



**Wisconsin River Power Company**  
(owners of the Petenwell & Castle Rock Hydroelectric Plants)  
P.O. Box 19001  
Green Bay, WI 54307-9001

December 20, 2016

FERC Project No. 1984  
NATDAM No. W100740 W100724

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

Dear Ms. Bose:

**Petenwell and Castle Rock Hydroelectric Project**  
**2016 Invasive Species Monitoring Plan**

In accordance with the Federal Energy Regulatory Commission (FERC) Order Revising Order Approving Purple Loosestrife and Eurasian Watermilfoil Monitoring Plan Pursuant to License Article 408 for the Petenwell and Castle Rock Hydroelectric Project, issued on July 13, 2005, and the Order Amending Purple Loosestrife Control Measures in Approved Monitoring Plan, issued July 9, 2009, Wisconsin River Power Company (WRPCO) is required to submit to the Wisconsin Department of Natural Resources (WDNR) and U.S. Fish and Wildlife Service (USFWS) by November 15, a Purple Loosestrife and Eurasian Watermilfoil result report each year a survey is completed or beetle release takes place. The report is to be provided by December 31 to FERC when a yearly survey is completed.

**Purple Loosestrife**

Purple Loosestrife (PL) surveys are conducted annually. A survey for PL was conducted on July 1, 2016 and August 17, 2016. The survey identified a total of eighteen (18) PL colonies; seventeen (17) were located on the Petenwell Reservoir and one (1) was located on the Castle Rock Reservoir.

No colonies were cut or sprayed to avoid adverse impacts to existing or potential new populations of *Galerucella species* beetles (beetles). In 2016, a sum total of approximately 10,000 beetles were released in six different locations to supplement existing beetle populations. The 2016 PL figure and spreadsheet showing colony locations, beetle release locations, and plant vigor survey are included in Appendix A.

WRPCO created a spreadsheet to summarize the last eight (8) years of PL survey and beetle release data, see Appendix B. A review of the data shows that the number of colonies has ranged between seventeen (17) and twenty-five (25) over the eight-year period and currently sits at eighteen (18). The percentage of colonies with beetle feeding has ranged from 61 to 91 percent and currently sits at 67 percent.

Ms. Kimberly D. Bose  
December 20, 2016  
Page 2 of 2

WRPCO proposes to continue monitoring for PL and to continue releasing a minimum sum total of 4,000 beetles in at least two separate locations. This is planned as a biological control method to attempt to establish healthy beetle populations throughout the Petenwell and Castle Rock Hydroelectric Project.

Eurasian Watermilfoil

In accordance with the Plan, Eurasian Watermilfoil surveys are completed once every three years. No survey was performed in 2016. The next survey is scheduled for 2018.

Copies of the 2016 Invasive Species Report were submitted to the Wisconsin Department of Natural Resources (WDNR) and US Fish and Wildlife Service (FWS) on October 31, 2016. No comments regarding the reports were received from the resource agencies. Documentation of consultation with the resource agencies is located in Appendix C.

If you have any questions relative to this material, please contact Jes Roloff at (920) 433-5558 at your earliest convenience.

Sincerely,



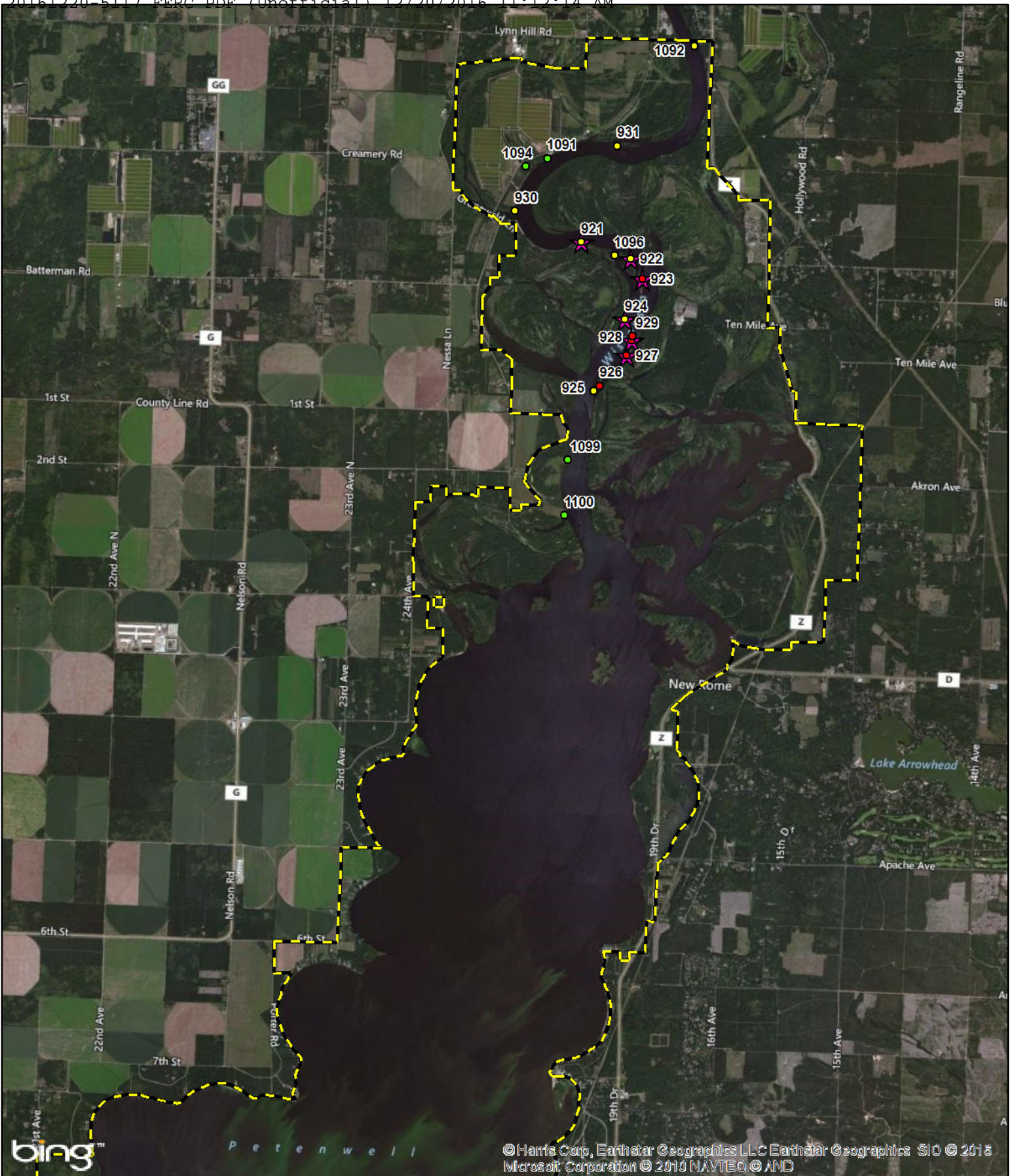
Todd P. Jastremski  
Asset Manager Hydro Operations  
We Energies  
800 Industrial Park Drive  
Iron Mountain, MI 49801

JRR/rjv

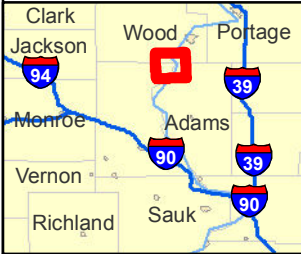
Enc. Appendix A, Appendix B, Appendix C

cc: Mr. John Zygaj, FERC - CRO

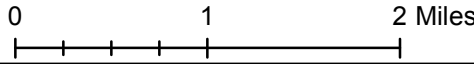
APPENDIX A  
2016 PURPLE LOOSESTRIFE FIGURES AND DATA  
(WRPCO LETTER TO FERC DECEMBER 20, 2016)



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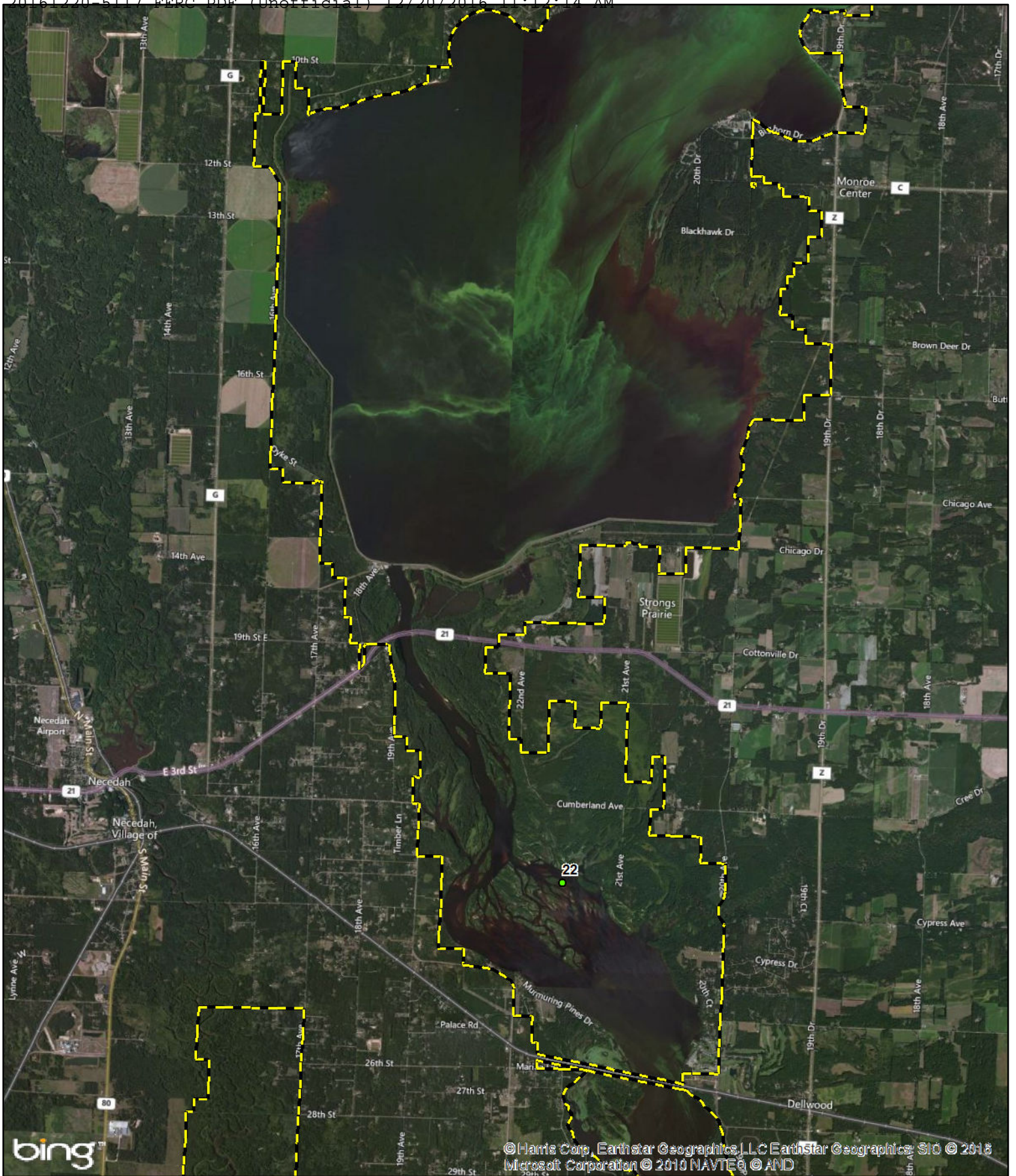


## Wisconsin River Power Company Petenwell Flowage 2016 Invasive Plant Survey



- Purple Loosestrife-2016**
- 0-5 Plants
  - 6-50 Plants
  - >50 Plants
  - ★ Beetle Release Site
  - Project Boundary





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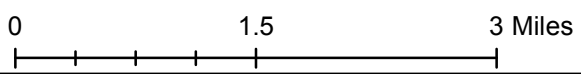
## Wisconsin River Power Company Petenwell Flowage 2016 Invasive Plant Survey

**Purple Loosestrife-2016**

- 0-5 Plants
- 6-50 Plants
- >50 Plants
- ★ Beetle Release Site
- Project Boundary

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Date: 10/27/2016



**Purple Loosestrife Survey Form**Hydroelectric project: Petenwell Hydroelectric ProjectInspection date: 7/1/2016 & 8/17/2016

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 4 = <25% feeding 3 = 26-50% feeding 2 = 51-75% feeding 1 = >76% feeding			
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921	M	2	1	4	7	1 pot released	921
922	M	3	1	4	8	3 pots released	922
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930	M	1	1	1	3		930
931	M	3	1	4	8		931
1091	S	3	4	3	10		1091
1092	M	3	3	1	7		1092
1094	S	2	2	1	5		1094
1096	M	4	3	3	10		1096
1099	S	3	4	4	11		1099
1100	S	3	4	4	11		1100

APPENDIX B  
PURPLE LOOSESTRIFF EIGHT YEAR SUMMARY TABLE  
(WRPCO LETTER TO FERC DECEMBER 20, 2016)

Petenwell & Castle Rock Hydroelectric Projects 2009 - 2016 Summary

Year	Total Number of Colonies	Number of Small Colonies (0-5 Plants)	Number of Medium Colonies (6 - 50 Plants)	Number of Large Colonies (51+ plants)	Number of Colonies With Beetle Feeding	Percentage of Total Colonies With Beetle Feeding	Beetles Released
2009	25	6	6	13	18	72%	8,000
2010	22	5	9	8	20	91%	8,000
2011	23	13	4	6	14	61%	2,000
2012	17	4	10	3	15	88%	2,000
2013	20	6	11	3	14	70%	2,000
2014	18	3	12	2	15	83%	16,000
2015	22	9	10	3	16	73%	8,000
2016	18	5	8	5	12	67%	10,000

8 Year Average	20.63	6.38	8.75	5.38	15.50	75.59%	
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APPENDIX C  
DOCUMENTATION OF CONSULTATION  
(WRPCO LETTER TO FERC DECEMBER 20, 2016)



**Wisconsin River Power Company**  
(owners of the Petenwell & Castle Rock Hydroelectric Plants)  
P.O. Box 19001  
Green Bay, WI 54307-9001

October 31, 2016

FERC Project No. 1984

Ms. Cheryl Laatsch  
WDNR – FERC Coordinator  
101 S. Webster Street  
GEF 2-7<sup>th</sup> Floor  
Madison, WI 53707

Dear Ms. Laatsch:

**Petenwell and Castle Rock Hydroelectric Project – 2016 Invasive Species Monitoring Plan**

As per the Federal Energy Regulatory Commission (FERC) Order Approving the Revised Invasive Species Monitoring Plan for the Petenwell and Castle Rock Hydroelectric Project (P-1984) issued on July 13, 2005 and the Order Amending Purple Loosestrife Control Measures issued July 9, 2009, Wisconsin River Power Company (WRPCO) is required to submit to the Wisconsin Department of Natural Resources (WDNR) and U.S. Fish and Wildlife Service (USFWS), a purple loosestrife and Eurasian watermilfoil result report each year a survey or beetle release takes place. The report is to be provided to the WDNR and USFWS by November 15<sup>th</sup> and by December 31<sup>st</sup> to FERC each year a survey is completed.

**Purple Loosestrife**

Purple loosestrife (PL) surveys are conducted annually. A survey for PL was conducted on July 1 and August 17, 2016. The survey identified a total of eighteen (18) PL colonies; seventeen (17) were located on the Petenwell Reservoir and one (1) was located on the Castle Rock Reservoir. No colonies were cut or sprayed to avoid adverse impacts to existing or potential new populations of *Galerucella species* beetles. Each colony was issued a number and mapped. Plant vigor information was recorded for each colony. In 2016, approximately 10,000 beetles were released in six different locations to supplement existing beetle populations. The 2016 PL figure and spreadsheet showing colony locations, beetle release locations, and plant vigor survey are included in Appendix A.

WPS created a spreadsheet to summarize the last eight (8) years of purple loosestrife survey and beetle release data, see Appendix B. A review of the data shows that the number of colonies has ranged between seventeen (17) and twenty-five (25) over the eight-year period and currently sits at eighteen (18). The percentage of colonies with beetle feeding has ranged from 61% to 91% and currently sits at 67%.

WPS proposes to continue monitoring for PL and releasing a minimum of 4,000 beetles in at least two separate locations as a biological control method in an attempt to establish healthy beetle populations throughout the Project.

Eurasian Watermilfoil

As per the Plan, Eurasian Watermilfoil surveys are completed once every three years, with the next survey scheduled for 2017.

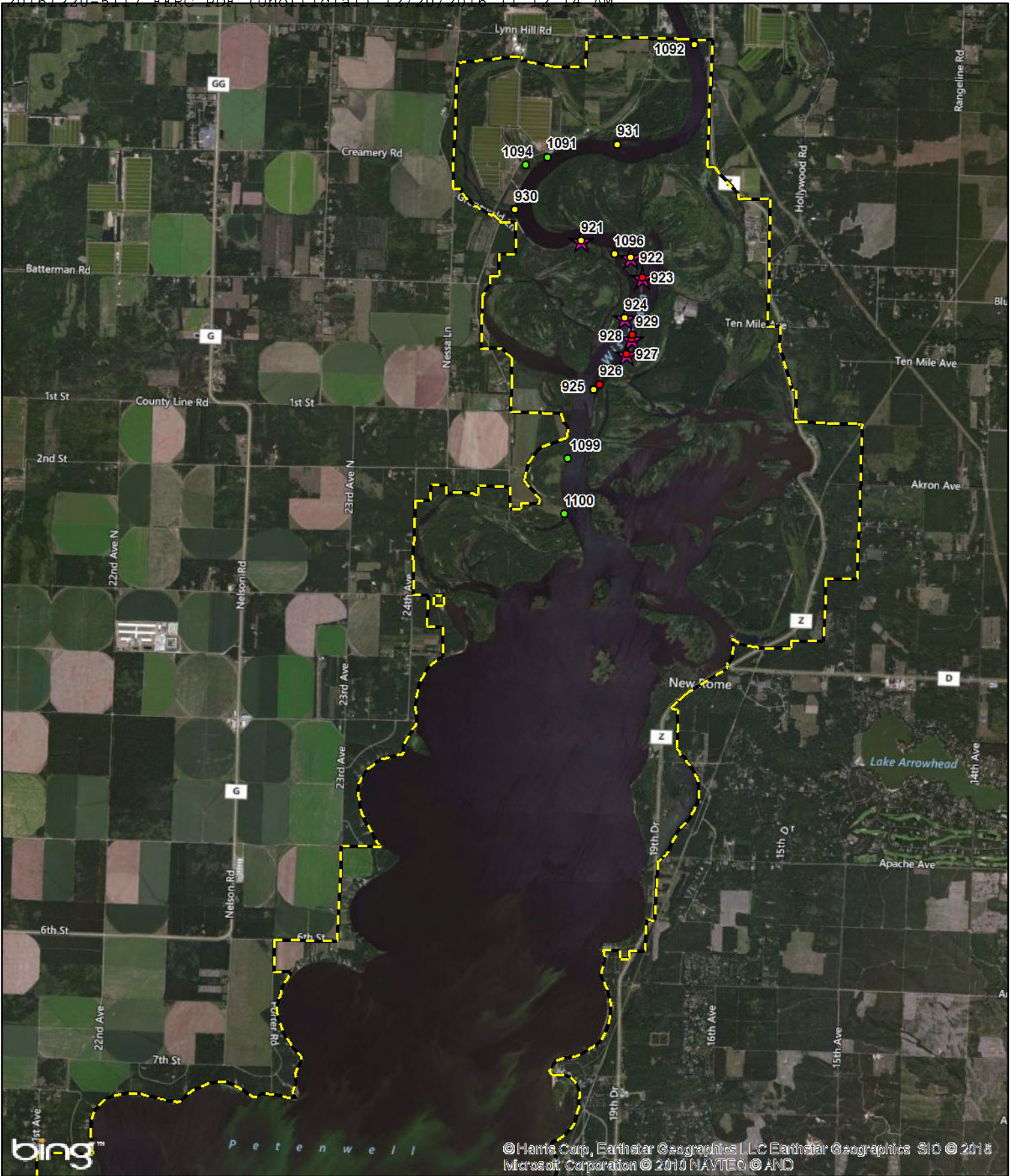
Please provide any comments you may have regarding this report within thirty (30) days. Should you have any questions or require additional information, please do not hesitate to contact me at 920-433-5558 or [JRRoloff@integrysgroup.com](mailto:JRRoloff@integrysgroup.com).

Sincerely,

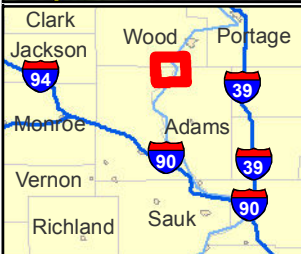
Jessica Roloff  
Environmental Consultant

Enc: Appendix A - B

**APPENDIX B**



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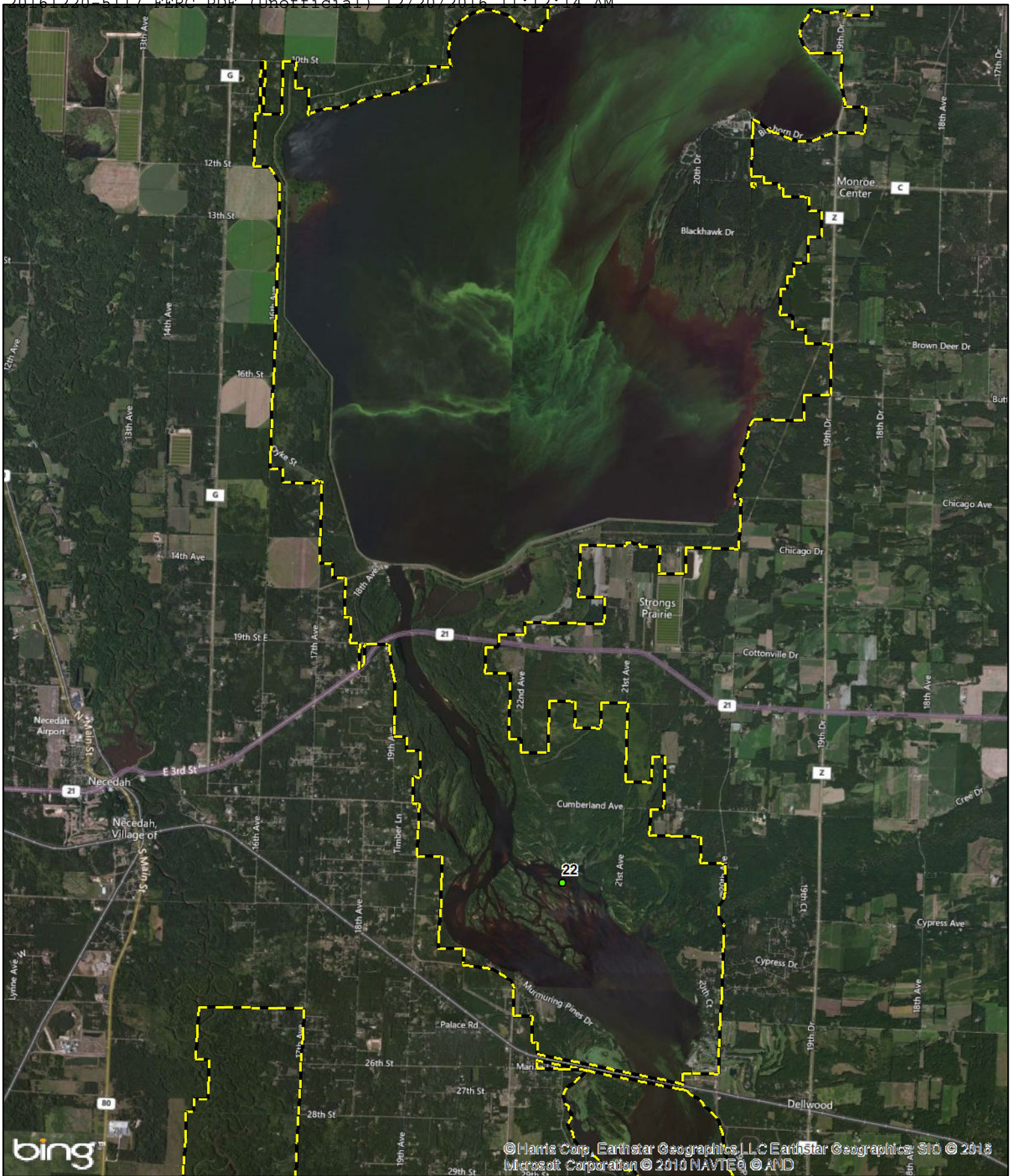


## Wisconsin River Power Company Petenwell Flowage 2016 Invasive Plant Survey



- Purple Loosestrife-2016**
- 0-5 Plants
  - 6-50 Plants
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  - ★ Beetle Release Site
  - Project Boundary

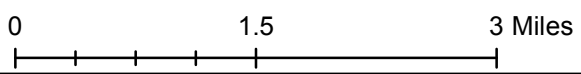




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Date: 10/27/2016

**Purple Loosestrife Survey Form**Hydroelectric project: Petenwell Hydroelectric ProjectInspection date: 7/1/2016 & 8/17/2016

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
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1096	M	4	3	3	10		1096
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1100	S	3	4	4	11		1100

**APPENDIX A**



Petenwell & Castle Rock Hydroelectric Projects 2009 - 2016 Summary

Year	Total Number of Colonies	Number of Small Colonies (0-5 Plants)	Number of Medium Colonies (6 - 50 Plants)	Number of Large Colonies (51+ plants)	Number of Colonies With Beetle Feeding	Percentage of Total Colonies With Beetle Feeding	Beetles Released
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**NO COMMENTS RECEIVED FROM THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES**



**Wisconsin River Power Company**  
(owners of the Petenwell & Castle Rock Hydroelectric Plants)  
P.O. Box 19001  
Green Bay, WI 54307-9001

October 31, 2016

FERC Project No. 1984

Mr. Nick Utrup  
USFWS Ecological Services Field Office  
4101 American Boulevard, East  
Bloomington, MN 55425

Dear Mr. Utrup:

**Petenwell and Castle Rock Hydroelectric Project – 2016 Invasive Species Monitoring Plan**

As per the Federal Energy Regulatory Commission (FERC) Order Approving the Revised Invasive Species Monitoring Plan for the Petenwell and Castle Rock Hydroelectric Project (P-1984) issued on July 13, 2005 and the Order Amending Purple Loosestrife Control Measures issued July 9, 2009, Wisconsin River Power Company (WRPCO) is required to submit to the Wisconsin Department of Natural Resources (WDNR) and U.S. Fish and Wildlife Service (USFWS), a purple loosestrife and Eurasian watermilfoil result report each year a survey or beetle release takes place. The report is to be provided to the WDNR and USFWS by November 15<sup>th</sup> and by December 31<sup>st</sup> to FERC each year a survey is completed.

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WPS created a spreadsheet to summarize the last eight (8) years of purple loosestrife survey and beetle release data, see Appendix B. A review of the data shows that the number of colonies has ranged between seventeen (17) and twenty-five (25) over the eight-year period and currently sits at eighteen (18). The percentage of colonies with beetle feeding has ranged from 61% to 91% and currently sits at 67%.

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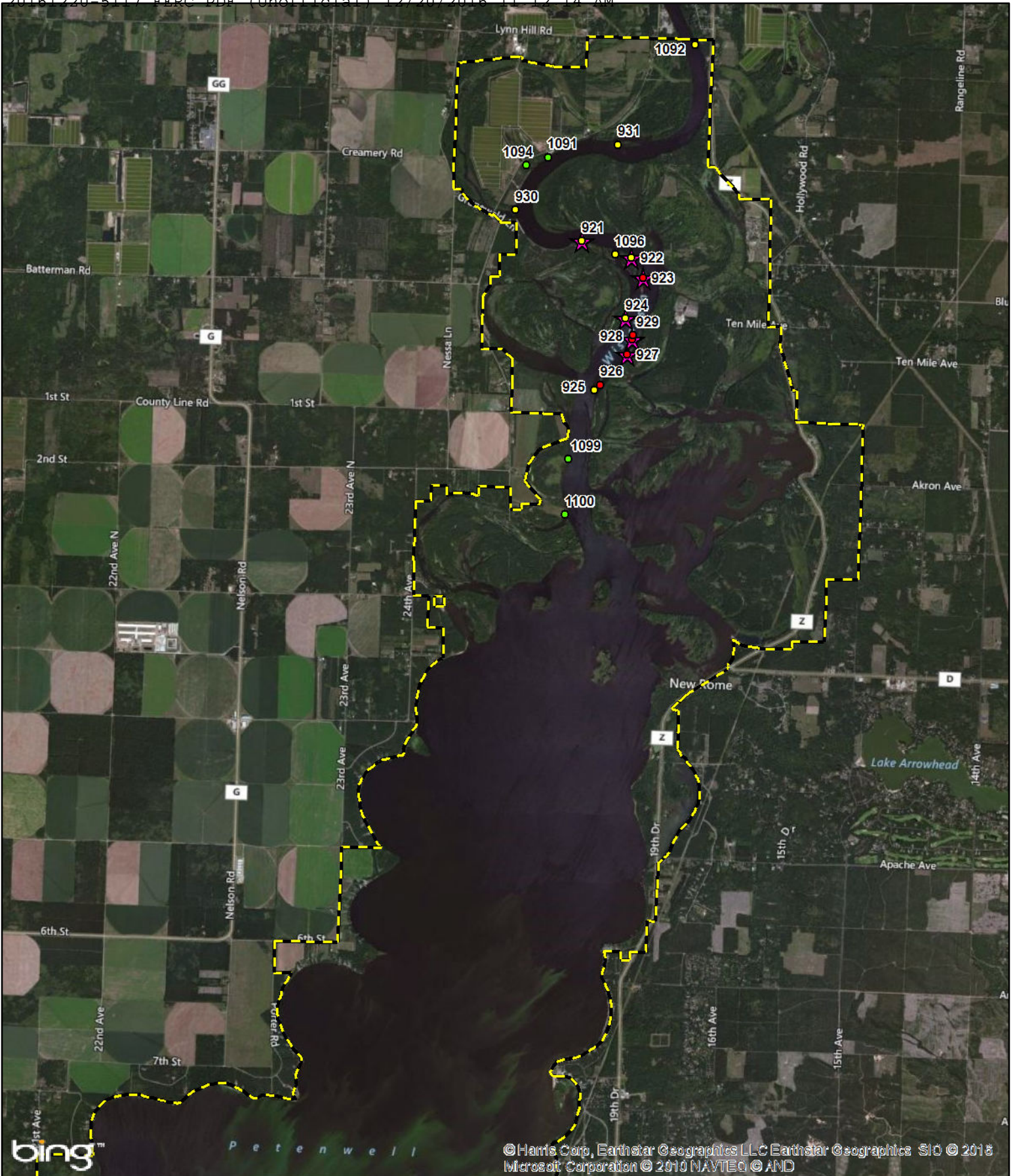
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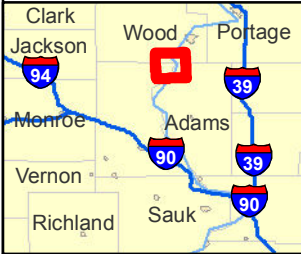
Jessica Roloff  
Environmental Consultant

Enc: Appendix A - B

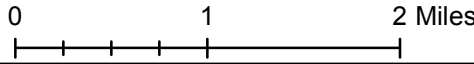
**APPENDIX B**



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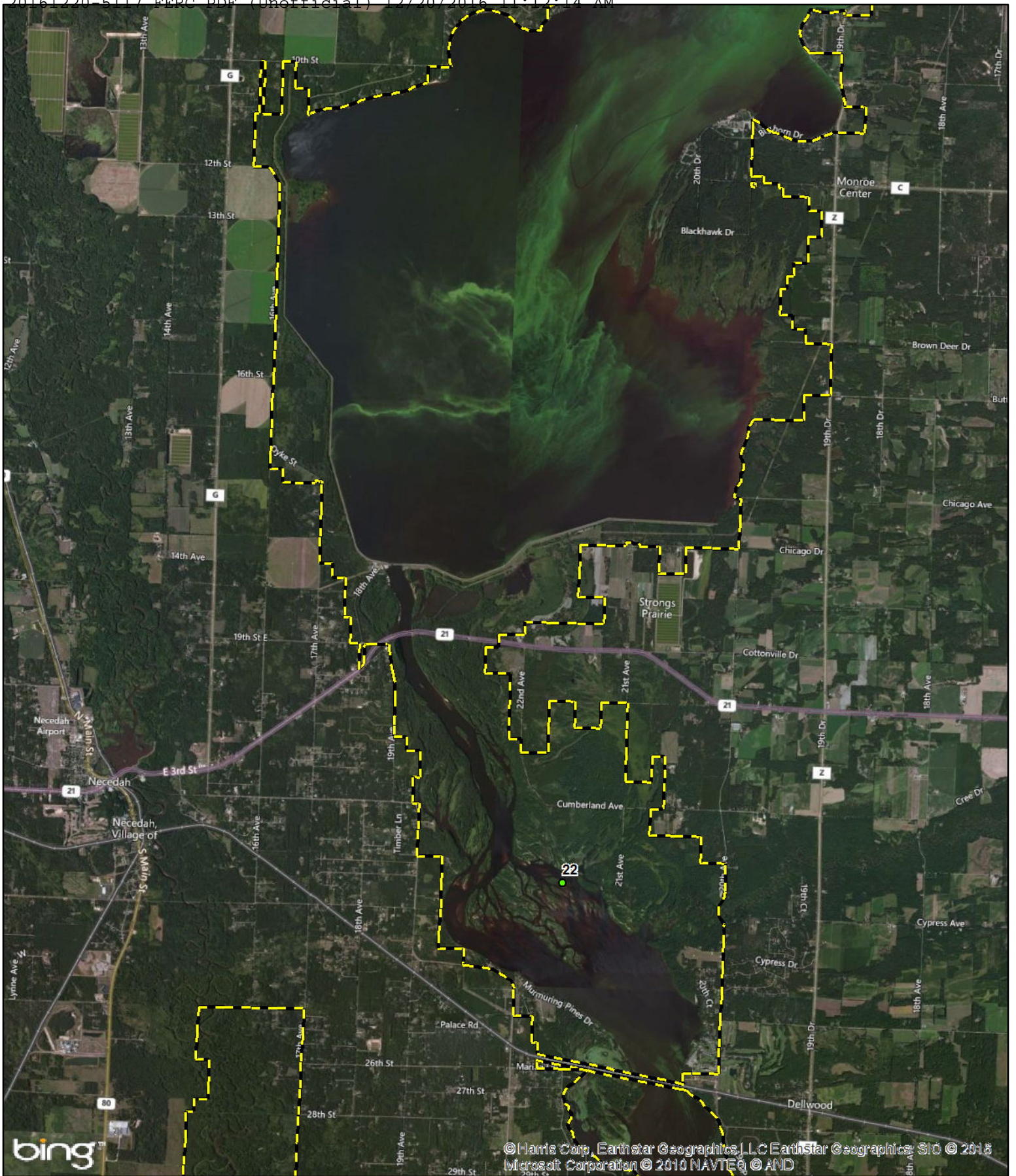


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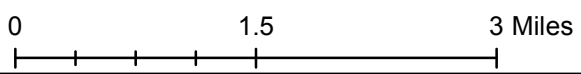


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**APPENDIX A**

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

Document Content(s)

20161220 CPH Env out.PDF.....1-2

20161220 CPH Env out appendix a.PDF.....3-6

20161220 CPH Env out appendix b.PDF.....7-8

20161220 CPH Env out appendix c.PDF.....9-27