



September 21, 2005

FILED
OFFICE OF THE
SECRETARY

The Secretary
Federal Energy Regulatory Commission
Mail Code: DHAC, PJ-12.1
888 First Street, N.E.
Washington, D.C. 20426

2005 SEP 26 P 3 56

FEDERAL ENERGY
REGULATORY COMMISSION

Re: Grandmother Falls Hydroelectric Project, FERC License No. 2180 - Reservoir Drawdown Plan

Dear Secretary:

Articles 406 and 407 of FERC License No. 2180 mandate that PCA Hydro (PCA) prepare plans, after consultation with the Wisconsin Department of Natural Resources (WDNR) and U.S. Fish and Wildlife Service (FWS), to manage and protect endangered and threatened species and monitor invasive species, respectively, at the hydroelectric project associated with Grandmother Dam.

Article 406 of the FERC license requires that the endangered species plan include measures to protect threatened and endangered species (i.e., bald eagle, gray wolf) at the project, as well as other wildlife of concern (i.e., osprey, wood turtle). The plan is to include, at a minimum, the measures included in the bald eagle management plan proposed by PCA in its license application, as well as a provision for annual consultation with the resource agencies to allow for periodic management plan updates and to obtain agency input regarding proposed management decisions. Finally, the plan shall also include, at a minimum, the following:

- Agency-recommended measures to protect threatened and endangered species and their habitat at the project;
- Procedures for obtaining and documenting up-to-date bald eagle nesting activity and the presence of gray wolves on an annual basis, and for maintaining the information on project maps for use when planning land-disturbing activities such as vegetation control or recreation facility development; and
- Licensee consultation with WDNR and FWS prior to conducting land-disturbing activities that could affect any of the threatened and endangered species using project land.

Article 407 of the FERC license requires that the plan to monitor purple loosestrife (*Lythrum salicaria*) and Eurasian milfoil (*Myriophyllum spicatum*) include the following:

- A description of the monitoring method;
- Frequency of monitoring;
- A schedule for filing monitoring reports with WDNR, FWS and FERC; and
- A description of, and implementation schedule for, providing public information about both species.

Both management plans are required to include documentation of agency consultation, including copies of agency comments and recommendations on the draft plan, and specific descriptions of how the agencies' comments are accommodated by the plan. Agencies were allowed 30 days to review the proposed plan and to comment and make recommendations prior to this filing with the Commission.

The plans were submitted to both WDNR and FWS in correspondence dated 18 August 2005 (cover letter enclosed). FWS did not supply PCA with any comments on either plan. WDNR did not have any comment on the endangered / threatened species plan, however, Mr. Robert Martini, WDNR, contacted PCA by phone on 19 September 2005 and suggested that, with respect to the invasive species management plan, small clusters of purple loosestrife (e.g., 2-3 plants) be removed manually during the annual surveys to inhibit the spread of the noxious plant.

PCA retained NES Ecological Services to develop the wildlife management and invasive species monitoring plans; copies are enclosed for your review.

Sincerely,



John Piotrowski
Sr. Environmental Engineer

Enclosures

cc: Gene Foster
Bruce Ridley (letter only)
John Stelling
Mr. Robert Martini – WDNR Rhinelander
File 10400
File 10450

August 18, 2005

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Biologist
U.S. Fish & Wildlife Service
2661 Scott Tower Drive
New Franken, WI 54229

2005 SEP 26 P 3 56

FEDERAL ENERGY
REGULATORY COMMISSION

Mr. Robert Martini
WDNR
107 Sutliff Avenue
Rhineland, WI 54501

**Re: Grandmother Falls Hydroelectric Project, FERC License No. 2180 - Draft
Wildlife Management & Invasive Species Management Plans**

Dear Agency Representative:

Articles 407 and 40⁶ of FERC License No. 2180 mandate that PCA Hydro (PCA) prepare plans, after consultation with the Wisconsin Department of Natural Resources and U.S. Fish and Wildlife Service, to manage and protect wildlife and monitor invasive species, respectively, at the hydroelectric project associated with Grandmother Dam.

PCA retained NES Ecological Services to develop draft wildlife management and invasive species monitoring plans; copies are enclosed for your review.

Please provide us with your comments and recommendations by the close of business 20 September 2005.

Sincerely,

John Piotrowski
Sr. Environmental Engineer

Enclosures

cc: Gene Foster
Bruce Ridley (letter only)
John Stelling
File 10400
File 10450

GRANDMOTHER FALLS HYDROELECTRIC DAM FERC RELICENSURE PROJECT

FERC PROJECT 2180-WISCONSIN

INVASIVE SPECIES MANAGEMENT PLAN



Prepared for

PCA Hydro, Inc.

July, 2005



NES Ecological Services

A Division of Robert E. Lee & Associates, Inc.

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1.0 PURPOSE

The purpose of this management plan is to develop a strategy for PCA Hydro, Inc., a wholly owned subsidiary of Packaging Corporation of America (PCA), that will be used to monitor the status of aquatic invasive plants that occur in project waters of the Wisconsin River and its tributaries associated with the FERC hydroelectric project at Grandmother Falls located in Lincoln County, WI (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 as well as the species discussed in the plan. Species taken under consideration in this plan include purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), giant reed grass (*Phragmites australis*), curly-leaf pondweed (*Potamogeton crispus*), and Eurasian water milfoil (*Myriophyllum 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 2005). It is believed that populations of the plant first became established in estuarine mud flats along the Atlantic Ocean, where ship ballast 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 2005).

Purple loosestrife often outcompetes native emergent wetland vegetation, allowing it to form monotypic stands that reduce the diversity of wetland plants and animals (WDNR 2005), and is becoming abundant in the project area (Herman 2005).

2.2 Reed Canary Grass

The origin of reed canary grass is not entirely clear, with some experts believing that a native strain existed in the USA at one time, while others believe that the plant is an introduced exotic from Europe (Galatowitsch et al. 1999). In Wisconsin, the plant is considered an exotic species (Wisconsin State Herbarium 2005). Like purple loosestrife, reed canary grass often outcompetes native wetland vegetation, allowing it to form monotypic stands that reduces the diversity of wetland communities (WDNR 2005).

2.3 Giant Reed Grass

Like reed canary grass, the origin of giant reed grass is not entirely clear, but is considered native to Wisconsin (Wisconsin State Herbarium 2005). Once established at a site, giant reed grass forms impenetrable stands that drastically reduces plant and animal diversity.

2.4 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 2005). As of 2004, EWM was present in at least 62 Wisconsin counties (WDNR 2005). As indicated by its name, EWM originated in Europe and

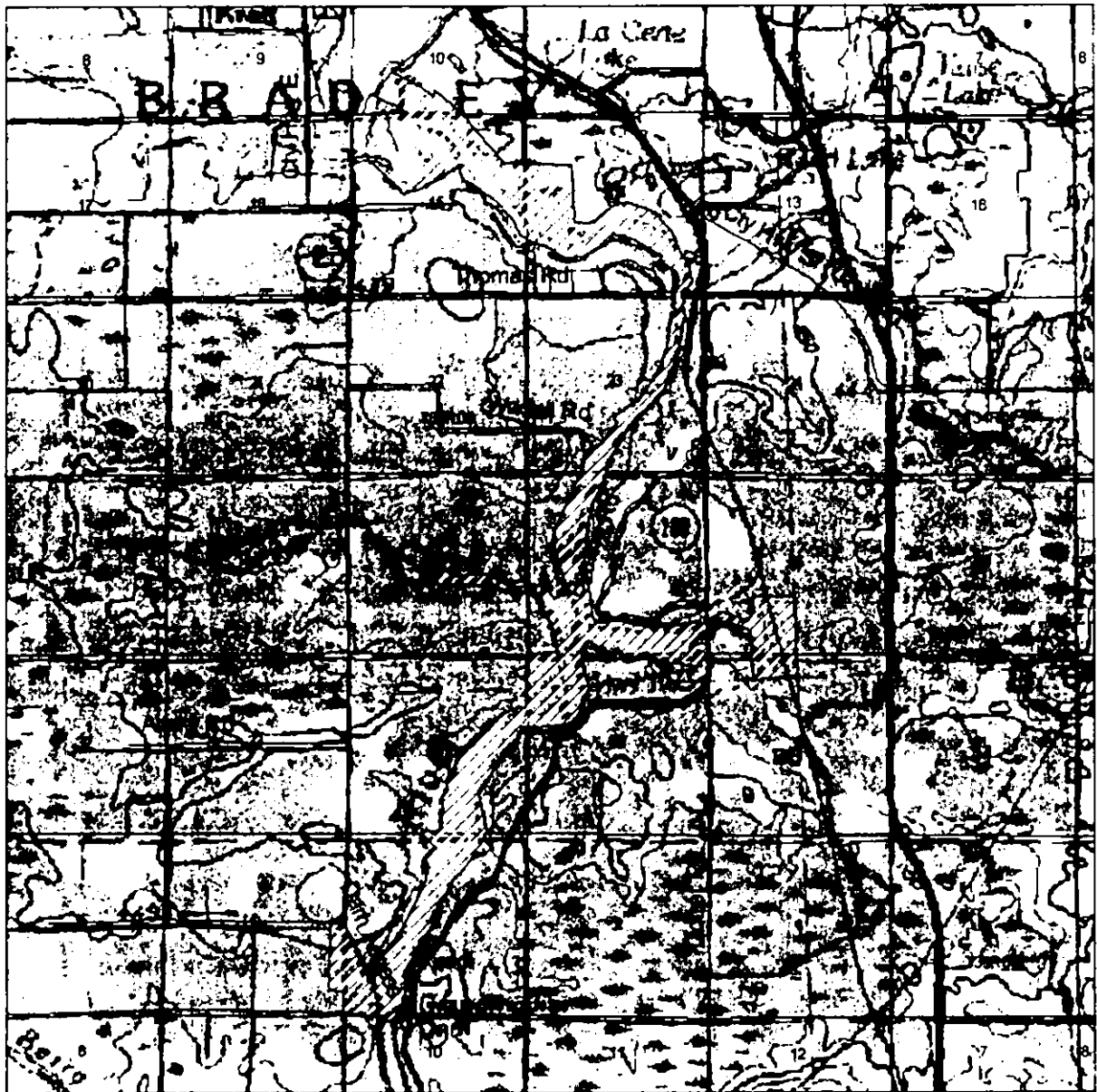


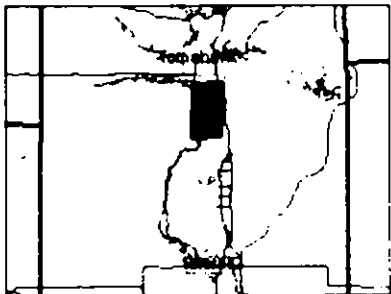
Figure 1. Map displaying the area associated with the project waters of FERC Project 2180-Wisconsin, located in Lincoln County, WI.

 Area associated with project waters



Map completed June 27, 2005

Not to scale



Approximate project area shown in red

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 2005). EWM is present in Lake Mohawksin, located just upstream of the project area (Herman 2005), and therefore has a high potential of being found within the project waters.

2.5 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. According to Laura Herman (2005) of the WDNR, curly-leaf pondweed is found in the area, and there is a high potential that it is present within the project waters.

3.0 BASELINE SURVEY

A comprehensive aquatic vegetation survey was conducted within the project waters from July 19 to 21, 2000, in which two of the invasive species of concern were observed. Reed canary grass was found at 4 out of 45 plots, while purple loosestrife was found at 2 of the 45 plots, indicating that neither of these plants was a dominant component of the aquatic community at the time this survey was conducted. Although a comprehensive survey was conducted in 2000, the exact location of these invasive species were not recorded; therefore it cannot be used to monitor any population changes these species may undergo in the project waters.

PCA will conduct a baseline survey documenting the presence and location of any exotic invasives that may be observed within the project waters during the 2006 growing season, so their prevalence can be tracked over time.

4.0 METHODS

4.1 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, PCA 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 throughout the project area and scanning the water 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.

4.2 Eurasian Water Milfoil

PCA will perform point intercept surveys in late July or early August within the project waters to detect the presence of Eurasian water milfoil using guidelines recommended 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.

4.3 Others

PCA will determine whether exotic emergents such as giant reed grass, reed canary 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. If any of these species are detected, their locations will be mapped using a GPS unit and an estimate of their aerial coverage will be assigned. The mapped locations would then be displayed in a GIS format.

4.4 Schedule of Events

During the 2006 growing season, PCA 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.

PCA 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

PCA realizes the importance of controlling the spread of invasive species. To this end, PCA 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 seven public access points to the project waters that are independently or jointly managed by PCA. Posting of the signage will occur 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 Wisconsin River and its tributaries that are associated with the FERC hydroelectric project at Grandmother Falls. At this point, the plan focuses on monitoring Eurasian water milfoil, curly-leaf pondweed, giant reed grass, reed canary grass, and purple loosestrife that occur in the project waters; however, if other species are detected, their presence and location will be documented. PCA 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.

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GRANDMOTHER FALLS HYDROELECTRIC DAM FERC RELICENSURE PROJECT

FERC PROJECT 2180-WISCONSIN

THREATENED AND ENDANGERED SPECIES MANAGEMENT PLAN



Prepared for
PCA Hydro, Inc.

July, 2005

 **NES Ecological Services**
A Division of Robert E. Lee & Associates, Inc.

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1.0 PURPOSE

The purpose of this management plan is to protect critical habitats, vital for the perpetuation of threatened and endangered wildlife populations, from anthropogenic disturbances on PCA Hydro, Inc., a wholly owned subsidiary of Packaging Corporation of America (PCA), parcels located adjacent to the Wisconsin River and its tributaries, in Lincoln County, Wisconsin. 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 criteria needed to conserve these habitats. Species taken under consideration in this plan include bald eagle (*Haliaeetus leucocephalus*), osprey (*Pandion haliaetus*), gray wolf (*Canis lupus*), and wood turtle (*Clemmys insculpta*). In addition to these species, a Natural Heritage Inventory conducted by the WDNR indicates that spotted pondweed (*Potamogeton pulcher*), a plant listed as endangered in Wisconsin, and several wildlife species listed as species of special concern occur in or nearby the project area.

2.0 BACKGROUND

2.1 Bald Eagle

The bald eagle is the largest bird of prey found in Wisconsin and is federally threatened. Heavy pesticide use in the 1950's and 60's, loss of habitat, and illegal killing of the eagle greatly decimated their population. Pesticide bans in the 1970's positively impacted the bird's population, and illegal killing of the eagle has largely been resolved through public education. The largest factor impacting bald eagle populations today is the loss of habitat essential to the bird's daily activities, including breeding. Conservation and wise management practices on public and private lands are necessary to protect the bird's habitat.

According to Eckstein et al. (2004), Wisconsin had approximately 880 active eagle nests in 2003, 23 of which were found in Lincoln County. Aerial surveys conducted by the WDNR in the spring of 2005 indicate there are 3 active nests and 2 inactive nests* located along the project area (Eckstein 2005), which encompasses that stretch of the Spirit River downstream of Spirit River Flowage to the Wisconsin River, and the Wisconsin River downstream of Lake Mohawksin to the Grandmother Falls Dam (Figure 1). Two of the active nests and 1 of the inactive nests are located on or near PCA land holdings.

2.2 Osprey

Although ospreys were never numerous in Wisconsin, they were historically found throughout the state nesting along lakes and rivers. Much like the bald eagle, osprey populations declined due to heavy pesticide use in the 1950's and 60's, and habitat destruction. Pesticide bans in the 1970's have resulted in a gradual population increase, but habitat destruction continues to influence the reproductive success of ospreys in Wisconsin.

Eckstein et al. (2004) reported that 405 active osprey nests could be found in Wisconsin, with Lincoln County home to 16 of them. Aerial surveys conducted by the WDNR in the spring of 2005 indicate that there is 1 active and 2 inactive nests* located along the project area (Eckstein 2005) (Figure 1), none of which are located on PCA land holdings.

***Please note that the exact location of eagle and osprey nests has been provided on Figure 1 for use by PCA for management purposes; however, these data are sensitive and should not be released in any publicly disseminated documents, as requested by the WDNR Bureau of Endangered Resources.**

2.3 Gray Wolf

In pre-settlement times wolves were found throughout Wisconsin, with an estimated population of 3,000-5,000 (WDNR 1999). Because of the perception as being a danger to livestock, the state issued a bounty on wolves in 1865. Less than 100 years later (1960), the wolf was considered extirpated in Wisconsin (WDNR 1999). In 1973 wolves came under the jurisdiction of the Endangered Species Act, protecting the wolf population in neighboring Minnesota. Wolves originally returned to Wisconsin in the winter of 1974-75 when some individuals from a Minnesota pack migrated into Wisconsin. Since this time, the state's wolf numbers have rebounded to approximately 400 individuals (Wydeven et al. 2004).

The state downgraded the wolf from its threatened status to that of a protected species on August 1, 2004. Although no longer listed a threatened or endangered species by the state, the wolf is still classified as a federally endangered species. The greatest threat to wolves today is the fragmentation of habitat by development and roads. As of 2004, 4 wolf packs had established territories in Lincoln County (Wydeven et al. 2004). One of these packs has a known home range that comes within approximately ¼ mile of PCA land found along Bauer Creek (Figure 1), making it likely that gray wolves occasionally use resources found on PCA lands.

2.4 Wood Turtle

Once found statewide, the wood turtle is now only found in scattered areas throughout Wisconsin. The taking of wood turtles for resale in biological supply houses, traffic caused deaths, habitat destruction, and water quality degradation have led to drastic reductions in the number of wood turtles found in Wisconsin. The wood turtle has been a threatened species in Wisconsin since 1975.

Wood turtles tend to use forested areas associated with rivers and streams. For this reason, a large amount of wood turtle habitat is believed to currently exist on the paper company's land holdings along the Wisconsin River and its tributaries.

3.0 ENDANGERED AND THREATENED SPECIES PLAN

3.1 Bald Eagle

Bald eagles are sensitive birds that can be disturbed very easily during certain periods of the breeding season including nest building, egg incubation and young rearing. Human activities that create a disturbance for the birds may cause them to abandon a nest and evacuate an area. To prevent this from happening, the WDNR (Eckstein 1997) and the USFWS (Grier et al. 1983) recommend establishing a buffer zone around active and inactive nesting sites. The buffer zone should contain three levels of protection which limit various activities at certain times of the year around the nesting sites. The buffer zone is graphically shown in Figure 2, followed by a description of the guidelines for each level.

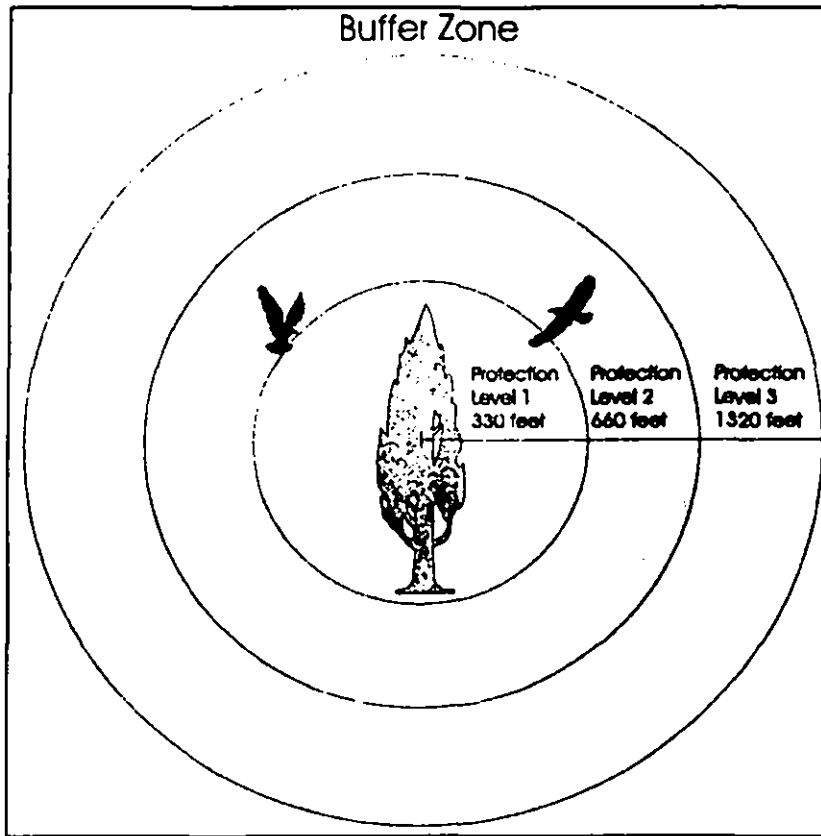


Figure 2. Buffer Zone and Protection Levels for Bald Eagle Nesting Sites

Protection Level 1

This level should extend to a minimum of 330 feet from the nest site. Human encounters can be highly disruptive to nesting eagles within this level.

- A. Habitat alterations and destruction such as timber cutting, land clearing, and road construction should be prevented.
- B. Human activities and access not beneficial to eagles should not be permitted at any time.

Protection Level 2

This level should extend to a minimum of 660 feet from the nest site. Eagles may still be agitated in this zone, but reduced human activity will decrease disturbance and possible abandonment of the nest.

- A. Habitat alterations and human activity should be kept to a minimum during all times of the year with no activity taking place during the breeding season.
- B. Human activities such as timber cutting, hunting and recreation may occur, but they should take place during the non-breeding period of the bald eagle (mid August ~ mid February) to help minimize impacts.

- C. Highly disruptive activities should not take place without prior consultation with a wildlife manager.

Protection Level 3

The last level should extend to a minimum of 1,320 feet from the nest site. If activities within this zone are within sight of nesting bald eagles, the level should be extended up to one half mile from the nest to reduce visibility and contact.

- A. Destruction and alteration of essential habitat components such as feeding and roosting trees (i.e. supercanopy trees) and possible future nesting sites should not be permitted.
- B. Human activities and access may take place except during nest building, incubation, and small young periods (mid February – mid July) when the eagles are most sensitive to disturbance.
- C. Highly disruptive activities should not take place without prior consultation with a wildlife manager.

PCA will adopt the above buffer zone and protection levels as the minimum criteria for both the active and inactive eagle nest located on their lands (Figure 1).

Protection of the nest sites is only part of the management needed to protect the bald eagle. According to Grier et.al. (1983), "the conservation and management of nesting habitat is far more important than the identification and preservation of specific nest sites or even breeding areas". A majority of eagle pairs utilize a specific nest for many years; however, they regularly establish new nesting sites within their territory for various reasons. The mobility of eagles allows them to re-establish new nesting sites within an area if suitable habitat is present. For this reason, Grier et.al. (1983) recommend the conservation and management of all suitable nesting habitat within an eagle's territory. Components of suitable nesting habitat are listed below.

- Three or more supercanopy trees that are dead, have dead tops or are sparsely vegetated to provide perching, roosting, or potential future nesting sites.
- Two or three super-canopy trees that have a river or lake within a ¼ mile of the area for feeding. The trees should also have direct flight accessibility from the water and they should be taller than the surrounding trees.
- An abundance of trees with diameters greater than 12 inches at breast height along the water source for perching and feeding.

Conservation and management of habitats containing the above components are essential for the survival of the bald eagle. PCA has six parcels of land totaling approximately 289 acres located along the Wisconsin River and its tributaries (Figure 1). The majority of these lands are forested; however, a large portion of these forested lands are dominated by deciduous trees, and most likely are not suitable as eagle nesting sites. Although the majority of PCA lands may not be used for nesting, their proximity to the river provides essential perching areas. Because these areas are

important to bald eagles, buffer strips of undisturbed habitat, approximately 100 feet in width, will be left along all shorelines.

PCA land holdings that have the greatest potential as future eagle nesting sites include parcels 1, 2, 3, and 6. The areas within these parcels that have the greatest potential as future eagle nesting sites will be identified and protected prior to any activities that may degrade future nesting activity. PCA will conserve and manage all their parcels to benefit the bald eagle through the following actions: Critical supercanopy trees found within these areas will not be altered or destroyed; any disturbance created by company activities will be minimal, especially in the vicinity of suspected eagle activity, and will occur during the time of year when eagles are not likely to be present; and a buffer zone will be established if new nests are found in these areas. The paper company also agrees to cooperate with any agency wishing to conduct bald eagle nest surveys on their land holdings along the Wisconsin River and its tributaries.

3.2 Osprey

The habitat requirements for the osprey are very similar to those for bald eagles. This species nests in live or dead trees that are 10-60 feet tall and occur next to areas of open water that offer feeding opportunities (Ehrlich et al. 1988). The state and federal governments have developed comprehensive osprey management plans similar those developed for bald eagles (Gieck, 1986b and Zarn 1974). These guidelines include 1) preserving snags with broken tops and live trees at least 45 feet tall for nest sites, 2) maintaining a 210 foot wide zone of no timber harvest around osprey nests, 3) construction of artificial nesting platforms in areas with adequate fish supplies but limited nest sites, and 4) restricted human activity during the breeding season within 600 feet of known osprey nesting sites.

Although no osprey are currently nesting on their land holdings, PCA will carry out the recommended guidelines to ensure that future and potential osprey nesting sites that occur within the project area are protected.

3.3 Gray Wolf

The primary goal of PCA will be to manage their lands for bald eagle and osprey. Unlike these two species, the gray wolf can readily adapt to utilize a variety of habitats so long as human disturbances, such as road building and forest clearing, are kept to a minimum. The paper company believes that managing their land holdings for both osprey and bald eagles will provide the type of habitat required for gray wolves. If the involved agencies have additional concerns regarding gray wolf habitat management, the paper company suggests a cooperative management effort take place between the agency and PCA.

3.4 Wood Turtle

A large amount of suitable wood turtle habitat is believed to currently exist on PCA land holdings along the Wisconsin River and its tributaries. PCA will maintain its land holdings adjacent to the flowage in a forested state. By leaving these areas in a forested condition, the wood turtle will be protected from bank erosion, an action that can destroy turtle nests. To further reduce impacts, forestry practices conducted within suitable wood turtle habitat would occur during hibernation, which is typically mid-October through mid April. In addition, PCA will not drastically lower the

and hopes to protect the habitats of threatened and endangered species occurring on their land holdings through cooperation with the proper agencies and the implementation of this plan.

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