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September 9, 2002

ORIGINAL

Office of the Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Little Quinnesec Falls Hydroelectric Project, FERC No. 2536 – Article 409, 2002 Exotic Species Report

In accordance with the Commission order approving the monitoring plan for Purple Loosestrife and Eurasian Milfoil within the Project boundary, we are submitting the enclosed report for 2002. No evidence of Purple Loosestrife was found within the Project; however, one site, downstream of the Project, contained a small colony. Additionally, the surveyors did identify two separate colonies of Eurasian Milfoil intermixed with a diverse community of native milfoil. It is their belief that the diverse community may inhibit further spreading of this invasive species. Based upon their recommendation, we will continue to monitor on an annual basis. This information is being forwarded to the City of Niagara concurrent with this filing recommending that they treat the Purple Loosestrife in accordance with our consultant's comments.

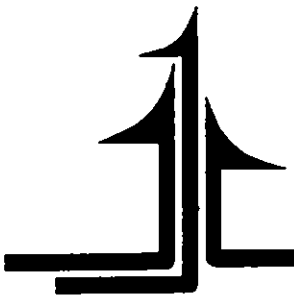
Sincerely,

STORA ENSO NORTH AMERICA

Mark E. Anderson
Resources Coordinator

Enclosure: White Water Associates, Inc. Report dated August 2002

CC: File (Little Quinnesec Falls, LG-90-30 – Article 409)
Ms. Peggy A. Harding, Regional Director, FERC—CRO, 230 South Dearborn St., Room 3130, Chicago, IL 60604
Mr. Tom Meronek, Wisconsin Department of Natural Resources, 101 North Ogden, Peshtigo, WI 54157
Mr. John Suppnick, Michigan Department of Environmental Quality, 2nd Floor—Knapp Center, 300 S. Washington, Lansing, MI 48933
Mr. Jim Fossum, U.S. Fish & Wildlife Service, 1015 Challenger Court, Green Bay, WI 54311-8331
Mr. Don Novak, Administrator, City of Niagara, 1029 Roosevelt Road, Niagara, WI 54151



WHITE WATER ASSOCIATES, INC.

PURPLE LOOSESTRIFE AND EURASIAN MILFOIL MONITORING

Hydro Project No. 2536, Little Quinnesec Falls

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August 2002

I. SUMMARY

Annual monitoring for purple loosestrife (*Lythrum salicaria*) and Eurasian milfoil (*Myriophyllum spicatum*) has been designated as part of the FERC requirements for the relicensing of the Hydro Project No. 2536, Little Quinnesec Falls, on the Menominee River by Stora Enso North America Corp., Niagara Mill, formerly known as Consolidated Papers Inc., Niagara Division. On August 23, 2002, scientists from White Water Associates, inc. conducted visual and grab sample surveys by boat in the project area from Little Quinnesec Dam to Big Quinnesec Dam. In addition, a short distance downstream of the Little Quinnesec Dam was inspected on foot.

Purple loosestrife was found **only** downstream of the Little Quinnesec Dam, outside the project area, on the Wisconsin side in the village of Niagara approximately 100 feet downstream of the boat access site. We found about 15 small (6 inches to 1 foot) non-flowering stalks. All were growing along the shoreline in saturated soil.

Eurasian milfoil was recorded in the project area. This year, specimens with 28 total leaf divisions were sent to botanists Dr. Emmet Judziewicz and Dr. Robert Freckman of University of Wisconsin, Stevens Point for confirmation of identification. The locations of these specimens were recorded. It is recommended that these aquatic beds be examined for changes in ensuing years as well as continuing to examine the area for the presence of this alien. It is to be hoped that a species-rich aquatic community, such as typifies the project area, will serve to constrain the alien species so that is merely functions as one other component of the community and does not dominate.

Informational warning signs regarding nuisance aquatic plants acquired from WDNR have been posted at public landings in the project area. Informational brochures about purple loosestrife were made available to the public in 1999.

II. INTRODUCTION

Monitoring for purple loosestrife (*Lythrum salicaria*) and Eurasian milfoil (*Myriophyllum spicatum*) was conducted on August 23, 2002 as required by Article 409 of the order issuing a license for Hydro Project No. 2536, Little Quinnesec Falls. There have been reports of both species

within the Menominee River basin since 1990. There were no reports of these alien species within the project area reported from surveys during the license application process (1990). Purple loosestrife was found in 1998, 1999, 2000, 2001, and 2002 growing along the Wisconsin shoreline below the Little Quinnesec Dam, outside the project area, within the city of Niagara, about 100 feet below the public boat access. This patch does not seem to have expanded significantly in size. Some questionable specimens of milfoil had been found in past years of monitoring but identification of Eurasian milfoil was not confirmed. Native species of milfoil are also present in the project area.

III. METHODS

On August 23, 2002, biologists Elizabeth Rogers and David Tiller, of White Water Associates, Inc., used a small boat and motor to look at the shoreline between the two dams, including the numerous backwater wetlands. Most of the backwater wetlands are densely vegetated with a species-rich diversity of aquatic plants (submergent and emergent) making it imperative to use oars for complete access. Binoculars were used to scan the shore and less accessible backwater areas. Purple loosestrife in flower is a showy and easily identifiable plant during its peak blossoming period that extends from late July through August at this latitude, depending on the variation of the year. During the same week of the survey, loosestrife had been observed blossoming farther south, in Menominee County and farther north in Iron County ensuring that the survey took place within the flowering period. All wetlands and backwaters connected to the reservoir in the project area were visually inspected.

We surveyed for Eurasian milfoil by taking grab samples from beds of milfoil using hands and a metal garden rake. We then examined the leaves, counting leaf divisions of the largest leaves. According to most taxonomic keys, number of leaf divisions is the main morphological trait that can be used to separate the native northern water milfoil (*Myriophyllum sibiricum,* formerly *exalbescens*) from Eurasian milfoil (*Myriophyllum spicatum*), although there is considerable variability within each species. Generally, the average number of leaf divisions for northern water milfoil ranges from 5-11 with a reported maximum of 13. The average number for Eurasian milfoil ranges from 14-17

with a maximum of 20. A total of 28 leaf divisions confirms the identity of Eurasian milfoil. Also useful later in the season is the presence of winter buds (turions) on northern water milfoil, structures not found on Eurasian milfoil. In addition, Eurasian milfoil exhibits a different growth form than the native species, branching repeatedly at the water's surface and creating a canopy of floating stems and leaves. Growth habitat and number of leaf divisions were both examined during the survey.

IV. FINDINGS AND MANAGEMENT RECOMMENDATIONS

Purple Loosestrife

No purple loosestrife was found within the project area, lying between the two dams. Below the Little Quinnesec Dam on the Wisconsin side of the river, associated with the Village of Niagara, we found one small colony of purple loosestrife growing along the shoreline approximately 100 feet downstream of the public landing (about 50 feet below the access overlook) (see map in Appendix). The small colony consisted of about 15-20 small (6 inches to 1 foot) non-flowering stems. Plants were growing in saturated soil at the edge of the river. We carefully pulled the plants we found and removed them from the site. Pulling plants is not sufficient to eliminate the loosestrife as individuals can sprout from fragments of roots left in the soil, or seeds still present in the seed bank. Removal of the flowering stalks each year, or removal of young plants before they reach maturity, will limit the number of seeds produced and the species' ability to propagate via seeds. More effective control would require application of herbicide to freshly cut stems.

Eurasian Milfoil

The project area has a robust diversity of native aquatic plants (submergent and emergent) particularly in the backwaters. This intact species-rich community may make the flowage more resistant to invasive plant species. Native milfoils present during the 2002 survey included *Myriophyllum heterophyllum* and *M. sibiricum*.

In 2002, we collected specimens of milfoil with leaf divisions numbering a total of 28 or more for large leaves, and producing flowers. This was the first year that flowering of milfoil was noted on the project area during the survey. The plants that were flowering were subsequently identified as Eurasian milfoil by botanists Dr. Emmet Judziewicz and Dr. Robert Freckman of University of Wisconsin, Stevens Point. We have noted the locations of the specimens on the map in the Appendix. It is possible that this species is more widespread than previously realized as the native milfoils are also present, confounding quick identification.

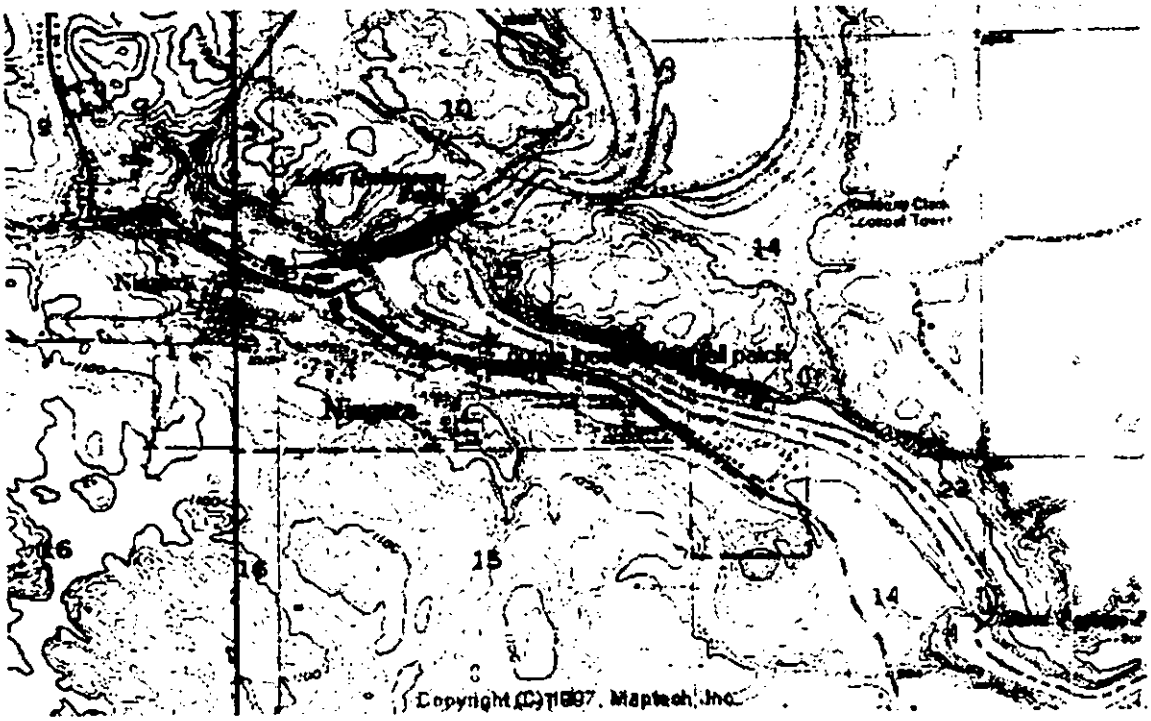
IV. CONCLUSIONS

The purple loosestrife just downstream from the project area could be readily controlled through repeated applications of herbicide (*Round-Up or Rodeo®*). Pulling the larger flowering plants will slow seed production, but not eliminate the species. Given the species' propensity to spread, continued control of this alien even outside the project area appears to be a very worthwhile investment in terms of preventing the establishment of this alien within the project area. In 1999, brochures on loosestrife control were made available to the public. Warning signs form Wisconsin DNR, advocating that boaters clean their motors of any plant material from other bodies of water, were posted at boat landings in 2001 and are still present.

The Eurasian milfoil locations should be monitored for any noticeable changes. Currently it is coexisting with many native aquatic species including *Elodea canadensis*, *Potamogeton foliosis*, *P. epihydrus*, *P. richardsonii*, *P.pectinatus*, *Najas flexilis*, *Myriophyllum sibiricum*, *Myriophyllum heterophyllum*, *Meglodontia beckii*, *Valisneria americana*, *Nuphar variegata*, *Sagittaria latifolia*, and *Ceratophyllum demersum*. At the present time, this diverse community continues in spite of the presence of Eurasian milfoil. It may be that such a species-rich community will be able to constrain the growth of the alien species, preventing it from becoming an ecological problem in the project area.

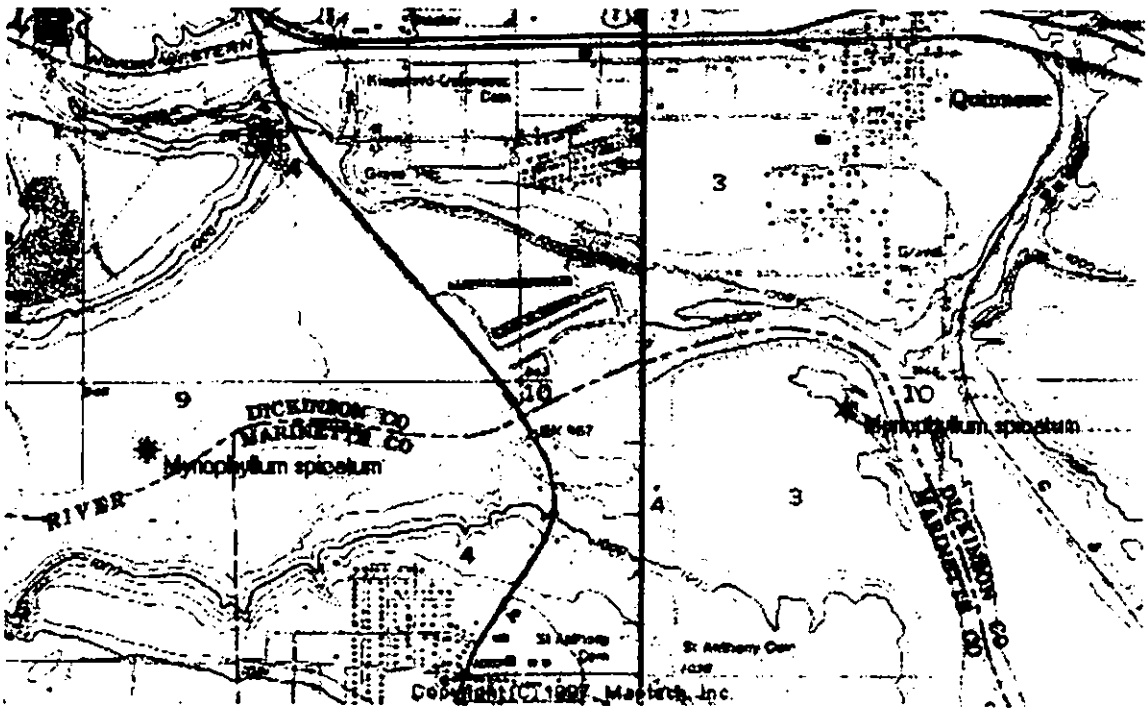
APPENDIX

Maps



Location of Small Patch of Purple Loosestrife

About 100 feet downstream of public boat access, City of Niagara



Locations of confirmed *Myriophyllum spicatum*