Thanks
Brian Kreuscher

From: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>
Sent: Monday, December 3, 2018 9:49 AM

To: Brian Kreuscher
Cc: Mushel, Joelle A - DNR
Subject: RE: Flambeau Upper (P-2640) Flambeau Lower (P-2421) Pixley (P-2395) Crowley (P-2473) Water Quality Draft Reports

May I please have the excel spreadsheets for this data?

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Cheryl Laatsch
Statewide FERC Coordinator
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Cheryl.laatsch@wisconsin.gov



From: Brian Kreuscher <bkreuscher@rwehydro.com>

Sent: Friday, November 30, 2018 6:10 PM

To: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>; Nick Utrup <nick_utrup@fws.gov>

Subject: Flambeau Upper (P-2640) Flambeau Lower (P-2421) Pixley (P-2395) Crowley (P-2473) Water Quality Draft Reports

All,

Attached are the Draft Water Quality Reports. Please review and provide any comments you may have to me within 30 days for FERC submittal.

Thanks

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

Document Content(s)

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