



Wisconsin Public Service Corporation

700 North Adams Street

P.O. Box 19001

Green Bay, WI 54307-9001

December 4, 2013

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

Dear Secretary Bose:

Peshtigo River Hydroelectric Projects - CLWMP Invasive Species Monitoring Plan

As per the Federal Energy Regulatory Commission (FERC) Order Modifying and Approving the Updated Comprehensive Land and Wildlife Management Plan (CLWMP)- Invasive Species Monitoring Plan for the Peshtigo Hydroelectric Project (FERC Project No. 2581) and Potato Rapids Hydroelectric Project (FERC Project No. 2560) issued on June 12, 2012, Wisconsin Public Service Corporation (WPS) is to provide monitoring reports to the Wisconsin Department of Natural Resources (WDNR) and U.S. Fish & Wildlife Service (FWS) by September 30th and to FERC by December 31st, each year a survey has been completed.

2013 Peshtigo Hydroelectric Project - Purple Loosestrife Plan

As per the FERC order modifying and approving the updated CLWMP- Invasive Species Plan dated June 12, 2012, WPS is submitting the final report on the biological control and monitoring efforts for the Peshtigo Hydroelectric Project. The 2013 survey year is the final year of the five year biological control project.

On July 16, 2013, WPS released approximately 15,000 *gallerucella* beetles (beetles) at the two largest purple loosestrife infested areas (Colonies #3 and #17) and pulled approximately 20 outlying purple loosestrife plants from Colony #17 at the Peshtigo Hydroelectric Project.

WPS followed up with an additional release of 10,000 beetles and pulled all purple loosestrife plants at Colony #25 on July 25, 2013. These beetles were released at Colony #3 and at Colony #29 as well. Photographs of the purple loosestrife beetle feeding and removal activities are included in Appendix A. Appendix B includes the location of all three beetle release sites.

WPS also completed a purple loosestrife survey of the Peshtigo Hydroelectric Project on July 25, 2013. The survey results indicate that the purple loosestrife colonies have been reduced by 4; from 13 colonies in 2012 to 9 colonies in 2013. This number does not include the 1 small colony which was hand pulled, leaving a total of 8 colonies remaining in 2013. In addition, no new purple loosestrife colonies were observed in 2013. Appendix B includes the 2013 Purple Loosestrife Survey Form and associated figure.

As in 2011 and 2012, beetle feeding was observed at every remaining purple loosestrife colony in 2013. Plant vigor was observed at an average of 7.25, which is lower than the 7.6 observed in 2012.

Secretary Kimberly D. Bose

December 4, 2013

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WPS Purple Loosestrife Monitoring Plan Recommendation

As per the FERC Order Modifying and Approving the Updated CLWMP- Invasive Species Plan dated June 12, 2012, WPS shall, based on the five year survey results, determine if the spread of purple loosestrife is controlled at the Peshtigo Hydroelectric Project and provided its recommendation(s) in accordance with the FERC Order Approving Supplement to CLWMP for the Peshtigo Hydroelectric Project dated July 30, 2009, to reduce the monitoring frequency to every three years in conjunction with the approved Eurasian water milfoil (EWM) survey schedule.

To determine if the spread of purple loosestrife is being controlled by biological methods, WPS measured plant vigor and the total number of colonies at the Peshtigo Hydroelectric Project over the five year study period.

Since 2009, approximately 63,000 beetles have been released at the Peshtigo Hydroelectric Project. The beetles have been very effective; resulting in the elimination of 16 purple loosestrife colonies and the control of the remaining 8 purple loosestrife colonies at the Peshtigo Hydroelectric Project.

The plant vigor measurement system was established to account for purple loosestrife plant health. The plant vigor is an overall combined score of several measurable factors that include colony size, plant height, plant flowering and beetle feeding. Each category is given a score based on the observed plant conditions. The score for each of the four categories is then added together and an overall score provides for the total plant vigor. A higher overall score indicates that the plant is in good health, while a lower score would indicate a plant is in poor health.

The five year purple loosestrife biological control and monitoring activities have also shown a reduction of the plant vigor from an average of 11.32 in 2009 for 25 purple loosestrife colonies to an average of 7.32 in 2013 for the 8 remaining purple loosestrife colonies. The Purple Loosestrife Comparison Table (2009 to 2013) is included in Appendix C. Appendix C also includes the Purple Loosestrife Survey Reports and Figures for each year of the five year study (2009 -2013).

Although not specifically identified as a measurement of successful biological control in the study, a visual observation of the remaining purple loosestrife colonies at the Peshtigo Hydroelectric Project clearly shows that purple loosestrife is no longer a dominate plant on the aquatic landscape and just one of several plants in the aquatic plant community. Appendix A also includes photographs of the purple loosestrife colonies and surrounding aquatic plants.

The results of the five year survey demonstrates that the beetles have significantly reduced the purple loosestrife total colony numbers and decreased plant vigor for the plants in the remaining colonies. In addition, the beetle population remains viable and should prosper with the addition of 25,000 beetles released in 2013.

WPS is confident that the spread of purple loosestrife is controlled at the Peshtigo Hydroelectric Project. WPS has established that purple loosestrife monitoring shall be reduced in frequency to once every three years in conjunction with the EWM survey scheduled as outlined in the FERC Order Approving Supplement to CLWMP for the Peshtigo Hydroelectric Project dated July 30, 2009 and FERC Order

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Page 3 of 3

Modifying and Approving the Updated CLWMP-Invasive Species Monitoring Plan for the Peshtigo Hydroelectric Project. The next purple loosestrife survey would then need to be completed in 2014.

Appendix D includes the CLWMP-Purple Loosestrife Plan for the Peshtigo Hydroelectric Project.

2013 Potato Hydroelectric Project - Purple Loosestrife Plan

As per the FERC order approving the updated CLWMP dated June 12, 2012, WPS is submitting the 2013 purple loosestrife survey results for the Potato Rapids Hydroelectric Project.

WPS observed purple loosestrife at the Potato Rapids Hydroelectric Project for the first time in 2011. The colony consisted of one plant which was hand pulled. In 2013, the Marinette County Conservation District completed purple loosestrife survey activities on the Potato Rapids Hydroelectric Project, which included a review of the site observed in 2011. The surveys were completed on July 25, 2013. No purple loosestrife was observed at the Potato Rapids Hydroelectric Project. Purple loosestrife was also not observed in 2012.

As per the FERC Order Modifying and Approving the Updated CLWMP-Invasive Species Monitoring Plan for Potato Rapids Hydroelectric Project, WPS will monitor for purple loosestrife again in 2014 and if not observed, monitor in conjunction with the EWM survey schedule.

WPS provided the Peshtigo River Hydroelectric Projects - CLWMP Invasive Species Monitoring Plan to the resource agencies on September 12, 2013. The WDNR provided comments on October 2, 2013. Documentation of Consultation is included in Appendix E.

Should you have any questions relative to this material, please do not hesitate to contact Jamie Nuthals at (920) 433-1460.

Sincerely,



Terry P. Jensky
Vice President – Generation Assets

JDN /jdn

Enc:

cc: Mr. Gil Snyder, WPSC - D2
Mr. Shawn Puzen, IBS - D2
Ms. Joan Johaneck, WPSC - D2
Mr. Conrad Weis, IBS - D2
Mr. William Bosacki, WPSC-D2
Mr. John Myers, IBS - D2
Mr. Ed Brandt, WPSC-CRI
Ms. Tara Perry, FERC- DC
Mr. John Zygaj, FERC - CRO

APPENDIX A

PHOTOGRAPHS

Appendix A Photographs
Peshtigo Hydro, 2013



Photograph of Beetle Feeding on Purple Loosestrife Plant at Peshtigo Hydroelectric Project

Appendix A Photographs
Peshtigo Hydro, 2013



Photograph of Beetle Feeding on Purple Loosestrife Plant at Peshtigo Hydroelectric Project

Appendix A Photographs
Peshtigo Hydro, 2013



Photographs of Pulled Purple Loosestrife at Peshtigo Hydroelectric Project

Appendix A Photographs
Peshtigo Hydro, 2013



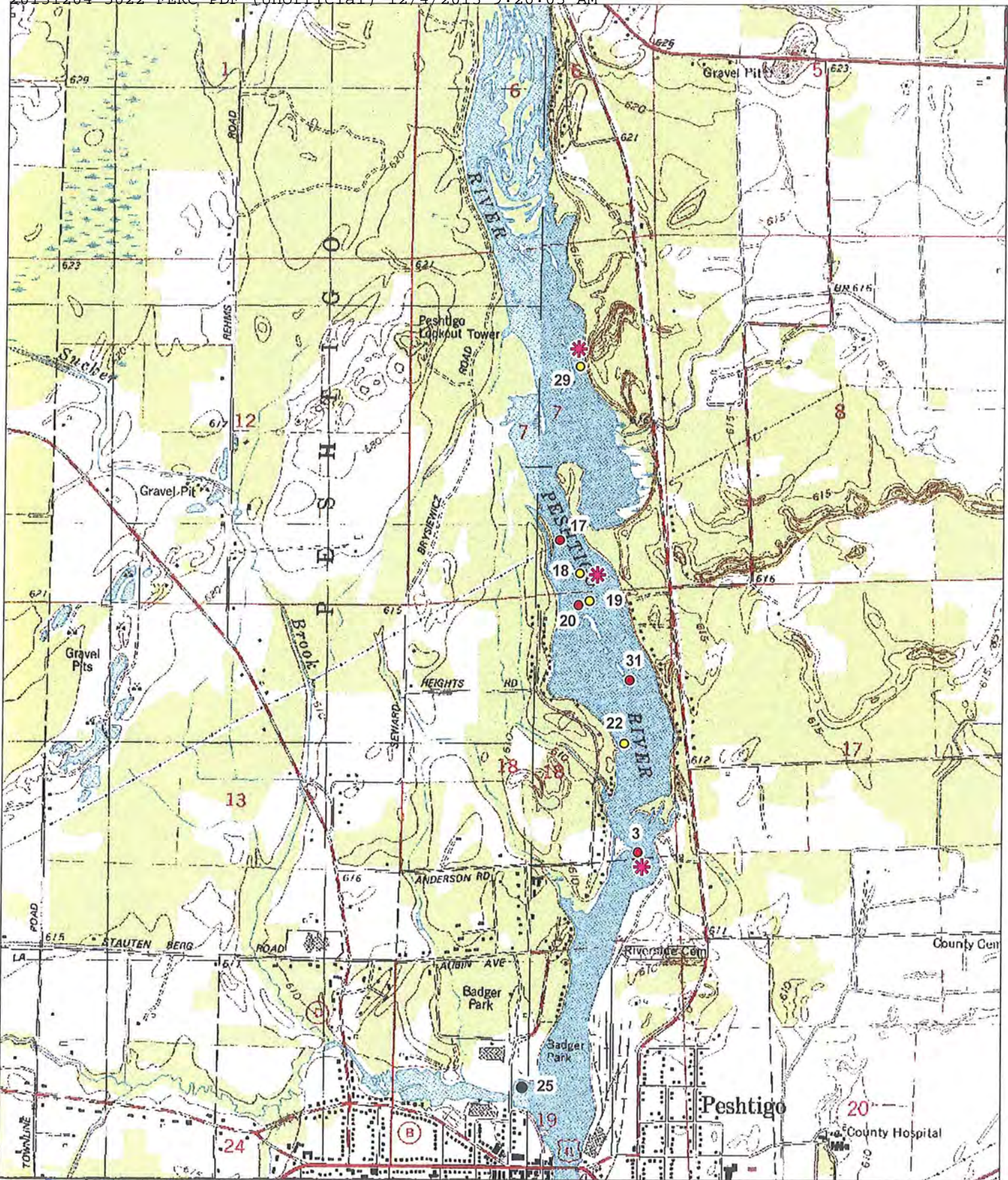
Photograph of Large Purple Loosestrife Colony (Colony #20) in relationship to surrounding vegetation



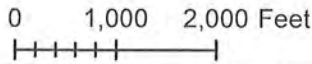
Photograph of Medium Purple Loosestrife Colony (Colony #17) in relationship to surrounding vegetation

APPENDIX B

2013 PURPLE LOOSESTRIFE SURVEY FORM



Peshtigo River Purple Loosestrife Survey-2013



Date: 9/10/2013

- Purple Loosestrife**
- PULLED
 - 0-5 Plants
 - 6-50 Plants
 - >50 Plants
 - ✱ Beetle Release Site

Purple Loosestrife Survey Form

Hydroelectric Project Peshtigo Hydro Electric Project

Inspection Date 7/25/2013

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 #
1							
	NO LONGER ABLE TO IDENTIFY						
2							
	NO LONGER ABLE TO IDENTIFY						
3	L	4	3	2	10	Release site in 2012 and 2013	93
4							
	NO LONGER ABLE TO IDENTIFY						
5							
	NO LONGER ABLE TO IDENTIFY						
6							
	NO LONGER ABLE TO IDENTIFY						
7							
	NO LONGER ABLE TO IDENTIFY						
8							
	NO LONGER ABLE TO IDENTIFY						
9							
	NO LONGER ABLE TO IDENTIFY						
10							
	NO LONGER ABLE TO IDENTIFY						
11							
	NO LONGER ABLE TO IDENTIFY						

Purple Loosestrife Survey Form

Hydroelectric Project Peshtigo Hydro Electric Project

Inspection Date 7/25/2013

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 #
12							
	NO LONGER ABLE TO IDENTIFY						
13							
	NO LONGER ABLE TO IDENTIFY						
14							
	NO LONGER ABLE TO IDENTIFY						
15							
	NO LONGER ABLE TO IDENTIFY						
16							
	NO LONGER ABLE TO IDENTIFY						
17	L	3	2	2	7	Pulled in 2013	107
18	M	2	2	3	7	release site in 2012 and 2013	108
19	M	2	2	1	5	release site in 2012	109
20	L	2	2	1	5		110
21							
	NO LONGER ABLE TO IDENTIFY						
22	M	2	2	1	5		112

APPENDIX C

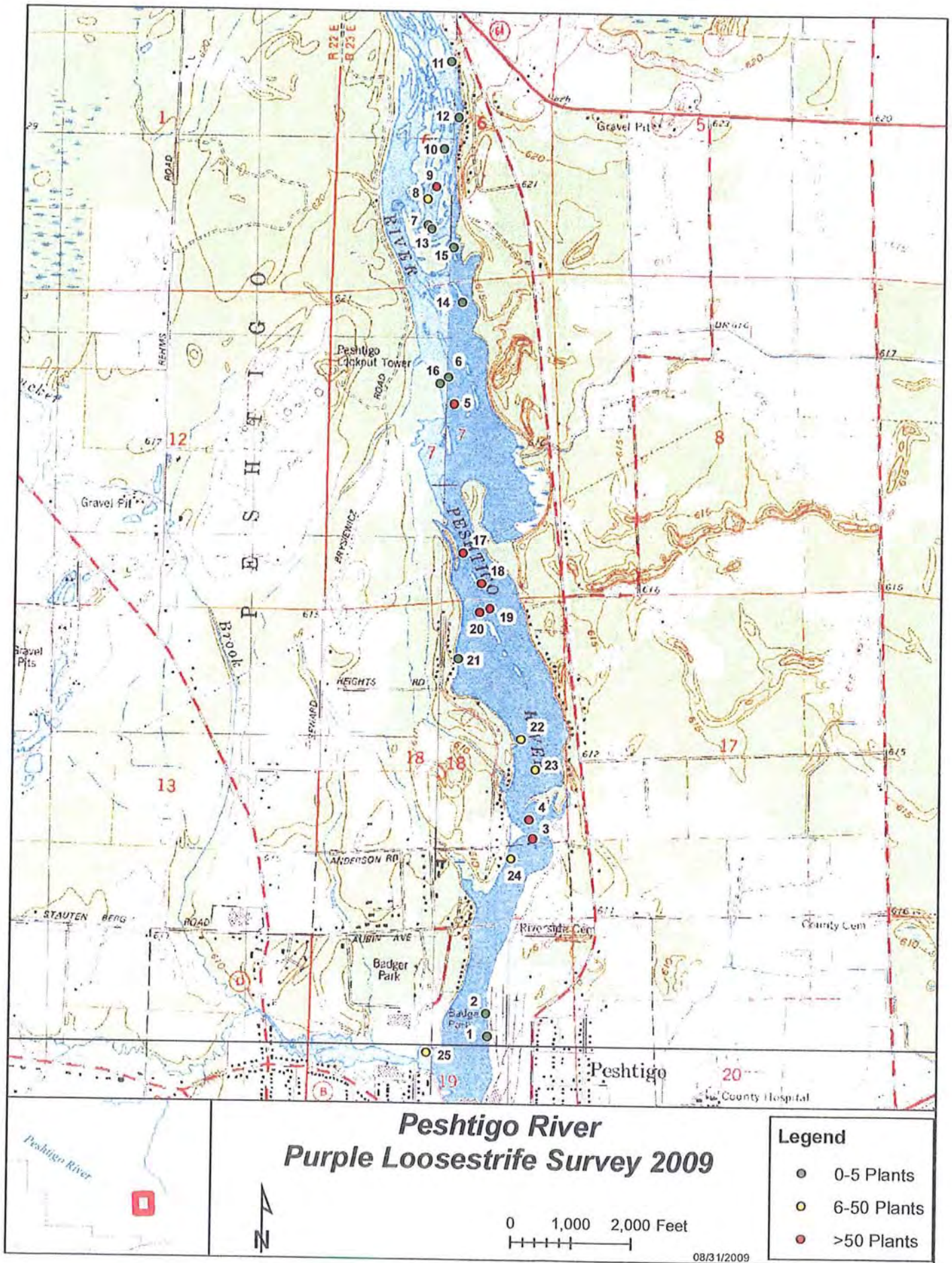
PURPLE LOOSESTRIFE SURVEY COMPARISON & SURVEY FORMS (2009- 2013)

2009 through 2013 Purple Loosestrife Survey Results

Peshigo Hydroelectric Project

Year Comparison Information

Survey Year	Number of Colonies	Plant Vigor	Number of Colonies with Beetle Feeding	% of Colonies with Beetle Feeding	Number of Beetles Released
2009	25	11.32	1	4	8,000
2010	25	10.6	8	32	10,000
2011	20	7.6	14	70	10,000
2012	13	7.6	13	100	10,000
2013	9	7.25	9	100	25,000



Purple Loosestrife Survey Form

Hydroelectric Project Peshtigo Hydro Electric Project

Inspection Date 8/7/2009

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 #
1	S	3	4	4	11		91
2	S	3	4	4	11		92
3	L	4	4	4	12	possible release 2010	93
4	L	4	4	4	12		94
5	L	3	4	4	11		95
6	S	3	4	3	10		96
7	S	4	4	4	12		97
8	M	4	4	4	12		98
9	L	4	4	4	12	possible release 2010	99
10	S	4	4	4	12		100
11	S	3	4	4	11		101

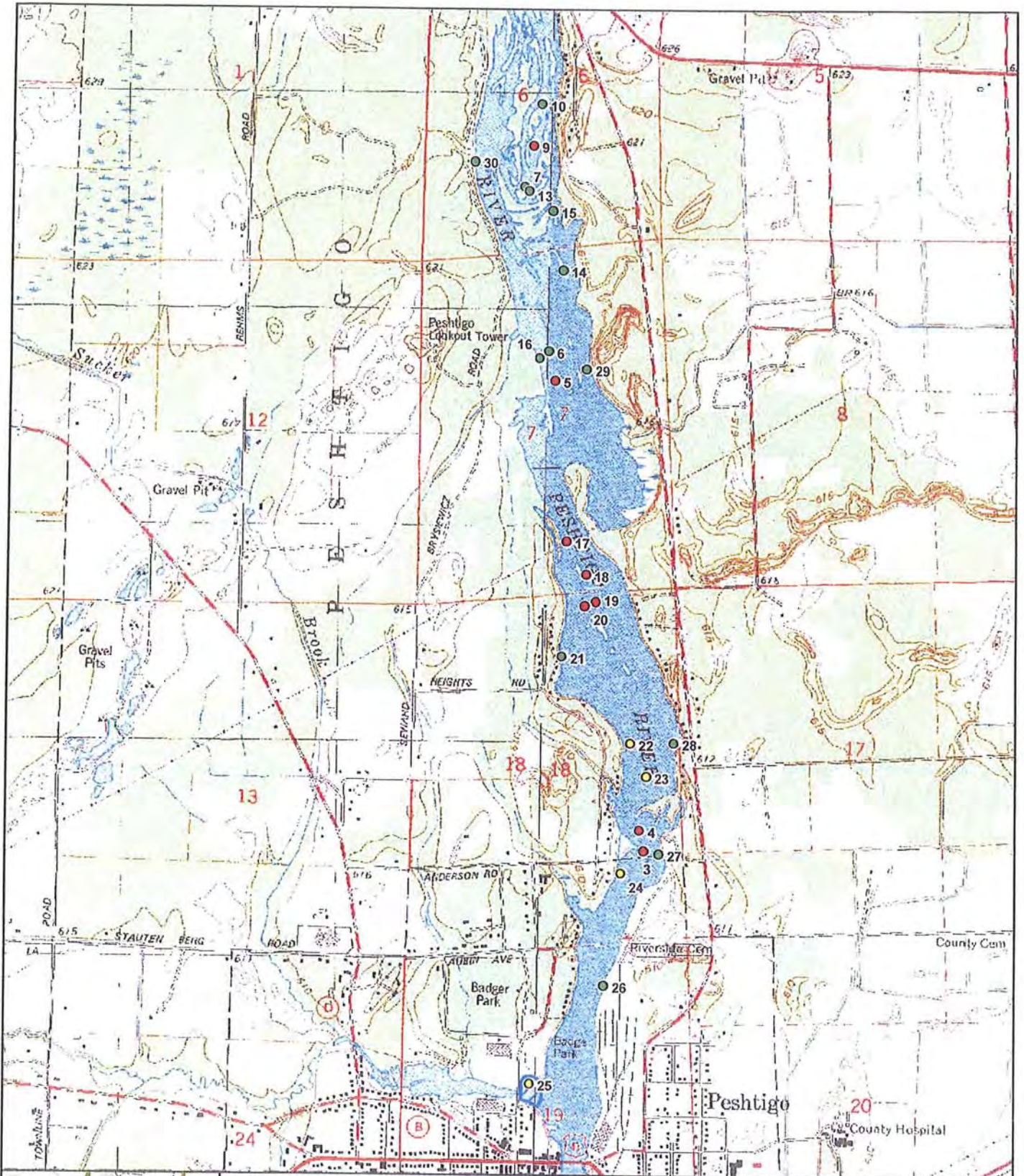
Purple Loosestrife Survey Form

Hydroelectric Project Peshtigo Hydro Electric Project

Inspection Date 8/7/2009

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 #
12	S	3	4	4	11		102
13	S	3	4	4	11		103
14	S	3	4	4	11		104
15	S	3	4	4	11		105
16	S	3	4	4	11		106
17	L	4	4	4	12		107
18	L	4	4	4	12	best for release 2010	108
19	L	4	4	4	12		109
20	L	4	4	4	12		110
21	S	4	4	4	12		111
22	M	4	4	3	11		112



Peshtigo River Purple Loosestrife Survey 2010

Legend

- 0-5 Plants
- 6-50 Plants
- >50 Plants
- Purple Loosestrife Area



0 1,000 2,000 Feet

08/17/2010



Purple Loosestrife Survey Form

Hydroelectric Project Peshtigo Hydro Electric Project

Inspection Date 7/19/2010

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 #
1	NO LONGER ABLE TO IDENTIFY						
2	NO LONGER ABLE TO IDENTIFY						
3	L	4	3	4	11		93
4	L	4	3	4	11	minimal feeding	94
5	L	2	4	4	10	minimal feeding	95
6	M	3	3	2	8	heavy feeding	96
7	S	2	4	2	10	heavy feeding	97
8	NO LONGER ABLE TO IDENTIFY						
9	L	3	4	4	11	release spot for 2011	99
10	S	4	4	4	12		100
11	NO LONGER ABLE TO IDENTIFY						

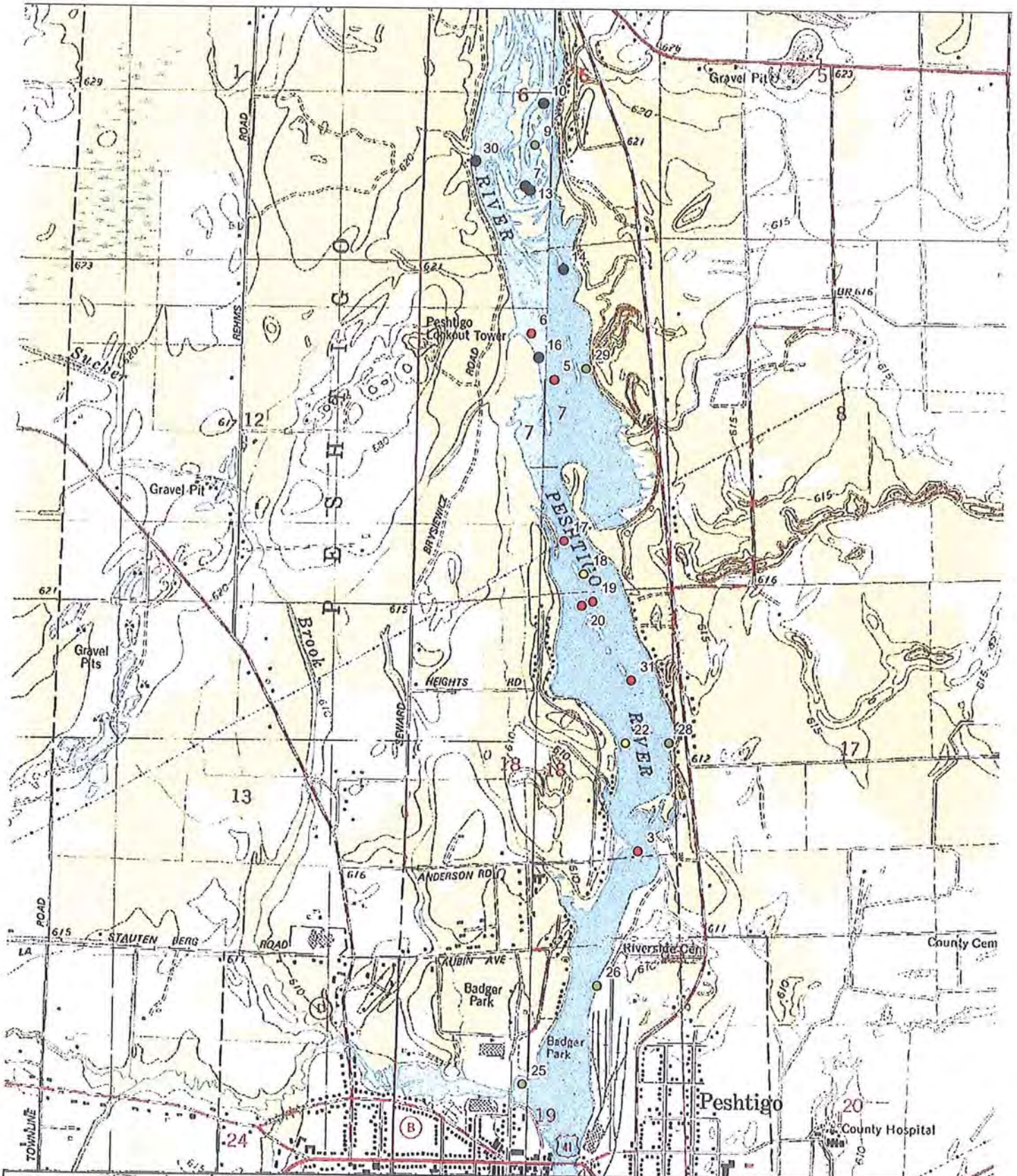
Purple Loosestrife Survey Form

Hydroelectric Project Peshtigo Hydro Electric Project

Inspection Date 7/19/2010

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 #
12	NO LONGER ABLE TO IDENTIFY						
13	S	3	4	4	11		103
14	S	3	4	4	11		104
15	S	3	4	4	11		105
16	S	3	4	4	11		106
17	L	4	4	4	12		107
18	M	4	3	1	8	release site in 2010	108
19	L	4	4	4	12		109
20	L	4	4	4	12		110
21	S	3	4	4	11		111
22	M	4	4	3	11		112



Peshtigo River Purple Loosestrife Survey 2011



0 1,000 2,000 Feet

09/08/2011

Legend

- PULLED
- 0-5 Plants
- 6-50 Plants
- >50 Plants

Purple Loosestrife Survey Form

Hydroelectric Project Peshtigo Hydro Electric Project

Inspection Date 8/4/2011

General Plant Vigor

Colony Number	Colony Size S 0-5 M 6-50 L >50	Plant Height 4=>4ft 3=2-4ft 2=1-2 ft 1= <1 ft	Plant Flowering 4=100% of plants 3=51-99% of plants 2=26-50% of plants 1= <25% of plants	Beetle Feeding 4=0-25% feeding 3=26-50% feeding 2=51-75% feeding 1=76-100% feeding	Total Plant Vigor 10-12=good 7-9=fair 4-6=poor 0-3=very poor	Notes	GPS #
1	NO LONGER ABLE TO IDENTIFY						
2	NO LONGER ABLE TO IDENTIFY						
3	L	4	3	2	9		93
4	NO LONGER ABLE TO IDENTIFY						
5	L	2	4	4	10		95
6	L	3	2	2	7	New Coordinates	220
7	N/A	N/A	N/A	N/A	N/A	Pulled	97
8	NO LONGER ABLE TO IDENTIFY						
9	S	1	1	1	3	release spot for 2011	99
10	N/A	N/A	N/A	N/A	N/A	Pulled	100
11	NO LONGER ABLE TO IDENTIFY						

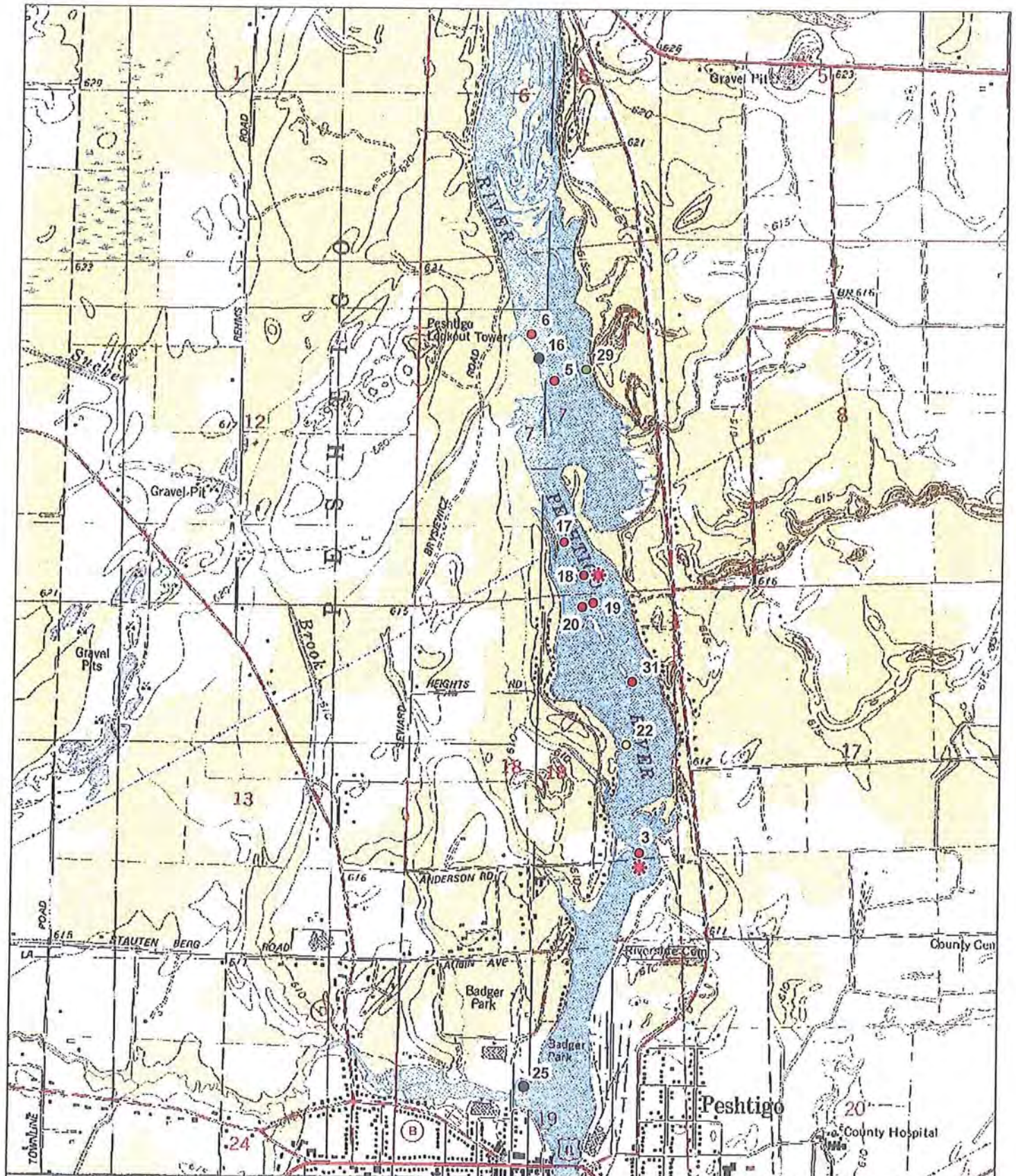
Purple Loosestrife Survey Form

Hydroelectric Project Peshtigo Hydro Electric Project

Inspection Date 8/4/2011

General Plant Vigor

Colony Number	Colony Size S 0-5 M 6-50 L >50	Plant Height 4=>4ft 3=2-4ft 2=1-2 ft 1= <1 ft	Plant Flowering 4=100% of plants 3=51-99% of plants 2=26-50% of plants 1= <25% of plants	Beetle Feeding 4=0-25% feeding 3=26-50% feeding 2=51-75% feeding 1=76-100% feeding	Total Plant Vigor 10-12=good 7-9=fair 4-6=poor 0-3=very poor	Notes	GPS #
12	NO LONGER ABLE TO IDENTIFY						
13	N/A	N/A	N/A	N /A	N/A	Pulled	103
14	N/A	N/A	N/A	N /A	N/A	Pulled	104
15	NO LONGER ABLE TO IDENTIFY						
16	N/A	N/A	N/A	N /A	N/A	Pulled	106
17	L	4	3	2	9		107
18	M	3	3	1	7	release site in 2010	108
19	L	4	2	1	7	Heavy feeding	109
20	L	4	2	1	7	Heavy feeding	110
21	NO LONGER ABLE TO IDENTIFY						
22	M	2	4	1	7		112



Peshtigo River Purple Loosestrife Survey-2012



0 1,000 2,000 Feet

Date: 9/11/2012

Purple Loosestrife

- PULLED
- 0-5 Plants
- 6-50 Plants
- >50 Plants
- ✱ Beetle Release Site

Purple Loosestrife Survey Form

Hydroelectric Project Peshtigo Hydro Electric Project

Inspection Date 7/11/2012

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 #
1	NO LONGER ABLE TO IDENTIFY						
2	NO LONGER ABLE TO IDENTIFY						
3	L	4	3	2	10	Release site in 2012	93
4	NO LONGER ABLE TO IDENTIFY						
5	L	2	4	3	9		95
6	L	3	1	2	6		220
7	NO LONGER ABLE TO IDENTIFY						
8	NO LONGER ABLE TO IDENTIFY						
9	NO LONGER ABLE TO IDENTIFY						
10	NO LONGER ABLE TO IDENTIFY						
11	NO LONGER ABLE TO IDENTIFY						

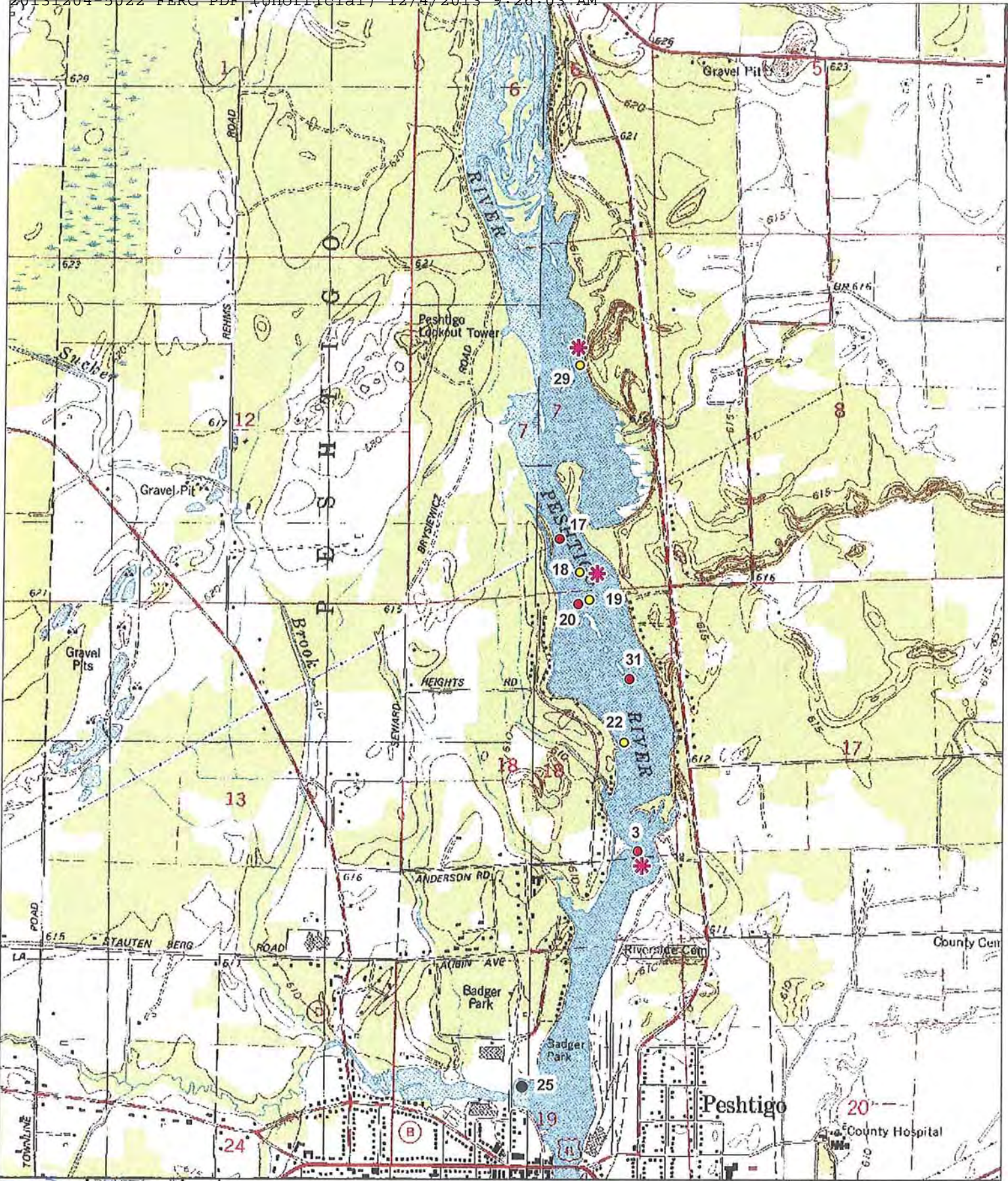
Purple Loosestrife Survey Form

Hydroelectric Project Peshtigo Hydro Electric Project

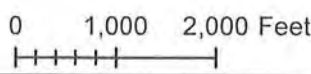
Inspection Date 7/11/2012

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 #
12							
						NO LONGER ABLE TO IDENTIFY	
13							
						NO LONGER ABLE TO IDENTIFY	
14							
						NO LONGER ABLE TO IDENTIFY	
15							
						NO LONGER ABLE TO IDENTIFY	
16	S	1	1	1	3	Pulled	106
17	L	3	2	2	7		107
18	M	4	4	3	11	release site in 2012	108
19	L	3	2	1	6	release site in 2012	109
20	L	3	2	1	6		110
21							
						NO LONGER ABLE TO IDENTIFY	
22	M	2	2	1	5		112



Peshtigo River Purple Loosestrife Survey-2013



Date: 9/10/2013

- Purple Loosestrife**
- PULLED
 - 0-5 Plants
 - 6-50 Plants
 - >50 Plants
 - ✱ Beetle Release Site

Purple Loosestrife Survey Form

Hydroelectric Project Peshtigo Hydro Electric Project

Inspection Date 7/25/2013

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 #
1							
NO LONGER ABLE TO IDENTIFY							
2							
NO LONGER ABLE TO IDENTIFY							
3	L	4	3	2	10	Release site in 2012 and 2013	93
4							
NO LONGER ABLE TO IDENTIFY							
5							
NO LONGER ABLE TO IDENTIFY							
6							
NO LONGER ABLE TO IDENTIFY							
7							
NO LONGER ABLE TO IDENTIFY							
8							
NO LONGER ABLE TO IDENTIFY							
9							
NO LONGER ABLE TO IDENTIFY							
10							
NO LONGER ABLE TO IDENTIFY							
11							
NO LONGER ABLE TO IDENTIFY							

Purple Loosestrife Survey Form

Hydroelectric Project Peshtigo Hydro Electric Project

Inspection Date 7/25/2013

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 #
12							
	NO LONGER ABLE TO IDENTIFY						
13							
	NO LONGER ABLE TO IDENTIFY						
14							
	NO LONGER ABLE TO IDENTIFY						
15							
	NO LONGER ABLE TO IDENTIFY						
16							
	NO LONGER ABLE TO IDENTIFY						
17	L	3	2	2	7	Pulled in 2013	107
18	M	2	2	3	7	release site in 2012 and 2013	108
19	M	2	2	1	5	release site in 2012	109
20	L	2	2	1	5		110
21							
	NO LONGER ABLE TO IDENTIFY						
22	M	2	2	1	5		112

APPENDIX D

PURPLE LOOSESTRIFE PLAN – PESHTIGO HYDROELECTRIC PROJECT

COMPREHENSIVE LAND & WILDLIFE MANAGEMENT PLAN- PURPLE LOOSESTRIFE MONITORING PLAN
FOR THE PESHTIGO HYDROELECTRIC PROJECT
(FERC PROJECT # 2581)

Objective

The objective is to monitor the spread of Purple Loosestrife (*Lythrum Salicaria*) on the Peshtigo Hydroelectric Project Lands. Purple Loosestrife is an invasive plant that exhibits aggressive characteristics. The plant prefers wetland habitat and once established can become the dominant vegetation type. In consultation with the Wisconsin Department of Natural Resources (WDNR) and the U.S. Fish and Wildlife Service (FWS), Wisconsin Public Service Corporation (WPS) agrees to periodically monitor the species and cooperate with the agencies to implement measures to control/eliminate the plant if the results of the surveys warrant it.

Methods

The monitoring methods will include a shoreline survey of the impoundments, all water bodies, and all wetlands that occur on WPS property within the project boundary. The surveys will be conducted by boat and/or on foot to determine purple loosestrife populations. The relative density and abundance of the species will also be recorded.

Frequency of Survey

The survey will be completed every third year beginning in 2014, in conjunction with the Eurasian water milfoil survey. The surveys will either be completed in July or August, depending upon when the plants are in bloom.

Documentation of Existing Colonies

The results of the survey will be displayed on a map of the total project area. A copy of the completed map will be provided to the WDNR and FWS no later than September 30th, every year a survey is

completed. Documentation of submittal of the results to the agencies shall be filed with the FERC.

The map will indicate relative populations based on the following criteria:

- A. Small Colonies of 1-5 plants
- B. Medium Colonies of 6-50 plants
- C. Dense Colonies of >50 plants

Control of Existing Colonies

WPS will survey the colonies for signs of beetle feeding on colonies. If signs of feeding are not observed, WPS will consult with the WDNR and FWS to determine if a *Gallerucella* beetle release or other types of control may be warranted.

Public Awareness

Public awareness about purple loosestrife will be increased by displaying invasive species signage supplied by the WDNR at public access areas in the project boundary.

Documentation

Documentation of submittal of monitoring reports to WDNR, and FWS every year a survey has been completed by September 30th and shall be provided to FERC by December 31st each year a survey has been completed.

APPENDIX E

DOCUMENTATION OF CONSULTATION



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

September 12, 2013

Mr. Nicholas Utrup
U.S. Fish & Wildlife Service
Department of the Interior
2661 Scott Tower Drive
New Franken, WI 54229-9565

Dear Mr. Utrup:

Peshtigo River Hydroelectric Projects - CLWMP Invasive Species Monitoring Plan

As per the Federal Energy Regulatory Commission (FERC) Order Modifying and Approving the Updated Comprehensive Land and Wildlife Management Plan (CLWMP)- Invasive Species Monitoring Plan for the Peshtigo Hydroelectric Project (FERC Project No. 2581) and Potato Rapids Hydroelectric Project (FERC Project No. 2560) issued on June 12, 2012, Wisconsin Public Service Corporation (WPS) is to provide monitoring reports to the Wisconsin Department of Natural Resources (WDNR) and U.S. Fish & Wildlife Service (FWS) by September 30th, each year a survey has been completed.

2013 Peshtigo Hydroelectric Project - Purple Loosestrife Plan

As per the FERC order modifying and approving the updated CLWMP- Invasive Species Plan dated June 12, 2012, WPS is submitting the final report on the biological control and monitoring efforts for the Peshtigo Hydroelectric Project. The 2013 survey year is the final year of the five year biological control project.

On July 16, 2013, WPS released approximately 15,000 *gallerucella* beetles (beetles) at the two largest purple loosestrife infested areas (Colonies #3 and #17) and pulled approximately 20 outlying purple loosestrife plants from Colony #17 at the Peshtigo Hydroelectric Project.

WPS followed up with an additional release of 10,000 beetles and pulled all purple loosestrife plants at Colony #25 on July 25, 2013. These beetles were released at Colony #3 and at Colony #29 as well. Photographs of the purple loosestrife beetle feeding and removal activities are included in Appendix A. Appendix B includes the location of all three beetle release sites.

WPS also completed a purple loosestrife survey of the Peshtigo Hydroelectric Project on July 25, 2013. The survey results indicate that the purple loosestrife colonies have been reduced by 4; from 13 colonies in 2012 to 9 colonies in 2013. This number does not include the 1 small colony which was hand pulled, leaving a total of 8 colonies remaining in 2013. In addition, no new purple loosestrife colonies were observed in 2013. Appendix B includes the 2013 Purple Loosestrife Survey Form and associated figure.

Mr. Nicholas Utrup
September 12, 2013
Page 2 of 3

As in 2011 and 2012, beetle feeding was observed at every remaining purple loosestrife colony in 2013. Plant vigor was observed at an average of 7.25, which is lower than the 7.6 observed in 2012.

WPS Purple Loosestrife Monitoring Plan Recommendation

As per the FERC Order Modifying and Approving the Updated CLWMP- Invasive Species Plan dated June 12, 2012, WPS shall, based on the five year survey results, determine if the spread of purple loosestrife is controlled at the Peshtigo Hydroelectric Project and provided its recommendation(s) in accordance with the FERC Order Approving Supplement to CLWMP for the Peshtigo Hydroelectric Project dated July 30, 2009, to reduce the monitoring frequency to every three years in conjunction with the approved Eurasian water milfoil (EWM) survey schedule.

To determine if the spread of purple loosestrife is being controlled by biological methods, WPS measured plant vigor and the total number of colonies at the Peshtigo Hydroelectric Project over the five year study period.

Since 2009, approximately 63,000 beetles have been released at the Peshtigo Hydroelectric Project. The beetles have been very effective; resulting in the elimination of 16 purple loosestrife colonies and the control of the remaining 8 purple loosestrife colonies at the Peshtigo Hydroelectric Project.

The plant vigor measurement system was established to account for purple loosestrife plant health. The plant vigor is an overall combined score of several measurable factors that include colony size, plant height, plant flowering and beetle feeding. Each category is given a score based on the observed plant conditions. The score for each of the four categories is then added together and an overall score provides for the total plant vigor. A higher overall score indicates that the plant is in good health, while a lower score would indicate a plant is in poor health.

The five year purple loosestrife biological control and monitoring activities have also shown a reduction of the plant vigor from an average of 11.32 in 2009 for 25 purple loosestrife colonies to an average of 7.32 in 2013 for the 8 remaining purple loosestrife colonies. The Purple Loosestrife Comparison Table (2009 to 2013) is included in Appendix C. Appendix C also includes the Purple Loosestrife Survey Reports and Figures for each year of the five year study (2009 -2013).

Although not specifically identified as a measurement of successful biological control in the study, a visual observation of the remaining purple loosestrife colonies at the Peshtigo Hydroelectric Project clearly shows that purple loosestrife is no longer a dominate plant on the aquatic landscape and just one of several plants in the aquatic plant community. Appendix A also includes photographs of the purple loosestrife colonies and surrounding aquatic plants.

The results of the five year survey demonstrates that the beetles have significantly reduced the purple loosestrife total colony numbers and decreased plant vigor for the plants in the remaining colonies. In addition, the beetle population remains viable and should prosper with the addition of 25,000 beetles released in 2013.

Mr. Nicholas Utrup
September 12, 2013
Page 3 of 3

WPS is confident that the spread of purple loosestrife is controlled at the Peshtigo Hydroelectric Project. WPS has established that purple loosestrife monitoring shall be reduced in frequency to once every three years in conjunction with the EWM survey scheduled as outlined in the FERC Order Approving Supplement to CLWMP for the Peshtigo Hydroelectric Project dated July 30, 2009 and FERC Order Modifying and Approving the Updated CLWMP-Invasive Species Monitoring Plan for the Peshtigo Hydroelectric Project. The next purple loosestrife survey would then need to be completed in 2014.

Appendix D includes the CLWMP-Purple Loosestrife Plan for the Peshtigo Hydroelectric Project.

2013 Potato Hydroelectric Project - Purple Loosestrife Plan

As per the FERC order approving the updated CLWMP dated June 12, 2012, WPS is submitting the 2013 purple loosestrife survey results for the Potato Rapids Hydroelectric Project.

WPS observed purple loosestrife at the Potato Rapids Hydroelectric Project for the first time in 2011. The colony consisted of one plant which was hand pulled. In 2013, the Marinette County Conservation District completed purple loosestrife survey activities on the Potato Rapids Hydroelectric Project, which included a review of the site observed in 2011. The surveys were completed on July 25, 2013. No purple loosestrife was observed at the Potato Rapids Hydroelectric Project. Purple loosestrife was also not observed in 2012.

As per the FERC Order Modifying and Approving the Updated CLWMP-Invasive Species Monitoring Plan for Potato Rapids Hydroelectric Project, WPS will monitor for purple loosestrife again in 2014 and if not observed, monitor in conjunction with the EWM survey schedule.

If you have any questions or concerns, please contact me within thirty (30) days of receiving this information.

Sincerely,



James Nuthals
Environmental Services
Natural Resource Management
Office: (920) 433-1460
Email: jdnuthals@integrysgroup.com

Enclosures

Appendices A, B, C & D were specifically removed from these filing in an effort to reduce the overall size of this filing. The Appendices A, B, C & D included in this FERC filing are identical to the Appendices provided to the resource agencies.



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

September 12, 2013

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

Dear Mr. Laatsch:

Peshtigo River Hydroelectric Projects - CLWMP Invasive Species Monitoring Plan

As per the Federal Energy Regulatory Commission (FERC) Order Modifying and Approving the Updated Comprehensive Land and Wildlife Management Plan (CLWMP)- Invasive Species Monitoring Plan for the Peshtigo Hydroelectric Project (FERC Project No. 2581) and Potato Rapids Hydroelectric Project (FERC Project No. 2560) issued on June 12, 2012, Wisconsin Public Service Corporation (WPS) is to provide monitoring reports to the Wisconsin Department of Natural Resources (WDNR) and U.S. Fish & Wildlife Service (FWS) by September 30th, each year a survey has been completed.

2013 Peshtigo Hydroelectric Project - Purple Loosestrife Plan

As per the FERC order modifying and approving the updated CLWMP- Invasive Species Plan dated June 12, 2012, WPS is submitting the final report on the biological control and monitoring efforts for the Peshtigo Hydroelectric Project. The 2013 survey year is the final year of the five year biological control project.

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As in 2011 and 2012, beetle feeding was observed at every remaining purple loosestrife colony in 2013. Plant vigor was observed at an average of 7.25, which is lower than the 7.6 observed in 2012.

Ms. Cheryl Laatsch
September 12, 2013
Page 2 of 3

WPS Purple Loosestrife Monitoring Plan Recommendation

As per the FERC Order Modifying and Approving the Updated CLWMP- Invasive Species Plan dated June 12, 2012, WPS shall, based on the five year survey results, determine if the spread of purple loosestrife is controlled at the Peshtigo Hydroelectric Project and provided its recommendation(s) in accordance with the FERC Order Approving Supplement to CLWMP for the Peshtigo Hydroelectric Project dated July 30, 2009, to reduce the monitoring frequency to every three years in conjunction with the approved Eurasian water milfoil (EWM) survey schedule.

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Although not specifically identified as a measurement of successful biological control in the study, a visual observation of the remaining purple loosestrife colonies at the Peshtigo Hydroelectric Project clearly shows that purple loosestrife is no longer a dominate plant on the aquatic landscape and just one of several plants in the aquatic plant community. Appendix A also includes photographs of the purple loosestrife colonies and surrounding aquatic plants.

The results of the five year survey demonstrates that the beetles have significantly reduced the purple loosestrife total colony numbers and decreased plant vigor for the plants in the remaining colonies. In addition, the beetle population remains viable and should prosper with the addition of 25,000 beetles released in 2013.

WPS is confident that the spread of purple loosestrife is controlled at the Peshtigo Hydroelectric Project. WPS has established that purple loosestrife monitoring shall be reduced in frequency to once every three years in conjunction with the EWM survey scheduled as outlined in the FERC Order Approving Supplement to CLWMP for the Peshtigo Hydroelectric Project dated July 30, 2009 and FERC Order

Ms. Cheryl Laatsch
September 12, 2013
Page 3 of 3

Modifying and Approving the Updated CLWMP-Invasive Species Monitoring Plan for the Peshtigo Hydroelectric Project. The next purple loosestrife survey would then need to be completed in 2014.

Appendix D includes the CLWMP-Purple Loosestrife Plan for the Peshtigo Hydroelectric Project.

2013 Potato Hydroelectric Project - Purple Loosestrife Plan

As per the FERC order approving the updated CLWMP dated June 12, 2012, WPS is submitting the 2013 purple loosestrife survey results for the Potato Rapids Hydroelectric Project.

WPS observed purple loosestrife at the Potato Rapids Hydroelectric Project for the first time in 2011. The colony consisted of one plant which was hand pulled. In 2013, the Marinette County Conservation District completed purple loosestrife survey activities on the Potato Rapids Hydroelectric Project, which included a review of the site observed in 2011. The surveys were completed on July 25, 2013. No purple loosestrife was observed at the Potato Rapids Hydroelectric Project. Purple loosestrife was also not observed in 2012.

As per the FERC Order Modifying and Approving the Updated CLWMP-Invasive Species Monitoring Plan for Potato Rapids Hydroelectric Project, WPS will monitor for purple loosestrife again in 2014 and if not observed, monitor in conjunction with the EWM survey schedule.

If you have any questions or concerns, please contact me within thirty (30) days of receiving this information.

Sincerely,



James Nuthals
Environmental Services
Natural Resource Management
Office: (920) 433-1460
Email: jdnuthals@integrysgroup.com

Enclosures

Appendices A, B, C & D were specifically removed from these filing in an effort to reduce the overall size of this filing. The Appendices A, B, C & D included in this FERC filing are identical to the Appendices provided to the resource agencies.

WDNR COMMENTS

Nuthals, James D

From: Laatsch, Cheryl - DNR [Cheryl.Laatsch@wisconsin.gov]
Sent: Wednesday, October 02, 2013 2:18 PM
To: Nuthals, James D
Cc: McLennan, Robin - DNR
Subject: FW: 2013 Peshtigo Hydroelectric Project 5 Year Purple Loosestrife Control and Monitoring Plan 2 of 2

Follow Up Flag: Follow up
Flag Status: Flagged

Here are the comments. Keep up the good work. Lets try to get some of this data into our SWIMS database for next year. Please let me know if you have any comments or questions.

Thanks
Cheryl

From: Hudak, Andrew J - DNR
Sent: Tuesday, September 17, 2013 7:56 AM
To: Laatsch, Cheryl - DNR
Subject: RE: 2013 Peshtigo Hydroelectric Project 5 Year Purple Loosestrife Control and Monitoring Plan 2 of 2

Cheryl-

The WPS 5 year monitoring and management for PLS is great. I do not have any concerns over their approach or effectiveness for achieving a desired level of control and reduction in the stands of PLS. I hope to see the same level of effort and time devoted to keep stands at or below the current frequency and densities.

From: Laatsch, Cheryl - DNR
Sent: Friday, September 13, 2013 8:45 AM
To: Hudak, Andrew J - DNR
Subject: FW: 2013 Peshtigo Hydroelectric Project 5 Year Purple Loosestrife Control and Monitoring Plan 2 of 2

From: Nuthals, James D [<mailto:JDNuthals@integrysgroup.com>]
Sent: Thursday, September 12, 2013 2:33 PM
To: Nuthals, James D; Laatsch, Cheryl - DNR; 'Nick_Utrup@fws.gov'
Subject: 2013 Peshtigo Hydroelectric Project 5 Year Purple Loosestrife Control and Monitoring Plan 2 of 2

Greetings,

Attached is a copy of the 2013 Peshtigo Hydroelectric Project 5 Year Purple Loosestrife Control and Monitoring Plan.

Please review and provide comments within thirty (30) days of receiving this information.

Sincerely,

James D Nuthals

Natural Resource Management | Environmental Services | Integrys Business Support, LLC

920-433-1460

920-309-0741 *cell (please note cell phone number change)*

920-433-1176 *fax*

jdnuthals@integrysgroup.com

www.integrysgroup.com

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

WPS RESPONSE TO WDNR COMMENTS

WDNR Comment: Keep up the good work.

WPS Response: Comment Noted. Thank you.

WDNR Comment: Lets try to get some of this data into our SWIMS database for next year.

WPS Response: WPS will continue to provide the WDNR invasive species plant information as outlined in the FERC order modifying and approving the updated CLWMP- Invasive Species Plan dated June 12, 2012 for the Peshtigo Hydroelectric Project (P-2581) and Potato Rapids Hydroelectric Project (P-2560).

The Surface Water Integrated Monitoring System (SWIMS) is a WDNR data system. The WDNR can choose to include this data into the SWIMS database as they see fit.

WDNR Comment: Please let me know if you have any comments or questions.

WPS Response: Comment Noted.

WDNR Comment: The WPS 5 year monitoring and management for PLS is great. I do not have any concerns over their approach or effectiveness for achieving a desired level of control and reduction in the stands of PLS.

WPS Response: Commented Noted.

WDNR Comment: I hope to see the same level of effort and time devoted to keep stands at or below the current frequency and densities.

WPS Response: Commented Noted.

Document Content(s)

20131204Peshtigo InvSpecSurveyMontoringFERC.PDF.....	1-3
AppendixA.PDF.....	4-8
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