



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

October 20, 2020

Electronically Filed

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

Dear Ms. Laatsch:

**SUBJECT: Invasive Species Monitoring Plan – Purple Loosestrife and Eurasian Watermilfoil Report**

<u>Hydro</u>	<u>FERC Project No.</u>	<u>NATDAM No.</u>	<u>License Article</u>
Petenwell	1984	WI00740	408
Castle Rock	1984	WI00724	408

In accordance with the Federal Energy Regulatory Commission (FERC) Order Revising Order Approving Purple Loosestrife and Eurasian Watermilfoil Monitoring issued on July 13, 2005 and the Order Amending Purple Loosestrife Control Measures issued on July 9, 2009 (Plan) for the Petenwell and Castle Rock Hydroelectric Projects, Wisconsin River Power Company (WRPCO) is to provide monitoring reports of the purple loosestrife (PL) and Eurasian watermilfoil (EWM) surveys to the Wisconsin Department of Natural Resources (WDNR) and U.S. Fish & Wildlife Service (FWS) by October 31, each year a survey has been completed.

2020 Purple Loosestrife Survey Results

PL surveys were completed on July 13 and 14, 2020. Six colonies of PL were identified on the Petenwell Hydroelectric Project and eight colonies on the Castle Rock Hydroelectric Project. Three colonies on Castle Rock were completely hand pulled and disposed of offsite. Appendix A includes the 2020 PL survey results.

In 2020, WPS released approximately 4,000 *Galerucella* beetles on Castle Rock to supplement the existing beetle populations. *Galerucella* beetle herbivory was observed on nine or sixty-four percent of the total colonies of PL on both reservoirs. In 2021, WPS will release a minimum of 4,000 beetles in at least two separate locations.

A review of the data collected over the past twelve years shows that the number of colonies has ranged between fourteen and forty-three. The percentage of colonies with beetle herbivory has ranged from fifty-two to ninety-one percent. A copy of this summary is included in Appendix B. WPS will complete the next PL survey in 2021, in conjunction with the EWM survey.

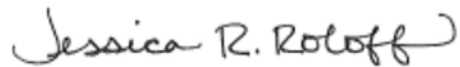
2020 Eurasian Watermilfoil Survey Results

In accordance with the Plan, EWM surveys are completed once every three years, with the next survey scheduled for 2021. No survey was required in 2020.

Ms. Cheryl Laatsch  
October 20, 2020  
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Please provide any comments you may have regarding this report within 30 days. Should you have any questions relative to this material, please do not hesitate to contact me at (920) 433-5558 or [Jessica.Roloff@wecenergygroup.com](mailto:Jessica.Roloff@wecenergygroup.com).

Sincerely,

A handwritten signature in black ink that reads "Jessica R. Roloff". The signature is written in a cursive style with a large initial 'J' and a decorative flourish at the end.

Jes Roloff  
Environmental Consultant  
Wisconsin Public Service  
700 North Adams Street  
Green Bay, WI 54301

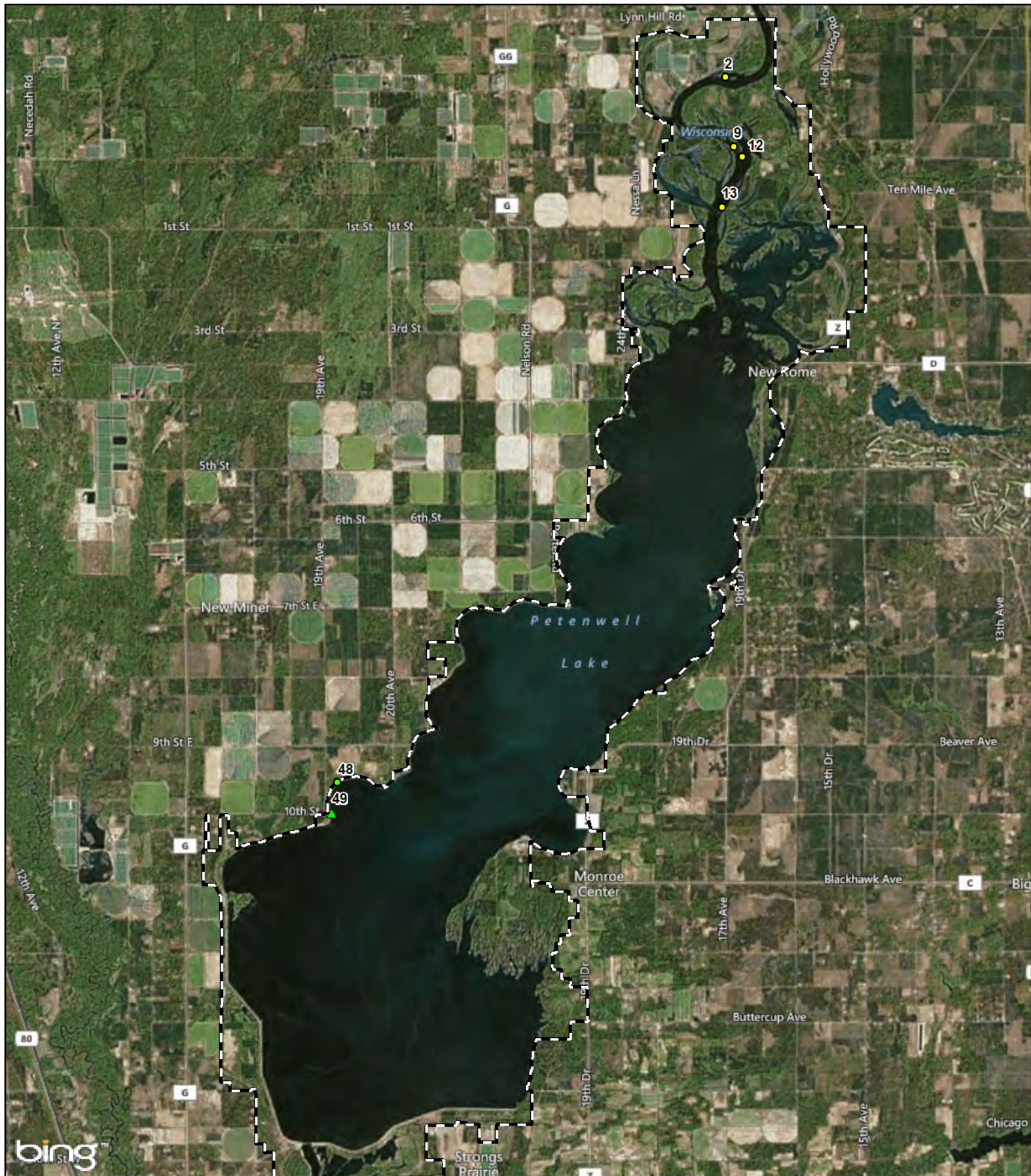
Enc: Appendix A – 2020 Purple Loosestrife Survey Results (8 pages)  
Appendix B – Twelve Year Purple Loosestrife Summary (2 pages)

Cc: Mr. Nick Utrup, FWS

**APPENDIX A**

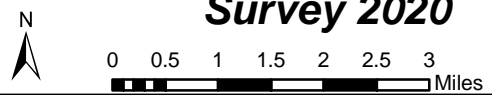
**2020 PURPLE LOOSESTRIFE SURVEY RESULTS**





**WRPCO Petenwell  
Hydroelectric Project  
Purple Loosestrife  
Survey 2020**

- Project Boundary
- Small
- Small; Pulled All Plants
- Medium



## 2020 Purple Loosestrife Survey Form

Hydroelectric project: Petenwell Hydroelectric Project

Petenwell Inspection date: July 13, 2020

General Plant Vigor						
Colony ID #	Colony Size S 0-5 M 6-50 L >50	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 Herbivory 5 = 0% feeding 4 = 1 - 25% feeding 3 = 26-50% feeding 2 = 51-75% feeding 1 = >76% feeding	Total Plant Vigor 10-12 = good 7-9 = fair 4-6 = poor 0-3 = very poor	Notes
1	No Longer Able To Identify					
2	M 6-50	3	1	3	7	
3	No Longer Able To Identify					
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	M 6-50	2	1	1	4	
10	No Longer Able To Identify					
11	No Longer Able To Identify					
12	M 6-50	2	1	1	4	
13	M 6-50	3	1	1	5	
14	No Longer Able To Identify					
15	No Longer Able To Identify					
16	No Longer Able To Identify					
17	No Longer Able To Identify					

## 2020 Purple Loosestrife Survey Form

Hydroelectric project: Petenwell Hydroelectric Project

Petenwell Inspection date: July 13, 2020

<u>Colony ID #</u>	<u>Colony Size</u> S 0-5 M 6-50 L >50	<u>General Plant Vigor</u>			<u>Total Plant Vigor</u> 10-12 = good 7-9 = fair 4-6 = poor 0-3 = very poor	<u>Notes</u>
		<u>Plant Height</u> 4 = >4ft 3 = 2-4ft 2 = 1-2ft 1 = <1ft	<u>Plant Flowering</u> 4 = 100% of plants 3 = 51-99% of plants 2 = 26-50% of plants 1 = <25% of plants	<u>Beetle Herbivory</u> 5 = 0% feeding 4 = 1 - 25% feeding 3 = 26-50% feeding 2 = 51-75% feeding 1 = >76% feeding		
18					No Longer Able To Identify	
19					No Longer Able to Identify	
20					No Longer Able To Identify	
21					No Longer Able to Identify	
22					No Longer Able to Identify	
23					No Longer Able To Identify	
24					No Longer Able to Identify	
25					No Longer Able to Identify	
26					No Longer Able to Identify	
27					No Longer Able to Identify	
28					No Longer Able to Identify	
29					No Longer Able to Identify	
30					No Longer Able to Identify	
31					No Longer Able to Identify	
32					No Longer Able to Identify	
33					No Longer Able To Identify	

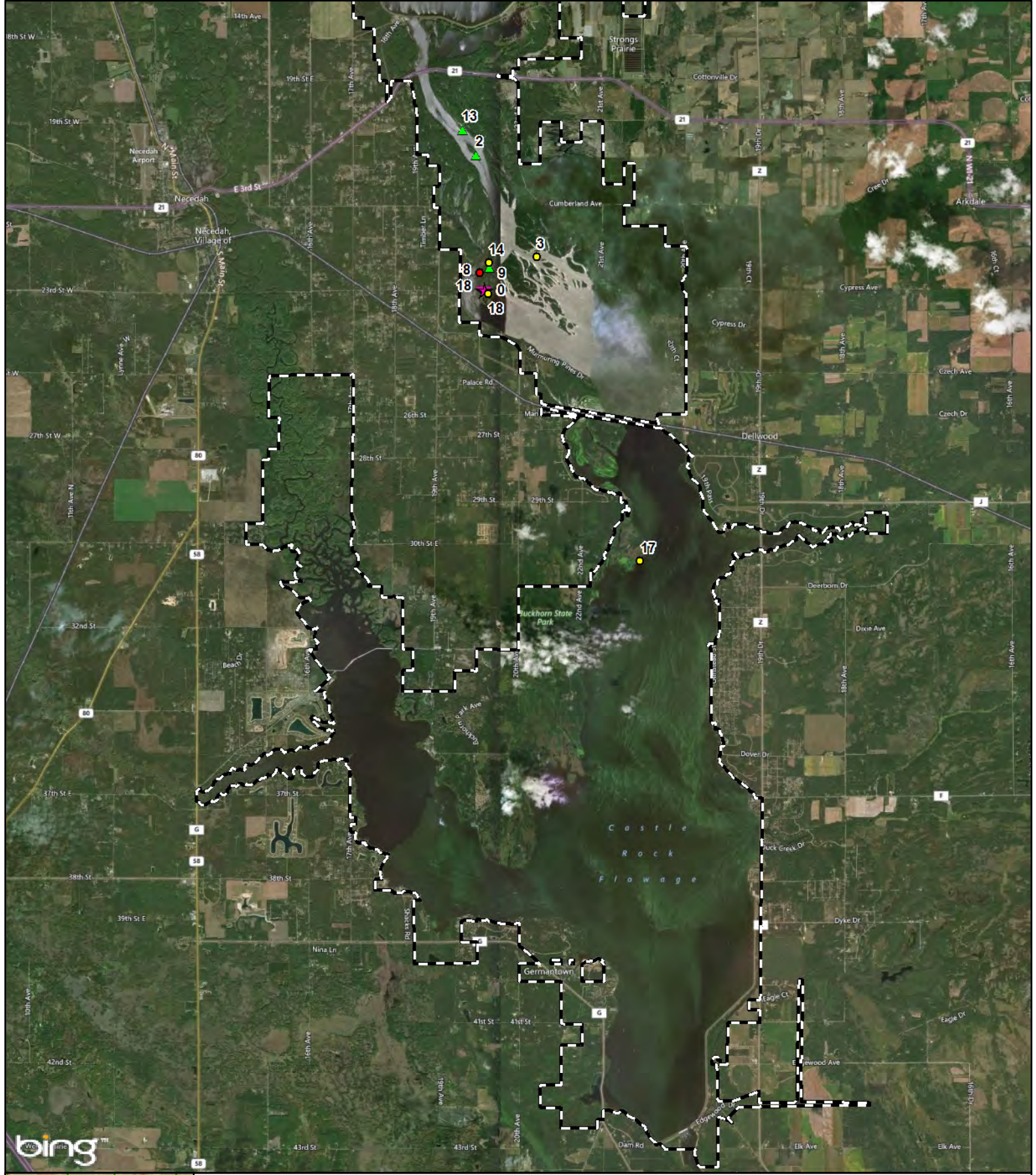


## 2020 Purple Loosestrife Survey Form

Hydroelectric project: Petenwell Hydroelectric Project

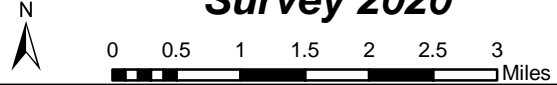
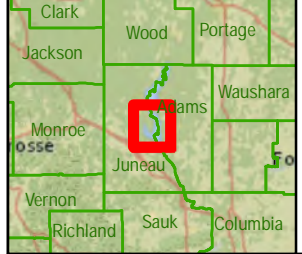
Petenwell Inspection date: July 13, 2020

General Plant Vigor						
Colony ID #	Colony Size S 0-5 M 6-50 L >50	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 Herbivory 5 = 0% feeding 4 = 1 - 25% feeding 3 = 26-50% feeding 2 = 51-75% feeding 1 = >76% feeding	Total Plant Vigor 10-12 = good 7-9 = fair 4-6 = poor 0-3 = very poor	Notes
34						No Longer Able to Identify
35						No Longer Able To Identify
36						No Longer Able to Identify
37						No Longer Able to Identify
38						No Longer Able to Identify
39						No Longer Able To Identify
40						No Longer Able to Identify
41						No Longer Able to Identify
42						No Longer Able To Identify
43						No Longer Able to Identify
44						No Longer Able To Identify
45						No Longer Able To Identify
46						No Longer Able To Identify
47						No Longer Able To Identify
48	S 0-5	3	4	5	12	New.
49	S 0-5	3	1	4	8	New.



**WRPCO Castle Rock  
Hydroelectric Project  
Purple Loosestrife  
Survey 2020**

- Project Boundary
- Small; Pulled All Plants
- Medium
- Large
- Beetle Release Site



9/30/2020



## 2020 Purple Loosestrife Survey Form

Hydroelectric project: Castle Rock Hydroelectric Project

Beetle Release Date: July 1, 2020

Castle Rock Inspection date: July 14, 2020

General Plant Vigor						
Colony ID #	Colony Size	Plant Height	Plant Flowering	Beetle Herbivory	Total Plant Vigor	Notes
	S 0-5 M 6-50 L >50	4 = >4ft 3 = 2-4ft 2 = 1-2ft 1 = <1ft	4 = 100% of plants 3 = 51-99% of plants 2 = 26-50% of plants 1 = <25% of plants	5 = 0% feeding 4 = 1 - 25% feeding 3 = 26-50% feeding 2 = 51-75% feeding 1 = >76% feeding	10-12 = good 7-9 = fair 4-6 = poor 0-3 = very poor	
1	No Longer Able To Identify					
2	S 0-5	2	1	5	8	Pulled all plants.
3	M 6-50	4	2	5	11	
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	L >50	1	1	1	3	
9	S 0-5	3	2	4	9	Pulled all plants.
10	No Longer Able To Identify					
11	No Longer Able To Identify					
12	No Longer Able To Identify					
13	S 0-5	3	1	5	9	Pulled all plants.
14	M 6-50	2	1	1	4	
15	No Longer Able To Identify					

## 2020 Purple Loosestrife Survey Form

Hydroelectric project: Castle Rock Hydroelectric Project

Beetle Release Date: July 1, 2020

Castle Rock Inspection date: July 14, 2020

General Plant Vigor						
Colony ID #	Colony Size S 0-5 M 6-50 L >50	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 Herbivory 5 = 0% feeding 4 = 1 - 25% feeding 3 = 26-50% feeding 2 = 51-75% feeding 1 = >76% feeding	Total Plant Vigor 10-12 = good 7-9 = fair 4-6 = poor 0-3 = very poor	Notes
16	No Longer Able To Identify					
17	M 6-50	3	1	5	9	New.
18	M 6-50	3	3	2	8	New. Released 4,000 beetles

**APPENDIX B**

**TWELVE YEAR PURPLE LOOSESTRIFE SUMMARY**



Petenwell & Castle Rock Hydroelectric Projects 2009 - 2020 Purple Loosestrife 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 Herbivory	Percentage of Total Colonies With Beetle Herbivory	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
2017	28	17	7	4	24	86%	4,000
2018	43	26	12	5	28	65%	8,000
2019	33	18	11	4	17	52%	8,000
2020	14	5	8	1	9	64%	4,000

12 Year Average	23.6	9.8	9.0	4.8	16.8	72.6%	
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