



February 6, 2017

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

**RE: Flambeau Lower FERC Project Number 2421
Flambeau Hydro LLC
Final Report 2016 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 2016 Purple Loosestrife Inventory Report* for the Flambeau Lower Hydroelectric Project. The report is a requirement of Flambeau's Federal license pursuant to article 410. Monitoring was conducted on August 8, 2016. No out of the ordinary issues were encountered. Purple Loosestrife was observed on the Impoundment at 1 site. 40 Purple Loosestrife plants were observed, and flowering heads were clipped off. The draft report was sent to the agencies by a letter dated January 5, 2017 as an attachment to an e-mail sent the same day 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 2017.

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 "Jason Kreuzscher".

JFK
Mr. Jason Kreuzscher
Vice President

Attachment: Flambeau Lower Final Purple Loosestrife Inventory Report

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

2016 Purple Loosestrife Inventory
for
Flambeau Lower Hydroelectric Project
FERC Project #2421
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 Lower Hydroelectric Project, FERC #2421

On August 8, 2016, White Water Associates, Inc. performed an inventory of purple loosestrife at the Flambeau Lower 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.

2016 Observations

The Flambeau Lower Project boundary was divided into three different areas; *the impoundment* (HWY 182 bridge in Park Falls to the 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 the HWY 13 bridge).

The impoundment was surveyed by boat. Forty plants were observed. Flowering heads were clipped off of plants.

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

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

A map of purple loosestrife locations is available in Appendix A. Appendix B provides tables of historical purple loosestrife data as well as observations made in 2016. Appendix C provides scans of field data sheets. Appendix D provides photos of purple loosestrife found at the project area.

Appendix A

Maps



Map 1. Locations of purple loosestrife at Flambeau Lower observed in 2016.

Appendix B

Tables

Table 1. GPS points for purple loosestrife inventory at Flambeau Lower, FERC#2421.

<i>GPS Point</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Plant Height</i>	<i>Stand Area</i>	<i>Comments</i>
FLLWPL004 (FLLW PLB)	45.93290	-90.44688	4'	4'x4'	2016-first observed. 40 plants observed. Flowering heads clipped.

Appendix C

Scans of Datasheets

Purple Loosestrife Survey

Flambeau Lower Hydroelectric Project - FERC # 2421 Page ___ of ___

Date 8-8-16 Conducted By Stu Haag

HWL 1467.24 TWL 1448.6 CFS 660 Equipment Used: _____

Air Temp: 79°F Wind Speed: 5SE 9MPH Barometer: 30.10 Sky Conditions: partly cloudy

Time Survey Started 14:25 Time Survey Ended 15:23 Boat (14ft or Canoe) and/or Foot

Latitude Start BL Longitude End _____

Location of Survey Area: Tailrace ___ Bypass Reach ___ Impoundment FHLLC Property _____

Description of Location Hwy 182 bridge in Park Falls to the dam

Purple Loosestrife Found: Yes or No Historic Info: 2015 (boat no PL found) 1hr 15 min

Site: <u>PLW 19.6</u>	Time: <u>14:56</u>	Latitude: <u>N45.93290</u>	Longitude: <u>W 090.44688</u>
Photo ID: <u>3447-48</u>	Description of location:		
Species Name:	Single Plant or <u>Multi-stem</u>	Actual # of Plants: <u>50 flowering heads</u>	
Acreage of Infestation (circle one) <u>less than 1/2 acre</u> 1/2-1 acre 1-10 acres more than 10 acres			
Location type (circle all that apply): <u>impoundment</u> /pond edge stream edge roadside wooded area ditch field other			
Stand Area Density (feet x feet): <u>4x4</u>	Size Colony (#plants): S = 0-5 <u>M = 6-50</u> L = >50 ~		
Plant Height: 1 = <1 ft 2 = 1-2 ft 3 = 2-4 ft <u>4 = >4 ft</u>	~ <u>5.2'</u> feet		
Plant Flowering: 1 = <25% of plants 2 = 26-50% of plants 3 = 51-99% of plants <u>4 = 100% of plants</u>			
Beetle Feeding: 1 = 76-100% feeding 2 = 51-75% feeding 3 = 25-50% feeding <u>4 = 0-25% feeding</u>			
Total plant vigor: 0-3 = very poor 4-6 = poor 7-9 = fair <u>10-12 = good</u>			
Plant Removed: <u>Yes</u> No	Description: <u>Top of heads as low to branch as we could</u>		

Site:	Time:	Latitude:	Longitude:
Photo ID:	Description of location:		
Species Name:	Single Plant or Multi-stem	Actual # of Plants:	
Acreage of Infestation (circle one) less than 1/2 acre 1/2-1 acre 1-10 acres more than 10 acres			
Location type (circle all that apply): impoundment /pond edge stream edge roadside wooded area ditch field other			
Stand Area Density (feet x feet):	Size Colony: S = 0-5 M = 6-50 L = >50 ~		
Plant Height: 1 = <1 ft 2 = 1-2 ft 3 = 2-4 ft 4 = >4 ft	~ _____ feet		
Plant Flowering: 1 = <25% of plants 2 = 26-50% of plants 3 = 51-99% of plants 4 = 100% of plants			
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Total plant vigor: 0-3 = very poor 4-6 = poor 7-9 = fair 10-12 = good			
Plant Removed: Yes or No	Description:		



Site:	Time:	Latitude:	Longitude:
Photo ID:		Description of location:	
Species Name:		Single Plant or Multi-stem	Actual # of Plants:
Acreage of Infestation (circle one) less than 1/2 acre 1/2-1 acre 1-10 acres more than 10 acres			
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Total plant vigor: 0-3 = very poor 4-6 = poor 7-9 = fair 10-12 = good			
Plant Removed: Yes No		Description:	

Site:	Time:	Latitude:	Longitude:
Photo ID:		Description of location:	
Species Name:		Single Plant or Multi-stem	Actual # of Plants:
Acreage of Infestation (circle one) less than 1/2 acre 1/2-1 acre 1-10 acres more than 10 acres			
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Total plant vigor: 0-3 = very poor 4-6 = poor 7-9 = fair 10-12 = good			
Plant Removed: Yes or No		Description:	

Other Species Observed: 3 plants

Other Pertinent Survey Information: _____

Historic Purple Loosestrife: _____

Signature [Handwritten Signature]

Signature _____

* If colonies less than 20 plants are located on lands owned by RWE within the Project Boundary, RWE will take appropriate steps to eliminate plants at time of detection. For stands larger than 20 plants located on lands owned by RWE within the Project boundary, RWE will consult with the WDNR and USFWS to determine control methods.



Purple Loosestrife Survey

Flumbeau Lower Hydroelectric Project – FERC # 2421 Page ___ of ___

Date 8-8-16 Conducted By Stine Haag

HWL 1467.24 TWL 1448.6 CFS 660 Equipment Used: _____

Air Temp: 79 °F Wind Speed: 9 mph Barometer: 30.10 Sky Conditions: partly cloudy

Time Survey Started 15:23 Time Survey Ended 15:50 (Boat) (14ft or Canoe) and/or Foot

Latitude Start _____ Longitude End _____

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

Description of Location Dam and powerhouse to Hwy 18 bridge

Purple Loosestrife Found: Yes or No Historic Info: Boat 2015 no PL Plants (25 min)

Site:	Time:	Latitude:	Longitude:
Photo ID:		Description of location:	
Species Name:		Single Plant or Multi-stem	Actual # of Plants:
Acreage of Infestation (circle one) less than 1/2 acre 1/2-1 acre 1-10 acres more than 10 acres			
Location type (circle all that apply): impoundment/pond edge stream edge roadside wooded area ditch field other			
Stand Area Density (feet x feet):		Size Colony (#plants): S = 0-5 M = 6-50 L = >50 ~ _____	
Plant Height: 1 = <1 ft 2 = 1-2 ft 3 = 2-4 ft 4 = >4 ft ~ _____ feet			
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Total plant vigor: 0-3 = very poor 4-6 = poor 7-9 = fair 10-12 = good			
Plant Removed: Yes No		Description:	

Site:	Time:	Latitude:	Longitude:
Photo ID:		Description of location:	
Species Name:		Single Plant or Multi-stem	Actual # of Plants:
Acreage of Infestation (circle one) less than 1/2 acre 1/2-1 acre 1-10 acres more than 10 acres			
Location type (circle all that apply): impoundment /pond edge stream edge roadside wooded area ditch field other			
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Plant Removed: Yes or No		Description:	



Site:	Time:	Latitude:	Longitude:
Photo ID:		Description of location:	
Species Name:		Single Plant or Multi-stem	Actual # of Plants:
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Total plant vigor: 0-3 = very poor 4-6 = poor 7-9 = fair 10-12 = good			
Plant Removed: Yes No		Description:	

Site:	Time:	Latitude:	Longitude:
Photo ID:		Description of location:	
Species Name:		Single Plant or Multi-stem	Actual # of Plants:
Acreage of Infestation (circle one) less than 1/2 acre 1/2-1 acre 1-10 acres more than 10 acres			
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Total plant vigor: 0-3 = very poor 4-6 = poor 7-9 = fair 10-12 = good			
Plant Removed: Yes or No		Description:	

Other Species Observed: _____

Other Pertinent Survey Information: _____

Historic Purple Loosestrife: _____

Signature _____

Signature _____

* If colonies less than 20 plants are located on lands owned by RWE within the Project Boundary, RWE will take appropriate steps to eliminate plants at time of detection. For stands larger than 20 plants located on lands owned by RWE within the Project boundary, RWE will consult with the WDNR and USFWS to determine control methods.



Purple Loosestrife Survey

Flambeau Lower Hydroelectric Project – FERC # 2421 Page ___ of ___

Date 8-8-16 Conducted By Stine Haag

HWL 146.724 TWL 1448.60 CFS 600 Equipment Used: _____

Air Temp: 79 °C Wind Speed: 7 ^{SSP} Barometer: 30.10 Sky Conditions: Partly Cloudy

Time Survey Started 15:50 Time Survey Ended 15:59 Boat (14ft or Canoe) and/or Foot

Latitude Start _____ Longitude End _____

Location of Survey Area: Tailrace _____ Bypass Reach X Impoundment _____ FHLLC Property X

Description of Location adjacent to dam and powerhouse

Purple Loosestrife Found: Yes or No Historic Info: Foot 2015 no PL Canoe portage 20min

Site:	Time:	Latitude:	Longitude:
Photo ID:		Description of location:	
Species Name:		Single Plant or Multi-stem	Actual # of Plants:
Acreage of Infestation (circle one) less than 1/2 acre 1/2-1 acre 1-10 acres more than 10 acres			
Location type (circle all that apply): impoundment/pond edge stream edge roadside wooded area ditch field other			
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Total plant vigor: 0-3 = very poor 4-6 = poor 7-9 = fair 10-12 = good			
Plant Removed: Yes No		Description:	

Site:	Time:	Latitude:	Longitude:
Photo ID:		Description of location:	
Species Name:		Single Plant or Multi-stem	Actual # of Plants:
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Total plant vigor: 0-3 = very poor 4-6 = poor 7-9 = fair 10-12 = good			
Plant Removed: Yes or No		Description:	



Site:	Time:	Latitude:	Longitude:
Photo ID:		Description of location:	
Species Name:		Single Plant or Multi-stem	Actual # of Plants:
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Total plant vigor: 0-3 = very poor 4-6 = poor 7-9 = fair 10-12 = good			
Plant Removed: Yes No		Description:	

Site:	Time:	Latitude:	Longitude:
Photo ID:		Description of location:	
Species Name:		Single Plant or Multi-stem	Actual # of Plants:
Acreage of Infestation (circle one) less than 1/2 acre 1/2-1 acre 1-10 acres more than 10 acres			
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Total plant vigor: 0-3 = very poor 4-6 = poor 7-9 = fair 10-12 = good			
Plant Removed: Yes or No		Description:	

Other Species Observed: _____

Other Pertinent Survey Information: _____

Historic Purple Loosestrife: _____

Signature _____

Signature _____

* If colonies less than 20 plants are located on lands owned by RWE within the Project Boundary, RWE will take appropriate steps to eliminate plants at time of detection. For stands larger than 20 plants located on lands owned by RWE within the Project boundary, RWE will consult with the WDNR and USFWS to determine control methods.



Appendix D

Photos



Photo 1. Purple loosestrife growing in wetland area.

Document Content(s)

17-02-06 BRK FLLW Final P L Rpt To FERC.PDF.....1-17