STORAENSO

Stora Enso North America
P.O. Box 8050
Wisconsin Rapids, WI 54495-8050

Telephone 715 422 3111

August 22, 2001

Secretary David Boergers
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Little Quinnesec Falls Hydroelectric Project, FERC No. 2536 – Article 409, 2001 Exotic Species Report

Dear Secretary Boergers:

In accordance with the Commission order approving the monitoring plan for Purple Loosestrife and Eurasian Milfoil within the Project boundary, we are submitting the report for 2001. No evidence of either species was found within the Project. One site, downstream of the Project, contained a small colony of Purple Loosestrife. This information is being forwarded to the City of Niagara concurrent with this filing recommending that they treat the plants in accordance with our consultant's comments.

Sincerely,

STORA ENSO NORTH AMERICA

Mark E. Anderson
Resources Coordinator

Enclosure: White Water Associates, Inc. Report—August 2001

Route: T.G. Scharff – File (Little Quinnesec Falls, LG-90-30 – Article 409)

CC: Ms. Peggy A. Harding, Regional Director – FERC, Chicago, IL
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

ORIGINAL

WHITE WATER ASSOCIATES, INC.

PURPLE LOOSESTRIFE AND EURASIAN MILFOIL MONITORING

Hydro Project No. 2536, Little Quinnesec Falls

Submitted to:

Stora Enso North American Corporation

Mark Anderson, Resources Coordinator
Consolidated Water Power Company
P.O. Box 8050
Wisconsin Rapids, WI 54495-8050

Report Prepared By:

Elizabeth Rogers, Ph.D. (erogers@up.net)
David Tiller, B.S. (dtiller@up.net)

Submitted by:

White Water Associates, Inc.
429 River Lane, P.O. Box 27
Amasa, Michigan 49903
Phone: (906) 822-7889
Fax: (906) 822-7977

August 2001

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 2, 2001, 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 City of Niagara approximately 100 feet downstream of the boat access site. We found six large plants (2 to 3 feet tall) flowering and an equal number of small (6 inches to 1 foot) non-flowering stalks. All were growing along the shoreline in saturated soil or in about 3-6 inches of water in a stretch about 15 feet long. No Eurasian milfoil was found. 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 2, 2001 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 although none from the project area. There were no reports of these alien species within the project area reported from surveys during the license application process (1990) and neither species was found within the project area during monitoring in 1998, 1999, 2000, or 2001. Purple loosestrife was found in 1998, 1999, 2000, and 2001 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.

III. METHODS

On August 2, 2001, 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 diversity of aquatic plants (submergent and emergent) making motor use impossible. Therefore, oars were used 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. All wetlands and backwaters connected to the reservoir in the project area were visually inspected. As a single loosestrife plant can produce prodigious quantities of seeds and start a major "invasion," survey work, given current technology, must rely on physical surveys on-site, not remote techniques.

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 leaflets and taking an average of average leaves. Number of leaflets 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 leaflets for northern water milfoil is 5-11 with a reported maximum of 13. The average number for Eurasian milfoil is 14-17 with a maximum of 20. 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. The number of leaflets on the milfoils on the project area are borderline. However, winter buds have been observed in past years, which are indicative of the native milfoil. In addition, no milfoil was found that exhibits the growth form of Eurasian milfoil.

IV. FINDINGS AND MANAGEMENT RECOMMENDATIONS

Purple Loosestrife

Findings. 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 City 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 6 large plants (2 to 3 feet in height) that were flowering and about 6 small (6 inches to 1 foot) non-flowering stems. Most plants were growing in about 3-6 inches of water, with some growing in saturated soil. We carefully pulled the plants we found and removed them from the site. Pulling plants is not sufficient to eliminate the species as it 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 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

Findings. Eurasian Milfoil is an exotic submergent aquatic species capable of forming dense canopies of branching, floating plants that outcompete native species. Most of the milfoil we found fell well within the range of number of leaflets that would identify it as northern water milfoil. In 1998, we found some plants with a borderline number of leaflets that could identify them as Eurasian and sent them to two experts. The professional opinions were inconclusive. Later season specimens obtained in 1998 exhibited winter buds or turions, strongly suggesting that the milfoil we were observing was the native species. In 2001 as in 1999 and 2000, we also retrieved some specimens with a borderline number of leaflets. At this juncture it appears to us that some of the individuals of the highly variable native milfoil in the reservoir simply exhibit a slightly higher number of leaflets than the average reported in the literature. We have observed no growth morphology (spreading masses of branching plants) that would cause us to think that we were observing Eurasian milfoil. Nuisance plant warning signs were posted at boat landing, warning boaters to clean their boats, motors and boat trailers of all aquatic plants before entering another body of water.

V. 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.

Eurasian milfoil does not appear to be present at this time within the project area. Presently, the submergent, emergent, and shoreline wetland plant communities are diverse and composed primarily of native species. Control of purple loosestrife would ensure that this healthy and diverse reservoir plant community persists into the future, providing wildlife habitat and other natural values. Warning signs from Wisconsin DNR, advocating that boaters clean their motors of any plant material from other bodies of water, were posted at boat landings in 2001.

APPENDIX

Location of Small Colony of Purple Loosestrife

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