



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

December 11, 2012

FERC Project No. 1984

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

Dear Secretary Bose:

RE: Exotic Species Report for the Petenwell and Castle Rock Hydroelectric Project

As per the Order Approving the Revised Invasive Species Monitoring Plan for the Petenwell-Castle Rock Hydroelectric Project (FERC Project No. 1984) issued on July 13, 2005, Wisconsin River Power Company is submitting the survey results for purple loosestrife, Eurasian water milfoil (EWM) and zebra mussels.

Purple Loosestrife

Surveys for purple loosestrife were completed on July 27, 2012. The survey identified a total of seventeen (17) purple loosestrife colonies at the project. Fifteen (15) of those were located on the Petenwell Reservoir and two (2) were located on the Castle Rock Reservoir. This compares to a total of twenty-three (23) colonies noted in 2011.

No colonies were cut or sprayed with herbicide in order to avoid 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 WRPCO GIS system. Plant vigor information was recorded for each colony. Of the seventeen (17) colonies noted during the survey, fourteen (14) showed signs of beetle feeding.

WRPCO released beetles at the Petenwell Reservoir on July 6, 2012. Approximately 2,000 beetles were released. The beetles were reared in potted purple loosestrife plants.

The 2012 Petenwell-Castle Rock Project purple loosestrife figure, including colony locations, identification numbers and beetle release location is found in Appendix A. The purple loosestrife general plant vigor survey forms are also found in Appendix A.

Ms. Kimberly D. Bose, Secretary
December 11, 2012
Page 2 of 2

Eurasian Water Milfoil

Eurasian water milfoil (EWM) surveys are conducted every three years. Surveys were completed on July 27, 2012. No EWM was identified at any of the survey locations. Results of the 2012 survey are included in Appendix B. The Wisconsin Department of Natural Resources (WDNR) also conducted vegetation surveys of several sites in 2012 in conjunction with WRPCO's Adaptive Management Plan. Three of the WDNR sample plots identified EWM. These three sites will be reviewed during future EWM surveys. The next EWM survey is scheduled for 2015.

Zebra Mussels

Per the FERC correspondence to WRPCO, dated June 5, 2006, WRPCO is required to conduct monthly inspections for zebra mussels at the Petenwell and Castle Rock reservoirs. The surveys are to be conducted once each month from May to September on an annual basis. The surveys are also to be conducted during the winter drawdown period and during any maintenance related drawdown.

Zebra mussels were found on substrate samplers at the Castle Rock Reservoir in 2012. A summary of the substrate sampler results that were taken can be found in Appendix C.

Five hard surface locations on the two reservoirs were also monitored for zebra mussels during the winter drawdown. The figure in Appendix C indicates these locations. No zebra mussels were noted during the hard surface inspections.

Documentation of submittal of these reports to the WDNR and the United States Fish and Wildlife Service (FWS) has been included in Appendix D. All comments submitted by the resource agencies and WRPCO's response are also included in Appendix D.

If you have any questions or comments regarding invasive species monitoring at the Petenwell-Castle Rock Project, please do not hesitate to contact Darrin Johnson at (715) 345-7509.

Sincerely,



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

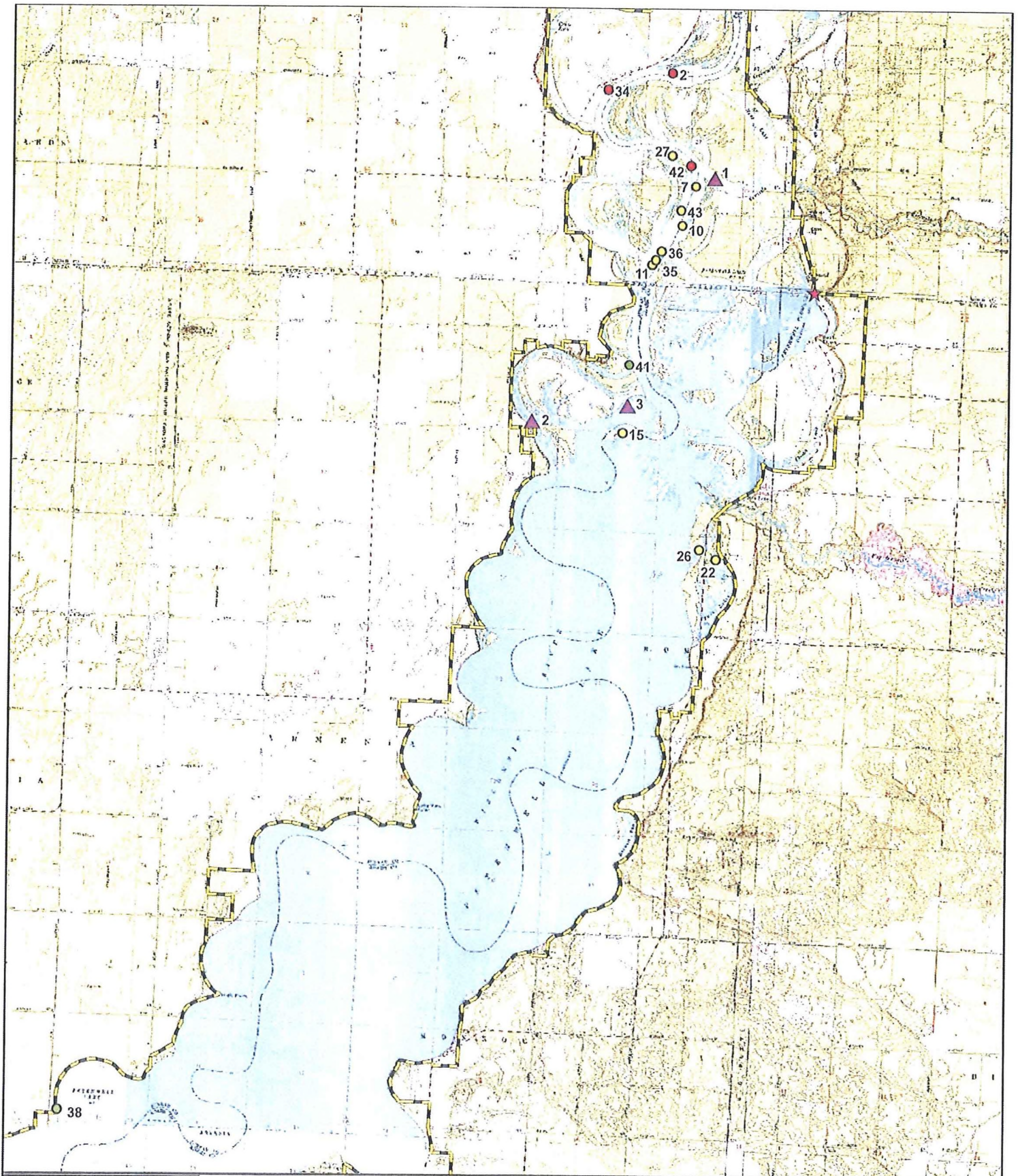
Enc.

cc: Mr. William Bosacki, WPS
Mr. Jeff Klaas, WRPC
Mr. Shawn Puzen, IBS

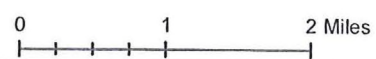
Mr. Gil Snyder, WPS
Ms. Joan Johaneck, WPS
Ms. Pat Grant, FERC - Chicago

APPENDIX A

2012 Purple Loosestrife Figure and Survey Results



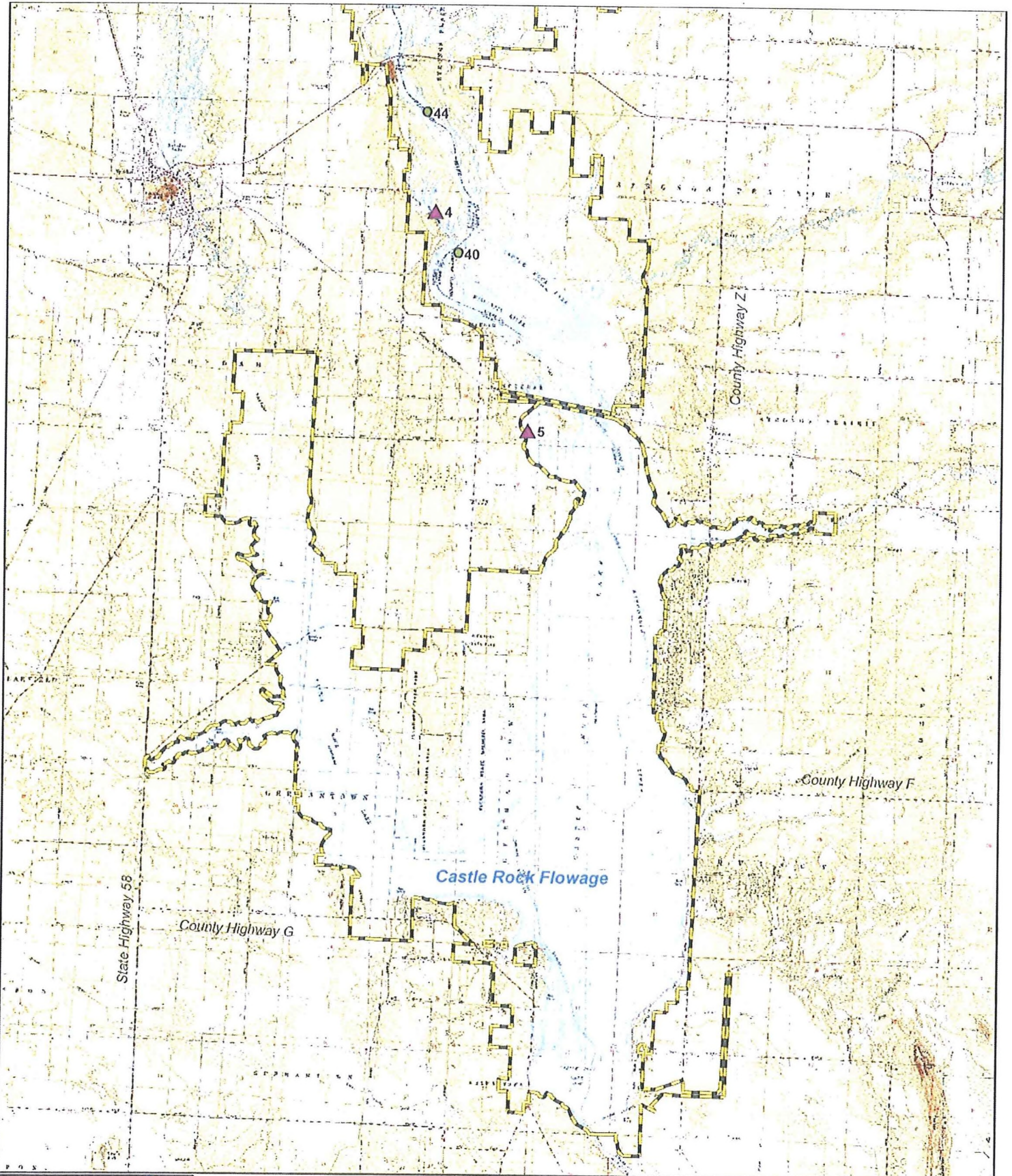
**Wisconsin River Power Company
Petenwell Flowage
2012 Invasive Plant Survey**



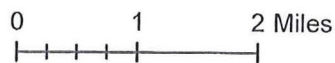
Legend

- Project Boundary
- Beetle Release Site
- Eurasian Water Milfoil
- Purple Loosestrife
- 0-5 Plants
- 6-50 Plants
- >50 Plants

Date: 10/24/2012



**Wisconsin River Power Company
Castle Rock Flowage
2012 Invasive Plant Survey**



Legend

- Project Boundary
- Beetle Release Site
- Eurasian Water Milfoil
- Purple Loosestrife
- 0-5 Plants
- 6-50 Plants
- >50 Plants

Date: 10/25/2012

Purple Loosestrife Survey Form

Hydroelectric Project

WRPCO

Inspection Date

7/27/12

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
1	NO		PLANTS	Noted			
2	L	3	2	1	6	Heavy Feed	PEPL 16
3	NO		PLANTS	Noted			
4	NO		PLANTS	noted			
5	NO		PLANTS	Noted			
6	NO		PLANTS	Noted			
7	M	4	3	2	9		PEPL 12
8	NO		PLANTS	Noted			
9	NO		PLANTS	Noted			
10	M	4	4	1	9	Heavy Feed	PEPL 10
11	M	4	2	1	7	Heavy Feed	PEPL 7

Purple Loosestrife Survey Form

Hydroelectric Project

WRPCO

Inspection Date

7/27/12

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			
12	NO		Plants	Noted			
13	No		Plants	Noted			
14	NO		Plants	noted			
15	M	4	4	3	11		PEPL1
16	NO		Plants	Noted			
17	NO		plants	Noted			
18	NO		Plants	Noted			
19	NO		Plants	Noted			
20	No		Plants	Noted			
21	NO		Plants	Noted			
22	M	2	2	1	5	Heavy Feed	-

Purple Loosestrife Survey Form

Hydroelectric Project
Inspection Date

URECO
7/27/12

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			
23	NO		Plants	Noted			
24	NO		Plants	Noted			
25	NO		Plants	Noted			
26	M	2	2	1	5	Heavy feed	
27	M	4	3	2	9		PEPL 14.
28	NO		Plants	Noted			
29	NO		Plants	Noted			
30	NO		Plants	Noted			
31	NO		Plants	Noted			
32	NO		Plants	Noted			
33	NO		Plants	Noted			

Purple Loosetrife Survey Form

Hydroelectric Project
Inspection Date

WRPCO
7/27/12

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			
34	L	3	2	1	6	Channel Heavy Feed	PEPL 15
35	M	4	2	1	6	Heavy Feed	PEPL 8
36	M	4	2	1	6	Heavy Feed	PEPL 9
37	NO		Plants	Noted			
38	S	4	4	4	12	NO Feed	PEPL 17
39	NO		Plants	Noted			
40	S	4	4	4	12	NO Feed	CPL 1
41	S	3	4	1	8	Heavy Feed	PEPL 3
42	L	4	3	2	9		PEPL 13
43	M	3	3	3	9		PEPL 11
44	S	4	4	4	12	NO Feed	CPL 2

17 colonies total

14 colonies w/ feeding

9 colonies w/ heavy feeding

APPENDIX B

2012 Eurasian Water Milfoil Survey Results

Eurasian Water Milfoil Surveys-2012

PETENWELL

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

CASTLE ROCK

Transect #	0-0.5 M	0.5-1.5 M	1.5-3 M	>3 M
4A	0	0	NA	NA
4B	0	0	NA	NA
4C	0	0	NA	NA
5A	0	0	NA	NA
5B	0	0	NA	NA
5C	0	0	NA	NA

EWM Located by WDNR on Petenwell Flowage



Legend

- Major Highways**
 - Interstate
 - State Highway
 - U.S. Highways
 - County Roads
 - Local Roads
- 24K County Boundaries
- Civil Towns**
 - Civil Town
 - Cities and Villages
 - Village
 - City
- NAIP 2010 Color Air Photo



Scale: 1:27,783

0 1600 3200 ft.

Map created on Dec 9, 2012

Wisconsin Wetland Inventory (WWI) maps show graphic representations of the type, size and location of wetlands in Wisconsin. These maps have been prepared from the analysis of high altitude imagery in conjunction with soil surveys, topographic maps, previous wetland inventories and field work. State statutes define a wetland as "an area where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions." The principal focus of the WWI is to produce wetland maps that are graphic representations of the type, size and location of wetlands in Wisconsin. Within this context, the objective of the WWI is to produce reconnaissance level information on the location, type, size of these habitats such that they are accurate at the nominal scale of the 1:24,000 (1 inch = 2000 feet) base map. The DNR recognizes the limitations of using remotely sensed information as the primary data source. They are to be used as a guide for planning purposes. There is no attempt, in either the design or products of this inventory, to define the limits of jurisdiction of any Federal, State, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State, or local agencies concerning specified agency regulatory programs and jurisdictions that may affect such activities. The most accurate method of determining the legal extent of a wetland for federal or state regulations is a field delineation of the wetland boundary by a professional trained in wetland delineation techniques.

APPENDIX C

2012 Zebra Mussel Survey Results

ZEBRA MUSSEL INSPECTION RESULTS WRPCO HYDROELECTRIC PROJECTS

HYDRO NAME

- Petenwell Flowage
- Castle Rock Flowage

2012

INSPECTION TYPE:	<input type="checkbox"/> MONTHLY INSPECTION	<input checked="" type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE:	5-3-12	
COMMENTS/RESULTS:	No Zebra Mussels	

INSPECTION TYPE:	<input checked="" type="checkbox"/> MONTHLY INSPECTION	<input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE:	5/15/12	
COMMENTS/RESULTS:	No Zebra on trap	

INSPECTION TYPE:	<input checked="" type="checkbox"/> MONTHLY INSPECTION	<input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE:	6-12-12	
COMMENTS/RESULTS:	No Zebra Mussels	

INSPECTION TYPE:	<input checked="" type="checkbox"/> MONTHLY INSPECTION	<input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE:	7/16/12	
COMMENTS/RESULTS:	No Zebra Mussels	

INSPECTION TYPE:	<input checked="" type="checkbox"/> MONTHLY INSPECTION	<input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE:	8/15/12	
COMMENTS/RESULTS:	No Zebra Mussels	

INSPECTION TYPE:	<input checked="" type="checkbox"/> MONTHLY INSPECTION	<input type="checkbox"/> INSPECTION DURING DRAWDOWN
DATE:	9/11/12	
COMMENTS/RESULTS:	Some small Zebra Mussels	

ZEBRA MUSSEL INSPECTION RESULTS WRPCO HYDROELECTRIC PROJECTS

HYDRO NAME

- Petenwell Flowage
- Castle Rock Flowage

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 3-7-12 *None noted on what is visible*
 COMMENTS/RESULTS: _____

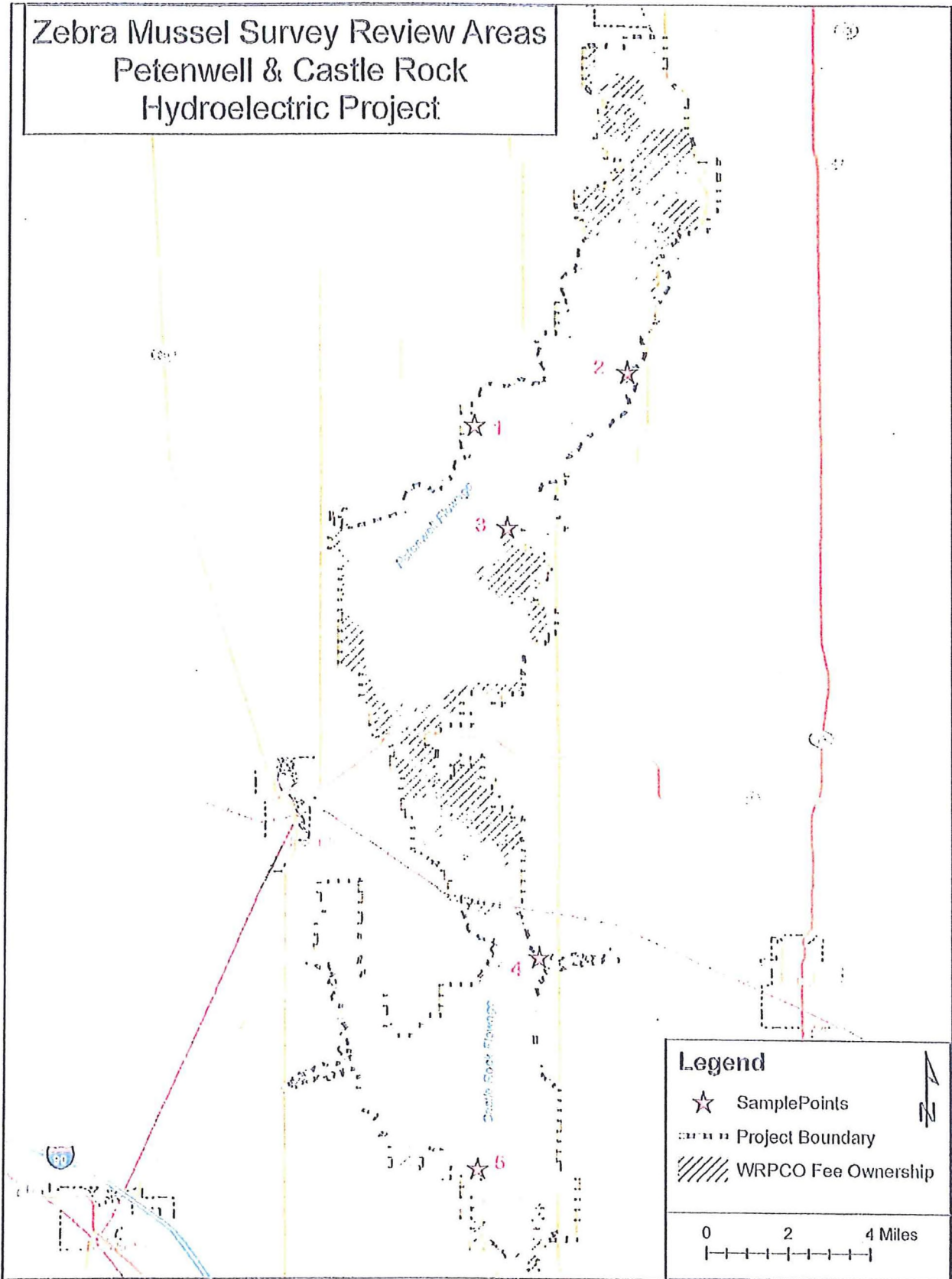
INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 5-7-12 *No Zebra Mussels*
 COMMENTS/RESULTS: _____

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 6-12-12 *No Zebra Mussels*
 COMMENTS/RESULTS: _____

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 7-18-12 *No Zebra Mussels*
 COMMENTS/RESULTS: _____

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 8-15-12 *No Zebra Mussels*
 COMMENTS/RESULTS: _____

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 9/14/12 *No Zebra Mussels*
 COMMENTS/RESULTS: _____



2012 Hard Surface Zebra Mussel Inspections

Date	Location	Zebra Mussels (Y/N)
3/23/2012	1	N
3/23/2012	2	N
3/23/2012	3	N
3/23/2012	4	N
3/23/2012	5	N

APPENDIX D

Documentation of Consultation With Resource Agencies



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

October 25, 2012

Cheryl Laatsch
WDNR
101 South Webster Street OE/7
Madison, WI 53703

Nicholas Utrup
US Fish and Wildlife Service
2661 Tower Drive
New Franken, WI 54229

Dear Ms. Laatsch and Mr. Utrup:

RE: Exotic Species Report for the Petenwell and Castle Rock Hydroelectric Project (P-1984)

As per the Order Approving the Revised Invasive Species Monitoring Plan for the Petenwell-Castle Rock Hydroelectric Project (FERC Project No. 1984) Issued on July 13, 2005, Wisconsin River Power Company is submitting the survey results for purple loosestrife, Eurasian water milfoil (EWM) and zebra mussels.

Purple Loosestrife

Surveys for purple loosestrife were completed on July 27, 2012. The survey identified a total of seventeen (17) purple loosestrife colonies at the project. Fifteen (15) of those were located on the Petenwell Reservoir and two (2) were located on the Castle Rock Reservoir. This compares to a total of twenty-three (23) colonies noted in 2011.

No colonies were cut or sprayed with herbicide in order to avoid 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 WRPCO GIS system. Plant vigor information was recorded for each colony. Of the seventeen (17) colonies noted during the survey, fourteen (14) showed signs of beetle feeding.

WRPCO released beetles at the Petenwell Reservoir on July 6, 2012. Approximately 2000 beetles were released. The beetles were reared in potted purple loosestrife plants.

The 2012 Petenwell-Castle Rock Project purple loosestrife figure including colony locations, identification numbers and beetle release location is found in Appendix A. The purple loosestrife general plant vigor survey forms are also found in Appendix A.

Eurasian Water Milfoil

Eurasian water milfoil (EWM) surveys are conducted every three years. Surveys were completed on July 27, 2012. No EWM was identified at any of the survey locations. Results of the 2012 survey are included in Appendix B. The next EWM survey is scheduled for 2015.

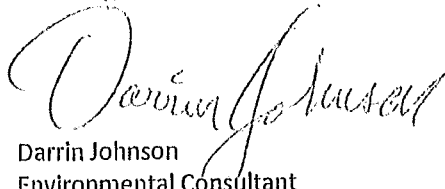
Zebra Mussels

Per the FERC correspondence to WRPCO, dated June 5, 2006, WRPCO is required to conduct monthly inspections for zebra mussels at the Petenwell and Castle Rock reservoirs. The surveys are to be conducted once each month from May to September on an annual basis. The surveys are also to be conducted during the winter drawdown period and during any maintenance related drawdown. Zebra mussels were found on substrate samplers at the Castle Rock Reservoir in 2012. A summary of the substrate sampler results that were taken can be found in Appendix C.

Five hard surface locations on the two reservoirs were also monitored for zebra mussels during the winter drawdown. The figure in Appendix C indicates these locations. No zebra mussels were noted during the hard surface inspections.

Please provide any comments you may have regarding this information within 30 days. If you have any questions, please do not hesitate to contact Darrin Johnson at (715) 345-7509.

Sincerely,

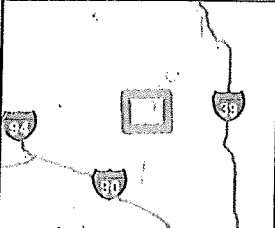
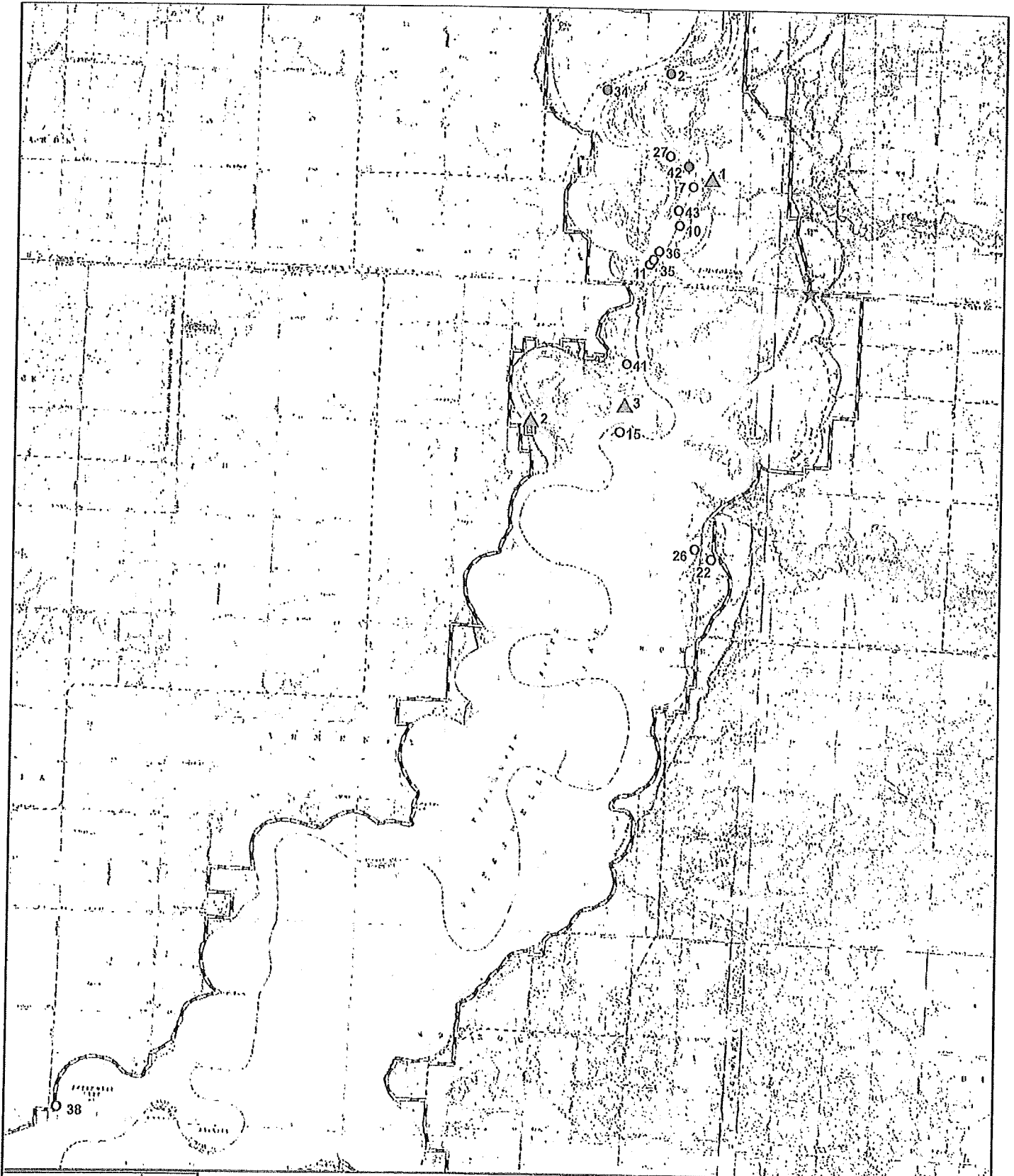


Darrin Johnson
Environmental Consultant

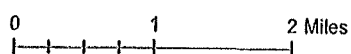
Enc.

APPENDIX A

2012 PURPLE LOOSESTRIFE FIGURE AND SURVEY RESULTS



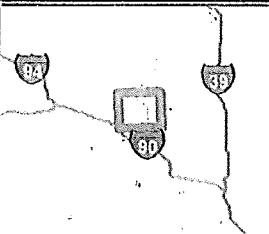
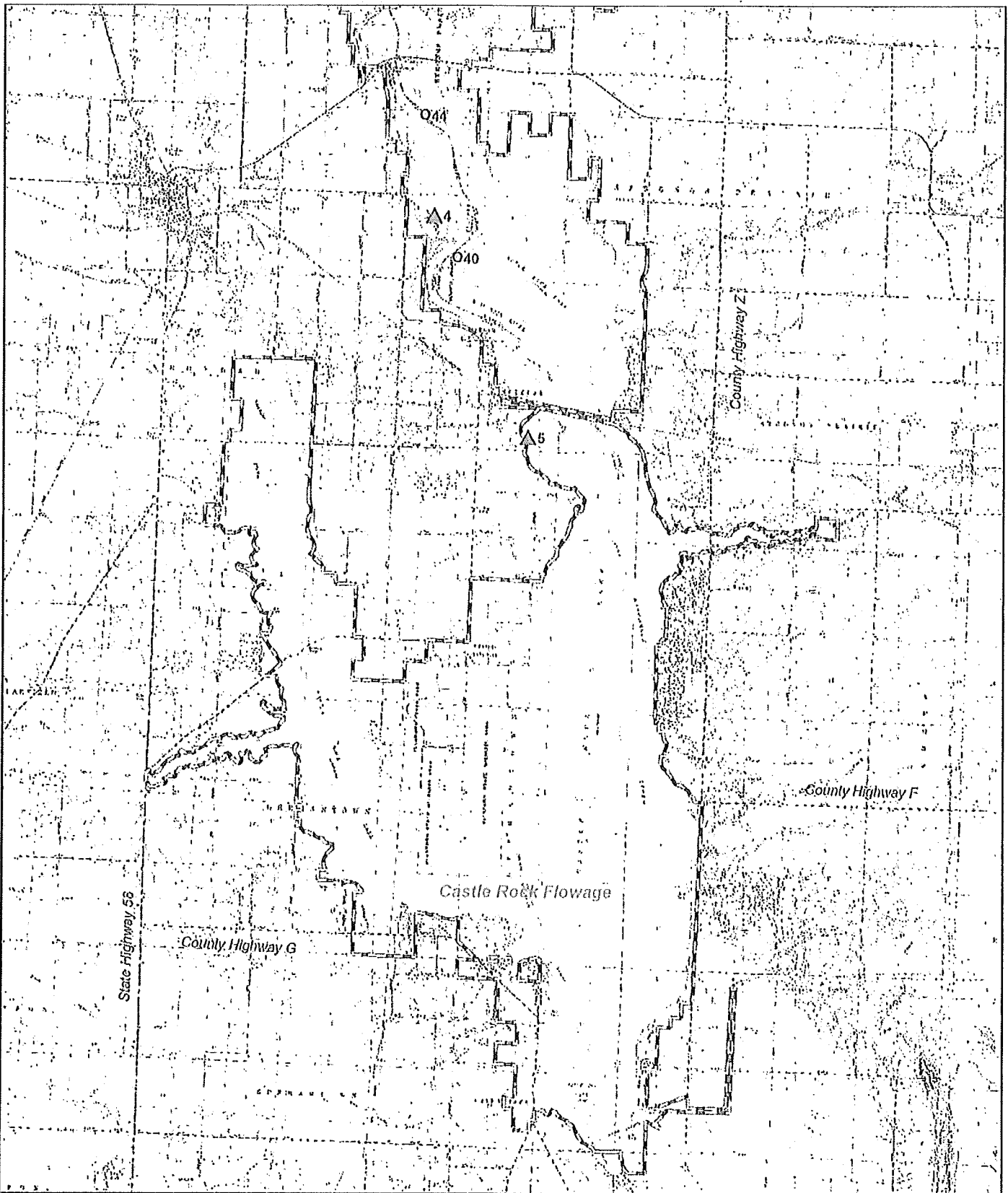
**Wisconsin River Power Company
Petenwell Flowage
2012 Invasive Plant Survey**



Legend

- Project Boundary
- Beetle Release Site
- Eurasian Water Milfoil
- Purple Loosestrife
- 0-5 Plants
- 6-50 Plants
- >50 Plants

Date: 10/24/2012



Wisconsin River Power Company
Castle Rock Flowage
2012 Invasive Plant Survey



0 1 2 Miles

A horizontal scale bar with tick marks at 0, 1, and 2 miles.

Legend

- Project Boundary
- ☆ Beetle Release Site
- △ Eurasian Water Milfoil
- Purple Loosestrife
- 0-5 Plants
- 6-50 Plants
- >50 Plants

Date: 10/25/2012

Purple Loosestrife Survey Form

Hydroelectric Project

WRPCO

Inspection Date

7/27/12

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
1	NO		PLANTS	Noted			
2	L	3	2	1	6	Heavy Feed	PE PL 16
3	NO		PLANTS	Noted			
4	NO		Plants	noted			
5	NO		Plants	Noted			
6	NO		Plants	Noted			
7	M	4	3	2	9		PE PL 12
8	NO		Plants	Noted			
9	NO		Plants	Noted			
10	M	4	4	1	9	Heavy Feed	PE PL 10
11	M	4	2	1	7	Heavy Feed	PE PL 11

Purple Loosestrife Survey Form
 Hydroelectric Project WRPCO
 Inspection Date 5/27/12

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			
12	NO		Plants	Noted			
13	No		Plants	Noted			
14	NO		Plants	noted			
15	M	4	4	3	11		PEPL1
16	NO		Plants	Noted			
17	NO		Plants	Noted			
18	NO		Plants	Noted			
19	NO		Plants	Noted			
20	No		Plants	Noted			
21	NO		Plants	Noted			
22	M	2	2	1	5	Heavy Feed	

Purple Loosestrife Survey Form

Hydroelectric Project
Inspection Date

LIPOCO
7/27/12

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			
23	NO		Plants	Noted			
24	NO		Plants	Noted			
25	NO		Plants	Noted			
26	M	2	2	1	5	Heavy feed	
27	M	4	3	2	9		PER 14
28	NO		Plants	Noted			
29	NO		Plants	Noted			
30	NO		Plants	Noted			
31	NO		Plants	Noted			
32	NO		Plants	Noted			
33	NO		Plants	Noted			

Purple Loosestrife Survey Form

Hydroelectric Project W.R.P.C.O.
 Inspection Date 7/27/12

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			
34	L	3	2	1	6	Channe Heavy Feed	PEPL 15
35	M	4	2	1	6	Heavy Feed	PEPL 8
36	M	4	2	1	6	Heavy Feed	PEPL 9
37	NO		Plants	Noted			
38	S	4	4	4	12	NO Feed	PEPL 17
39	NO		Plants	Noted			
40	S	4	4	4	12	NO Feed	CPL 1
41	S	3	4	1	8	Heavy Feed	PEPL 3
42	L	4	3	2	9		PEPL 13
43	M	3	3	3	9		PEPL 11
44	S	4	4	4	12	NO Feed	CPL 2

17 colonies total

14 colonies w/ feeding

9 colonies w/ heavy feeding

APPENDIX B

2012 EURASION WATER MILFOIL SURVEY RESULTS

Eurasian Water Milfoil Surveys-2012

PETENWELL

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

CASTLE ROCK

Transect #	0-0.5 M	0.5-1.5 M	1.5-3 M	>3 M
4A	0	0	NA	NA
4B	0	0	NA	NA
4C	0	0	NA	NA
5A	0	0	NA	NA
5B	0	0	NA	NA
5C	0	0	NA	NA

APPENDIX C

2012 ZEBRA MUSSEL SURVEY RESULTS

ZEBRA MUSSEL INSPECTION RESULTS
WRPCO HYDROELECTRIC PROJECTS

HYDRO NAME :

- Petenwell Flowage
- Castle Rock Flowage

2012

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 5-3-12
 COMMENTS/RESULTS: No Zebra Mussels

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 5/15/12
 COMMENTS/RESULTS: No Zebra in trap

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 6-12-12
 COMMENTS/RESULTS: No Zebra Mussels

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 7/16/12
 COMMENTS/RESULTS: No Zebra Mussels

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 8/15/12
 COMMENTS/RESULTS: No Zebra Mussels

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 8/14/12
 COMMENTS/RESULTS: Some small Zebra Mussels

ZEBRA MUSSEL INSPECTION RESULTS
WRPCO HYDROELECTRIC PROJECTS

HYDRO NAME

- Petenwell Flowage
- Castle Rock Flowage

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 3-7-12 *None noted on what is visible*
 COMMENTS/RESULTS:

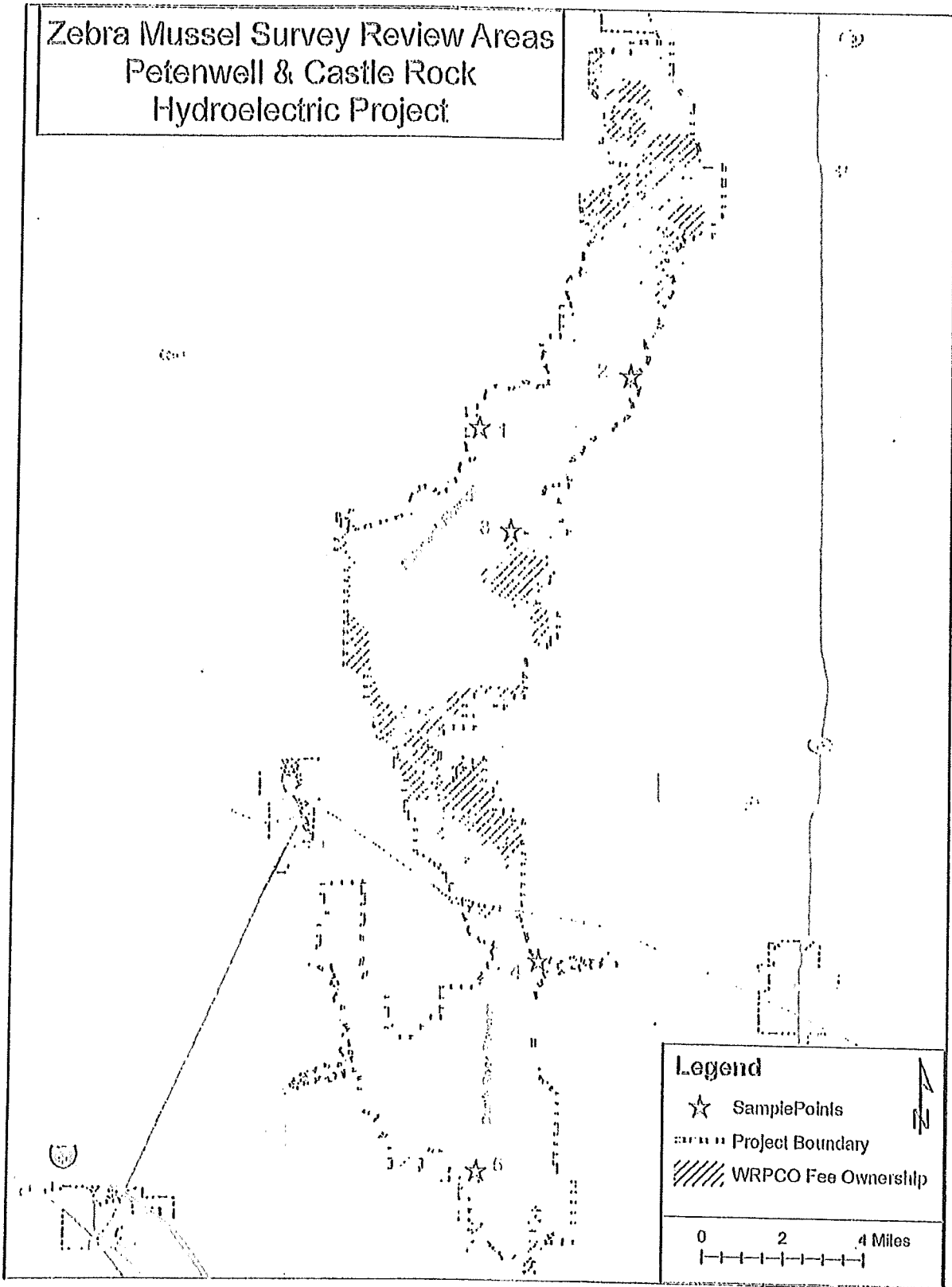
INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 5-7-12 *No Zebra Mussels*
 COMMENTS/RESULTS:

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 6-12-12 *No Zebra Mussels*
 COMMENTS/RESULTS:

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 7-18-12 *No Zebra Mussels*
 COMMENTS/RESULTS:

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 8-15-12 *No zebra mussels*
 COMMENTS/RESULTS:

INSPECTION TYPE: MONTHLY INSPECTION INSPECTION DURING DRAWDOWN
 DATE: 9/14/12 *No Zebra Mussels*
 COMMENTS/RESULTS:



2012 Hard Surface Zebra Mussel Inspections

Date	Location	Zebra Mussels (Y/N)
3/23/2012	1	N
3/23/2012	2	N
3/23/2012	3	N
3/23/2012	4	N
3/23/2012	5	N

No Comments Received from FWS

WDNR COMMENTS

Johnson, Darrin M

From: Laatsch, Cheryl - DNR [Cheryl.Laatsch@Wisconsin.gov]
Sent: Monday, November 26, 2012 2:19 PM
To: Johnson, Darrin M
Subject: FW: Petenwell/Castelrock

See Scott P email below for specific comments.

Here are the WDNR general comments for the site.

Wisconsin is a mosaic of waterways representing the Mississippi River and the Great Lakes Regions. With this vast mosaic of waterways and river systems, comes an array of aquatic invasive species. As we move forward with identifying and eradicating AIS, there are basic steps that all hydro owners need to participate in, to help improve the resource. Some AIS can significantly hinder hydro operations that may result in excessive operation and maintenance costs, including lost generation. We encourage the utility to work with the WDNR to develop Best Management Practices for their operations and maintenance of the hydro, to reduce the introduction and spread of AIS. Additionally, the WDNR recommends revisions to the current AIS plan to address the following concerns:

- a. Identify all existing AIS within the study area and discuss which new AIS are most likely to arrive (i.e. SMART analysis).
- b. Determine an acceptable survey and mapping methodology
- c. Identify and implement quality control measures, and equipment calibration measures
- d. Improve awareness and the dynamics of the study area
- e. Avoid duplicate workload for agency staff, utilities, and local associations
- f. Manage and analyze the data collected to define population characteristics, establish trends, and evaluate management success.
- g. Establish and implement protocols for management/removal of AIS
- h. Provide a timeline to review the current AIS plans and revise the plans as appropriate for the project area

If purple loosestrife (*Lythrum salicaria*) is present, control or eliminate all small populations of loosestrife (usually 50 plants or less), with acceptable manual/chemical/mechanical methods annually, as necessary, and establish viable, on-going, and effective populations of biocontrol beetles (*Galerucella pusilla* and/or *G. calmariensis*) on all larger loosestrife populations.

Cheryl Laatsch, Water Mgt Specialist

Horicon DNR

N7725 HIGHWAY 28

HORICON WI 53032

(920) 387-7869

e-mail: Cheryl.laatsch@wisconsin.gov

Website: dnr.wi.gov

www.facebook.com/WIDNR

From: Provost, Scott M - DNR
Sent: Monday, November 26, 2012 2:16 PM
To: Laatsch, Cheryl - DNR
Subject: RE: Petenwell/Castelrock

Yes. I didn't understand why they weren't releasing the beetles closer to the source on Pete?

I can forward my plant survey results to Darrin and you for additional information. We did find EWM in one area which it was fairly common. I owe him the report next week.

Scott

From: Laatsch, Cheryl - DNR
Sent: Monday, November 26, 2012 2:10 PM
To: Provost, Scott M - DNR
Subject: Petenwell/Castelrock

Did you review these reports? They were due Sunday.

Cheryl Laatsch, Water Mgt Specialist

Horicon DNR

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HORICON WI 53032

(920) 387-7869

e-mail: Cheryl.laatsch@wisconsin.gov

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WRPCO RESPONSE TO WDNR COMMENTS

Wisconsin River Power Company (WRPCO) received comments from the Wisconsin Department of Natural Resources (WDNR) after submittal of the 2012 Petenwell and Castle Rock Hydroelectric Project (P-1984) Invasive Species Survey Results. As an overall comment, WRPCO is concerned that the WDNR comments are beyond the scope of License Article 408 and the approved Invasive Species Monitoring Plan, both of which the WDNR reviewed and commented on prior to their approval. The comments are general and are not directly related to the report submitted for review. WDNR has not provided specific data that additional Aquatic Invasive Species (AIS) are present within the project boundary. Additionally, no justification has been provided indicating that monitoring, control, or eradication of additional AIS species is warranted.

License Article 408 states the following:

Article 408

*Within 180 days of license issuance, the licensee shall, in consultation with the Wisconsin Department of Natural Resources and the U.S. Fish and Wildlife Service, develop a plan to monitor purple loosestrife (*Lythrum salicaria*) and Eurasian watermilfoil (*Myriophyllum spicatum*) in project waters. The plan shall include, but is not limited to: (a) the method and frequency of monitoring, (b) a provision to cooperate in the control/elimination of these vegetative species if deemed necessary by the agencies, and (c) documentation of transmission of monitoring data to the agencies.*

The licensee shall include documentation of consultation with the agencies before preparing the plan, copies of the agencies' comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments were accommodated by the plan. The licensee shall allow a minimum of 60 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

WDNR SPECIFIC COMMENTS

WDNR COMMENT: Wisconsin is a mosaic of waterways representing the Mississippi River and the Great Lakes Regions. With this vast mosaic of waterways and river systems, comes an array of aquatic invasive species.

WRPCO RESPONSE: Comment noted.

WDNR COMMENT: As we move forward with identifying and eradicating AIS, there are basic steps that all hydro owners need to participate in, to help improve the resource.

WRPCO RESPONSE: The Petenwell and Castle Rock Hydroelectric Project Invasive Species Plan already provides for identification and, if necessary, control of specific AIS. In addition, the eradication of AIS in most circumstances would be impractical if not impossible. WRPCO will continue to implement the measures outlined in the FERC approved Petenwell and Castle Rock Hydroelectric Project Invasive Species Plan.

WDNR COMMENT: Some AIS can significantly hinder hydro operations that may result in excessive operation and maintenance costs, including lost generation. We encourage the utility to work with the WDNR to develop Best Management Practices for their operations and maintenance of the hydro, to reduce the introduction and spread of AIS.

WRPCO RESPONSE: The Petenwell and Castle Rock Hydroelectric Project Invasive Species Plan already provides for measures to control the spread of specific AIS, where necessary. WRPCO will continue to implement the measures outlined in the FERC approved Petenwell and Castle Rock Hydroelectric Project Invasive Species Plan.

WDNR COMMENT: Additionally, the WDNR recommends revisions to the current AIS plan to address the following concerns:

WRPCO RESPONSE: WDNR has not provided specific data that additional AIS are present within the project boundary. No justification has been provided by WDNR indicating that monitoring, control, or eradication of additional AIS species is necessary. WRPCO will continue to implement the measures outlined in the FERC approved Petenwell and Castle Rock Hydroelectric Project Invasive Species Plan.

WDNR COMMENT: Identify all existing AIS within the study area and discuss which new AIS are most likely to arrive (i.e. SMART analysis).

WRPCO RESPONSE: WDNR has not provided specific data that additional AIS are present within the project boundary. No justification that monitoring, control, or eradication of additional AIS species is necessary has been provided by WDNR. WRPCO will continue to implement the measures outlined in the FERC approved Petenwell and Castle Rock Hydroelectric Project Invasive Species Plan.

WDNR COMMENT: Determine an acceptable survey and mapping methodology.

WRPCO RESPONSE: In the approved Invasive Species Monitoring Plan, protocols for monitoring methods, frequency of survey, mapping, and implementation of control measures have already been established. WRPCO will continue to implement the measures outlined in the FERC approved Petenwell and Castle Rock Hydroelectric Project Invasive Species Plan.

WDNR COMMENT: Identify and implement quality control measures, and equipment calibration measures.

WRPCO RESPONSE: WRPCO ensures that all AIS surveying and control equipment is clean and in proper working condition. WRPCO will continue to implement the measures outlined in the FERC approved Petenwell and Castle Rock Hydroelectric Project Invasive Species Plan.

WDNR COMMENT: Improve awareness and the dynamics of the study area.

WRPCO RESPONSE: The Invasive Species Monitoring Plan already requires WRPCO to display invasive species information at all WRPCO owned public access areas. WRPCO will continue to implement the measures outlined in the FERC approved Petenwell and Castle Rock Hydroelectric Project Invasive Species Plan.

WDNR COMMENT: Avoid duplicate workload for agency staff, utilities, and local associations.

WPS RESPONSE: The annual agency meeting provides an opportunity for the WDNR to express its concerns about duplicate workload for agency staff, utilities and local associations.

WDNR COMMENT: Manage and analyze the data collected to define population characteristics, establish trends, and evaluate management success.

WPS RESPONSE: The Petenwell and Castle Rock Hydroelectric Project Invasive Species Plan already provides for specific AIS data to be provided to the WDNR for their analysis on an annual basis. WRPCO will continue to implement the measures outlined in the FERC approved Petenwell and Castle Rock Hydroelectric Project Invasive Species Plan

WDNR COMMENT: Establish and implement protocols for management/removal of AIS.

WRPCO RESPONSE: Under Article 408 of the license and the approved Invasive Species Monitoring Plan, protocols for monitoring methods, frequency of survey, mapping, and implementation of control measures have already been established. In addition, WRPCO would like to point out that some AIS species may fluctuate in population, but remain in check with the surrounding aquatic community and may not require management or removal. For instance, WPS has been completing Eurasian Water Milfoil (EWM) surveys at the Grand Rapids Hydroelectric Project (FERC Project # 2433) since 1998. Since 2006, EWM has shown fluctuations in populations but has overall remained in check. EWM stands encompassed 15.58 acres in 2006, 47.8 acres in 2007, 81 acres in 2008, 1.6 acres in 2009, 2.0 acres in 2010 and 10.9 acres in 2011. Based on these results, EWM is only one plant of many aquatic plant species located in a healthy aquatic plant community. WRPCO will continue to implement the measures outlined in the FERC approved Petenwell and Castle Rock Hydroelectric Project Invasive Species Plan.

WDNR COMMENT: Provide a timeline to review the current AIS plans and revise the plans as appropriate for the project area.

WRPCO RESPONSE: WDNR has not provided specific data that additional AIS are present within the project boundary. No justification that monitoring, control, or eradication of additional AIS species has been provided by WDNR. WRPCO will continue to implement the measures outlined in the FERC approved Petenwell and Castle Rock Hydroelectric Project Invasive Species Plan.

WDNR COMMENT: If purple loosestrife (*Lythrum salicaria*) is present, control or eliminate all small populations of loosestrife (usually 50 plants or less), with acceptable manual/chemical/mechanical

methods annually, as necessary, and establish viable, on-going, and effective populations of biocontrol beetles (*Galerucella pusilla* and/or *G. californiensis*) on all larger loosestrife populations.

WRPCO RESPONSE: WRPCO has been implementing biological purple loosestrife control measures per the Order Amending Purple Loosestrife Control Measures in Approved Monitoring Plan issued on July 9, 2009. WPS will continue to implement the measures outlined in the FERC order.

WDNR COMMENT: I didn't understand why they weren't releasing beetles closer to the source at Pete.

WRPCO RESPONSE: WRPCO noted several individual loosestrife plants along Highway Z near Devil's Elbow after the 2011 survey took place. Many times this area along the road is mowed by the county highway department prior to WRPCO completing inspections for purple loosestrife. Beetles were released in this location as a precaution in case there are loosestrife plants in the area that are unidentified during the survey. The area west of the boat landing also has had significant PL populations in the past. Beetles were released prior to completing the 2012 survey, and other known populations of purple loosestrife were already seeing significant beetle feeding. WRPCO will concentrate on releasing beetles in 2013 at newly identified purple loosestrife locations with no history of beetle feeding.

WDNR COMMENT: I can forward my plant survey results to Darrin and you for additional information. We did find EWM in one area that was fairly common.

WRPCO RESPONSE: WDNR has been completing vegetation surveys in conjunction with WRPCO's Adaptive Management Plan over the past several years. The 2012 survey indicated the presence of Eurasian Water Milfoil (EWM) in three of the sample plots, it was increasing in population in one of the plots. These sites will be reviewed during future EWM surveys conducted by WRPCO.

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