



**Wisconsin Public Service Corporation**  
 700 North Adams Street  
 P.O. Box 19001  
 Green Bay, WI 54307-9001  
 www.wisconsinpublicservice.com

December 18, 2018

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

Dear Ms. Bose:

**SUBJECT: Invasive Species Monitoring Plan – Purple Loosestrife, Eurasian Water Milfoil, and Zebra Mussel Report**

<b><u>Hydro</u></b>	<b><u>FERC Project No.</u></b>	<b><u>NATDAM No.</u></b>	<b><u>License Article</u></b>
<b>Alexander</b>	<b>1979</b>	<b>WI00748</b>	<b>406</b>

In accordance with the Federal Energy Regulatory Commission (FERC) Order Approving the Invasive Species Monitoring Plans issued March 4, 2005 and the Order Amending Purple Loosestrife Control Measures in Approved Monitoring Plan issued July 9, 2009 for the Alexander Hydroelectric Project, Wisconsin Public Service (WPS) is required to provide monitoring reports of the purple loosestrife (PL), Eurasian water milfoil (EWM), and zebra mussel (ZM) surveys to FERC by December 31 each year a survey has been completed.

2018 Purple Loosestrife Survey Results

A survey for PL was completed on July 18, 2018. Thirty-six colonies of PL were identified at the Project. Of the thirty-six colonies, twenty were small or medium colonies and were completely hand pulled and disposed of offsite. Appendix A includes the 2018 PL survey results.

In 2018, WPS released a sum total of approximately 10,000 *Galerucella species* beetles (beetles) in three different locations to supplement the existing beetle populations. WPS observed beetle feeding on twenty-five of the thirty-six identified colonies.

WPS will continue monitoring for PL and release a minimum sum total of 6,000 beetles annually in at least two separate locations. The next PL survey is scheduled for 2019, in conjunction with the EWM survey.

2018 Eurasian Water Milfoil Survey Results

A survey for EWM was completed on July 18, 2018. EWM was not observed during the survey or during any of the previous annual surveys. Appendix B includes the 2018 EWM survey results. The next EWM survey is scheduled for 2019, in conjunction with the PL survey.

Ms. Kimberly D. Bose  
December 18, 2018  
Page 2 of 2

Zebra Mussels

Monthly inspections of substrate samplers for the presence of ZM were conducted during the months of May through September 2018. ZM were not observed during any of the monthly substrate inspections. Appendix C includes the 2018 ZM monthly substrate sampling results.

A copy of this report was submitted to the Wisconsin Department of Natural Resources (WDNR), US Fish and Wildlife Service (FWS), and the University of Wisconsin Sea Grant Institute (UW) on October 30, 2018. The WDNR, FWS and UW did not provide any comments. Appendix D includes the 2018 documentation of consultation.

Should you have any questions relative to this material, please do not hesitate to contact Jes Roloff at (920) 433-5558 or [Jessica.Roloff@WECEnergyGroup.com](mailto:Jessica.Roloff@WECEnergyGroup.com).

Sincerely,



Todd P. Jastremski  
Asset Manager Hydro Operations  
We Energies  
800 Industrial Park Drive  
Iron Mountain, MI 49801

JRR/cll

Enc: Appendix A – 2018 Purple Loosestrife Results – 7 Pages  
Appendix B – 2018 Eurasian Water Milfoil Survey Results – 3 Pages  
Appendix C – 2018 Zebra Mussel Monthly Substrate Sampling Results – 2 Pages  
Appendix D – 2018 Documentation of Consultation – 12 Pages

cc: Ms. Cheryl Laatsch, WDNR  
Mr. Nicholas Utrup, USFWS  
Mr. John Zygaj, FERC - CRO

**APPENDIX A**

**2018 PURPLE LOOSESTRIFE SURVEY RESULTS**

## 2018 Purple Loosestrife Survey Form

Hydroelectric project: Alexander Hydroelectric Project

Beetle Release Date: June 26, 2018      Inspection date: July 18, 2018

Colony ID #	Colony Size S 0-5 M 6-50 L >50	General Plant Vigor			Total Plant Vigor 10-12 = good 7-9 = fair 4-6 = poor 0-3 = very poor	Notes	GPS Point
		Plant Height 4 = >4ft 3 = 2-4ft 2 = 1-2ft 1 = <1ft	Plant Flowering 4 = 100% of plants 3 = 51-99% of plants 2 = 26-50% of plants 1 = <25% of plants	Beetle Feeding 5 = 0% feeding 4 = 1 - 25% feeding 3 = 26-50% feeding 2 = 51-75% feeding 1 = >76% feeding			
1	M 6-50	3	3	2	8	Pulled all plants.	1761
2	No Longer Able To Identify						1758
3	S 0-5	3	1	4	8		1757
4	S 0-5	3	3	4	10	Pulled all plants.	1756
5	M 6-50	3	3	3	9	Released 4,000 beetles.	1788
6	No Longer Able To Identify						1787
7	No Longer Able To Identify						
8	M 6-50	3	2	2	7	Released 2,000 beetles.	1104
9	S 0-5	3	2	3	8		1786
10	S 0-5	3	3	5	11	2 plants had bags over top of them, beetle raising?	1785
11	No Longer Able To Identify						
12	No Longer Able To Identify						
13	S 0-5	4	3	3	10	Pulled all plants.	1784
14	No Longer Able To Identify						1783
15	No Longer Able To Identify						
16	No Longer Able To Identify						1782
17	No Longer Able To Identify						

## 2018 Purple Loosestrife Survey Form

Hydroelectric project: Alexander Hydroelectric Project

Beetle Release Date: June 26, 2018      Inspection date: July 18, 2018

Colony ID #	Colony Size S 0-5 M 6-50 L >50	General Plant Vigor			Total Plant Vigor 10-12 = good 7-9 = fair 4-6 = poor 0-3 = very poor	Notes	GPS Point
		Plant Height 4 = >4ft 3 = 2-4ft 2 = 1-2ft 1 = <1ft	Plant Flowering 4 = 100% of plants 3 = 51-99% of plants 2 = 26-50% of plants 1 = <25% of plants	Beetle Feeding 5 = 0% feeding 4 = 1 - 25% feeding 3 = 26-50% feeding 2 = 51-75% feeding 1 = >76% feeding			
18		No Longer Able To Identify					
19		No Longer Able To Identify					
20	S 0-5	3	3	4	10	Pulled all plants.	1779
21	M 6-50	4	2	2	8		1776
22		No Longer Able To Identify					
23	M 6-50	4	2	2	8		1774
24		No Longer Able To Identify					1772
25	S 0-5	3	1	4	8	Pulled all plants.	1770
26		No Longer Able To Identify					
27	M 6-50	3	3	4	10		1769
28		No Longer Able To Identify					
29		No Longer Able To Identify					
30	S 0-5	3	2	4	9		1768
31		No Longer Able To Identify					
32	S 0-5	3	2	4	9	Pulled all plants.	1767
33	S 0-5	4	2	5	11	Pulled all plants.	1766
34	M 6-50	2	2	3	7	Pulled all plants.	1763

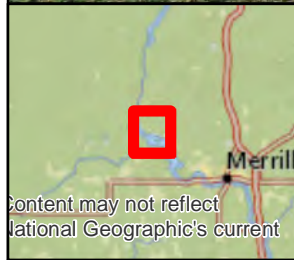
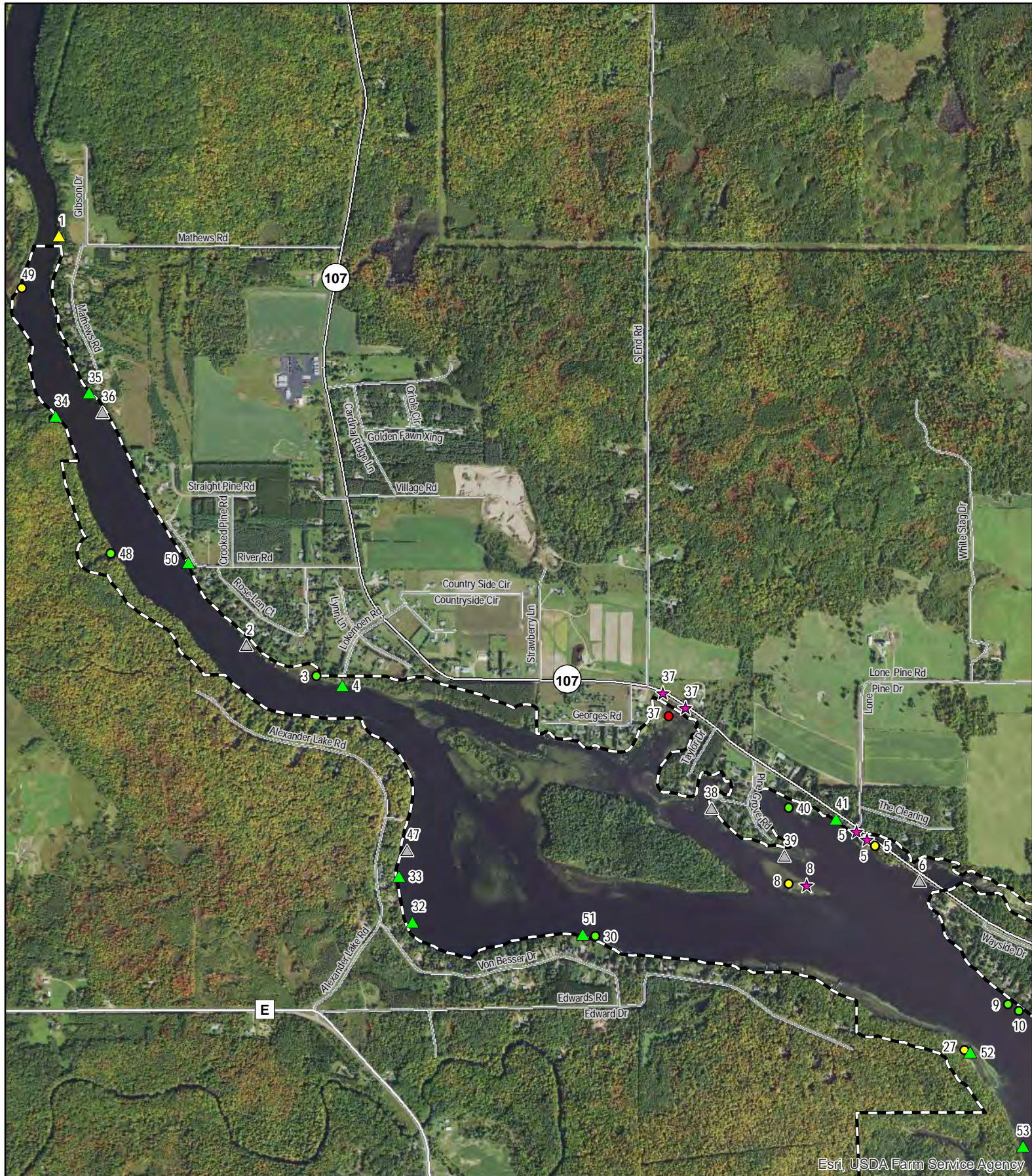
## 2018 Purple Loosestrife Survey Form

Hydroelectric project: Alexander Hydroelectric Project

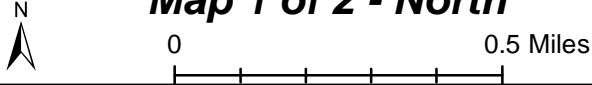
Beetle Release Date: June 26, 2018      Inspection date: July 18, 2018

Colony ID #	Colony Size S 0-5 M 6-50 L >50	General Plant Vigor			Total Plant Vigor 10-12 = good 7-9 = fair 4-6 = poor 0-3 = very poor	Notes	GPS Point
		Plant Height 4 = >4ft 3 = 2-4ft 2 = 1-2ft 1 = <1ft	Plant Flowering 4 = 100% of plants 3 = 51-99% of plants 2 = 26-50% of plants 1 = <25% of plants	Beetle Feeding 5 = 0% feeding 4 = 1 - 25% feeding 3 = 26-50% feeding 2 = 51-75% feeding 1 = >76% feeding			
35	S 0-5	3	3	5	11	Pulled all plants.	1760
36	No Longer Able To Identify						1759
37	L >50	3	3	4	10	Released 4,000 beetles. Shallow.	1793, 1869, 1870
38	No Longer Able To Identify						1792
39	No Longer Able To Identify						1791
40	S 0-5	3	3	4	10		1790
41	S 0-5	3	3	4	10	Pulled all plants.	1789
42	No Longer Able To Identify						1781
43	S 0-5	3	3	5	11	Pulled all plants.	1778
44	M 6-50	3	3	4	10		1775
45	No Longer Able To Identify						1773
46	No Longer Able To Identify						1771
47	No Longer Able To Identify						1765
48	S 0-5	3	1	4	8	Shallow.	1764
49	M 6-50	3	2	2	7		1762
50	S 0-5	3	3	3	9	NEW. Pulled all plants.	1890
51	S 0-5	4	3	5	12	NEW. Pulled all plants.	1892





**Alexander  
Hydroelectric Project  
Purple Loosestrife Survey-2018  
Map 1 of 2 - North**



- |                             |                            |
|-----------------------------|----------------------------|
| Project Boundary            | Medium; Pulled all Plants  |
| Purple Loosestrife Severity | High                       |
| Low                         | High; Pulled all Plants    |
| Low, Pulled all Plants      | No longer able to identify |
| Medium                      | Beetle Release Site        |





**Alexander  
Hydroelectric Project  
Purple Loosestrife Survey-2018  
Map 1 of 2 - North**



0

Project Boundary

Purple Loosestrife Severity

Low

Low, Pulled all Plants

Medium

Medium; Pulled all Plants

High

High; Pulled all Plants

No longer able to identify

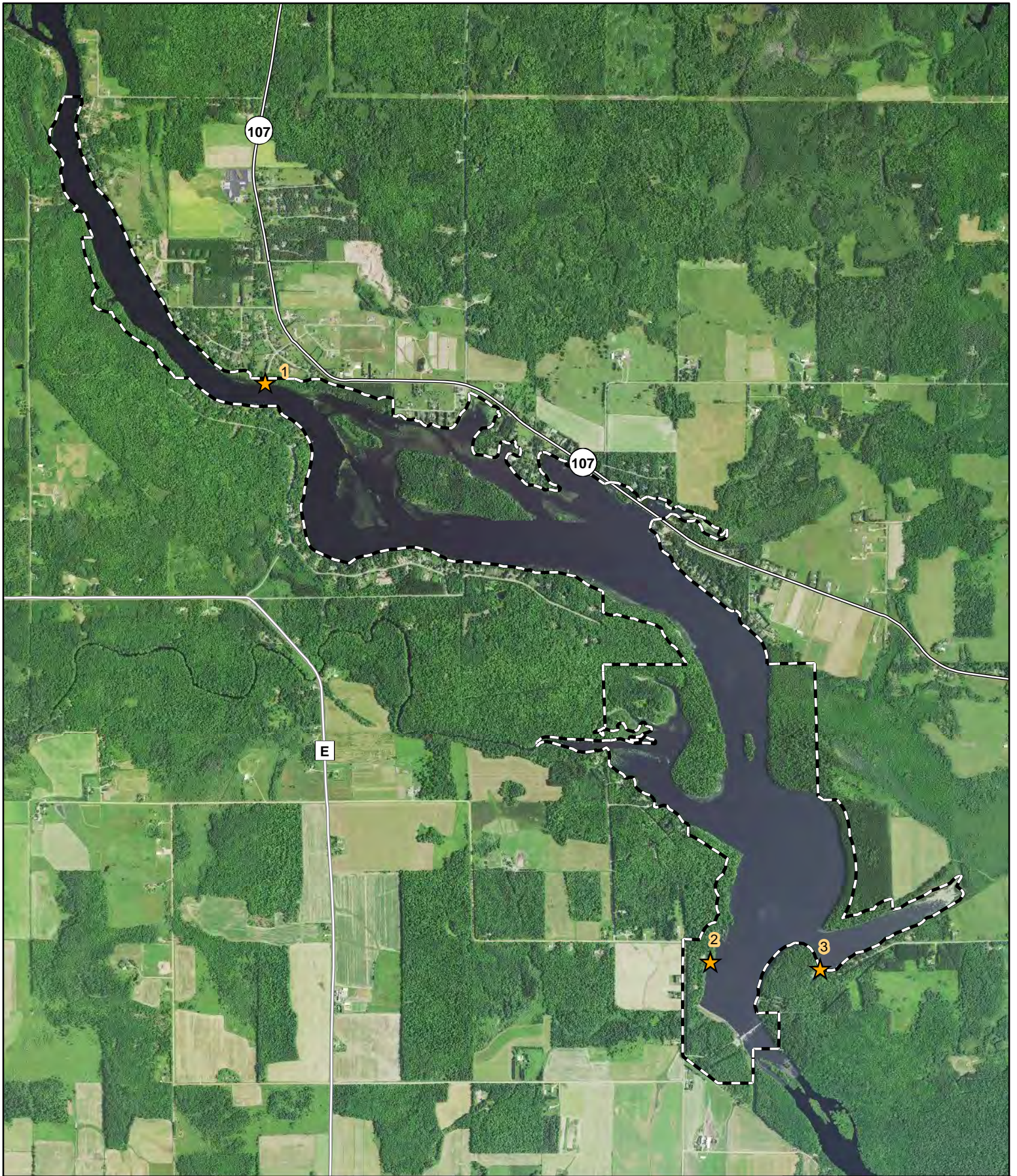
0.5 Miles


Content may not reflect National Geographic's current

## **APPENDIX B**

### **2018 EURASIAN WATER MILFOIL SURVEY RESULTS**








	Oneida
Price	Lincoln
	
Taylor	
	Marathon

**Alexander  
Hydroelectric Project  
Eurasian Water Milfoil Survey-2018**

0 1,000 2,000 3,000 4,000  
Feet

 Project Boundary  
 Transect Point

N  


Date: 10/24/2017

**APPENDIX C**

**2018 ZEBRA MUSSEL MONTHLY SUBSTRATE SAMPLING RESULTS**

ZEBRA MUSSEL INSPECTION RESULTS  
WESTERN HYDROELECTRIC PROJECTS

HYDRO NAME

- Grandfather Falls     Merrill     Tomahawk     Otter Rapids  
 Wausau     Alexander     Jersey     Hat Rapids

INSPECTION TYPE:  MONTHLY INSPECTION     INSPECTION DURING DRAWDOWN  
DATE: 5-29-18  
COMMENTS/RESULTS: OK m.K.

INSPECTION TYPE:  MONTHLY INSPECTION     INSPECTION DURING DRAWDOWN  
DATE: 6-7-18  
COMMENTS/RESULTS: OK m.K.

INSPECTION TYPE:  MONTHLY INSPECTION     INSPECTION DURING DRAWDOWN  
DATE: 7-22-18  
COMMENTS/RESULTS: OK m.K.

INSPECTION TYPE:  MONTHLY INSPECTION     INSPECTION DURING DRAWDOWN  
DATE: 8-8-18  
COMMENTS/RESULTS: OK m.K.

INSPECTION TYPE:  MONTHLY INSPECTION     INSPECTION DURING DRAWDOWN  
DATE: 9-20-18  
COMMENTS/RESULTS: OK m.K.

INSPECTION TYPE:  MONTHLY INSPECTION     INSPECTION DURING DRAWDOWN  
DATE: \_\_\_\_\_  
COMMENTS/RESULTS: \_\_\_\_\_

INSPECTION TYPE:  MONTHLY INSPECTION     INSPECTION DURING DRAWDOWN  
DATE: \_\_\_\_\_  
COMMENTS/RESULTS: \_\_\_\_\_

INSPECTION TYPE:  MONTHLY INSPECTION     INSPECTION DURING DRAWDOWN  
DATE: \_\_\_\_\_  
COMMENTS/RESULTS: \_\_\_\_\_

INSPECTION TYPE:  MONTHLY INSPECTION     INSPECTION DURING DRAWDOWN  
DATE: \_\_\_\_\_  
COMMENTS/RESULTS: \_\_\_\_\_

INSPECTION TYPE:  MONTHLY INSPECTION     INSPECTION DURING DRAWDOWN  
DATE: \_\_\_\_\_  
COMMENTS/RESULTS: \_\_\_\_\_

**APPENDIX D**

**2018 DOCUMENTATION OF CONSULTATION**



Wisconsin Public Service Corporation

700 North Adams Street  
P.O. Box 19001  
Green Bay, WI 54307-9001

www.wisconsinpublicservice.com

October 30, 2018

Ms. Cheryl Laatsch  
Wisconsin Department of Natural Resources  
PO Box 7921  
Madison, WI 53707-7921

Dear Ms. Laatsch:

**SUBJECT: Invasive Species Monitoring Plan – Purple Loosestrife, Eurasian Water Milfoil, and Zebra Mussel Report**

<u>Hydro</u>	<u>FERC Project No.</u>	<u>NATDAM No.</u>	<u>License Article</u>
Alexander	1979	WI00748	406

In accordance with the Federal Energy Regulatory Commission (FERC) Order Approving the Invasive Species Monitoring Plan for the Alexander Hydroelectric Project, issued March 4, 2005, Wisconsin Public Service Corporation (WPS) is to provide monitoring reports of the purple loosestrife (PL), Eurasian water milfoil (EWM), and zebra mussel (ZM) surveys to the Wisconsin Department of Natural Resources (WDNR) and U.S. Fish & Wildlife Service (FWS) by October 31, each year a survey has been completed.

2018 Purple Loosestrife Survey Results

A survey for PL was completed on July 18, 2018. Thirty-six colonies of PL were identified at the Project. Of the thirty-six colonies, twenty were small or medium colonies and were completely hand pulled and disposed of offsite. Appendix A includes the 2018 PL survey results.

In 2018, WPS released approximately 10,000 *Galerucella species* beetles in three different locations to supplement the existing beetle populations. WPS observed beetle feeding on twenty-five of the thirty-six identified colonies.

WPS will continue monitoring for PL and releasing a minimum of 6,000 beetles annually in at least two separate locations as outlined in the Invasive Species Monitoring Plan. The next PL survey is scheduled for 2019, in conjunction with the EWM survey.

2018 Eurasian Water Milfoil Survey Results

A survey for EWM was completed on July 18, 2018. EWM was not observed during the survey or during any of the previous annual surveys. Appendix B includes the 2018 EWM survey results. The next EWM survey is scheduled for 2019, in conjunction with the PL survey.

Zebra Mussels

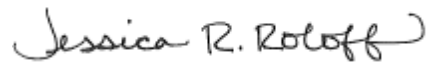
Monthly inspections of substrate samplers for the presence of ZM were conducted during the months of May through September 2018. ZM were not observed during any of the monthly substrate inspections. Appendix C includes the 2018 ZM monthly substrate sampling results.



Ms. Cheryl Laatsch  
October 30, 2018  
Page 2 of 2

Please provide any comments you may have regarding this report within 30 days. Should you have any questions relative to this material, please do not hesitate to contact me at (920) 433-5558 or [Jessica.Roloff@WECEnergyGroup.com](mailto:Jessica.Roloff@WECEnergyGroup.com).

Sincerely,

A handwritten signature in black ink that reads "Jessica R. Roloff". The signature is written in a cursive style with a large, sweeping initial 'J'.

Jes Roloff  
Environmental Consultant  
Wisconsin Public Service  
700 North Adams Street  
Green Bay, WI 54301

Enc: Appendix A – 2018 Purple Loosestrife Survey Results  
Appendix B – 2018 Eurasian Water Milfoil Survey Results  
Appendix C – 2018 Zebra Mussel Monthly Substrate Sampling Results

**IN THE INTEREST OF PAPERWORK REDUCTION, REDUNDANT MATERIALS ARE NOT INCLUDED**

**NO COMMENTS RECEIVED BY THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES**



Wisconsin Public Service Corporation

700 North Adams Street  
P.O. Box 19001  
Green Bay, WI 54307-9001

www.wisconsinpublicservice.com

October 30, 2018

Mr. Nicholas Utrup  
U.S. Fish & Wildlife Service  
Department of the Interior  
4101 American BLVD E  
Bloomington, MN 55425

Dear Mr. Utrup:

**SUBJECT: Invasive Species Monitoring Plan – Purple Loosestrife, Eurasian Water Milfoil, and Zebra Mussel Report**

<u>Hydro</u>	<u>FERC Project No.</u>	<u>NATDAM No.</u>	<u>License Article</u>
Alexander	1979	WI00748	406

In accordance with the Federal Energy Regulatory Commission (FERC) Order Approving the Invasive Species Monitoring Plan for the Alexander Hydroelectric Project, issued March 4, 2005, Wisconsin Public Service Corporation (WPS) is to provide monitoring reports of the purple loosestrife (PL), Eurasian water milfoil (EWM), and zebra mussel (ZM) surveys to the Wisconsin Department of Natural Resources (WDNR) and U.S. Fish & Wildlife Service (FWS) by October 31, each year a survey has been completed.

2018 Purple Loosestrife Survey Results

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WPS will continue monitoring for PL and releasing a minimum of 6,000 beetles annually in at least two separate locations as outlined in the Invasive Species Monitoring Plan. The next PL survey is scheduled for 2019, in conjunction with the EWM survey.

2018 Eurasian Water Milfoil Survey Results

A survey for EWM was completed on July 18, 2018. EWM was not observed during the survey or during any of the previous annual surveys. Appendix B includes the 2018 EWM survey results. The next EWM survey is scheduled for 2019, in conjunction with the PL survey.

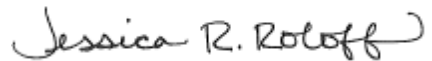
Mr. Nicholas Utrup  
October 30, 2018  
Page 2 of 2

Zebra Mussels

Monthly inspections of substrate samplers for the presence of ZM were conducted during the months of May through September 2018. ZM were not observed during any of the monthly substrate inspections. Appendix C includes the 2018 ZM monthly substrate sampling results.

Please provide any comments you may have regarding this report within 30 days. Should you have any questions relative to this material, please do not hesitate to contact me at (920) 433-5558 or [Jessica.Roloff@WECEnergyGroup.com](mailto:Jessica.Roloff@WECEnergyGroup.com).

Sincerely,



Jes Roloff  
Environmental Consultant  
Wisconsin Public Service  
700 North Adams Street  
Green Bay, WI 54301

Enc: Appendix A – 2018 Purple Loosestrife Survey Results  
Appendix B – 2018 Eurasian Water Milfoil Survey Results  
Appendix C – 2018 Zebra Mussel Monthly Substrate Sampling Results

**IN THE INTEREST OF PAPERWORK REDUCTION, REDUNDANT MATERIALS ARE NOT INCLUDED**

**NO COMMENTS RECEIVED BY THE US FISH AND WILDLIFE SERVICE**



Wisconsin Public Service Corporation  
700 North Adams Street  
P.O. Box 19001  
Green Bay, WI 54307-9001  
www.wisconsinpublicservice.com

October 30, 2018

Titus S. Seilheimer  
UW-Manitowoc  
705 Viebahn St.  
Manitowoc, WI 54220

Mr. Seilheimer:

**SUBJECT: Invasive Species Monitoring Plan – Zebra Mussel Report**

<u>Hydro</u>	<u>FERC Project No.</u>	<u>NATDAM No.</u>	<u>License Article</u>
<b>Alexander</b>	<b>1979</b>	<b>WI00748</b>	<b>406</b>

In accordance with the Federal Energy Regulatory Commission (FERC) Order Approving the Invasive Species Monitoring Plan for the Alexander Hydroelectric Project, issued March 4, 2005, Wisconsin Public Service Corporation (WPS) is to provide monitoring reports of the zebra mussel (ZM) surveys to the University of Wisconsin Sea Grant by October 31, each year a survey has been completed.

Monthly inspections of substrate samplers for the presence of ZM were conducted during the months of May through September 2018. ZM were not observed during any of the monthly substrate inspections. Appendix A includes the 2018 ZM monthly substrate sampling results.

Please provide any comments you may have regarding this report within 30 days. Should you have any questions relative to this material, please do not hesitate to contact me at (920) 433-5558 or [Jessica.Roloff@WECEnergyGroup.com](mailto:Jessica.Roloff@WECEnergyGroup.com).

Sincerely,

Jes Roloff  
Environmental Consultant  
Wisconsin Public Service  
700 North Adams Street  
Green Bay, WI 54301

Enc: Appendix A – 2018 Zebra Mussel Monthly Substrate Sampling Results



**IN THE INTEREST OF PAPERWORK REDUCTION, REDUNDANT MATERIALS ARE NOT INCLUDED**

**NO COMMENTS RECEIVED BY THE UNIVERSITY OF WISCONSIN SEA GRANT**