



Wisconsin Public Service Corporation  
An Integrys Energy Group Company

2001 Plover Road  
Plover, WI 54467

www.wisconsinpublicservice.com

December 10, 2013

FERC Project No. 1979

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

Dear Secretary Bose:

**Alexander Hydroelectric Project**  
**2013 Invasive Species Monitoring Report**

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 23, 2013. The survey results indicated that there were a total of nineteen (19) 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. Nine (9) of those colonies had plant vigor classifications of less than good. For comparison, the 2012 survey noted a total of thirty-eight (38) colonies. Beetle feeding occurred on fifteen (15) of those colonies and eleven (11) colonies had plant vigor classifications of less than good. A summary of the purple loosestrife results have been included in Appendix A.

In 2013, WPS released beetles at the Alexander Project that were reared in potted purple loosestrife plants. The beetles were released near existing colonies. Approximately 3000 beetles were released on July 14, 2013.

Ms. Kimberly D. Bose  
December 10, 2013  
Page 2 of 2

*Eurasian Water Milfoil*

A survey for EWM was conducted on July 31, 2013. 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 2013 EWM survey results have 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. A summary of 2013 zebra mussel survey results has been included in Appendix C.

Documentation of submittal of the results and comments received by WDNR, FWS, and UW-Manitowoc have been included in Appendix D.

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

Sincerely,



Terry P. Jensky  
Vice-President – Generation Assets  
For Wisconsin Public Service Corporation

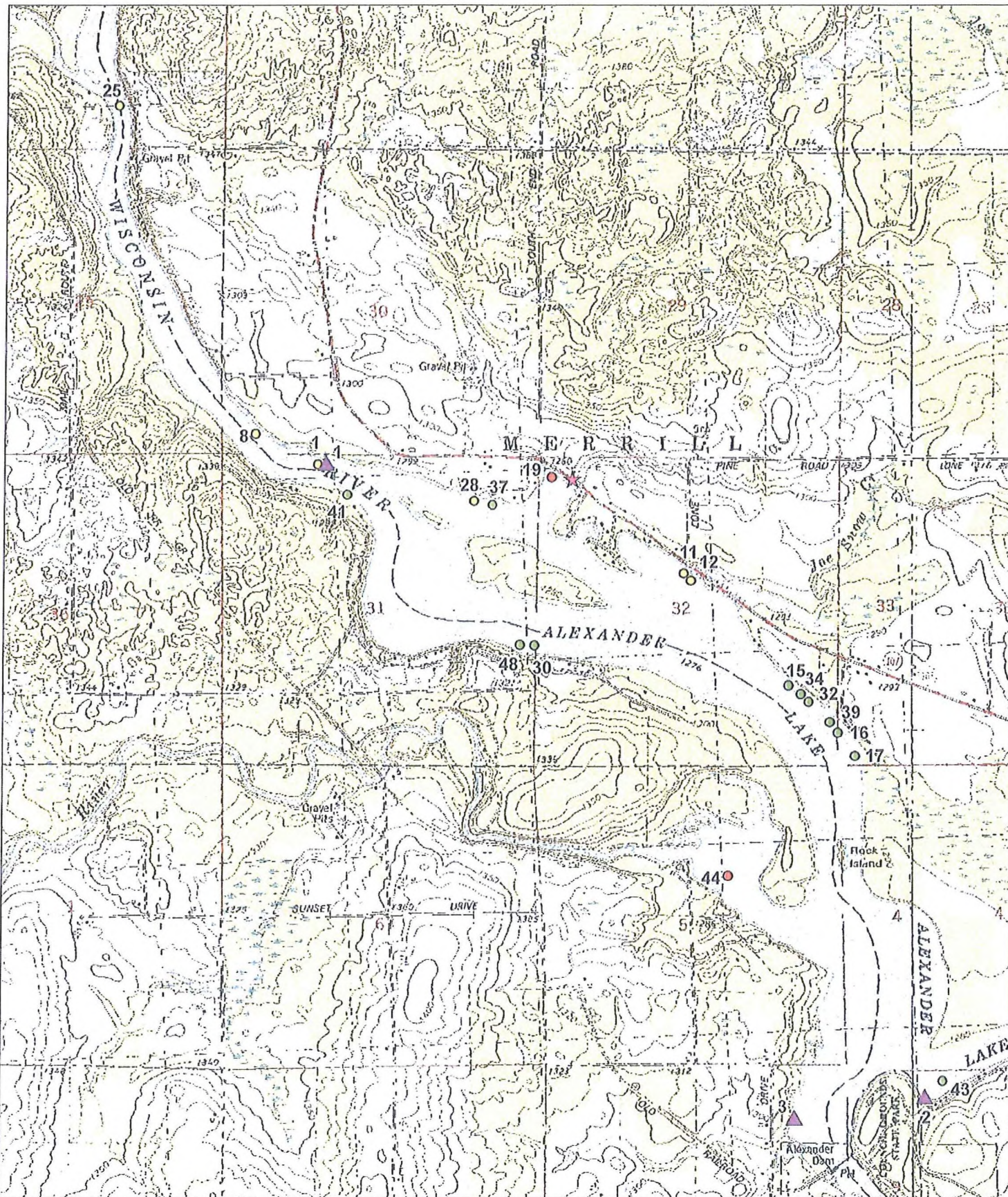
DMJ

Enclosed: Appendix A, Appendix B, Appendix C, Appendix D

|     |                                |                              |
|-----|--------------------------------|------------------------------|
| CC: | Mr. Gil Snyder, WPSC-D2        | Mr. John Myers, IBS-D2       |
|     | Mr. Shawn Puzen, IBS-D2        | Ms. Joan Johaneck, WPSC-D2   |
|     | Mr. Bill Bloczynski, WPSC-MERH | Mr. William Bosacki, WPSC-D2 |
|     | Mr. John Zygaj, FERC-CRO       | Ms. Pat Grant, FERC-CRO      |

**APPENDIX A**  
**PURPLE LOOSESTRIFE MONITORING RESULTS**





|        |          |
|--------|----------|
| Price  | Oneida   |
| Taylor | Lincoln  |
|        | Marathon |

## 2013 Alexander Flowage Invasive Plant Survey

0 1,000 2,000 3,000 Feet

Date: 10/29/2013

### Legend

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



### Purple Loosestrife Survey Form

Hydroelectric Project

Inspection Date

Alexander  
7/23/15

| Colony Number | Colony Size<br>S 0-5<br>M 6-50<br>L >50 | General Plant Vigor                                       |  |  | Total Plant Vigor<br>10-12=good<br>7-9=fair<br>4-6=poor<br>0-3=very poor | Notes | GPS Point |
|---------------|---|---|--|--|--|-------|-----------|
|               |   | Plant Height<br>4=>4ft<br>3=2-4ft<br>2=1-2 ft<br>1= <1 ft | Plant Flowering<br>4=100% of plants<br>3=51-99% of plants<br>2=26-50% of plants<br>1= <25% of plants | Beetle Feeding<br>4=0-25% feeding<br>3=26-50% feeding<br>2=51-75% feeding<br>1=76-100% feeding |  |       |           |
| 1             | M                                       | 3   | 3  | 2  | 8  | fair  |           |
| 2             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 3             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 4             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 5             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 6             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 7             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 8             | M                                       | 3   | 3  | 2  | 8  | fair  |           |
| 9             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 10            | —                                       | NO  | Plants   | Noted  |  |       |           |
| 11            | M                                       | 3   | 3  | 2  | 8  | fair  |           |

19 total  
5 no feed  
5 good  
7 fair  
2 poor

### Purple Loosestrife Survey Form

Hydroelectric Project  
Inspection Date

Alexander

7/23/13

| Colony Number | Colony Size<br>S 0-5<br>M 6-50<br>L >50 | General Plant Vigor                                       |  |  | Total Plant Vigor<br>10-12=good<br>7-9=fair<br>4-6=poor<br>0-3=very poor | Notes | GPS Point |
|---------------|---|---|--|--|--|-------|-----------|
|               |   | Plant Height<br>4=>4ft<br>3=2-4ft<br>2=1-2 ft<br>1= <1 ft | Plant Flowering<br>4=100% of plants<br>3=51-99% of plants<br>2=26-50% of plants<br>1= <25% of plants | Beetle Feeding<br>4=0-25% feeding<br>3=26-50% feeding<br>2=51-75% feeding<br>1=76-100% feeding |  |       |           |
| 12            | M                                       | 3   | 2  | 1  | 6  | poor  |           |
| 13            | —                                       | No  | Plants   | Noted  |  |       |           |
| 14            | —                                       | No  | Plants   | Noted  |  |       |           |
| 15            | S                                       | 4   | 3  | 3  | 10   | good  |           |
| 16            | S                                       | 4   | 3  | 3  | 10   | good  |           |
| 17            | S                                       | 4   | 3  | 3  | 10   | good  |           |
| 18            | —                                       | No  | Plants   | Noted  |  |       |           |
| 19            | L                                       | 3   | 2  | 1  | 6  | poor  |           |
| 20            | —                                       | No  | Plants   | Noted  |  |       |           |
| 21            | —                                       | No  | Plants   | Noted  |  |       |           |
| 22            | —                                       | No  | Plants   | Noted  |  |       |           |



### Purple Loosestrife Survey Form

Hydroelectric Project

Inspection Date

Alexander  
7/23/13

| Colony Number | Colony Size<br>S 0-5<br>M 6-50<br>L >50 | General Plant Vigor                                       |  |  | Total Plant Vigor<br>10-12=good<br>7-9=fair<br>4-6=poor<br>0-3=very poor | Notes      | GPS Point |
|---------------|---|---|--|--|--|------------|-----------|
|               |   | Plant Height<br>4=>4ft<br>3=2-4ft<br>2=1-2 ft<br>1= <1 ft | Plant Flowering<br>4=100% of plants<br>3=51-99% of plants<br>2=26-50% of plants<br>1= <25% of plants | Beetle Feeding<br>4=0-25% feeding<br>3=26-50% feeding<br>2=51-75% feeding<br>1=76-100% feeding |  |            |           |
| 23            | —                                       | NO  | Plants   | Noted  |  |            |           |
| 24            | —                                       | NO  | Plants   | Noted  |  |            |           |
| 25            | M                                       | 3   | 3  | 3  | 9  | fair       |           |
| 26            | —                                       | NO  | Plants   | Noted  |  |            |           |
| 27            | —                                       | NO  | Plants   | Noted  |  |            |           |
| 28            | M                                       | 3   | 3  | 3  | 9  | fair       |           |
| 29            | —                                       | NO  | Plants   | Noted  |  |            |           |
| 30            | S                                       | 4   | 4  | 4  | 12   | no feeding |           |
| 31            | —                                       | NO  | Plants   | Noted  |  |            |           |
| 32            | S                                       | 4   | 3  | 3  | 10   | good       |           |
| 33            | —                                       | NO  | Plants   | Noted  |  |            |           |

### Purple Loosestrife Survey Form

Hydroelectric Project  
Inspection Date

Alexander  
7/23/13

| Colony Number | Colony Size<br>S 0-5<br>M 6-50<br>L >50 | General Plant Vigor                                       |  |  | Total Plant Vigor<br>10-12=good<br>7-9=fair<br>4-6=poor<br>0-3=very poor | Notes      | GPS Point |
|---------------|---|---|--|--|--|------------|-----------|
|               |   | Plant Height<br>4=>4ft<br>3=2-4ft<br>2=1-2 ft<br>1= <1 ft | Plant Flowering<br>4=100% of plants<br>3=51-99% of plants<br>2=25-50% of plants<br>1= <25% of plants | Beetle Feeding<br>4=0-25% feeding<br>3=26-50% feeding<br>2=51-75% feeding<br>1=76-100% feeding |  |            |           |
| 34            | S                                       | 4   | 3  | 3  | 10   | good       |           |
| 35            | -                                       | NO  | Plants   | Noted  |  |            |           |
| 36            | -                                       | NO  | Plants   | Noted  |  |            |           |
| 37            | S                                       | 3   | 2  | 2  | 7  | fair       |           |
| 38            | -                                       | NO  | Plants   | Noted  |  |            |           |
| 39            | S                                       | 4   | 4  | 4  | 12   | NO Feeding |           |
| 40            | -                                       | NO  | Plants   | Noted  |  |            |           |
| 41            | S                                       | 4   | 4  | 4  | 12   | NO Feeding |           |
| 42            | -                                       | NO  | Plants   | Noted  |  |            |           |
| 43            | S                                       | 4   | 4  | 4  | 12   | NO Feeding |           |
| 44            | L                                       | 3   | 2  | 2  | 7  | fair       |           |





**APPENDIX B**  
**EURASIAN WATER MILFOIL MONITORING RESULTS**



## 2013 EWM SURVEY RESULTS

July 23, 2013

*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 &lt; 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**  
**ZEBRA MUSSEL MONITORING 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   |

|  |
|--|
| <b>INSPECTION TYPE:</b> <input checked="" type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN |
| DATE: <u>4-28-13</u>   |
| COMMENTS/RESULTS: <u>None</u>  |

|   |
|---|
| <b>INSPECTION TYPE:</b> <input type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN |
| DATE: <u>5-15-13</u>  |
| COMMENTS/RESULTS: <u>0</u>  |

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

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

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

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

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

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

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

|   |
|---|
| <b>INSPECTION TYPE:</b> <input type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN |
| DATE: _____   |
| COMMENTS/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: 10-7-13  
COMMENTS/RESULTS: 0

INSPECTION TYPE:  MONTHLY INSPECTION     INSPECTION DURING DRAWDOWN  
DATE: 7-20-13  
COMMENTS/RESULTS: 0

INSPECTION TYPE:  MONTHLY INSPECTION     INSPECTION DURING DRAWDOWN  
DATE: 8-4-13  
COMMENTS/RESULTS: 0

INSPECTION TYPE:  MONTHLY INSPECTION     INSPECTION DURING DRAWDOWN  
DATE: 10-12-13  
COMMENTS/RESULTS: 0

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

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

**APPENDIX D**  
**DOCUMENTATION OF CONSULTATION**



Wisconsin Public Service Corporation  
An Integrys Energy Group Company

2001 Plover Road  
Plover, WI 54467

[www.wisconsinpublicservice.com](http://www.wisconsinpublicservice.com)

October 30, 2013

FERC Project No. 1979

|                   |                           |
|-------------------|---------------------------|
| Cheryl Laatsch    | Nick Utrup                |
| WDNR              | USFWS                     |
| N7725 Hwy 28      | 4101 American Boulevard E |
| Horicon, WI 53032 | Bloomington, MN 55425     |

Dear Mr. Utrup and Ms. Laatsch:

**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.

**Purple Loosestrife**

A survey for purple loosestrife was completed for the Alexander Project on July 23, 2013. The survey results indicated that there were a total of nineteen (19) 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. Nine (9) of those colonies had plant vigor classifications of less than good. For comparison, the 2011 survey noted a total of thirty-eight (38) colonies. Beetle feeding occurred on fifteen (15) of those colonies and eleven (11) colonies had plant vigor classifications of less than good.

In 2013, WPS released beetles at the Alexander Project that were reared in potted purple loosestrife plants. The beetles were released near existing colonies. Approximately 3000 beetles were released on July 14, 2013.

**Eurasian Water Milfoil**

A survey for EWM was conducted on July 31, 2012. 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 2013 EWM survey



results have 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. A summary of 2013 zebra mussel survey results has been included in Appendix C.

If you have any comments regarding this report, please submit them within 30 days. If you have any questions regarding this report, please do not hesitate to contact me at (715) 345-7509.

Sincerely,

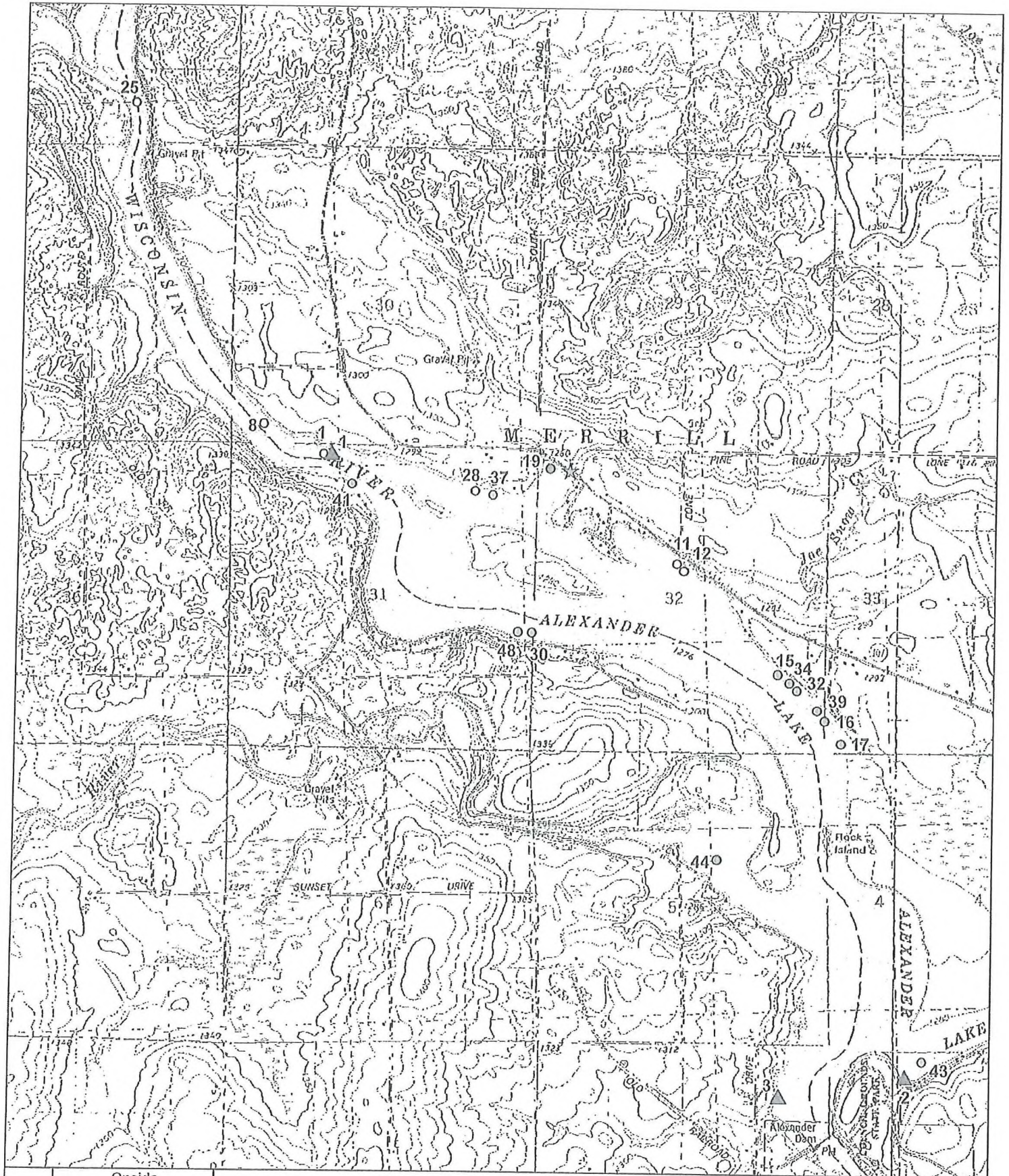
A handwritten signature in black ink, appearing to read "Darrin Johnson". The signature is fluid and cursive, with a large initial "D" and a long, sweeping underline.

Darrin Johnson  
Environmental Consultant

Enc.

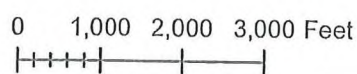
APPENDIX A  
PURPLE LOOSESTRIFE MONITORING RESULTS





|        |          |
|--------|----------|
| Price  | Oneida   |
|        | Lincoln  |
| Taylor | Marathon |

## 2013 Alexander Flowage Invasive Plant Survey



Date: 10/29/2013

| Legend             |                        |
|--------------------|------------------------|
| ☆                  | Beetle Release Site    |
| ▲                  | Eurasian Water Milfoil |
| Purple Loosestrife |                        |
| ○ (small)          | 0-5 Plants             |
| ○ (medium)         | 6-50 Plants            |
| ○ (large)          | >50 Plants             |



### Purple Loosestrife Survey Form

Hydroelectric Project  
Inspection Date

Alameda  
11/2/15

| Colony Number | Colony Size<br>S 0-5<br>M 6-50<br>L >50 | General Plant Vigor                                       |  |  | Total Plant Vigor<br>10-12=good<br>7-9=fair<br>4-6=poor<br>0-3=very poor | Notes | GPS Point |
|---------------|---|---|--|--|--|-------|-----------|
|               |   | Plant Height<br>4=>4ft<br>3=2-4ft<br>2=1-2 ft<br>1= <1 ft | Plant Flowering<br>4=100% of plants<br>3=51-99% of plants<br>2=26-50% of plants<br>1= <25% of plants | Beetle Feeding<br>4=0-25% feeding<br>3=26-50% feeding<br>2=51-75% feeding<br>1=76-100% feeding |  |       |           |
| 1             | M                                       | 3   | 3  | 2  | 8  | fair  |           |
| 2             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 3             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 4             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 5             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 6             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 7             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 8             | M                                       | 3   | 3  | 2  | 8  | fair  |           |
| 9             | —                                       | NO  | Plants   | Noted  |  |       |           |
| 10            | —                                       | NO  | Plants   | Noted  |  |       |           |
| 11            | M                                       | 3   | 3  | 2  | 8  | fair  |           |

19 total

5 no feed

5 good

7 fair

2 poor

### Purple Loosestrife Survey Form

Hydroelectric Project

Inspection Date

Alexander

7/23/13

| Colony Number | Colony Size<br>S 0-5<br>M 6-50<br>L >50 | General Plant Vigor                                       |  |  | Total Plant Vigor<br>10-12=good<br>7-9=fair<br>4-6=poor<br>0-3=very poor | Notes | GPS Point |
|---------------|---|---|--|--|--|-------|-----------|
|               |   | Plant Height<br>4=>4ft<br>3=2-4ft<br>2=1-2 ft<br>1= <1 ft | Plant Flowering<br>4=100% of plants<br>3=51-99% of plants<br>2=26-50% of plants<br>1= <25% of plants | Beetle Feeding<br>4=0-25% feeding<br>3=26-50% feeding<br>2=51-75% feeding<br>1=76-100% feeding |  |       |           |
| 12            | M                                       | 3   | 2  | 1  | 6  | poor  |           |
| 13            | —                                       | NO  | Plants   | Noted  |  |       |           |
| 14            | —                                       | NO  | Plants   | Noted  |  |       |           |
| 15            | S                                       | 4   | 3  | 3  | 10   | good  |           |
| 16            | S                                       | 4   | 3  | 3  | 10   | good  |           |
| 17            | S                                       | 4   | 3  | 3  | 10   | good  |           |
| 18            | —                                       | NO  | Plants   | Noted  |  |       |           |
| 19            | L                                       | 3   | 2  | 1  | 6  | poor  |           |
| 20            | —                                       | NO  | Plants   | Noted  |  |       |           |
| 21            | —                                       | NO  | Plants   | Noted  |  |       |           |
| 22            | —                                       | NO  | Plants   | Noted  |  |       |           |

### Purple Loosestrife Survey Form

Hydroelectric Project  
Inspection Date

Alexander  
7/23/13

| Colony Number | Colony Size<br>S 0-5<br>M 6-50<br>L >50 | General Plant Vigor                                       |  |  | Total Plant Vigor<br>10-12=good<br>7-9=fair<br>4-6=poor<br>0-3=very poor | Notes      | GPS Point |
|---------------|---|---|--|--|--|------------|-----------|
|               |   | Plant Height<br>4=>4ft<br>3=2-4ft<br>2=1-2 ft<br>1= <1 ft | Plant Flowering<br>4=100% of plants<br>3=51-99% of plants<br>2=26-50% of plants<br>1= <25% of plants | Beetle Feeding<br>4=0-25% feeding<br>3=26-50% feeding<br>2=51-75% feeding<br>1=76-100% feeding |  |            |           |
| 23            | —                                       | NO  | Plants   | Noted  |  |            |           |
| 24            | —                                       | NO  | Plants   | Noted  |  |            |           |
| 25            | M                                       | 3   | 3  | 3  | 9  | fair       |           |
| 26            | —                                       | NO  | Plants   | Noted  |  |            |           |
| 27            | —                                       | NO  | Plants   | Noted  |  |            |           |
| 28            | M                                       | 3   | 3  | 3  | 9  | fair       |           |
| 29            | —                                       | NO  | Plants   | Noted  |  |            |           |
| 30            | S                                       | 4   | 4  | 4  | 12   | NO feeding |           |
| 31            | —                                       | NO  | Plants   | Noted  |  |            |           |
| 32            | S                                       | 4   | 3  | 3  | 10   | good       |           |
| 33            | —                                       | NO  | Plants   | Noted  |  |            |           |



# Purple Loosestrife Survey Form

Hydroelectric Project

Inspection Date

4194 number

7/23/13

General Plant Vigor

| Colony Number | Colony Size<br>S 0-5<br>M 6-50<br>L >50 | Plant Height<br>4=>4ft<br>3=2-4ft<br>2=1-2 ft<br>1= <1 ft | Plant Flowering<br>4=100% of plants<br>3=51-99% of plants<br>2=23-50% of plants<br>1= <25% of plants | Beetle Feeding<br>4=0-25% feeding<br>3=26-50% feeding<br>2=51-75% feeding<br>1=76-100% feeding | Total Plant Vigor<br>10-12=good<br>7-9=fair<br>4-6=poor<br>0-3=very poor | Notes      | GPS Point |
|---------------|---|---|--|--|--|------------|-----------|
| 34            | S                                       | 4   | 3  | 3  | 10   | good       |           |
| 35            | -                                       | NO  | Plants   | Noted  |  |            |           |
| 36            | -                                       | NO  | Plants   | Noted  |  |            |           |
| 37            | S                                       | 3   | 2  | 2  | 7  | fair       |           |
| 38            | -                                       | NO  | Plants   | Noted  |  |            |           |
| 39            | S                                       | 4   | 4  | 4  | 12   | NO feeding |           |
| 40            | -                                       | NO  | Plants   | Noted  |  |            |           |
| 41            | S                                       | 4   | 4  | 4  | 12   | NO feeding |           |
| 42            | -                                       | NO  | Plants   | Noted  |  |            |           |
| 43            | S                                       | 4   | 4  | 4  | 12   | NO feeding |           |
| 44            | L                                       | 3   | 2  | 2  | 7  | fair       |           |



APPENDIX B  
EURASIAN WATER MILFOIL MONITORING RESULTS



## 2013 EWM SURVEY RESULTS

July 23, 2013

*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 &lt; 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  
ZEBRA MUSSEL MONITORING

### 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>10-7-13</u>  |   |
| COMMENTS/RESULTS: <u>0</u>  |   |

|   |   |
|---|---|
| INSPECTION TYPE: <input checked="" type="checkbox"/> MONTHLY INSPECTION | <input type="checkbox"/> INSPECTION DURING DRAWDOWN |
| DATE: <u>7-20-13</u>  |   |
| COMMENTS/RESULTS: <u>0</u>  |   |

|   |   |
|---|---|
| INSPECTION TYPE: <input checked="" type="checkbox"/> MONTHLY INSPECTION | <input type="checkbox"/> INSPECTION DURING DRAWDOWN |
| DATE: <u>8-4-13</u>   |   |
| COMMENTS/RESULTS: <u>0</u>  |   |

|   |   |
|---|---|
| INSPECTION TYPE: <input checked="" type="checkbox"/> MONTHLY INSPECTION | <input type="checkbox"/> INSPECTION DURING DRAWDOWN |
| DATE: <u>10-12-13</u>   |   |
| COMMENTS/RESULTS: <u>0</u>  |   |

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

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



## Johnson, Darrin M

---

**To:** 'cheryl.laatsch@wisconsin.gov'; Nick Utrup (nick\_utrup@fws.gov)  
**Subject:** FW: Alexander Zebra Mussel Monitoring  
**Attachments:** ALEX ZEBRAS.pdf

**Expires:** Thursday, December 10, 2015 12:00 AM

Good Morning,

In reviewing our zebra mussel inspections for the Alexander Project, it was identified that zebra mussel inspections which were completed in April and May were not included in the invasive species report sent out in November. Attached is information regarding the April and May inspections provided by Operations. No zebra mussels were located during any of the 2013 inspections.

### Darrin M. Johnson

Environmental Consultant | Environmental Services | Integrys Business Support, LLC

715-345-7509

715-697-3130 *cell*

715-345-7505 *fax*

[dmjohnson@integrysgroup.com](mailto:dmjohnson@integrysgroup.com)

[www.integrysgroup.com](http://www.integrysgroup.com)

*Providing support for Integrys Energy Group, Integrys Energy Services, Integrys Transportation Fuels, Michigan Gas Utilities, Minnesota Energy Resources, North Shore Gas, Peoples Gas, Upper Peninsula Power Company, Wisconsin River Power Company, and Wisconsin Public Service.*

---

**From:** Bloczynski, William A  
**Sent:** Tuesday, December 10, 2013 7:38 AM  
**To:** Johnson, Darrin M  
**Subject:** Alexander Zebra Mussel Monitoring

Darrin,

We found the dates we checked for zebra mussels in April and May. I had the operator put the information on the attached form.

**William A. Bloczynski**Darrin,

Supervisor | Regional Generation-West WI | Wisconsin Public Service

715-539-4016

715-218-0707 *cell*

715-539-4055 *fax*

[wabloczynski@wisconsinpublicservice.com](mailto:wabloczynski@wisconsinpublicservice.com)

[www.wisconsinpublicservice.com](http://www.wisconsinpublicservice.com)

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**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   |

|   |
|---|
| <b>INSPECTION TYPE:</b> <input checked="" type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN<br>DATE: <u>4-28-13</u><br>COMMENTS/RESULTS: <u>None</u> |
|---|

|   |
|---|
| <b>INSPECTION TYPE:</b> <input type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN<br>DATE: <u>5-15-13</u><br>COMMENTS/RESULTS: <u>0</u> |
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| <b>INSPECTION TYPE:</b> <input type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN<br>DATE: _____<br>COMMENTS/RESULTS: _____ |
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| <b>INSPECTION TYPE:</b> <input type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN<br>DATE: _____<br>COMMENTS/RESULTS: _____ |
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| <b>INSPECTION TYPE:</b> <input type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN<br>DATE: _____<br>COMMENTS/RESULTS: _____ |
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| <b>INSPECTION TYPE:</b> <input type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN<br>DATE: _____<br>COMMENTS/RESULTS: _____ |
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| <b>INSPECTION TYPE:</b> <input type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN<br>DATE: _____<br>COMMENTS/RESULTS: _____ |
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| <b>INSPECTION TYPE:</b> <input type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN<br>DATE: _____<br>COMMENTS/RESULTS: _____ |
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|---|
| <b>INSPECTION TYPE:</b> <input type="checkbox"/> MONTHLY INSPECTION <input type="checkbox"/> INSPECTION DURING DRAWDOWN<br>DATE: _____<br>COMMENTS/RESULTS: _____ |
|---|

## Johnson, Darrin M

---

**To:** pmoy@aqua.wisc.edu  
**Subject:** FW: Alexander Zebra Mussel Monitoring  
**Attachments:** ALEX ZEBRAS.pdf  
**Expires:** Thursday, December 10, 2015 12:00 AM

Good Morning,

In reviewing our zebra mussel inspections for the Alexander Project, it was identified that zebra mussel inspections which were completed in April and May were not included in the invasive species report sent out in November. Attached is information regarding the April and May inspections provided by Operations. No zebra mussels were located during any of the 2013 inspections.

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**Sent:** Tuesday, December 10, 2013 7:38 AM  
**To:** Johnson, Darrin M  
**Subject:** Alexander Zebra Mussel Monitoring

Darrin,

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**William A. Bloczynski**Darrin,

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### ZEBRA MUSSEL INSPECTION RESULTS WESTERN HYDROELECTRIC PROJECTS

**HYDRO NAME**

- |  |   |                                   |                                       |
|--|---|-----------------------------------|---------------------------------------|
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| <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 DRA WDOWN |
| DATE: <u>4-28-13</u>  |  |
| COMMENTS/RESULTS: <u>None</u>   |  |

|  |  |
|--|--|
| INSPECTION TYPE: <input type="checkbox"/> MONTHLY INSPECTION | <input type="checkbox"/> INSPECTION DURING DRA WDOWN |
| DATE: <u>5-15-13</u>   |  |
| COMMENTS/RESULTS: <u>0</u>                                   |  |

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| INSPECTION TYPE: <input type="checkbox"/> MONTHLY INSPECTION | <input type="checkbox"/> INSPECTION DURING DRA WDOWN |
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| COMMENTS/RESULTS: _____                                      |  |

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|--|--|
| INSPECTION TYPE: <input type="checkbox"/> MONTHLY INSPECTION | <input type="checkbox"/> INSPECTION DURING DRA WDOWN |
| DATE: _____  |  |
| COMMENTS/RESULTS: _____                                      |  |



**NO COMMENTS RECEIVED FROM FWS**

**NO COMMENTS RECEIVED FROM UW MANITOWOC**

## WDNR COMMENTS

## Johnson, Darrin M

---

**From:** Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>  
**Sent:** Tuesday, December 10, 2013 9:41 AM  
**To:** Johnson, Darrin M  
**Subject:** RE: Alexander Zebra Mussel Monitoring

Thanks Darrin.

Cheryl Laatsch  
Statewide FERC Coordinator  
Wisconsin Dept of Natural Resources  
N7725 Hwy 28  
Horicon WI 53032  
(T) 920-387-7869 (Fax) 920-387-7888  
[Cheryl.laatsch@wisconsin.gov](mailto:Cheryl.laatsch@wisconsin.gov)

---

**From:** Johnson, Darrin M [mailto:DMJohnson@integrysgroup.com]  
**Sent:** Tuesday, December 10, 2013 9:40 AM  
**To:** Laatsch, Cheryl - DNR; Nick Utrup (nick\_utrup@fws.gov)  
**Subject:** FW: Alexander Zebra Mussel Monitoring

Good Morning,

In reviewing our zebra mussel inspections for the Alexander Project, it was identified that zebra mussel inspections which were completed in April and May were not included in the invasive species report sent out in November. Attached is information regarding the April and May inspections provided by Operations. No zebra mussels were located during any of the 2013 inspections.

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**Supervisor | Regional Generation-West WI | Wisconsin Public Service**


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