SPAULDING CONSULTANTS, LLC

ORIGINAL



October 4, 2006

Ms. Magalie Salas, Secretary
Federal Energy Regulatory Commission
888 First Street
Washington, DC

P-4914-022

Re: De Pere Hydroelectric Project, FERC Project No. 4914, Nuisance Plant Control

Dear Secretary Salas:

Article 406 of the license issued for the De Pere Hydroelectric Project on March 10, 2005 requires the Licensee to prepare a Nuisance Plant Control. Specifically this article requires the following:

*Article 406. Nuisance Plant Control Plan. Within 12 months of the issuance date of the license, the licensee shall file for Commission approval a final Nuisance Plant Control Plan (NPCP) for the De Pere Project to monitor purple loosestrife (Lythrum salicaria) and Eurasian water milfoil (Myriophyllum spicatum) in project waters. The nuisance plant control plan shall be prepared in consultation with the Wisconsin Department of Natural Resources (WDNR) and the U.S. Fish and Wildlife Service (FWS).*

*The Nuisance Plant Control Plan Shall include, but not be limited to:*

*(a) a description of the method of monitoring;*

*(b) a description of the frequency of monitoring;*

*(c) a description of the specific measures that the licensee will take (e.g., informational signage) to increase public awareness of how Eurasian water milfoil is spread and measures the public can take to prevent the spread of this species;*

*(d) a description of procedures that would be used for obtaining technical assistance and input from the WDNR and FWS; and*

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*(e) a schedule for providing the monitoring results to the WDNR and FWS.*

*If at any time during the term of license, the WDNR and the FWS deem it necessary to control or eliminate purple loosestrife or Eurasian water milfoil, and the Commission agrees with that determination, the Commission may require the licensee to control/eliminate purple loosestrife or Eurasian water milfoil if there is a biologically safe method of control available.*

*The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the WDNR and the FWS, and specific descriptions of how the agencies' comments and recommendations are accommodated by the plan. The licensee shall allow 30 days for the agencies to comment and make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information. The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.*

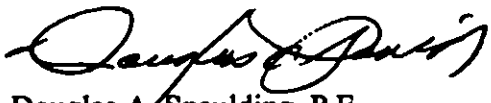
Thilmany Paper, the Licensee, requested NES Ecological Services to prepare this plan. The draft plan was then circulated to the U.S. Fish and Wildlife Service and to the Wisconsin Department of Natural Resources. Copies of the submittal letter (Enclosure No.1) are attached. This letter requested that any comments be provided on or before October 1, 2006. The only comment received was from Ms. Louise Clemency of the U.S. Fish and Wildlife Service. This comment was emailed to Spaulding Consultants on October 2, 2006. A copy of this email is included as Enclosure No. 2. Ms. Clemency's letter requests that the plan be updated to include the results of the surveys of nuisance plants that were scheduled to be conducted in July and August of 2006. Since the plan was not submitted nor approved in the summer of 2006 the initial surveys were delayed. Pending the approval of this nuisance plant control plan these surveys will be conducted in July and August 2007. Results will be provided to the U.S. Fish and Wildlife Service and the Wisconsin DNR at that time. In addition Ms. Clemency's letter requests a description of the control methods proposed to treat the aquatic invasive plants. These methods were not included in the plan since the license Article 406 did not require development of specific methodology to control nuisance plants.

No comments were received from the Wisconsin Department of Natural Resources. Enclosed please find an original and eight (8) copies of the plan in

addition to the original and eight (8) copies of the supporting correspondence. If there are any questions please contact me at 952-544-8133.

Sincerely,

SPAULDING CONSULTANTS, LLC



Douglas A. Spaulding, P.E.

Enclosures

Cc: Mr. Thomas Piette, Thilmany Paper

**ENCLOSURE NO.1**

# SPAULDING CONSULTANTS, LLC

June 11, 2006

Ms. Louise Clemency
U.S. Fish & Wildlife Service
Green Bay ES Field Office
2661 Scott Tower Drive
New Franken, WI 54229

Mr. Robert Martini Natural Resources
107 Sutliff Avenue
Rhinelander, WI 54501

Re: De Pere Hydroelectric Project, FERC Project No. 4914, Bald Eagle Management and Protection Plan

Dear Ms. Clemency/ Mr. Martini:

Article 205 of the Federal Energy Commission (FERC) license for the De Pere Hydroelectric Project, issued March 10, 2005, requires Thilmany LLC (Thilmany) to develop a Monitoring and Protection plan for Bald Eagles. The license article also requires that Thilmany solicit agency comments and recommendations on the draft plan, allow a 30-day comment period, and revise the plan in a manner that accommodates agency comments and recommendations. If Thilmany chooses not to adopt a recommendation they must provide project specific information to justify that decision.

Enclosed is a copy of Thilmany's draft Bald Eagle Management and Protection plan. Please review this plan and provide us with your comments and recommendations on or before the close of business on July 15, 2006. If there are any questions please contact me at 952-544-8133.

Sincerely,

SPAULDING CONSULTANTS, LLC

Douglas A. Spaulding, P.E.

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**ENCLOSURE NO.2**

**Douglas Spaulding**

**From:** Louise_Clemency@fws.gov
**Sent:** Monday, October 02, 2006 5:01 PM
**To:** doug@spauldingconsultants.com
**Cc:** Piette, Tom
**Subject:** Comments on Nuisance Plant Control Plan (FERC 4914)

Mr. Spaulding,

We have reviewed the Nuisance Plant Control Plan for the De Pere Hydroelectric Project (FERC 4914), submitted by Spaulding Consultants, LLC on behalf of Thilmany LLC. The plan describes expected baseline surveys to be conducted in July and August of 2006. Since it is already October 2006, the plan should be updated to include the results of those surveys.
In addition, the plan does not include a description of the control methods proposed to treat the aquatic invasive plants; those control methods and their schedule of implementation should be included in the plan.

If you have questions please contact me at the phone number below.

Thank you,

Louise Clemency
Field Supervisor
U.S. Fish and Wildlife Service
Green Bay Ecological Services Office
2661 Scott Tower Drive
New Franken, Wisconsin 54229-9565
920-866-1725
920-866-1710 Fax

P-4914-022

ORIGINAL

# NICOLET MILL HYDROELECTRIC DAM FERC RELICENSURE PROJECT

FERC PROJECT 4914-WISCONSIN

# INVASIVE SPECIES MANAGEMENT PLAN

*Prepared for*

## Thilmany, LLC

October 2006



**NES Ecological Services**
**A Division of Robert E. Lee & Associates, Inc.**
Green Bay Office: 4664 Golden Pond Park Ct., Oneida, WI, 54155 Voice: 920-499-5789 Fax: 920-662-9141 www.releeinc.com/NES

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## Figures

# 1.0 PURPOSE

The purpose of this management plan is to develop a strategy for Thilmany, LLC that will be used to monitor the status of aquatic invasive plants that occur in the project area associated with the FERC hydroelectric project (FERC Project 4914) at Thilmany's Nicolet Mill, located on the Fox River in the City of DePere, Brown County, Wisconsin (Figure 1). Guidelines suggested by the Wisconsin Department of Natural Resources (WDNR) and the U.S. Fish and Wildlife Service (USFWS) have been adopted to establish the methods discussed in the plan. Species taken under consideration in this plan include purple loosestrife (*Lythrum salicaria*), curly-leaf pondweed (*Potamogeton crispus*), giant reed grass (*Phragmites australis*), and Eurasian water milfoil (*Myriophylum spicatum*).

# 2.0 BACKGROUND

## 2.1 Purple Loosestrife

Purple loosestrife originated in Europe and temperate regions of Asia (Borman et al. 1997) and was first documented in the eastern United States in 1814 (Galatowitsch et al. 1999) and Wisconsin in the early 1930's (WDNR 2006). It is believed that populations of the plant first became established in estuarine mud flats along the Atlantic Ocean where ship ballasts from Europe, that contained purple loosestrife seed, was deposited (Galatowitsch et al. 1999). Additional spread of the plant occurred via escaped ornamental populations. Currently, purple loosestrife can be found across the north half of the continental United States and in 70 of Wisconsin's 72 counties (WDNR 2006). Purple loosestrife often out-competes native emergent wetland vegetation, allowing it to form monotypic stands that reduce the diversity of wetland plants and animals (WDNR 2006).

## 2.2 Eurasian Water milfoil

Eurasian water milfoil (EWM) was first introduced to North America in the 1880's (Galatowitsch et al. 1999) and to Wisconsin in the 1960's (WDNR 2006). As of 2004, EWM was present in at least 62 Wisconsin counties (WDNR 2006). As indicated by its name, EWM originated in Europe and Asia (Borman et al. 1997), and spread to North America through the practice of emptying ship ballasts that carried fragments of this invasive macrophyte (Galatowitsch et al. 1999). Once established in a community, EWM often forms dense stands that shade out native aquatic plants and potentially disrupts recreational opportunities such as boating and swimming (WDNR 2006).

## 2.3 Giant Reed Grass

The origin of giant reed grass is not entirely clear, but it is considered native to Wisconsin (Wisconsin State Herbarium 2006). Although a native strain likely exists in Wisconsin, recent studies have indicated that an exotic strain, native to Eurasia, is rapidly spreading across North America (Saltonstall et al. 2004). This invasion is very extensive in the Green Bay and Door County areas, and there is a definite need for species control in these regions (Wisconsin Wetland Association 2006). Once established at a site, giant reed grass forms impenetrable stands that drastically reduce plant and animal diversity.

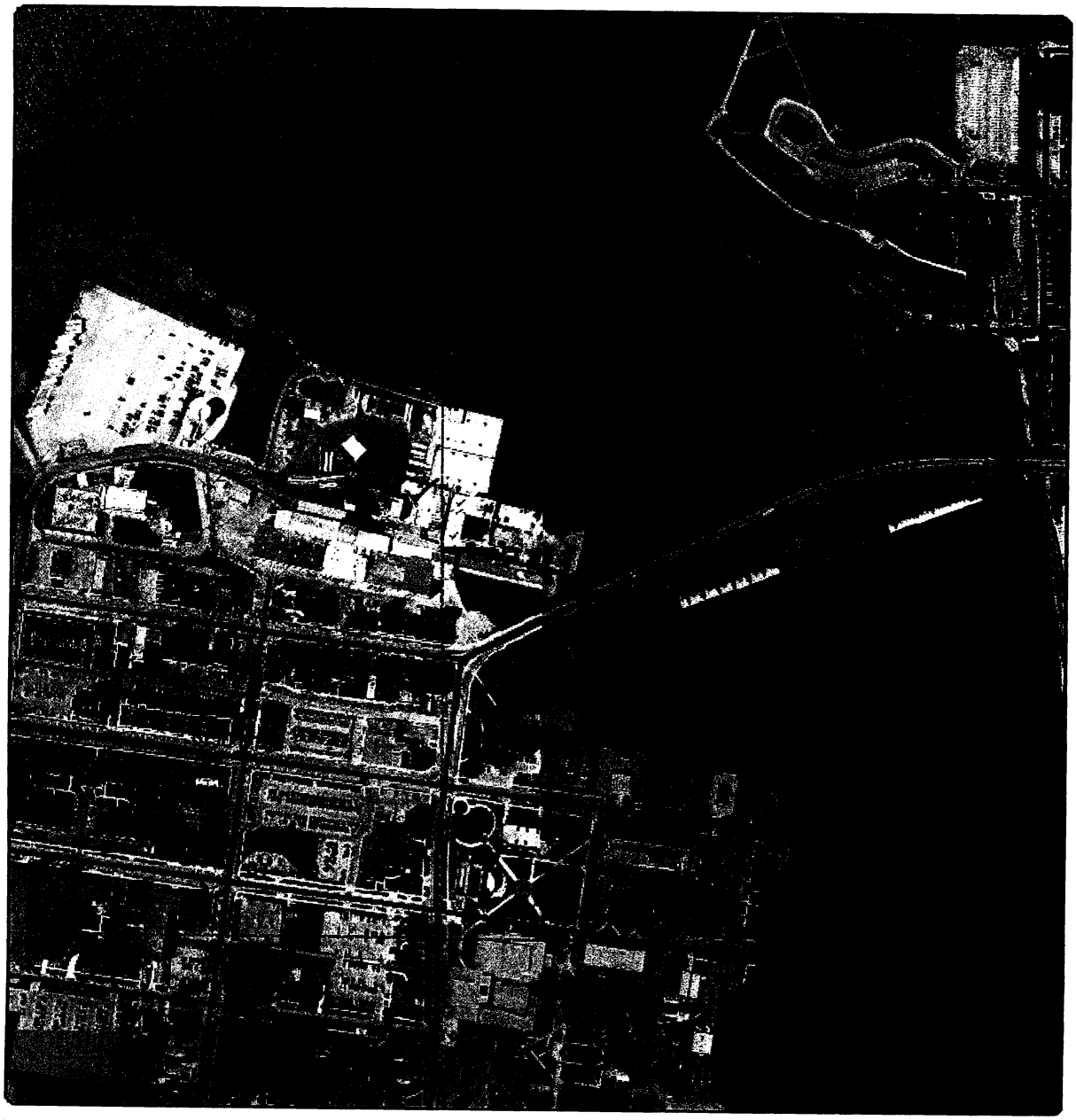

**Figure 1. Site Location. FERC Project 4914 - Wisconsin, DePere Hydroelectric Project.**

Located in the SE 1/4 Section 21 and the SW 1/4 Section 22, T23N, R20E, City of DePere, Brown County, WI.

Approximate Project Extents

N
W E
S

0 200 400 800 Feet

NES Ecological Services
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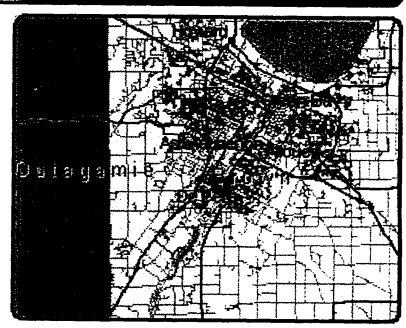
Map completed May 23, 2006




***Extent of large view shown in red.***

## 2.4 Curly-Leaf Pondweed

Curly-leaf pondweed is native to Eurasia and was first collected in Delaware during the mid-1800's, and in Wisconsin in 1905 (Borman et al. 1997). This submergent plant begins growing before most native species, sometimes before ice out, allowing it to reach maturity before other plant species. Because of its early growing season, curly-leaf pondweed is able to form dense stands that shade out native, submergent aquatic plants. Because curly-leaf pondweed can tolerate very turbid water (Borman et al. 1997), there is a possibility that it is found in the slower moving areas of the project waters.

# 3.0 BASELINE SURVEY

The extent of invasive aquatic species establishment within the project waters is unknown because a baseline survey that documents their presence or abundance has not yet been conducted within the project area. Because of the project's small size and limited scope, it is possible that some of the species listed above are not present within the project's associated waters; however, during a site visit conducted during late February 2006, NES staff observed giant reed grass growing along the project's shore. In order to accurately map the extent of giant reed grass and any of the other species of concern that may occur within the project waters, Thilmany will conduct a baseline survey during the 2006 growing season; however, if this plan is not accepted prior to May 1, 2006, a curly-leaf pondweed survey could not be conducted until June 2007.

# 4.0 METHODS

## 4.1 Eurasian Water Milfoil

Eurasian water milfoil is a submergent aquatic plant that prefers to grow in slow moving waters of ponds, lakes, flowages, and the backwaters of streams and rivers (Voss 1985, Chadde 2002). The waters involved with this FERC relicensing in which Eurasian water milfoil is likely to be found are restricted because the project is limited to an approximate 14 acre section located below the 400 feet of dam owned by Thilmany. A portion of these waters are fast moving and turbulent. These conditions are typically not conducive for Eurasian water milfoil establishment; therefore, it is likely that a large portion of the project waters will not support this invasive aquatic. Those areas of the project that have slow moving waters are likely to be extremely turbid. This turbidity reduces the depth at which sunlight can penetrate into the water, creating conditions that limit organisms which depend upon photosynthetic processes. Because Eurasian water milfoil depends on these processes, it is unlikely that it will be able to survive the turbid conditions found in the project waters.

Although it is most likely not present within the project area, Thilmany will conduct a survey in late July or early August to determine whether Eurasian water milfoil is found in the project waters by using a point intercept method routinely used by the WDNR (WDNR 2004). Once at the survey points, a combination of rake tows and diving will be used to search for EWM. If detected, the location of EWM colonies will be mapped and an estimate of its aerial coverage will be assigned. The location of the colony would then be displayed in a GIS format. It should be noted that

portions of the project area may be unsafe for conducting the plant survey. These areas would not be included in the baseline survey.

## 4.2 Curly-Leaf Pondweed

Because it begins growing prior to ice out, curly-leaf pondweed reaches maturity by early to mid June and dies back by mid July to early August, the time when most aquatic plants are just reaching maturity. Since it is at peak biomass production in early to mid June, the extent of curly-leaf pondweed would be most accurately documented if surveys were conducted during this time period. To this end, Thilmany will perform meander surveys during early to mid June in an effort to locate any curly-leaf pondweed that may exist within the project waters. This will be accomplished by navigating a boat through the project waters while scanning for colonies of curly-leaf pondweed. If a colony is found, its location will be mapped using a GPS unit and an estimate of its aerial coverage will be assigned. The location of the colony would then be displayed in a GIS format. As in the case of Eurasian water milfoil, those areas deemed unsafe will not be included in the baseline survey.

## 4.3 Others

Thilmany will determine whether exotic emergents such as giant reed grass and purple loosestrife are present by scanning the shoreline and shallow areas of the project waters during a meander survey conducted during late July or early August of 2006. If either of these species is detected, an estimate of their aerial coverage will be assigned and their locations will be mapped with GPS. The mapped locations would then be displayed in a GIS format. Those areas deemed unsafe will not be included in the baseline survey.

## 4.4 Schedule of Events

During the 2006 growing season, Thilmany will conduct a baseline survey using the methods mentioned above. A report documenting the findings of the survey would be submitted to the appropriate agencies within 6 months of completing the late July/early August survey. This process would be repeated every 3 to 5 years in order to track the invasive species that occur in the project waters.

Thilmany will work with the appropriate agency personnel to treat and control the spread of aquatic invasive plant species that may occur in the project area if their presence is such that it threatens the diversity of native plant and animal populations.

# 5.0 PUBLIC EDUCATION

Thilmany realizes the importance of controlling the spread of invasive species. To this end, Thilmany agrees to create laminated signage describing the history and background of the species listed in this plan. These signs, along with any additional posting requested by the WDNR or USFWS, will be placed and maintained at the public access point located directly east of the project waters during the summer of 2006.

## 6.0 CONCLUSIONS

This plan is designed to develop a strategy that will be used to monitor the status of aquatic invasive plants that occur in waters of the Fox River that are associated with the FERC hydroelectric project at the Thilmany Dam. At this point, the plan focuses on monitoring Eurasian water milfoil, giant reed grass, curly-leaf pondweed, and purple loosestrife; however, if other species are detected their presence and location will be documented. Thilmany realizes the importance of monitoring invasive species and hopes to keep the establishment of these species to a minimum in the project waters through the implementation of this plan.

## 7.0 REFERENCES

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Saltonstall, K., P. M. Peterson & R. J. Soreng. 2004. Recognition of *Phragmites australis* (Poaceae: Arundinoideae) in North America: evidence from morphological and genetic analysis. *Sida* 21(2): 683-692.

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Voss, E. G. 1972. Michigan Flora – Part 1, Gymnosperms and Monocots. Cranbrook Institute of Science, Bloomfield Hills, Michigan.

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