

WausauPAPER

ORIGINAL

December 6, 2012

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

FILED
SECRETARY OF THE
COMMISSION
2012 DEC 11 P 12:39
FEDERAL ENERGY
REGULATORY COMMISSION

Re: Wausau Paper, Rhinelander, Wisconsin
Hydro Electric Project FERC 2161 Invasive Species Report for 2012

Dear Kimberly,

Pursuant to Article 406 of its FERC License for the Rhinelander Hydroelectric Project (FERC 2161), Wausau Paper is obligated to monitor invasive species. Enclosed are an original and seven copies of the report documenting the results of the current year 2012 of the survey. Also enclosed is a copy of the letters sent to the Wisconsin Department of Natural Resources (WDNR) and the US Fish and Wildlife Service (USFW) requesting their comments by 11/30/12. We have received general comments from the WDNR, copies enclosed, but have received no comments from USFW.

If you have any questions, please do not hesitate to contact me.

Sincerely,



Gary Renel
E/I Utility Mgr
Wausau Paper
515 West Davenport Street
Rhinelander WI 54501
715-369-4244 work
715-297-5448 cell
grenel@wausaupaper.com

copy: John Zygaj, FERC Chicago Office

A-13-1A

WAUSAUPAPER

October 30, 2012

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
Wausau Paper LLC
DRAFT of 2012 Invasive Species Report for the Rhinelander Hydroelectric Project,
Rhinelander, Oneida County, Wisconsin

Dear Mr. Utrup,

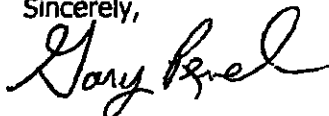
Pursuant to Article 406 of its FERC license for the Rhinelander Hydroelectric Project (FERC Project 2161) Wausau Paper, LLC is obligated to monitor invasive species. Reports are submitted to the U.S. Fish and Wildlife Service and the Wisconsin DNR for agency review and comment.

The results of the water specimens for zebra mussel veligers and spiny water fleas are not available at this time. Wausau Paper will provide an updated report when these are received.

Please respond with any comment within 30 days of receipt of this letter. 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
Utility Superintendent
Wausau Paper LLC
515 West Davenport Street
Rhinelander WI. 54501
grenel@wausaupaper.com
715-369-4244

Pc: John Zygaj / Chicago Regional Office FERC

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**RE: Rhinelander Invasive Report
Laatsch, Cheryl - DNR to: Gary Renel**

11/29/2012 10:03 AM

We have no specific comments on the Invasive Report for Rhinelander. Staff are checking on your question about the status of the testing. I will let you know what the results are as soon as I am informed.

We have general comments:

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. californiensis*) on all larger loosestrife populations.

**2012
INVASIVE SPECIES REPORT
FOR THE
RHINELANDER HYDROELECTRIC PROJECT
ONEIDA COUNTY, WISCONSIN
FERC PROJECT NO. 2161**



**Submitted By
Wausau Paper Mills, LLC**

**December 2012
Prepared By
Nicholas Giannola
Wausau Paper Mills, LLC**

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1.0 Summary

From July 24th to September 13th 2012, a collaboration of people from Wausau Paper Corporation, Wisconsin Department of Natural Resources (WI DNR), U.S. Fish and Wildlife Service (US FWS) and University of Wisconsin Center for Limnology – Trout Lake (UW CFL), worked to survey and map locations of aquatic invasive species throughout the Rhineland Flowage; specifically, curly-leaf pondweed (*Potamogeton crispus*), Eurasian water milfoil (*Myriophyllum spicatum*), purple loosestrife (*Lythrum salicaria*), spiny water fleas (*Bythotrephes longimanus*) and zebra mussels (*Dreissena polymorpha*). This consisted of meander surveys, shoreline meander surveys, and spiny water flea and zebra mussel veliger sampling.

Between July 24th and September 13th 2012 meander surveys were conducted to search for curly-leaf pondweed and Eurasian water milfoil. The first survey was done on the four lakes that make up the Rhineland Flowage; Boom Lake, Bass Lake, Thunder Lake and Lake Creek. During the survey a floating piece of curly-leaf pondweed was found in Bass Lake. Another meander survey was conducted on the Rhineland Flowage portion of the Wisconsin River. During this survey two pieces of curly-leaf pondweed were found floating at two separate sites. Both of these sites were known to have curly-leaf pondweed in the past. One colony of curly-leaf pondweed was found below the dam. No Eurasian water milfoil was found during the meander surveys.

Between July 24th and August 13rd 2012 a shoreline meander survey was done to search for purple loosestrife. During this survey thirteen sites were found to have purple loosestrife, nine were sites previously known to have purple loosestrife; the remaining four sites were new discoveries. Nineteen historical purple loosestrife sites no longer showed purple loosestrife growth. There was no beetle damage found above the dam; however, beetle damage was observed at many of the sites below the dam. All reachable plants were cut, placed into black garbage bags and thrown away. Information packets were distributed to homeowners with purple loosestrife located on their properties.

Samples were taken for spiny water fleas and zebra mussels on July 24th 2012 by towing plankton nets through the water to collect specimens. These samples were then sent to the Wisconsin DNR- Plymouth Service Center for identification. All results were negative.

On August 28th 2012 another survey of Boom Lake was done as part of the Great Lakes Restoration Initiative. This consisted of a meander survey with stops at five locations for thorough inspection, as well as an inspection of the boat launch area.

2.0 Methods

The area surveyed included the entire Rhineland Flowage system. The survey began from below the boat launch in McNaughton, at Bridge Rd, and continued to the end of the FERC boundary just past the Davenport Bridge; this also included Boom Lake, Bass Lake, Thunder Lake and Lake Creek.

2.1 Meander Survey for Curly-Leaf Pondweed and Eurasian Water Milfoil

A meander survey was used to locate and map curly-leaf pondweed (CLP) and Eurasian Water Milfoil (EWM) colonies. The survey was done throughout the Rhineland Flowage (including Boom Lake, Bass Lake, Thunder Lake and Lake Creek) with a crew of two people and one boat. One person was responsible for driving while both looked over the side and front of the boat for CLP and EWM. While conducting the survey, special attention was given to the areas known to have CLP in the past by thoroughly searching the specific and nearby areas. All places where CLP was found rooted or floating were marked with a GPS point. Any floating or rooted plants found were pulled and disposed of. The survey was conducted by Katrina Punzel-UW CFL, Filip Grgic-UW CFL and Nicholas Giannola-Wausau Paper.

The survey was completed during five days. Two days for the above dam Rhineland Flowage/Wisconsin River portion; Two days for Boom Lake, Bass Lake, Thunder Lake and Lake Creek; and one day below the dam.

Another survey was conducted on September 13th 2012, by Nicholas Giannola-Wausau Paper and Tim Plude-WI DNR. This survey focused on boat access areas throughout the Rhineland Flowage and a site on Boom Lake where there was a potential EWM siting.

2.2 Shoreline Meander Survey for Purple Loosestrife

A shoreline meander survey was used to locate and map purple loosestrife (PL) locations. The survey was done throughout the Rhineland Flowage (including Boom Lake, Bass Lake, Thunder Lake and Lake Creek) with a crew of two people, a driver and a spotter. Katrina Punzel-UW CFL, Filip Grgic-UW CFL and Nicholas Giannola-Wausau Paper contributed to the survey. At each location, the spotter counted the number of plants, looked for beetle damage and cut the plants, where possible. The driver used a GPS to mark new PL locations and to navigate to areas where PL was previously found. The driver also recorded the number of plants and whether or not beetle damage was observed. The cut plants were placed into black garbage bags, to prevent seed spread, and disposed of.

The survey was completed in six days: two days for the above dam Rhineland Flowage/Wisconsin River portion; two days for Boom Lake, Bass Lake, Thunder Lake and Lake Creek; one day below the dam; and one day to survey the area between Phillip Street Bridge and the dams. The above dam survey was done with a motor boat, the below dam survey was done with a canoe and the area between Phillip Street Bridge and the dams was done by foot.

2.3 Spiny Water Flea Monitoring

On July 24th 2012 three sites were sampled for spiny water fleas by Filip Grgic-UW CFL and Nicholas Giannola-Wausau Paper. The crew consisted of one driver and one netter/recorder. Using a spiny water flea sampling net (50cm opening, 254 micron mesh) with a collection cup attached to the bottom to collect the sample. The net was lowered down two meters and then towed, behind the boat, in an oblique pattern through the water column for two minutes. Any organisms caught in the net were washed down into the collection cup. The cup was disconnected from the net and swirled to remove excess water. The sample was then poured from the collection cup into a specimen bottle and preserved with ethanol. The collection cup was rinsed with ethanol and poured into the same specimen bottle to capture any organisms left behind. The specimen bottle was labeled and stored in a cooler with ice. These same steps were done at two other sites. All samples were preserved in the same specimen bottle.

The samples were sent to the Wisconsin DNR-Plymouth Service Center for identification.

See Appendix 3: Spiny Water Flea and Zebra Mussel Monitoring for locations sampled.

2.4 Zebra Mussel Veliger Monitoring

On July 24th 2012 three sites were sampled for zebra mussel veligers. The crew, Filip Grgic-UW CFL and Nicholas Giannola-Wausau Paper, consisted of one driver and one netter/recorder. Using a zebra mussel veliger net (50cm opening, 64 micron mesh) with a collection cup attached to the bottom to collect the sample. The net was lowered two meters into the water column and then pulled vertically back up to the boat. Any organisms caught in the net were washed down into the collection cup. The cup was disconnected from the net and swirled to remove excess water. The sample was then poured from the collection cup into a specimen bottle and preserved with ethanol. The collection cup was rinsed with ethanol and poured into the same specimen bottle to capture any organisms left behind. The specimen bottle was labeled and stored in a cooler with ice. These same steps were done at two other sites. All samples were preserved in the same specimen bottle.

The samples were sent to the Wisconsin DNR-Plymouth Service Center for identification.

See Appendix 3: Spiny Water Flea and Zebra Mussel Monitoring for locations sampled.

2.5 Great Lakes Restoration Initiative Survey

As part of the Great Lakes Restoration Initiative (GLRI), inland lakes within the Great Lakes' watershed are being monitored for invasive species. Boom Lake was one of the inland lakes chosen for monitoring. The survey was done with four people and two boats; each boat had two people; one driver and one spotter. During the GLRI survey a meander was done along the shoreline while the driver and spotter looked for invasive species. Due to poor visibility in the water, a rake was also thrown off the side of the boat, to sample the plants. This was done fifty times, at even intervals, throughout the lake.

Along with the meander survey, five locations were selected for a more thorough inspection. These sites were selected near inlets, outlets and areas of high traffic. At each of these sites one crew member would snorkel around the area looking for invasive species while the other took plant samples and substrate samples. The substrate samples were done with a dip net; a method used to look for invasive snails and mussels. Plant samples were taken by using a rake to collect plants. Each site was searched for ten looking minutes. A looking minute is defined as one minute of time while one person is looking. Since there were two people looking, ten looking minutes equals five actual minutes.

After the meander survey and site searches, the boat launch area was inspected. All four crew members searched by either snorkeling, raking, dip netting, or over turning rocks. The boat launch area was searched for thirty looking minutes. The survey was conducted by Katrina Punzel-UW CFL, Anna Moyer-US FWS, Tina Wolbers-WI DNR, and Nicholas Giannola-Wausau Paper.

See Appendix 4: Great Lakes Restoration Initiative for site locations.

3.0 Observations

3.1 *Curly-Leaf Pondweed*

Above the dam only three floating pieces of CLP were found. Two of these pieces were found near preexisting CLP sites, one on July 24th 2012 and the other on July 25th 2012. The other piece was found in a new area in Bass Lake, on July 24th 2012. The Bass Lake site was searched again on July 25th 2012 but no rooted colonies were found. Areas where CLP was recorded last year were searched July 24th, 25th 2012 and again on August 7th 2012, no rooted colonies were found. This absence of rooted colonies may be due to CLP's normal growing season. CLP begins to grow in late winter, early spring and then starts to die back in mid-to-late-summer. An early die back may be the reason no rooted colonies were found.

Below the dam one CLP colony was found, this was the first report of CLP below the dam. The area was located behind the DNR office and was marked, with a GPS, point CLP 7. The colony was relatively small and found in water between six and twelve inches. All plants seen were pulled. This was the only area where CLP was found below the dam.

Maps and results table are included in Appendix 1: Curly-Leaf Pondweed

3.2 *Eurasian Water Milfoil*

A meander survey was done for EWM along with the meander survey for CLP. No EWM was found during this survey. This was expected as EWM has not been found in the Rhineland flowage in past years.

On September 7th 2012 a tip was received from a boater of a potential EWM siting on Boom Lake. The suspected area was searched during a survey on September 13th 2012. No EWM was found during the survey.

3.3 *Purple Loosestrife*

A shoreline meander survey was conducted for PL on six separate days. The above dam survey was completed on August 7th 2012, the below dam survey was completed on August 10th 2012 and on August 13th 2012 foot survey was conducted between Phillip Street Bridge and the dams. During this survey nine previously locations still had PL, three new locations were discovered and nineteen previous locations showed no plant growth. One site was found during the GLRI survey on August 28th 2012. A total of thirteen sites were observed to have PL, eight of these sites were above the dam and the remaining five sites were below the dam.

3.3a Above Dam Locations

Four of the eleven previous locations still had PL growth and four new locations were discovered. Brochures were lefts for land owners with PL on their property and the plants at site PL037 were pulled. No sites above the dam showed signs of beetle damage.

Maps and results table are included in Appendix 2: Purple Loosestrife.

3.3b Below Dam Locations

There were a total of five sites below the dam with PL growth. All of these sites were previously known to have PL. Ten sites where PL was previously found did not have plant growth this year. Beetle damage was found throughout the below dam locations.

It should be noted that the survey continued down river from the dam to the end of the FERC boundary just past the Davenport Bridge.

Maps and results table are included in Appendix 2: Purple Loosestrife.

3.4 Spiny Water Fleas

The specimen bottle from the spiny water flea tows was sent to the Wisconsin DNR – Plymouth Service Center for identification. The lab results were negative. No spiny water fleas have been detected in the Rhineland flowage in previous years.

3.5 Zebra Mussel Veligers

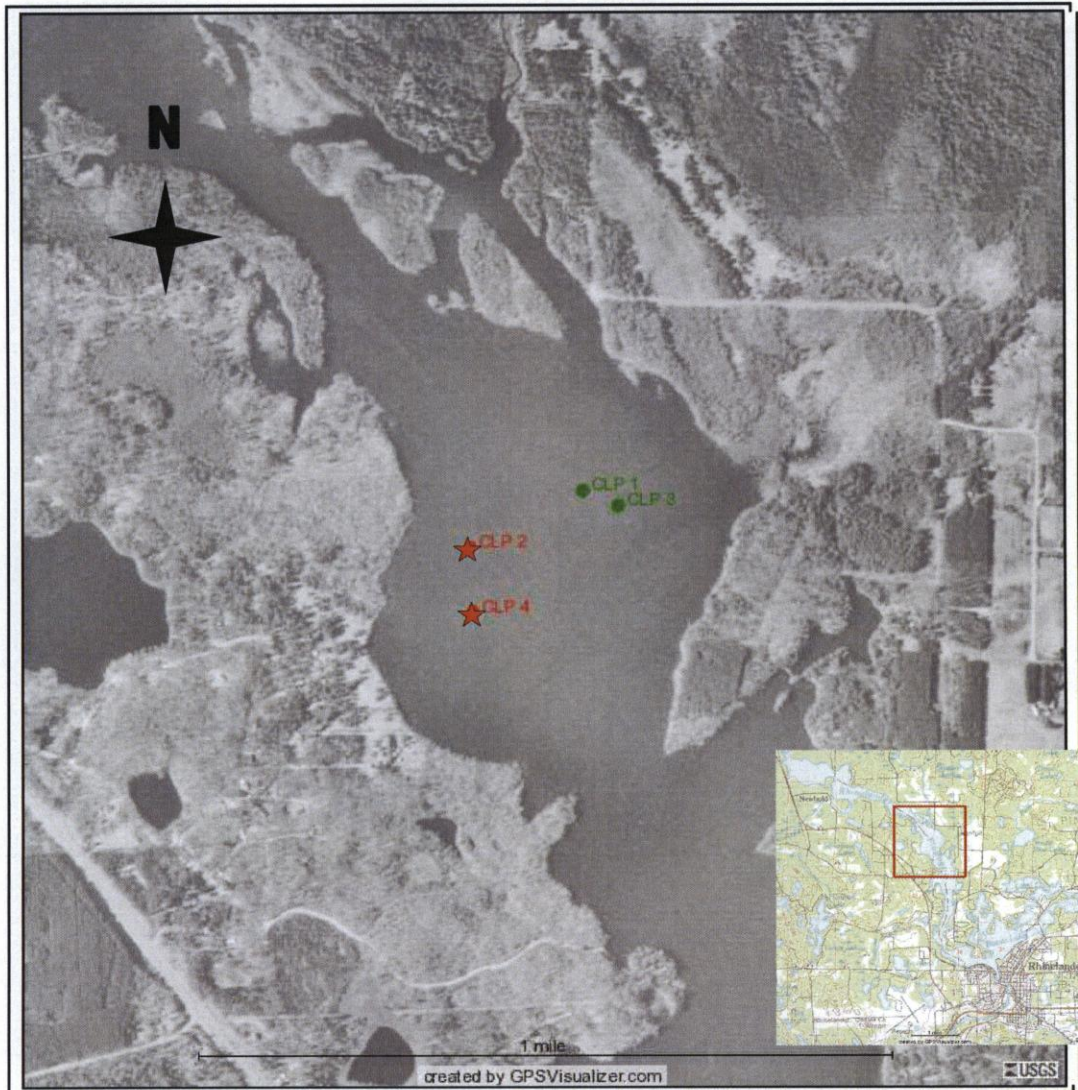
The specimen bottle from the zebra mussel veliger tows was sent to the Wisconsin DNR – Plymouth Service Center for identification. The lab results were negative. No zebra mussels have been detected in the Rhineland flowage in previous years.

Rhineland Hydroelectric Project

2012 Invasive Species Report

Appendix 1: Curly-Leaf Pondweed

Upper Rhineland Flowage Curly-Leaf Pondweed Locations



- Curly-leaf pondweed locations observed prior to but not including 2012
- ★ Curly-leaf pondweed locations observed in 2012

Lower Rhineland Flowage Curly-Leaf Pondweed Locations



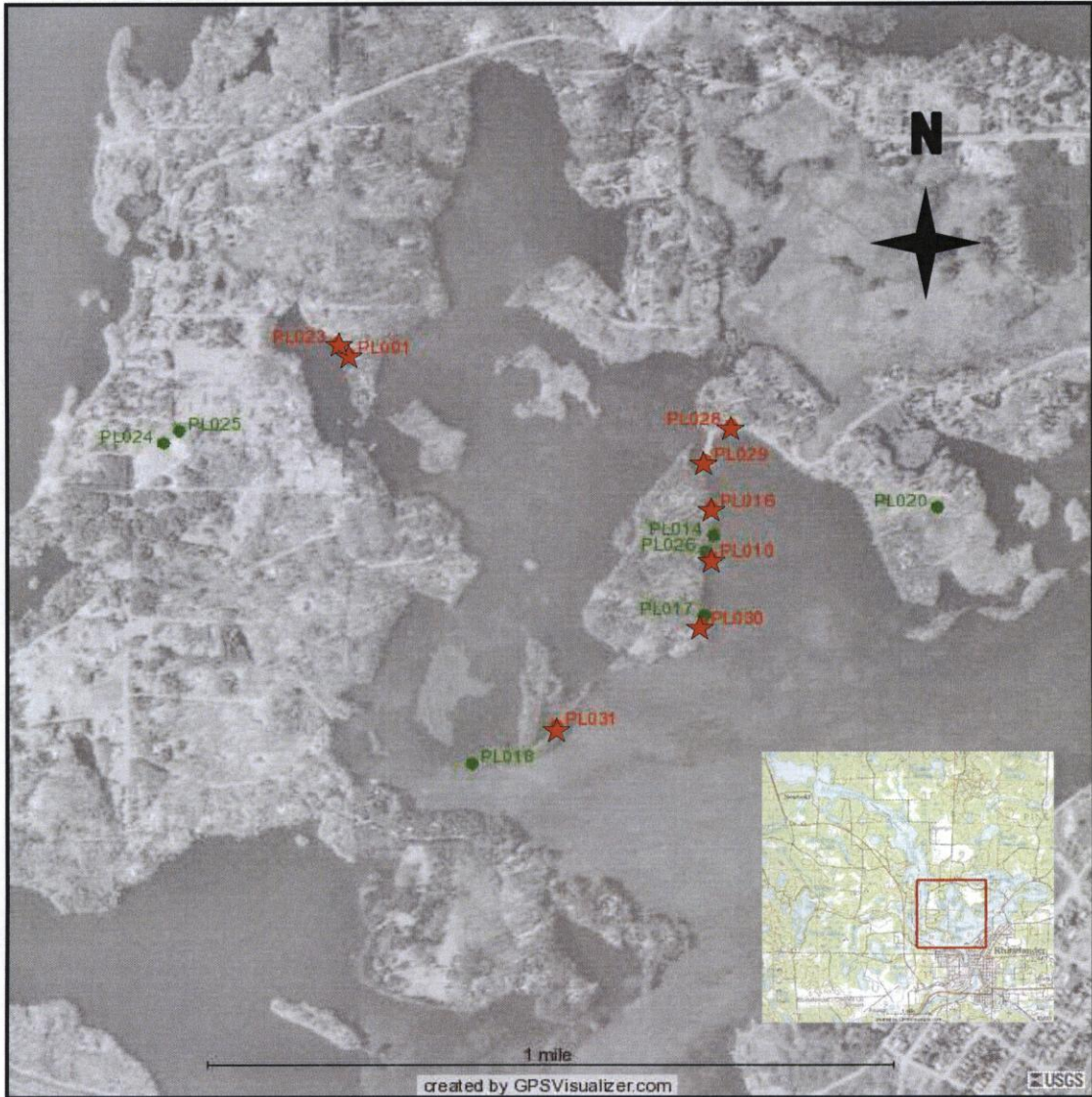
- Curly-leaf pondweed locations observed prior to but not including 2012
- ★ Curly-leaf pondweed locations observed in 2012

Rhineland Flowage Curly-Leaf Pondweed Data Sheet

SITE NUMBER	LATITUDE	LONGITUDE	2012 PRESENCE	COMMENTS
CLP 1	45.68529116	-89.44893605	Not Present	Area needs to be observed in following years, known to have CLP in the past.
CLP 2	45.68414	-89.45236	Floating piece	Area needs to be observed in the following years. None was found rooted, but CLP was found here in the past. May have died back already.
CLP 3	45.68498841	-89.44790868	Not Present	Area needs to be observed in following years, known to have CLP in the past.
CLP 4	45.68285	-89.45226	Floating piece	Area needs to be observed in following years, known to have CLP in the past. May have died back already.
CLP 5	45.64882519	-89.42564551	Not Present	Area needs to be observed in following years, known to have CLP in the past.
CLP 6	45.65847	-89.42947	Floating piece	Area needs to be observed in following years for plant growth. No rooted plants were found.
CLP 7	45.63674	-89.41708	Colony present	Area needs to be observed in following years for further plant growth. Small colony was found in shallow water. All seen plants were pulled. Only location below dam where CLP was found.

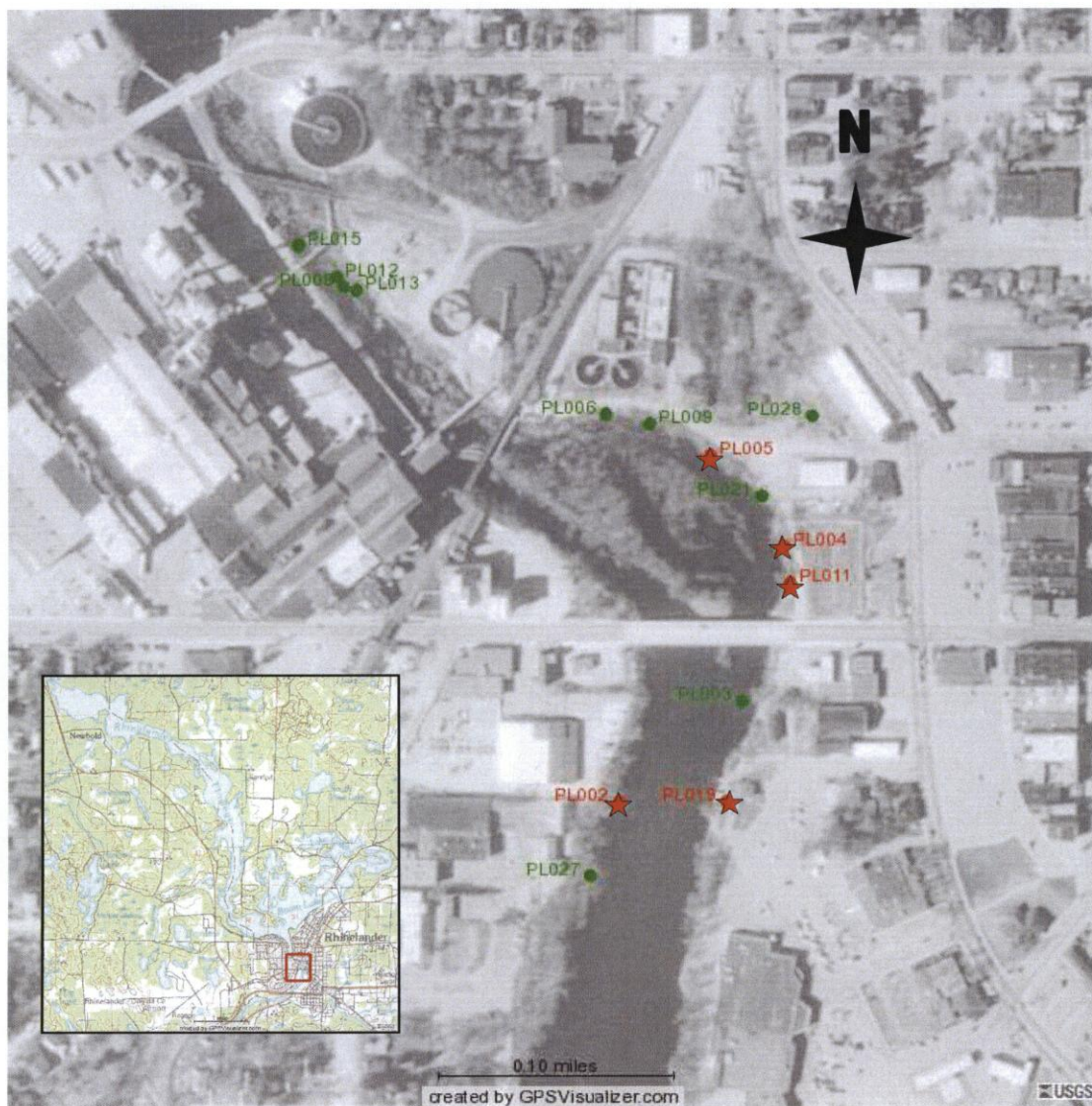
Appendix 2: Purple Loosestrife

Above Dam Rhineland Flowage Purple Loosestrife Locations



- Purple loosestrife locations observed prior to but not including 2012
- ★ Purple loosestrife locations observed in 2012

Below Dam Rhineland Flowage Purple Loosestrife Locations



- Purple loosestrife locations observed prior to but not including 2012
- ★ Purple loosestrife locations observed in 2012

Rhineland Flowage Purple Loosestrife Data Sheet

SITE #	Latitude	Longitude	# OF PLANTS	PRESENT LAST YEAR?	PULLED THIS YEAR?	PULLED LAST YEAR?	BEETLE DAMAGE?	YEAR FIRST OBSERVED	COMMENTS
PL001	45.662556	-89.43353	2	YES	NO	NO	NO	2006	Left brochure for owners
PL002	45.636806	-89.41697	10	YES	NO	NO	YES	2006	Plants Cut
PL003	45.637417	-89.41589	0	NO	NP	NP	NP	2006	Not Present
PL004	45.638361	-89.41553	2	NO	NO	NP	NO	2006	Plants Cut
PL005	45.638917	-89.41617	2	NO	NO	NP	NO	2006	Plants Cut
PL006	45.639167	-89.41708	0	NO	NP	NP	NP	2006	Not Present
PL007	45.63917	-89.41708	0	NO	NP	NP	NP	2006	Not Present
PL008	45.639944	-89.41939	0	NO	NP	NP	NP	2006	Not Present
PL009	45.639111	-89.41669	0	NO	NP	NP	NP	2006	Not Present
PL010	45.65825	-89.42256	4	YES	NO	NO	NO	2007	Left brochure for owners
PL011	45.638139	-89.41547	5	NO	NO	NP	NO	2007	Plants Cut
PL012	45.64	-89.41944	0	NO	NP	NP	NP	2007	Not Present
PL013	45.639917	-89.41928	0	NO	NP	NP	NP	2007	Not Present
PL014	45.658722	-89.4225	0	YES	NP	NO	NP	2008	Not Present
PL015	45.640194	-89.41978	0	NO	NP	NP	NP	2008	Not Present
PL016	45.659306	-89.42256	1	YES	NO	NO	NO	2009	Left brochure for owners
PL017	45.657028	-89.42278	0	YES	NP	NO	NP	2009	Not Present
PL018	45.653944	-89.42981	0	YES	NP	YES	NP	2009	Not Present

Rhinelander Hydroelectric Project

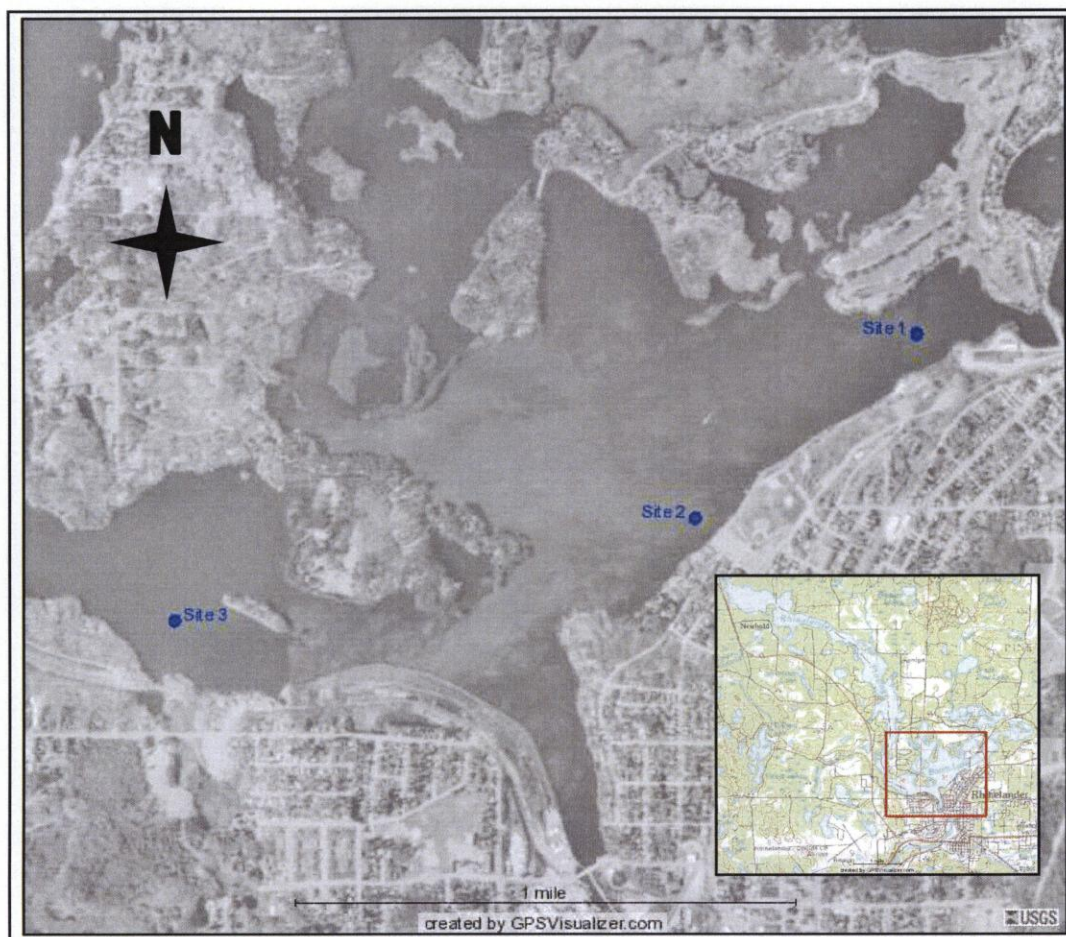
2012 Invasive Species Report

SITE #	Latitude	Longitude	# OF PLANTS	PRESENT LAST YEAR?	PULLED THIS YEAR?	PULLED LAST YEAR?	BEETLE DAMAGE?	YEAR FIRST OBSERVED	COMMENTS
PL019	45.63806	-89.41603	4	YES	NO	NO	NO	2009	Plants Cut
PL020	45.65931	-89.41575	0	NO	NP	NP	NP	2010	Not Present
PL021	45.63867	-89.41572	0	NO	NP	NP	NP	2010	Not Present
PL022	45.63908	-89.40056	0	NO	NP	NP	NP	2010	Not Present
PL023	45.66278	-89.43389	2	YES	NO	NO	NO	2010	Left brochure for owners
PL024	45.66067	-89.43917	0	NO	NP	NP	NP	2010	Not Present
PL025	45.66092	-89.43869	0	NO	NP	NP	NP	2010	Not Present
PL026	45.658376	-89.42275	0	YES	NP	YES	NP	2011	Not Present
PL027	45.636362	-89.41723	0	YES	NP	NO	NP	2011	Not Present
PL028	45.6391554	-89.41527709	0	YES	NP	YES	NP	2011	Not Present
PL029	45.66104	-89.42197	1	NO	NO	NP	NO	2012	Plants Cut
PL030	45.66029	-89.42274	2	NO	YES	NP	NO	2012	Plants Cut
PL031	45.65683	-89.42284	1	NO	NO	NP	NO	2012	Plants Cut
PL032	45.65474	-89.42724	1	NO	NO	NP	NO	2012	Plants Cut

Site numbers in red indicate purple loosestrife presence in 2012

Appendix 3: Spiny Water Flea and Zebra Mussel Monitoring

Rhineland Flowage Zebra Mussel and Spiny Water flea Monitoring Locations



Spiny Water Flea Sampling Points Data Sheet

Site	Secchi Depth (m)	Depth Sampled (m)	Tow Pattern	Results
1	1.25	2	Oblique	Negative
2	1.25	2	Oblique	Negative
3	1.25	2	Oblique	Negative

Zebra Mussel Sampling Points Data Sheet

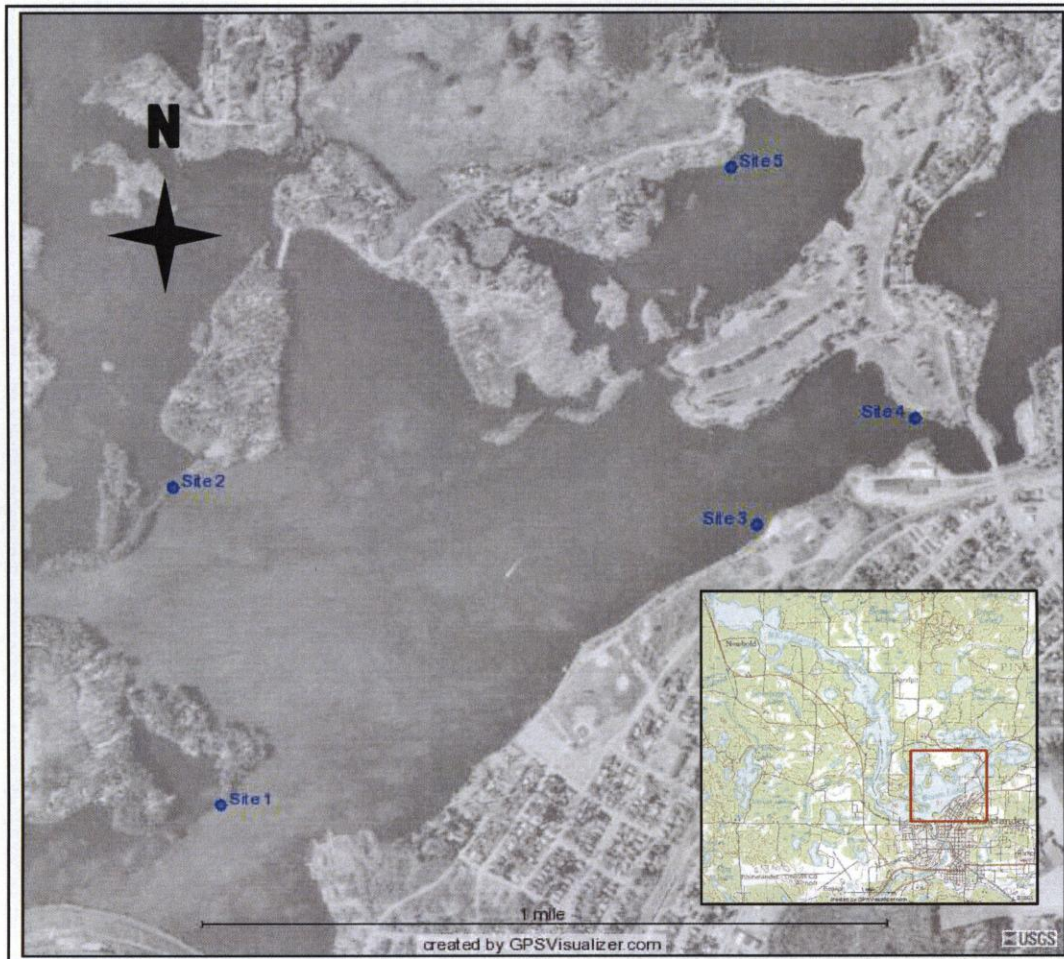
Site	Secchi Depth (m)	Depth Sampled (m)	Number of Tows	Results
1	1.25	2	1	Negative
2	1.25	2	1	Negative
3	1.25	2	1	Negative

Rhineland Hydroelectric Project

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Appendix 4: Great Lakes Restoration Initiative

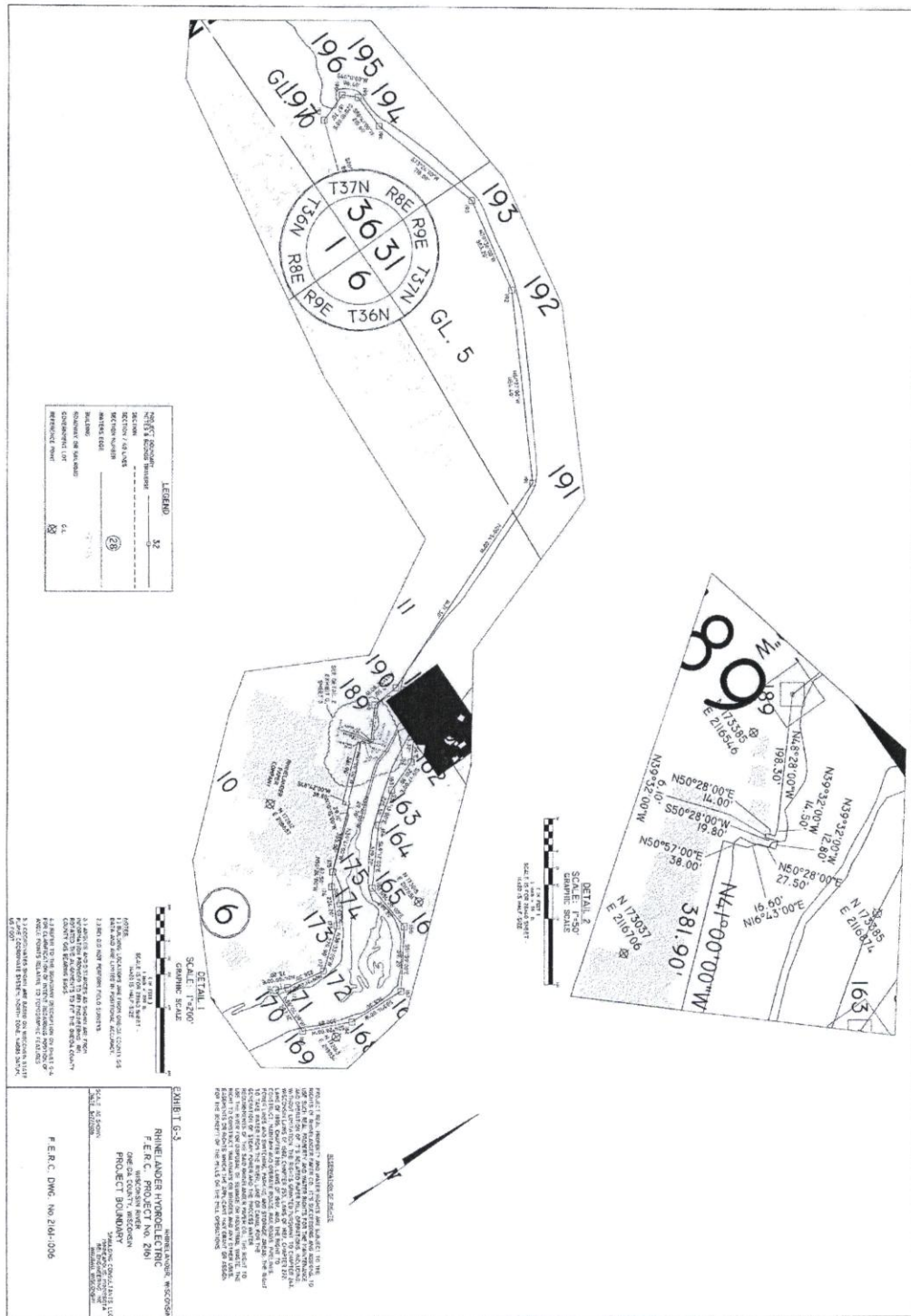
Great Lakes Restoration Initiative Survey Site Locations



Appendix 5: FERC Boundary

Rhineland Hydroelectric Project

2012 Invasive Species Report



Document Content(s)

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