



February 6, 2017

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

**RE: Flambeau Upper FERC Project Number 2640
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 Upper Hydroelectric Project. The report is a requirement of Flambeau's Federal license pursuant to article 412. Monitoring was conducted on August 8, 2016. No out of the ordinary issues were encountered. Purple Loosestrife was observed on the Power Canal/Bypassed Reach at one site. One Purple Loosestrife plant was 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 January 5, 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 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 "JK", is written over a horizontal line.

Handwritten initials "JK" in black ink, positioned to the left of the typed name.

Mr. Jason Kreuzscher
Vice President

Attachment: Flambeau Upper Final Purple Loosestrife Inventory Report

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

2016 Purple Loosestrife Inventory
for
Flambeau Upper Hydroelectric Project
FERC Project #2640
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 Upper Hydroelectric Project, FERC #2640

On August 8, 2016, White Water Associates, Inc. performed an inventory of purple loosestrife at the Flambeau Upper 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 Upper Project boundary was divided into three different areas; *the impoundment* (from just downstream to the last rapids before the impoundment to the dam), *the power canal/bypassed reach* (the power canal from the dam to the powerhouse, and the bypassed reach area from the dam to the single lane service bridge just upstream of the HWY 182 bridge), and *the tailrace* (from the single lane service bridge just upstream of the HWY 182 bridge to the HWY 182 bridge).

The impoundment was surveyed by boat and no purple loosestrife plants were found.

The power canal/bypassed reach was surveyed on foot and one purple loosestrife plant was found. This plant was removed.

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 A

Maps



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

Appendix B

Tables

Table 1. GPS points for purple loosestrife inventory at Flambeau Upper, FERC#2640.

<i>GPS Point</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Plant Height</i>	<i>Stand Area</i>	<i>Comments</i>
FLUPPL001	45.94678	-90.43405	N/A	N/A	2002-first observed. 15-25 plants. 2003-discovered plants were not purple loosestrife but winged loosestrife. 2004-plants removed. 2007-reoccurrence of plants. 2008-2015- no plants observed. 2016-no plants observed.
FLUPPL002	45.93593	-90.44344	N/A	N/A	2006-first observed. 2007-plants observed. 2008-2015-no plants observed. 2016-no plants observed.
FLUPPL003 (FLUP PLA)	45.93397	-90.44525	3'	1'x1'	2016-first observed. 1 plant was observed and pulled.

Appendix C

Scans of Datasheets

Purple Loosestrife Survey

Flambeau Upper Hydroelectric Project – FERC # 2641 Page ___ of ___

Date 8/8/16 Conducted By Stine Hoag

HWL 1486.6 TWL 1467.6 CFS 700 Equipment Used: _____

Air Temp: 75 °F Wind Speed: 5 mph Barometer: 30.10 Sky Conditions: 95% clouds

Time Survey Started 10:25 Time Survey Ended 1:00 pm Boat (14ft or Canoe) and/or Foot

Latitude Start 42 47 17 Longitude End _____

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

Description of Location downstream of last rapids before the impoundment to the dam

Purple Loosestrife Found: Yes or No Historic Info: 2015 NO PL (2007 last)

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			
Plant Flowering: 1 = <25% of plants 2 = 26-50% of plants 3 = 51-99% of plants 4 = 100% of plants			
Beetle Feeding: 1 = 76-100% feeding 2 = 51-75% feeding 3 = 25-50% feeding 4 = 0-25% feeding			
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			
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			
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Beetle Feeding: 1 = 76-100% feeding 2 = 51-75% feeding 3 = 25-50% feeding 4 = 0-25% feeding			
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			
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			
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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: Eagle, 3 painted turtles, 3 turkey vultures

Other Pertinent Survey Information: NO PL Found

Historic Purple Loosestrife: _____

Signature [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

Flamborough Upper Hydroelectric Project – FERC # 2640 Page ___ of ___

Date 8/8/16 Conducted By Stine Haag

HWL 146.60 TWL 147.60 CFS 700 Equipment Used: _____

Air Temp: 81 °C Wind Speed: 510 mph Barometer: 30.10 Sky Conditions: Partly Cloudy

Time Survey Started 13:07 Time Survey Ended 14:07 Boat (14ft or Canoe) and/or Foot

Latitude Start N 45, 93398 Longitude End _____
W 090, 44525 Power Canal

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

Description of Location Power canal from the dam to the powerhouse and bypassed reach
area from dam to the single talme services bridge just upstream of
 Purple Loosestrife Found: Yes or No Historic Info: foot 205 north (2007 case) Hwy 182 bridge

Site: <u>FLUPPLA</u>	Time: <u>13:43</u>	Latitude:	Longitude:
Photo ID:	Description of location:		
Species Name:	Single Plant or Multi-stem	Actual # of Plants: <u>✓</u>	
Acreage of Infestation (circle one) less than 1/2 acre <u>1/2-1 acre</u> 1-10 acres more than 10 acres			
Location type (circle all that apply): impoundment/pond edge stream edge roadside wooded area ditch field other <u>By walking Trout Drain Wetland</u>			
Stand Area Density (feet x feet): <u>1x1</u>		Size Colony (#plants): <u>S = 0-5 M = 6-50 L = >50</u>	
Plant Height: 1 = <1 ft 2 = 1-2 ft <u>3 = 2-4 ft</u> 4 = >4 ft ~ _____ 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 4 = 0-25% feeding			
Total plant vigor: <u>0-3 = very poor 4-6 = poor 7-9 = fair 10-12 = good</u>			
Plant Removed: <u>Yes</u>	No	Description: <u>pulled from root</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 ~ _____	
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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			
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:
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:	

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 upper Hydroelectric Project – FERC # 2640 Page ___ of ___

Date 8-8-16 Conducted By Stine Haag

HWL 146.60 TWL 146.60 CFS 700 Equipment Used: _____

Air Temp: 75 °C Wind Speed: 5 mph Barometer: 30.10 Sky Conditions: 95% clouds

Time Survey Started _____ Time Survey Ended _____ Boat (14ft or Canoe) and/or Foot

Latitude Start _____ Longitude End _____

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

Description of Location Single lane service bridge just upstream of Hwy 182 bridge to the Hwy 182 bridge.

Purple Loosestrife Found: Yes or No Historic Info: boat (2015) no PL

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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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.



Document Content(s)

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