



Wisconsin Public Service Corporation

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

www.wisconsinpublicservice.com

December 7, 2011

FERC Project No. 1979

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

Dear Secretary Bose:

RE: Invasive Species Monitoring Report for Alexander Hydroelectric Project

As per the order approving the Invasive Species Monitoring Plan for the Alexander Hydroelectric Project (Project No. 1979) issued on March 4, 2005, Wisconsin Public Service Corporation (WPS) is submitting the purple loosestrife, Eurasian water milfoil (EWM) and zebra mussel survey results.

Additionally, as per the Order Amending Purple Loosestrife Control Measures in Approved Monitoring Plan issued on July 9, 2009, WPS revised the survey methods to include general plant vigor information in its purple loosestrife survey results.

Purple Loosestrife

A survey for purple loosestrife was completed for the Alexander Project on July 21, 2011. The survey results indicated that there were a total of twenty (20) purple loosestrife colonies on the project. No colonies were cut or sprayed to avoid adverse impacts to existing or potential new populations of *Galerucella sp.* beetles (beetles). Each colony located during the survey was issued an individual number and mapped on the WPS GIS system. Plant vigor information was recorded for each colony. Beetle feeding was noted at fourteen (14) colonies. Thirteen (13) of those colonies had plant vigor classifications of less than good. For comparison, the 2010 survey noted a total of twenty-one (21) colonies. Beetle feeding occurred on ten (10) of those colonies and only five (5) colonies had plant vigor classifications of less than good.

In 2011, WPS released beetles at the Alexander Project that were reared in potted purple loosestrife plants. The beetles were released near existing loosestrife colonies. Approximately 3000 beetles were released on July 17, 2011.

The 2011 purple loosestrife figure, including colony locations, identification numbers, and beetle release locations can be found in Appendix A. The purple loosestrife general plant vigor survey forms are also found in Appendix A.

Ms. Kimberly D. Bose, Secretary

December 7, 2011

Page 2 of 2

Eurasian Water Milfoil

A survey for EWM was conducted on July 21, 2011. Samples were collected at three sampling locations within the Alexander Hydroelectric Project. The sample locations were specifically chosen near boat landings. No EWM was identified during the survey. A summary of 2011 EWM survey results has been included in Appendix B.

Zebra Mussels

Monthly inspections of substrate samplers for the presence of zebra mussels were conducted during the months of May through September. Zebra mussels were not found during any of the monthly inspections. During the May inspection it was noted that the substrate sampler was damaged. It was replaced with a new substrate sampler in June.

Documentation of submittal of these reports to the University of Wisconsin Manitowoc, the Wisconsin Department of Natural Resources and the United States Fish and Wildlife Service has been included in Appendix D. No comments were received from any of the resource agencies.

If you have any questions regarding this report, please do not hesitate to contact Darrin Johnson at (715) 345-7509.

Sincerely,



Terry P. Jensky

Vice President-Energy Supply Operations

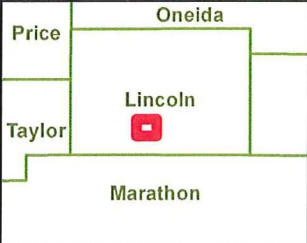
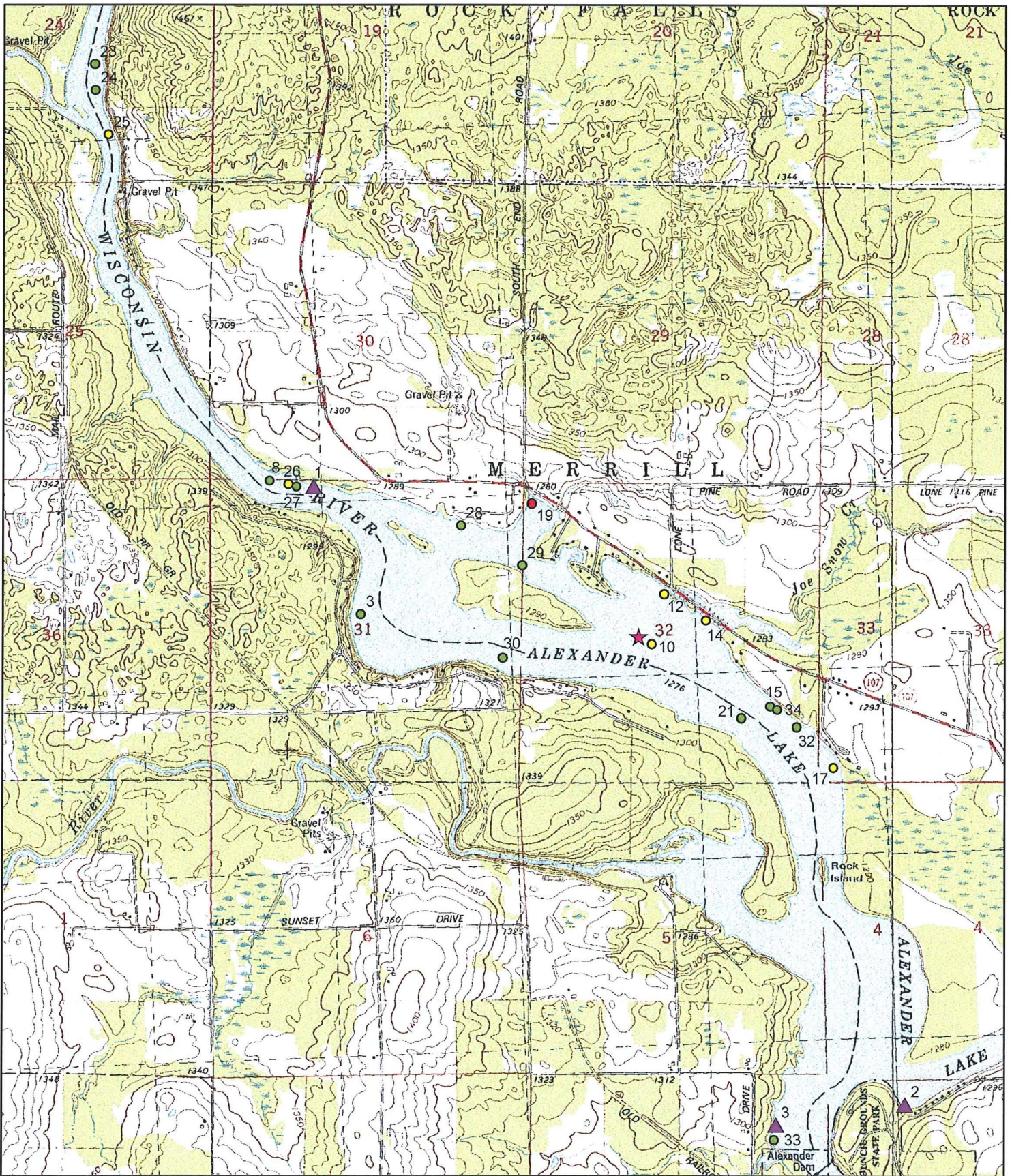
Enc.

cc: Mr. Howard Giesler, WPS
Mr. Bruce Crocker, WPS
Ms. Joan Johaneck, WPS
Ms. Pat Grant, FERC-Chicago

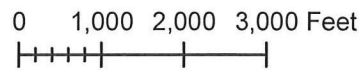
Mr. Gil Snyder, WPS
Mr. Bill Bloczynski, WPS
Mr. Shawn Puzen, IBS

APPENDIX A

ALEXANDER HYDROELECTRIC PROJECT
PURPLE LOOSESTRIFE SURVEY RESULTS



2011 Alexander Flowage Invasive Plant Survey



10/10/11

Legend

- | | |
|--------------------------|----------------------|
| ★ Beetle Release Site | ● Purple Loosestrife |
| ▲ Eurasian Water Milfoil | ● 0-5 Plants |
| | ● 6-50 Plants |
| | ● >50 Plants |

Purple Loosestrife Survey Form

Hydroelectric Project

Alexander 2011

Inspection Date

7/21/2011

Colony Number	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=1-2 ft 1= <1 ft	Plant Flowering 4=100% of plants 3=51-99% of plants 2=26-50% of plants 1= <25% of plants	Beetle Feeding 4=0-25% feeding 3=26-50% feeding 2=51-75% feeding 1=76-100% feeding			
1			NO PLANTS NOTED				
2			NO PLANTS NOTED				
3	S	4	4	4	12	no feeding	212
4			NO PLANTS NOTED				
5			NO PLANTS NOTED				
6			NO PLANTS NOTED				
7			NO PLANTS NOTED				
8	S	3	3	3	9	feeding	215
9			NO PLANTS NOTED				
10	M	3	3	3	9	feeding	209
11			NO PLANTS NOTED				
12	M	3	3	1	7	heavy feeding	201

Purple Loosestrife Survey Form

Hydroelectric Project
Inspection Date

Alexander 2011

7/21/2011

General Plant Vigor							
Colony Number	Colony Size S 0-5 M 6-50 L >50	Plant Height 4=>4ft 3=2-4ft 2=1-2 ft 1= <1 ft	Plant Flowering 4=100% of plants 3=51-99% of plants 2=26-50% of plants 1= <25% of plants	Beetle Feeding 4=0-25% feeding 3=26-50% feeding 2=51-75% feeding 1=76-100% feeding	Total Plant Vigor 10-12=good 7-9=fair 4-6=poor 0-3=very poor	Notes	GPS Point
13			NO PLANTS NOTED				
14	M	2	2	1	5	heavy feeding	202
15	S	4	3	2	9	feeding	203
16			NO PLANTS NOTED				
17	M	3	3	3	9	feeding	206
18			NO PLANTS NOTED				
19	L	3	3	1	7	heavy feeding	na
20			NO PLANTS NOTED				
21	S	4	4	4	12	no feeding	208
22			NO PLANTS NOTED				
23	S	4	4	4	12	no feeding	214
24	S	4	4	4	12	no feeding	213

APPENDIX B

ALEXANDER HYDROELECTRIC PROJECT
EURASIAN WATER MILFOIL SURVEY RESULTS

2011 Eurasian Water Milfoil Surveys*Alexander*

Transect #	0-0.5M	0.5M-1.5M	1.5M-3M	>3M
1A	0	NA	NA	NA
1B	0	0	NA	NA
1C	0	0	NA	NA
2A	0	NA	NA	NA
2B	0	0	NA	NA
2C	0	0	NA	NA
3A	0	NA	NA	NA
3B	0	0	NA	NA
3C	0	0	0	NA

NA-Not applicable

Abundance Scale 0=Absent, 1-Present, 2 Presence < 1/2, 3-Equal presence to other species

4- Dominant Species Present, 5- Total Infestation

Note: all transects are 40 feet in length and proceed away from shore in a direction perpendicular to the shoreline

APPENDIX C

ALEXANDER HYDROELECTRIC PROJECT
ZEBRA MUSSEL SURVEY RESULTS

ZEBRA MUSSEL INSPECTION RESULTS WESTERN HYDROELECTRIC PROJECTS

HYDRO NAME

- | | | | |
|--|---|-----------------------------------|---------------------------------------|
| <input type="checkbox"/> Grandfather Falls | <input type="checkbox"/> Merrill | <input type="checkbox"/> Tomahawk | <input type="checkbox"/> Otter Rapids |
| <input type="checkbox"/> Wausau | <input checked="" type="checkbox"/> Alexander | <input type="checkbox"/> Jersey | <input type="checkbox"/> Hat Rapids |

INSPECTION TYPE: <input checked="" type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE: <u>9-9-10</u>
COMMENTS/RESULTS: <u>0</u>

INSPECTION TYPE: <input checked="" type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE: <u>10-7-10</u>
COMMENTS/RESULTS: <u>0</u>

INSPECTION TYPE: <input checked="" type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE: <u>11-3-10</u>
COMMENTS/RESULTS: <u>0</u>

INSPECTION TYPE: <input checked="" type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE: <u>12-10-10</u>
COMMENTS/RESULTS: <u>0</u>

INSPECTION TYPE: <input checked="" type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE: <u>1-15-11</u>
COMMENTS/RESULTS: <u>Froze</u>

INSPECTION TYPE: <input type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE: <u>June 2011</u>
COMMENTS/RESULTS: <u>New Motel</u>

INSPECTION TYPE: <input checked="" type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE: <u>7-5-11</u>
COMMENTS/RESULTS: <u>0</u>

INSPECTION TYPE: <input checked="" type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE: <u>8-14</u>
COMMENTS/RESULTS: <u>0</u>

INSPECTION TYPE: <input checked="" type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE: <u>9-18-11</u>
COMMENTS/RESULTS: <u>0</u>

INSPECTION TYPE: <input type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE: _____
COMMENTS/RESULTS: _____

APPENDIX D
DOCUMENTATION OF CONSULTATION



Wisconsin Public Service Corporation

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

www.wisconsinpublicservice.com

October 18, 2011

Phil Moy
UW Manitowoc
705 Viebann Street
Manitowoc, WI 54420

Dear Mr. Moy:

RE: Alexander Hydroelectric Project (FERC Project No. 1979) Zebra Mussel Survey Results

As per the order approving the Invasive Species Monitoring Plan for the Alexander Hydroelectric Project issued March 4, 2005, Wisconsin Public Service Corporation (WPS) is submitting the survey results for zebra mussels.

Monthly inspections of substrate samplers for the presence of zebra mussels were conducted during the months of May through September. Zebra mussels were not found during any of the monthly inspections. During the May inspection, the substrate sampler was damaged. It was replaced with a new substrate sampler in June. A summary of the results has been included in Appendix A.

If you have any questions regarding this report, please contact Darrin Johnson at 715-345-7509.

Sincerely,

A handwritten signature in black ink, appearing to read 'Darrin Johnson', is written over the printed name.

Darrin Johnson
Environmental Consultant-Shoreline Management
715-345-7509

APPENDIX A
ALEXANDER HYDROELECTRIC PROJECT
ZEBRA MUSSEL SURVEY RESULTS

**ZEBRA MUSSEL INSPECTION RESULTS
WESTERN HYDROELECTRIC PROJECTS**

HYDRO NAME

- | | | | |
|--|---|-----------------------------------|---------------------------------------|
| <input type="checkbox"/> Grandfather Falls | <input type="checkbox"/> Merrill | <input type="checkbox"/> Tomahawk | <input type="checkbox"/> Otter Rapids |
| <input type="checkbox"/> Wausau | <input checked="" type="checkbox"/> Alexander | <input type="checkbox"/> Jersey | <input type="checkbox"/> Hat Rapids |

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 9-9-10
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 10-7-10
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 11-3-10
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 12-10-10
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 1-15-11
 COMMENTS/RESULTS: Froze

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: June 2011
 COMMENTS/RESULTS: New Motel

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 7-5-11
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 8-14
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 9-18-11
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: _____
 COMMENTS/RESULTS: _____

UW MANITOWOC DID NOT SUBMIT ANY COMMENTS



Wisconsin Public Service Corporation

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P.O. Box 19001
Green Bay, WI 54307-9001

www.wisconsinpublicservice.com

October 18, 2011

Cheryl Laatsch
WDNR
101 S Webster St OE/7
Madison, WI 53703

Nicholas Utrup
US Fish and Wildlife Service
2661 Tower Drive
New Franken, WI 54429-9565

Dear Ms. Laatsch and Mr. Utrup:

RE: Invasive Species Monitoring Report for Alexander Hydroelectric Project (FERC Project 1979)

As per the order approving the Invasive Species Monitoring Plan for the Alexander Hydroelectric Project (Project No. 1979) issued on March 4, 2005, Wisconsin Public Service Corporation (WPS) is submitting the purple loosestrife, Eurasian water milfoil (EWM) and zebra mussel survey results. Additionally, as per the Order Amending Purple Loosestrife Control Measures in Approved Monitoring Plan issued on July 9, 2009, WPS revised the survey methods to include general plant vigor information in its purple loosestrife survey results.

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near boat landings. No EWM was identified during the survey. A summary of 2011 EWM survey results has been included in Appendix B.

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Sincerely,

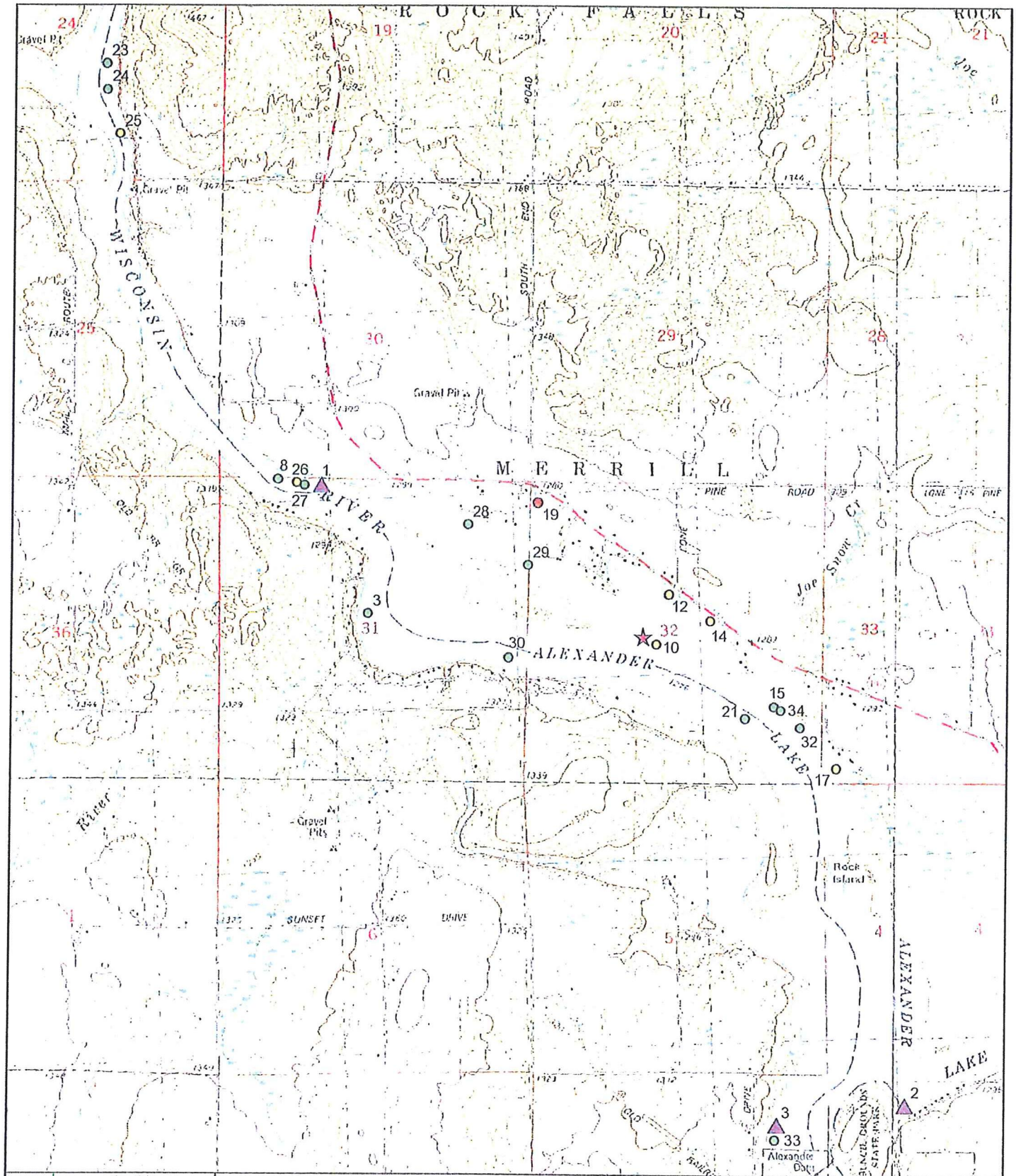
A handwritten signature in cursive script, appearing to read "Darrin Johnson".

Darrin Johnson
Environmental Consultant-Shoreline Management

Enc.

APPENDIX A

ALEXANDER HYDROELECTRIC PROJECT
PURPLE LOOSESTRIFE SURVEY RESULTS



Price	Oneida
Taylor	Lincoln
	Marathon

2011 Alexander Flowage Invasive Plant Survey

0 1,000 2,000 3,000 Feet

10/10/11

Legend	
★	Beetle Release Site
▲	Eurasian Water Milfoil
○	0-5 Plants
○	6-50 Plants
●	>50 Plants
○	Purple Loosestrife

Purple Loosestrife Survey Form

Hydroelectric Project
Inspection Date

Alexander 2011

7/21/2011

Colony Number	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=1-2 ft 1= <1 ft	Plant Flowering 4=100% of plants 3=51-99% of plants 2=26-50% of plants 1= <25% of plants	Beetle Feeding 4=0-25% feeding 3=26-50% feeding 2=51-75% feeding 1=76-100% feeding			
1			NO PLANTS NOTED				
2			NO PLANTS NOTED				
3	S	4	4	4	12	no feeding	212
4			NO PLANTS NOTED				
5			NO PLANTS NOTED				
6			NO PLANTS NOTED				
7			NO PLANTS NOTED				
8	S	3	3	3	9	feeding	215
9			NO PLANTS NOTED				
10	M	3	3	3	9	feeding	209
11			NO PLANTS NOTED				
12	M	3	3	1	7	heavy feeding	201

Purple Loosestrife Survey Form

Hydroelectric Project
Inspection Date

Alexander 2011

7/21/2011

Colony Number	Colony Size S 0-5 M 6-50 L >50	Plant Height 4=>4ft 3=2-4ft 2=1-2 ft 1= <1 ft	General Plant Vigor		Total Plant Vigor 10-12=good 7-9=fair 4-6=poor 0-3=very poor	Notes	GPS Point
			Plant Flowering 4=100% of plants 3=51-99% of plants 2=26-50% of plants 1= <25% of plants	Beetle Feeding 4=0-25% feeding 3=26-50% feeding 2=51-75% feeding 1=76-100% feeding			
13			NO PLANTS NOTED				
14	M	2	2	1	5	heavy feeding	202
15	S	4	3	2	9	feeding	203
16			NO PLANTS NOTED				
17	M	3	3	3	9	feeding	206
18			NO PLANTS NOTED				
19	L	3	3	1	7	heavy feeding	na
20			NO PLANTS NOTED				
21	S	4	4	4	12	no feeding	208
22			NO PLANTS NOTED				
23	S	4	4	4	12	no feeding	214
24	S	4	4	4	12	no feeding	213

APPENDIX B

ALEXANDER HYDROELECTRIC PROJECT
EURASIAN WATER MILFOIL SURVEY RESULTS

2011 Eurasian Water Milfoil Surveys*Alexander*

Transect #	0-0.5M	0.5M-1.5M	1.5M-3M	>3M
1A	0	NA	NA	NA
1B	0	0	NA	NA
1C	0	0	NA	NA
2A	0	NA	NA	NA
2B	0	0	NA	NA
2C	0	0	NA	NA
3A	0	NA	NA	NA
3B	0	0	NA	NA
3C	0	0	0	NA

NA-Not applicable

Abundance Scale 0=Absent, 1-Present, 2 Presence < 1/2, 3=Equal presence to other species

4- Dominant Species Present, 5- Total Infestation

Note: all transects are 40 feet in length and proceed away from shore in a direction perpendicular to the shoreline

APPENDIX C

ALEXANDER HYDROELECTRIC PROJECT
ZEBRA MUSSEL SURVEY 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: 9-9-10
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 10-7-10
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 11-3-10
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 12-10-10
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 1-15-11
 COMMENTS/RESULTS: Froze

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: June 2011
 COMMENTS/RESULTS: New Motel

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 7-5-11
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 8-14
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 9-18-11
 COMMENTS/RESULTS: 0

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: _____
 COMMENTS/RESULTS: _____

USFWS DID NOT SUBMIT ANY COMMENTS

WDNR DID NOT SUBMIT ANY COMMENTS

Document Content(s)

20111207 Alex FERC Invasive Letter.PDF.....1-2

20111207 Alex Appendices.PDF.....3-29