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

October 14, 2010

Ms. Jessica Mistak
Michigan Department of Natural Resources & Environment
488 Cherry Creek Road
Marquette, MI 49855-8999

Dear Ms. Mistak:

Eurasian Water milfoil Control Plan Update – Grand Rapids Hydroelectric Project, FERC # 2433

As per the Federal Energy Regulatory Commission (FERC) Order Modifying and Approving Eurasian Water milfoil (EWM) Control Plan issued May 11, 2009 for the Wisconsin Public Service Corporation (WPS) Grand Rapids Hydroelectric Project FERC #2433 (Grand Rapids), WPS shall provide a letter detailing the status of the EWM control plan objective to the Michigan Department of Natural Resources (MDNR), U.S. Fish and Wildlife Services (USFWS) and the Wisconsin Department of Natural Resources (WDNR) by October 31st for the next three years beginning in 2009. The four components of the plan are as follows:

(1) Determine if native milfoil weevils are present
(2) Work with other stakeholders within the Upper Menominee River Basin Watershed to exchange information about EWM presence and control strategies and to obtain information on the genetic characteristics of the EWM populations.
(3) Implement measures to help control the spread of EWM to other water bodies.
(4) Compliance with the FERC Order Modifying and Approving Purple loosestrife and EWM Monitoring Plan issued January 2, 1998.

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On August 3, 2010, EnviroScience completed a milfoil weevil survey at Grand Rapids. The results of the survey indicated EWM was present in all seven locations previously sampled in 2009 and no additional areas of EWM were discovered. EWM density was sparse in six of the seven 2010 sample sites and moderately dense in one. EWM was intermixed with native plants in all of the sites and two of the sites (M6 and M7) had limited stems (≤ 5%) at the water's surface. A total of 70 stems (10 from each site) were collected from Grand Rapids to estimate weevil density.

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(2) Work with other stakeholders within the Upper Menominee River Basin Watershed to exchange information about EWM presence and control strategies and to obtain information on the genetic characteristics of the EWM populations.

WPS collected and sent in various EWM samples from Grand Rapids for genetic characteristic analysis. The EWM samples were sent in as part of the overall Upper Menominee River Basin Watershed Milfoil Genetics Study. The preliminary data showed that the genetic makeups of the samples collected at Grand Rapids are two genetically different types of milfoil hybrids. The genetic makeup of the samples collected did not include EWM or Northern water milfoil.

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On May 27, 2010, WPS representatives completed EWM surveys at both Grand Rapids boat landings. EWM was present along with other *Dicotylodonea* aquatic plants at both locations.

In consultation with the resource agencies the herbicide treatment of the boat landings was postponed for 2010. WPS and the resource agencies had concerns with the possible effects of any herbicide treatment on other *Dicotylodonea* aquatic plants located in close proximity and rare mussel species known to be present in the reservoir. WPS and the resource agencies will review the 2010 survey results to determine measures to help control of the spread of EWM for 2011.

Also, on May 27, 2010, WPS completed a review of the invasive species signs at each boat landing. The signs were present and up to date. Each sign provided information on proper cleaning of watercrafts and trailers to avoid spreading invasive species.

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The next EWM survey is scheduled for 2012.

Conclusion

The 2010 milfoil weevil survey confirmed the presence of an indigenous population of milfoil weevils at Grand Rapids. Six of out seven sample sites had weevil densities well above what studies had shown to be necessary for EWM suppression.

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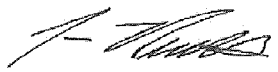

James D. Nuthals
Environmental Services-
Natural Resource Management
Telephone: (920) 433-1460

cc: Ms. Joan Johanek, WPS – D2

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

October 14, 2010

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

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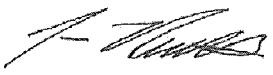

James D. Nuthals
Environmental Services-
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Telephone: (920) 433-1460

cc: Ms. Joan Johanek, WPS – D2

Wisconsin Public Service Corporation
700 North Adams Street
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Green Bay, WI 54307-9001

October 14, 2010

Mr. Dale Simon – Chief Biologist
Wisconsin Department of Natural Resources
101 S. Webster Street WT/4
PO Box 7921
Madison, WI 53703

Dear Mr. Simon:

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cc: Ms. Joan Johanek, WPS – D2
Mr. Mike Donofrio- WDNR
Mr. Greg Sevener - WDNR

APPENDIX A PROVIDED TO THE RESOURCE AGNEICES IS IDENTICAL TO THE APPENDIX A BEING PROVIDED TO THE FERC. THE APPENDIX HAS NOT BEEN INCLUDED IN EFFORT TO REDUCE THE SIZE OF THE DOCUMENT

2010 Progress Report of the Milfoil Weevil Population Study within

Grand Rapids Hydroelectric Project

Prepared for:

Wisconsin Public Service

Prepared by:

EnviroScience, Inc.,
3781 Darrow Road, Stow, Ohio 44224
(800) 940-4025 · www.enviroscienceinc.com

October 8, 2010

Introduction

In 2008, the invasive aquatic macrophyte, Eurasian watermilfoil (*Myriophyllum spicatum*) (EWM) was prevalent within the Grand Rapids Hydroelectric Project (Grand Rapids), with an estimated 81 acres of the invasive plant in the reservoir. EnviroScience Inc. was contracted in 2009 to evaluate the presence, distribution, and density of the indigenous milfoil weevil (*Euhrychiopsis lecontei*) population throughout Grand Rapids and the relative abundance of EWM in the reservoir. The 2009 survey of Grand Rapids found significantly lower EWM than was present in 2008. However, high numbers of milfoil weevils were found on the sparse and widely distributed plants (2009 *Progress Report of Milfoil Weevil Population Study within the Menominee River,* Sept. 17, 2009). A similar dynamic was found in 2009 in the Peavy Falls Reservoir of the Menominee River system.

In 2010, WPS again contracted EnviroScience Inc. to perform a population survey to monitor the presence, distribution, and density of the existing indigenous milfoil weevil population in the Grand Rapids. This report summarizes the findings from the August 3rd survey performed on the Grand Rapids

Results

EWM was present in all seven previously sampled 2009 sites. (Figure 1.), and no additional areas of EWM were discovered during the 2010 survey. EWM density was sparse in six of the seven 2010 sample sites and moderately dense in one. EWM was intermixed with native plants in all of the sites and two of the sites (M6 and M7) had limited stems (≤ 5%) at the water's surface. A total of 70 stems (10 from each site) were collected from Grand Rapids to estimate weevil density.

Weevil densities remain high in Grand Rapids and ranged from 0.03 to 5.60 /EWM stem with a system-wide average of 2.5 weevils/stem (Figure 2). In addition to the weevils found on the samples collected, adult weevils were also seen on EWM plants while collecting samples in sites M2 and M5. Weevils spotted in the field were not collected as this could bias our population estimates. Damage from weevil herbivory was also witnessed in three sites (M2, M4 and M5).

Discussion

In six of seven sites in the Grand Rapids EWM was sparse. These same six sites had weevil densities well above the minimum density presented in the literature for EWM suppression in controlled conditions (0.5 /stem) (Newman *et al.* 1996). The seventh site

had moderate EWM density, a weevil density below 0.5 /stem as well as having the most EWM that reached the surface (estimated at 5%).

Literature Cited

Newman, R.M., K.L. Holmberg, D.D. Biesboer and B.G. Penner. 1996. Effects of a potential biocontrol agent, *Euhrychiopsis lecontei*, on Eurasian watermilfoil in experimental tanks. Aquatic Botany. 53:131-150.

Figure 1 Sample locations for 2010 weevil population study on Grand Rapids Reservoir

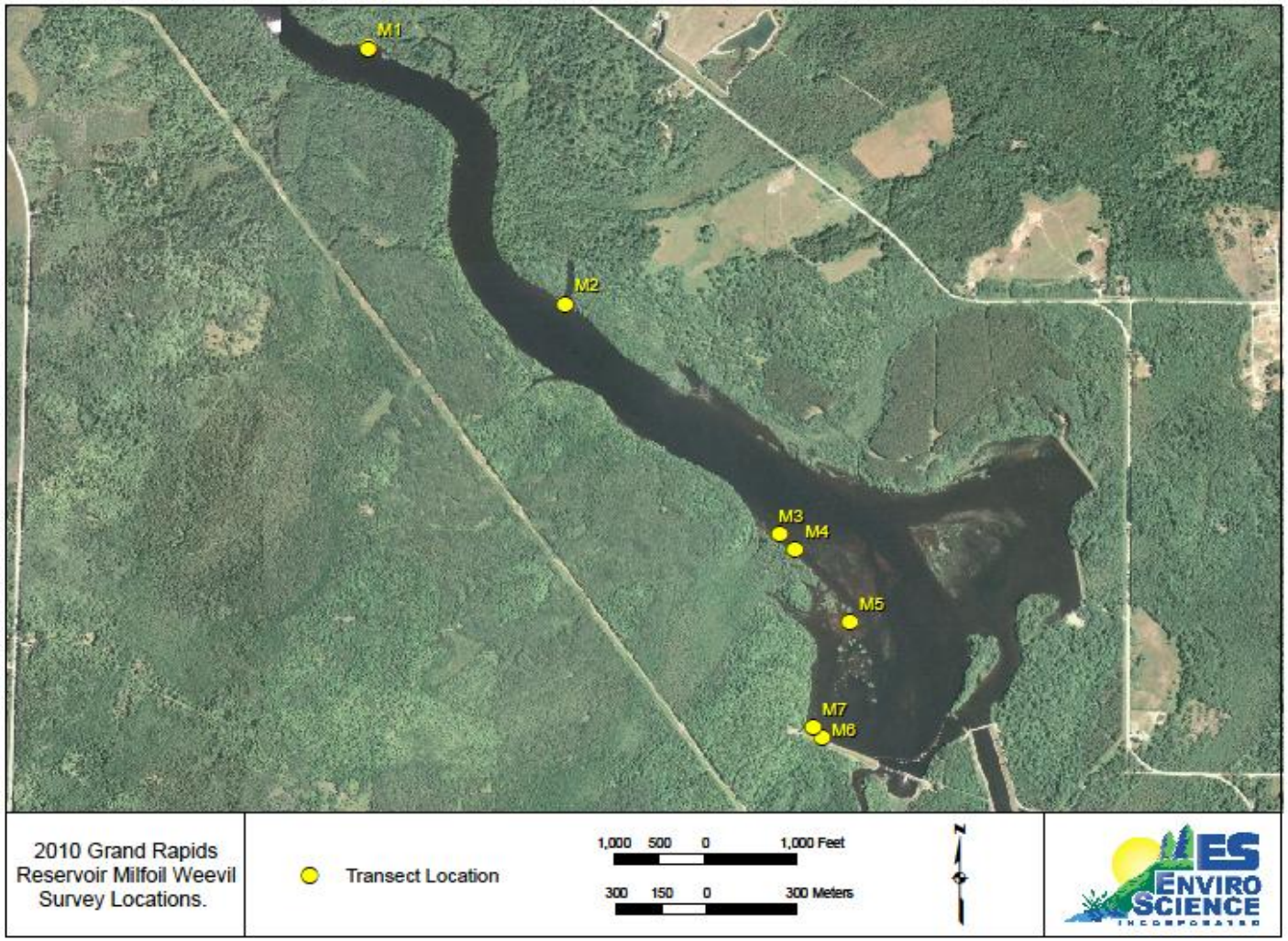

Figure 2. Weevil densities by site in Grand Rapids reservoir 2010

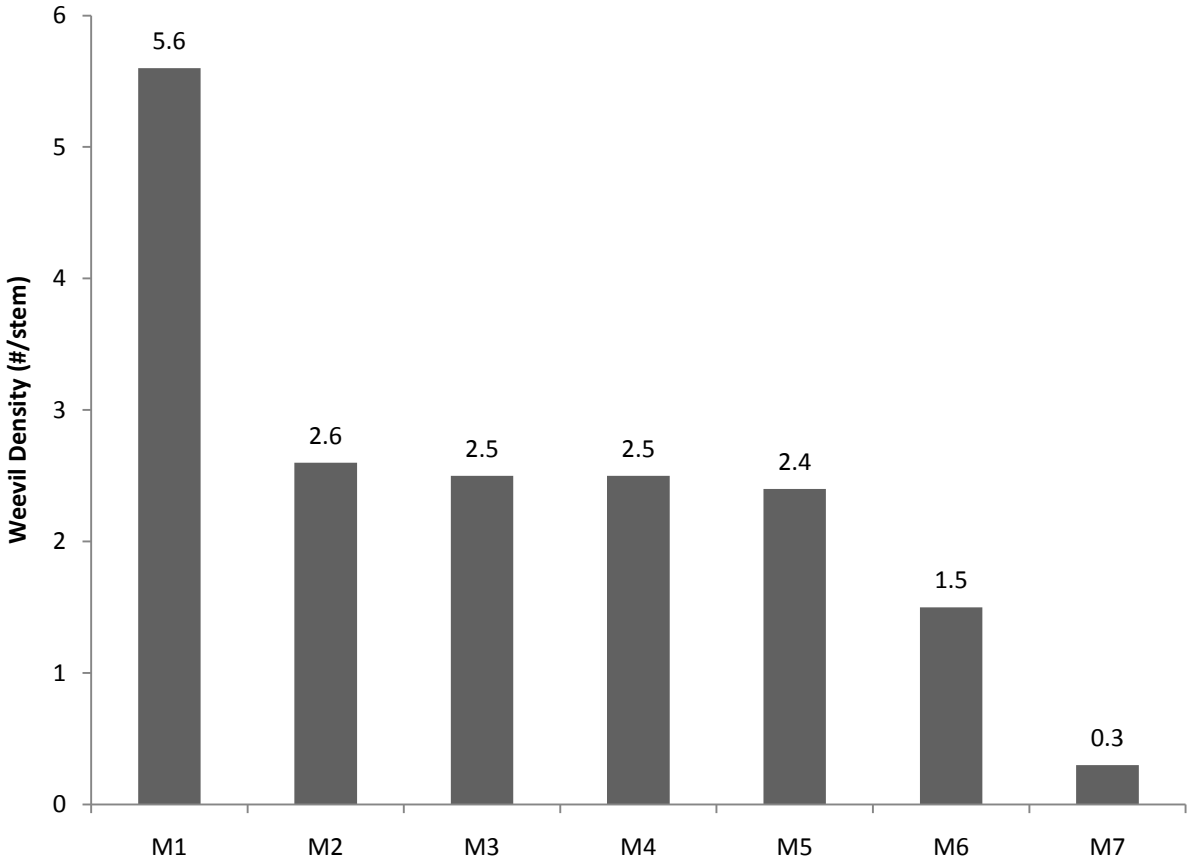

Table 1 EWM stem analysis for weevil densities by site

M1

Stem #	Meristems	Eggs	Larvae	Pupae	Adults
1	1	0	1	0	1
2	1	5	2	0	0
3	1	18	0	0	0
4	2	5	1	0	0
5	1	2	0	0	0
6	1	4	1	0	0
7	1	1	0	0	0
8	1	6	0	0	0
9	1	4	3	0	0
10	1	1	1	0	0
Total	**11**	**46**	**9**	**0**	**1**

M2

Stem #	Meristems	Eggs	Larvae	Pupae	Adults
1	3	3	3	0	0
2	1	5	1	0	0
3	1	2	0	0	0
4	1	2	0	0	0
5	1	0	0	0	0
6	0	3	0	0	0
7	0	0	0	0	0
8	1	0	2	0	1
9	1	1	3	0	0
10	1	0	0	0	0
Total	**10**	**16**	**9**	**0**	**1**

M3

Stem #	Meristems	Eggs	Larvae	Pupae	Adults
1	1	2	0	0	2
2	2	0	0	0	0
3	2	0	1	0	1
4	1	4	0	0	0
5	3	9	0	0	0
6	1	2	2	0	0
7	2	0	0	0	0
8	1	0	0	0	0
9	1	0	0	0	0
10	1	0	2	0	0
Total	**15**	**17**	**5**	**0**	**3**

M4

Stem #	Meristems	Eggs	Larvae	Pupae	Adults
1	1	0	0	0	0
2	2	3	2	0	0
3	3	7	2	0	0
4	2	1	0	0	0
5	2	4	0	0	0
6	1	0	0	0	0
7	2	1	0	0	0
8	1	1	0	0	0
9	2	2	0	0	0
10	2	2	0	0	0
Total	**18**	**21**	**4**	**0**	**0**

M5

Stem #	Meristems	Eggs	Larvae	Pupae	Adults
1	2	12	0	0	1
2	1	6	3	0	0
3	1	0	0	0	0
4	1	1	0	0	0
5	2	0	0	0	0
6	1	0	0	0	0
7	1	0	1	0	0
8	1	0	0	0	0
9	1	0	0	0	0
10	2	0	0	0	0
Total	**13**	**19**	**4**	**0**	**1**

M6

Stem #	Meristems	Eggs	Larvae	Pupae	Adults
1	1	1	0	0	0
2	1	2	0	0	0
3	2	4	2	0	0
4	1	0	0	0	0
5	1	1	0	0	0
6	1	0	0	0	0
7	2	3	0	0	0
8	1	0	0	0	0
9	1	1	0	0	0
10	2	1	0	0	0
Total	**13**	**13**	**2**	**0**	**0**

		M7			
Stem #	**Meristems**	**Eggs**	**Larvae**	**Pupae**	**Adults**
1	2	2	0	0	0
2	1	0	0	0	0
3	1	0	0	0	0
4	1	1	0	0	0
5	1	0	0	0	0
6	1	0	0	0	0
7	1	0	0	0	0
8	1	0	0	0	0
9	0	0	0	0	0
10	0	0	0	0	0
Total	**9**	**3**	**0**	**0**	**0**