

FIVE YEAR SUMMARY REPORT OF INVASIVE SPECIES FOR THE RHINELANDER HYDROELECTRIC PROJECT

FERC PROJECT NO. 2161



PREPARED BY: ALAN W. WIRT

FOR: EXPERA SPECIALITY SOLUTIONS

RHINELANDER, WISCONSIN

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1.0 SUMMARY

Invasive species populations observed within the boundaries of FERC project number 2161 have decreased during the five year period in which this study has taken place. Starting in the 2011 monitoring season where large numbers and established populations were noted when removal began, and concluding at the end of the 2015 monitoring season. At the beginning of the 2011 monitoring season a collaboration of people from the Wisconsin Department of Natural Resources (DNR), Wausau Papers Corp. (currently Expera Specialty Solutions), University of Wisconsin Center for Limnology (CFL), Trout Lake, and Oneida County Land and Water Conservation Department (LWCD) conducted a Point Intercept (PI) aquatic plant survey where samples of aquatic species throughout the entire project boundaries were taken and a baseline of species present was established.

In 2011 the FERC project 2161 boundaries invasive species observed were; Purple Loosestrife (*Lythrum salicaria*), Curly Leaf Pondweed (*Potamogeton crispus*), Yellow Iris (*Iris pseudacorus*), Rusty Crayfish (*Orconectes rusticus*), and Chinese Mystery Snail (*Cipangopaludina chinensis*). At the conclusion of the summary timeframe (2105) invasive species observed within the project boundaries; Purple Loosestrife (*Lythrum salicaria*), Curly Leaf Pondweed (*Potamogeton crispus*), Yellow Iris (*Iris pseudacorus*), Rusty Crayfish (*Orconectes rusticus*), Chinese Mystery Snail (*Cipangopaludina chinensis*), and Aquatic forget-me-not (*Myosotis scorpioides*) had been observed.

The Purple Loosestrife (*Lythrum silcraria*) population which were observed throughout much of the project boundaries in 2011 with a population of 223 plant recorded. The Purple Loosestrife populations observed during the 2015 monitoring season was a single location and consisted of five plants.

Curly-Leaf Pondweed (*Potamogeton crispus*) populations were observed in eight locations in 2011. Two of the location containing colonies of plants, while the other location observed contained single plant. During the 2015 monitoring season no Curly-Leaf Pondweed was observed.

Yellow Iris (*Iris pseudacorus*) was observed during the 2011 monitoring season throughout the project boundaries. During the 2015 monitoring season all locations of Yellow Iris were noted and GPS locations were recorded to establish a baseline of the population. One hundred fifty-six (156) locations were mapped.

Aquatic Forget-Me-Not (*Myosotis scorpioides*) were observed during the 2013 survey in two locations within the project boundaries. Aquatic Forget-Me-Not have not been observed in any years prior to or after the observation in 2013.

Eurasian Water Milfoil (*Myriophyllum spicatum*) was not observed during any monitoring period of this study.

Rusty Crayfish (*Orconectes rusticus*), and Chinese Mystery Snail (*Cipangopaludina chinensis*) have been observed in the project boundaries in every year of the study (2011-2015).

Spiny Water flea (*Bythotrephes cederstroemi*) sampling completed during all study years were confirmed negative for presence.

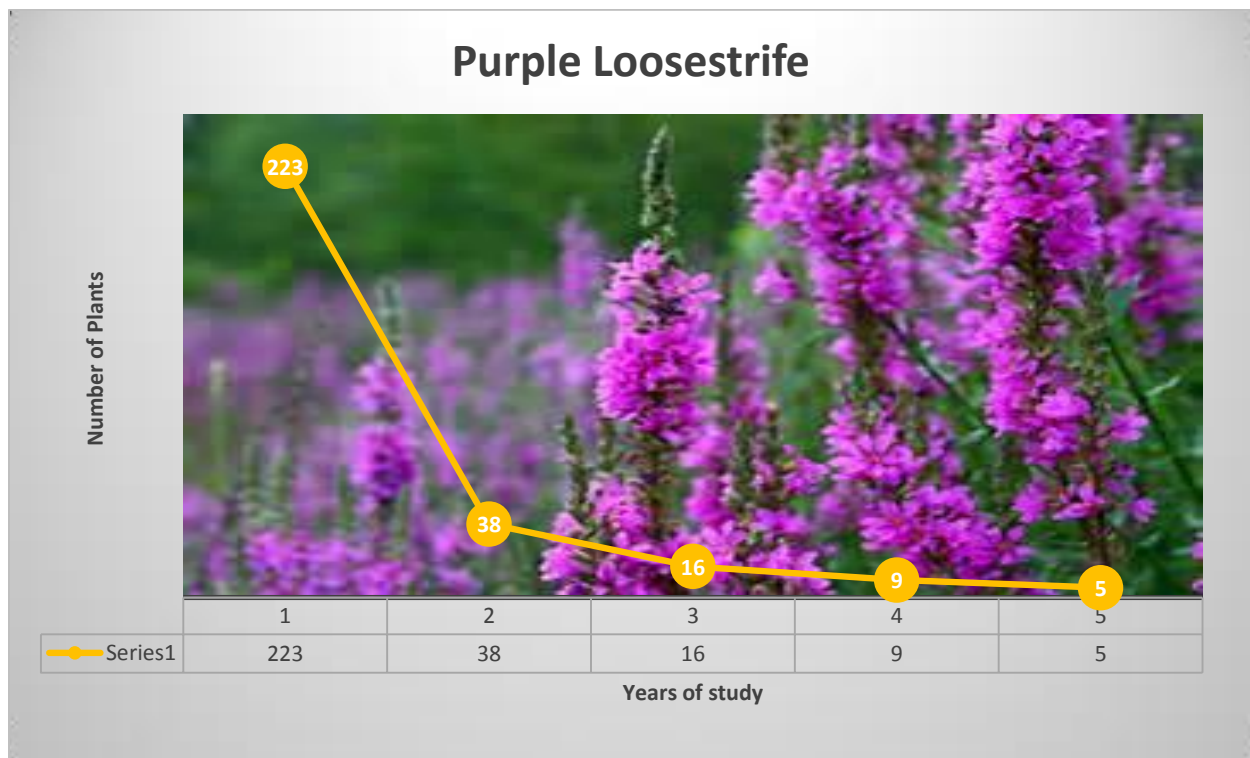
Zebra Mussel and Veliger (*Dreissena polymorpha*) sampling completed during all study years were confirmed negative for presence.

Watercraft inspections incorporated throughout the study timeframe (2011-2015) to serve as an educational tool to inform the public and reduce the spread of invasive species to the project area. In the five year study period a total of thirteen hundred twenty-six (1326) boats were inspected and three thousand one hundred sixteen (3116) people were contacted in regards to education of the potential spread of AIS.

2.0 Purple Loosestrife (*Lithium slicaria*)

Large populations of purple loosestrife were discovered in 2011 throughout much of the project boundaries. Within a five year period, through physical and biological efforts a very large subset of the populations has been reduced. Starting with two hundred twenty-three (223) plants observed throughout the project boundaries in 2011 to the observation of five (5) plants in a single location in 2015.

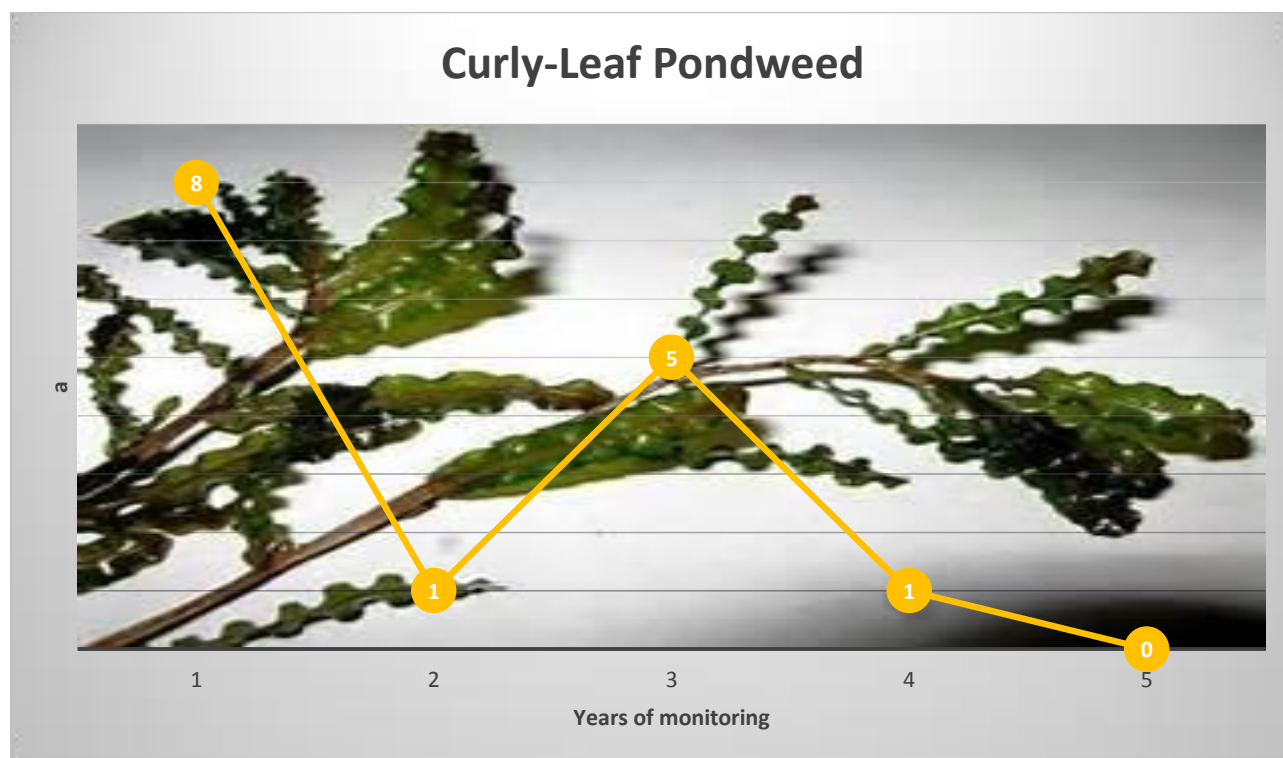
Year	2011	2012	2013	2014	2015
Plants	223	38	16	9	5



3.0 Curly- leaf Pondweed (*Potamogeton crispus*)

Curly-leaf pondweed (CLP) was first observed within the project boundaries during the monitor year of 2011 during point intercept protocol. CLP populations are heavily effected by environmental factors, ice out conditions, water temp, and native vegetation growth. The reproductive factors of CLP include turion production which can remain viable for many years if optimum conditions are not favored for growth. The CLP populations within the project boundaries have been observed in one main region and referred to as a colony. Outside of the primary location observed single or very small populations have been observed and removed.

YEAR	SINGLE PLANTS	COLONIES
2011	6	2
2012	0	1
2013	2	3
2014	0	1
2015	0	0



4.0 Eurasian Water Milfoil (*Myriophyllum spicatum*)

Eurasian Water Milfoil has not been observed within the project boundaries during the five year monitoring period.

5.0 Yellow Iris (*Iris pseudacorus*)

Yellow Iris was observed within the project boundaries during the first year of the study (2011). It has been observed throughout the continuing years of monitoring. During the 2015 study year, a complete survey was done and the GPS locations were taken. From that data set a baseline has now been established for future monitoring. During the monitoring of the 2015 season one hundred and fifty-six locations (156) were observed to have Yellow Iris growing on the shoreline. GPS locations were taken and recorded to monitor future increase or decrease in the population.

6.0 Aquatic Forget-Me-Not (*Myosotis scorpioides*)

Aquatic Forget-Me-Not was first located in 2013 within the project boundaries. Two locations were noted on private property within the project boundary area. They were not observed prior to 2013 or in any consecutive years during the study. In 2015 the Wisconsin Dept. of Natural Resources placed the Aquatic Forget-Me-Not on the restricted list.

7.0 Rusty Crayfish (*Orconectes rusticus*)

Rusty Crayfish have been observed within the project boundaries in every year of the study (2011-2015).

8.0 Chinese Mystery Snail (*Cipangopaludina chinensis*)

Chinese Mystery Snails have been observed within the project boundaries in every year of the study (2011-2015).

9.0 Spiny Water Flea (*Bythotrephes cederstroemi*)

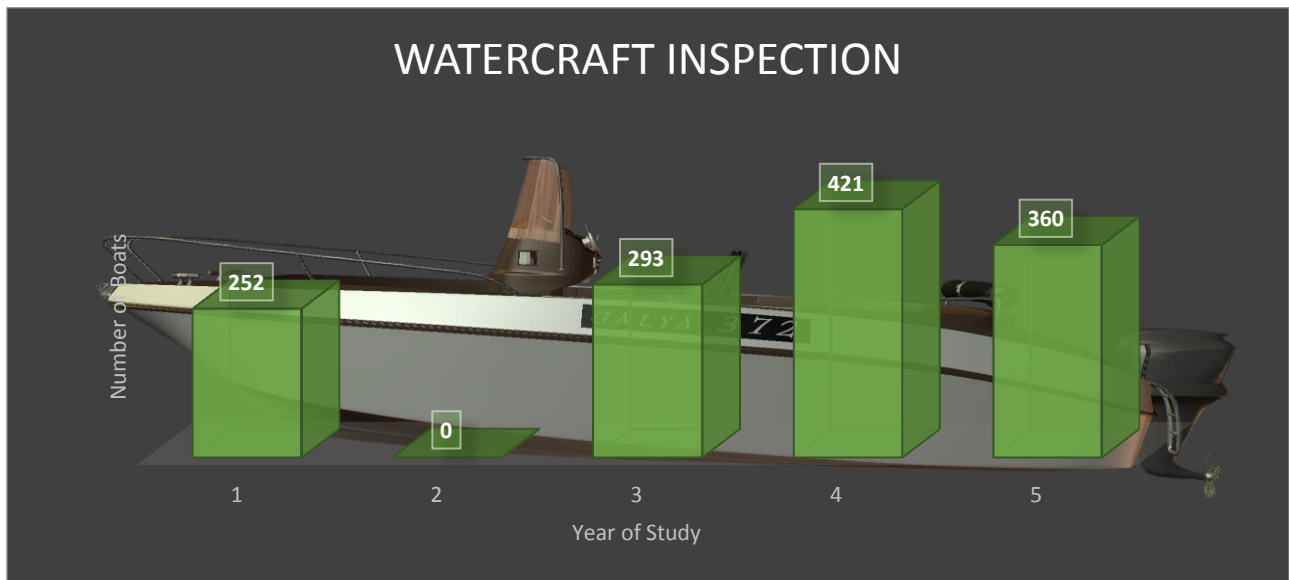
Following Wisconsin DNR protocol a minimum of three sites were sampled within the project boundaries during every sampling year. Preserved samples were then sent to the Wisconsin DNR Plymouth Laboratory Center. Spiny Water flea sampling was completed during all study years (2011-2015), all samples were confirmed negative for presence.

10.0 Zebra Mussel and Veliger (*Dreissena polymorpha*)

Following Wisconsin DNR protocol a minimum of three sites were sampled within the project boundaries during every sampling year. Preserved samples were then sent to the Wisconsin DNR Plymouth Laboratory Center. Zebra Mussel and Veliger sampling was completed during all study years (2011-2015), all samples were confirmed negative for presence.

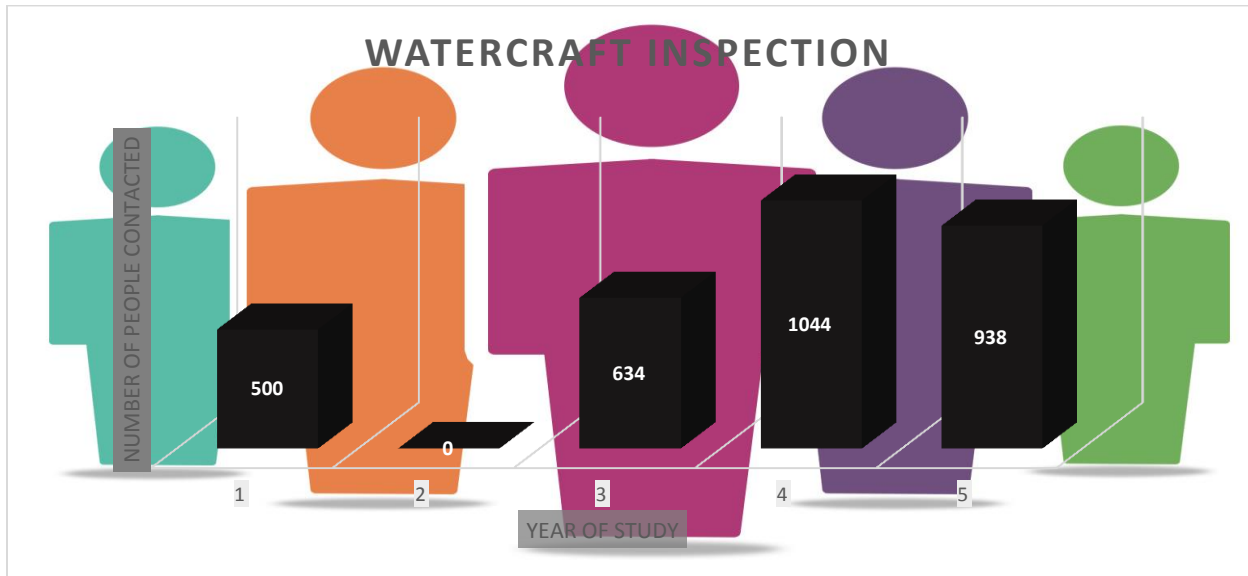
11.0 Watercraft Inspection and Education

Watercraft inspections performed using WDNR protocol at the boat landings within the project boundaries resulted in a total of thirteen hundred twenty-six (1326) boats inspected and three thousand one hundred sixteen (3116) people being contacted.



2012 data unavailable

Boats being checked for the potential spread of AIS plants and organisms when they were being launched or removed from the project area waters. Those people involved in using the water ways within the boundaries were also given information and educational materials in way to prevent and control the spread of AIS plant and organisms.



2012 data unavailable

12.0 Conclusion

In conclusion the invasive species within the project boundaries had shown a decrease in populations of AIS that were observed but a single species increase. That increase being a single year observation of Aquatic Forget-Me-Not during the monitoring season of 2013. Data recorded for all other species observed proves a decrease in presence or lack of presence all together.

PUBLIC INFORMATION

MAY 12, 2016

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

Re: Rhinelander Hydroelectric Project
FERC Project No. 2161
Expera Specialty Solutions LLC
5 Year Summary 2015 Invasive Species Report for the Rhinelander Hydroelectric Project, Rhinelander,
Oneida County, Wisconsin

Dear Secretary Bose,

Pursuant to Article 406 of its FERC license for the Rhinelander Hydroelectric Project (FERC Project 2161) Expera Specialty Solutions, LLC is submitting the 5 year summary Invasive Species Report for 2015. Included are copies of the letters to the U.S. Fish and Wildlife Service and the Wisconsin DNR for agency review and comment. No comments were received.

- (1) 2015 5 Year Summary Invasive Species Report for the Rhinelander Hydroelectric Project (FERC 2161)
- (2) Agency consultation request to Nicholas J. Utrup, U.S. Fish and Wildlife Service, dated April 16, 2016.
No Reply
- (3) Agency comments Wisconsin Department of Natural Resources dated April 28, 2016.

If you have any questions, please do not hesitate to contact me. Thank you for your attention and consideration.

Sincerely,



Gary Renel
E/I Utility Manager
Expera Specialty Solutions
515 West Davenport Street Rhinelander, WI 54501
P 715-369-4244 / C 715-367-4388
makingbigideasfly
experaspecialty.com

April 12, 2016

Mr. Nicholas J Utrup
Wisconsin Hydropower Coordinator
U.S. Fish and Wildlife Service
Green Bay Ecological Service Field Office
2661 Scott Tower Drive
New Franken, WI 54229

Re: Rhinelander Hydroelectric Project
FERC Project No. 2161
Expera Specialty Solutions LLC
DRAFT of 2015 Invasive Species 5 year summary for the Rhinelander Hydroelectric Project,
Rhinelander, Oneida County, Wisconsin

Dear Mr. Utrup,

Pursuant to Article 406 of its FERC license for the Rhinelander Hydroelectric Project (FERC Project 2161) Expera Specialty Solutions LLC is obligated to monitor invasive species. Reports are submitted to the U.S. Fish and Wildlife Service and the Wisconsin DNR for agency review and comment.

Please respond with any comment within 30 days of this letter date. An E mail with electronic copy was sent today. If you have no comment, we would appreciate receiving a word to the effect. In the absence of response within 30 days we will assume that comments are not forthcoming.

If you have any questions, please do not hesitate to contact me. Thank you for your attention and consideration.

Sincerely,



Gary Renel
E/I Utility Manager

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Renel, Gary

From: Laatsch, Cheryl - DNR <Cheryl.Laatsch@wisconsin.gov>
Sent: Thursday, April 28, 2016 3:07 PM
To: Renel, Gary
Subject: Rhinelander AIS report

Hi Gary –

The staff have reviewed the report and have no comments. thanks

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Cheryl Laatsch

Staterwide FERC Coordinator – Watershed Bureau

Wisconsin Department of Natural Resources

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Phone: 920-387-7869

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Cheryl.laatsch@wisconsin.gov



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