

MASTER PLAN



# PESHTIGO RIVER

## STATE FOREST MASTER PLAN



SEPTEMBER 2007





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# PESHTIGO RIVER STATE FOREST

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SEPTEMBER 2007**



## PESHTIGO RIVER STATE FOREST

### ACKNOWLEDGEMENTS

Many individuals from the Department of Natural Resources have developed this plan through an integrated planning process. Through their hard work and expertise, these people have developed a plan that will guide the Peshtigo River State Forest into the future.

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# PESHTIGO RIVER STATE FOREST

## TABLE OF CONTENTS

<b>Chapter 1: Introduction and Plan Overview.....</b>	<b>1</b>
Executive Summary.....	1
Overview of the Plan Components .....	1
Purpose of the Master Plan.....	4
Overview of the Planning Process .....	4
Purpose of State Forests.....	5
<b>Chapter 2: Management and Development.....</b>	<b>7</b>
Vision Statement and Property Goals.....	7
Overview of the Forest.....	8
General Land and Forest Management Provisions.....	9
Land Management Areas .....	15
Forest Production Management Areas .....	18
Area 1: Peshtigo River Flowages .....	20
Area 2: Fly Fishing Area .....	24
Area 3: Potato Rapids Flowage.....	28
Native Community Management Areas .....	32
Area 4: Lake Lackawanna and Cedars .....	34
Area 5: Caldron Falls .....	38
Area 6: High Falls North.....	42
Area 7: Johnson Falls.....	46
Area 8: Kirby Lake Hardwoods.....	50
Overlay Zone .....	53
Wildlife Management .....	55
Fisheries Management.....	57
Recreation Management.....	60
Camping.....	61
Day-Use Areas.....	62
Boat Landings.....	63
Non-Motorized Trails.....	65
Motorized Trails .....	66
Road Management Plan .....	69
Non-Metallic Mining .....	71
Real Estate Acquisition Policies.....	72
Administration and Operations .....	74
Public Communication Plan .....	76

# PESHTIGO RIVER STATE FOREST

<b>Chapter 3: Background and Affected Environment .....</b>	<b>77</b>
Property Overview.....	77
Physical Environment .....	78
Water Resources and Aquatic Habitats.....	79
Upland and Lowland Vegetation and Natural Communities or Habitats .....	79
Wildlife Resources.....	82
Threatened, Endangered, and Special Concern Species and Habitats .....	82
Recreational Facilities and Use.....	85
Social/Cultural Resources .....	87
Analysis of the Region and Property .....	88
Regional Context .....	88
Land Ownership and Land-Use Patterns.....	88
Biological Resources and Ecological Need.....	89
Recreational Resources and Use .....	92
Cultural Resources .....	95
Socio-Economic Trends .....	95
Property Capabilities, Limitations, and Opportunities.....	98
Mandatory Management Requirements .....	98
Ecological Significance and Capability.....	99
Recreational Resources, Use, and Trends.....	101
Summary. ....	102
 <b>Chapter 4: Assessment of the Environmental Impacts of the Master Plan .....</b>	 <b>103</b>
 <b>Chapter 5: Alternatives and their Environmental Impacts .....</b>	 <b>119</b>
 <b>Chapter 6 : Summary of the Public Involvement Process and Comments Received .....</b>	 <b>123</b>
 <b>Appendix .....</b>	 <b>129</b>
Appendix A: State Natural Areas (SNAs) .....	130
Appendix B: Scientific & Common Names Used in the Master Plan and EA.....	131
Appendix C: Species of Special Concern, Wisconsin State Threatened and Wisconsin State Endangered Species within the PRSF .....	133
Appendix D: Glossary of Terms .....	135
Appendix E: References .....	136
Appendix F: Guidance for All-Terrain Vehicle Use on Department Lands.....	137

# PESHTIGO RIVER STATE FOREST

## FIGURES

### Chapter 1

None

### Chapter 2

Figure 2.1: Cover Types of the Peshtigo River State Forest ..... 8

### Chapter 3

Figure 3.1: Land Cover of the Northeast Sands Ecological Landscape ..... 90

Figure 3.2: Population Density of Counties Surrounding the PRSF ..... 95

## TABLES

### Chapter 1

None

### Chapter 2

Table 2.1: Peshtigo River Flowages - Current and Future Land Cover ..... 22

Table 2.2: Fly Fishing Area - Current and Future Land Cover..... 26

Table 2.3: Potato Rapids - Current and Future Land Cover..... 30

Table 2.4: Lake Lackawanna and Cedars - Current and Future Land Cover..... 34

Table 2.5: Caldron Falls - Current and Future Land Cover..... 40

Table 2.6: High Falls North - Current and Future Land Cover ..... 44

Table 2.7: Johnson Falls - Current and Future Land Cover ..... 48

Table 2.8: Kirby Lake Hardwoods - Current and Future Land Cover..... 52

Table 2.9: Camping Opportunities ..... 61

Table 2.10: Day-Use Areas ..... 62

Table 2.11: Existing Boat Landings ..... 63

Table 2.12: Planned Boat Landing Developments ..... 64

Table 2.13: Trails ..... 67

### Chapter 3

Table 3.1: NHI Natural Community Types within the PRSF ..... 80

Table 3.2: NHI Working List of Plants in the PRSF and Surrounding Areas..... 81

Table 3.3: NHI Working List of Animals in the PRSF and Surrounding Areas..... 83

Table 3.4: Species of Greatest Conservation Need and the Associated Natural  
Communities in the Northeast Sands Ecological Landscape ..... 84

# PESHTIGO RIVER STATE FOREST

Table 3.5: Boat Landing Capacity and Amenities.....	85
Table 3.6: NHI Natural Community Types in Areas Adjacent to the PRSF.....	90
Table 3.7: Campsites within an Approximately 50 mile Radius of the PRSF.....	92
Table 3.8: Miles of Regional Snowmobile Trails by County.....	93
Table 3.9: Miles of All-Terrain Vehicle Trails by County.....	93
Table 3.10: Population Projections for the Upper Lake Michigan Coastal Region.....	96
Table 3.11: Seasonal Housing & Tourism in the Upper Lake Michigan Coastal Region.....	96
Table 3.12: Changes in Seasonal Housing Units in the Upper Lake Michigan Coastal Region, 1950-2000.....	97
Table 3.13: Natural Amenities, Recreation, and Population Change.....	98

## MAPS

### Chapter 1

None

### Chapter 2

Map 2.1: Land Management Areas.....	Appendix
Map 2.2: Forest Production Management Areas.....	19
Map 2.3: Area 1: Peshtigo River Flowages.....	21
Map 2.4: Area 2: Fly Fishing Area.....	25
Map 2.5: Area 3: Potato Rapids Flowage.....	29
Map 2.6: Native Community Management Areas.....	33
Map 2.7: Area 4: Lake Lackawanna and Cedars.....	35
Map 2.8: Area 5: Caldron Falls.....	39
Map 2.9: Area 6: High Falls North.....	43
Map 2.10: Area 7: Johnson Falls.....	47
Map 2.11: Area 8: Kirby Lake Hardwoods.....	51
Map 2.12: Current and Planned Recreation Facilities.....	Appendix
Map 2.13: Project Boundary and Acquisition Area.....	Appendix

### Chapter 3

None







# INTRODUCTION AND PLAN OVERVIEW

The Peshtigo River State Forest is located in northeastern Wisconsin in Marinette and Oconto counties. For outdoor enthusiasts, the Peshtigo River State Forest is a gem in the region, providing ample recreation opportunities, mature forestlands, and access to two of the largest flowages in the area as well as high-quality stretches of the Peshtigo River. Though the Peshtigo River State Forest is relatively new to the state system — it was established in 2001 — the traditional uses that have taken place there for decades provide a major destination to regional users and will continue to do so. The Forest provides abundant recreation opportunities that aim to strike a balance between the many types of public ownership in the region and the services in the immediate vicinity. The Forest also provides a wide range of forest products that support local and regional economies, as well as provide high-quality wildlife habitat and water quality. Users from across the state and region will be able to enjoy the Forest’s amenities for generations to come.

## OVERVIEW OF THE PLAN COMPONENTS

### Land Management Areas

The Peshtigo River State Forest has been divided into eight land management areas: three Forest Production Management Areas and five Native Community Management Areas. In addition to these land management areas, there is also a Shoreland Management Overlay Zone.

- Each management area describes a unique landscape or management focus that considers soils, topography, community type, and other factors which shape the management for each area.
- Each management area has specific short and long-term objectives that articulate the future desired condition based on the ecological capabilities of the area and other factors. Because forests and landscapes change slowly, actions taken (or not taken) over the next 15 years may require 50-100 years to affect the forest as a whole.

### Forest Production Management Areas

Area 1: Peshtigo River Flowages.....	5,324 acres
Area 2: Fly Fishing Area.....	1,825 acres
Area 3: Potato Rapids Flowage .....	771 acres

The general management objective for Forest Production Management Areas is the sustainable production of forest products. However, forest production areas meet a wide range of ecological and recreation objectives. In these cases, management practices are modified to be compatible with and support these multiple objectives.

### Native Community Management Areas

*Area 4: Lake Lackawanna and Cedars.....	358 acres
Area 5: Caldron Falls.....	223 acres
Area 6: High Falls North.....	101 acres
*Area 7: Johnson Falls .....	206 acres
*Area 8: Kirby Lake Hardwoods .....	158 acres

\*Designated State Natural Area

The primary management objective for Native Community Management Areas is the representation and perpetuation of native plant communities and other aspects of native biological diversity. Management activities are designed to achieve land management objectives through natural processes whenever possible. Only those areas of highest value for protection or community restoration were selected.

Three State Natural Areas have been designated on the Peshtigo River State Forest; Lake Lackawanna and Cedars, Johnson Falls, and Kirby Lake Hardwoods (637 acres in total).

- State Natural Areas are part of a statewide system of sites identified for the purposes of ecological research, education, and to assure the full range of ecological diversity for future generations.

**EXECUTIVE SUMMARY**

- State Natural Areas are unique because they can serve as stand alone properties or they can be designated on other properties, such as State Forests.

**Recreation**

The Peshtigo River State Forest Master Plan will maintain nearly all of the existing recreational amenities and opportunities that were available under Wisconsin Public Service Corporation management. It also provides for a number of amenity expansions or additions to help meet growing demand. The primary additions include an equestrian campground, more canoe and water-based campsites, the creation of designated day-use areas, several expanded boat landings, and more hiking, horseback riding and mountain biking trails. In addition, an increased emphasis will be put on self-guided interpretive trails to promote forestry awareness and natural history. These planned additions are all compatible with our property goals.

**Planned Recreation Facilities and Developments**

- 15 campsites will be added to the existing 16 at Old Veteran's Lake Campground. The existing sites will be redesigned, as needed, to meet the Department's rustic camping standards.
- One indoor group camp with electricity, water, and sleeping accommodations for up to 16 people is planned for the Seymour Rapids area.
- Nine new primitive water campsites will be built on Johnson Falls, High Falls and Caldron Falls flowages.
- An equestrian campground will be developed at a site west of High Falls Reservoir and east of Parkway Road where there is access to horse trails.
- Two new rustic day-use areas will be developed, and additional parking and amenities will be added at a number of the existing boat landings.
- Three new primitive hiking trails will be developed; one around Caldron Falls, one around High Falls, and one around the Potato Rapids Flowage.
- A new 15 to 20 mile-long mountain bike loop will be developed.
- 25 miles of designated equestrian trails originating from a trailhead near the planned equestrian campground.
- A cross country skiing connector trail will be developed between the Seymour Rapids and Spring Rapids trail systems.
- A new snowmobile trail link between the Boat Landing 2 area and Boat Landing 5 is supported in concept, however the details of its route must be agreed upon prior to implementation.

**All-Terrain Vehicles**

The Department supports the development and maintenance of All-Terrain Vehicle (ATV) riding opportunities on appropriate trails, particularly trails that contribute to regional trail networks. The use of ATVs on the Peshtigo River State Forest is autho-



**EXECUTIVE SUMMARY**

rized on trails designated for ATV use. ATVs are not allowed on lands, trails or roads not designated for their use.

The Department will maintain the 20 miles of existing winter-only ATV riding opportunities on existing snowmobile trails designated for ATV use. The winter ATV trails will open and close as determined by the open/close season for snowmobiles. Winter only designated ATV trails are shown on Map 2.12: Current and Planned Recreation Facilities.

The Department will also maintain the existing mile of spring, summer, fall ATV trails in the southern portion of the forest that connect to the existing regional trail network. The Department will regularly evaluate existing trail conditions and trail design, and improve the trail as needed to comply with the current ATV trail design standards.

The Department will cooperate with federal and local governments, private landowners and other interested parties in a public planning process to evaluate potential future trail connector(s) that support a regional trail network.

ATV trail designations must comply with the Department of Natural Resources ATV siting and design standards.

**Boundary Expansion**

The Department approved the expansion of the state forest boundary. This allows for land acquisition in this area from willing sellers. This approved expansion area was selected for its ability to provide additional ecological, economic, and social value for the property and the region. The acquisition goal for the PRSF is 56,200 acres. This increase of 47,000 acres is in addition to the current ownership of over 9,200 acres, not including water. The approved boundary expansion surrounds

the existing ownership. If all the land were purchased in the approved acquisition area, the property would be about 56,200 acres in size, not including water.

**The Environmental Assessment**

An Environmental Assessment (EA) has been prepared for this Master Plan. The EA assesses the potential impacts of actions recommended in the Master Plan, ranging from land acquisition and facility development to forest management and operation. The Environmental Assessment concludes that the implementation of the Master Plan provides positive recreational, ecological, social, and economic benefits to the region and minimal adverse impacts.

**The Public Involvement Process**

Public involvement has been crucial to the development of this plan. A variety of tools were used to give information on the planning process and solicit public input, including news releases, newspaper articles, mailings, annual reports, and a website. In addition, public open house meetings and listening sessions were held at various stages throughout the planning process. Generally, the public has indicated that they enjoy the diverse recreational opportunities provided by the forest. Camping, hiking, swimming, fishing, boating, and skiing are popular activities currently enjoyed. Many forest users also indicated a desire for additional facilities such as beaches, primitive campsites, horse trails, and increased motorized recreational opportunities. Comments revealed public support for barrens restoration and active vegetation management across the property as a whole. Many citizens support state purchase of lands around Peshtigo River State Forest, a move that would keep the area in the public domain and open to a variety of recreation uses. The issues that generated the most comments were the desire for the forest to provide horse riding and horse camping opportunities, and regional ATV connector trails.



## FOREWORD

### Importance of the Peshtigo River State Forest

The Peshtigo River State Forest helps to provide and sustain ecological, economic and social benefits, and is important for local and statewide economies. In addition to providing habitat for a diverse range of native plant and animal species, the forest is productive and allows for many different types of recreational opportunities.

The property supports a range of forest types and habitats. Quaking aspen, scrub oak, and red pine are common tree species that help to sustain a healthy and diverse wildlife population. The forest also supports over 3,000 acres of the Peshtigo River, flowages, and wetlands—all part of the complex ecosystem that provides habitat to diverse fish, birds, insects, plants, and rare species.

In addition to providing a home for a number of plant and animal species, the Peshtigo River State Forest supports local communities by providing outdoor recreation for local citizens and tourists. This forest-based recreation provides a boost to local economies every year. Users of the forest are attracted by its many waterways, undeveloped shoreline, scenic forests, and many recreational opportunities. Water-based recreation is one of the main reasons people visit the Peshtigo. Fishing, swimming, canoeing, and water skiing are popular activities, as are picnicking and socializing at day-use areas. There are also remote canoe campsites for those looking for an alternative to car campgrounds.

Land-based recreation includes activities in both lightly developed and primitive environments. The Peshtigo supplies a variety of trail-based opportunities including hiking, biking, horseback riding, snowshoeing, cross-country skiing, snowmobiling, and other activities. The forest also offers a range of camping opportunities: campers seeking solitude can choose primitive sites with no developed facilities or they can stay in a rustic campground with hand-pumped water and vault toilets. An equestrian campground will also be developed.

The forest provides unique recreational opportunities being located adjacent to existing and planned recreational facilities such as Governor Thompson State Park and Twin Bridges County Park. These recreational facilities provide additional opportunities and complement those offered by the State Forest.

### Purpose of the Master Plan

The Peshtigo River State Forest Master Plan spells out how the property will be managed, used and developed, how it will look, and the benefits it will provide. It defines the recreational

uses, forestry and other land management practices in addition to other aspects of the property's future use and development.

### *The Peshtigo River State Forest Master Plan:*

- Provides a vision and framework for the use, development, management and acquisition of the forest well into the future with an emphasis on the next 15 years.
- Identifies and plans areas for future management and use.
- Describes general land management and specific management objectives and prescriptions for each management area.
- Makes recommendations for recreation, forest production, and habitat conservation to meet current and future needs.
- Provides for continuing public involvement during plan implementation.

### Overview of Planning Process

A master plan defines how a property will be managed, used, and developed; how it will look and what benefits it will provide. There are several major phases in the planning process as well as opportunity for public input and participation throughout the process. The main phases of the planning process are completing the property and regional analysis, establishing the property vision and goals, considering management alternatives, and finally, creating a plan and an environmental analysis.

The public played an important role in establishing the vision and goals for the Forest. This occurred in 2002 and 2003 in conjunction with developing the plan for Governor Thompson State Park. The vision and goals establish the basic focus for the property and master plan. The next major phase for public involvement is review and commenting on the preferred alternative and other alternatives considered. Then, based on the comments received, a plan was developed and that, along with an environmental assessment, was put out for public review before presented to the Natural Resources Board for approval.

### Plan Content and Organization

The Master Plan is presented here in five chapters. Chapter one provides an overview of the forest, the purpose of the Master Plan, and a planning process overview. Chapter two provides the plan for the use and development of the property. Chapter three provides background information on the region and the property. Chapters four and five provide an analysis of impacts of the plan and an overview of alternatives considered.

### Purpose of State Forests

State forests are defined by Wisconsin Statutes 28. The purposes and benefits of state forests are outlined in the following language of 28.04 (2):

(a) The Department shall manage the state forests to benefit the present and future generations of residents of this state, recognizing that the state forests contribute to local and statewide economies and to a healthy natural environment. The Department shall assure the practice of sustainable forestry and use it to assure that state forests can provide a full range of benefits for present and future generations. The Department shall also assure that the management of state forests is consistent with the ecological capability of the state forest land and with the long-term maintenance of sustainable forest communities and ecosystems. These benefits include soil protection, public hunting, protection of water quality, production of recurring forest products, outdoor recreation, native biological diversity, aquatic and terrestrial wildlife, and aesthetics. The range of benefits provided by the Department in each state forest shall reflect its unique character and position in the regional landscape.

(b) In managing the state forests, the Department shall recognize that not all benefits under par. (a) can or should be provided in every area of a state forest.

(c) In managing the state forests, the Department shall recognize that management may consist of both active and passive techniques.



**This is your plan.** The Peshtigo State Forest master plan addresses people’s desires for the future. Wisconsinites want their forest resources sustained for future generations. At the same time, they expect a full range of environmental, social, and ecological benefits today and in the future. This plan attempts to achieve that balance in a scientifically credible and sustainable way. It was developed with countless hours of public input and several rigorous scientific and technical reviews. Many hands were involved in shaping it.

**This is a visionary plan.** The Peshtigo State Forest master plan captures an idealized view of the state forest’s long-term future. This points general direction for short-term actions. The diversity of the forest structure is enhanced over time, providing for a broad range of social and ecological values important to Wisconsin citizens, including recreation. Diverse forest communities contribute to the range of fish and wildlife habitats necessary for all native species, and contribute to broad biodiversity.

**This is a focused plan.** The plan calls for active and passive management across the landscape and over time to achieve its goals and objectives. It relies on integrated and adaptive management of the forest resources and focuses on the compatibility of forest uses over time.

**This is a flexible and adaptive plan.** The plan calls for adaptive management and monitoring the response of the forest to strategies outlined in the plan. The responses are evaluated against the objectives. The plan calls for continuous monitoring and regular public reviews and a major review every 15 years.

**This is a sustainable plan.** A sustainable forest requires flexibility and adaptability. This plan will assure sustainable forest products, continued recreation opportunities as well as a sustainable ecosystem and healthy watersheds.

## HOW THE STATUTORY AND OTHER PURPOSES AND BENEFITS OF THE STATE FOREST WILL BE REALIZED THROUGH THE PLAN

### Local and Statewide Economies

Under the plan, the forest would increase its contribution to the state and local economies through forest products and tourism. Annual harvest levels will increase in the coming years. Providing a wide range of diverse recreational opportunities and settings, maintaining scenic forest resources, and providing wildlife and fisheries habitat will ensure the forest's role as a primary destination in the region.

### A Healthy Natural Environment and the Long-Term Maintenance of Sustainable Forest Communities and Ecosystems

Due to the size of the Peshtigo River State Forest and its varied resources, all of the prescribed benefits of a state forest may be realized on the property. By managing for these benefits, the goals of achieving a healthy natural environment and the long-term maintenance of sustainable forest communities and ecosystems would be realized.

### Full Range of Benefits

#### *Protection of Soils and Water Quality*

Soils and water quality will continue to be protected by maintaining 97% or more of the land in an undisturbed condition and by following erosion control practices, such as the Best Management Practices for Water Quality (BMPs), when conducting forest and other management activities. Maintaining the forest's undeveloped shorelands is another important way to safeguard the forest's high water quality. Expansion of the forest boundary provides opportunities to expand protection to new areas and waters.

#### *Production of Recurring Forest Products*

Seventy-five percent of the potentially productive lands will be under active sustainable management producing forest products.

#### *Outdoor Recreation*

The plan proposes to maintain all existing recreational opportunities and expand most of them. Rustic camping capacity will increase by 50%, raising the total number of campsites to 31. In addition, an indoor group camp will be provided and 20 horse campground sites will be added. Canoe and other remote-access campsites will increase by nine.

The 20 miles of snowmobile trails on the forest will be maintained, including snowmobile use on designated ATV trails. Other planned recreational amenities include a new mountain bike trail, cross country ski trails, hiking trails, and approximately 25 miles of horse trails.

Access to the Peshtigo River and flowages, and water-based recreational opportunities will be maintained and in some cases, enhanced. An example of the latter is the designation of swimming beaches and an increase in the level of facilities at some boat launches.

Hunting and fishing opportunities will remain abundant.

The development of an integrated State Forest and State Park headquarters located on the Governor Thompson State Park will include an Education and Visitor Center to be shared between the two properties. This will greatly expand the recreational and educational opportunities for visitors and local students.

#### *Native Biological Diversity*

Native biological diversity will be maintained through enhanced forest structure and species composition in some areas. Wetlands and unique habitats will be protected. Endangered and threatened species will continue to be protected.

#### *Aquatic Habitats and Wildlife*

The Peshtigo River and flowages, wetlands, and riparian habitats will receive a high level of protection. All wetlands and riparian areas will be managed to promote healthy ecosystems and aesthetic enjoyment. BMPs for Water Quality will be followed and shorelines will remain undeveloped.

#### *Terrestrial Wildlife*

The forest and wildlife management prescriptions outlined in Chapter 2 of this plan have been developed to ensure that habitat and ecosystems for a wide range of terrestrial and aquatic wildlife will be sustained and improved.

#### *Aesthetics*

Over time, forest health and scenic qualities will be enhanced as longer-lived trees such as white and red pine become more common through forest management. The scenic quality of all shorelines and primary roadways will be maintained and enhanced through the application of aesthetic management techniques.



# MANAGEMENT AND DEVELOPMENT

## VISION STATEMENT

The Peshtigo River State Forest is a healthy, dynamic forest, which contributes to the diversity of natural communities in the region. The forest and its resources are managed for present and future generations to provide a broad range of ecological, cultural, social and economic benefits within its capabilities. The natural scenic beauty of the Peshtigo River and its flowages is perpetuated by maintaining a predominately undeveloped shoreline. Compatible recreational opportunities are provided consistent with the scenic beauty and natural settings found within its forestland and along the river and its flowages.

## PROPERTY GOALS

1. Manage the forest and its resources using principles of ecosystem management and sustainable forestry consistent with the ecological capability of the land.
2. Identify and protect rare, threatened and endangered species and areas of geological, archaeological, or cultural significance.
3. Maintain and enhance the natural, undeveloped scenic qualities of the state forest, especially those areas visible from the Peshtigo River and its flowages.
4. Protect and enhance the aquatic resources of the forest.
5. Provide a variety of quality outdoor recreational activities with a focus on non-motorized trail uses primitive camping and water access.
6. Continue links with the existing regional motorized trail network while maintaining environmental quality and harmony with other forest users.
7. Establish compatible, mutually supportive programs and infrastructure with Governor Thompson State Park and other partners for resource protection, education and recreation management.
8. Prevent or minimize conflict among different types of recreational uses and among various types of forest uses and management activities.
9. Acquire additional land for reasons of resource protection, critical development needs, access, boundary protection, boundary continuity, or protection from non-compatible uses.
10. Provide opportunities and access for hunting, fishing, trapping, and wildlife viewing.
11. Provide for a variety of renewable forest products, wildlife habitats and a diversity of terrestrial and aquatic communities consistent with the ecological capabilities of the land and water.
12. In consultation with tribal governments, provide for the availability and enhancement of treaty resources.

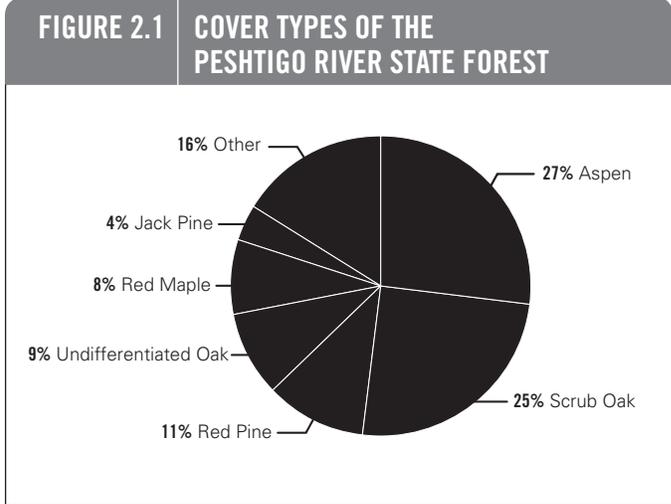


**OVERVIEW OF THE FOREST**

**OVERVIEW OF THE FOREST**

The forested portions of the Peshtigo River State Forest are part of a complex ecosystem, with a mix of biotic communities that provide habitat for a diversity of plants and animals. Most of the uplands have dry sandy soils that can support red and white pine, aspen, white birch, scrub oak, and jack pine forest communities. A few upland areas have loamier soils that support more mesic forest communities containing red oak. Most of the forest is biologically mature or over-mature, and some areas show signs of decline. The scattered wetlands and lakes on the property help protect water quality and provide habitat for a variety of fish, birds, insects, and plants, including many rare species. About 92% of the Peshtigo River State Forest is uplands, 7% is wetlands, and 1% is exposed bedrock. In addition to the forests and wetlands, there are also over 3,000 acres of water in four flowages and five miles of free flowing river in the Fly Fishing Area.

Figure 2.1 shows the general plant community makeup on the Peshtigo River State Forest. For inventory purposes, forest stands are classified by their dominant cover type. This means that forest stands listed as aspen have 50% or more of their basal area in aspen trees. Most forest stands contain a mix of tree species. For example, an “aspen” area probably includes a mixture of red and white pine, red maple, and scrub oak. Therefore, two forest stands with the same dominant cover type may not have the same overall forest composition.



\* Note: Reconnaissance data is in the process of being updated.



**GENERAL LAND AND FOREST MANAGEMENT PROVISIONS**

## GENERAL LAND AND FOREST MANAGEMENT PROVISIONS

### FOREST PEST CONTROL

As stated in Wisconsin Statute 26.30, "It is the public policy of the state to control forest pests on or threatening forests of the state..." Within the Peshtigo River State Forest, any significant forest pest events will be evaluated with consideration given to the property management goals and the potential threat of the pest to other landowners. Infestations of the non-native gypsy moth caterpillar will be managed according to the Forest's Gypsy Moth Management Plan. Responses to significant infestations from other forest pests may include timber salvage or pesticide treatments. Any response to a significant pest outbreak will be evaluated by an interdisciplinary team of scientists and communicated through press releases and notices to interested parties.

### FOREST RECONNAISSANCE

The State Forest uses a forest inventory system to gather and record information on their lands. The database created from the inventory captures the physical description of these areas (dominant forest cover type, soils, ecological attributes, stand origin, guidelines, restrictions and goals). Reports are then generated to show forest stands that are listed for management review. The acreage listed for review is considered the forest's "sustainable harvest" meaning that the lands are due for a decision regarding management. Some stands invento-

ried in the reconnaissance are excluded from active management, for example, passive management zones contained in some of the native community management areas. Forestry staff then examines stands potentially due for management and verifies the information with a field visit. If the stand is not ready for management, their information is updated in the reconnaissance database and rescheduled for another review in the future. Those areas not ready for management and rescheduled are considered managed and counted as part of the forest's sustainable harvest acreage. If the forested areas are ready for management, the forestry staff consults with other Department programs such as endangered resources, fisheries, and wildlife to integrate a multifaceted approach to the management and subsequent sustainable harvest. When setting up the management, forestry staff follow guidelines and best management practices. After a management practice occurs, the forest reconnaissance is updated.

In the future, the State Forest will be using a Continuous Forest Inventory system in conjunction with the reconnaissance system. This system will track growth, mortality, and management of forested lands and allow for more concise management of state forest lands. Using the Continuous Forest Inventory system will not change the objectives stated in the master plan.

### HERBICIDE USE

Approved herbicides may be used for various purposes on the forest, such as the control of invasive plants or to control plant competition in forest regeneration areas, except as restricted in the management prescriptions in this master plan. Prior to treatment, local governments and tribes will be informed of the areas where herbicide will be applied. Additional information will be provided upon request.



**GENERAL LAND AND FOREST MANAGEMENT PROVISIONS****INVASIVE SPECIES CONTROL**

If detected on state lands, invasive plants may be controlled using appropriate and effective methods, including but not limited to the use of herbicides, cutting, or hand removal. Control methods may be restricted in certain sensitive management areas.

**BEST MANAGEMENT PRACTICES FOR WATER QUALITY**

All management activities within the state forest will follow, as a minimum standard, the guidelines in the Wisconsin's Forestry's Best Management Practices for Water Quality (BMPs). A Field Manual for Loggers, Landowners and Land Managers is also available, DNR publication PUB-FR-093-95.

**ENDANGERED, THREATENED AND SPECIES OF SPECIAL CONCERN PROTECTION**

Five State or Federally Threatened Species, one State Endangered Species and twenty-five Species of Special Concern were identified through inventories on Peshtigo River State Forest by the Endangered Resources program. All management prescriptions in the master plan will consider the needs of these species and the potential impacts to the species and their habitat. Management actions being planned on the state forest are checked against an up-to-date database of listed species to assure that no department actions results in the direct taking of any known endangered or threatened resource.

**PRESCRIBED FIRE**

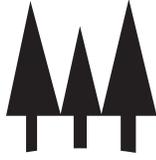
Prescribed fire may be used as a management tool where feasible and safe. It may be used to help regenerate many of the forest cover types on the forest such as the pine and oak types. It may also be used to create and maintain barrens habitat, wildlife habitat, to reduce fuels to lessen fire hazard and to control undesirable vegetation.

**UNFORESTED UPLAND MANAGEMENT**

Upland unforested habitat on Peshtigo River State Forest consists primarily of areas of grass forest openings, relict barrens, upland brush cover, rock outcrop complexes and right-of-ways. These areas are an important component of the early successional landscape of Peshtigo River State Forest and provide important habitat to a variety of plants and animals. Unforested uplands areas will be maintained to retain this habitat; encroachment by trees and invasive species are the primary maintenance need.

Peshtigo River State Forest staff and Department wildlife management staff will work cooperatively in management of the upland unforested habitat areas. Identification and mapping of areas should occur to facilitate maintenance evaluations at least every five years. Maintenance may include using herbicides, mechanical mowing, hand cutting, and prescribed fire. Buffering mapped areas adjacent to aspen harvests with a no-cut buffer will also aid in maintaining these areas.

## GENERAL FOREST MANAGEMENT PRESCRIPTIONS



### GENERAL FOREST MANAGEMENT PRESCRIPTIONS, BY PRIMARY FOREST TYPE

For each forest-type there is a specific set of management techniques which favor the maintenance and regeneration of a given type. The following describes the general management prescriptions to be used for each primary forest type on the Peshtigo River State Forest. Each prescription will be applied wherever management for that specific forest type is an objective, as stated in the individual management areas later in this chapter. The individual area management plans may modify or limit these general prescriptions to fit the area.

#### ASPEN DOMINATED MIXED FOREST

This is an early successional forest type that requires disturbance and abundant sunlight to regenerate. It is typically managed with clearcuts and modified clearcut harvests of various shapes and sizes. Recommended harvests should occur at intervals of 45-60 years to maintain this forest type.

##### General Management Prescriptions

Different management activities will be used to move the forest toward its desired state depending on whether or not the stand is pure aspen or a mixed aspen community.

Consider the ecological value of aspen and surrounding landscape on the Peshtigo River State Forest. A variety of age classes and stand sizes across the landscape provide wildlife and aesthetic value. Some considerations in landscape planning include age classes and patch sizes across the landscape, the natural disturbance regime in the area, and surrounding cover types and management.

Harvest and regenerate aspen naturally, primarily through clearcutting. In stands where the objective is to develop or maintain mixed species, the preferred management strategy is "coppice with standards", which means to harvest aspen trees but retain individual oak, red pine, and white pine trees within a stand. This technique allows the remaining oak and pine trees to provide seed to the area and increases the diversity of the stand.

Harvest aspen, white birch, red maple and other short-lived species in the stand, leaving oak, red pine, white pine and

individual trees of high value for wildlife, forest diversity, and aesthetics.

In aspen stands along flowages, stream borders, and road aesthetic strips, or as islands in wetlands, modify the standard management practices or apply no management to meet the management objectives for these areas.

#### NORTHERN PIN OAK (SCRUB OAK) DOMINATED MIXED FOREST

This is an early successional forest type that requires disturbance and abundant sunlight for regeneration. Management will typically include even-aged harvest practices of various shapes and sizes occurring at intervals of 45-60 year.

##### General Management Prescriptions

- When planning individual management actions, consider the ecological values and surrounding landscape of scrub oak's role on the Peshtigo River State Forest. A variety of age classes and stand sizes across the landscape provide wildlife and aesthetic value. Some considerations in landscape planning include age classes and patch sizes across the landscape, the natural disturbance regime in the area, and surrounding cover types and management.
- Harvest and regenerate scrub oak naturally, primarily through clear cutting, overstory removal when advanced regeneration is present, or shelterwood harvests on better quality sites or critical sites in aesthetic areas. Reserve trees may be left as individuals or in groups and can be any species. In this region, reserve trees are typically red pine, white pine, red maple and oak species that provide timber, aesthetics and wildlife value. Harvest area shape and size may vary with feathered edges or rough, irregular edges.
- Conversion to pine species, aspen or red maple will be made on suitable sites if the opportunity allows due to advanced regeneration, sprouting capabilities, or suitable seed sources. On some sites tree planting will occur to promote pine species. Conversion to white pine will facilitate succession while conversion to jack pine will reinitiate succession.
- In scrub oak stands along flowages, stream borders, and road aesthetic strips, modify the standard management practices or apply no management to meet the management objectives for these areas.

## GENERAL FOREST MANAGEMENT PRESCRIPTIONS

### RED PINE DOMINATED FOREST PLANTATIONS

This forest type occurs throughout the forest in numerous plantation stands established 40 to 50 years ago by Wisconsin Public Service Corporation. Most of these stands have already been thinned once or twice for improved health and growth.

#### General Management Prescriptions

Several management activities will be used to manage red pine forests toward the future desired condition of larger and older trees with a diverse understory.

- Thin pine plantations on a recurring basis (8-20 year intervals), according to prescriptions outlined in the DNR Silviculture and Forest Aesthetics Handbook, to gradually create a structure similar to that of a naturally occurring pine stand. At biological maturity, 140-250 years, harvest red pine and replant or naturally regenerate.
- Plant red pine plantations as needed to maintain this species on the Forest. Hand or machine plant nursery stock seedlings following site preparation by mechanical and herbicide application. Use hand or herbicide release following planting to maintain growth and vigor of planted pine trees and increase survival of planted trees.
- Ground disturbance or prescribed fire may be used to promote natural regeneration of red pine where feasible and safe. Site conditions will be evaluated to determine if red, white or jack pine is best suited to a site. Conversion from red pine to white or jack pine will be done at the time of replanting to best match the site to the pine species.

### RED OAK DOMINATED MIXED FOREST

Oak forests historically developed or regenerated following a significant disturbance such as a fire or blow down event. Much of the current red oak developed following the large scale cutover and wildfire era in the early 1900's. Red oak may be encouraged on sites with appropriate soil, slope and other conditions. This forest type has high value to a wide number of game and non-game wildlife species. Disturbance is required to regenerate existing stands and to maintain an oak component in mixed stands.

#### General Management Prescriptions

Use intermediate thinning practices to develop oak stands as they near biological maturity, and use shelterwood cuts to regenerate this species. Regenerate red oak at 90-150 years of age, depending on site characteristics. Other management techniques that may be applied to red oak stands include clear-cuts with reserves, scarification, hand-release, herbicide



treatments, and prescribed fire to promote regeneration. Red oak is typically regenerated through the shelterwood method. In a shelterwood harvest, about 30-40% of the mature trees are harvested, depending on site characteristics, to allow for sunlight and the regeneration of young oak trees. After the young oak trees have regenerated, about 10 to 15 years later, the majority of the mature trees are harvested, while maintaining 5 to 10 mature trees per acre for age and structural diversity and wildlife. A diverse stand is an important objective of regeneration.

On mixed stands of red oak with white pine, red maple or other species, promote long-lived tree species and their natural regeneration where possible.

### WHITE PINE DOMINATED MIXED FOREST

White pine as a cover type currently makes up a very small percentage of the forest. However, short and long term objectives in all land management areas include converting some current cover types to white pine or increasing the white pine component of mixed stands. Even-age management practices will be used. To optimize vigor, white pine should be grown in full sunlight in a fully stocked condition. Pruning is essential for quality saw timber products as white pine does not self prune well.

#### General Management Prescriptions

Several management techniques will be used to manage white pine stands toward future desired conditions, increased white pine composition, and an older forest with longer lived species.

## GENERAL FOREST MANAGEMENT PRESCRIPTIONS

- Where white pine is the primary cover type, selectively thin to maintain the health, vigor and growth of the pines. Remove selected individuals or small groups to maintain species diversity and structural diversity. At biological maturity (150- 350 years) harvest pine and replant or naturally regenerate. Clearcutting, seed tree harvest and overstory release may be used depending on site conditions. Stand considerations, seed sources, and site prep needs will determine the appropriate management action to use.
- Where white pine is a viable understory component in mixed stands, use natural regeneration techniques such as seed tree and/or shelterwood regeneration methods. To promote pine to dominate the future stand give established seedlings adequate light for optimal growth. Reduce the overstory to no greater than twenty percent crown closure.
- Where a seed source exists and advance regeneration is inadequate or absent, patch clearcutting near the seed source can be done to establish a greater white pine component.
- Plant white pine plantations as needed to maintain pine on sites or to convert other forest types to pine. Hand or machine plant nursery stock seedlings following site preparation by mechanical and/or herbicide application. Use hand or herbicide release following planting to maintain growth and vigor and increase survival of planted trees.
- Ground disturbance or prescribed fire may be used to promote regeneration of white pine where feasible and safe.
- Thin pine plantations on a recurring basis (8-10 year intervals), according to prescriptions outlined in the DNR Silviculture and Forest Aesthetics Handbook, to gradually create a structure similar to that of a naturally appearing pine stand.
- Leave scattered large white pine in many harvest areas if they are healthy and do not pose a risk to humans or forest health.

### JACK PINE DOMINATED FOREST

This is an early successional forest type that requires disturbance and full sunlight for regeneration. Historically, jack pine stands regenerated following fire or insect infestation events. Harvest and ground disturbance not only provide for good regeneration of jack pine but also support the development of a diverse mix of grasses, forbs and shrubs, which are important during successional stages of this forest community.

### General Management Prescriptions

- On dry sites, clear-cut jack pine at biological maturity (50-80 years) and use appropriate means to regenerate the stand. Clear-cutting and planting, mechanical scarification or fire may be used. Currently planting is the most effective method for maximum survival of Jack pine because of the quality of the seedlings and an initial advantage over competing vegetation. Establish Jack pine plantations as necessary to maintain pine or to convert other forest types to Jack pine. Prepare the site using mechanical and herbicide treatment, then follow-up with hand or machine planting of nursery stock seedlings. Use hand or herbicide release following planting to maintain seedling growth, vigor, and survival rate.
- On mixed stands of jack pine, aspen and red maple, clear-cut harvest to regenerate a mixed stand or plant to jack pine.



## GENERAL FOREST MANAGEMENT PRESCRIPTIONS

### RED MAPLE DOMINATED MIXED FOREST

Red maple is found on the forest on both dry and wet sites. It dominates some stands and is both a major and minor component of mixed stands. It is both a pioneer and sub-climax species that is more shade tolerant and longer lived than early successional species such as aspen and scrub oak.

#### General Management Prescriptions

- Even-aged management is the preferred silvicultural method to maintain red maple. Lower quality sites with fiber potential will be rotated and regenerated using coppice management. Higher quality sites with saw-log potential will be managed with either shelter wood or group selection regeneration techniques.
- Red maple saplings in stands with saw-log potential will be released to encourage accelerated diameter growth. Pole size stands will be commercially thinned. Poles and saplings on less rich sites do not warrant thinning or release.
- On mixed stands of scrub oak and red maple conversion to red maple will be considered by either allowing the scrub oak to “fall out” of the stand or by careful thinning of the oak component leaving red maple as residual.
- Where red maple is an associate in aspen stands, clear-cut harvest the red maple with aspen. Red maple can stump sprout from healthy cut trees and can seed in without scarification along with the aspen regeneration.

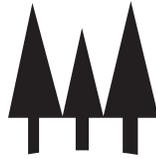
### FORESTED AND UNFORESTED WETLANDS

The forested wetland areas typically contain stands of swamp conifer (black spruce, tamarack, white cedar and associated tree species). They can be pure stands of individual species or combinations of two or more tree species. Also included in this category are swamp hardwood stands. Examples of these are black ash, red maple and other species that occupy a wet forest environment. The unforesteds wetlands are represented by large areas of sphagnum muskeg and open bogs, as well as alder thickets and marshes.

#### General Management Prescriptions

- No management activities will be conducted within wetlands with small sized slow growing trees, lowland brush, or areas of open bog and marsh. However, access across these stands on frozen ground for temporary roads may be required.
- Productive stands of swamp hardwood, primarily black ash, may be regenerated by limited harvesting (create partial openings or use shelterwood cuts) following the guidelines in the DNR Silviculture and Forest Aesthetics Handbook.
- Productive stands of tamarack and black spruce may be regenerated by limited harvesting of stands (clear-cut) following the guidelines in the DNR Silviculture and Forest Aesthetics Handbook and in consultation with an integrated team of scientists.
- Conduct timber harvests on forested wetlands only under frozen ground conditions to prevent rutting and potential damage to organic soils.





## LAND MANAGEMENT AREAS

The Peshtigo River State Forest has been divided into eight land management areas: three Forest Production Management Areas and five Native Community Management Areas. In addition to these land management areas, there are also two Overlay Zones. Each management area describes a unique landscape or management focus that considers soils, topography, community type, and other factors which shape the recommended management for each area. All of the management areas are shown on map 2.2.

Soils and habitat types are very similar on all three forest production sites; however, there are subtle management differences, such as what species will best be supported in each area. The Peshtigo River State Forest is comprised largely of species that tolerate the nutrient poor, well-drained sandy soils. Scrub oak and aspen are the most common species on much of the forest, but some higher quality oak stands occur on more mesic soils. Lowland areas on the forest are uncommon, but support cedar, spruce, and fir. Unique to this area are a number of rock outcroppings, bedrock glades, forested seeps, and the Peshtigo River, which lends a unique scenic quality to the forest.

The General Forest Management Prescriptions given earlier in this chapter outline the standard management practices to be used for each forest type (e.g. aspen, white/red pine, scrub oak, etc.). However, as the management objectives and needs vary from area to area, the individual area management prescriptions may be modified from the standard prescriptions.

Each Management Area has specific short and long-term objectives that articulate the future desired condition based on the ecological capabilities of the area and other factors. Because forests and landscapes change slowly, actions taken (or not taken) over the next 15 years may require 50-100 years to affect the forest as a whole.

Each Land Management area contains the following information:

- Overview and Summary of the area
- Description of the Forest Resource
- Soils and Habitat Types
- Map of each area
- Current and Projected Land Cover
- Short and Long Term Objectives
- Management Prescriptions

### LAND MANAGEMENT CLASSIFICATIONS AND AREAS

FOREST PRODUCTION MANAGEMENT AREAS		
Area 1	Peshtigo River Flowages	5,324 acre
Area 2	Fly Fishing Area	1,825 acres
Area 3	Potato Rapids Flowage	771 acres
NATIVE COMMUNITY MANAGEMENT AREAS		
*Area 4	Lake Lackawanna and Cedars	358 acres
Area 5	Caldron Falls	223 acres
Area 6	High Falls North	101 acres
*Area 7	Johnson Falls	206 acres
*Area 8	Kirby Lake Hardwoods	158 acres
OVERLAY ZONES		
	Shoreland Management	1,949 acres
	State Natural Areas	637 acres

\*Includes a designated State Natural Area.



## OVERLAY ZONES

An overlay zone is a planning tool that allows for additional management prescriptions that can span multiple management areas. It is most often used when there is a particular resource that requires additional prescriptions to meet the objectives of the zone. The objectives and management prescriptions for overlay zones are in addition to the objectives and management prescriptions for the underlying management area.

### Shoreland Management Overlay Zone

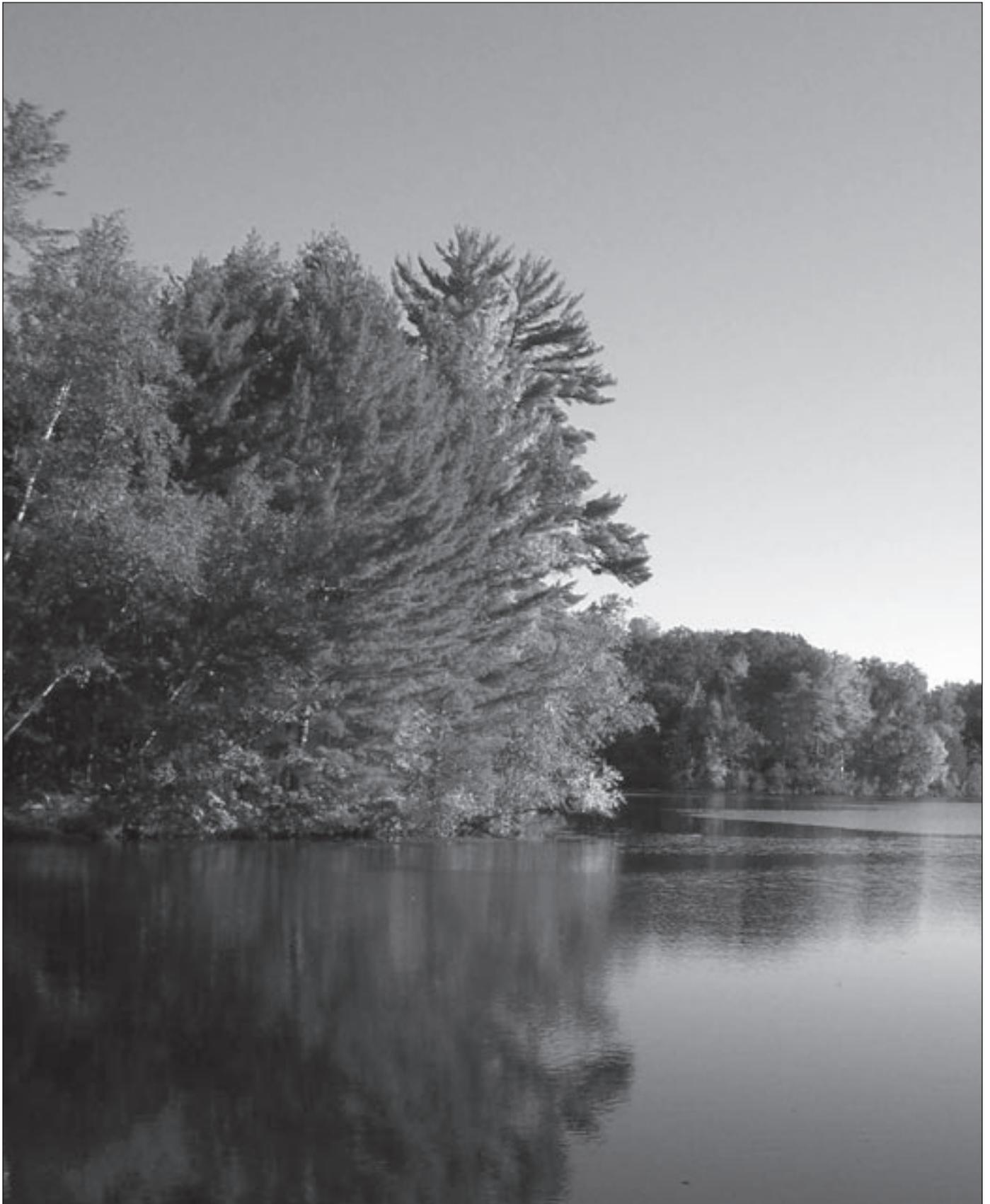
The Peshtigo River State Forest has designated a Shoreland Management Overlay Zone as part of its licensing agreement with the Federal Energy Regulatory Commission (FERC) and the Wisconsin Public Service Corporation (WPSC). To assure licensing requirements are met, the Peshtigo River State Forest Master Plan designates a 200-foot Shoreland Management Overlay Zone along the river and flowage shorelines

to protect and enhance the undeveloped scenic qualities of the river and flowages as well as the vegetation, wildlife, and fisheries of riparian areas. Public access to the Peshtigo River and flowages and associated recreational amenities will be maintained and enhanced (see Map 2.1).

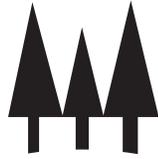
### State Natural Area Overlay Zone

Three State Natural Areas have been identified on the Peshtigo River State Forest; Lake Lackawanna and Cedars, Johnson Falls, and Kirby Lake Hardwoods (637 acres in total). State Natural Areas (SNAs) are part of a statewide system of sites identified for the purposes of ecological research, education, and to assure the full range of ecological diversity for future generations. SNAs are unique because they can serve as stand alone properties or they can be designated on other properties, such as state forests.

**LAND MANAGEMENT AREAS**



## FOREST PRODUCTION MANAGEMENT AREAS



### FOREST PRODUCTION MANAGEMENT AREAS

The general management objective of a forest production area is the sustainable production of forest products. However, forest production areas meet a wide range of ecological and recreation objectives. The specific objectives for any given management area may vary depending on site capability, forest types, and societal needs.

Sites with high recreational use or scenic value, or sites with special habitat needs are often inclusions within forest production areas. In these cases management practices are modified to be compatible with and support these multiple objectives.

#### FOREST PRODUCTION MANAGEMENT AREAS

**Area 1:** Peshtigo River Flowages (5,324 acres)

**Area 2:** Fly Fishing Area (1,825 acres)

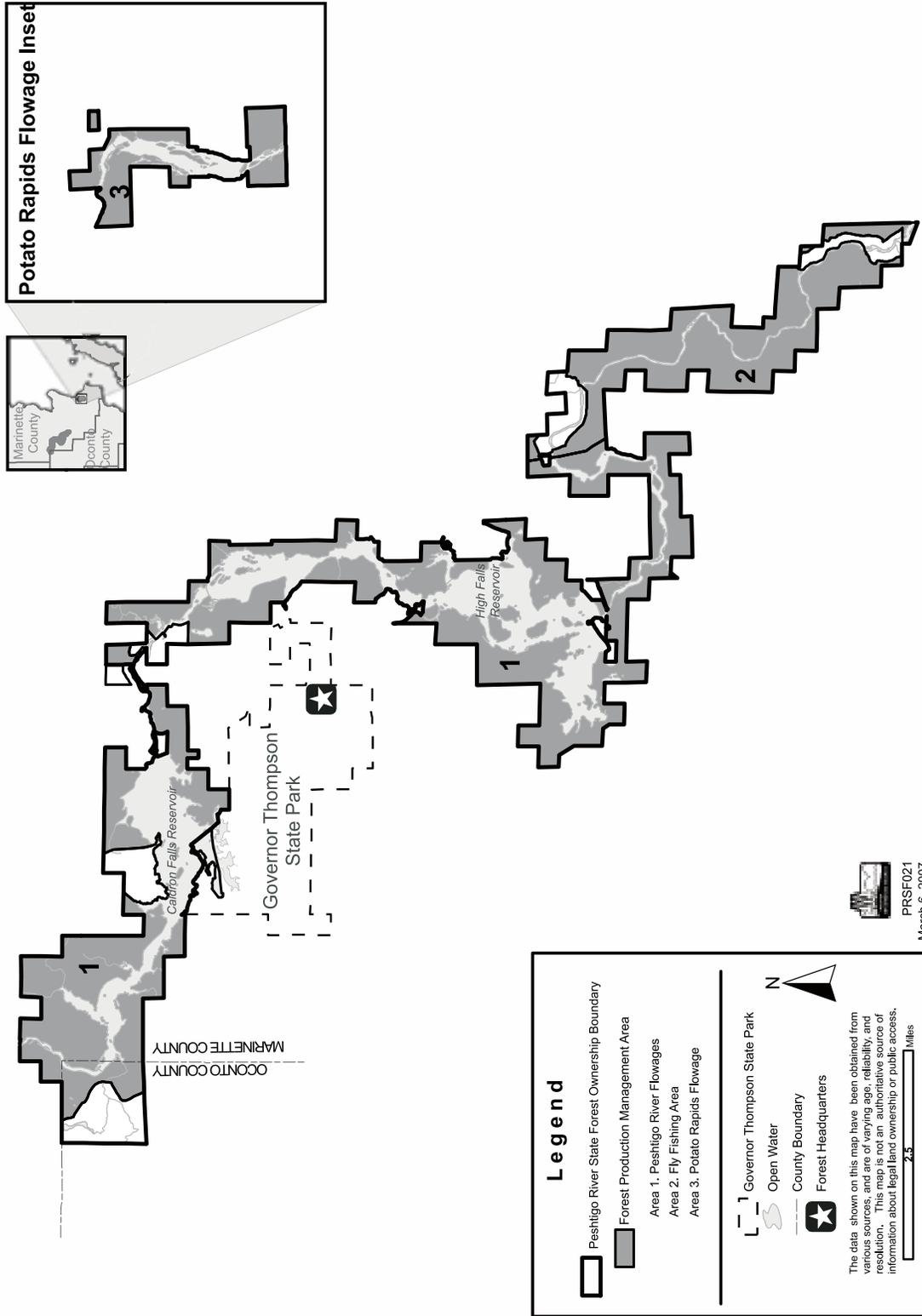
**Area 3:** Potato Rapids Flowage (771 acres)

**TOTAL:** 7,930 acres



**FOREST PRODUCTION MANAGEMENT AREAS**

**MAP 2.2 FOREST PRODUCTION MANAGEMENT AREAS**



**Legend**

- Peshtigo River State Forest Ownership Boundary
- Forest Production Management Area
  - Area 1. Peshigo River Flowages
  - Area 2. Fly Fishing Area
  - Area 3. Potato Rapids Flowage
- Governor Thompson State Park
- Open Water
- County Boundary
- Forest Headquarters

The data shown on this map have been obtained from various sources, and are of varying age, reliability, and resolution. This map is not an authoritative source of information about legal land ownership or public access.

0 2.5 Miles

PRSF021  
March 6, 2007



This area is comprised of 5,324 acres. It includes most of the land surrounding the flowages of the Peshtigo River from Boat Landing 12 at the northwest corner of the forest to the Johnson Falls Dam. The flowages in this area are Caldron Falls, High Falls, and Johnson Falls. This area is a relatively narrow strip of flat, dry, land surrounding the flowages, much of it near the water, public roads, recreational trails, or other recreational sites. Private land and seasonal residences are also adjacent to much of this area.

### Description of the Forest Resource

This area is comprised largely of forested uplands with a few lowland forests. Due to the low soil fertility and the tree species grown there, the forest is only moderately productive. In addition, the forest can also be described as old and monotypic due to the large acreages of over-mature scrub oak and aspen. Approximately 33% of the forest is scrub oak older than 70 years of age and 29% of the forest is aspen, which is more than 50 years old, both of which are past their rotation age. These large acreages of scrub oak and aspen also make this area highly susceptible to mortality initiated by gypsy moth defoliation.

The conifer component of this area is small, and increasing it would increase forest productivity, wildlife habitat, and aesthetics. White pine is especially underrepresented in all size classes in this area, even as a secondary timber type. Despite this area being highly suitable for both red and jack pine, these species are also poorly represented. The jack pine acreage is less than 5%, and the red pine plantation acreage is only about 12%. These red pine plantations were established in the 1960's, are irregularly shaped, and contain a fair amount

### AREA 1 SUMMARY

- ▲ 5,324 acres.
- ▲ Opportunity to manage for longer lived species such as red and white pine.
- ▲ Opportunity to enhance the scenic qualities of the Peshtigo River and flowages.

of scrub oak which contributes to the diversity of the stand and provides wildlife benefits.

### Soils and Habitat Types

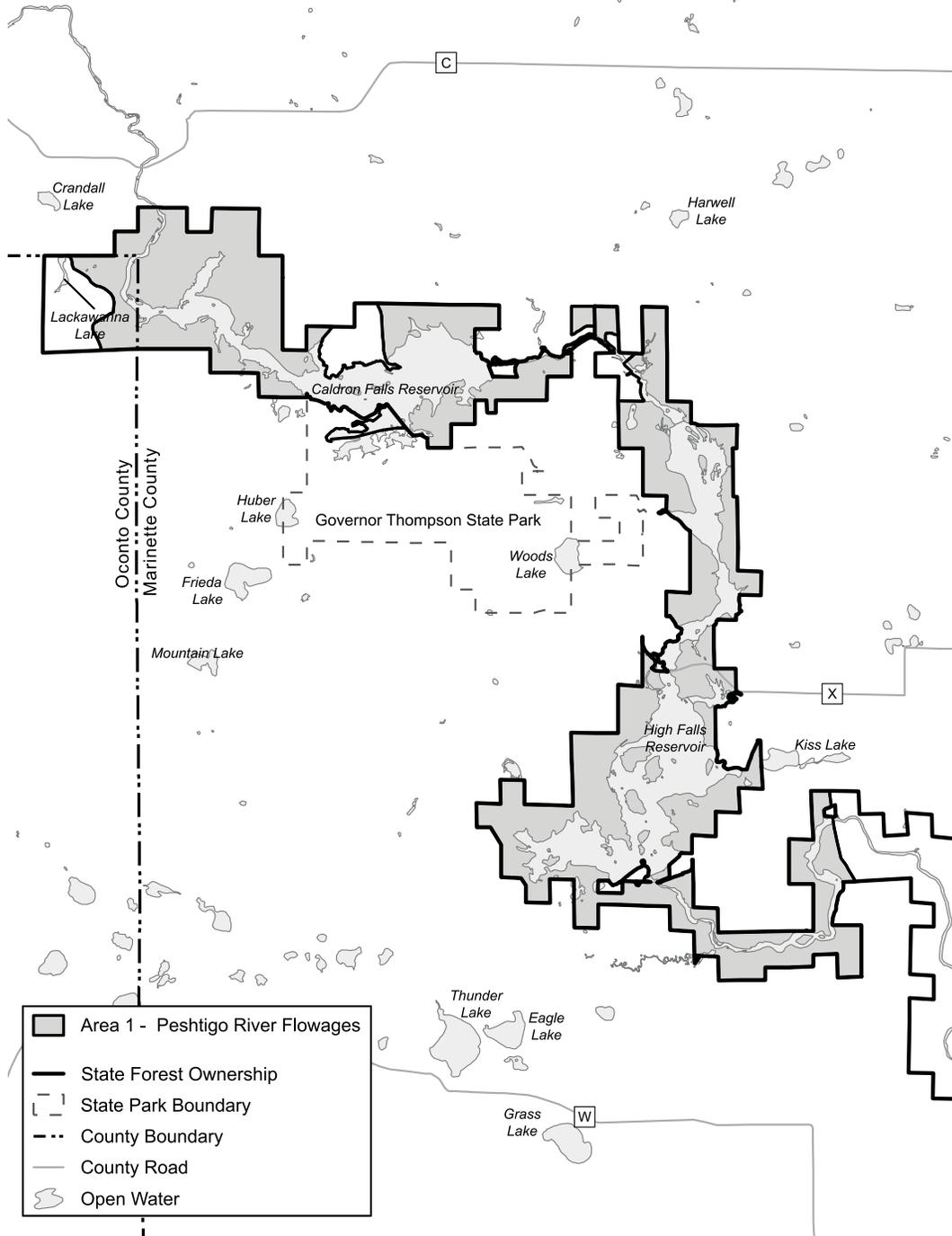
The soils in this area are primarily sands and loamy sands on the uplands, and poorly drained mineral or muck in the lowlands. The habitat types are closely tied to soil type and all are classified as low in soil moisture and poor to medium in soil nutrients. The three habitat types found in this area are PARVAo (*Pinus strobus-Acer rubrum/ Vaccinium angustifolium-Apocynum androsaemifolium*), PARVPo (*Pinus strobus-Acer rubrum/ Vaccinium angustifolium-Polygonatum pubescens*), and AVb (*Acer saccharum/ Viburnum acerifolium*).

PARVAo is the most nutrient deficient and driest habitat type found in this area. The dominant shrubs of this habitat type are blueberries, raspberries, sweet fern, hazel, and junberry. The dominant ground flora is bracken fern, wild lily-of-the-valley, wintergreen, spreading dogbane, starflower and wild strawberry. The climax tree species are white pine and red maple.





**MAP 2.3 PESHTIGO RIVER FLOWAGES**



	Area 1 - Peshtigo River Flowages
	State Forest Ownership
	State Park Boundary
	County Boundary
	County Road
	Open Water



The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not an authoritative source of information about legal land ownership or public access.





PARVPo is the most common habitat type in this area, with a dry-mesic moisture regime, and poor to medium soil nutrient gradient. Dominant shrubs include hazel, blackberry, blueberry, chokecherry, juneberry and bush honeysuckle. The dominant ground flora is bracken fern, wild lily-of-the-valley, whorled loosestrife, spreading dogbane, starflower, and hairy Solomon’s seal. The climax tree species are white pine and red maple.

AVb is the richest habitat type found in this area, although it is still classified as having only moderate soil nutrients and dry-mesic soil moisture. This habitat type is most closely associated with red oak stands. The dominant shrubs are maple leaved viburnum, hazel, witch hazel, juneberry, blackberry, and bush honeysuckle. The dominant ground flora are bracken fern, large leaved aster, wild sarsaparilla, trillium, hog peanut, round lobed hepatica, false Solomon’s seal, starflower, wood anemone, and wild lily-of-the-valley. Maintaining red oak is desirable and is complemented by its ability to compete well in this habitat type, preventing species such as red maple from taking over the more nutrient rich sites.

**Long Term Management Objectives (100 years)**

- Maintain a diversity of forest cover types and ages for overall health of the forest, aesthetic appeal, and to provide wildlife habitat.
- Protect and maintain the water quality and riparian habitat of the Peshtigo River and flowages.
- Continue to increase the abundance of white pine and larger, older trees in mixed stands.
- Maintain red pine and jack pine composition.
- Maintain the acreage of red oak and aspen.
- Maintain scrub oak and red maple except in areas suitable for conversion to white pine.
- Maintain the river corridor and flowages in an aesthetically pleasing condition.

**Short Term Management Objectives (50 years)**

- Enhance the diversity of forest cover types and age classes for overall health of the forest, aesthetic appeal, and to provide wildlife habitat.
- Protect and enhance the water quality and riparian habitat of the Peshtigo River and flowages.
- Maintain the current red oak acreage.
- Decrease scrub oak and increase the acreage and presence of white pine, aspen, red maple, red pine, or jack pine.
- Increase the presence and age of red and white pine on suitable sites across the area. Specifically, increase the acreage of stands that are dominated by pine and, in mixed stands where red and white pine are not the dominant species, increase the average pine component.
- In the Shoreland Management Overlay Zone, allow the natural conversion of aspen to white pine and red maple. Outside of the Shoreland Management Area maintain aspen approximately at current levels.
- Maintain the river corridor and flowages in an aesthetically pleasing condition.

<b>TABLE 2.1 PESHTIGO RIVER FLOWAGES CURRENT AND FUTURE LAND COVER</b>				
<b>COMMUNITY TYPE</b>	<b>CURRENT</b>		<b>PREDICTED 50 YEAR</b>	
	<b>ACRES</b>	<b>% OF TOTAL AREA</b>	<b>ACRES</b>	<b>% OF TOTAL AREA</b>
Scrub Oak	1,683	33%	532	10%
Aspen	1,563	29%	1,012	19%
Red Maple	262	5%	1,012	19%
Red Oak	183	3%	160	3%
Red Pine	674	13%	905	17%
Jack Pine	183	3%	426	8%
White Pine	61	1%	532	10%
Forested Wetlands	269	5%	266	5%
Unforested Wetlands	232	4%	266	5%
Unforested Uplands	214	4%	213	4%
<b>Total</b>	<b>5,324</b>	<b>100%</b>	<b>5,324</b>	<b>100%</b>



### Resource Management Prescriptions

Please see the General Management Prescriptions at the beginning of this section for general management prescriptions by forest type. The General Management Prescriptions apply and all management activities are authorized, except as noted below for this management area.

- Minimize the visual impact of management along the river corridor and flowages using aesthetic management techniques for timber harvests such as restricting the size of cuts, conducting partial harvests, retaining large longer lived tree species, planting trees, managing for longer lived species, and harvesting during the winter.
- On suitable sites, allow scrub oak to naturally convert to white pine, aspen, or red maple. Where natural conversion is not viable or where conversion to red pine or jack pine is desired, use planting and other active management techniques.
- Where feasible, use natural conversion to increase the presence of white pine across the management area. In mixed stands, promote the growth and retention of large white pine trees.
- Retain snags and coarse woody habitat whenever their retention does not conflict with other forest management objectives, including riparian areas.





The Fly Fishing Forest Production Management Area is comprised of 1,825 acres. This area includes all land downstream from the Johnson Falls Dam to the end of Spring Rapids, excluding Johnson Falls, and Kirby Lake Hardwoods Native Community Management Areas. Johnson Falls Road is the northwest boundary. This area is the only significant stretch of free flowing river on the Peshtigo River State Forest. Upstream, the flow of the river is regulated by dams and is maintained to imitate the natural fluctuations of the river, maintaining a relatively stable environment for aquatic species. The steep slopes of this valley are a sharp contrast to the flat topography found on much of the rest of the forest. Harvest in this area will be limited due to steep slopes, visual impact, and the Shoreland Management Overlay Zone.

### Description of the Forest Resource

The three most common timber types in this area are aspen (21%), oak (primarily scrub oak) (61%), and red pine (13%). Other timber types such as red maple, fir/spruce, cedar, and swamp conifer are found here, but are not nearly as common.

The aspen stands are of mixed ages due to favorable pulp markets over the past 30 years which have encouraged periodic harvests as stands became merchantable. However, there are also large stands of over mature aspen that were not harvested and are in decline. Unlike the favorable aspen pulp markets of the past 30 years, the oak pulpwood market has been poor and much of the oak has not been harvested resulting in large stands of over mature and declining oak. These stands are 70-80 years old and well past the rotation ages for both species. A few high quality red oak stands can be found in the southeast portion of the Fly Fishing Area, representing some of the best red oak stands in the Forest.

This area also includes some red pine plantations that were established in the 1960's. They are irregularly shaped and contain a fair amount of oak, which contributes to the diversity of the stand and provides wildlife benefits. Most of these plantations are on the west side of the river.

### Soils and Habitat Types

The soils in this area are primarily sands and loamy sands on the uplands and poorly drained mineral or muck in the lowlands. The habitat types are closely tied to soil type and all are classified as low in soil moisture and poor to medium in soil nutrients. The three habitat types found in this area are PARVAo (*Pinus strobus-Acer rubrum/Vaccinium angustifolium-Apocynum androsaemifolium*), PARVPo (*Pinus strobus-Acer rubrum/ Vaccinium angustifolium-Polygonatum pubescens*), and AVb (*Acer saccharum/Viburnum acerifolium*).

### AREA 2 SUMMARY

- ▲ 1,825 acres.
- ▲ Includes the entire corridor of the free flowing river.
- ▲ Approximately 150 acres comprised of slopes too steep to harvest.
- ▲ Opportunity to promote and enhance the naturally appearing and undeveloped scenic qualities of the Peshtigo River.
- ▲ Opportunity to increase longer lived trees such as red and white pine.

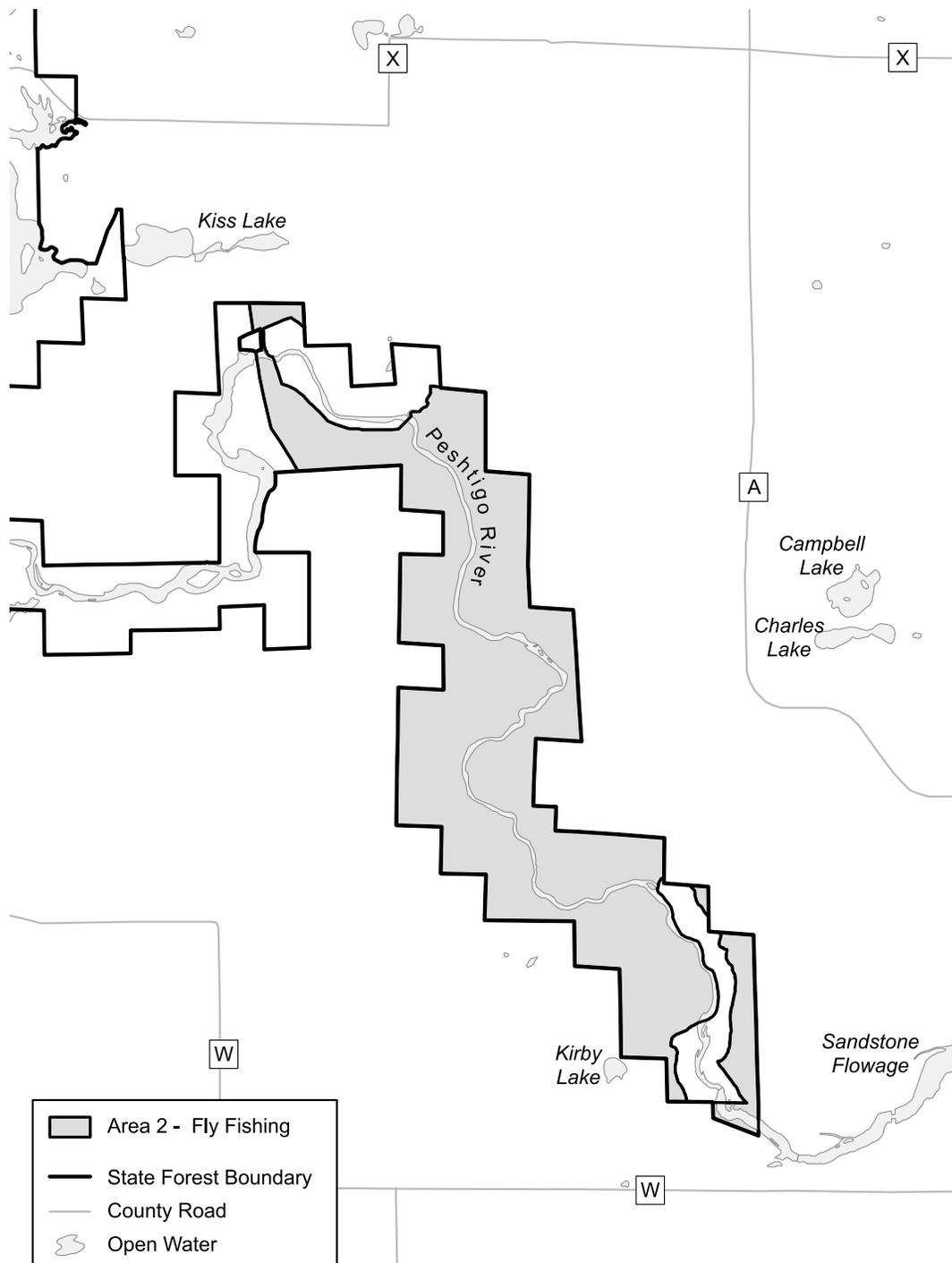
PARVAo is the most nutrient deficient and driest habitat type found in this area. The dominant shrubs are blueberries, raspberries, sweet fern, hazel, and juneberry. The dominant ground flora is bracken fern, wild lily-of-the-valley, wintergreen, spreading dogbane, starflower and wild strawberry. The climax tree species are white pine and red maple.

PARVPo is the most common habitat type in this area, with a dry-mesic moisture regime, and poor to medium soil nutrient gradient. Dominant shrubs include hazel, blackberry, blueberry, chokecherry, juneberry and bush honeysuckle. The dominant ground flora is bracken fern, wild lily-of-the-valley, whorled loosestrife, spreading dogbane, starflower, and hairy Solomon's seal. The climax tree species are white pine and red maple.

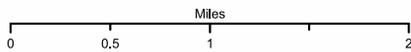
AVb is the richest habitat type found in this area, although it is still classified as having only moderate soil nutrients and dry-mesic soil moisture. This habitat type is most closely associated with red oak stands. The dominant shrubs are maple leaved viburnum, hazel, witch hazel, juneberry, blackberry, and bush honeysuckle. The dominant ground flora are bracken fern, large leaved aster, wild sarsaparilla, trillium, hog peanut, round lobed hepatica, false Solomon's seal, starflower, wood anemone, and wild lily-of-the-valley. Maintaining red oak is desirable and is complemented by its ability to compete well in this habitat type, preventing species such as red maple from taking over the more nutrient rich sites.



MAP 2.4 FLY FISHING AREA



PRSF031  
May, 2007



Peshigo River State Forest  
Master Plan

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not an authoritative source of information about legal land ownership or public access.





**Long Term Management Objectives (100 years)**

- Maintain the high scenic qualities of the Peshtigo River and flowages.
- Protect the water quality and riparian habitat of the Peshtigo River and flowages.
- Maintain a diversity of forest cover types and age classes for overall health of the forest, aesthetic appeal, and to provide wildlife habitat.
- Continue to increase the presence of large, longer lived trees such as white pine on suitable sites.
- Maintain scrub oak and red maple for habitat diversity.
- Maintain red oak, aspen, jack pine, and red pine acreages.

**Short Term Objectives (50 years)**

- Maintain and enhance the scenic qualities of the Peshtigo River and flowages.
- Enhance the diversity of forest cover types and age classes for overall health of the forest, aesthetic appeal, and to provide wildlife habitat.
- Protect and enhance the water quality and riparian habitat of the Peshtigo River and flowages.
- Decrease the acreage of scrub oak but maintain a component for habitat diversity.
- Increase the presence of longer-lived trees such as red and white pine.
- Increase the total acreage of jack pine and red maple.
- Maintain current levels of red oak and aspen.

**Resource Management Prescriptions**

Please see the General Management Prescriptions at the beginning of this section for general management prescriptions by forest type. The General Management Prescriptions apply and all management activities are authorized, except as noted below for this management area.

- When conducting forest management activities, modify the standard management prescriptions to minimize as practicable, the visibility of activities from the river. Specific aesthetic management techniques that may be used are: restricting the size of cuts, conducting partial harvests, retaining single trees or groups of trees,

**TABLE 2.2 FLY FISHING AREA CURRENT AND FUTURE LAND COVER**

COMMUNITY TYPE	CURRENT		PREDICTED 50 YEAR	
	ACRES	% OF TOTAL AREA	ACRES	% OF TOTAL AREA
Aspen	378	21%	378	22%
Fir-Spruce	17	1%	100	5%
Red Oak	06	11%	206	11%
Red Pine	46	13%	321	19%
Right of Way	26	1%	26	1%
Scrub Oak	897	50%	281	15%
White Birch	55	3%	0	0%
White Pine	0	0%	134	7%
Red Maple	0	0%	300	16%
Jack Pine	0	0%	79	4%
Total	1,825	100%	1,825	100%

creating irregular or feathered harvest boundaries, controlling logging slash, planting trees, managing for longer lived species, and harvesting during the winter.

- Manage for longer-lived trees such as red and white pine across the management area on suitable sites.
- Where feasible, allow scrub oak to naturally convert to white pine, aspen, or red maple. Where natural conversion is not viable or where conversion to red pine or jack pine is desired, use planting and other active management techniques. (The decision to convert to red pine or jack pine from scrub oak is influenced by a variety of factors including but not limited to: site suitability, visibility, deer browse and competition from the current cover-type after harvest.)
- On areas that are to steep for forest management use passive management, except for the control of invasive species. Determine steep slopes on a stand by stand basis whenever forest management activities are proposed.
- Retain snags and coarse woody habitat across the area and downed trees in the river.





This area is made up of 771 acres of land. It is located outside the main forest boundary near the cities of Marinette and Peshtigo. Much of the area is near the water, public roads, recreational trails, or other recreational sites. Additionally, much of this area is adjacent to private land and seasonal residences.

### Description of the Forest Resource

Due to the nutrient poor sandy soils found in this area, the forest is generally poorly productive. Seven percent of the acreage is planted red pine, which is highly productive compared to the scrub oak, which is about 19% of the acreage. The forest resource is somewhat monotypic due to the high percentage (43%) of sapling sized aspen. The high percentage of aspen makes this area susceptible to gypsy moth defoliation, which decreases vigor and growth of the aspen and contributes to the death of scrub oak.

The conifer component of this area is small. The white pine and jack pine acreage is almost non-existent, even as a secondary timber type. Increasing the conifer component would be desirable from the forest productivity standpoint, and for the wildlife and aesthetic benefits of conifers. There are some residual red pine plantations in this area that were established in the 1960's which are irregularly shaped and contain a fair amount of oak, which contributes to the diversity of the stand and provides wildlife benefits.

### Soils and Habitat Types

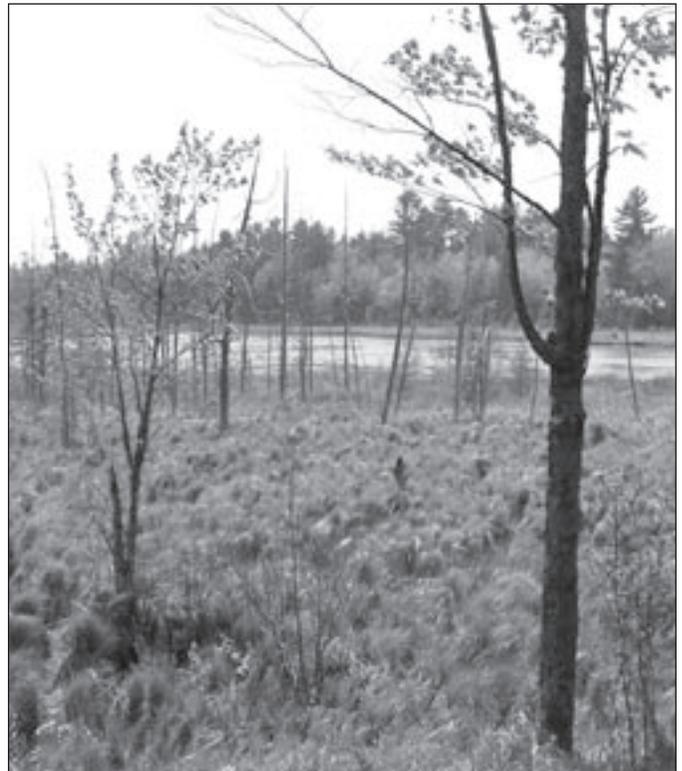
The soils in this area are primarily sands and loamy sands on the uplands, and poorly drained mineral or muck in the lowlands. The habitat types are closely tied to soil type and all are classified as low in soil moisture and poor to medium in soil nutrients. The three habitat types found in this area are PARVAo (*Pinus strobus-Acer rubrum/ Vaccinium angustifolium-Apocynum androsaemifolium*), PARVPo (*Pinus strobus-Acer rubrum/ Vaccinium angustifolium-Polygonatum pubescens*), and AVb (*Acer saccharum/ Viburnum acerifolium*).

PARVAo is the most nutrient deficient and driest habitat type found in this area. The dominant shrubs of this habitat type are blueberries, raspberries, sweet fern, hazel, and juneberry. The dominant ground flora is bracken fern, wild lily-of-the-valley, wintergreen, spreading dogbane, starflower and wild strawberry. The climax tree species are white pine and red maple.

PARVPo is the most common habitat type in this area, with a dry-mesic moisture regime, and poor to medium soil nutrient gradient. Dominant shrubs include hazel, blackberry, blueberry, chokecherry, juneberry and bush honeysuckle. The dominant ground flora is bracken fern, wild lily-of-the-valley, whorled loosestrife, spreading dogbane, starflower, and hairy Solomon's seal. The climax tree species are white pine and red maple.

### AREA 3 SUMMARY

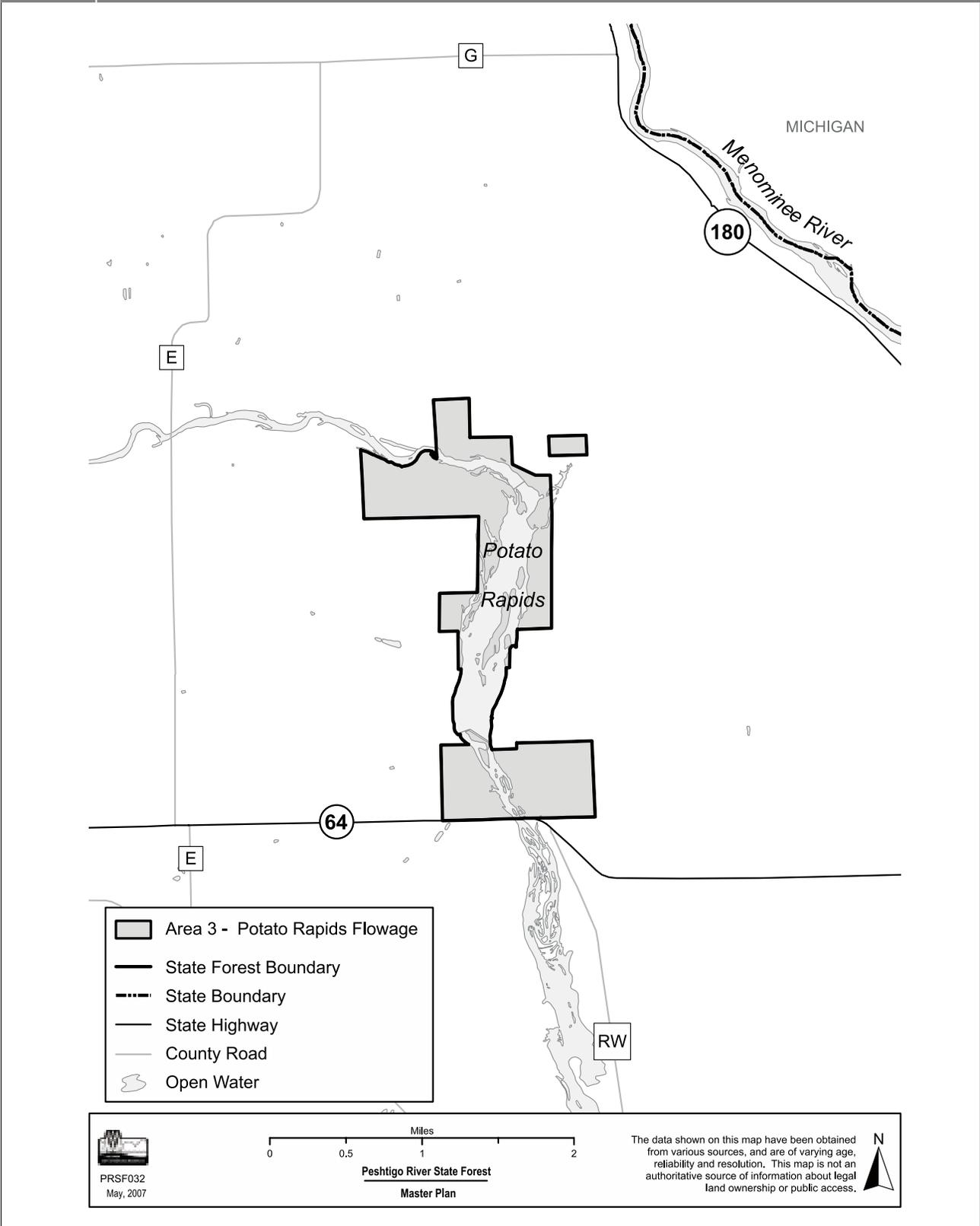
- ▲ 771 acres
- ▲ Located outside the primary forest boundary near the cities of Marinette and Peshtigo
- ▲ Opportunity to manage for longer lived tree species such as white pine.



AVb is the richest habitat type found here, although it is still classified as having only moderate soil nutrients and dry-mesic soil moisture. This habitat type is most closely associated with red oak stands. The dominant shrubs on this habitat type are maple leaved viburnum, hazel, witch hazel, juneberry, blackberry, and bush honeysuckle. The dominant ground flora are bracken fern, large-leaved aster, wild sarsaparilla, trillium, hog peanut, round-lobed hepatica, false Solomon's seal, starflower, wood anemone, and wild lily-of-the-valley. Maintaining red oak is desirable and is complemented by its ability to compete well in this habitat type, preventing species such as red maple from taking over the more nutrient rich sites.



MAP 2.5 POTATO RAPIDS FLOWAGE





**Long Term Management Objectives (100 years)**

- Maintain the scenic qualities of the Peshtigo River and flowage.
- Protect and maintain the water quality and riparian habitat of the Peshtigo River and flowage.
- Maintain a diversity of forest cover types and age classes for overall health of the forest, aesthetic appeal, and to provide wildlife habitat.
- Continue to increase the level of white pine and maintain the abundance of red pine. Promote larger diameter trees for both species.
- Maintain scrub oak, aspen, and red maple.

**Short Term Management Objectives (50 years)**

- Maintain and enhance the scenic qualities of the Peshtigo River and flowage.
- Protect and enhance the water quality and riparian habitat of the Peshtigo River and flowages.
- Reduce the acreage of aspen and scrub oak and increase the presence of white pine, red maple, and other species and maintain the current acreage of red pine.

**Resource Management Prescriptions**

Please see the General Management Prescriptions at the beginning of this section for general management prescriptions by forest type. The General Management Prescriptions apply and all management activities are authorized, except as noted below for this management area.

- Allow the natural conversion of aspen and scrub oak to white pine, red maple, and other species within the Shoreland Management Overlay Zone.
- Use natural conversion to increase the presence of red maple and white pine in mixed stands across the management area. Actively convert some deciduous forest types to white pine on appropriate sites. Manage white pine towards larger diameter older trees.
- Retain snags and coarse woody habitat whenever their retention does not conflict with other forest management objectives, including riparian areas.
- Minimize the visual impact of timber harvests using aesthetic management techniques such as restricting the size of cuts, conducting partial harvests, retaining single trees or groups of trees, creating irregular or feathered harvest boundaries, controlling logging slash, planting trees, managing for longer lived species, and harvesting during the winter.

**TABLE 2.3 POTATO RAPIDS FLOWAGE CURRENT AND FUTURE LAND COVER**

COMMUNITY TYPE	CURRENT		PREDICTED 50 YEAR	
	ACRES	% OF TOTAL AREA	ACRES	% OF TOTAL AREA
Scrub Oak	146	19%	46	6%
Aspen	327	43%	218	28%
Red Maple	104	13%	236	31%
Red Pine	57	7%	57	7%
White Pine	0	0%	77	10%
Forested Wetlands	35	5%	35	5%
Unforested Wetlands	72	9%	72	9%
Unforested Uplands	30	4%	30	4%
Total	771	100%	771	100%



## NATIVE COMMUNITY MANAGEMENT AREAS

Native community areas are managed with the primary objective of representing and perpetuating native plant communities whether upland, wetland or aquatic, and other aspects of native biological diversity. Management activities are designed to achieve land management objectives through natural processes whenever possible.

Native community areas will be managed to provide the full range of native plant and animal communities found on the Peshtigo River State Forest. Only those areas of highest value for protection or community restoration were selected. Whenever possible, management activities in native community management areas achieve their objectives through natural processes (passive management) and active management techniques that mimic natural processes.

### NATIVE COMMUNITY MANAGEMENT AREAS

Area 4: Lake Lackawanna and Cedars (358 acres)

Area 5: Caldron Falls (223 acres)

Area 6: High Falls North (101 acres)

Area 7: Johnson Falls (206 acres)

Area 8: Kirby Lake Hardwoods (158 acres)

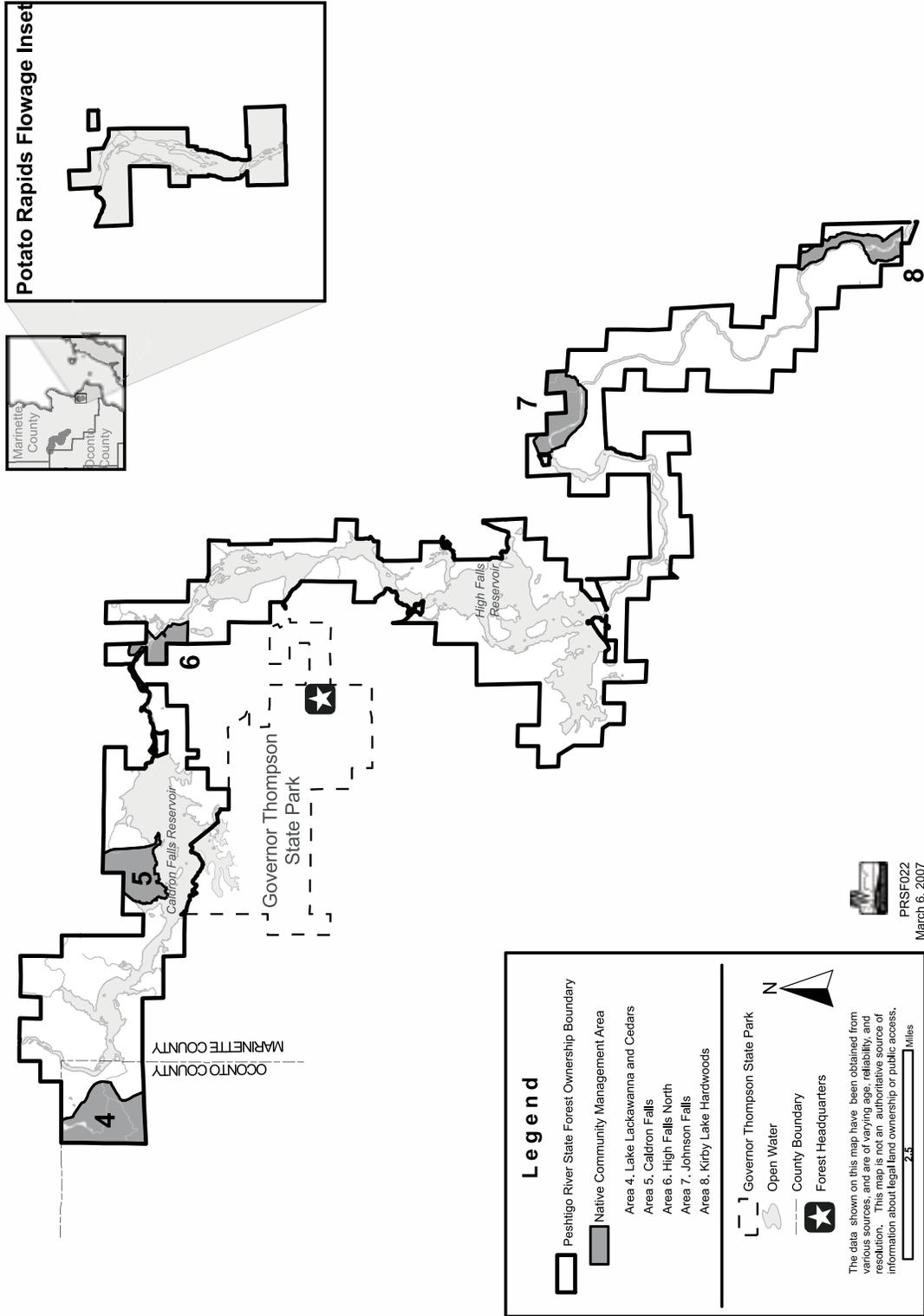
### Management Objectives

- Restore and maintain native plant and animal communities and other aspects of native biological diversity.
- Maintain a mosaic of rare or representative community types that include older closed canopy forests of longer lived species such as pines (on the uplands) and northern white cedar (on the lowlands), as well as an undeveloped lake and other unique attributes including Forested Seeps and Bedrock Glades.
- Maintain a diversity of forested and unforested wetlands where suitable.
- Maintain, protect and enhance water quality, including coarse woody habitat.
- Protect rare species habitats and high-quality natural communities.
- Provide for research, education and ecological interpretation.



**NATIVE COMMUNITY MANAGEMENT**

**MAP 2.6 NATIVE COMMUNITY MANAGEMENT AREAS**





This 358 acre Native Community Management Area is comprised of a diverse mosaic of upland and wetland community types. The site features a small hard water drainage lake surrounded by several wetland types and an associated stream, as well as an extensive Northern Wet-mesic Forest dominated by 100 (+) year-old white cedar. Though the lake is entirely state owned, the main inlet passes through private land from Crandall Lake to the north. Two plants of Special Concern have been documented at this site in both wet and dry habitats.

**Description of the Forest Resource**

The uplands are dominated largely by immature aspen, along with patches of Hill’s oak-dominated Northern Dry Forest. Several community types make up the lowlands, including Tamarack Swamp, Northern Hardwood Swamp, Alder Thicket, Southern Sedge Meadow, and, most notably, the large cedar swamp (Northern Wet-mesic Forest). The site also contains scattered red pine plantations in patches less than 5 acres each. Scattered patches of mature, declining white spruce are common along old logging trails created in the 1970’s in the southern half of the area.

The cedar swamps are located in two main areas—one just south of the lake, and the other along the southern boundary of the site and extending southward onto federal land. The

**AREA 4 SUMMARY**

- ▲ This area is approximately 358 acres in size with 100% of it in state ownership.
- ▲ Opportunity to develop an older, dry-mesic closed canopy forest of longer lived species like white pine on the uplands while maintaining the diverse wetland community, including northern white cedar, on the lowlands.
- ▲ Protect and enhance rare species habitats, natural communities, and water quality.
- ▲ Designated State Natural Area.

immature aspen in the uplands originated from harvest cuts made in the 1970’s and late 1990’s. White pine regeneration, in the form of seedlings and saplings, is an important feature of the site’s uplands. Two small streams traverse the southern half of the area. One stream is the outlet of Lake Lackawanna, and the other stream flows from federal land to the west, joining the outlet.

**Soils and Habitat Types**

Upland soils in this area are predominately sands and loamy sands, while the lowlands are primarily muck. The uplands have a dry-mesic moisture regime, and a poor to medium soil nutrient regime, typical of the PARVPo forest habitat type. The dominant shrubs on this habitat type are hazel, blackberry, blueberry, chokecherry, juneberry, and bush honeysuckle. The dominant ground flora is bracken fern, wild lily-of-the valley, whorled loosestrife, spreading dogbane, starflower, and hairy Solomon’s seal.

**State Natural Area Designation**

The State Natural Area Designation for Lake Lackawanna and Cedars State Natural Area includes a passively managed zone encompassing the forested and open wetlands and an active management zone that will promote development of old white and red pine forest.

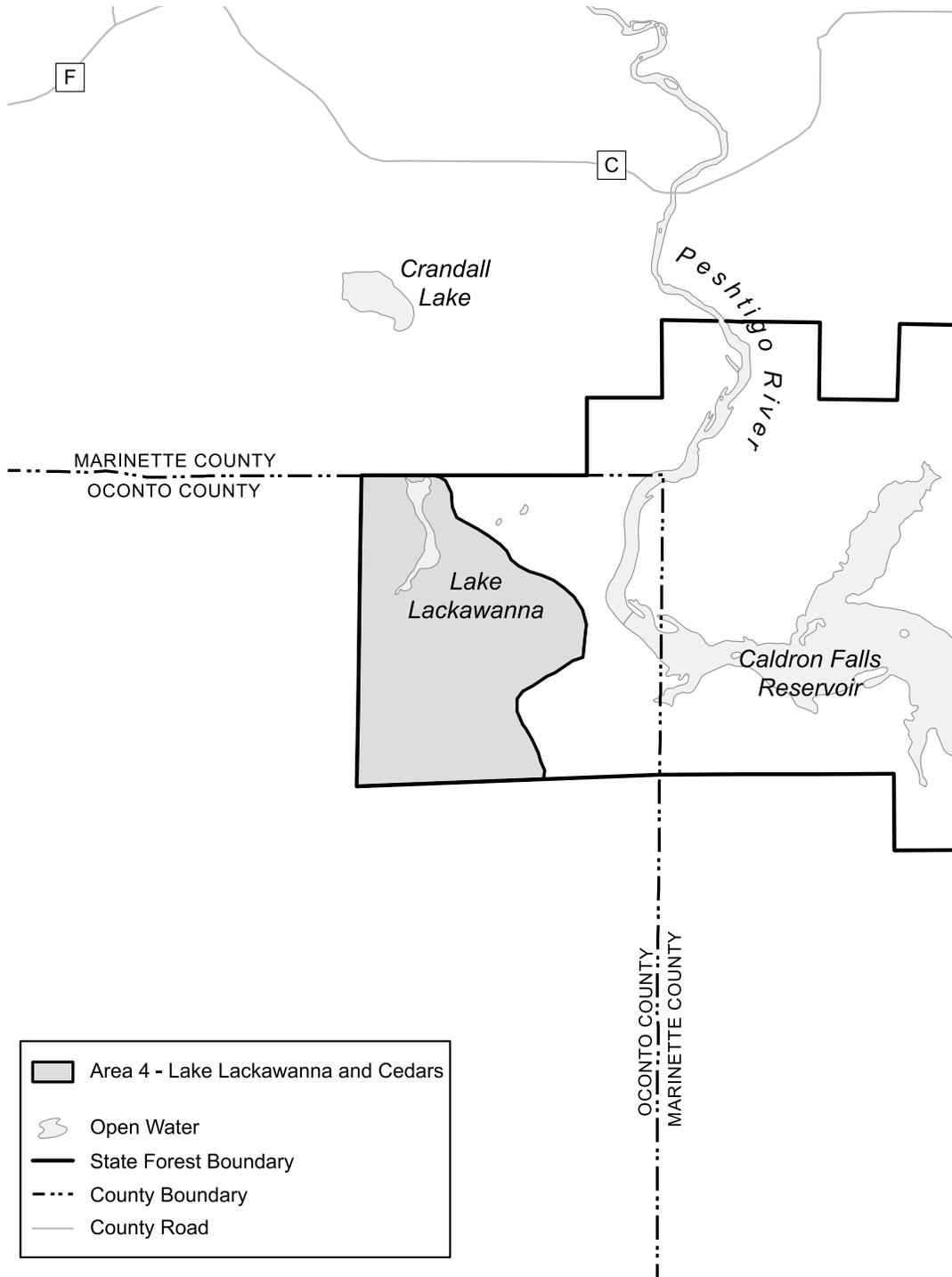
Lake Lackawanna is a shallow hard water drainage lake with a maximum depth of 3 feet. The cedar swamp is second-growth, although little disturbance has occurred for nearly a century. The wetlands harbor populations of rare plants and animals. The remainder of the 358-acre site is younger upland forest that will be actively managed to promote older white and red pine.

**TABLE 2.4 LAKE LACKAWANNA AND CEDARS CURRENT AND FUTURE LAND COVER**

COMMUNITY TYPE	CURRENT		PREDICTED 50 YEAR	
	ACRES	% OF TOTAL AREA	ACRES	% OF TOTAL AREA
White Pine	10	3%	52	15%
Cedar	60	17%	60	17%
Swamp Conifer	46	13%	46	13%
Swamp Hardwood	30	8%	30	8%
Red Pine	10	3%	10	3%
Aspen	122	34%	80	22%
Scrub Oak	10	3%	10	3%
Fir/Spruce	30	8%	30	8%
Lake	10	3%	10	3%
Emergent Vegetation	20	5%	20	5%
Lowland Brush	10	3%	10	3%
Total	358	100%	358	100%



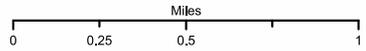
MAP 2.7 LAKE LACKAWANNA AND CEDARS



- Area 4 - Lake Lackawanna and Cedars
- Open Water
- State Forest Boundary
- County Boundary
- County Road



PRSF033  
May, 2007



**Peshtigo River State Forest**  
Master Plan

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not an authoritative source of information about legal land ownership or public access.





### Short and Long Term

#### Management Objectives (50 & 100 Years)

- Protect the hydrology and water quality of Lake Lackawanna and associated streams.
- Maintain a diverse mosaic of native community types.
- Develop and maintain the uplands in older closed canopy forest that: 1) have large diameter trees, 2) are structurally diverse, 3) have a mixed species composition with an increased dominance by longer lived species such as white pine, and 4) contain old growth characteristics such as the development of abundant coarse woody debris and standing dead snags.
- Convert red pine plantations to a diverse forest that includes white pine as a major associate.
- Maintain the existing native wetland community types such as Sedge Meadow and Alder Thicket. The forested wetlands will be dominated by Northern wet-mesic Forest (Northern White Cedar swamp), but are expected to have inclusions of other types such as Tamarack Swamp and Northern Hardwood Swamp.
- Protect and enhance rare species habitats (two rare plants at the time of this writing) and high quality natural communities.
- Provide opportunities for scientific research.
- Provide recreation opportunities that generally focus on activities such as hiking, bird-watching, photography, and nature study.
- Actively manage the uplands to favor increased dominance by longer-lived trees such as white pine, primarily through thinning and natural conversion, while maintaining and enhancing forest structure and tree species diversity. Coordinate with the State Natural Areas program to plan active management techniques and strategies. The DNR Old Growth Handbook should be used to help guide this work, particularly information related to "Managed Old-growth" forests.
- Retain numerous standing dead snags and coarse woody habitat in both upland and riparian areas.
- Use monitoring information on changes in composition and structure to aid in future management decisions.
- Actively manage red pine plantations primarily through thinning and natural regeneration techniques to create stands with a natural appearance and large diameter trees grown to biological maturity.
- Passively manage all of the wetland communities, including the forested lowlands.
- Actively control beaver populations and mitigate the impacts of beaver damage if they threaten to negatively affect the cedar swamp(s) for the purposes of protecting rare species habitats and maintaining high-quality natural communities
- Salvage generally will not occur in passive areas unless necessary to meet statutory responsibilities for fire protection or pest control. In actively managed areas, salvage of trees damaged by wind, ice, fire, and insects, may occur after consultation with managers from affected DNR programs to determine how salvage can be done to help meet the objectives of the area.
- Control of invasive plants may also occur in passively managed areas.

#### Resource Management Prescriptions

The General Forest Management Prescriptions apply and all of their associated management activities apply, except as limited by the prescriptions below:

- Maintain the hydrology, aesthetic values, and water quality of the lake, wetlands, and associated streams by using Best Management Practices (BMPs).





This 223 acre Native Community Management Area is located along the north shore of the Caldron Falls Reservoir and features a large block of Northern Dry-mesic Forest surrounding two shallow peaty depressions containing good quality Black Spruce Swamp. There is at least one Ephemeral Pond, a rare feature in the landscape, located within the site. This area represents one of the best opportunities on the Peshtigo River State Forest and surrounding landscape to manage for a larger, contiguous block of intact Northern Dry-mesic Forest, which could benefit numerous species. The Black Spruce Swamps have good plant diversity that is representative of this type.

#### Description of the Resource

This native community is entirely within Peshtigo River State Forest ownership. However, acquiring adjacent private lands would be highly beneficial in creating a large block of closed canopy forest. An important feature of this entire land management area is abundant conifer regeneration, which consists of black spruce in the black spruce depressions, and white pine on both the uplands and portions of the lowlands. The black spruce stands in the lowlands appear to be self-regenerating

#### AREA 5 SUMMARY

- ▲ 223 acres in state ownership.
- ▲ Opportunity to maintain a forest mosaic with large, old trees representing later forest successional stages with high-quality wetland inclusions.
- ▲ Opportunity to manage for longer-lived species.

while the uplands are naturally succeeding to white pine as the habitat type predicts.

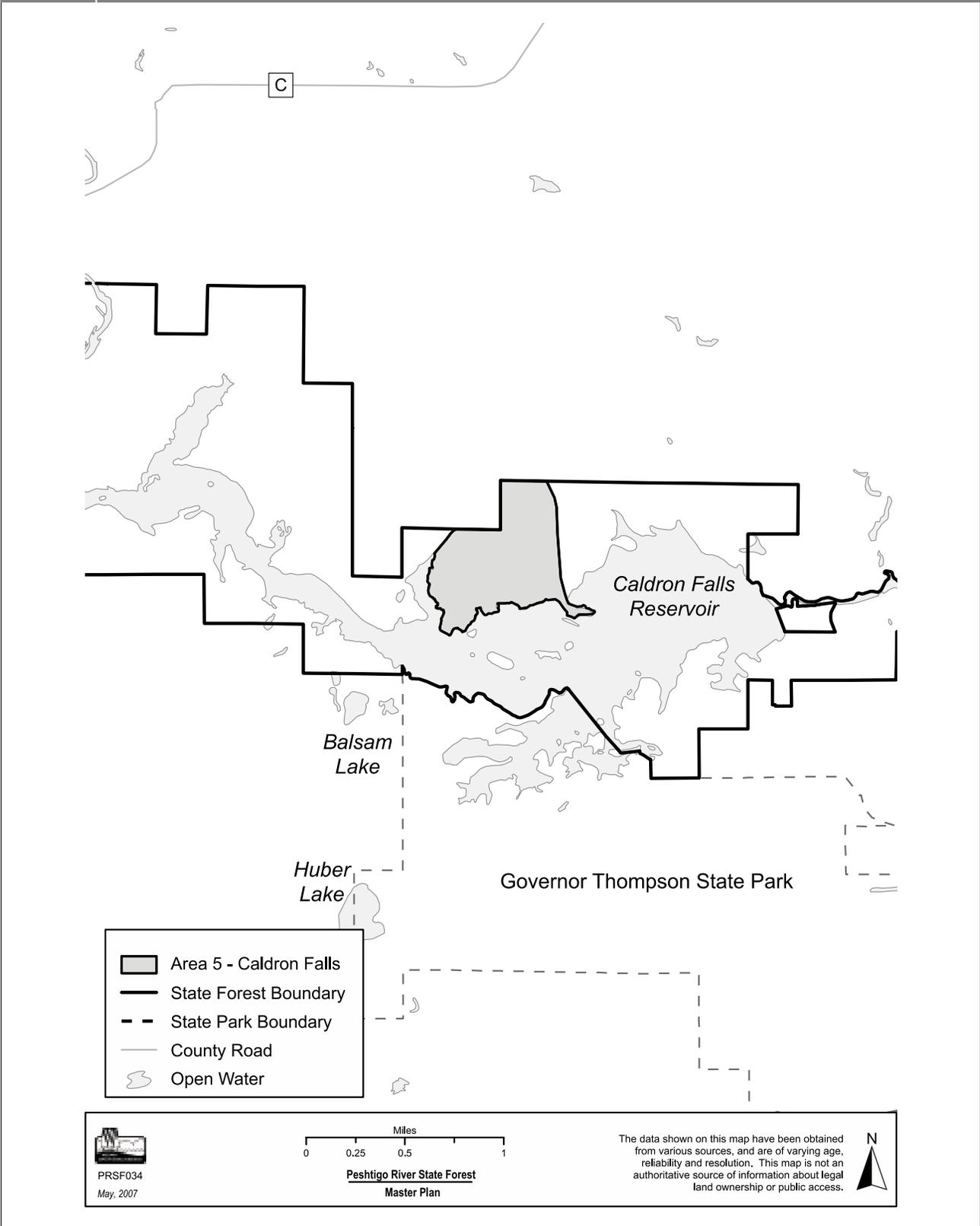
#### Soils and Habitat Types

The primary habitat type for the uplands of this area is PARVPo, which has a dry-mesic moisture regime, and a poor to medium soil nutrient regime. Upland soils are predominantly sands and loamy sands. The area falls into the broad classification of a Northern Dry-Mesic Forest. The dominant shrubs on this habitat type are hazel, blackberry, blueberry, chokecherry, juneberry, and bush honeysuckle. The dominant ground flora are bracken fern, wild lily-of-the-valley, whorled loosestrife, spreading dogbane, starflower, and hairy Solomon's seal.





MAP 2.8 CALDRON FALLS





**TABLE 2.5 CALDRON FALLS CURRENT AND FUTURE LAND COVER**

COMMUNITY TYPE	CURRENT		PREDICTED 50 YEAR	
	ACRES	% OF TOTAL AREA	ACRES	% OF TOTAL AREA
Black Spruce	25	11%	25	11%
Red Pine	20	9%	20	9%
Red Maple	48	21%	28	12%
Aspen	53	24%	28	12%
Scrub Oak	77	35%	19	8%
White Pine	0	0%	103	48%
Total	223	100%	223	100%

Lowland soils are peat within the Black Spruce Swamps. Poorly-drained mineral soils exist in the other wetland portions of the site. The black spruce swamps are small, but are contained within a larger mosaic and exhibit species diversity that is representative of this community type.

**Short and Long Term**

**Management Objectives (50 & 100 years)**

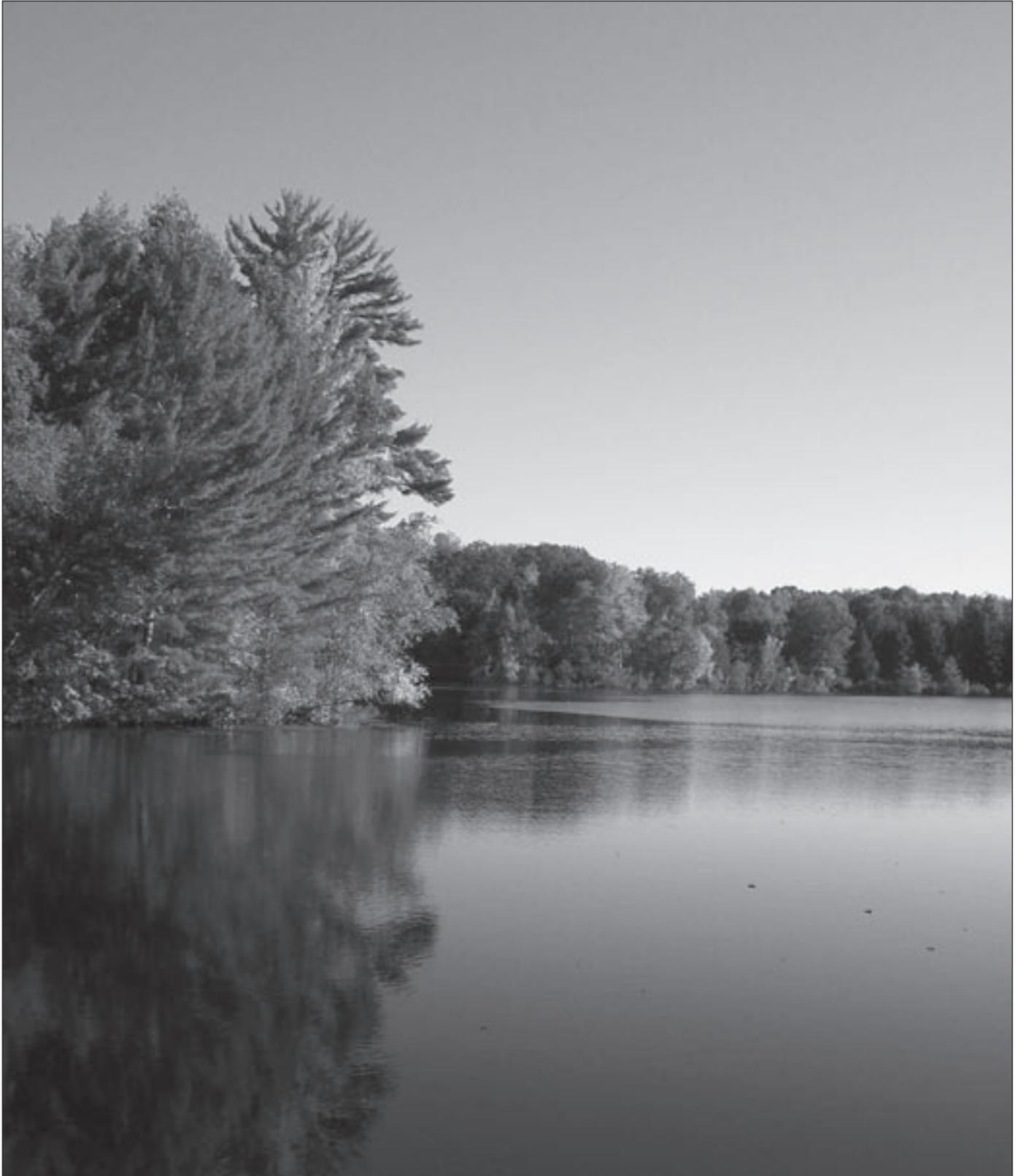
- Develop and maintain an older, closed canopy forest of longer lived species such as white pine on the uplands and both white pine and black spruce on the lowlands.
- Enhance forest structural diversity, tree species diversity, and development of old growth characteristics such as the presence of coarse woody debris and standing dead snags on the uplands.
- Convert red pine plantations to a diverse forest that includes white pine as a major associate.
- Protect and maintain Black Spruce Swamps and Ephemeral Ponds in a natural, unmanaged condition, except for invasive species control
- Protect, maintain and enhance the water quality, riparian habitat, and scenic qualities of the Caldron Falls Flowage.

- Provide opportunities for scientific research.
- Provide recreation opportunities that generally focus on activities such as hiking, bird-watching, photography, and nature study.

**Resource Management Prescriptions**

The General Forest Management Prescriptions apply and all of their associated management activities apply, except as limited by the prescriptions below:

- Use thinning and other harvest techniques to release and favor white pine, where possible. Maintain a component of scrub oak for diversity and wildlife benefits.
- Actively manage red pine plantations primarily through thinning and natural regeneration techniques to create stands with a natural appearance, large diameter trees grown to biological maturity, an increased dominance by longer-lived species such as white pine.
- Retain standing dead snags and coarse woody habitat whenever their retention does not conflict with other forest management objectives, including riparian areas.
- Refer to the DNR Old- Growth Handbook to guide management decisions, particularly information related to “Managed Old-growth” forests. Use monitoring information on changes in composition and structure to aid in future management decisions.
- Passively manage the Black Spruce Swamps, Ephemeral Pond(s), and immediately surrounding areas.
- Salvage generally will not occur in passive areas unless necessary to meet statutory responsibilities for fire protection or pest control. In actively managed areas, salvage of trees damaged by wind, ice, fire, and insects, may occur after consultation with managers from affected DNR programs to determine how salvage can be done to help meet the objectives of the area.
- Maintain the Caldron Falls Flowage in a natural appearing condition (see Shoreland Management Overlay Zone Prescriptions).





This 101 acre Native Community Management Area—with an additional 20 acres in private ownership—is located on the northernmost end of High Falls Reservoir, just north of Old Veteran’s Lake Campground. The mouth of the Big Eagle Creek is directly across from this area. The site includes areas on both sides of the flowage, encompassing about one mile of shoreline.

#### Description of the Forest Resource

The site is a complex of dry oak forest and aspen forest interspersed with Bedrock Glades and scattered remnant conifer stands. The major ecological features are Bedrock Glades embedded within Northern Dry Forest and Northern Dry Mesic Forest, two forest types that are representative of this landscape. The area is hilly and contains numerous granite outcrops, both along the shoreline, and further inland. The Bedrock Glades have the potential to support rare plants, and the forest is representative of this community type in the area. Most of the soils, with the exception of a few low lying pockets, are dry and sandy. A designated snowmobile trail runs through this area on the southerly side of the flowage. The understory is generally open, but has varying amounts of red maple and white pine seedlings and saplings.

#### AREA 6 SUMMARY

- ▲ 101 acres in state ownership.
- ▲ 20 acres privately owned.
- ▲ Opportunity to manage for a mature forest with unique Bedrock Glade inclusions.

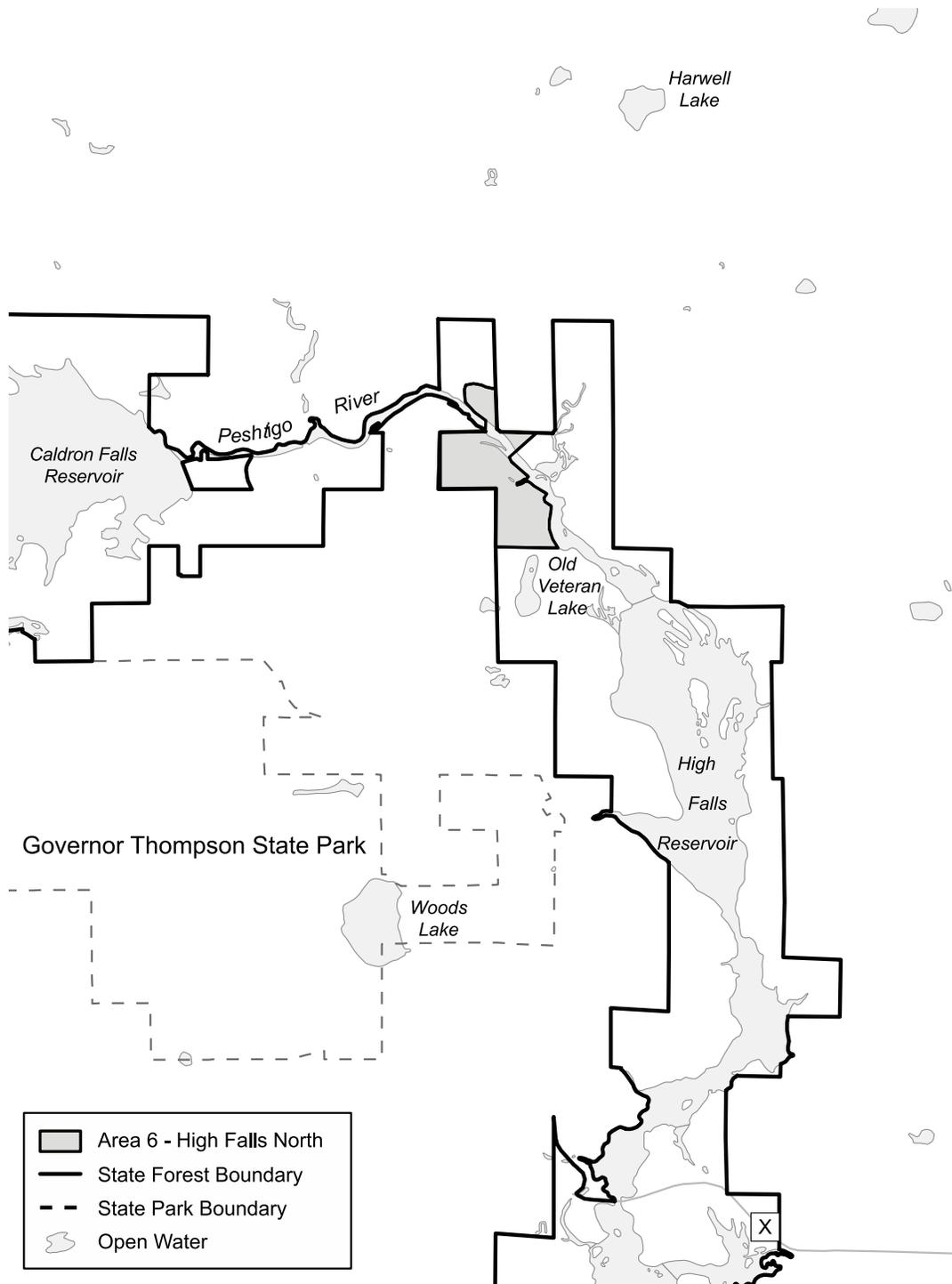
#### Soils and Habitat Types

The soils of this area are mostly dry and sandy, although a few areas are somewhat low lying more mesic. The habitat type for most of the area is PARVAo which is a dry, soil nutrient deficient habitat type. The dominant shrubs are blueberries, raspberries, sweet fern, hazel, and juneberry. The dominant ground flora includes bracken fern, wild lily-of-the-valley, wintergreen, spreading dogbane, starflower, and wild strawberry. The climax tree species on this habitat type are white pine and red maple.

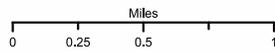




MAP 2.9 HIGH FALLS NORTH



PRSF035  
May, 2007



Peshtigo River State Forest  
Master Plan

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not an authoritative source of information about legal land ownership or public access.





**TABLE 2.6 HIGH FALLS NORTH CURRENT AND FUTURE LAND COVER**

COMMUNITY TYPE	CURRENT		PREDICTED 50 YEAR	
	ACRES	% OF TOTAL AREA	ACRES	% OF TOTAL AREA
Scrub Oak	77	76%	0	0%
Aspen	16	16%	0	0%
Rock	4	4%	4	4%
Water	4	4%	4	4%
White Pine	0	0%	33	33%
Red Maple	0	0%	60	59%
Total	101	100%	101	100%

**Short and Long Term Management Objectives (50 & 100 Years)**

- Protect and enhance the Bedrock Glades and all other rare species habitats and high-quality natural communities that are present.
- Enhance forest structural diversity and a mixed species composition, increase the dominance of longer-lived trees, particularly white pine, and develop of old growth characteristics such as the presence of large diameter trees, coarse woody debris, and standing dead snags.
- Red maple should increase and aspen and oak will decrease, but a component of each should be maintained in the overstory where possible to contribute to diversity.
- Increase the dominance of longer-lived trees, particularly white pine.
- Provide opportunities for scientific research.
- Provide recreation opportunities that generally focus on activities such as hiking, bird-watching, photography, and nature study.

**Resource Management Prescriptions**

The General Forest Management Prescriptions apply and all of their associated management activities apply, except as limited by the prescriptions below:

- Maintain portions of the glades in a mostly open condition, where possible, with scattered large trees to favor light-demanding and intermediate glade and dry-forest/woodland associated plants.
- Decrease the amount of aspen and scrub oak and increase white pine primarily through thinning and natural conversion and promote the growth and retention of red maple and large white pine trees. Use techniques such as partial cutting, thinning, and group selection when necessary.
- Retain snags and coarse woody habitat whenever their retention does not conflict with other forest management activities or present hazards.
- Prescribed fire could be a potentially useful management tool for improving understory species diversity and enhancing the native communities.
- Refer to the DNR Old-Growth Handbook to guide management decisions, particularly information related to “Managed Old-growth” forests. Use monitoring information on changes in composition and structure to aid in future management decisions.
- Minimize the visual impact of forest management activities in areas near Old Veteran’s Lake Campground.
- Salvage of trees damaged by wind, ice, fire, and insects, may occur after consultation with managers from affected DNR programs to determine how salvage can be done to help meet the objectives of the area.





This area encompasses 251 acres (including 45 acres in private ownership) on both sides of the Peshtigo River from just below the Johnson Falls Dam to the mouth of Medicine Brook. This portion of the river flows through a narrow rock and sand-bottomed valley with steep slopes and gently rolling sand plains above the valley. The area is diverse and complex in terms of hydrology, topography, soils, and vegetation and supports a mosaic of good quality natural communities including Northern Dry-mesic Forest, Northern Wet-mesic Forest (cedar swamp), Bedrock Glade, a small Hardwood Swamp and inclusionary seeps, springs, and spring runs. Several rare plants and high-quality natural communities, as well as a State-Threatened animal are known from this site.

### Description of the Resource

The Peshtigo River runs through the area with many springs, seeps, and creeks of various sizes flowing into the river, including Joy Lake Creek and the Medicine Brook. The topography varies from flat and wet to steep and dry, with some areas of rock outcrops. Steep slopes, rising 200 feet in elevation, are located on the south side of the river. The primary timber types found here this area are cedar, fir/spruce, scrub oak, aspen, natural red pine, and planted red pine.

The Northern Wet-mesic forests (cedar swamps) are found on the north side of the river, generally away from the river's edge. They exist because of the growing conditions created by the numerous springs and seeps, which provide a constant supply of fresh subterranean water favoring cedar growth and longevity. The cedar stands consist of pole and sawtimber size trees which are 90-120 years old. These stands were logged

### AREA 7 SUMMARY

- ▲ 206 acres in state ownership.
- ▲ Opportunity to manage for high-quality communities and rare species.
- ▲ Designated State Natural Area.

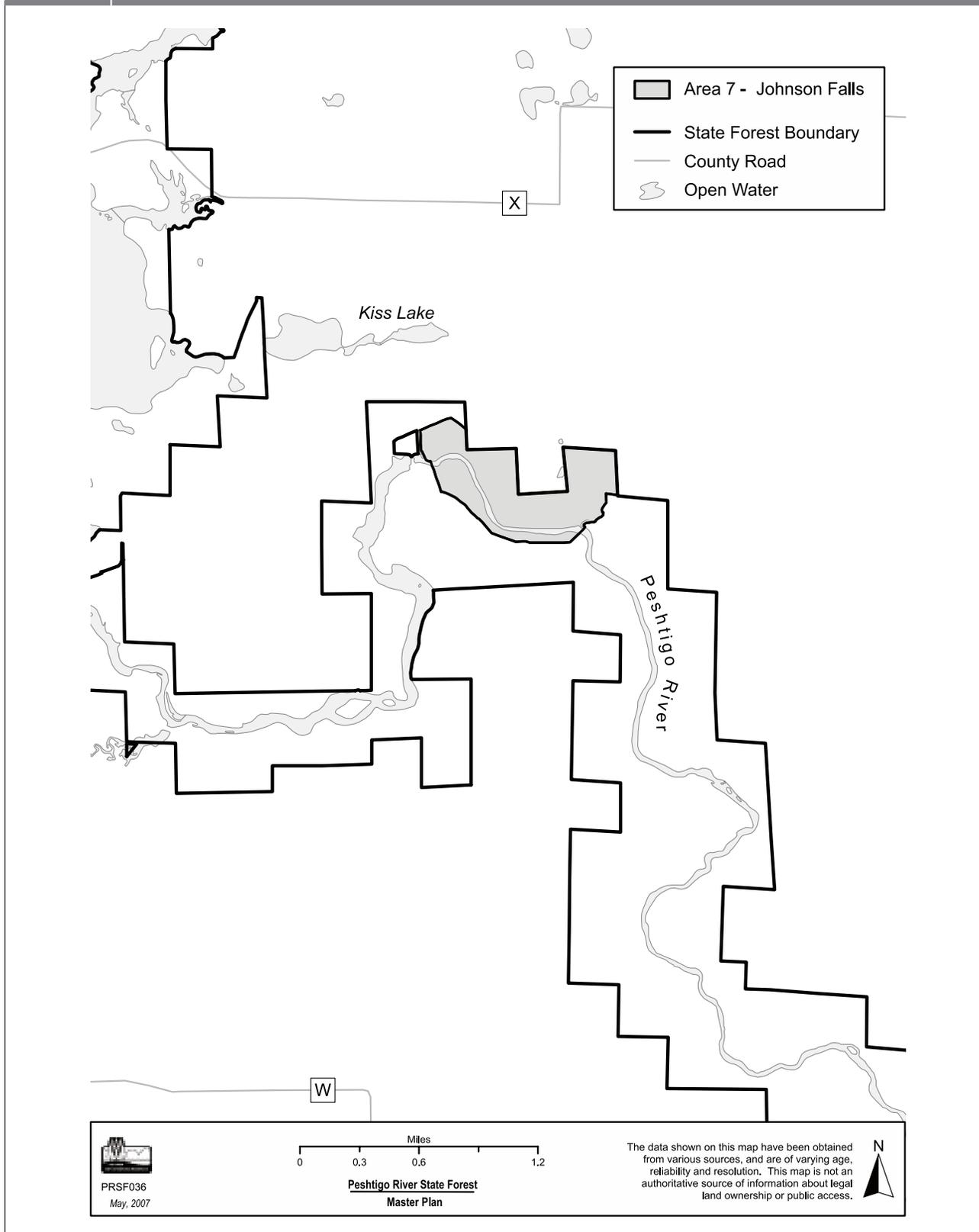
several decades ago, as evidenced by the stumps which are present. These stands will not regenerate to cedar without the proper disturbance while concurrently reducing the deer herds which yard in these stands. The cedar may eventually succeed to balsam fir in places, as it shows a great tendency to regenerate in the cedar, and is presently found in all size classes. Three Special Concern plant species have been documented in these cedar swamps.

The fir/spruce timber type is a catch-all for a large portion of this land management area on the north side of the river. This area contains a diverse group of tree species such as white pine, scrub oak, aspen, and red maple, but balsam fir of all sizes is most prolific and tends to out-compete white pine as the climax species. Also, noteworthy in these stands are scattered super canopy white and red pine, and rocky outcrops. Scattered jack pine are found here which are approximately 90 years old and date back to the construction of the Johnson Falls Dam.





MAP 2.10 JOHNSON FALLS





The majority of the scrub oak in this land management area is located in stands adjacent to, or near High Falls Road, on the north end of the area. However, scrub oak is found scattered throughout much of the land management area, especially on rock outcrops where it maintains itself on the thin soil. The scrub oak is generally saw timber sized, and these stands will eventually succeed to white pine and red maple, which are already found in the understory. The scrub oak stand located along High Falls Road has a small creek in it which drains out of a cedar swamp found on adjacent private land. A small grove of very large red and white pine is found near this creek.

Aspen clones and individual trees are scattered on the uplands in much of this land management area. Stands of aspen are found in 2 areas: one area is along the Medicine Brook on the north side of High Falls Road, and the other area is on the south side of the river just downstream from the dam. In both areas the aspen is old (75+ years), generally large, and succeeding to white pine, red maple, and balsam fir.

The only stand of natural red pine in this land management area is located on the south edge of the river, on a steep slope, facing directly north. The stand is approximately 300 feet wide and rises approximately 200 feet in elevation from the water's edge. Springs and seeps on are not present on this slope. The timber type for this stand is best described as large diameter red pine over hemlock of various sizes. The hemlock component is unusual for the Peshtigo River State Forest, particularly since regeneration is occurring here. Apparently, the climax species for this stand is hemlock which is favored by the extreme north aspect. White pine is a minor component of this area. Small red pine plantations are located along High Falls Road—the largest comprising about 8 acres in the northeast part of the land management area. The red pine is pole sized and occurs on gently sloping ground.

**Soils and Habitat Types**

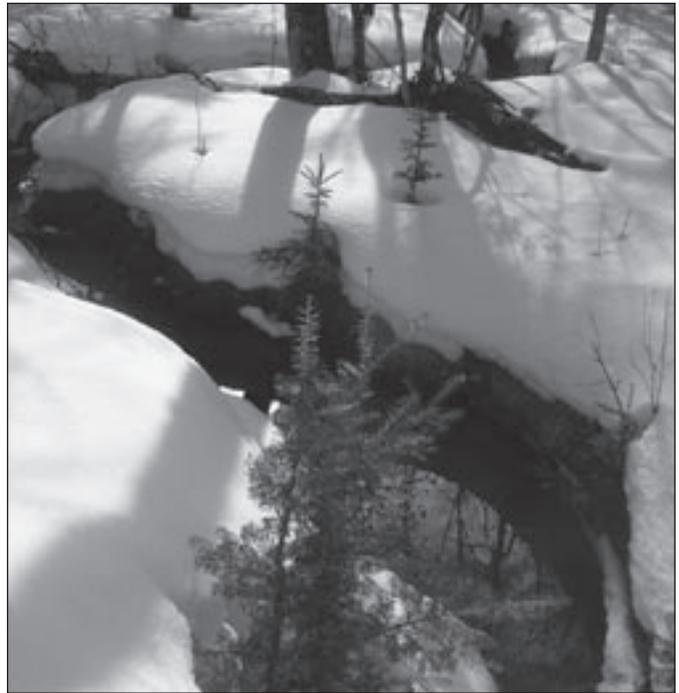
The forest habitat type on the uplands is primarily PARVPo, which has a dry-mesic moisture regime, and a poor to medium soil nutrient regime. The dominant shrubs on this habitat type are hazel, blackberry, blueberry, chokecherry, juneberry, and bush honeysuckle. The dominant ground flora are bracken fern, wild lily-of-the-valley, whorled loosestrife, spreading dogbane, starflower, and hairy Solomon's seal.

**State Natural Area**

The Johnson Falls State Natural Area encompasses 251-acres including 45 acres in private ownership. Note: the inclusion of private acres does not prevent the owner from conducting legal management activities on their land, nor does it inhibit them from selling their land to whomever they desire. However, if the owner wishes to cooperate with the Department in a

**TABLE 2.7 JOHNSON FALLS CURRENT AND FUTURE LAND COVER**

COMMUNITY TYPE	CURRENT		PREDICTED 50 YEAR	
	ACRES	% OF TOTAL AREA	ACRES	% OF TOTAL AREA
Red Pine (planted)	10	5%	10	5%
Red Pine (natural)	18	9%	18	9%
White Cedar	30	14%	30	14%
Fir/Spruce	80	39%	80	39%
Scrub Oak	25	12%	0	0%
Aspen	43	21%	0	0%
White Pine	0	0%	23	11%
Red Maple	0	0%	45	22%
Totals	206	100%	206	100%



management plan or acquisition, the Department would work with those landowners.

Johnson Falls has a diverse mosaic of good quality natural communities including pine forest, cedar swamp, bedrock glade, springs and seeps. Steep topography and variable slope and aspect lends to numerous changes in composition over short distances. Several rare plants find suitable habitat at this site.



### Short and Long Term

#### Management Objectives (50 & 100 years)

- Develop and maintain a diverse mosaic of high-quality native communities, including forested areas with old-growth attributes, Bedrock Glades, Forested Seeps, and springs in a natural, unmanaged state.
- Allow cover types to convert naturally to favor longer-lived species.
- Protect rare species habitats (four rare plants at the time of this writing).
- Protect, maintain, and enhance the water quality, riparian habitat, and scenic qualities of a stretch of the Peshtigo River.
- Convert red pine plantations to a diverse forest that includes white pine as a major associate.
- Provide opportunities for scientific research.
- Provide recreation opportunities that generally focus on activities such as hiking, bird-watching, photography, and nature study.

#### Resource Management Prescriptions

- Passively manage all areas that are not red pine plantations to allow for the development of white pine and other long-lived species, as well as increased coarse woody debris, standing snags, and tree age diversity.
- Actively manage red pine plantations primarily through thinning and natural regeneration techniques to create stands with a natural appearance and large diameter trees grown to biological maturity. Retain snags and coarse woody habitat whenever their retention does not conflict with other forest management activities or present hazards.
- Salvage generally will not occur in passive areas unless necessary to meet statutory responsibilities for fire protection or pest control. In actively managed areas, salvage of trees damaged by wind, ice, fire, and insects, may occur after consultation with managers from affected DNR programs to determine how salvage can be done to help meet the objectives of the area.
- Control of invasive plants may occur throughout the management area.





This 158 acre native community area is located on both sides of the Peshtigo River at the southernmost end of the Fly Fishing Area—just north of the Sandstone Flowage and approximately 0.3 miles east of Kirby Lake. The majority of the 158 acres is located on the east side of the river, and consists of a long, narrow strip of land, lying between the river and the top of a steep, west facing slope. This strip of land averages about 500 feet in width, and is about 1.25 miles long.

### Description of the Forest Resource

The major features of this area are patches of Northern Wet-mesic Forest, mature rich Northern Mesic Forest, spring seepages, and four Special Concern plants. Cedar is regenerating in some portions of the cedar swamp and is present in several size classes; this is a rare situation locally and statewide. The Northern Mesic Forest patches occur on river terraces and, although small, contain a rich ground flora that is a rarity in this part of the state. Northern Mesic Forest of any type exists only on narrow bands of steep slopes in other areas of the forest and is rare throughout the Northeast Sands Ecological Landscape.

The forest on the west side of the river is primarily cedar swamp with 8-20" diameter white cedar and white pine. Other (subcanopy) species include paper birch and black spruce, and the sapling layer is dominated by cedar along with balsam fir, black spruce, white birch, black ash, red maple, and white pine. The hardwood areas of the site are Northern Hardwoods dominated by red oak, basswood, sugar maple, white pine, and white oak. The sapling layer includes sugar maple, white ash, and balsam fir. The slopes here are moderate, in contrast to the steep slopes present across the river.

The forest on the east side of the river primarily consists of two timber types, namely, red oak uplands and conifer dominated seeps. The red oak stands include a red maple. In

### AREA 8 SUMMARY

- ▲ 158 acres.
- ▲ Small, but unique examples of Northern Wet-mesic forest and Northern Mesic Forest.
- ▲ Opportunity to manage for a mosaic of communities with spring seepages bordering a free-flowing stretch of the Peshtigo River.
- ▲ Opportunity to protect unique habitats supporting several rare plant species of Special Concern.
- ▲ Designated State Natural Area.

scattered patches, large, old aspen dominates the stand. The understory in the oak stand contains red maple, sugar maple, ash, and some conifers, especially closer to the river's edge. The conifer dominated seeps are found on the slopes and adjacent to the river, and are dominated by white cedar, white pine, balsam fir, and hemlock.

### Soils and Habitat Types

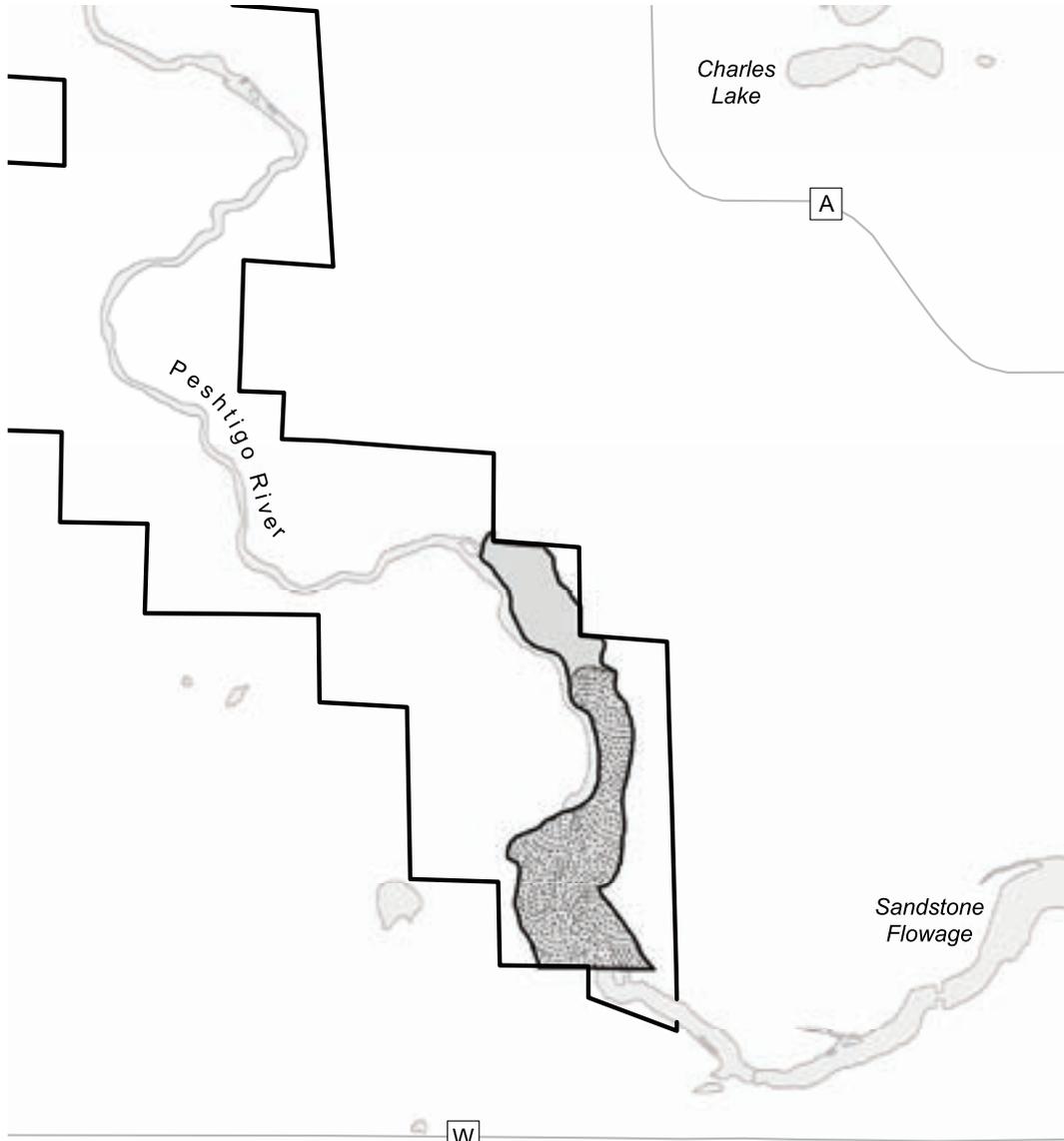
The soils of this area differ from the majority of the Peshtigo River State Forest, as they are richer and support mesic hardwoods.

### State Natural Area Designation

The Kirby Lake Hardwoods State Natural Area encompasses 111 acres. Moist hardwood forests are rarely found in the Northeast Sands Ecological landscape. The hardwoods harbor a rich ground layer including rare plants. Although the canopy is relatively young, the stand will develop old-growth characteristics as it matures. Several active forested seeps add to the site's diversity.



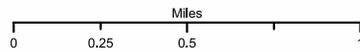
MAP 2.11 KIRBY LAKE HARDWOODS



-  Area 8 - Kirby Lake Hardwoods
-  Planned State Natural Area
-  State Forest Boundary
-  County Road
-  Open Water



PRSF037  
May, 2007



Peshtigo River State Forest  
Master Plan

The data shown on this map have been obtained from various sources, and are of varying age, reliability and resolution. This map is not an authoritative source of information about legal land ownership or public access.





**Short and Long Term**

**Management Objectives (50 & 100 years)**

- Develop and maintain a forested natural community mosaic that includes a variety of forest types and old growth characteristics including enhanced forest structural diversity, a mixed species composition, and development of coarse woody debris and standing dead snags. The maple and white pine components are expected to increase, whereas the red oak and aspen will be reduced, but not eliminated from the site.
- Provide opportunities to compare active versus passive management techniques with regard to their effects on forest structure, composition, and other attributes within this management area.
- Protect and maintain examples of rich Northern Mesic Forest, a community type that is rare throughout this landscape.
- Protect and maintain the unique hydrology of the site, including the many seeps and springs.
- Protect native communities and other rare species habitats (there have been four rare plants documented here at the time of this writing) and high-quality examples of natural communities in a natural, unmanaged state.
- Provide opportunities for scientific research.
- Provide recreation opportunities that generally focus on activities such as hiking, bird-watching, photography, and nature study.

**Resource Management Prescriptions**

The General Management Prescriptions apply and all of their associated management activities apply, except as limited by the prescriptions below:

- Use single tree selection or group harvest to promote tree species diversity and hasten development of larger diameter trees for the portion of the native community which is outside of the State Natural Area (This area is the northernmost ca. ¼-mile of the management area on the east side of the river and is north of the forest seeps).
- Passively manage the State Natural Area to prevent soil disturbance and allow natural conversion to a forest with old growth characteristics. Passive management will also apply to the portion of the State Natural Area within the Shoreland Management Overlay Zone.

<b>TABLE 2.8 KIRBY LAKE HARDWOODS CURRENT AND FUTURE LAND COVER</b>				
<b>COMMUNITY TYPE</b>	<b>CURRENT</b>		<b>PREDICTED 50 YEAR</b>	
	<b>ACRES</b>	<b>% OF TOTAL AREA</b>	<b>ACRES</b>	<b>% OF TOTAL AREA</b>
Red Oak	90	57%	0	0%
Red Maple	0	0%	110	70%
Aspen	20	13%	0	0%
White Pine	0	0%	16	10%
Cedar	23	15%	23	15%
Fir/Spruce	16	10%	0	0%
Water	9	5%	9	5%
<b>Total</b>	<b>158</b>	<b>100%</b>	<b>158</b>	<b>100%</b>



- Manage the river corridor outside of the State Natural Area using the prescriptions described in “Shoreland Management Overlay Zone” section of the plan.
- Salvage generally will not occur in passive areas unless necessary to meet statutory responsibilities for fire protection or pest control. In actively managed areas, salvage of trees damaged by wind, ice, fire, and insects, may occur after consultation with managers from affected DNR programs to determine how salvage can be done to help meet the objectives of the area.
- Control of invasive plants may occur throughout the management area.



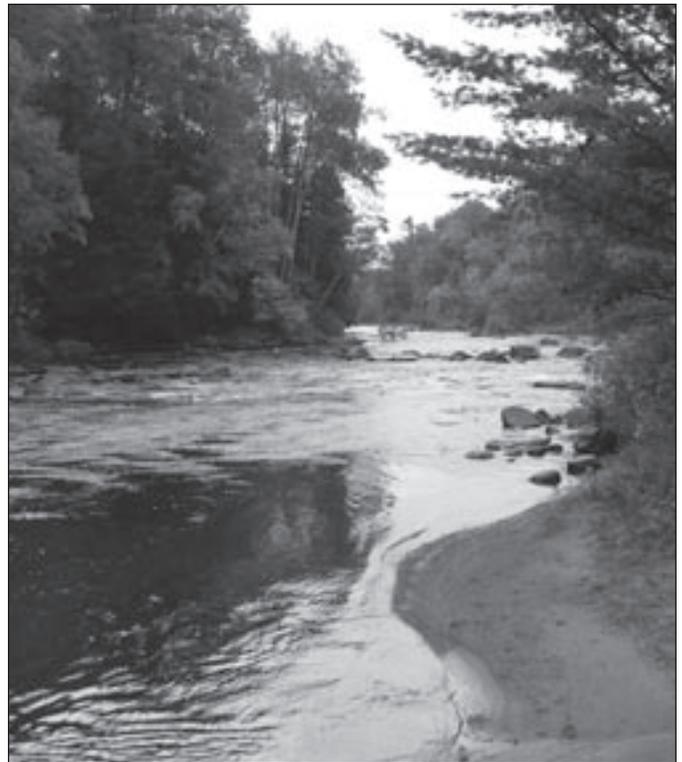
## SHORELAND MANAGEMENT OVERLAY ZONE

The Shoreland Management Overlay Zone is located along the flowages and river as a 200-foot land management overlay zone.

Under the terms of the purchase agreement with Wisconsin Public Service Corporation (WPSC), the Department assumed certain shared responsibilities to manage the flowage lands to meet Federal Energy Regulatory Commission (FERC) license requirements. Primarily, these responsibilities relate to maintaining public access and uses of the flowage and lands, and maintaining the scenic quality of the flowages and river. The FERC requirements primarily focus on the shorelands. A 200-foot Shoreland Management Overlay Zone along the river and flowage shorelines will be designated as an Overlay Zone (see Map 2.1) that provides additional objectives and resource prescriptions for management. The objectives and resource prescriptions for lands located in the Overlay Zone must be followed in addition to the underlying land management designation.

Under the license requirements, management must protect soils, water quality, fishery and terrestrial resources, and provide public recreation access to the river and flowages. The establishment of new trails and campsites within the Shoreland Management Overlay Zone requires FERC approval. The Department has the authority to set and charge fees and to determine the need and scheduling of maintenance on all boat landings. Under the terms of the FERC license, vegetative management within the 200-foot zone that is not covered by the master plan requires specific approval by all of the following parties: the licensee (WPSC), Wisconsin Department of Natural Resources (WDNR), the Federal Fish and Wildlife Service (FWS), and the National Park Service (NPS).

Management objectives and management prescriptions for the Shoreland Management Overlay Zone are listed below. These objectives and management prescriptions shall be considered in addition to objectives and prescriptions for the underlying management area. The more restrictive prescription takes precedence.



### Short and Long Term

#### Management Objectives (50 & 100 years)

Maintain and enhance the highly scenic, natural appearing shoreline of the Peshtigo River and flowages.

- Protect and enhance soils, water quality, and riparian habitats.
- Provide public access to the river and flowages as established by the FERC license agreement.

#### Resource Management Prescriptions

- Manage to favor large, longer-lived trees such as white pine and red maple on suitable sites. If desirable, underplant pine or other native species to increase stocking levels or for restoration following a disturbance.
- Thin red pine plantations to create a natural appearance and large diameter trees. Over the long term, convert plantations to a diverse forest with white pine as a major associate.
- Harvest dead, diseased and dying trees in order to attain a healthier forest, but retain abundant snags and dead-downed trees, including downed trees in the water.

**OVERLAY ZONE**

- Remove and/or control invasive species, and control the spread and impact of disease and insect damage. When doing so, use the most practicable methods with the least negative visual impact on the area.
- Outside of designated public use areas, modify the standard management practices to minimize, to the degree practicable, the visibility of management activities from the water.
- Maintain and enhance or develop recreational facilities related to use and enjoyment of the flowages and river, such as boat access sites, swimming areas, fishing piers, hiking and portage trails, and primitive campsites, as prescribed in the recreation management section of this plan.
- Trees and shrubs may be removed as needed for the development or redevelopment of designated public use areas or sites. Planting and maintenance of native trees, shrubs and turf may be done on these sites for screening, scenic enhancement, or to enhance recreational use of the site.
- Removal of hazardous trees from designated public use sites is authorized.

Under the license agreement WPSC is required to conduct surveys on the flowages for three invasive species, purple loosestrife, Eurasian water milfoil, and zebra mussels and to consult with the Department regarding their removal or control. The specific requirements are to:

- Annually conduct surveys for purple loosestrife to document the size and location of any colony, and remove small colonies by hand. WPSC shall consult with the DNR on removal and control of larger colonies.
- Survey for the presence of Eurasian milfoil every third year (beginning in 1998). If found, the colonies will be documented and the WDNR consulted regarding control.
- Survey for zebra mussels annually, and inspect hard surfaces that are normally submerged during flowage draw-downs. Results of the surveys will be submitted to WDNR, FWS, and the University of Wisconsin-Sea Grant Institute. If zebra mussels are found, the licensee will cooperate with other agencies on their control.





## WILDLIFE MANAGEMENT

The Peshtigo River State Forest supports a great diversity of wildlife species, including game, furbearer, and bird species common to Northern Wisconsin. A wide variety of birds migrate through the Peshtigo River State Forest as well. The Peshtigo River itself, whether free flowing or impounded, provides important habitat for many wildlife species. Endangered and threatened species (listed species) on the Peshtigo River State Forest include the following: Osprey, Bald Eagle, Wood and Blanding's Turtle, extra-striped snaketail and pygmy snaketail dragonflies. The Peshtigo River State Forest contains 10 special concern animals including various birds, reptiles, amphibians, insects, and crustaceans.

### WILDLIFE HABITAT MANAGEMENT

The wildlife management program on the Peshtigo River State Forest focuses on maintaining and enhancing habitat and assessing the population status of the important game, non-game, and listed species. The abundant wildlife on the Peshtigo River State Forest requires diverse forest habitats in all successional stages from very young through old growth. Diverse and healthy wildlife populations will be maintained by managing the composition and structure of forest habitats integrated with the management objectives and activities outlined for each land management area in the Land Management Section of this plan. Wildlife habitat values are further assured by the wildlife biologists working with foresters on timber sales in order to maximize tree species diversity and improve vegetative structure consistent with the management objectives for the area.

This wildlife management plan has been integrated into the management prescriptions for the individual management areas.

### FORESTED HABITATS

Approximately 20% of the Peshtigo River State Forest will be managed in forests dominated by aspen and white birch through clearcut harvests. There will be a diversity of age classes by harvesting some aspen stands before economic rotation and some aspen stands beyond economic rotation. While aspen-birch forests are dominated by aspen, they also contain a mixture of various pines, oaks, maples, and white birch.

Approximately 35% of the Peshtigo River State Forest will be maintained in jack pine and scrub oak forests. Jack pine forests will be managed through a combination of natural regenera-

tion and plantations. Scrub oak forests will be managed with clearcut harvests with scattered reserve oaks and pines. These early successional forest types provide habitat necessary for many species.

Approximately 3% of the Peshtigo River State Forest will be managed in forests dominated by red oak. Red oak stands will be grown to biological maturity (age 90 to 150 years) and regenerated through the shelterwood system. In all types of forest stands, when red oak is present, full-crowned red oak will be maintained as a canopy tree at the rate of 5 to 10 trees per acre across all sites and stands, consistent with the management objectives of the area.

Older forest and closed-forest canopy habitats are underrepresented on the Peshtigo River State Forest. The primary forest types best suited to the soils on the Forest are white pine, red pine, and lowland conifer. Most lowland conifer stands, especially white cedar forests, will be reserved from active management. Many of the rare plants and animals found on Peshtigo River State Forest are associated with this habitat. Designated riparian corridors will also provide areas of older forest. As time passes and more of these stands begin to reflect the characteristics of older forests, the wildlife species that use them should become more prevalent. Passive and active forest management will be employed to meet stand objectives.

The white pine community will slowly increase throughout the Peshtigo River State Forest. Individual trees will be grown to biological maturity. Stands of white and red pine will be thinned from below and grown to biological maturity. Active forest management will allow the slow expansion of white pine throughout the Peshtigo River State Forest. Disease problems may require all large red pine to be removed from new plantation areas.

Approximately 3% of the Peshtigo River State Forest will be maintained in grassy openings. Forest openings and relict barrens communities occur in areas of the Peshtigo River State Forest managed for aspen, white birch, oak, and jack pine. The openings will be maintained by herbicides, mechanical mowing, hand cutting, and prescribed fire.

Long-lived trees such as red oak, white pine, and red pine will be maintained in clearcuts to provide for species and stand composition diversity at densities that will not compromise the objective of the harvest. Small clumps of aspen-birch may be reserved in clearcuts for ruffed grouse budding and cavity trees. A ring of aspen trees may be reserved around grassy openings to slow encroachment into the opening.

Large, full-crowned trees with dens and cavities as well as dead trees (snags) will be maintained on appropriate sites in

**WILDLIFE MANAGEMENT**

all management areas. These trees will be maintained unless they are unsafe, cause aesthetic concerns, or increase insect pests. Forest stands subject to large-scale death from disease, insects, or fire will be salvaged.

**NON-FORESTED WETLANDS**

All non-forested wetlands, including Northern Sedge Meadows, Shrub-carr, Boreal Rich Fen, and Open Bogs will be protected. These wetlands provide habitat for a wide variety of wetland wildlife including species of special concern. Protective management prescriptions for non-forested wetlands are outlined in the Land Management Section of this plan.

**AQUATIC HABITATS**

Undeveloped lake and stream shoreline is important wildlife habitat. All undeveloped lake and stream shoreline will be managed to protect water quality, maintain wildlife and fisheries habitat, and enhance aesthetics. Shoreline management will include vegetative zones. They will be maintained by following Best Management Practices for Water Quality when performing all forest management activities.

Ephemeral Ponds and permanent small ponds provide important breeding sites for amphibians and waterfowl. These sites will be protected through vegetative management adapted to minimize impacts and by following Best Management Practices for Water Quality.

**ENDANGERED, THREATENED, AND SPECIES OF SPECIAL CONCERN**

Individuals of all endangered, threatened, and special concern wildlife species will be protected.

All known critical breeding habitat for these species will be protected or maintained through management. Examples of critical habitat includes sites used for breeding and foraging such as bald eagle and osprey nest sites; wood and Blandings turtle nest sites; wolf den and rendezvous sites; and Red-shouldered and Northern Goshawk nest territories. The Natural Heritage Inventory (NHI) will be checked prior to all timber sales, ground-breaking projects, and recreational and trail development.

**INTEGRATED MANAGEMENT**

Most of the forest habitat work on the Peshtigo River State Forest occurs through the timber sale program. Activities associated with timber sales directly impact wildlife habitat. Wildlife biologists review all timber sales and provide recommendations to maintain and improve wildlife habitat.

**WILDLIFE POPULATION MONITORING**

At present, no populations of important game species will be monitored through annual surveys directly on the Peshtigo

River State Forest, however these surveys do occur nearby to provide valid population information.

Populations of important endangered, threatened, and species of special concern will be monitored through annual surveys. Species surveyed include bald eagle, osprey, and timber wolf. Rare and uncommon wildlife such as Wood and Blanding's turtles, bull frogs, Red-shouldered Hawks and Northern Goshawks are monitored through reports from staff and citizens. The reports are organized in the Bureau of Endangered Resources' NHI database.

**WILDLIFE POPULATION MANAGEMENT**

Game species are managed through hunting and trapping seasons. Each game species has a population goal set for a certain local or regional area. Hunting and trapping regulations and population goals are not set through the Master Planning process. Game populations are managed through regulations and goals set by the Natural Resources Board and the Voigt Intertribal Task Force. The public is involved in all stages of this review and implementation process.

**WILDLIFE RESEARCH**

DNR, tribal and university-sponsored wildlife research may occur on the Peshtigo River State Forest. New research projects may be undertaken if they do not conflict with this master plan.





## FISHERIES MANAGEMENT

The water resources in the Peshtigo River State Forest provide habitat for a range of fish communities. User groups such as anglers and Native Americans—via treaty harvest rights—play a role in the management of this resource. Management goals and activities for these waters vary by the type of water and angling potential. The four main water resources within the forest are cool water lakes, warm water lakes, cold water streams and warm water streams. The management for each type of water resource is described individually below.

### COOL WATER LAKES

Cool water lakes comprise the major water resource within the forest. These lakes are typically infertile, greater than 100 acres, have clear or slightly stained water and have a maximum depth of more than 20 feet. The typical fish species are walleye, muskellunge, northern pike, largemouth bass, smallmouth bass, bluegill, yellow perch, black crappie, and white sucker. Cool water lakes (impoundments) within the forest include: Caldron Fall Reservoir (outstanding resource water), High Falls Reservoir, Johnson Falls Reservoir, Potato Rapids Flowage, and portions of the Peshtigo River above Sandstone Flowage.

#### Management Objectives

- Provide a quality harvest as well as trophy opportunities.
- Regularly assess the health of these waters and their fisheries.

#### Management Activities

- Continue to conduct creel, electrofishing, and netting surveys to statewide monitoring guidelines. Make the results available to the public.
- Set fishing regulations to provide a quality harvest as well as trophy opportunities. Evaluate the regulations to ensure the desired response is occurring in the fishery.
- Stock muskellunge, walleye and trout species on suitable waters that have recruitment problems.



### WARM WATER LAKES

There are limited warm water lakes in the forest. These lakes within the forest are typically moderately fertile, less than 50 acres, and have a maximum depth of less than 20 feet. The fishery in most of these waters consists of bass and panfish, but some waters also have significant northern pike populations. These waters have simple fish communities compared to larger lakes. They have fewer habitat types, thus fewer fish species. Most of these fisheries can not sustain high levels of harvest due to their small size and limited fertility. Lakes that fit this classification include: Lackawanna Lake (Oconto County), and several un-named lakes in Marinette County.

#### Management Objectives

- Provide a quality harvest.
- Provide catch and release fishing opportunities.
- Regularly assess the health of these waters and their fishery.

#### Management Activities

- Continue to conduct creel, electrofishing, and netting surveys to statewide monitoring guidelines. Make the results available to the public.
- Set fishing regulations to provide a quality harvest as well as trophy opportunities. Evaluate the regulations to ensure the desired response is occurring in the fishery.

## FISHERIES MANAGEMENT

### COLD WATER STREAMS

These waters have summer water temperatures that do not get above 70 degrees and have moderate flows. The fisheries present in most of these waters consist of brook and/or brown trout. The major waters in the forest that fit this designation are: Eagle Creek, Thunder River, Medicine Brook, along with numerous un-named creeks and a five-mile portion of the Peshtigo River below Johnson Falls Dam (Fly Fishing Area).

#### Management Objectives

- Maintain and enhance a self-sustaining trout fishery. Improve the food supply, provide cover, and improve spawning substrates.
- Provide a quality harvest as well as trophy opportunities.
- Regularly assess the health of these waters and their fishery.

#### Management Activities

- Continue to conduct creel, electrofishing, and netting surveys to statewide monitoring guidelines. Make the results available to the public.
- The waters in this group have natural reproduction of the major game species. Continue stocking the Peshtigo River fly fish area (five mile stretch below Johnson Falls Dam site) with trout species.
- Maintain existing trout habitat structures, and perform new traditional in-stream trout habitat improvements as staff and money allow.
- Maintain the special regulation category 5 trout waters between Johnson Falls and Sandstone Flowage.
- Set fishing regulations to provide a quality harvest as well as trophy opportunities. Evaluate the regulations to ensure the desired response is occurring in the fishery.
- Conduct beaver control as necessary (limit dams that slow water flow and increase water temperatures).

### WARM WATER STREAMS

There are a limited number of warm water streams scattered throughout the forest. Most of these waters are tributaries of the Peshtigo River. Due to a lack of significant ground water input these waters have summer water temperatures that regularly get above 70 degrees. These waters have moderate to low flows and are usually fertile. The fisheries present in most of these waters are typically the same as the Peshtigo

River. Due to their high summer water temperatures they do not have trout. Little, if any, habitat work is conducted on these waters, and none are currently stocked. These streams have adequate natural in-stream reproduction or are adequately stocked by fish from the river or lake they are connected to. The basic statewide fishing regulations currently apply on all these streams, and there currently are no plans to modify them. Representative waters in the forest that fit this classification are: McPearson Creek (Oconto County), and Joy Creek (Marinette County).

#### Management Objectives

Periodically assess the health of these waters and their fishery.

#### Management Activities

Continue to conduct creel, electrofishing, and netting surveys to statewide monitoring guidelines. Make the results available to the public.

### GENERAL HABITAT MAINTENANCE AND IMPROVEMENT

Losses of habitat and shoreline/bank development are common issues on all these waters. Management activities that enhance habitat (such as tree drops, half logs and bank structures) may be applied on waters, consistent with the site's land use classification, where they would provide a meaningful return to the fishery. Additionally, riparian shoreline and stream bank activities have a tremendous effect on the health of the fisheries. Buffer strips and shoreline restoration is promoted on all waters in the forest.



**MANAGEMENT PRIORITIES**

All of the above activities will ultimately be limited by financial and workforce constraints. Attempts will be made to maximize efforts to manage these fisheries for the health of the resource first and secondly for public opportunity. Management work will be carried out in accordance with the Upper Green Bay Basin Integrated Management Plan (2001).

**FISHING REGULATIONS**

Controlling fish harvest through the use of lake and stream specific fishing regulations is the most effective tool in managing the fisheries on our waters. A variety of fishing regulations cover the waters in the Peshtigo River state forest. The types of fishing regulations that are currently in use include closed seasons, bag limits, and length restrictions. These regulations are not set through the master planning process, but through an annual rule making process that involves the local fisheries biologist or warden, conservation congress, DNR secretary, natural resources board, legislature, and the governor. The public is involved at all the stages in this process.

**INVASIVE SPECIES**

Aquatic invasive species of concern for the Peshtigo River State Forest include Eurasian watermilfoil, purple loosestrife, white perch, round goby, and zebra mussel. Management

of invasive species in the waters of the forest will follow Wisconsin's Comprehensive Management Plan to prevent further introductions and control existing populations of aquatic invasive species. Waters already being monitored for aquatic invasive species within the forest include the Peshtigo River and its flowages. Eurasian watermilfoil is also known to be present in several water bodies within the forest, including High Falls Reservoir and Caldron falls Reservoir.

**RESEARCH ACTIVITIES**

The waters in this area provide unique fisheries research opportunities within impoundments. State and university sponsored studies that have meaningful management applications should be encouraged. These types of studies can provide insight into fisheries issues that will benefit waters well beyond the boundaries of the state forest.

All the waters in the forest boundary have management research value. Issues that are of significant management concern are always changing, and any of these waters may meet the requirements of important future studies. Research activities will be carried out in locations and using methods that are consistent with the management classifications and management objectives in this property plan. Currently, there are no waters that have major ongoing fisheries studies within the forest.





## RECREATION MANAGEMENT

### BACKGROUND

Recreation on the Peshtigo River State Forest is important to many people and plays an important role in the regional tourism economy. Visitors have been coming to the river and its adjacent lands for generations, and those who vacation or live near the forest know the beauty of its flowages, the diversity of its trails, and the extent of its forests. Recreational opportunities abound on the water and throughout the forest.

Since the forest was established, annual visitation to the Peshtigo River State Forest has increased steadily. The most popular recreational activities include fishing, boating, snowmobiling and hunting. There is also demand for new and improved recreational trails like hiking, mountain biking, cross-country skiing, and horseback riding trails. While the Peshtigo River State Forest does not currently have any designated mountain biking or horseback riding opportunities, there has been a dramatic increase in demand for such opportunities statewide and in the Peshtigo River State Forest area. There has also been increased pressure for additional water camping opportunities. Further, there is a shortage of designated beaches in the area; most people currently swim at a number of boat launches on the flowages.

The Peshtigo River State Forest Master Plan will maintain nearly all of the existing recreational amenities and opportunities that were available under Wisconsin Public Service Corporation management. It also provides for a number of amenity expansions or additions to help meet growing demand. The primary additions include an equestrian campground, more canoe and water-based campsites, the creation of designated day-use areas, several expanded boat landings, and more hiking, horseback riding and mountain biking trails. In addition, an increased emphasis will be put on self-guided interpretive trails to promote forestry awareness and natural history. Recreational amenities are displayed on the Current and Planned Recreation Facilities map on the next page.

### RECREATION MANAGEMENT OBJECTIVES

- Provide a range of camping opportunities by maintaining and upgrading existing camping facilities and by establishing new or enhanced facilities including primitive canoe camping, primitive water camping, rustic family camping, indoor group camping, and equestrian camping.



- Provide areas for day uses such as picnicking, boating, swimming as well as passive recreational activities by maintaining and upgrading existing facilities and by establishing two new day use areas—one on High Falls Reservoir and one on Caldron Falls Reservoir.
- Provide access to the waters of the Peshtigo River and its reservoirs by maintaining and upgrading the existing boat landings and canoe access points.
- Provide a system of non-motorized recreational trails by maintaining, and in some cases enhancing, existing trails and by the establishment of new trails and trail segments.
- Maintain designated motorized recreation trails, All-Terrain, and snowmobile trails at existing levels. Establish new connector routes and re-routes of existing trails as needed to more efficiently connect to regional trail networks.
- Maintain and support traditional outdoor sporting activities such as hunting, trapping and fishing, and enhance existing boat landings, access points, and other facilities.

How these objectives will be met is discussed by recreation type on the following pages.

## CAMPING

The Peshtigo River State Forest provides a variety of different camping opportunities. They range from rustic camping at the recently acquired Old Veteran's Lake Campground that offers 16 sites to the ten remote, primitive canoe campsites on the flowages.

Several new or expanded camping opportunities are planned, including the development of an equestrian campground, an indoor group camp, and additional primitive water-side campsites. Some of the existing campsites will be renovated as well. These proposals are summarized below by camping type:

### Summary of Planned Camping Developments

- Fifteen non-electric campsites will be added to the existing 16 non-electric campsites at the newly acquired Old Veteran's Lake Campground. The existing sites will be redesigned, as needed to meet the Department's rustic camping standards.
- One indoor group camp, with electricity, water, and sleeping accommodations for up to 16 people is planned for the Seymour Rapids area.
- The remote, non-electric primitive canoe campsites will be renovated as needed.
- Nine new non-electric primitive water campsites will be built on Caldron Falls, High Falls, and Johnson Falls flowages.
- A non-electric equestrian campground will be developed at a site west of High Falls Reservoir and east of Parkway Road where there is access to horse trails.

### Old Veteran's Lake Rustic Campground

Many people have come to associate traditional rustic style campgrounds with state forests. Campers are attracted to the small, quiet character of state forest campgrounds in contrast to more modern or developed campgrounds. Typically, these campgrounds range from about 20 to 70 campsites, and often have wider spacing than modern campgrounds. Furthermore, they have only minimal facilities including hand-pumped water and vault toilets. Generally, electric campsites are not provided in this type of campground.

The Old Veteran's Lake Campground, recently acquired from Marinette County, provides this type of camping experience. This facility currently features 16 rustic spur-type campsites adjacent to a small lake, and has vault toilets, hand-pumped drinking water and gravel roads.

SITE	EXISTING SITES	PLANNED SITES	TOTAL SITES
Old Veteran's Lake Rustic Campground	16	15	31
Horse Campground	0	22	22
Indoor Group Camp	0	1*	1
Island Campsites	0	4	4
Canoe & Remote Campsites	10	5	15

*\*Total capacity for campground would be 16 people*

Another 15 campsites will be added, bringing the total number of campsites here to 31. Existing campsites will be redeveloped, as necessary, to address safety or suitability concerns or to meet the Department's 100 – 200 foot site-spacing standard for rustic campgrounds. Extra vault toilets and a picnic shelter will also be added. This campground site is classified as a Recreation Management Area—Type 4 setting under NR 44.06 and NR44.07.

### Indoor Group Camp

Indoor group camps provide an excellent opportunity for groups of five or more people to gather without affecting the experiences of other campers. Such a facility could be used by Boy and Girl Scout troops, church groups, extended family reunions, and other large group gatherings.

One indoor group camp bunkhouse with electricity, water, and sleeping accommodations for up to 16 people, is planned for the Seymour Rapids area. A vault toilet, picnic shelter, driveway and parking area will also be provided. This site was selected because of its scenic beauty and recreational opportunities, easy access to and from the road network, and close proximity to the Peshtigo River.

This facility is classified as a Recreation Management Area—Type 4 setting under NR 44.06 and NR44.07.

### Primitive Camping

Primitive campsites generally are widely dispersed, have minimal clearing, have a native soil surface, and are non-electric. Primitive campsites are limited to a tent clearing, fire ring, box latrine, and a picnic table. The Peshtigo River State Forest currently offers some primitive canoe campsites. The current locations of existing designated primitive campsites are shown on Map 2.12: Current and Planned Recreation Facilities. These sites are accessible only by water, stays are limited to one night, and they cannot be reserved. Each type of primitive camping opportunity is discussed below.

**RECREATION MANAGEMENT**

**Canoe Camping**

There are currently ten primitive remote canoe campsites located on three different areas of Johnson Falls Reservoir and the Peshtigo River. These sites are accessible only by water, stays are limited to one night, they cannot be reserved, and they are non-electric. The State Forest Superintendent will renovate the sites as needed.

**Primitive Water Camping**

Up to nine primitive, waterside campsites will be built along the Peshtigo River and its reservoirs. Several of them will be accessible by foot as well as water. The canoe campsites are accessible only by water and are non-electric.

Three sites will be located on Caldron Falls Reservoir—one near Crane Bay, one between Boat Landings 9 and 10, and one near Boat Landing 9 and the Caldron Falls dam. On High Falls Reservoir, there will be one site north of Old Veteran’s Lake campground. Four sites will be located on two islands on High Fall Reservoir, north of Bass Bay. On Johnson Falls Reservoir, one site will be located on the north side of the reservoir.

When locating campsites, the Department will minimize the potential for user conflict. If the Department determines that a conflict exists, the Forest Superintendent has the authority to temporarily close campsites.

**Equestrian Campground**

An equestrian campground will be developed west of High Falls Reservoir and east of Parkway Road. The campground will include up to 20 rustic individual sites and a group campground. Featured amenities include vault toilets, potable water, a firewood bin, a group gathering area with an open-sided shelter, manure bins, and a corral area. Individual campsites will have fire rings, picnic tables, hitching posts, tent pads and a parking area. Some of the campsites will be drive-through and some will be back-in sites, though none will have electricity. Campsites will be large enough to accommodate large-wheeled units.

Adjacent to this campground will be a group horse campground. This will include two large sites that can accommodate a total of 60 people and their horses. Day-use trail parking would be available near the equestrian campground.

This campground site is classified as a Recreation Management Area—Type 4 setting under NR 44.06 and NR44.07.

**DAY-USE AREAS**

Day-use areas typically provide activities like picnicking, sunbathing, and swimming. Some sites may also feature scenic vistas, hiking and nature trails, and boat landings, occasionally with fishing piers. There are two existing day-use areas on the Peshtigo River State Forest. One, Stephenson Town Park, is operated under a land use agreement between the state and the Town of Stephenson. The Town Park is also the base and staging area for the Twin Bridge Ski Club, a local water ski club that presents water ski shows for the public.

**TABLE 2.10 PLANNED DAY-USE AREAS**

TYPE	EXISTING	PLANNED	TOTAL
Parking Fee Areas	0	2	2
Picnic/ Swim Areas	0	2	2
Vistas	0	3	3
Forestry Education Facility *	0	1	1

*\*Shared with Governor Thompson State Park*

The other, Wayside Park, is located on the Potato Rapids Reservoir just off of Highway 64 and is operated by the Wisconsin Department of Natural Resources.

Two new rustic day-use areas will be developed in addition to the existing day-use areas.

The new East Bay day-use location will be a fee-required area and will provide drinking water, vault toilets, a changing area, a designated beach with a marked swimming area, a picnic shelter with electricity, picnic tables, grills, fire rings, fishing pier, and up to a 100-car picnic area parking lot. The existing boat landing will be renovated to meet accessibility standards. A boarding dock and a paved parking lot with space for 50 boat trailers will be provided.

The Musky Point Beach will be established adjacent to Boat Landing 9 on Caldron Falls Reservoir. Like the East Bay day-use area, Musky Point Beach will be a fee-required area. This day-use area will include drinking water, vault toilets with a changing area, a designated beach with a marked swimming area, a picnic shelter with electricity, picnic tables, fishing pier, grills, fire rings, and up to a 100-car picnic area parking lot. The boat landing and trailer parking will be repositioned from its current location farther to the west. A mobility-impaired accessible boat landing and boarding dock, and a paved parking lot with a space for up to 30 cars and trailers, will be included. All of these facilities are consistent with the rustic development designation in NR 44.

Picnic area parking at both East Bay and Musky Point may be developed in phases, with 50 parking spaces developed at each, initially. Later, as needs indicate, the remaining spaces could be built.

## BOAT LANDINGS

With more than 3,000 acres of reservoir surface area, water-based recreation is one of the primary attractions for Peshtigo River State Forest visitors. Existing boat landings have different characteristics regarding their degree of development and type of access to the water. These boat landing types include canoe slides, carry-in, cement plank, and gravel.

**TABLE 2.11** EXISTING BOAT LANDINGS

BOAT LANDING	CEMENT PLANK	CAR/TRAILER CAPACITY	PICNIC TABLE	BOARDING DOCKS
West Bay (Landing 1)	X	15		X
Bass Bay (Landing 2)	X	10		
East Bay (Landing 3)	X	20		
Twin (Landing 4)	X	20		
Channel (Landing 5)	X	20		X
Woods Creek (Landing 6)	X	30		X
Rock Cove (Landing 7)	X	40	X	X
Caldron Bay (Landing 8)	X	25	X	X
Musky Point (Landing 9)	X	30	X	
North Bay (Landing 10)	X	15		
Crandall Creek (Landing 11)	X	15		
Roaring Rapids (Landing 12)	X	20		
South Bay (Landing 13)*	X	12		
Thunder (Landing 14)	X	15		
Peshtigo (Landing 1)	X	7		
Potato Rapids (Landing 1)	X	15	X	X

\* Within Governor Thompson State Park.

## Accessibility

Federal Law and Wisconsin statutes require that boarding docks provided at boat access sites be handicap accessible. An accessible boarding dock must also be provided with an accessible travel route between it and a designated accessible parking space. All such facilities within the Peshtigo River State Forest will be brought into compliance. This will take place, at a minimum, whenever new facilities are developed or when existing facilities are substantially repaired or replaced.

## BOAT LANDING IMPROVEMENTS

Because the distribution of existing boat landings and river access sites provides convenient boat access to the waters and flowages of the Peshtigo River, no new access will be developed. However, a number of repairs, upgrades and improvements would be performed on the existing boat access sites under the master plan. Some, but not necessarily all, sites will receive new vault toilets, drinking water, boarding docks, launch ramp repairs and replacements, and reconfigured or expanded parking areas. All will be brought up to Handicap Accessibility compliance.

Boat Landings #9 and # 3 are included as parts of proposed Musky Bay and East Bay Day Use areas. Each will have its own boat trailer parking lot, separate from the picnic area parking.

In some cases, the overall capacity of the boat trailer parking will be increased. In every case, boat trailer parking and access will be re-engineered to prevent surface runoff from directly entering the lake or river. Best Management Practices for construction will be followed to prevent erosion and sedimentation during construction. Each new or reconfigured parking area will be constructed using appropriate stormwater management practices. This will include the establishment of rain gardens, buffer strips, bio-retention ponds and other measures, depending on the individual site.

The purpose of these increases is to alleviate the overflow parking that takes place along access drives and public roads during heavy use periods. When the parking increases are implemented, the forest will request that parking be prohibited on roadways within ¼ mile of the access site. This would have the effect of providing adequate, organized, off-road boat trailer parking without increasing the overall number of boats using the water.

Boat trailer capacity is regulated by NR 1.91. A discussion of NR 1.91 compliance for this master plan is included in the Environmental Assessment, Chapter 4 of this document, page 107.

## RECREATION MANAGEMENT

TABLE 2.12 BOAT LANDING IMPROVEMENTS

BOAT LANDING	PARKING CHANGES	FACILITIES**	LAUNCH APPROACH	DOCK
West Bay (Landing 1)	Reconfigure existing 15 space lot	Vault Toilet, fishing pier	Paved Approach	Yes
Bass Bay (Landing 2)	Reconfigure existing 10 space lot	N/A	No change	No
*** East Bay (Landing 3)	Reconfigure existing 20 spaces and add 30 spaces	Water, vault toilets,	Paved Approach	Yes
Twin (Landing 4)	Reconfigure existing 20 space lot	N/A	Paved Approach	Yes
Channel (Landing 5)	Reconfigure existing 20 space lot; add 20 space lot to the south of existing lot	Vault toilet, water	Paved Approach	Yes
Woods Creek (Landing 6)	No change to existing 30 space lot	N/A	Paved Approach	Yes
Rock Cove (Landing 7)	Reconfigure existing 40 space lot; add new 20 space lot	Vault toilet, water fishing pier	Paved Approach	Yes
Caldron Bay (Landing 8)	Reconfigure existing 25 space lot	Vault toilet, water	Renovate and ramp pave approach & launch	Yes
*** Musky Point (Landing 9)	Reconfigure current 30 space parking to the west	Vault toilet, water, fishing pier	Reposition to the west and pave	Yes
North Bay (Landing 10)	Reconfigure existing 15 space lot	N/A	Paved approach	Yes
Crandall Creek (Landing 11)	Reconfigure existing 15 space lot	Vault toilet, water	Renovate and pave approach & launch ramp	Yes
Roaring Rapids (Landing 12)	No changes to existing 20 space lot	Vault toilet, changing rooms, water	Renovate and pave launch ramp	No
South Bay (Landing 13)*	Rebuild to provide 38 trailer parking spaces	Vault Toilets, fishing pier	Rebuild	Yes
Thunder (Landing 14)	Reconfigure existing 15 space lot	Fishing pier	Renovate and pave approach & launch ramp	Yes
Peshtigo (Landing 1)	Reconfigure existing 7 space lot	N/A	Renovate and pave approach & launch ramp	Yes
Potato Rapids (Landing 1)	Reconfigure existing 15 space lot; add 10 new spaces	Fishing pier	Renovate and pave approach & launch ramp	Yes
Medicine Brook	Reconfigure existing 5 space lot	N/A	Add canoe slide	No
Seymour Rapids	Reconfigure existing 10 space lot	N/A	Renovate existing canoe take out and put in	No
Spring Rapids	Reconfigure existing 5 space lot; add 5 new spaces	N/A	Renovate existing canoe take out	No

\*Within Governor Thompson State Park.

\*\* N/A = none available

\*\*\* Included as part of day use area

## NON-MOTORIZED TRAILS

The Peshtigo River State Forest will continue to offer a variety of designated trails. The phrase “designated trails” refers to trails that are designed, maintained, and limited to specific uses, such as hiking or interpretive nature trails. Currently, there is a designated moderate non-motorized trail system located within the Peshtigo River State Forest. These trails are available for recreational activities including hiking, biking, cross-country skiing and snowshoeing. Designated trails are identified by signage and are shown on the official map of the forest.

In addition to designated trails, the Peshtigo River State Forest offers numerous miles of non-designated “woods roads” which are open to hiking, biking, horseback riding, and snowshoeing (unless posted closed for a specific activity). A “woods road” is generally a primitive single-lane road with two vegetation-free wheel tracks. The tread is usually compacted native soil, often sand or gravel, but sometimes less stable material such as clay or a mixture of sand and muck. The woods road is typically not maintained, therefore washouts and ruts can be encountered.

### Hiking

The existing eight miles of designated hiking trails and canoe portage trails will be maintained under the Plan. Day-hiking opportunities will continue to be offered on the woods road network and various other trails.

Three new primitive trails—one around Caldron Falls, one around High Falls, and one around the Potato Rapids Flowage—will be developed. The Caldron Falls trail will be approximately 12 miles in length, the High Falls trail will be about 16 miles in length, and the Potato Rapids Trail will be about five miles in length. The exact lengths of these trails will be determined when the trails are sited on the ground. A primitive trail is a single-file walking path usually established with the native soil as a tread surface. The path is narrow, with little or no clearing done and little or no annual maintenance. It most closely resembles game trails that are kept open due to regular use by deer and other animals.

To promote the sustainability of primitive trails, occasional maintenance will be necessary. Such maintenance may include the placement of culverts or stepping stones at stream crossings, constructing sections of flow-through boardwalk across wetland or seep areas, and other measures to prevent soil erosion and environmental damage.

These trails will be open to hiking and snowshoeing, and will generally follow the shoreline of the Peshtigo River, Caldron

Falls Flowage and High Falls Flowage. In addition to using existing trail segments, new sections of trail will be developed. Additional trails will be available for hikers to visit designated scenic vistas. These vistas will be located at The Narrows, High Banks, and Seymour Rock. Finally, a new one mile self-guided, accessible interpretive trail will be developed at Old Veteran’s Lake Campground. This trail will also serve as a snowshoe trail in the winter season.

### Mountain Biking

A new 15 to 20 mile-long mountain bike loop will be developed. This new trail system will be located within the Spring Rapids Trail System with future expansion into the Seymour Rapids section. This trail system will be designed to challenge a variety of different skill levels. A portion of the trail will be routed on closed forest roads, which would provide a wide tread surface suitable for casual or family biking. A “higher challenge” segment of the trail may also be developed with a narrow course in a hilly area. This development is contingent upon the availability of suitable soil conditions. Under the trail designation, the best available design standards will be employed to ensure sustainability and minimal erosion from mountain bike use. During the redesign process, portions of the trail may be closed. Forest staff will include area mountain bike stakeholders in the development and implementation of a mountain bike trail management plan.

### Horseback Riding

The state forest will provide up to 25 miles of designated equestrian trails originating from a trailhead near the planned equestrian campground. The new trailhead will accommodate 20 trailers and would include a vault toilet.

Horseback riding is prohibited on designated nature, hiking, or mountain biking trails. Native Community Management Areas are closed to horses, except on designated trails. Generally, horse trails shall not be sited within Native Community Management Areas and other areas that are highly ecologically sensitive due to the potential for the introduction or spread of non-native, invasive species. Horse trails may be sited in or near these areas if there is a critical need, other viable routes are not available, and/or the potential for significant impacts are determined to be minimal or are mitigated by design. Designated State Natural Areas are closed to horses.

The Peshtigo River State Forest will cooperate with local horse riding clubs to develop the trails using the best available design standards.

### Cross-Country Skiing

At present, eight miles of designated cross-country ski trails are available on the Peshtigo River State Forest. In addition to

## RECREATION MANAGEMENT

the maintenance of the current trail system, future expansion is planned. Two trail systems are currently groomed by the Wisconsin Department of Natural Resources in cooperation with a local ski club: the Seymour Rapids and Spring Rapids trail systems.

Some moderate adjustments will be made to the Spring Rapids Trail System to avoid conflicts with creek crossing and user conflicts. Moreover, a trail up to 5 miles in length connecting both systems will be built on state forest land. Cross-country skiing in ungroomed areas is also available across most of the Peshtigo River State Forest. An upgrade to the Spring Rapids trailhead will be made, with amenities to include a vault toilet, water, and a shelter. A new trailhead would be built at the entrance of the Seymour Rapids Trail. Amenities would include a vault toilet and water.

### Snowshoeing

Snowshoeing is currently allowed everywhere on the forest except on groomed, designated cross-country ski trails. In addition, the Plan would designate and promote the use of the self-guided nature trail at Old Veteran's Lake Park and the primitive hiking trails along the flowages.

### Archery

The existing archery trail will continue to be offered in conjunction with the Woodland Archery Club in the southwest corner of the Potato Rapids property. The archery trail is about 0.25 mile in length, and it will continue to be maintained for the practice of archery skills and holding archery competitions.

## MOTORIZED TRAILS

### Snowmobile

Currently the Peshtigo River State Forest has over 20 miles of snowmobile trails that link state land with private and county snowmobile trails. Snowmobile trails within the Peshtigo River State Forest are generally developed to NR 44's Lightly Developed trail standards, and are operated on both state and private land. Sections of the trail on private land are used through land use agreements and often operated by snowmobile clubs. Overall, there would be no significant changes to the snowmobile trails located on the Peshtigo River State Forest. Snowmobile trail parking would be available at Boat Landings 3, 5, and 9.

A new snowmobile trail link between the Boat Landing 2 area and Boat Landing 5 is supported in concept, however the details of its route must be agreed upon prior to implementation. This new trail link may or may not be open for winter ATV use, depending on the existing designation of the system it links with.



A minor snowmobile trail reroute will occur in the southeast corner of the Fly Fishing Area. This reroute will move a portion of the present snowmobile trail from private lands and town roads to state forest land. About 3/4 mile of existing logging trails will be utilized in the reroute.

At the discretion of the Forest Superintendent, changes to the Peshtigo River State Forest snowmobile trail system may be made to; ensure safety, to keep snowmobiles off roads as a response to a loss in route access across private lands; if resource degradation develops; and/or if unacceptable user conflicts occur. Any changes must be consistent with the requirements of the area’s land use classification.

**Cycles, 4x4s, and Other Licensed Motor Vehicles (Forest Road Access)**

Licensed cycles, 4x4s, and other vehicles meeting street-legal requirements may operate on open Peshtigo River State Forest roads (including logging roads) that are not bermed, gated or signed as closed. Unlicensed and unregistered motor vehicles are not allowed to be operated on the state forest.

**All-Terrain Vehicles**

The Department supports the development and maintenance of All-Terrain Vehicle (ATV) riding opportunities on appropriate trails, particularly trails that contribute to regional trail networks. The use of ATVs on the Peshtigo River State Forest is authorized on trails designated for ATV use. ATVs are not allowed on lands, trails or roads not designated for their use.

The Department will maintain the 20 miles of existing winter-only ATV riding opportunities on existing snowmobile trails designated for ATV use. The winter ATV trails will open and close as determined by the open/close season for snowmobiles. Winter only designated ATV trails are shown on Map 2.12: Current and Planned Recreation Facilities.

The Department will also maintain the existing mile of spring, summer, and fall ATV trails in the southern portion of the forest that connect to the existing regional trail network. Existing trail conditions and design will be evaluated regularly to improve the trail as needed in compliance with current ATV design standards (Appendix F, WDNR 2005).

The Department will cooperate with federal and local governments, private landowners and other interested parties in a public planning process to evaluate potential future trail connector(s) that support a regional trail network.

Future ATV trail development will require review and approval by the Natural Resources Board.

**OTHER ACTIVITIES AND AMENITIES**

**Swimming**

Swimming occurs at both designated and non-designated swimming beach areas. A designated beach has a regulatory marker or posted notice. Most designated swimming areas have toilet facilities. Non-designated swim areas are any waters that are not signed as “closed to swimming.” State forests do not supply lifeguards at any beaches; swimming is at the user’s discretion.

Two new designated swimming beaches will be provided. Musky Point Beach will be developed near Boat Landing 9 on Caldron Falls Reservoir, and East Bay Beach will be developed near Boat Landing 3 on High Falls Reservoir. Swimming beaches will be developed as integral parts of the two new Day Use Areas described earlier in this document. Adequate distance will separate the swimming beaches from the boat access facilities to provide for public safety.

**Boating, Canoe Access, and Canoe Trail**

With 3,000 acres of water and a number of streams, water-based recreation is a primary attraction for Peshtigo River State Forest visitors. Boating and canoe access sites (i.e. boat landings) will be maintained by the Department. In addition, several upgrades—discussed earlier in this document—are planned at the boat landings as shown in Table 2.12: Planned Boat Landing Development. Portages around the hydropower dams are, and will continue

TABLE 2.13		TRAILS			
TRAIL TYPE	EXISTING MILES	PLANNED MILES	TOTAL MILES	NR44 DEVELOPMENT LEVEL	
Single-track Hiking	0	33	33	Primitive	
Equestrian	0	25	25	Lightly Developed	
Mountain Biking	0	15-20	15-20	Primitive	
Cross-country Skiing/ Hiking	8	5	13	Lightly Developed	
Interpretive/ Snowshoeing	0	1	1	Primitive	
Archery	0.25	0	0.25	Primitive	
Snowmobile	20	2-5	22-25	Lightly Developed	
Winter-only ATV	20	0	20	Lightly Developed	
Spring, Summer, and Fall-only ATV	1	0	1	Lightly Developed	

**RECREATION MANAGEMENT**

to be, maintained. An existing canoe portage around rapids in the Fly Fishing Area will be maintained by the forest.

**Fishing**

Fishing regulations are outside the scope of the Master Plan. The Plan supports fishing primarily by providing water access to anglers, which includes a system of existing angler access trails, boat landings and fishing piers. In most cases, angler access trails will coincide with the primitive hiking trails that parallel the shoreline of the flowages and the Peshtigo River.

Fishing piers are usually located in association with campgrounds and picnic areas. A number of the existing piers are accessible to the disabled. All fishing piers and boarding docks will be accessible. The Forest Superintendent may construct or relocate fishing piers as deemed necessary, consistent with the land use classification standards for the site.

A “Fly Fishing Only” zone exists on the Peshtigo River between the Johnson Falls dam and Sandstone Rapids, a distance of about five miles. Within this zone, anglers are limited to using artificial bait. No live or natural bait is allowed. Special size limits on trout are also in force.

Some boat access sites are open in the winter for ice fishing. The Towns are responsible for the plowing of town roads for ice fishing access.

**Hunting and Trapping**

Hunting and trapping regulations are outside the scope of the Master Plan. The Peshtigo River State Forest will continue to offer opportunities for small and big game hunting and trapping. The diversity of forest types, lakes and wetlands found on the property would continue to provide high quality habitat for many game species. Miles of logging roads and non-designated trails continue to be open for hunting access by foot and/or motor vehicle.

**Education and Interpretation**

The Peshtigo River State Forest encourages visitors to take the opportunity to learn about forestry, natural history, wildlife management, and other natural resources topics. Staff have taken part in school programs, camps, and have given talks and tours to area clubs on these subjects.

In the shared facility with Governor Thompson State Park, the forest and park headquarters will have space for regularly scheduled interpretive programs. A planned self-guided accessible nature trail will be created at Old Veteran’s Lake Campground.





## ROAD MANAGEMENT PLAN

Access across and within the Peshtigo River State Forest is on a variety of roadways—State, County highways, and Town and DNR roads. The Department owns over 6.0 miles of designated management and access roads. Some roads are maintained as permanent management roads, while other roads are only temporary for timber harvesting or other management activities.

Unless closed by a gate, a berm, or a sign, department roads are open to public access with street licensed vehicles. Permanent roads may be closed to the public if they are deemed unsafe due to the condition of the road, because of potential conflicts with timber harvesting, or other management activities occurring in the area. Temporary logging roads are generally open to the public during the period of management and for a short time thereafter to allow firewood gathering.

### ROAD CLASSIFICATION AND GENERAL ROAD MANAGEMENT

There are several types of road classifications outlined in NR44.07(3). The classifications reflect a range of development and maintenance standards. The road classifications include primitive, lightly-developed, moderately developed, and fully developed. Each Department managed road will be assigned a development classification as part of the road inventory project described above.

Management of lands along the roads within the Peshtigo River State Forest will reflect the management objectives for the specified area classifications. All road right-of-ways (66 ft.) will continue to be controlled and maintained by their current operator (State, County, or Town).

The Department managed roadways within the Peshtigo River State Forest will be maintained in part according to the following requirements from the Best Management Practices for Water Quality:

- Regularly inspect active roads (especially after heavy rainfall). Clear debris from culverts, ditches, dips and other drainage structures to decrease clogging that can lead to washouts.
- Keep traffic to a minimum during wet periods and spring breakup to reduce maintenance needs.



- Shape road surfaces periodically to maintain proper surface drainage and remove berms on the edge of the road that trap water.
- When dust control agents are used, apply them in a way that will keep them from entering lakes, streams and groundwater.

### State, County, and Township Roads

State, county, and town roads within the state forest boundary will continue to be managed by their respective jurisdictions and are outside the scope of the Peshtigo River State Forest Master Plan.

### AESTHETIC MANAGEMENT FOR ROADWAY CORRIDORS

Forest management techniques can be adjusted along roadways on the forest to ensure the long-term maintenance of scenic conditions proportionate to the road's level of public use. The Silviculture and Aesthetics Handbook distinguishes three separate road types within the Peshtigo River State Forest including Class A, Class B, and Class C roads (WDNR 1995).

#### CLASS A ROADS

Travel routes with heavy to medium use or roads where the use is for the specific purpose of enjoying scenery. All State and County roads located are classified as "A" type roads.

#### CLASS B AND C ROADS

These roads are characterized as having moderate to low levels of aesthetic management. Because the aesthetic management needs are highly dependent on site specific conditions, the

**ROAD MANAGEMENT PLAN**

Peshtigo River State Forest Superintendent will determine the classification (B or C) of roadways that do not fall into Class A.

Class B Roads serve a variety of uses where the public traffic load is generally light to medium. Scenic attractiveness is of equal importance to other land management objectives.

Class C Roads are primarily used for management access and public use does not occur or it is infrequent or it is primarily for activities such as hunting, fishing, or berry picking. Aesthetics are considered in the management along these roadways; however, they are secondary to the prescribed land management activities for the area.

**MANAGEMENT OBJECTIVES**

All management activities on Class A, B, and C roads will follow the guidelines established in the Silviculture and Forest Aesthetics Handbook (WDNR 1995).

- Aesthetic management considerations predominate along Class A roads. These areas should be developed and maintained in the forest environment to the greatest scenic potential for public enjoyment.
- Maintain scenic attractiveness in balance with other management objectives for adjacent lands.
- The appropriate scenic management treatments for each Class B roadway will be determined by the Peshtigo River State Forest Superintendent on a case-by-case basis as management activities are scheduled.
- The specific aesthetic management objective and the appropriate scenic management treatments for each Class C roadway will be determined by the Peshtigo River State Forest Superintendent on a case-by-case basis as management activities are scheduled.





## NON-METALLIC MINING MINING POLICY

The Department may use gravel, sand, fill dirt or other fill material from department-owned lands for Department use. Under certain circumstances other government bodies or agencies may also have access to these materials. Section 23.20 of the Wisconsin Statutes states, “the department may permit any town, county, or state agency to obtain gravel, sand, fill dirt or other fill material needed for road purposes from any department-owned gravel pit or similar facility if this material is unavailable from private vendors within a reasonable distance of the worksite. The department shall charge a fee for this material commensurate with the fee charged by private vendors.”

All nonmetallic mining in the Peshtigo River State Forest is regulated under the requirements of NR 135 Nonmetallic Mining Reclamation, Wis. Adm. Code, except for sites that do not exceed one acre in total for the life of the mining operation. Site reclamation under NR 135 is administered by the county. NR 135 requires mining sites to be located appropriately, operated in a sound environmental manner, and that all disturbed



areas be reclaimed according to a reclamation plan. Department of Transportation (DOT) projects are exempt because DOT projects have their own reclamation requirements. The use of state-owned land by the state and municipalities for gravel pits and sand will continue on a case-by-case basis. New sites will not be permitted where a Geological Feature of Importance has been identified. For a list of features, please see the Important Geological Features section below.

### IMPORTANT GEOLOGIC FEATURES

The Peshtigo River State Forest contains some good examples of drumlins, outwash plains and moraines—distinctive landforms left behind by the glaciers more than 10,000 years ago (these glacial features are described in more detail in the glossary). Because many of these glacial features contain high quality sand and gravel deposits, they are slowly being lost over time to sand and gravel extraction and other disturbances.

The Department recognizes the importance of setting aside and preserving representative examples of these non-renewable geological features to serve as a base for geological and ecological educational programs and as a baseline against which to compare sites that become disturbed in various ways. The following are considered the more significant examples of glacial features on the forest that will be protected from mining:

- Head-of-outwash features
- Dune crests
- Bedrock outcrops



## REAL ESTATE MANAGEMENT

### FOREST BOUNDARY EXPANSION

The Wisconsin Department of Natural Resources has approved the boundary expansion of the Peshtigo River State Forest (Map 2.13). Particular areas of the expansion were selected because of their ability to provide additional ecological, economic, and social value for the property and the region. The approved boundary expansion surrounds the existing ownership of approximately 9,200 acres. If all the land were purchased in the approved acquisition area, the property would be approximately 56,200 acres in size, not including water. Brief descriptions of the expansion areas follow.

The area immediately adjacent to the current boundary would provide additional protection to lands flanking the Peshtigo River and the waterway itself by consolidating existing properties of high conservation value. In addition, new public access points and regional trail linkages could be established.

Acquiring land along the river corridor to the northwest of the current boundary completes the protection of more than 50 miles of the upper Peshtigo River corridor, as well as protects a unique and highly prized section of fast-moving water, Roaring Rapids. This will also create a large continuous block of state, county and National Forest land along the river.

Expanding the boundary to the north maintains a large block of continuous forest land, much of which is currently under the ownership of the Board of Commissioners of Public Lands. It would also block state-owned forest land with county-owned forest land to create a larger, continuous block of public ownership. Another benefit of this acquisition is the increased protection of the Eagle Creek watershed, which flows into the Peshtigo River.

Obtaining additional land to the west of the current ownership would increase protection of the Thunder River—a major tributary of the Peshtigo River—and provides an important buffer around Governor Thompson State Park. In addition, acquisition of this area will connect state and federal forest land in Oconto County.

Finally, acquiring additional land in the disjunct Potato Rapids area will maintain a large block of continuous forest land and establish an easily recognizable boundary, Highway E. It will also provide additional watershed protection and improved

public access to the existing Potato Rapids portion of the forest.

### ACQUISITION POLICIES

As required by state and federal laws, the Department pays just compensation for property, which is the estimated market value based on an appraisal. At times, it is in the interest of the Department and the landowner for the Department to acquire only part of the rights to a property, or an easement. The Department has a number of easement options available to address these situations.

Landowners within the state forest boundary will be contacted periodically by Department staff to explain the Department's land acquisition program and to see if they have an interest in selling their property. Acquisition priorities within the state forest vary from year to year and are based on a variety of factors, such as resource management or recreation needs and available funding.

Master plan amendments will be done when and as required by Wisconsin Administrative Code NR 44.04 when adding newly acquired lands to the Forest Plan.

### AIDES IN LIEU OF TAXES

For all State properties purchased after 1992, the Department makes an annual payment in lieu of real estate taxes to replace property taxes that would have been paid if the property had remained in private ownership. More detailed information on how the Department pays property taxes may be found in a publication entitled *Public Lands and Property Taxes*, PUB-FR-166 or <http://dnr.wi.gov/org/land/forestry/publications/PLPT.pdf>.

### FUTURE BOUNDARY ADJUSTMENT PROCESS

From time to time adjustments in the Forest boundary are needed. In some cases parcels of land are removed from the boundary to allow alternative, necessary public uses by local governments. In other cases it may be desirable to add small parcels adjacent to the Forest so they can be purchased for resource protection or to meet expanding recreational needs. Property boundary changes of 40 acres or more require approval by the Natural Resources Board. Wisconsin Administrative Code Ch. NR 44 provides a plan amendment process that may be used to make adjustments in the Forest boundary.

## **EASEMENTS, ACCESS PERMITS, AND LAND USE AGREEMENTS**

Easements provide access across state property for utilities, town roads, or county highways. Easements are permanent and would continue to be upheld under the master plan. Access Permits provide access across state property to private ownership within the forest boundary. Land use agreements provide for a variety of uses on state forest property, such as snowmobile trails and other recreational facilities open to the public.

The Wisconsin Department of Natural Resources has a long history of cooperation in managing and maintaining public recreational and community facilities and access.

The Peshtigo River State Forest supports land use agreements with public and private partners that provide public benefits. Land use agreements can be used to facilitate agreements with partners to provide services that help meet the goals and objectives of the forest plan. Existing and future land use agreements will be evaluated on an individual basis and reviewed periodically. Agreements that were in place under Wisconsin Public Service Corporation (WSPC) ownership may continue, if determined to be in the best interest of the public.

New Land Use agreements will follow Department standards for review and approval.



**ADMINISTRATION AND OPERATIONS****ADMINISTRATION AND OPERATIONS**

The following section describes general practices, laws, policies, facilities, and other factors that are applied to all lands of the Peshtigo River State Forest that are under state ownership.

**FACILITY MANAGEMENT**

New or renovated recreational facilities will be designed according to state building codes and Department design standards and codes. The Forest Superintendent may also close and relocate campsites, renovate facilities, and relocate trail segments as deemed necessary.

The Forest Superintendent may maintain and construct storage buildings, employee housing, and/or other similar facilities to support the management of the state forest, as is authorized by normal Department facility approval processes. The structure's location and design must be consistent with the land classification requirements (NR 44) and the management objectives for the Area in which it is located.

**STATE FOREST ROAD ACCESS POLICY**

There are currently about six miles of permanent department-managed inventoried roads on the forest and many of these roads are open to public vehicles. All state forest roads are open to public access with street-licensed vehicles unless the road is bermed, gated, or signed closed. Roads are closed to ATVs. The Forest Superintendent may close a road to public use if it becomes degraded, causing unsafe conditions for public vehicles.

State forests, including the Peshtigo River State Forest, regularly open and close forest roads primarily to conduct forest management. Roads open for management purposes are generally open to the public during the management period (one to two years) and a short time thereafter to allow access for firewood collection or other uses. Following this period they are closed with gates or berms. The same general miles are open to public vehicles across the Peshtigo River State Forest over time, but in different locations. This variable condition represents the historic use availability for public and tribal access. Road access for the disabled is provided on a case-by-case basis by permit from the Peshtigo River State Forest Superintendent.

**INTEGRATION WITH GOVERNOR THOMPSON STATE PARK**

In addition to sharing a boundary, the Peshtigo River State Forest and Governor Thompson State Park share many management and use issues. The goals of this Master Plan call for closely integrated management of both properties, especially with regard to recreational opportunities. As a result, the recreational options for both park and forest visitors will ultimately extend far beyond each of the respective boundaries. Since the park does not have the space necessary to provide a high-quality horse trail network, for example, the state forest will be the primary provider of horse riding opportunities, with the possibility of some trails extending into or through the park.

**PUBLIC HEALTH AND SAFETY**

All facilities will comply with federal, state, and local health and sanitation codes; such as well testing, campground licensing and wastewater treatment. The Forest Superintendent has the authority to close campsites or campgrounds, trails, and other facilities on the forest when necessary due to health, safety, or environmental damage concerns.

Within designated public use areas such as campgrounds, picnic areas, parking lots, and high use trail systems, trees or other natural elements that are deemed public hazards will be removed. Safety inspections are done at least twice per year.

**DISABLED ACCESSIBILITY**

All new construction and renovation of facilities will follow guidelines set forth within the Americans with Disabilities Act and also be done in a manner consistent with NR 44 standards of the land use classification of the site where the development is located. Across the Peshtigo River State Forest, the State Forest Superintendent has the authority to make reasonable accommodations for people with disabilities, consistent with the requirements of the area's land use classification.

**FIRE SUPPRESSION**

As stated in Wisconsin Statutes 26.11, "The Department is vested with power, authority and jurisdiction in all matters relating to the prevention, detection and suppression of forest fires outside the limits of incorporated villages and cities in the state except as provided in sub (2), and to do all things necessary in the exercise of such power, authority and jurisdiction." Forest fire suppression actions within the state forest will consider the property management goals and the threats of the fire to life and property. Appropriate techniques will be used in each event to provide effective fire suppression while minimizing resource damage.

**EMERGENCY ACTION PLAN**

The property maintains on file an emergency action plan that describes staff response and coordination with other agencies

**ADMINISTRATION AND OPERATIONS PROVISIONS**

to natural disasters as they affect public safety and facilities. It is reviewed annually.

**AUTHORIZED RESPONSE TO CATASTROPHIC EVENTS**

Wildfires, timber diseases and insect infestations shall be controlled to the degree appropriate to protect the values of each management area. Necessary emergency actions may be taken to protect public health and safety. Appropriate management responses to catastrophic events are determined on a case-by-case basis, and action will be taken as appropriate.

**FUNDING CONSTRAINTS**

Implementation of the master plan is dependent upon staffing and funding, which are set outside of the master plan. Operational funding for state forests is established biannually by the state legislature. Development projects also follow an administrative funding and approval process outside of the master plan. Many of the initiatives in the plan are dependent upon additional funding and staffing support. Therefore, a number of legislative and administrative processes outside of the master plan will determine the rate this master plan can be implemented.

**MILITARY ACTIVITIES**

Use of the property by the military will be restricted to those uses that are compatible with the objectives of the master plan. Approved military activities would require a special use permit. Military activities that generally occur on state forests include: orienteering training, wilderness camping, cooperative training, and development projects that further the goals of the property, such as trail construction or fish habitat improvement.

**RESEARCH**

The Peshtigo River State Forest is a good place to conduct experimental trials and research, especially with regard to the many flowages that exist on the property. The research conducted by forest managers, scientists, and partners from universities and colleges can be beneficial for the forest as well as for the Department overall.

**REFUSE MANAGEMENT**

Refuse is collected by a private contractor from designated sites at campgrounds and other primary use facilities. Recyclable items are collected by Peshtigo River State Forest staff. Visitors are required to carry out any refuse they bring in when no designated refuse or recycling receptacles are available. This carry-in-carry-out policy applies to most primitive campsites, trails, and boat landings. Burying of refuse is not allowed anywhere on the property.

**DEPARTMENT AND WISCONSIN PUBLIC SERVICE****CORPORATION RESPONSIBILITIES RELATED TO FEDERAL LICENSING OF THE HYDROELECTRIC PROJECTS WITHIN THE PESHTIGO RIVER STATE FOREST**

The dams forming the flowages within the Peshtigo River State Forest, Caldron Falls, High Falls, Johnson Falls, and Potato Rapids flowages are hydroelectric projects that are owned and operated by Wisconsin Public Service Corporation (WPSC) and licensed in 1997 by the Federal Energy Regulatory Commission (FERC), an independent regulatory body within the U.S. Department of Energy. WPSC owned the uplands surrounding the flowages created by the dams and managed them with the guidance of a Comprehensive Land and Wildlife Management Plan. The Peshtigo River State Forest was established between 2001 and 2004 when the State acquired the lands and flowages that WPSC no longer needed to operate their hydroelectric dams.

In 2002 WPSC filed an application with FERC to amend the existing licenses to remove project lands and revise the boundaries for the five projects within the Peshtigo River State Forest boundary. The application was approved in 2003 with the condition that WPSC retain within the project boundaries a 200-foot buffer zone along the project reservoirs, certain recreation facilities and all lands for which WPSC holds the flowage rights.

When the Department purchased the lands from WPSC to establish the Peshtigo River State Forest a requirement of the purchase agreement was that the Department assumes a shared responsibility with WPSC for compliance with those terms of the license related to the purchased lands. The WDNR and WPSC have individual roles and responsibilities for managing the Peshtigo River Flowages and will continue to consult regularly to maintain clear understanding of their management roles and objectives. WPSC has the responsibility to assure all conditions of their license are met. However, each is dependent upon the other to successfully fulfill its management objectives. If changes to the management plan agreed to as part of the FERC license agreement become necessary, they may be sought through a formal petition to FERC.



## PUBLIC COMMUNICATIONS PLAN

The public and other governments will be provided opportunities to have an on-going involvement in the application of this master plan. This communication plan describes how the public will be periodically informed about activities and developing issues on the Forest, and it provides information on how the public will be notified of opportunities for involvement when significant, new issues related to management of the Peshtigo River State Forest arise.

Annually the Forest Superintendent will issue a report that summarizes the following:

- For the past year, the primary management and development activities that were completed and other significant issues that were addressed.
- For the following year, outline any proposed management and development activities and any changing management actions or approaches.

The annual report may also include other information of interest to the public on various topics related to management and use of the Forest. Some of the additional types of information that may be included from time to time are: the status of forest insect or disease problems, fire or storm damage, new information on endangered or threatened species, recreational management problems or new opportunities, and recreational use changes or trends.

The Forest Superintendent will maintain a list of persons, groups, and governments interested in receiving information about on-going management of the Forest. The annual report will be made available via mail or e-mail to persons on the list. The annual report will also be available to other potentially interested parties on the WDNR Internet Web site.

In the event the Department considers a change to the master plan (plan variance or amendment) all parties on the mailing list will be advised of the proposal and informed of the review and comment process. As appropriate, news releases will also be used to announce master plan amendment and variance proposals and review procedures.

### TRIBAL CONSULTATION

The Peshtigo River State Forest Superintendent will consult at least annually with the Mole Lake Band as well as the Great Lakes Indian Fish and Wildlife Commission on state forest management issues related to their treaty rights. Special consultation meetings with the Band will be scheduled as needed, should any issues warrant immediate attention.

### CONTACT PERSON

The Peshtigo River State Forest Superintendent should be contacted regarding questions about the State Forest or the master plan. At the time of this publication, the Peshtigo River State Forest Superintendent may be contacted at:

**Dan Mertz**  
**Peshtigo River State Forest Superintendent**  
 N10008 Paust Lane  
 Crivitz, WI 54114  
 dan.mertz@wisconsin.gov  
 715/757-3965

## PROPERTY DESCRIPTION



# BACKGROUND AND AFFECTED ENVIRONMENT

## PROPERTY OVERVIEW

The Peshtigo River State Forest lies approximately 20 miles northwest of Crivitz, Wisconsin in central Marinette County. The Potato Rapids portion of the property—20 miles to the southeast of the rest of the forest—is approximately three miles north of the town of Peshtigo. Established in 2001, the Peshtigo River State Forest is the smallest of Wisconsin's northern state forests, comprising more than 9,200 acres. Bordering the newly-created Governor Thompson State Park, the property is long and linear in shape, and surrounds the Peshtigo River and associated flowages from Roaring Rapids to an area northwest of the Sandstone Flowage. The property borders approximately 25 miles of the Peshtigo River including: Caldron Falls Flowage, a 1,180-acre reservoir; High Falls Flowage, a 1,670-acre reservoir; Johnson Falls Flowage, a 158-acre reservoir; the Fly Fishing Stretch of the Peshtigo River; and Potato Rapids Flowage, a 281-acre reservoir located downstream.

Located in an area with abundant publicly owned lands including county forest lands, the Chequamegon-Nicolet National Forest, and the Governor Thompson State Park, the Peshtigo River State Forest is an excellent addition to the regional amenity base. Wisconsin Public Service Corporation (WPSC), a natural gas and electric utility, was the former owner of the property and still maintains ownership of property adjacent to Peshtigo River State Forest, most notably along High Falls flowage and Caldron Falls. Private landholdings are scattered along the current forest boundary.

The Peshtigo River has been identified as a Land Legacy Place by the Wisconsin Land Legacy Report (WDNR 2006). The Land Legacy Report identifies the places most important to meet Wisconsin's conservation and recreation needs over the next 50 years.

## PAST MANAGEMENT AND USE

Roth (1898) noted that the southwestern portion of Marinette County had extensive tracts of jack pine, and that pine (white and red) had been cut over in much of the county at that time. He also noted that "large burned over wastes" existed throughout the county. The area that is now the Potato Rapids section of the Peshtigo River State Forest was within the area that was burned in the Great Peshtigo Fire in 1871.

The area that is now the Peshtigo River State Forest was heavily logged during the cutover period of the state, from the late 1800s into the early part of the 1900s. After the logging and subsequent fires, an even-aged forest of early successional species was established. Management was minimal through the 1950's, although some logging and small scale disturbance did occur. Starting in the 1950's and continuing into the 1970's, approximately 1400 acres of the property were planted to red pine. Some harvesting occurred in the 1970's and 1980's, regenerating some of the early successional types in even-aged stands. According to the WPSC Comprehensive Land and Wildlife Plan, the existing stands of Northern Hardwood types originated between 1920 and 1940.

Since construction in 1910, The Peshtigo River Hydroelectric Projects (consisting of Caldron Falls, High Falls, Johnson Falls, Sandstone Rapids, Peshtigo River and Potato Rapids Projects), was owned and managed by WPSC, or its' predecessor companies. Since the 1950s, it was managed under a "wild shores philosophy" starting when the first access roads and boat landings were built. This promoted multiple uses, but restricted shoreline uses to "keep it close to a natural state."

## PROPERTY DESCRIPTION

During the tenure of WPSC, the land was open to the public for recreation. The WDNR will continue to promote public recreation on these properties while protecting natural features. An integrated management plan will address such issues as sustainable forestry, wildlife, fish and non-game management as well as the development of recreational activities such as hunting, snowmobiling, hiking, and cross county skiing that are well established in the Peshtigo River State Forest.

## PHYSICAL ENVIRONMENT

### GEOLOGY, SOILS, AND TOPOGRAPHY

The Peshtigo River State Forest and surrounding areas are underlain by igneous, metamorphic, and volcanic rocks, with the exception of the area surrounding Potato Rapids that is underlain by carbonates. Igneous and metamorphic bedrock exposures are common throughout the Peshtigo River State Forest and surrounding landscape. The Peshtigo River State Forest, like the rest of the Athelstane Sandy Outwash and Moraines Subsection, formed under the center of the Green Bay Lobe during the latter part of the Wisconsin glaciation and was overwashed and reworked by outflow from the Langlade Lobe. The thickness of glacial drift over the bedrock varies from 0-100 feet deep. The thickest glacial drift deposits are found in the southern half of the forest (WDNR 1985). In some places, till is thin enough that bedrock characteristics directly affect vegetation and bedrock outcrops can be seen frequently throughout the forest, often forming ridges and knolls.

The surface of the Athelstane Sandy Outwash and Moraines subsection is predominantly outwash sand. Many parts of the outwash surface feature "collapsed" topography that formed when stranded blocks of glacial ice melted, and overlying outwash material collapsed into the depressions. Heads-of-outwash are distinctive landforms here; these hilly areas were formed at recessional positions of the Green Bay Lobe when ice was melting and thinning rapidly. In places where large amounts of sand and gravel were deposited atop the thin edge of the ice sheet, and when the ice melted, a head-of-outwash ridge remained.<sup>1</sup>

The soils of much of the Peshtigo River State Forest and surrounding areas are excessively drained and sandy. Common soils in the area of the Peshtigo River State Forest are of the Menahga Association, with significant areas of Pence-Padus Association closer to the Forest County line. There are scattered areas of the following associations: Mancelona-Emmet-Menahga, and Sarona-Keweenaw. The main soil associations in the lower stretches of the Peshtigo River are Wainpola-Deford and Cunard-Emmet (USDA 1991). However, the Subsection also includes remnant loamy end moraines and ground moraines that were not completely buried by outwash materials. These areas are among the few in the immediate area that support mesic hemlock hardwood or Northern Hardwood forests. Kettle lakes are few. Most of the lowland soils are very poorly drained acid peats or non-acid mucks, and are currently occupied by bogs, sedge meadows, shrub swamps, and lowland forests.



<sup>1</sup>See Wisconsin Landtype Associations, 2005

**WATER RESOURCES AND AQUATIC HABITATS**

## WATER RESOURCES AND AQUATIC HABITATS

### LAKES AND STREAMS

Large natural lakes are few in this area, although there are a few examples of undeveloped or nearly undeveloped natural lakes in or near the Peshtigo River State Forest. High Falls (1,670 acres) and Caldron Falls (1,180 acres) flowages are the second and third largest “lakes” within the Upper Green Bay Basin. The largest lake, Lake Noquebay (2,049 acres) is located within 10 miles of the state forest. The significance of Caldron and High Falls flowages cannot be overstated. These water bodies are a huge draw for water-based recreational activities within the region. Potato Rapids has less motorized water recreation associated with it than the other flowages and a greater concentration of waterfowl hunting and fishing.

Caldron Falls Reservoir was designated as an Outstanding Resource Water in 1996. An Outstanding Resource Water is designated from a set of criteria that determines it to be an area that requires special protection due to its water quality and its ability to support a diverse array of plants, fish, wildlife and other animals, both in the water and the riparian zone. Caldron Falls scored the highest score on Riparian Zone Habitat due to its vast amount of undeveloped shoreline (greater than 80%) with few areas of human disturbance. Any development around Caldron Falls can not degrade the water quality or reduce any of the initial criteria that were met for its Outstanding Water Resource designation. Only four impoundments in the State of Wisconsin have met the required criteria to become an Outstanding Water Resource.

There are also numerous Class I, II, and III trout streams within the region and the state forest that offer some of the State’s best trout fishing.

### UPLAND AND LOWLAND VEGETATION AND NATURAL COMMUNITIES OR HABITATS

A variety of tools are available to land managers engaged in forest planning and management. Using multiple sources of data, managers are better able to assess site capabilities, identify ecological and silvicultural alternatives, predict the effec-

tiveness of possible silvicultural treatments, evaluate feasible management alternatives, and choose appropriate management objectives. These tools are an integral part of the master planning process and are used for sound forest management. A description of each source is provided below:

- The General Land Office’s Public Land Survey data (GLO PLS) was utilized to assess historic vegetation. These surveys conducted between the 1830s and 1870s, divided the state into 6 by 6 mile townships and 1 by 1 mile sections so that the land could be homesteaded. In order to mark the corners of each section, the surveyors blazed up to 4 witness trees around the corner, and noted tree species, diameter, and distance and direction from the corner post. While the intent of these surveys was not ecological in nature, it does provide researchers with some ecological data about species composition and tree density at the time of the surveys.
- WISCLAND land use/land cover data are a source of generalized information on vegetation. These data were developed by the WDNR with support from a consortium of other users. The data are an interpretation of the state’s land cover from LANDSAT satellite images taken in 1992. This vegetation classification provides non-detailed information on several categories of forested and non-forested land.
- Wisconsin DNR Forest Reconnaissance provides data at the stand level and current composition, but does not provide data on successional trends.
- Forest Inventory and Analysis (FIA) data from the U.S. Forest Service are primarily used to assess the timber resource.
- The FIA uses statistical sampling at selected plots. These are the most accurate data for showing amounts (acreage and volume) of different forest types at the county level or a larger area. The data are not presented spatially, although information from sample points has occasionally been extrapolated to produce forest type maps.
- The Forest Habitat Type Classification System (FHTCS)<sup>2</sup>, The FHTCS identifies potential climax associations based on repeating patterns in the composition of the understory vegetation and different understory species. Individual forest cover types usually encompass a wide range of environmental conditions and do not accurately reflect site potential or respond predictably to given management techniques.

<sup>2</sup>See A Guide to Forest Communities and Habitat Types of Northern Wisconsin (2002) by Kotar.

**UPLAND AND LOWLAND VEGETATION AND NATURAL COMMUNITIES OR HABITATS**



- Natural Heritage Inventory (NHI)<sup>3</sup> The NHI programs focus on rare plant and animal species, natural communities, and other natural features. The Wisconsin NHI Working List is the official list of Endangered, Threatened, and Special Concern plants and animals for Wisconsin. The Working List also includes a list of natural communities known to occur in Wisconsin. The list changes over time as the populations of species change and as knowledge about species status and distribution increases.

**HISTORIC VEGETATION**

Based on Finley’s (1976) interpretation of the GLO PLS records, the lands comprising the Peshtigo River State Forest and surrounding landscape were vegetated with Pine or Oak Barrens, and interspersed with stands of lowland conifer forest and hemlock-dominated Mesic Forest. The northern stretches of the river that currently flow through portions of the Marinette County Forest were dominated by northern hardwoods, hemlock-hardwoods, and pine.

GLO PLS records indicate that much of the surrounding area was open with widely spaced trees that commonly included small diameter red pine and jack pine. Aspen and tamarack were common in some areas. Fires were historically common in this landscape, owing to the dry sandy soils, fire adapted vegetation, and the relatively level or rolling terrain which had few major water or wetland barriers.

**CURRENT VEGETATION AND NATURAL COMMUNITIES**

The Peshtigo River State Forest and surrounding area are mostly forested. Deciduous forests (aspen, oaks, maples) are the most widespread and are interspersed with small areas of upland and lowland conifer forests, wetlands and grasslands. Agricultural lands are common just south of the Peshtigo River State Forest near the city of Crivitz.

Based on the most recent Forest Reconnaissance data for the Peshtigo River State Forest<sup>4</sup>, aspen is the most common cover type, comprising 27% of the forest, followed by scrub oak (25%), red pine (11%), undifferentiated oak (9%), red maple (8%), and jack pine (4%). Swamp conifers and hardwoods, spruce-fir, and white pine cover types make up the remaining acreage. At that time, forests were mostly comprised of small size classes, including poles (83%) and saplings (16%); small and large sawtimber together made up 2% of the acreage of the larger forest size classes in the Peshtigo River State Forest and were limited mainly to the steep slopes adjacent to the Peshtigo River. These slopes support several distinct forest communities, and contain seeps that sometimes harbor rare plants and interesting plant assemblages.

Using The Forest Habitat Type Classification System (FHTCS) the forest communities on the Peshtigo River State Forest are as follows: PARV-Ao (*Pinus strobus-Acer rubrum/ Vaccinium angustifolium-Apocynum androsaemifolium*), PARV-Po (*Pinus strobus-Acer rubrum/ Vaccinium angustifolium-Polygonatum pubescens*), and AVb (*Acer saccharum/ Viburnum acerifolium*). These communities are especially well-suited for management of pine (jack, red, and white), although red maple is well-represented in advanced regeneration. Red and white pines have the best growth potential, whereas red oak and red maple sawtimber is more modest. Pines are best suited for wood production, but the maintenance of deciduous tree populations is desirable for both wildlife habitat and soil nutrients.

**UNIQUE HABITATS AND FEATURES**

Key ecological features as identified by the Biotic Inventory include scattered outcroppings of igneous bedrock; small, remnant stands of the severely diminished Pine or Oak Barrens community; several floristically rich stands of Northern Wet-mesic Forest (white cedar swamps); and occurrences of older stands of Northern Dry-mesic Forest (white pine, red pine, red oak, red maple) on the steep slopes flanking the river<sup>5</sup>. Table 3.1 lists community types within the Peshtigo River State Forest. Other community types are also present, but are represented by stands that are too small, too highly disturbed, or

**TABLE 3.1 NATURAL HERITAGE INVENTORY COMMUNITY TYPES WITHIN PESHTIGO RIVER STATE FOREST**

COMMUNITY TYPE	YEAR	STATE RANK	GLOBAL RANK
Northern Dry-mesic Forest	2003	S3	G4
Northern Wet-mesic Forest	2003	S3S4	G3
Stream—Fast, Hard, Cold	2003	S4	GNR

<sup>3</sup> The most recent NHI information for Wisconsin is available at ([www.dnr.state.wi.us/org/land/er/](http://www.dnr.state.wi.us/org/land/er/)).

<sup>4</sup> Reconnaissance data is from 1989 but has been partially updated.

<sup>5</sup> Community descriptions can be found at <http://dnr.wi.gov/org/land/er/communities>.

<sup>6</sup> For more information on global and state ranking see <http://dnr.wi.gov/org/land/er/wlist/>.

## UPLAND AND LOWLAND VEGETATION AND NATURAL COMMUNITIES OR HABITATS

too altered to warrant inclusion in the NHI database. The state rank of a community type or species is related to the number of occurrences found in the state and ranges from critical (S1) to relatively stable (S5)<sup>6</sup>. For example, the S3 ranking of the communities listed below indicates that they are rare or uncommon in Wisconsin. The table below summarizes the types of natural community occurrences on the Peshtigo River State Forest.

Of those NHI community types found on the Peshtigo River State Forest, The Ecological Landscapes of Wisconsin Handbook—Ecological Opportunities Table designates Northern Dry-mesic Forest, Northern Wet-mesic Forest and Coldwater Streams as Major Opportunities for the Northeast Sands Ecological Landscape. A Major Opportunity is defined as a community type that is represented by many significant occurrences within an Ecological Landscape (EL), or that the EL is appropriate for major restoration activities.

### THREATENED, ENDANGERED AND SPECIAL CONCERN PLANT SPECIES

Twelve rare plant species from the NHI Working List have been documented in or around the Peshtigo River State Forest, including one State Threatened species, dwarf milkweed (*Asclepias ovalifolia*). One species that was known only from

historical records, blue ridge blueberry (*Vaccinium pallidum*), was also found. Most of the rare plants found within the Peshtigo River State Forest and adjacent areas are associated with either dry uplands (including barrens remnants, dry forests, and Bedrock Glades) or wetlands, both forested and open types. Three of the 12 species are associated with Northern Dry-mesic and Northern Mesic forests.



**TABLE 3.2 NATURAL HERITAGE INVENTORY WORKING LIST PLANTS IN PESHTIGO RIVER STATE FOREST AND SURROUNDING AREA**

SCIENTIFIC NAME	COMMON NAME		YEAR	STATE RANK	GLOBAL RANK	STATE STATUS
<i>Arabis missouriensis</i> var. <i>deamii</i>	Deam's Rockcress		2003	S2	G4G5QT3?Q	SC
<i>Arethusa bulbosa</i>	Swamp-pink	*	1991	S3	G4	SC
<i>Asclepias ovalifolia</i>	Dwarf Milkweed		2003	S3	G5?	THR
<i>Carex assiniboensis</i> **	Assiniboine Sedge	*	1981	S3	G4G5	SC
<i>Carex vaginata</i>	Sheathed Sedge	*	2003	S3	G5	SC
<i>Cypripedium reginae</i>	Showy Lady's-slipper	*	2003	S3	G4	SC
<i>Epilobium palustre</i> **	Marsh Willow-herb	*	2003	S3	G5	SC
<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	White Adder's-mouth	*	1992	S3	G4Q	SC
<i>Medeola virginiana</i>	Indian Cucumber-root		1997	S3	G5	SC
<i>Platanthera hookeri</i> **	Hooker Orchis		1960	S2S3	G5	SC
<i>Platanthera orbiculata</i>	Large Roundleaf Orchid		2003	S3	G5?	SC
<i>Vaccinium pallidum</i>	Blue Ridge Blueberry		2003	S1	G5	SC

\* Species associated with wetlands or aquatic features

\*\* Species not located within the Peshtigo River State Forest

\*\*\*\* State & Global Ranks are used to indicate a species

**WILDLIFE RESOURCES****WILDLIFE RESOURCES**

The property supports a healthy and diverse wildlife population that includes eagles, osprey, deer and bear. There are numerous aquatic species associated with the river and its associated wetlands, including the northern clearwater crayfish, bullfrog, and wood turtle. According to the Wisconsin Breeding Bird Atlas, 99 different species of birds are either confirmed to be breeding or probable to be breeding in the three 7.5 minute USGS topographic quadrangles that encompass the Peshtigo River State Forest.

High deer densities are well-documented in the state and present many risks to the long-term health of northern forests. Pre-European settlement deer densities in northern Wisconsin were thought to range between 5 and 10 deer per square mile (Alverson et al., 1988). Of late, higher densities in the region have led to severe damage to understory plants,

tree reproduction, and a reduction in the habitat for birds and small mammals. Managing deer numbers will be important to achieving forest management objectives.

**THREATENED, ENDANGERED, AND SPECIAL CONCERN SPECIES AND HABITATS**

Nineteen rare animal species have been documented in the Peshtigo River State Forest and surrounding areas, including one State Endangered, four State Threatened species, and the Federally Threatened Bald Eagle (Table 3.3). A timber wolf pack—listed as Federally Threatened—is known just north of the Peshtigo River State Forest, and there is another known occurrence just outside the northern end of the forest<sup>7</sup>. The majority of rare animals documented within the Biotic Inventory's study area are associated with aquatic or wetland habitats. The Peshtigo River provides important habitat for many of these species including five that are globally rare. The dry uplands are also important for some species including a rare tiger beetle. Only one nest territory for the Northern Goshawk was located on the Peshtigo River State Forest. The property lacks large tracts of mature, closed-canopy forest needed to sustain this and other rare birds, including the Red-shouldered Hawk. However, there are areas on the forest that could provide future opportunities to benefit these species.



<sup>7</sup> For more information on timber wolves in Wisconsin see: [dnr.wi.gov/org/land/er/mammals/wolf/](http://dnr.wi.gov/org/land/er/mammals/wolf/)

**TABLE 3.3 NATURAL HERITAGE INVENTORY WORKING LIST  
ANIMALS FOUND IN THE PESHTIGO RIVER STATE FOREST AND ADJACENT AREAS**

SCIENTIFIC NAME	COMMON NAME		YEAR	STATE RANK	GLOBAL RANK	STATE STATUS	FEDERAL STATUS
BEETLE							
<i>Cicindela patruela patruela</i> **	A Tiger Beetle		2002	S2	G3T3	SC/N	
BIRD							
<i>Accipiter gentiles</i>	Northern Goshawk		2002	S2B,S2N	G5	SC/M	
<i>Haliaeetus leucocephalus</i>	Bald Eagle	*	2002	S3B	G4	SC/FL	LT, PD
<i>Pandion haliaetus</i>	Osprey	*		S3S4B	G5	Thr	
BUTTERFLY							
<i>Pieris virginiensis</i> **	West Virginia White	*	2002	S3	G3G4	SC/N	
CRUSTACEAN							
<i>Oronectes propinquus</i>	Northern Clearwater Crayfish	*			SUG5	SC/N	
DRAGONFLY							
<i>Gomphurus lineatifrons</i>	Splendid Clubtail	*	1991	S3	G4	SC/N	
<i>Gomphurus ventricosus</i> **	Skillet Clubtail	*	2002	S3	G3	SC/N	
<i>Gomphus quadricolor</i>	Rapids Clubtail	*		S4	G3G4	SC/N	
<i>Gomphus viridifrons</i>	Green-faced Clubtail	*		S3	G3	SC/N	
<i>Nasiaeschna pentacantha</i>	Cyrano Darner	*	1988	S3	G5	SC/N	
<i>Neurocordulia yamaskanensis</i>	Stygian Shawdowfly	*		S3	G5	SC/N	
<i>Ophiogomphus anomalus</i>	Extra-striped Snaketail	*		S1	G3	END	
<i>Ophiogomphus carolus</i>	Riffle Snaketail	*	1980	S3	G5	SC/N	
<i>Ophiogomphus howei</i>	Pygmy Snaketial	*		S3	G3	THR	
FROG							
<i>Rana catesbeiana</i>	Bullfrog	*	2003	S3	G5	SC/H	
SALAMANDER							
<i>Hemidactylium scutatum</i> **	Four-toed Salamander	*	2003	S3	G5	SC/H	
TURTLE							
<i>Clemmys insculpta</i>	Wood Turtle	*	2003	S3	G4	THR	
<i>Emydoidea blandingii</i> **	Blanding's Turtle	*	2002	S3	G4	THR	

\* Species associated with wetlands or aquatic features.

\*\* Species not located within the Peshtigo River State Forest.

**WILDLIFE RESOURCES**

The Wisconsin Wildlife Action Plan designates species of greatest conservation need based on several factors, and classifies them based on their likelihood of occurring in a given Ecological Landscape (please refer to [dnr.wi.gov/org/land/er/wwap](http://dnr.wi.gov/org/land/er/wwap) for more information). Given the natural community types listed as occurring in the Peshtigo River State Forest from the Biotic Inventory, Table 3.3 lists the animals with a high or moderate probability of occurring in the Northeast Sands, and are associated with community types designated as Major Opportunities that occur in the Peshtigo River State Forest. Managers should be cognizant that healthy natural communities support a wide variety of different species, and maintenance of healthy natural communities may encourage the success of many species.



**TABLE 3.4 SPECIES OF GREATEST CONSERVATION NEED AND ASSOCIATED NATURAL COMMUNITIES IN THE NORTHEAST SANDS ECOLOGICAL LANDSCAPE**

ASSOCIATED NATURAL COMMUNITY TYPES THAT OCCUR IN THE PRSF		SPECIES WITH A HIGH PROBABILITY OF OCCURRING IN THE NORTHEAST SANDS	SPECIES WITH A MODERATE PROBABILITY OF OCCURRING IN THE NORTHEAST SAND
<b>MAJOR OPPORTUNITIES</b>	Northern Dry-mesic Forest	Whip-por-will	Northern Goshawk
		Least Flycatcher	Red-shouldered Hawk
		Veery	Canada Warbler
		Golden-winged Warbler	Gray Wolf
	Northern Wet-mesic Forest	Water Shrew	Canada Warbler
		Northern Flying Squirrel	Four-toed Salamander
		Wood Turtle	Pickerel Frog
			Woodland Jumping Mouse
	Coldwater Streams		Gray Wolf
		Water Shrew	Solitary Sandpiper
		Mudpuppy	Four-toed Salamander
		Mink Frog	Pickerel Frog
	Wood Turtle	Blanding's Turtle	

## RECREATIONAL FACILITIES AND USE



## RECREATIONAL FACILITIES AND USE

### EXISTING FACILITIES AND SERVICES

While the forest supports a wide range of recreational activities, it has surprisingly few designated facilities and trails. Trails are designated for mixed-use including hiking, off-road cycling, cross-country skiing and snowmobiling, to name a few. There are limited opportunities for ATV-riding on the property, but extensive ATV trails exist to the north and south. There are a wide range of authorized recreational activities on the Peshtigo River State Forest. Many are seasonal, such as snowshoeing and berry-picking, but other activities, like hiking and wild-life watching can be enjoyed all year. The following list of authorized activities provides an overview of the recreational opportunities found on the Peshtigo River State Forest: boating/personal watercraft use, cross-country skiing, snowmobiling, hiking, camping, off-road bicycling, snowshoeing, canoeing/kayaking, berry picking, and swimming.

### CAMPING

Adjacent to the state forest, 62 campsites are currently located within the county-owned Twin Bridges Park on High Falls Flowage. There are also 16 sites in place at Old Veteran's Lake Rustic Campground. In addition, there are ten primitive remote canoe campsites located on three different areas on Johnson Falls, Seymour and Spring Rapids areas. These sites are accessible only by water, stays are limited to one night and they cannot be reserved. The WPSC did not designate any other primitive canoe campsites along this reach, but camping continues to occur. There will also be recreational facilities on Governor Thompson State Park including: a 70 unit rustic campground, 3 walk-in primitive campsites, and an outdoor and indoor group campsite.

### WATER RECREATION

Due to the scarcity of large inland lakes in the region, the Peshtigo River State Forest plays a major role in water recreation, as evidenced by the many boat landings on the property. Water recreation is supported by 15 boat landings with new cement planks (Table 3.5). The vehicle/trailer capacity of these boat landings ranges from 7-40, but most can accommodate approximately 20 vehicles/trailers.

Swimming is a very popular activity on the Peshtigo River State Forest despite the lack of designated beaches. As a

**TABLE 3.5 BOAT LANDING CAPACITY AND AMENITIES**

BOAT LANDING NAME	CEMENT PLANK	CAR/TRAILER CAPACITY	PICNIC TABLE	BOARDING DOCK
West Bay (Landing 1)	X	15		X
Bass Bay (Landing 2)	X	10		
East Bay (Landing 3)	X	20		
Twin (Landing 4)	X	20		
Channel (Landing 5)	X	20		X
Woods Creek (Landing 6)	X	30		X
Rock Cove (Landing 7)	X	40	X	X
Caldron Bay (Landing 8)	X	25	X	X
Musky Point (Landing 9)	X	30	X	
North Bay (Landing 10)	X	15		
Crandall Creek (Landing 11)	X	15		
Roaring Rapids (Landing 12)	X	20		
Thunder (Landing 14)	X	15		
Peshtigo (Landing 1)	X	7		
Potato Rapids (Landing 1)	X	15	X	X



**RECREATIONAL FACILITIES AND USE**

result, swimming often occurs on or near boat launches as well as other areas along the river. There are no designated swim areas owned and operated by the State Forest; however, the Town of Stephenson Park on High Falls Flowage does have a designated swimming area and other amenities.

Motorized recreational boating is more common on the flowages within the Peshtigo River State Forest than on Potato Rapids, although canoeing/kayaking is popular in both areas. This may be due to the small size of Potato Rapids and the lack of access points. Although it has two boat landings, Potato Rapids is not subject to the same recreational pressures seen on the other flowages. With only 288 acres of water and islands, this area is ideal for fishing, hunting, and canoeing.

**FISHING**

The upper reaches of the Peshtigo River are characterized by two flowages—Caldron Falls and High Falls. These flowages support a good fishery for muskellunge, walleye, bass

and panfish. The forested shorelines feature numerous scenic rock outcrops and islands. The Johnson Falls Flowage lies downstream from High Falls Flowage and exhibits a narrower river channel, steeply wooded banks and an excellent fishery. The Fly Fishing Stretch of the Peshtigo River offers some of the most scenic trout fishing in the Midwest. The Potato Rapids Flowage near the city of Peshtigo is a scenic flowage with an associated marshland habitat that also supports a warm water fishery.

**TRAILS**

The Peshtigo River State Forest has approximately 20 miles of snowmobile trails (which are also used by ATVs in winter), 1 mile of ATV trail, and approximately 8 miles of cross country ski trails. There are approximately six miles of designated public access roads, portions of which are used in winter for snowmobiling or skiing. There are currently no mountain bike, nature, or other types of trails designated on the property.





## SOCIAL/CULTURAL RESOURCES

### LAND OWNERSHIP

There are no private in-holdings within the property boundary, but much of the property is surrounded by private property, including a few large pieces retained by WPSC. This may pose difficulties for potential boundary expansion proposals and management decisions. There are also numerous public lands near the Peshtigo River State Forest, including local, county, state and federal lands. There are also no private land in-holdings at Potato Rapids, but it is largely surrounded by private property.

### HISTORICAL/ARCHEOLOGICAL

Work completed by WPSC for the Federal Energy and Regulatory Commission (FERC) re-licensing program found evidence of historical and archaeological resources within the region. The WPSC identified eight previously recorded prehistoric and historic sites. Field reconnaissance found 55 sites along the

shorelines, of which 22 are affected by either hydro project operations or public recreation. Most sites have late Woodland (Native American) components dating from A.D. 500 to 1634. The Johnson Falls, High Falls and Caldron Falls hydroelectric dams and powerhouses are eligible for inclusion into the National Register of historic places.

As part of the 1837 and 1842 treaties, the Native Americans gave up timber harvesting rights. However, they retained the rights to such activities as hunting and fishing, as well as the gathering of firewood, boughs, tree bark, lodge poles, marsh hay, wild rice, and maple syrup. These activities are retained because it has been determined by the courts that they are usual and customary activities of the Chippewa at the time the treaties were signed.

### ADMINISTRATIVE AND OTHER FACILITIES

There are currently no designated administrative or maintenance facilities on the forest.

The forest has approximately 20 miles of maintained recreational trails and 6.0 miles of public access roads. These trails and roads will continue to be maintained by DNR for public use and recreational access.





## REGIONAL CONTEXT

### LAND OWNERSHIP AND LAND-USE PATTERNS

The Peshtigo River State Forest is located almost entirely within Marinette County, with a small portion in Oconto County (Map 3.5—Regional Ownership). This area of northeastern Wisconsin is predominately rural with a natural resource and tourism based economy. This area supports a large natural amenity base that attracts many tourists and seasonal homeowners. The main body of the forest is near the Village of Crivitz and about 55 miles north of Green Bay. The property resides almost entirely within the Township of Stephenson. Smaller portions of the State Forest are located in the Towns of Silver Cliff and Porterfield in Marinette County and the Town of Lakewood in Oconto County.

Over 28% of Marinette County is under public ownership, with approximately 231,000 acres of county forests and parks and 15,000 acres of DNR managed land, including wildlife areas, wild river areas, fisheries, state natural areas, and a state park. Non-profit conservation organizations and other public ownership account for the remaining 8,000 acres of recreational lands open to public use. There are 444 natural and man-made lakes in the county totaling 16,260 surface acres. There are very few large lakes (defined as greater than 50 acres) within Marinette County and surrounding region. Because of this, there is high demand for the sizable waters of the Peshtigo's flowages for recreation. This area is also known for its high concentration of trout streams.

Public lands are common in northeastern Wisconsin. The largest of these holdings are within federal and county forests, which comprise approximately 1 million acres of land. Listed below are the largest public land holdings within a 50 mile radius of the state forest (including Upper Michigan):

#### Wisconsin

- Marinette County Forests: 231,596 acres. Multiple recreational opportunities exist on these lands from water access sites to developed campgrounds.
- Oconto County Forests: 41,980 acres with the majority abutting the Nicolet National Forest. Camping, fishing and water accesses are available within this forest.
- Florence County Forests: 36,363 acres. Hiking, snowmobiling, ATV, and canoeing are popular activities. The forest also has two public campgrounds.
- Forest County Forests: 10,808 acres. ATV, snowmobiling, hunting and wildlife viewing are promoted on these lands.
- Chequamegon-Nicolet National Forest: covers nearly 661,400 acres in Florence, Forest, Langlade, Oconto, Oneida, and Vilas counties. Abundant trail and camping opportunities exist upon this property.
- Governor Thompson State Park totals 2,600 acres. It abuts the state forest and lies on the Caldron Falls Reservoir. Currently under development, the park will offer family camping, indoor and outdoor group camps, environmental educational programs, and a trail network for biking, hiking and skiing.

#### Michigan

- Copper Country State Forest: 430,000 acres over a seven county area. The southern fringe of this property (Dickinson County) abuts Marinette County. Wide ranges of motorized and non-motorized recreational activities occur on this property.
- Escanaba River State Forest: 416,000 acres. The southern fringe of this property (Dickinson County) also abuts Marinette County. The forest offers access to both Lake Michigan and other forestlands with camping, ATV, and non-motorized trail usage.

### REGIONAL TRANSPORTATION NETWORK

The state forest is located approximately 50 miles from Green Bay, 110 miles from Oshkosh, and 160 miles from Milwaukee. State Highways 141, 41, and US Interstate 43 provide easy and efficient access to the region and forest. A number of township roads provide access to the state forest. County Highways X, C and W provide the backbone for transportation to the property. The majority of these township roads are paved, although a few are gravel. Potato Rapids is accessible from State Highway 64 and numerous township roads.

**BIOLOGICAL RESOURCES AND ECOLOGICAL NEED**

## BIOLOGICAL RESOURCES AND ECOLOGICAL NEED

### REGIONAL GEOLOGY AND SOILS

The Peshtigo River State Forest and its surrounding region sit on the southern edge of the Precambrian Shield, often referred to as the Canadian Shield. It's an area of vast igneous, metamorphic and sedimentary bedrock that covers most of northern Wisconsin, northern Minnesota, Michigan's Upper Peninsula and nearly all of central and eastern Canada. However, unlike the dominantly rocky landscape of Northern Minnesota and Canada, only occasional granite outcrops and knobs are visible here along rivers, streams, and other select locations. This southern edge of the shield is buried under 100 feet of glacial till and ground moraine derived from granite and locally abundant dolomite from formations miles to the east.

Glacial deposits in the region of the state forest include north-south terminal moraines, ground moraine, lake sediments from Glacial Lake Michigan, pitted and unpitted outwash, and sand dunes. Soils on the outwash plains area are excessively well-drained sands, while somewhat richer sandy loams and loamy sands dominate the moraines. This is reflected in the high level of soil permeability for most upland soils here, generally in the range of 2.5 to 5.0 inches per hour. For comparison, soils formed from the glacial lake sediments near the city of Peshtigo have higher clay content and a permeability rate of only 0.8 to 0.05 inches per hour.

In Marinette County, the majority of the soils (68 %) were formed in glacial outwash and till. As such, they created a complex topography of well drained soils interspersed with pockets of poorly drained soils. Slopes vary from 0 to about 30 %. Looking more closely at the Peshtigo River State Forest, more than three-quarters of the soils of the state forest and surrounding lands are strongly associated with the drought and fire adapted Pine or Oak Barrens natural communities (the Menahga and Mancelona-Emmet-Menahga soil associations).

Most of the remaining soils in Marinette County are richer with more water holding capacity as they were formed in glacial till. The Northern Wet-Mesic Forest natural community, which typically supports hemlock, white pine, sugar maple and red oak, is generally associated with this soil type. These areas are mostly located north of Caldron Falls Reservoir.



### ECOLOGICAL SETTING AND CAPABILITY

The majority of the Peshtigo River State Forest is located in the Northeast Sands Ecological Landscape. From the NHFEU, the unit most relevant to the Peshtigo River State Forest and surrounding lands is subsection 212Tc (Athelstane Sandy Outwash and Moraines). In the NHFEU, this Subsection is further divided into a number of Landtype Associations (LTAs). The LTAs that comprise Subsection 212Tc are differentiated primarily by their geomorphology. Morainal remnants and heads-of-outwash make up one group of LTAs, while outwash plain LTAs make up another, and a third group is formed in glacial lake plains.

According to the Ecological Landscapes of Wisconsin Handbook, the Northeast Sands Ecological Landscape was historically extensive oak/jack pine barrens and jack pine forests, found in the outwash sand portions of this Ecological Landscape. Moraines supported forests of hardwoods, red pine, and white pine. Outwash plains often contained pitted depressions, resulting in numerous wetlands and kettle lakes.

Most of the Northeast Sands is still forested (Figure 3.1); aspen predominates, followed by northern hardwoods. Jack pine remains on the outwash plains along with northern pin oak (scrub oak). There are several important occurrences of jack pine/oak barren communities, although there are none noted in the Peshtigo River State Forest. A small percentage of this Ecological Landscape contains spruce-fir-cedar forest and lowland hardwood forest. The Brazeau Swamp, a Land Legacy Place directly south of the Peshtigo River State Forest lying mostly within the Marinette County Forest, is one of the best representations of large cedar swamp forests in northern Wisconsin.

**BIOLOGICAL RESOURCES AND ECOLOGICAL NEED**

Of those NHI community types found in this area, The Ecological Landscapes of Wisconsin Handbook—Ecological Opportunities Table designates Northern Dry-mesic Forest, Northern Wet-mesic Forest and Coldwater Streams as “Major Opportunities” for the Northeast Sands Ecological Landscape, and designates Northern Mesic Forest, Northern Wet Forest, Bedrock Glade and Open Bog as “Important Opportunities.” A Major Opportunity is defined as a community type that is represented by many significant occurrences within an Ecological Landscape (EL), or that the EL is appropriate for major restoration activities. An important opportunity means that a community type is not extensive or common in an EL but has a minimum of one to several significant intact occurrences that should be considered for protection and/or management. It may also mean that the natural community type is restricted to just one or a few Ecological Landscapes within the state and should be considered for management there because of limited geographic distribution and a lack of opportunities elsewhere.

The Northeast Sands contains several important river systems (other than the Peshtigo) as well as extensive wetlands. The Menominee is the largest, located on the Michigan-Wisconsin border. Several wild rivers in the landscape are the Wolf, Pine, Popple, and Pike. Extensive wetlands, including in the Peshtigo Brook State Wildlife Area, are found here. The Northeast Sands has high levels of watershed pollution, with three of five watersheds classified as highly polluted. Its lakes, though few, ranked second worst in pollution levels among all of the Ecological Landscapes.

The globally rare Pine and Oak Barrens were much more common in the region prior to European settlement. This savanna community is characterized by scattered jack pine or a mixture of scrub oak and white oak, interspersed with shrub-dominated openings.

Fire suppression has played a key role in the decline of barrens in the area. Following fire suppression efforts of the mid-1930s, Pine and Oak Barrens almost entirely disappeared. Some stands have grown into dense, 40-50 foot tall stands of jack pine; others have been clearcut and planted to red pine plantations. Still other stands with an aspen component were clearcut and have become nearly pure aspen, while other stands had jack pine harvested for pulp and are now dominated by scrub oak. In the absence of fire, most of these stands have been invaded by mesic species and are succeeding to dry-mesic or mesic forest. Red maple is often among the first mesic species to invade.

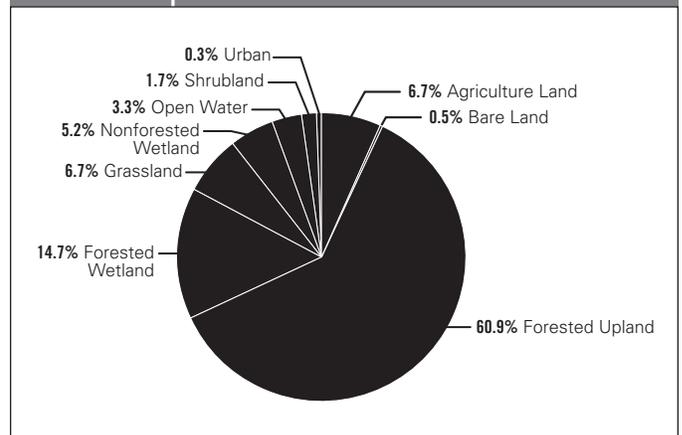
In contrast, Subsection 212Xc—which lies just a few miles to the northwest of the state forest—has much richer soils.

**TABLE 3.6 NHI NATURAL COMMUNITY TYPES IN AREAS ADJACENT TO THE PESHTIGO RIVER STATE FOREST**

COMMUNITY TYPE	YEAR	STATE RANK	GLOBAL RANK
Bedrock Glade	2003	S3	G2
Northern Dry-mesic Forest	2003	S3	G4
Northern Mesic Forest	2003	S4	G4
Northern Wet Forest	2003	S4	G4
Northern Wet-mesic Forest	2003	S3S4	G3
Open Bog*	2003	S4	G5
Southern Sedge Meadow*	2003	S3	G4
Stream—Fast, Hard, Cold	2003	S4	GNR

\*Communities not found within the Peshtigo River State Forest

**FIGURE 3.1 LAND COVER OF THE NORTHEAST SANDS ECOLOGICAL LANDSCAPE (WISCLAND)**



As a result, the Northern Hardwood forests that have dominated the area since before European settlement can support larger components of white ash, yellow birch, basswood, and American elm. The better-drained depressions are dominated by balsam fir and American elm. The poor-fens and bogs dominated by sedges, sphagnum mosses, tamarack, and black spruce are common in the poorer-drained depressions.

Another large area of richer soils, Subsection 212Tb, lies to the southwest of the outwash plain. The dominant pre-settlement vegetation here was Northern Hardwood forests of sugar maple, beech, hemlock, northern white cedar, and yellow birch. Much of these lands are now in agricultural use.

The Marinette County Forest is one of the largest public lands in the state. As this is a ‘working forest’, young and medium-aged forests—in a mosaic of relatively small patches—are well represented and provide ample habitat for those species

**BIOLOGICAL RESOURCES AND ECOLOGICAL NEED**

associated with such vegetation. Older, less disturbed forests, especially in larger patches, are not well-represented even in the county parks. Detailed surveys of the Marinette County Forest property have not been conducted, but among the significant natural features identified are several outstanding aquatic features (including free-flowing stretches of the Peshtigo River and several of its tributaries), undisturbed wetlands, and relatively mature Northern Hardwoods and hemlock hardwoods forests with significant components of beech, hemlock, and locally, white and red pines.

Peshtigo Harbor occupies a strategic location, situated at the junction of the Peshtigo River with Lake Michigan. The mouth of the Peshtigo River features an extensive complex of wetlands such as marsh, meadow, shrub swamp, and lowland forest that are of high significance to native plants and animals, including many rare species. The Peshtigo Harbor unit of the Green Bay West Shores State Wildlife Area is just one in a system of important (based on ecology, economy, recreation, aesthetics) public holdings that occur along the West Shore of Green Bay. Additional survey work is needed for the entire complex of public lands along the West Shore.

In summary, the Peshtigo River State Forest lies within a large landscape shaped by sandy soils and fire. The early vegetation of the region was a fairly open Pine or Oak Barrens community. Currently it's a rare community type in the region and state. Now that wildfires are largely controlled, the upland forest in this area is slowly converting to species more typical of richer soils, such as those found north of the Peshtigo River State Forest. Another large area of richer soils lies a few miles to the

south of the state forest and has now been largely converted to agricultural uses.

**RECENT HISTORY AND FOREST SUCCESSION IN MARINETTE COUNTY**

The upland forests of the Peshtigo River State Forest area have undergone a great deal of change since European settlement. Areas with standing timber were logged off in roughly the same time period as the rest of northern Wisconsin in the last few decades of the 19th century. With fire suppression becoming successful in the 1930's, as well as the extensive planting of pine plantations on abandoned farms and in former Pine Barrens, Marinette County underwent a dramatic transformation. The USDA Forest Service began its' Forest Inventory and Analysis (FIA) program of thorough forest inventories in 1956 with plots scattered throughout each county. These plots allow estimates to be made of the forest cover in larger areas (county wide, for example). Specific data for the state forest is not available, but the county data reflects the types of changes readily observable in the area. (Data supplied by WDNR Forest Statistician Vern Everson, 2002.)

These data show clearly the changes in forest composition in Marinette County over the last 40 years. Red pine has increased by a factor of four, almost entirely as a result of red pine plantations. Aspen and oak have decreased in response to a strong increase in mesic hardwoods—maple, beech, and yellow birch. The amount of non-forested land in 1996 is 38 times less than that in 1956.



**RECREATIONAL RESOURCES AND USE**



**RECREATIONAL RESOURCES AND USE**

The Peshtigo River State Forest is located in a popular outdoor recreation area in Northeastern Wisconsin. Recreational activities that occur on or near the state forest include fishing, boating, canoeing, kayaking, river rafting, swimming, water skiing, hiking, picnicking, camping, hunting, snowmobiling, ATV riding, and cross country skiing.

The state forest and surrounding area offer a variety of scenic water features and views. Due to the undeveloped shoreline, many of these views can be enjoyed in a natural setting. The two large flowages provide grand vistas of open water while the lower sections provide more intimate views of the free flowing river.

As population increases and the number of seasonal housing units increase, there will be a greater demand for regional recreational opportunities. In the inland lakes area of Marinette and Oconto Counties, the Towns of Silver Cliff, Stephenson, and Townsend are projected to experience high growth in coming years. Areas identified by the Land Legacy report as having high recreation potential include the Peshtigo River and the Chequamegon-Nicolet National Forest. Recreational demand is expected to increase 6.8 % between 1990-2020.

**LAND-BASED RECREATION**

**Camping**

Camping is a popular recreational activity within the region. There are some 2,400 campsites available within a 50 mile radius of the state forest. The majority of these sites are privately owned with electric hook-ups. Most of the rustic camping opportunities can be found on municipal, county, state, and federal owned lands. These rustic sites make up about 22 % of the campsites in the region.

Within a 30 minute drive of the Peshtigo River State Forest, there are a number of other public and private campgrounds. With the exception of the county owned Twin Bridges Campground, the seven public campgrounds near the forest are small (15-30 sites), rustic, and without electricity. There are five privately operated campgrounds within the area, ranging in size from 40 to 90 units. Most of these offer electric hook ups and pressurized water.

**TABLE 3.7 CAMPSITES WITHIN 50-MILES OF PESTHIGO RIVER STATE FOREST\***

REGIONAL CAMPGROUNDS	SITES WITH ELECTRICITY	SITES WITHOUT ELECTRICITY	TOTAL	% OF TOTAL
Federal	22	193	215	9%
State	178	0	178	7%
County	272	140	412	17%
Municipal	230	0	230	10%
Private	1183	185	1368	57%
% Total	1885	518	2403	100%

\* This does not include the Potato Rapids Unit

**Hunting**

Hunting is popular both in the region and on the Peshtigo River State Forest, with abundant public hunting opportunities available on federal, state and county lands. Hunting includes deer, turkey, bear, fox, coyote and small game. There is some waterfowl hunting occurs on the flowages and area lakes.

**Biking**

**Road**

The roads in and around the state forest are mostly paved and in good condition for road biking. There is an established 24-mile loop from Crivitz that uses Parkway, Ranch and Caldron Falls roads, and Highway W. The Wisconsin State Bicycle map of this region does show County Highways A, C, X and W as good roads for cycling.

**Off-road**

Regionally, a number of off-road trails exist on federal and county forestlands along with Michigan and Wisconsin State Parks. A five mile surfaced bike trail will be built on the Governor Thompson State Park and there are some off-road biking opportunities on the forest, although there are no designated trails.

**Hiking**

Regionally, over 70 km of designated hiking trails exist on the surrounding counties. All of these trails are located on public lands.

**Skiing**

Regionally, over 70 km of groomed trails exist in the surrounding counties. These trails are all located on public lands.

**Horse**

Regionally there are 34 miles of trails located on the Chequamegon-Nicolet National Forest.

## RECREATIONAL RESOURCES AND USE

## SNOWMOBILE

Snowmobiling is highly popular in the region with an extensive network of trails. Statewide, and within this region, land based motorized recreation continues to increase in demand. Due to the aging population (almost 1/2 of riders of snowmobiles and ATVs within the state are by persons over the age of 40) and aggressive marketing campaigns, ATV and snowmobile usage continues to gain in participation. Table 3.8 lists regional snowmobile trail miles by county.

## ALL-TERRAIN VEHICLES

Regionally, there are over 450 miles of ATV trails, with some of trails on designated roads. Table 3.9 lists trail miles by county. There are also ATVs allowed in Michigan State Forests located in the Upper Peninsula. Currently there are very limited designated ATV trails on the Peshtigo River State Forest, however designated snowmobile trails are used in winter by ATVs.

## OUTDOOR EDUCATION/INTERPRETATION

There are limited education/interpretation opportunities within Marinette County. Four museums in the county cover topics from the Peshtigo fire to Menominee Indian logging camps. Within a larger context, the Nicolet National Forest Service does offer two 80 and 65 mile auto tours. There are also 10 interpretive trails within the national forest. There are very few, if any opportunities for guided interpretation within the region.

Adjacent to the forest the Governor Thompson State Park plan will provide an education/interpretation program. When park development is complete, the program will include a nature trail, observation tower, display kiosk, and interpretive center.

## WATER-BASED RECREATION

### Swimming

Clean water and numerous access points encourage swimming as a recreational activity on area flowages and lakes in the region. Swimming is the second most popular activity. The sand beaches and granite rock structures allow for varied swimming experiences. However, because of the physical nature of the flowages there are very few beaches. Most swimming occurs at the boat landings or County Parks. A beach will also be constructed in the Governor Thompson State Park on Woods Lake.

### Fishing

Excellent fishing occurs in and around the state forest. Caldron Falls Reservoir supports a high quality muskellunge fishery and is the only Class A muskellunge water in Marinette County. Currently 1,000 muskellunge fingerlings are stocked annually in the Caldron Falls reservoir. Other fishing opportunities in the Caldron Falls reservoir include largemouth bass, smallmouth

**TABLE 3.8 MILES OF REGIONAL SNOWMOBILE TRAILS BY COUNTY**

COUNTY	TRAIL MILES
Oconto	467*
Florence	130
Forest	378
Marinette	455
Total Miles of Snowmobile Trails	1,430

Source: Wisconsin SCORP County Supply Datasets, July 2006.

\*Includes both state-funded and unfunded trails.

**TABLE 3.9 MILES OF ATV TRAILS BY COUNTY**

COUNTY	WINTER	SPRING/SUMMER/FALL
Marinette	215	187
Oconto	0	58
Florence	39	16
Forest	8	8
Total	262	269

Source: Wisconsin SCORP County Supply Datasets, July 2006.



## RECREATIONAL RESOURCES AND USE

bass, brown trout, bluegill, rock bass, yellow perch, black crappie and pumpkinseed.

High Falls flowage supports an excellent fishery of walleye, largemouth and smallmouth bass. Major panfish species include bluegill, rock bass, yellow perch, black crappie and pumpkinseed.

Johnson Falls Flowage also supports an excellent fishery. Principal gamefish include: northern pike, smallmouth bass, largemouth bass, walleye, muskellunge, brown trout, and rainbow trout. The most abundant panfish species are bluegill, rock bass, yellow perch, black crappie and pumpkinseed. Currently 1,000 - 2,000 rainbow trout are stocked annually in the Johnson Falls reservoir. Abundances of individual species are low and fishing pressure is light, but the reservoir produces some large fish desired by anglers.

Huber and Woods Lakes located in the Governor Thompson State Park support a large mouth bass, northern pike, and pan fish fishery.

Regionally this area offers some of the best trout fishing within the State with numerous Class 1 Trout Streams. A special fly fishing only area is located on a section of the Peshtigo River within the Forest.



### Canoeing / Kayaking / Rafting

Abundant whitewater and paddling opportunities exist on both the Peshtigo River and other surrounding rivers and streams.

There are two whitewater segments near the state forest. The Roaring Rapids section of the Peshtigo River just upstream of the forest offers the Midwest's longest continuous whitewater that is runnable most of the summer. This four mile long section offers class III-IV whitewater. Commercial rafting outfitters provide easy public access to this section with the take out for these trips at boat landing 12 - at the northern end of the Peshtigo River State Forest property.

The other whitewater in the area is the Seymour Rapids river section just downstream of the Johnson Falls Dam. It runs from Johnson Falls Road to Kirby Lake Lane or Shaffer Road. This seven to eight mile section offers class I-III whitewater but is seldom run compared to other segments of the Peshtigo.

Regionally, the Brule, Pike, Pine, Popple and Menominee offer other whitewater boating opportunities. The Pike River in Marinette County is one of three state designated wild rivers in Wisconsin along with the Pine and Popple in Florence County.

The flowages and the lakes in the state forest area offer excellent white water paddling opportunities. Canoe travel time from boat landing 12 (on Caldron Falls Reservoir) to the Johnson Falls dam is approximately 11 hours. Marked portage routes exist around the dams. The two small lakes in the Governor Thompson State Park are designated non-motorized and offer additional paddling opportunities.

### Power Boating

Power boating is a popular activity on both Caldron and High Falls flowages. Caldron Falls offers over five miles of boating opportunities while High Falls offers over seven miles. The dam prevents making continuous connections between the flowages by motorboat.

Larger watercraft are attracted to the large reservoirs. There are 13 rustic to semi-improved boat landings on Caldron and High Falls. Twin Bridges County Park has a \$2 daily or \$10 annual entrance fee.

### Personal Watercraft

Personal watercraft use is common on both flowages. The existing launch sites allow for easy access. While not as popular as motor boating, there has been an increase in this activity.



**CULTURAL RESOURCES**

The Peshtigo River State Forest has been used for recreation and commercial timber harvest for many years and as a result has contributed greatly to the local and regional economies. In addition to this, the land and water are important to local users, both for recreation and as income derived from recreational use by non-local users. Because there is such a long history of public use, there is the potential for resistance by both local and non-local users as recreation and forest management objectives for the property change. The DNR is committed to involving the public in the planning process and keeping them apprised of any changes in either use or forest management.

As part of the 1837 and 1842 treaties, the Native Americans gave up timber harvesting rights. However, they retained the rights to such activities as hunting, fishing, as well as the gathering of firewood, boughs, tree bark, lodge poles, marsh hay, wild rice, and maple syrup. These activities were retained because it has been determined by the courts that these are usual and customary activities of the Chippewa at the time the treaties were signed.



**SOCIO-ECONOMIC TRENDS**

Marinette County and the surrounding region are similar to other northern counties in demographic and economic trends<sup>10</sup>. The region is susceptible to seasonal variations in residents and economic stimuli and is changing both demographically and economically. The population is becoming both more urban and older while the economy is shifting from resource extraction and manufacturing to a service-sector based economy.

**POPULATION TRENDS**

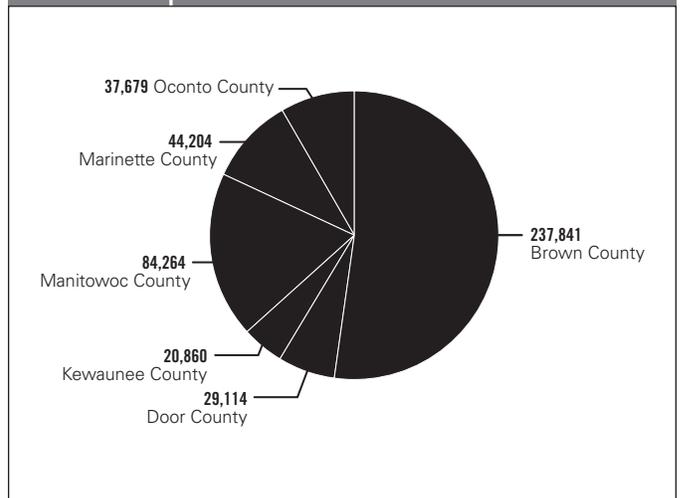
The population of Marinette County has experienced relatively stable growth during the 1990's. The current population of 43,417 has increased 7% since 1990. More than 25% of all residents reside within the City of Marinette. Surrounding counties have grown in the range of 5 to 10%. Statewide, population increased 9.6% during this same period.

Most of the Peshtigo River State Forest is in the Town of Stephenson, which increased in population by 2% since 2000. There was a 34% increase in population between 1990 and 2000, mostly due to immigration. This increase accounted for the largest total person increase of any township within Marinette County.

**POPULATION DISTRIBUTION**

Population distribution and densities vary within the region, with a decrease in population from south to north. Figure 3.2 shows the regional population distribution. With growing population densities in Green Bay and the Fox River Valley—and

**FIGURE 3.2 POPULATION DENSITY OF COUNTIES SURROUNDING THE PESHTIGO RIVER STATE FOREST**



<sup>10</sup> See Marinette County Workforce Profile (Wisconsin Department of Workforce Development 2004), the Census Bureau (<http://www.census.gov/>), and Wisconsin SCORP Regional Demographic Profile (2005-2020).

**SOCIO-ECONOMIC TRENDS**

**TABLE 3.10 POPULATION PROJECTIONS FOR THE UPPER LAKE MICHIGAN COASTAL REGION**

COUNTY	ESTIMATE		PROJECTION		PROJECTED INCREASE		AVERAGE ANNUAL% INCREASE	
	2004	2010	2020	2004-2010	2010-2020	2004-2010	2010-2020	
Brown County	237,841	248,529	269,812	10,688	21,283	0.75%	0.86%	
Door County	29,114	30,112	30,800	998	688	0.57%	0.23%	
Kewaunee County	20,860	21,343	22,457	483	1,114	0.39%	0.52%	
Manitowoc County	84,264	86,307	89,860	2,043	3,553	0.40%	0.41%	
Marinette County	44,204	44,557	45,251	353	694	0.13%	0.16%	
Oconto County	37,679	39,670	43,018	1,991	3,348	0.88%	0.84%	
Upper Lake MI Coastal Region	453,962	470,518	501,198	16,556	30,680	0.61%	0.65%	

Source: Wisconsin SCORP Regional Demographic Profile for the Upper Lake Michigan Coastal Region

their relatively close proximity to the Peshtigo River State Forest, this “northwoods” area will continue to be a strong attraction for recreation and second home development. Table 3.10 shows population trends for the area. The Peshtigo River State Forest is more readily accessible from these population centers than most of the county and national forest lands.

**SEASONAL HOUSING AND TOURISM**

Area residents constitute much of the demand for outdoor recreation, but a certain amount of demand also comes from non-residents like seasonal home owners and tourists. Tables 3.11 and 3.12 show the increasing importance of seasonal housing and tourism in the region as well as the percent change of seasonal housing from 1950-2000. Approximately 10% of all housing is used for seasonal or recreational use compared to only 6.3 % for the state as a whole. Marinette County has a relatively high proportion of seasonal homes. In some areas of this region, the majority of the housing units are used seasonally and at least 20% of all workers are employed in tourism related industries.

**ECONOMIC TRENDS**

Marinette County is comprised mainly of tourism and manufacturing sectors. One-third of the jobs in Marinette County come from the manufacturing sector which has remained fairly consistent over the last five years. However, there is a disjunct between the fastest growing economic sectors and sectors that expect the most employment opportunities. There are fewer positions with the fastest growing economic sectors (e.g. computer technologies) which offer higher wages yet are easily transported to other regions of the state and country. Most job openings are low-wage service-sector jobs, which have the most availability.



**TABLE 3.11 TABLE 3.11: SEASONAL HOUSING AND TOURISM IN THE UPPER LAKE MICHIGAN COASTAL REGION**

COUNTY	POPULATION UNITS	HOUSING	%SEASONAL IN TOURISM	%EMPLOYED
Brown	226,778	90,199	0.50%	7.30%
Manitowoc	82,887	34,651	1.50%	6.30%
Marinette	43,384	26,260	28.90%	8.40%
Oconto	35,634	19,812	24.40%	7.30%

Source: Wisconsin SCORP Regional Demographic Profile for the Upper Lake Michigan Coastal Region.

## SOCIO-ECONOMIC TRENDS

TABLE 3.12 CHANGES IN SEASONAL HOUSING UNITS IN THE UPPER LAKE MICHIGAN COASTAL REGION 1950-2000

COUNTY	NUMBER OF SEASONAL UNITS					PERCENT SEASONAL			
	1950	1960	1970	1980	1990	2000	1960	1980	2000
Brown County	2,712	676	490	407	346	414	2.0%	0.7%	0.5%
Manitowoc County	1,304	464	442	664	557	518	2.0%	2.2%	1.5%
Marinette County	1,588	2,739	3,700	7,442	8,532	7,586	20.0%	33.0%	28.9%
Oconto County	2,966	3,061	2,131	6,272	6,666	4,837	29.0%	37%	24.4%

Source: Wisconsin SCORP Regional Demographic Profile for the Upper Lake Michigan Coastal

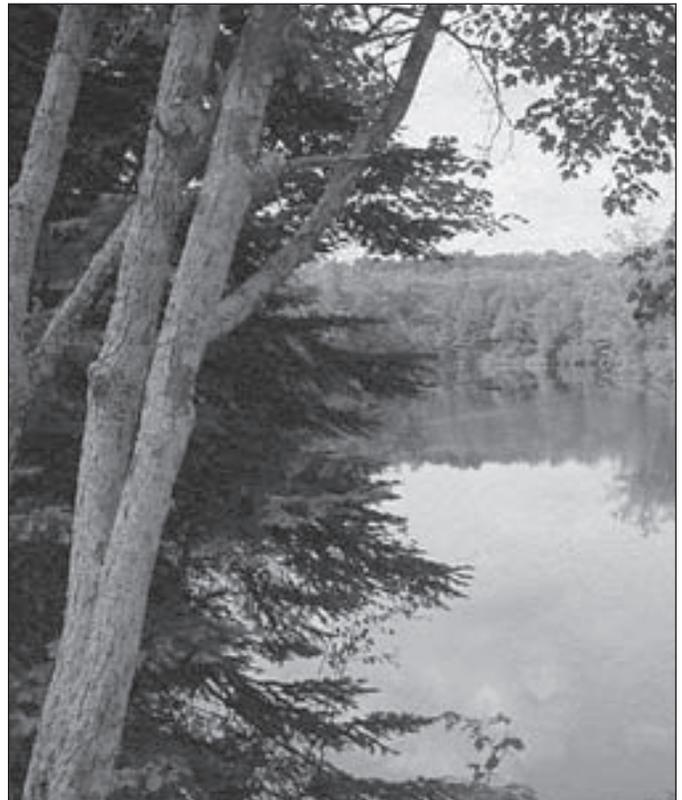
TABLE 3.13 NATURAL AMENITIES, RECREATION, AND POPULATION CHANGE

COUNTY	LAND COVER		POPULATION CHANGE			HOUSING CHANGE		
	% Forest	% Wetland	1970-1990	1990-2000	2000-2004	1970-1990	1990-2000	2000-2004
Marinette County	53.1%	22.9%	13.2%	7.0%	1.9%	65.6%	2.4%	5.4%
Oconto County	38.9%	21.2%	18.3%	17.9%	5.7%	57.6%	5.2%	9.0%
Brown County	7.4%	7.3%	23.0%	16.5%	4.9%	65.4%	20.7%	8.7%
Manitowoc County	12.1%	13.3%	-2.3%	3.1%	1.7%	25.3%	8.8%	4.3%

Source: Wisconsin SCORP Regional Demographic Profile for the Upper Lake Michigan Coastal

Thirty-three percent of the employees in Marinette County are employed in factories compared with 24% statewide. The service industry (24%) and retail trade (19%) account for the next largest work sectors in the county. The paper industry also plays a major role in the area's economy, providing mill, forest products and service-related employment. The County of Marinette is the largest non-manufacturing employer in the region. The large flowages of the Peshtigo River State Forest play a major role in the Town of Stephenson's business economy, drawing tourists to the area from around the region and state. County-wide tourism contributed \$91.1 million in economic impacts in 2001.

In 2000, Marinette County had 26,260 housing units. The Census Bureau reports 28% of housing units are used for seasonal, recreational or occasional use. Within the Town of Stephenson this number increases to 62% of all housing units used for these purposes. Since the county's economy hinges predominately on seasonal use, Marinette County experiences slightly higher poverty rates (+2%) higher than the statewide average.



**PROPERTY CAPABILITIES, LIMITATIONS, AND OPPORTUNITIES**



**PROPERTY CAPABILITIES, LIMITATIONS, AND OPPORTUNITIES**

From a regional perspective, there are a number of elements to consider in the relationship of this property to the local setting. Listed below are elements that define the Peshtigo River State Forest and its context within the region.

**MANDATORY MANAGEMENT REQUIREMENTS**

**State Forest Designation**

The Regional and Property Analysis presented here is an important step in the process of developing a master plan for the Peshtigo River State Forest. The Department’s master planning rule (Wisconsin Administrative Code NR44) identifies that this analysis and the final property master plan must meet the statutory purpose of the property’s designation. In this case, the property is a state forest as defined in Wisconsin Statutes 28.

State forests such as the Peshtigo River State Forest are an important part of the Department’s broader mission to provide leadership in “all matters pertaining to forestry within the jurisdiction of the state...and advance the cause of forestry within the state” (§28.01). In order to define this mission, the purposes and benefits of state forests are outlined in the following language of 28.04 (2):

(a) The department shall manage the state forests to benefit the present and future generations of residents of this state, recognizing that the state forests contribute to local and statewide economies and to a healthy natural environment. The department shall assure the practice of sustainable forestry and use it to assure that state forests can provide a full range of benefits for present and future generations. The department shall also assure that the management of state forests is consistent with the ecological capability of the state forest land and with the long-term maintenance of sustainable forest communities and ecosystems. These benefits include soil protection, public hunting, protection of water quality, production of recurring forest products, outdoor recreation, native biological diversity, aquatic and terrestrial wildlife, and aesthetics.

The range of benefits provided by the department in each state forest shall reflect its unique character and position in the regional landscape.

(b) In managing the state forests, the department shall recognize that not all benefits under par. (a) can or should be provided in every area of a state forest.

(c) In managing the state forests, the department shall recognize that management may consist of both active and passive techniques.

**FEDERAL ENERGY REGULATORY COMMISSION**

The Federal Energy Regulatory Commission (FERC) is the federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, and oil pipeline rates. FERC is an independent regulatory agency within the United States Department of Energy.

The Peshtigo River State Forest is required to meet the licensing requirements of FERC<sup>11</sup> for several projects on the Peshtigo River: Caldron Falls, High Falls, Johnson Falls, Sandstone Rapids, and Potato Rapids. The WDNR and WPSC have individual roles and responsibilities for managing the Peshtigo River Flowages. However, each is dependent upon the other to successfully fulfill its management objectives. WPSC and the WDNR will continue to consult regularly to maintain clear understanding of their management roles and objectives and cooperative approaches through lease or land use agreements. Through the Peshtigo River State Forest Master Plan, the WDNR will implement a multi-use resource program and provide compatible recreation. Under the authority of the FERC license, WPSC will continue to implement the required and approved flowage operation and related environmental and recreational plans. The WDNR may petition FERC if any major issues arise. The WDNR will be maintaining a 200-foot buffer zone (Shoreland Management Overlay Zone) along the Peshtigo River shoreline throughout the forest.



See Wisconsin Public Service Corporation Peshtigo River Projects (1998).

## ECOLOGICAL SIGNIFICANCE AND CAPABILITY OF THE PESHTIGO RIVER STATE FOREST



### ECOLOGICAL SIGNIFICANCE AND CAPABILITY OF THE PESHTIGO RIVER STATE FOREST

About three-quarters of the soils on the Peshtigo River State Forest and its, the Northeast Sands Ecological Landscape, are excessively drained, nutrient-poor sandy soils with bedrock near or above surface in many locations. The dry uplands are punctuated by pockets of poorly drained wetlands. These soil conditions significantly limit the range of forest species or the types of natural communities that can thrive here. Historically, this area was covered by Pine and Oak Barrens, which are adapted to drought and fire conditions.

Today, with fires controlled, the dry uplands on the Peshtigo River State Forest and across the Northeast Sands Landscape have been converted or are converting, to aspen, oaks, and maples, or have been planted to pine plantations. Currently, on the Peshtigo River State Forest aspen and scrub oak make up about 50% of the forest cover, with red pine, other oaks, red maple, jack pine and lowland forest types making up the remainder.

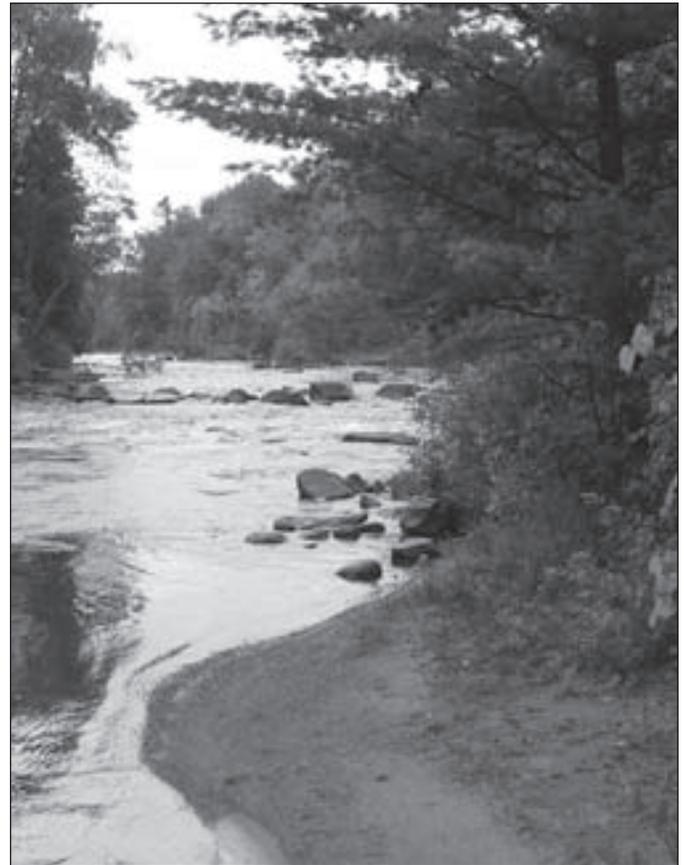
#### FOREST MANAGEMENT CAPABILITY

The Forest Habitat Classification System (FHTCS) indicates that the Peshtigo River State Forest is especially well-suited for management of pine (jack, red, and white), although red maple is well-represented. Red and white pines have the best growth potential, whereas red oak and red maple sawtimber is more modest. Pines are best suited for wood production, but the maintenance of deciduous trees is desirable for wildlife habitat, soil nutrient, and aesthetics benefits. Given the generally poor sandy soils and steep slopes in some areas the Peshtigo River State Forest does not have the capability for high production of either fiber or sawtimber. Timber management is further constrained by the property's relatively small size and narrow, linear shape. That being said, the Peshtigo River State Forest does offer some opportunities for timber management. Much of the areas that are currently in poorly productive scrub oak could be converted to white, red, or jack pine, or other hardwood production.

#### REGIONAL ECOLOGICAL NEEDS AND OPPORTUNITIES

##### Native Communities

Two of the native communities found within the Peshtigo River State Forest have been identified by the Ecological



Landscapes of Wisconsin Handbook as being Major Ecological Management Opportunities for the Northeast Sands Ecological Region. They are the Northern Dry-mesic Forest and Northern Wet-mesic Forest

While the barrens community once dominant here is rare in the region and state, opportunities for its restoration are highly limited on the Peshtigo River State Forest. The Peshtigo River State Forest has several small highly degraded Pine-Oak Barrens sites that may have some restoration potential, but there are other more suitable sites within this Ecological Landscape and state. Additionally, barrens restoration would be problematic on the Peshtigo River State Forest due to the limited acreage available and the limited ability to use fire here as a management tool.

#### THREATENED, ENDANGERED, AND SPECIAL CONCERN SPECIES

Twelve rare plant species and 19 rare animal species have been documented in or near the Peshtigo River State Forest. Most of the rare plants are associated with either dry uplands or wetlands sites. Three of the plants are associated with the Northern Dry-mesic and Northern Mesic forest communities.

## ECOLOGICAL SIGNIFICANCE AND CAPABILITY OF THE PESHTIGO RIVER STATE FOREST

The majority of the rare animals are associated with aquatic or wetland habitats. Of special note is the Peshtigo River; it provides important habitat for many of these species, including five that are globally rare. Dry uplands are important for some species. Currently the State Forest lacks large tracts of mature, closed-canopy forest needed to sustain the Northern Goshawk or the Red-shouldered Hawk. However, there is some potential to create suitable habitat on the Forest over time.

### WILDLIFE SPECIES OF GREATEST CONSERVATION NEED

There are a number of wildlife species identified as species of Greatest Conservation Need within the Northeast Sands Ecological Landscape and have a high or moderate probability of occurring within the Peshtigo River State Forest. Examples include the Whip-poor-will, Least Flycatcher, Veery, Northern Flying Squirrel, wood turtle, and Mink Frog. All of these species are associated, in part, with natural communities documented on the Peshtigo River State Forest, such as the Northern Dry-mesic Forest, the Northern Wet-mesic Forest, or with cold water stream native communities. The maintenance,

restoration, and protection of these native community habitats would benefit these wildlife species of need. Managing to maintain or improve the populations of these wildlife species is a high Department priority.

### GENERAL ECOLOGICAL NEEDS

The county forest and many private forest lands are managed with a focus on the production of forest products. As such they generally are young to medium aged forests in a mosaic of relatively small patches. Aspen predominates, followed by northern hardwoods. Older, less disturbed forests, especially in larger patches, are under represented habitats.

Avoiding or eliminating threats to natural communities and rare species are important management needs if long-term ecological objectives are to be met. Protective actions that can be taken include avoiding management actions, such as plantations, in sensitive areas that would cause ecological simplification, and guarding against the introduction of invasive species.



## RECREATIONAL SIGNIFICANCE AND CAPABILITY OF THE PRSF



### RECREATIONAL SIGNIFICANCE AND CAPABILITY OF THE PRSF

The forest is located in a highly popular outdoor recreational area in Northeast Wisconsin. While the Peshtigo River State Forest is a small property within a vast area of public land, due to the Forest's location and unique resources it is and will continue to stand out and grow as a primary recreation destination.

The waters, the flowages, and the river are the Peshtigo River State Forest's defining feature. From a regional perspective, in a region with few lakes and even fewer large lakes for power boating, the flowages are a huge draw for all types of water recreation. The rapid-filled reach of river on the flowage adds a diverse scenic and recreational attraction. Adding greatly to the appeal of the Forest is the undeveloped natural appearing shoreline, punctuated by unique granite rock outcrops, giving the area Canadian flavor. The high scenic qualities are highly prized by area residents and visitors.

The Forest's location is another factor contributing to its popularity and high long-range recreational demand. The Peshtigo River State Forest area lies only 50 miles north of Green Bay just west of Highway 141 on the southern edge of what people commonly call the "north woods". It's easily accessible and only about two hours or less drive from Green Bay and the other Fox Valley cities, a fast growing metroplex of people. The Peshtigo River State Forest area is currently highly popular for second home ownership and development and tourism. Second home development in the Peshtigo River State Forest area and population growth in the region, especially the Fox Valley metro area, will likely yield a strong and growing demand for outdoor recreational opportunities on the forest for many years.

The Peshtigo River State Forest and Governor Thompson State Park have the potential to have a shared, mutually supportive recreation program. A primary focus of state parks is to provide areas and facilities for rather intensive recreational uses, such as modern campgrounds, high density trail systems, and often nature interpretation centers. Given larger land base on state forests and broader mission, recreation on state forests often focuses on less developed and more rustic types of recreation. There are abundant opportunities for integration of recreation facilities, programs and opportunities between the two properties.



Currently water based recreation is one of the primary recreational reasons people visit the Peshtigo River State Forest and adjoining area. The participation in and demand for land based recreation on the Peshtigo River State Forest will likely grow significantly in the future after Governor Thompson State Park's facilities are developed and more people "discover" the park and forest. The park and forest will likely become a significant year-round recreational destination.

#### WATER RECREATION

With 15 boat landings there is abundant access to Caldron Falls and High Falls Flowages and the Fly-fishing section of the river. Even with 440 parking spaces, on summer weekends and holidays almost all the landings exceed their capacity. Additional parking and other improvements at the landings are needed.

While boating being the most popular activity on the state forest, swimming is the second. However, due to the topography of the flowages there are few beach sites and the only designated swim area is at the Town of Stephenson Park on High Falls Flowage. Most swimming takes place at undesignated locations near boat landings indicating a need for designated, safe swim areas.

## RECREATIONAL SIGNIFICANCE AND CAPABILITY OF THE PRSF

### LAND-BASED RECREATION

Recreational use and facility development on the forest are constrained by a number of factors, including: highly erodible sandy soils, steep slopes, scattered wetlands, the long, narrow shape of the property, and the fact that the flowages and river prevent ready access from one side of the property to the other. While the property is capable of supporting sustainable trails and other developments many factors will enter into their site selection and design and some areas will not be suitable. Because of these limiting factors, the land within the current forest boundary is well suited for non-motorized recreational uses.

### CAMPING

Rustic style campgrounds comprise only about 22% of the campsites in the region. Additional rustic camping opportunities may be in demand in this area. The presence of primitive, watercraft accessible camping on the flowages is a highly unique recreational opportunity that is important to Forest visitors. It should be maintained wherever it is environmentally compatible.

### TRAILS

#### Hiking and cross-country skiing

Currently trail uses are a minor recreation component of the Forest with only eight miles of cross-country ski and hiking trail, 20 miles of snowmobile/winter ATV trail and no designated bike or horse trails, although these uses are allowed on Forest roads. A five mile paved bike trail and about 11 miles of cross-country hike/ski trails are planned for Gov. Thompson State Park. Regionally about 40 miles of additional hiking/ski trails are provided on various locations on public lands within Marinette and the surrounding counties. These trails likely have little effect on the ultimate demand for Peshtigo River State Forest and Governor Thompson State Park as non-motorized trail use often draws from local area residents or are associated with out of area visitors attracted to the area to enjoy a variety of activities.

#### Horse trails and camping

Currently public horse trails in the region are quite limited. The only designated horse trails in the area are on the National Forest. There is a strong demand for equestrian opportunities in the Peshtigo River State Forest area. This is reflected by the 2006 draft SCORP study and the strong interest shown by local and regional equestrians during the planning of the Gov. Thompson State Park plan. Horse riding opportunities could not effectively be constructed on the park due to its small size. The Department made a commitment at that time to develop a horse trail system and campground in conjunction with Peshtigo River State Forest on a separate, appropriate location within the Peshtigo River State Forest.

#### Motorized trails

Like all other areas across northern Wisconsin snowmobiling is highly popular and demand remains strong. There is an extensive regional snowmobile trail network of nearly 1,400 miles stretching across Marinette and the adjoining counties. There are nearly 450 miles of trail in Marinette County alone, approximately 25 of these miles are on the Peshtigo River State Forest. A significant number of miles of snowmobile trails are also open to ATVs in the winter, including a 20 mile portion crossing the Forest. Given the limitations of the Forest's size and shape, it can not provide significant additional miles of trail; however, maintaining current trail linkages for the regional trail network is important. There may be opportunities to redesign or relocate existing trails to provide a more effective and sustainable trail network.

There is also a 200 mile year-round ATV trail network in the region, with Marinette County being the leader offering riders over 150 miles. About 100 miles are on designated town roads. With ATV ownership soaring over the last several years the demand for public trails far exceeds the supply. This demand is projected to remain strong for many years. The Peshtigo River State Forest has limitations for the development of additional mileage of year-round ATV trails due to its long-narrow shape, highly erodible soils, wetlands, and steep slopes in some locations. The presence of a number of important and sensitive native community sites creates further limitations for ATV trail routes on the Forest. While the Peshtigo River State Forest has limited opportunities to provide significant additional year-round ATV riding trail miles, there may be opportunities in some locations to provide short connector trails across the forest.

### SUMMARY

The Peshtigo River State Forest is especially well-suited to be managed as a backdrop for recreation—it has high recreation use and long-term potential for growth, particularly in association with Governor Thompson State Park. There is some potential to expand or construct new trails and other facilities on the property; however, careful siting is needed because of soil, slope and other limitations of the property.

The scenic qualities of the property are some of its greatest assets. Much of the forest is within the viewshed of the flowages and river. The Forest does not have a high capability for the production of timber products, but management opportunities are present. Several regionally significant native communities on the property offer management opportunities. Management and protection of these sites would also benefit many rare plant and animal species or wildlife species of conservation need.

## IMPACTS OF THE MASTER PLAN



# ASSESSMENT OF ENVIRONMENTAL IMPACTS

The purpose of this chapter is to explain the potential environmental effects of the management plan. An analysis of the environmental effects or impacts is an important element of the Environmental Assessment (EA) for the master plan. The intent of the EA is to disclose the environmental effects of an action (the master plan) to decision-makers and the public. Chapter 2 of this document describes the action or preferred management alternative. Chapter 5 describes and evaluates the various alternatives that were considered, but not selected, while the preferred alternative was being developed. No single alternative was chosen as the preferred alternative. Elements of several alternatives were incorporated into the final preferred alternative. The EA has been prepared to meet the requirements of the Wisconsin Environmental Policy Act (WEPA) and Chapter NR 150 of Wisconsin Administrative Code.

In addition to state and local approvals, the Federal Energy Regulatory Commission (FERC) must also approve the content of the master plan. This is to assure compliance with the terms and conditions of the FERC licenses held by Wisconsin Electric.

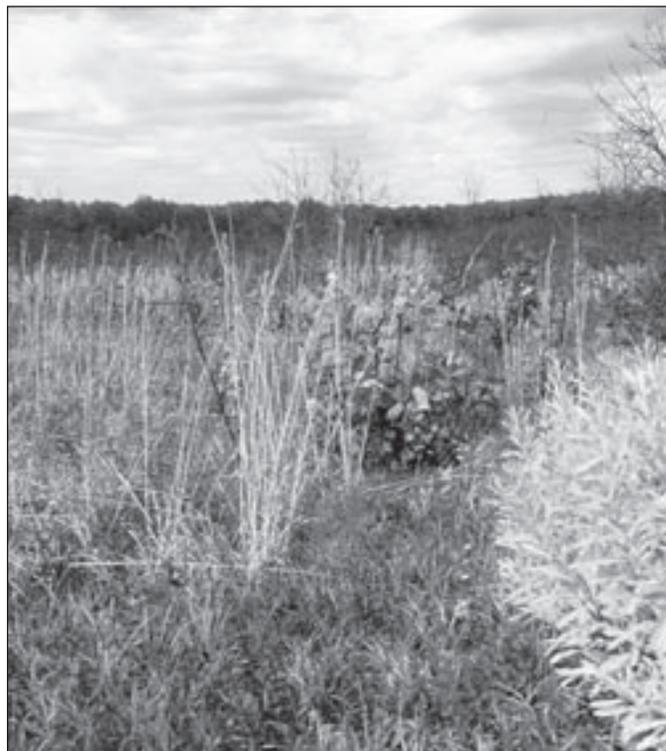
A detailed description of the elements of the proposed action is contained in Chapter Two of this document. A listing of anticipated impacts from both land management and proposed facility development activities follows, indexed by affected resources.

## IMPACTS ON AIR QUALITY

During construction activities, dust may be present in the air surrounding project areas. Application of water from tank trucks is a common dust suppression practice that is used during road construction. This technique may be appropriate for some projects within the forest. Impacts on air quality from fugitive dust particles and engine exhaust emissions from construction equipment would be finite and transitory in nature. When construction is complete no residual impacts to air quality would be detectable.

Vehicle emissions generated as a result of logging activities are expected to be relatively unremarkable. Further, much of the logging used to implement vegetation management goals takes place during off-peak recreational seasons.

The impacts to air quality from motor vehicles attracted to the forest by the establishment of the 31 campsites at Old Veteran's Lake, improved boat landings, hiking, biking and cross country ski trails; equestrian camping or horse trail use, or by the two new forest day-use recreation facilities, would be negligible. The current indirect source air permit thresholds pertain to sources with 1,500 or more parking spaces, or highway projects with peak vehicle traffic volume greater than 1,800 vehicles per hour. The traffic due to projected management and development in this plan is well below these levels.



## IMPACTS OF THE MASTER PLAN

### IMPACTS ON GROUNDWATER RESOURCES

#### Wells, Use of groundwater

A number of new potable water wells would be drilled to serve the planned forest facilities. None of the wells would individually qualify as high capacity wells, however taken in aggregate, Peshtigo River State Forest may be classified as a “high capacity property”. Because of the dispersed nature of these wells around the 9,200-acre site, their effect on the local water table is expected to be minimal. Continuous dedication of the forest to sustainable management is expected to safeguard aquifer recharge areas within the forest boundary.

#### *Old Wells and the Groundwater*

Further, any unused wells associated with former uses of the property have been or will be appropriately abandoned when no longer needed. Wells encountered as part of any future real estate transactions would also be appropriately abandoned. Sealing the groundwater from surface contamination and thereby protecting groundwater quality would be the effect.

#### *Modern Septic Systems and Vault toilets*

Modern septic systems developed to service forest facilities will be constructed to applicable local and state Department of Commerce standards, effectively safeguarding the groundwater from contamination. A number of vault-style toilets would also be developed to serve more remote areas of the forest. These are sealed from the groundwater and pumped regularly or as needed during the use season.

Any unused septic systems, drywells or other wastewater disposal systems associated with former uses of the property have been or will be appropriately abandoned when no longer needed. Septic Systems, drywells or other wastewater disposal systems encountered as part of any future real estate transactions would also be appropriately abandoned. This would have the effect of safeguarding the quality of the groundwater.

#### *Impacts on Surface Water Resources*

An increase in impervious surface area from infrastructure improvements will occur. Rooftops and hard-surfaced roads would be the main sources of sheet runoff. Road and path construction will avoid changing watercourse direction and flow, volume and velocity. Culverts will be sized accordingly. Pervious road and pathway surfaces would be used where impervious surfaces are not needed. Runoff from roadways and other impervious surfaces would be directed away from draining directly into nearby streams and lakes, thus minimizing any risks of water pollution from spilled or water-transported materials.

The impacts of stormwater runoff during timber harvesting would be mitigated by implementing a set of best management practices. These practices are available in the Timber Sale Handbook and are a part of every timber harvest contract on the forest.

Land acquisition for boundary expansion and management under the state forest master plan are measures that are anticipated to have a long-term beneficial effect on the surface water resources of the site and those receiving waters downstream. Most, including Eagle Creek, Little Eagle Creek, Medicine Brook, Campbell Creek, Handsaw Creek, and Beaver Creek are tributaries to the Peshtigo River or its flowages. Preservation of watershed resources would also affect Peshtigo Brook and other tributaries to the Oconto River.

### IMPACTS ON GEOLOGICAL RESOURCES

New drilled potable water wells would penetrate the underlying granite bedrock in some places, or tap moraine-based aquifers, however all wells would be drilled and installed according to state well drilling code, effectively minimizing any risk to the resource. Some rock excavation may be necessary for development of roads, parking lots, and facility foundations. Surface mining of rock is not anticipated.

### IMPACTS ON VISUAL/SCENIC RESOURCES

New structures and facilities would be evident locally. The appearance of new structures such as buildings, roads, parking lots, and use areas would be a definite change from the existing. However, recreational structures will be sited and constructed to blend with the surrounding environment. The majority of these will be concentrated at the new day use areas on Caldron Falls Flowage and on High Falls Flowage.

Vegetative management in compliance with the 200-foot FERC license-required coastal buffer zone would assure that the visible shoreline would remain natural or be restored to more natural appearance in use areas of the forest. The natural shoreline management and shoreline buffer zones will preserve, and restore in some cases, the “just-like-Canada” look and feel of the Peshtigo River and its flowages.

Change in the visual qualities of the vegetative management areas would be noticeable over time as areas of forest are managed for certain objectives. Visual and audible affects would also be a by-product of the active management of forest vegetation.

Forest road signs, directional signs, and a major property identification sign would be the main outward signs of forest existence. Most other forest features would be similar to the existing visual characteristics of the region.

**IMPACTS OF THE MASTER PLAN****IMPACTS ON LAND USE**

The land use of the approximately 9,200 acres of former WPS lands purchased for this project would not change appreciably from its previous function as recreational land open to the public. Under FERC license terms the land was managed for public access to the water and general recreation. A 2002 "Letter of Concurrence" issued by DNR assured that these uses would continue under DNR ownership and management. One impact would be an anticipated increase in the level of active recreation on the state forest.

Most neighboring land use in the vicinity of Peshtigo River State Forest is residential, recreational, or commercial forest. Some areas of commercial business development also exist. It is not unlikely that some increase in service sector business could occur as spin-off of state forest uses. It is anticipated that some growth in recreation-oriented business development would take place in the vicinity the forest. Local planning and zoning codes would regulate such development.

Under previous ownership the forest resources of the property were professionally managed as a sustainable forest. DNR will also manage the property sustainably as a Wisconsin State Forest. The forest would be managed under two classifications, Native Community Management and Forest Production.

**IMPACTS ON INFRASTRUCTURE AND TRANSPORTATION**

The Peshtigo River State Forest already has an established recreational utilization level estimated to be at least 100,000 visitors per year. Some increase in the level of utilization

is anticipated. Therefore, an increase in local traffic could be expected, with a corresponding local road maintenance increase.

Traffic through Crivitz would increase, especially during June, July and August.

Traffic counts on US 141 in the Crivitz area will probably increase due to forest visitation. It is anticipated that US 141 will be the route-of-choice for people accessing and departing Peshtigo River State Forest. From US 141 there are three principal routes of travel to the forest. Each is a County Trunk Highway. The two that pass through Crivitz (CTH 'W' and CTH 'A') are expected to receive the most use. The third, (CTH 'X') passes through the unincorporated village of Middle Inlet and will likely receive less use by forest visitors.

Local increases in recreation-generated traffic will be noted primarily in the months June, July and August when the majority of recreation takes place. Most vehicles visiting the forest would be automobiles or light trucks, vans, or SUVs. Some would be vehicles towing camp trailers, small boats, self-contained campers or motor homes. It is anticipated that these vehicles may have an effect of increased wear and tear on roadways in the vicinity of the forest, as well as increased traffic congestion at peak times.

A slight increase in heavy truck traffic may be noted while timber sale contracts are being executed. Because of the heavily forested aspect of the region the presence of logging trucks on local roads is not unusual. Warning signs are placed at the logging sites during working hours.

Peshtigo River State Forest will be a generator of solid waste. Wisconsin State Forests promote and participate in recycling programs to mitigate generation of non-recyclable material that must be disposed of in sanitary landfills. A licensed sanitary waste contractor will be hired to pick up recyclable waste and non-recyclable materials. Campers using remote walk-in campsites and day use areas will be required to observe a carry in, carry out policy.

Peshtigo River State Forest will also be a customer of Wisconsin Public Service Corp. for electric service. The primary uses of electricity at the forest will be for powering the buildings and pumping water.

**IMPACTS OF NOISE**

Construction noise resulting from capital improvements such as road building, vegetation management, building construction and the like could have a moderate impact on the forest's neighbors and wildlife. All of these groups could be sensitive to this disruption, especially during warm weather when windows

## IMPACTS OF THE MASTER PLAN

may be open. This noise would be peak (high level, short duration) during construction periods, rather than continuous. When the activities cease the impacts would cease.

Forest management activities are also anticipated to generate characteristic but transient noises. Primary sources would be from chain saws, skidders, and other harvesting machinery, and from logging trucks.

The elevated presence and activities of forest visitors and campers may present a potential for reaction from neighbors or other forest visitors and thus an impact. Regulations on the use of amplified sound devices (radios, stereos, etc) and loud conduct exist for the purpose of minimizing the imposition of unwanted noise to neighbors of the forest as well as neighbors inside the forest, especially in camping situations.

### IMPACTS ON RECREATIONAL RESOURCES

The establishment of a 31-unit campground will increase camping opportunities in the Marinette County area by 15 sites. The former 16-unit Old Veteran's Lake County Park has been acquired by the forest and will be upgraded and expanded. The expansion of Old Veteran's Lake campground may create a slight additional demand for campsites at local private and public campgrounds. This halo-effect is well known in other parts of the state. It is the policy of Wisconsin State Forests to work closely with other campground operators to assure that when the state forest campground is filled to capacity, any prospective campers seeking a campsite are referred to neighboring facilities that have vacancies.

Nine Primitive water access campsites have been planned for locations on Caldron Falls Reservoir and elsewhere in the forest. The precise sites for the Musky Point and other primitive water access campsites would be chosen in the field. The Department has the opportunity to assure that any primitive water access campsite would be located to minimize potential conflict with waterfowl hunters or other users.

The establishment of additional non-road bicycle trails in the forest will add significantly to the supply of trails in the region. The master plan Regional Analysis information shows an overall deficit in recreational bicycle trails. The regional supply of non-road bicycle trail would increase by 15 to 20 miles.

The establishment of 25 miles of horseback riding trail, plus the construction of equestrian camping and group camp facilities will make a contribution to the overall supply of horse-related recreation in Marinette County and the northeast Wisconsin Region. Seasonal increases of equestrian enthusiasts to the forest from outside the region can be expected, as well as increased supply and therefore utilization by local horseback riders.

The construction of an Indoor Group Camp facility at Peshtigo River State Forest will provide a new resource for campers. A similar facility is planned for Governor Thompson State Park. Since the two locations are several miles from one another, no conflict is anticipated. Further, because of the isolated, rustic nature of the indoor group camp experience, no conflict would be anticipated with local hospitality businesses.



## IMPACTS OF THE MASTER PLAN

The continued routing of existing snowmobile trail segments within Peshtigo River State Forest will not have an appreciable effect on the overall supply of snowmobile trail in the area. Localized impacts of re-routed snowmobile trails could occur where trails pass within earshot of private properties. The occurrence of this impact is sometimes subjective in nature, varying with the individual property owner's appreciation of snowmobiles. No net change in trail mileage is anticipated. However, the effect of this continuation will be one of assuring stability to the existing regional snowmobile trail system.

A new snowmobile trail link between boat landing 2 area and boat landing 5 is planned by local snowmobile advocates. It would be between two and five miles in length. The new snowmobile trail link is supported in concept by the master plan, however the details of its route must be agreed upon prior to implementation. This new trail link may or may not be open for winter ATV use, depending on the existing designation of the system it links with. This link would have the effect of increasing the available snowmobile trail mileage and providing an alternate route connector, making the local trail system more versatile. Other impacts would be increase snowmobiles in the forest as well as an increase of perceived sound levels due to the presence of snowmobiles in areas previously free of this activity.

Increases to the regional supply of Hiking Trail (33 miles total), Swimming Beach (2 designated beaches), Picnic Areas (2), Snowshoe Trail (1 designated mi. approx.), and Cross Country Ski Trail (about 2.5 mi. link) are also anticipated when the Plan is implemented. The primary anticipated impact is the supply increase of opportunities for participation in these activities as well as a slight increase in human, albeit silent, activity in areas heretofore undisturbed.

### IMPACTS ON BOATING ACCESS SUPPLY AND NR 1.91 IMPLICATIONS

#### Alternative Public Boating Recreation and Waterways Protection Plan

Boat landing upgrades and parking lot expansions are anticipated to have beneficial effects on the overall quality of water-based recreation on High Falls and Caldron Falls Reservoirs and the Peshtigo River. While existing access facilities provide more than required capacity for the reservoirs, some additional parking capacity is recommended. This additional parking is intended to alleviate existing unsafe overflow parking conditions adjacent to the access sites. This typically occurs on roadsides adjacent to the existing parking lots, causing potentially unsafe traffic conflicts, especially on Parkway Road, a major local traffic artery.

Administrative Code NR 1.91 gives minimum and maximum levels of public boat access for lakes. This capacity is gauged



by the number of parking spaces for boat trailers and their towing vehicles. The Department may exceed the maximum recommended capacity if an "Alternative Public Boating Recreation and Waterways Protection Plan" is written. Such a plan must address both environmental and social developmental factors. The content of the section of the Environmental Assessment titled "Impacts on Boating Access Supply and NR 1.91 Implications" serves this purpose.

#### Purpose and Need for Boating Access Upgrades

The master plan for the Peshtigo River State Forest lists eighteen (18) boating access sites. Each has been field-inspected and recommendations have been made for maintenance, repair and improvement projects ranging from minor fix-ups to major rebuilding in two cases. Three of the listed sites are canoe-access-only on segments of the Peshtigo River and therefore, do not figure in the NR 1.91 regulation. The remaining fifteen (15) are traditional boating access sites of varying size, quality and capacity, with launch ramps and parking for boat trailers and their towing vehicles. The Current and Planned Recreation Facilities Map shows the locations of these sites and table 2.12 shows in tabular form, the planned actions.

Most of the fifteen traditional boating access sites, with the exception of boat landings 3, 6, 9, and 12, need to have the existing parking areas reconfigured and articulated to provide more efficient use of the space and to keep vehicles parked in designated areas only. The Woods Creek (#6) site was recently rebuilt by WPS and, therefore, no parking changes are proposed. Roaring Rapids (#12) was judged to be adequate, with no planned changes. Musky Point (#9) will be completely rebuilt and moved as part of a larger Day Use Area

## IMPACTS OF THE MASTER PLAN

development. Boat trailer parking will be reconfigured and expanded by up to 30 spaces at East Bay (#3).

Additional parking capacity is proposed at the most popular four of the fifteen access sites. This is intended to alleviate overflow parking conditions that typically occur during spring and summer weekends and holidays. When the available parking spaces fill, boaters will generally park their trailers and tow vehicles along the edges of the parking lot access drive or on the shoulder of the nearest town or county road. Congestion, traffic conflicts and an unsightly visual condition are the result. This condition has been observed by staff on a regular basis. Currently there are estimated to be 309 existing boat trailer parking spaces at the 15 existing motor boat access sites in the forest. An additional 80 boat trailer parking spaces are planned. This would provide a total of 389 boat trailer parking spaces, an increase of 21%.

The increases in parking capacity would mitigate the existing overflow parking situation. It is not anticipated that the overall level of boating utilization on the flowages would increase because of increased parking. To prevent further overflow parking, the access drives and adjacent public roads leading to all boat landings would be posted as No Parking zones for a distance of one quarter (¼) mile with the cooperation of local units of government.

Two designated Day Use Areas are planned. These will incorporate boating access sites Musky Point (#9) on Caldron Falls and East Bay #3 on High Falls. These areas will provide swimming and picnicking facilities separated from the boat access sites. The boat access component of the East Bay (#3) will provide up to 50 dedicated boat trailer parking spaces in addition to up to 100 single-car parking spaces intended to support picnicking and swimming area needs. The Musky Point Day Use Area would include a boat access site with space for up to 30 boat trailers plus up to 100 single-car parking spaces to support the picnicking and swimming area needs. Both day use areas would also provide an open picnic shelter with electricity. Picnic area parking at both East Bay and Musky Point may be developed in phases, with up to 50 parking spaces developed at each, initially. Later, as needs indicate, the remaining spaces would be built. A State Park and Recreation admission sticker would be required for use of these two areas.

No increase to boat trailer capacity on Caldron Falls Reservoir is needed. A project is being implemented to renovate existing boat landing 13 at Governor Thompson State Park. A net increase of 38 boat trailer parking spaces is included in that project.

## ENVIRONMENTAL FACTORS CONSIDERED

- Lake size and irregularity

Caldron Falls and High Falls reservoirs have very irregular shorelines, providing a good supply of secluded areas for boating and fishing. This planned action will not affect the size or regularity of the shoreline.

- Lake depth and contour

The reservoirs of the Peshtigo River typically have a shallow gradient near shore, except where the original river bed lies close to bedrock outcrops and where it forms a steep-sided trench surrounded by shallower gradient lakebed. With the possible exception of excavation of the lakebed in the immediate vicinity of launch ramps that would be rebuilt, there would be no anticipated impact on the lakebed depth or contour. Appropriate measures would be taken to prevent siltation or undue disturbance during construction. Measures would include the use of silt barriers, silt fences and containment booms.

- Sensitive areas for fish, wildlife and aquatic plants

There would be no anticipated effects as a result of additional boat trailer parking. Potential relocation of launch ramp at access site Musky Point (9) would proceed only after on-site examination for sensitive areas for fish, wildlife or exotic plants. All renovated boat landing parking areas will be engineered to direct surface runoff away from the launch ramps to alleviate erosion and siltation now occurring and to prevent siltation from occurring as a result of any future renovation or expansion.

- Nature and composition of fish, wildlife and presence of threatened or endangered resources

A preliminary finding based on the Natural Heritage Inventory indicated no such areas would be involved in the general areas where for these facilities will be sited.

Caldron Falls Flowage is a designated "Outstanding Resource Water" as described in Ch. NR 102, Wisconsin Administrative Code. Therefore, no increase is needed for boat trailer capacity for boat access sites on Caldron Falls, beyond the net 38-space increase being implemented as part of Governor Thompson State Park.

- Lake bottom sediment types

Lakebed and sediment types are primarily sand overlain by deposits of silt and in some areas relatively thin layers of organic material resulting from accumulations of leaves

## IMPACTS OF THE MASTER PLAN

and rooted aquatic vegetation. Increased boat trailer parking is not anticipated to have any effect on the lake bottom or sediment types.

It is anticipated that the engineering and design associated with renovation of all boat access sites in the forest would eliminate or minimize the amount of silt and sediment currently reaching the lakebed.

- Sensitivity to exotic species

The issue of invasive exotic species is addressed in the master plan. The number of boat trailer parking spaces is not anticipated to have an effect on the number or type of invasive exotic species.

- Water quality

While an overall increase in the number of boat trailer parking spaces is not expected to have an impact on water quality, the upgrading and reconstruction of access facilities would. When each of the boating access facilities is upgraded, the surface drainage patterns would be designed so that surface runoff does not directly enter the waterway.

- River or stream characteristics

An increase in parking capacity for boat trailers is not anticipated to have any effect on the innate characteristics of the Peshtigo River.

### SOCIAL AND DEVELOPMENTAL FACTORS CONSIDERED

- Shoreline beauty

The plan endeavors to preserve shoreline beauty. Any disturbance within the 200-foot zone must be approved by FERC and would be designed and implemented with the visual characteristics in mind.

- Shoreland zoning

The 75 foot shoreland zone will be observed. Further, development is limited within 200 feet of the shoreline by terms of the FERC license, under which the reservoirs are operated. FERC has approval authority over development in the 200 foot zone.

- Land use and land cover

Land use and cover type would not be changed by implementation of this master plan.

- Traditional, existing and potential water uses

Traditional, existing and potential future water uses would be consistent with the master plan and as regulated by state statute. All existing rules would continue to apply. Expansion of boat trailer parking capacity would not have an impact on water uses permitted.

- Ability to regulate land use and development

The Department has authority to regulate land use and development within the borders of the forest on state owned land. Land use and development is described authorized in the approved master plan.

- Ability to enforce public safety regulations

The department has authority to enforce laws and regulations on state property, or off state property when deputized by state or local law enforcement agencies.

- Water use regulations proposed or in effect

Slow-no-wake zones may be established for public safety and resource protection within the forest boundary.

- Proximity to other waters

The Peshtigo River and its reservoirs within the forest boundary comprise the single largest recreational water resource in the immediate area. Other notable recreational waters in the area include Lake Noquebay 10 miles east of the forest, Thunder Lake one mile south and White Potato Lake about 6 miles south. The Menominee River bordering Michigan is about 20 miles to the east. Boating access to the Peshtigo River and its reservoirs is expected to increase slowly over time and is anticipated to have little effect on surrounding recreational waters.

- Proximity to population centers

The population of Crivitz, the nearest town, is about 1,050 persons. The population of Stephenson and Silver Cliff Townships, which surround the forest total about 3,700. (Stephenson Twp – 3150 pop. Silver Cliff Twp – 550 pop.) During the summer months this number increases due to the number of seasonal residences and resorts present. The expanded capacity of boating access parking lots may have an incremental effect of increasing summer regional populations, however, the actual number of boating access sites will not increase as a result of master plan implementation.

- Demand for recreational opportunities

Increasing the capacity of boat trailer parking is not anticipated to have any effect on the demand for other recreational facilities. The expansion is intended to provide

## IMPACTS OF THE MASTER PLAN



adequate, safe parking for existing levels of boating access.

- Impact on public safety

Increasing the capacity of boat trailer parking is not anticipated to have any negative effect on public safety. The expansion is intended to provide adequate, safe parking for existing levels of boating access. The positive effect of eliminating potential traffic conflicts due to roadside overflow parking is anticipated.

- Presence of culturally or historically significant features

No effect is anticipated. All construction sites would be surveyed for cultural and historic values prior to disturbance.

- Trespass problems associated with increased access on rivers and streams

No impact is anticipated because nearly all the shoreline on the flowages is already in public ownership. Areas of closer proximity, such as trails located near private land boundaries, will receive special treatment to avoid or mitigate negative impacts. Measures would include fencing, signing and screen plantings or others.

### IMPACTS ON FOREST COMMUNITIES

Management of the vegetation in the 200-foot buffer zone on the shorelines of the Peshtigo River and its reservoirs would follow aesthetic management prescriptions. The exception would be in case of a natural disaster or the need to remove a hazardous tree from a designated use area or trail. The long-

range effect of this management would be the development of an old-growth character, with coarse woody debris evident on the ground and a broad age profile of climax forest.

Vegetative management in designated use areas, such as campgrounds or boat landings, would include removal of trees for construction, supplemental planting of new vegetation for landscape purposes and the removal of diseased or hazardous trees when the need arises. The effect of this management could be a gradual thinning of the forest and a more open appearance in designated use areas. This impact could be mitigated by planting of new vegetation of the appropriate type for the site.

Two primary forest management objectives are prescribed in this master plan: Native Community Management and Forest Production Management. A 200-foot Shoreland Management Overlay Zone has been designated around the perimeter of all waters within the forest boundary. This encompasses the Peshtigo River and its flowages.

Below are broad management objectives for both Native Community Areas and Forest Production Areas. The preferred alternative contains specific management objectives for each area. Both management classifications are subject to the Federal Energy Regulatory Commission's 200-foot buffer zone along the river and flowages. Forest management activities in the Federal Energy Regulatory Commission buffer zone are limited to insure scenic and aesthetic qualities of the riparian area. More than 1,000 acres of forest land around the flowages is in the Federal Energy Regulatory Commission buffer zone.

### IMPACTS ON NATIVE COMMUNITY MANAGEMENT AREAS

- Native plant and animal communities, and other aspects of native biological diversity will be restored and maintained.
- A mosaic of community types dominated by an older closed canopy forest of longer lived species, such as pines (on the uplands) and northern white cedar (on the lowlands) will be maintained.
- A diversity of forested and unforested wetlands will be maintained where suitable.
- Water quality, including coarse woody habitat will be maintained, protected and enhanced.
- Rare species, habitats and rare natural communities will be protected.
- Opportunities for research, education and ecological interpretation will be provided.

**IMPACTS OF THE MASTER PLAN****IMPACTS ON FOREST PRODUCTION MANAGEMENT AREAS**

- Timber and other forest products will be produced sustainably.
- Scenic qualities of the Peshtigo River and flowages will be maintained and enhanced.
- Water quality and riparian habitat will be protected, maintained and enhanced.
- White, jack and red pine will be increased where suitable.
- A diversity of forest types and ages for forest health, aesthetic appeal and wildlife habitat will be maintained.

**IMPACTS ON LAKES**

Anticipated impacts on Caldron Falls, High Falls, Johnson Falls, and Potato Rapids Flowages, as well as Spring Rapids and Seymour Rapids would be beneficial. The agents of these benefits are natural shoreline management in the Shoreland Management Overlay Zone. Development of public use areas and facilities would prevent or mitigate negative impacts, primarily by limiting tree cutting and keeping structural development out of the Shoreland Management Overlay Zone except where prescribed in the master plan.

A number of smaller named lakes and some unnamed lakes are located within the existing boundary of the forest. Whenever forest management activities or construction activities would potentially affect these bodies of water, best management practices would be implemented to protect the water resource. This would have the effect of providing long-term aesthetic and biological protection for the small inland lakes and ponds.

**IMPACTS ON SPRINGS AND SEEPS**

State Forest ownership and management would have the effect of safeguarding the water quality and biological diversity of the water systems associated with the forest. Some additional land acquisition to increase the scope of control over these systems as outlined in the master plan will enhance this protection. Land management classifications have been chosen for these areas that would have the effect of preventing degradation of these resources by development or conflicting use.

**IMPACTS ON INVASIVE EXOTIC PLANTS**

A program of regular monitoring and inspection for invasive exotic species would be implemented. Both aquatic and terrestrial species are included. Some common invasive exotics that would be monitored are purple loosestrife, garlic mustard, spotted knapweed, tatarian honeysuckle, buckthorn,



black locust, Eurasian water millfoil, etc. Department policies in place that address these threats to the resource base will be followed. Control measures appropriate to the species of invasive would be used. These may include manual harvesting, plowing, use of herbicides or poisonous agents, fire, natural predators and magnetic pulses. The effect would be a purifying of the biotic community and a protection from future invasions.

**IMPACTS ON ENDANGERED OR THREATENED SPECIES**

Eighteen rare animal species have been documented in the Peshtigo River State Forest, including one State Endangered, three State Threatened species, and the Federally Threatened Bald Eagle. A timber wolf pack is known on the northern portion of the Biotic Inventory's study area, and there is another known occurrence just outside the northern end of the forest. The Timber Wolf, formerly a federally listed Endangered Species, has recently increased in population numbers and has been removed from the Federal list of Endangered Species. This status may change if a significant downturn in wolf population were to be noted.

## IMPACTS OF THE MASTER PLAN

The majority of rare animals documented within the Biotic Inventory are associated with aquatic or wetland habitats. The Peshtigo River provides important habitat for many of these species including five that are globally rare. The dry uplands are also important for some species including a rare tiger beetle. Only one nest territory for the northern goshawk was located on the Peshtigo River State Forest. The property lacks large tracts of mature, closed-canopy forest needed to sustain this and other rare birds, including the red-shouldered hawk. However, there are areas on the forest that could provide future opportunities to benefit these species. Implementation of the Plan would, at a minimum, ensure continued safeguarding of these endangered and threatened species and over time, perhaps increase their foothold in the forest environment.

### IMPACTS ON HISTORICAL, CULTURAL AND ARCHAEOLOGICAL RESOURCES

Work completed by Wisconsin Public Service Corporation for the Federal Energy and Regulatory Commission re-licensing program found evidence of historical and archaeological resources within the region. The WPSC identified eight previously recorded prehistoric and historic sites. Field reconnaissance found 55 sites along the shorelines, of which 22 are affected by either hydro project operations or public recreation. Most sites have late Woodland (Native American) components dating from A.D. 500 to 1634. The Johnson Falls, High Falls and Caldron Falls hydroelectric dams and powerhouses are eligible for inclusion into the National Register of historic places.



As part of the 1837 and 1842 treaties the Native Americans gave up timber harvesting rights. However, they retained the rights to such activities as hunting, fishing, as well as the gathering of firewood, boughs, tree bark, lodge poles, marsh hay, wild rice, and maple syrup. These activities are retained because it has been determined by the courts that they are usual and customary activities of the Chippewa at the time the treaties were signed. It is anticipated that nothing in this plan would hinder or reduce the exercising of these treaty rights.

### ECONOMIC EFFECTS AND THEIR SIGNIFICANCE

Acquisition of land for Peshtigo River State Forest is anticipated to result in an increase in tax revenues to local units of government. The Department began paying local government aids-in-lieu-of-taxes under a statute enacted on January 1, 1992. Each time a new property is acquired by the DNR, the purchase price is set as an equivalent of an assessment, and aids-in-lieu-of-taxes are paid on that basis. Therefore, one of the impacts of acquisition of additional land for Peshtigo River State Forest would be an increase in these payments. Because the purchase price is often higher than the equalized assessed value of the property, the DNR's payment is often greater. In 2006 the Department paid over \$377,400 in aids-in-lieu-of-taxes for state land in the Town of Stephenson, which includes the Peshtigo River State Forest and Governor Thompson State Park. As additional land is acquired for Peshtigo River State Forest the dollar amount paid to local units of government will continue to increase.

Growth in tourist numbers will increase utilization of local business establishments. Economic benefits are anticipated to result from an influx of visitors to Peshtigo River State Forest. Recent data indicates that in the Northeast Region of Wisconsin local resident forest visitors contribute an average of \$19.12 per day to the economy, while non-local forest visitors contribute an average of \$57.46 per day. Current visitation to the forest is estimated to be 100,000. Annual tourist visitation to Peshtigo River State Forest is anticipated to result in economic impact of approximately \$6.5 million annually.

Economic benefits would also result from forest management activities. Hardwood pulp and sawlog markets fluctuate somewhat, however, annual revenues from logging activities on the forest could be expected to average about \$134,000 per year at a harvest rate of about 200 acres per year.

Benefits during construction of forest facilities and features would be realized by building trade members and laborers, and suppliers, some of whom may be local residents. Competitive bidding practices and state purchasing procedures will be followed. Total development cost for the forest is expected to amount to approximately \$3.13M at completion, although the actual work may be spread over a considerable span of time.

## IMPACTS OF THE MASTER PLAN

No estimate of dollar amounts flowing to the local area is available because the total estimated cost and the extent of local contractor involvement is not yet known.

Employees working at Peshtigo River State Forest would probably live in the vicinity of the forest. Those employees would participate in the local economy and expend a significant amount on their daily needs as members of the community.

Implementation of the Plan's forest management objectives would help sustain the stability of employment in the local logging industry. Since logging has been an integral part of the management of this property historically, implementation of the Plan would assure a continued flow of wood products and therefore, both wages for laborers in the field, and also a continued revenue stream for the industry. Slightly increased revenue to the state is also anticipated from the sale of wood from the forest. Revenues from the sale of timber would depend on the market price for wood as well as the number of acres and species of trees to be harvested in a given year. As mentioned above, revenues of \$134,000 per year are possible.

### Recreation Fees

Some revenue would be generated from recreational fees collected from the public at the two day use areas that would be fee-required areas, plus camping fees generated at Old Veteran's Lake Campground. This revenue is not anticipated to be large in comparison to that generated from the sale of wood, however.

A 31 unit primitive campground could be predicted to generate gross revenue of about \$33,000 to \$40,000 plus reservation fees. Exact estimates of revenues are not available until a base level of use has been established, however. The 20 site equestrian camp and the 60 unit equestrian group camp could generate up to \$25,000. The indoor group camp could contribute about \$4,200 per year.

The two day use areas could generate fee revenue of about \$25,000 each per season or \$50,000 per year. This would include picnic and swimming use as well as boat launching.

### FISCAL EFFECTS

Lands purchased for addition to the forest would likely be acquired using State Stewardship funds or a similar bonding fund. Similarly, bonding programs fund the development of much of Wisconsin's State Forest System. The cost to the state of bonding for land acquisition and project development occurs when the dividends are paid on the bonds. Several methods of making these payments could be used, the main one being General Fund Support. Conversely, a benefit would accrue to the holders of the same bonds.

The Wisconsin State Forest program budgets for its capital development needs on a biennial basis, as do all state agencies. Because of the significant cost of developing Peshtigo River State Forest, funding priorities within the capital budget would necessarily be adjusted to accommodate building the forest.

Recurring expenses for forest operation and staffing would be an unavoidable fiscal effect of forest operation. It is anticipated that if full development and staffing were already achieved, including 31 family style campsites, the annual operating budget would be in the range of \$206,000 to \$330,000. This compares with similar sized properties such as Governor Knowles State Forest in Burnett and Polk Counties.

### Estimated Costs of Development

Note: Costs for development of Peshtigo River State Forest are based on 2006 dollar-values and assume full completion of all construction. In actuality, work may be phased over several state capital biennial budget cycles to avoid a disproportionate load on the capital budget in any one biennium. Development costs will vary due to inflation with the passage of time and the results of competitive bidding for construction.

Forest Entrance Visitor Station, Shared.....	\$417,850
Shop/Storage Building, Shared .....	\$313,150
Campground Renovation and Exp (Old Vet's Lake) .....	\$250,000
Indoor Group Camp .....	\$350,000
Water Access Campsites .....	\$45,000
Water Access Upgrades.....	\$995,000
Musky Bay Day Use Area.....	\$250,000
East Bay Day Use Area.....	\$250,000
Trail System PRSF Connector.....	\$50,000
Snowmobile Link Trail.....	\$18,000
Equestrian Trail Construction.....	\$30,000
Equestrian Trailhead Construction .....	\$150,000
Equestrian Campground.....	\$250,000
Equestrian Group Camp Construction.....	\$200,000
Cross Country Ski trail Expansion.....	\$3,000
Mountain Bike Trail Construction.....	\$24,000
<b>TOTAL ESTIMATED COST.....</b>	<b>\$3,601,000</b>

## IMPACTS OF THE MASTER PLAN

### ESTIMATED COSTS OF LAND ACQUISITION

As required by state and federal laws, the Department pays just compensation for property, which is the estimated fair market value based on an appraisal, unless the seller chooses to make a gift or partial donation of land.

The master plan recommends that about 47,000 acres of land be acquired for addition to Peshtigo River State Forest. This includes expanded boundary recommendation described in the Preferred Alternative. The land that would be added to the forest boundary would be valued at an average of \$126M - if acquired all at once, using present day values. Individual parcel values would vary depending on whether any improvements or buildings existed on the site as well as the individual qualities of the site. It is unlikely that all tracts within the expanded boundary would be available for acquisition simultaneously, so expenditures would be spread over a considerable span of time, perhaps many years.

### BOUNDARY EXPANSION & ACQUISITION IMPACTS

#### Increase forest size

Boundary expansion would increase the size of the forest to approximately 56,000 acres. State funds would be expended to purchase these additional lands unless alternate funding sources are available, or donations or partial donations of land occur.

#### Protect resources

It is anticipated that the acquisition of the recommended additional lands would provide protection of surface water systems of the Peshtigo River Basin. Additionally, eventual acquisition of the recommended expansion lands would provide more integral manageable blocks of forest.

#### Change boundary configuration

The size and configuration of the property boundary would be dramatically affected. The overall size would be larger and the configuration would have a less convoluted aspect. The long, narrow character of the original property footprint would also become proportionately wider. This would eventually occur through the use of Section lines, forty lines or public roads as boundary lines. This is a generally desirable configuration that would be more easily understood by the public.

#### Payment to landowners

Payment to landowners for land acquired by DNR may provide a profit to the seller. Or, it may enable sellers to invest in other real estate in the region, thus creating an economic benefit in the real estate market.

Newly acquired undeveloped properties within the boundary would be kept in an undeveloped state, unless specifically designated for use or development in the master plan. Existing



## IMPACTS OF THE MASTER PLAN

improvements on other properties acquired, when not needed for forest purposes, would be auctioned or sold for reuse elsewhere or salvaged for materials. Slightly fewer residences and cottages would exist within the project area, thus a reduction in demand for public services such as police and fire protection occur. If the former owners relocate or build within the same municipal jurisdiction the net effect would be zero.

### **Increase in tax revenues to local government in Marinette County**

Acquisition of additional land would probably increase the amount of aids-in-lieu-of-taxes paid to local governments. See discussion above, describing Economic Effects.

### **SIGNIFICANCE OF CUMULATIVE EFFECTS**

The cumulative effects from the preferred alternatives for Peshtigo River State Forest would have a long-term positive effect on the quality of the human environment. In particular the public has recognized the need to preserve land and water based public land for future generations to benefit from. They have demonstrated this support verbally and in writing. The boundary expansion recommended by the master plan would further create opportunities for improved forest management and surface water system and wetland protection. This cumulative effect of resource protection and assurance of public recreational access to water is further strengthened by continued compliance with provisions of the FERC licenses for hydropower operations on the Peshtigo River.

The acquisition and management of public land on the region is not unique. Other major public holdings exist nearby including approximately 250,000 acres of Marinette County Forest, and about 661,000 acres of Chequamegon-Nicolet National Forest.

### **SIGNIFICANCE OF RISK**

Management and development of Peshtigo River State Forest pose a low overall potential for risk to the environment. Compared to the vast acreage of undeveloped land within the forest boundary, sites developed for day use areas, camping and water access sites will take up a very small percentage of the total. (Less than 5%)

The presence of motor vehicles and other equipment during construction may pose a slightly increased risk from spills and erosion. These risks would be mitigated by best management practice requirements put in place in the bid documents and at the preconstruction meeting with contractors.

Risk to the resources of the forest resulting from human activity during normal operation of Peshtigo River State Forest is mitigated by emergency action plans and procedures put in place by forest management staff. These plans are reviewed

annually and updated as needed or whenever circumstances change.

Risk of introduction of invasive exotic species may increase due to public entry and use of the property. Plans and strategies, as described in the master plan Forest Operation section, are in place to prevent and control outbreaks and infestations..

### **SIGNIFICANCE OF PRECEDENT**

Approval of this management plan would not directly influence future decisions on other Department property master plans. However, this plan or portions of it may serve as reference or guidance material to aid in the preparation of master plans for similar properties elsewhere. Implementation of the objectives contained in the Plan would not be precedent-setting, primarily because all planned actions are management and development activities that regularly occur on state forests and parks in Wisconsin. Further, this property has a long history of both public recreation and forest management activities.

### **SIGNIFICANCE OF CONTROVERSY OVER ENVIRONMENTAL EFFECTS**

#### **Property Taxes**

One facet of opposition to expansion could be the perception that state acquisition of more land would erode the property tax base, causing property taxes to increase for other property owners. An explanation of DNR land buying procedures and aids-in-lieu-of-tax payments can dispel this misunderstanding. No other significant controversy has been raised over any anticipated or perceived environmental effect.

### **DISAGREEMENT OVER RECREATIONAL STYLE, USES ALLOWED OR NOT ALLOWED**

Some individuals have advocated extreme primitive management and others have advocated for mechanized recreation modes. The Vision Statement and Goals suggest the preferred alternative management measures for the property which emphasize non-motorized recreation. Advocates of All Terrain Vehicle use have expressed a desire to create a connecting link between two unconnected systems of multi-season ATV trail. The Department is committed to working diligently with ATV stakeholders to address this issue and to arrive at the best feasible solution.

The horse riding community has strongly advocated for the establishment of horse trails in the forest. This master plan does include recommendations for providing horse riding trails, and equestrian-oriented camping facilities. The forest also has a number of public roads, which are legally open to horseback riding. This fact provides immediate opportunities for horse use in Marinette County while development of designated horse trails can be implemented.

**IMPACTS OF THE MASTER PLAN****HANDICAP ACCESSIBILITY OF BOATING FACILITIES**

Federal Law and Wisconsin statutes require that boarding docks provided at boat access sites be handicap accessible. An accessible boarding dock must also be provided with an accessible travel route between it and a designated accessible parking space. All such facilities within the Peshtigo River State Forest will be brought into compliance. This will take place, at a minimum, whenever new facilities are developed or when existing facilities are substantially repaired or replaced.

**MODIFICATIONS MADE AS A RESULT OF PUBLIC COMMENT**

The Master Plan and Environmental Assessment were published in March 2007. Two public meetings were conducted, followed by a 45-day public comment period. The issue that generated the most comments expressed a desire for the forest to provide a regional multi-season ATV connector trail. About ¾ of the letters, e-mails and verbal comments received during the review period spoke in favor of this issue.

Some comments opposing ATV trails were also received, but it was a small minority by comparison. The content of the master plan has been modified slightly to acknowledge the existence of this issue. However, no substantial change to the plan itself has been made. Instead, a separate public involvement planning process will be conducted. This is being done to provide the opportunity for a thorough and open exploration to the issue, as well as assuring that the overall master plan, minus this issue, can be presented to the Natural Resources Board on schedule.

Another issue that surfaced expressed concerns over the establishment of a new Day Use Area at East Bay, adjacent to Boat Landing #3 and the expansion of the boat landing parking capacity.

Related to this were comments questioning the expansion of boat trailer parking at several of the more heavily-used boat landings in the forest. There are 309 existing boat trailer parking spaces in the forest. Concerns over boating density



## IMPACTS OF THE MASTER PLAN

increases on Caldron Falls and High Falls Flowages have been taken into consideration. A reduction of 55 spaces in the previously proposed increase in boat trailer parking has been implemented. The intent of this 30% reduction is to mitigate concerns about overcrowding on the water.

The original proposal stated the addition of 235 additional boat trailer spaces was proposed. This figure was erroneously reported due to miss-counting. The actual proposal was for an additional 185 spaces. This brings the total number up to 482, not 532 as stated in the Draft.

Furthermore, recent concerns raised by staff over the potential threat to the status of Caldron Falls as an “Outstanding Resource Water” have been taken into consideration. There will be no expansion of boat trailer capacity on Caldron Falls, except that being done as part of development of Governor Thompson State Park at boat landing 13 (see discussion of Caldron Falls Flowage below).

East Bay 3 will be reduced from the proposed total of up to 75 spaces to up to 50, a net increase of 30 spaces, giving credit for the 20 existing spaces.

Rock Cove 7 will be reduced from the proposed total of up to 80 spaces to up to 60, a net increase of 20 spaces, giving credit for the 40 existing spaces.

Crandall Creek 11 will not be expanded beyond the existing 15 spaces.

The reduced proposal will provide up to an additional 80 boat trailer parking spaces in the forest, bringing the total up to 389.

Further changes to the Day Use Area plans include the phasing of development for the Picnic Area parking lots. Each calls for a separate up to 100-car parking lot. These would be constructed in phases to match the pace of utilization. Each would begin as an up to 50-car parking lot with increase to full capacity if and when conditions indicate.

Concerns over compliance with NR 1.91 which governs the development of boating access to waters were noted in the “Preferred Alternative” phase of the master plan. Subsequently, a narrative addition to the EA was created in compliance with NR 1.91 requirements to provide an “Alternative Public Boating Recreation and Waterways Protection Plan” This section of the EA has been modified to reflect changes made to boat landing capacities and day use area parking.

### CALDRON FALLS AN OUTSTANDING RESOURCE WATER

Caldron Falls Reservoir (among eight others) is a designated “Outstanding Resource Water” as defined in NR 102.

Six environmental indicators were used in the Outstanding Resource Water designation:

- Water chemistry
- Sediment quality/benthos
- Phytoplankton
- Macrophytes
- Fish communities
- Riparian zone habitat

Caldron Falls scored 25 out of a possible 30 points in the ranking.

The underlying assumption is that increased boat trailer parking capacity would have a negative impact on water quality and habitat. Upon learning of this special designation, three alternative actions were identified. At the direction of the Master Plan Sponsor Team the following action was selected: The master plan will not propose any increase in boat trailer parking capacity on Caldron Falls Flowage, except those developed pursuant to the recently-approved master plan for Governor Thompson State Park at Boat Landing 13.

The anticipated impact of this change to the plan is that the qualities defining Caldron Falls Flowage as an Outstanding Resource Water would be safeguarded and therefore, the continuing status of Caldron Falls Flowage would be assured.

A discussion of the three alternatives is contained in Chapter 5 of this document.

### MODIFICATIONS MADE FOR OTHER REASONS

Several changes to the master plan and subsequent Environmental Assessment (EA) have been made for editorial or other reasons not indicated by public input. These include the addition of a vault toilet to boat landing 4 because of high usage. Each of the planned new Day Use Areas have had an open picnic shelter with electric outlets added to the planned facilities. This was an omission that was discovered during plan review. These additions also influence the cost estimate for development and have been added where appropriate. Review of development costs also revealed some cost figures that needed updating and those changes were made. The estimated total cost for development using current cost figures is now \$3,601,000, an increase of \$505,000.

**IMPACTS OF THE MASTER PLAN**

**Preliminary Decision on the Need for an Environmental Impact Statement (EA)**

*The proposed project is not anticipated to cause significant adverse environmental effects. The Department has made a preliminary determination that an Environmental Impact Statement will not be required for this action. This recommendation does not represent approval from other DNR sections, which may also require a review of the project.*

**Compliance with the Wisconsin Environmental Policy Act**

Project Name: Peshtigo River State Forest Master Plan County: Marinette

**DECISION** (This decision is not final until certified by the appropriate authority)

In accordance with s. 1.11, Stats., and Ch. NR 150, Adm. Code, the Department is authorized and required to determine whether it has complied with s.1.11, Stats., and Ch. NR 150, Wis. Adm. Code.

Complete either A or B below:

A. EIS Process Not Required



The attached analysis of the expected impacts of this proposal is of sufficient scope and detail to conclude that this is not a major action which would significantly affect the quality of the human environment. In my opinion, therefore, an environmental impact statement is not required prior to final action by the Department.

B. Major Action Requiring the Full EIS Process



The proposal is of such magnitude and complexity with such considerable and important impacts on the quality of the human environment that it constitutes a major action significantly affecting the quality of the human environment.

Signature of Evaluator <i>Daniel C Rogers</i>	Date Signed <i>6-21-07</i>
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Number of responses to news release or other notice: 375

Certified to be in compliance with WEPA	
Environmental Analysis and Liaison Program Staff <i>Allan Stearns</i>	Date Signed <i>6-22-07</i>

## RECREATION MANAGEMENT ALTERNATIVES



# ALTERNATIVES AND THEIR ENVIRONMENTAL IMPACTS

This section describes the impacts of alternatives that *were not* selected for inclusion in the final master plan.

## RECREATION MANAGEMENT ALTERNATIVES

### Indoor Group Campground Alternatives

One alternative site discussed was a site near the rustic family campground (Old Veteran's Lake) and High Falls Reservoir. This site was not selected because of its poor soil type, further development near High Falls Reservoir, poor road and utility access, and close proximity to the family campground. The anticipated impact of implementing this alternative would be a reduction in the potential enjoyment by campers at both facilities due to a lack of separation. A further potential impact could be the degradation of the natural appearance of the shoreline, or skyline viewshed, as seen from the water, if such a structure were to be developed near High Falls Reservoir.

### Canoe Camping Alternatives

The primitive water access campsites on the two islands in High Falls will stay in the plan. At the time of implementation a multi-discipline group will examine the islands for the best sites to minimize human impacts. Possibly four sites on one island will be selected to keep one island free of camping impacts. Firewood can be delivered to the island sites periodically to minimize depletion of dead and downed wood. One alternative site, on a similar island to the south of the other two, was considered, but rejected because of the reported presence of an active Bald Eagle nest. The anticipated impact of implementing this alternative could be the abandonment of the eagle nest due to constant human disturbance.

### Equestrian Campground Alternatives

Two alternative sites were discussed for possible location of the equestrian campground. The first location was near Caldron Falls off of Landing 12 Lane. This site was not selected because of its proximity to a Native Community Management Area and the potential for invasive species spread. The anticipated impacts of implementing this alternative could have been degradation of the Native Community Management

Area due to the possible spread of invasive alien plant species brought in by vehicles and animals.

The other site is located near county forest land and Bushman Road. This site was not selected because of possible user conflicts and the poor road network. Also, the site is not large enough to accommodate this type of campground, and it has poor soils that are unsuitable type for equestrian trails. Anticipated impacts would be possible user conflicts resulting in a diminished quality of experience, as well as the need for higher than reasonable site maintenance and repair frequency to keep the facilities useable.

### Day Use Area Alternatives

One alternative site that was discussed for development as a Day Use Area was Boat Landing #8. This site was not selected because it is too small, and it is already experiencing high levels of use. Anticipated impacts would be environmental damage including soil compaction, erosion of the shoreline, and tree injury. Spatially, there is no room to expand this area due to the nearby wetlands and adjacent residential properties. These properties, along with the associated vehicle traffic, have the potential to create user conflicts. Finally, with little or no room to change the design of the site, the boat launch would cause an obvious safety concern. In addition this site is near a subdivision and an increase in traffic would create user conflicts.

Other sites on Caldron Falls and on High Falls were considered but were not selected for similar reasons.

### Caldron Falls Boat Landing Capacity Alternatives

The following alternatives were developed in response to staff concerns about safeguarding the status of Caldron Falls Flowage as an Outstanding Resource Water as defined in NR 102. A discussion of each alternative follows.

*Alternative A—No change from original on Caldron Falls*

## LAND MANAGEMENT ALTERNATIVES

- Boat Landing 8: Add 15 boat trailer parking spaces to the existing 25, provide vault toilets and water, redesign and improve the site
- Boat Landing 9 (Musky Point): Redesign the existing 30 space boat trailer parking, provide vault toilets, water, fishing pier, redesign picnic area and swimming area with up to 100 car parking
- Boat Landing 10: Add 15 boat trailer spaces to the existing 15, redesign and improve the site, paved approach
- Boat Landing 11: Add 30 boat trailer parking spaces to the existing 15, provide vault toilets and water, renovate and pave launch ramp and approach
- Boat Landing 12: No change to parking, provide vault toilet, water, changing room, renovate and pave launch ramp
- Boat Landing 13 (Governor Thompson State Park) Add 38 boat trailer parking spaces to the existing 12, totally redesign and rebuild, provide vault toilets, and fishing pier. Shown for comparison purposes, construction begins Fall 2007 – Spring 2008.

This alternative was not selected because the Master Plan Sponsor Team could not justify selecting the “no change” choice, which would ignore the concerns about NR 102 and the status of Caldron Falls as an Outstanding Resource Water.

### *Alternative B—Scope Reductions (Caldron Falls Only)*

- Boat Landing 8: Add 15 boat trailer parking spaces to the existing 25, provide vault toilets and water, redesign and improve the site
- Boat Landing 9 (Musky Point): Redesign the existing 30 space boat trailer parking, provide vault toilets, water, fishing pier, redesign picnic area and swimming area with up to 100-car parking, 50-car parking Phase One
- Boat Landing 10: Add 15 boat trailer spaces to the existing 15, redesign and improve the site, paved approach
- Boat Landing 11: Add 20 boat trailer parking spaces to the existing 15, provide vault toilets and water, renovate and pave launch ramp and approach (Reduce boat trailer parking by 10)
- Boat Landing 12: No change to parking, provide vault toilet, water, changing room, renovate and pave launch ramp

- Boat Landing 13 (Governor Thompson State Park) Add 38 boat trailer parking spaces to the existing 12, totally redesign and rebuild, provide vault toilets, and fishing pier. Shown for comparison purposes, construction begins Fall 2007 – Spring 2008.

This alternative was not selected although it would have provided a possible compromise by reducing the number of boat trailer parking spaces being added on Caldron Falls, while still providing a modest increase. The Master Plan Sponsor Team did not want to compromise on the status of Caldron Falls Flowage as an Outstanding Resource Water.

### *Alternative C—No Boat Trailer Parking Increase over Existing Boat Trailer Capacity on Caldron Falls*

- Boat Landing 8: No additional boat trailer parking spaces. Redesign and rebuild existing 25 boat trailer parking, provide vault toilet and water, renovate and pave approach and launch ramp.
- Boat Landing 9 (Musky Point): No additional boat trailer parking spaces. Redesign and rebuild the existing 30 space boat trailer parking, provide vault toilets, water, fishing pier, redesign picnic area and swimming area with up to 100 car parking, 50-car parking Phase One – same as Alternatives A and B
- Boat Landing 10: No additional boat trailer parking spaces. Redesign and rebuild the existing 15 boat trailer parking spaces, paved approach
- Boat Landing 11: No additional boat trailer parking spaces. Redesign and rebuild existing 15 boat trailer parking spaces, renovate and pave approach and launch ramp, provide vault toilet and water
- Boat Landing 12: No change to parking, provide vault toilet, water, changing room, renovate and pave launch ramp
- Boat Landing 13 (Governor Thompson State Park) Add 38 boat trailer parking spaces to the existing 12, totally redesign and rebuild, provide vault toilets, and fishing pier. Shown for comparison purposes, construction begins Fall 2007 – Spring 2008.

Note: If conditions warrant any increase in boat trailer parking in the future, a master plan amendment or variance process may be used to officially modify the master plan.

This is the Preferred Alternative. It was chosen because it best fulfills the need to preserve the water quality and habitat of

**LAND MANAGEMENT ALTERNATIVES**

Caldron Falls Flowage. All three alternatives sustain the project at South Bay 13 within Governor Thompson State Park. This access site currently has 12 boat trailer parking spaces and will have 50 when completed, a net increase of 38 spaces. The redesign of this access site incorporates Best Management Practices and Stormwater Management features intended to safeguard the future water quality of Caldron Falls Flowage. Although this access site will add 38 boat trailer capacity, the facility will be controlled by the state park staff. When the facility is filled to capacity a small overflow parking area would be implemented. When full capacity is reached the manager has the authority to close the facility until conditions change.

**All Terrain Vehicle Alternatives**

One alternative that the state forest was asked to consider by users was an All-Terrain Vehicle play area south of Johnson Falls Road. This alternative was not selected because of environmental and safety concerns. Potential impacts would be the creation of an unsustainable trail condition. A known nearby osprey nest could also be negatively impacted by the implementation of this alternative.

**LAND MANAGEMENT ALTERNATIVES****Forest Production Alternative***Forest Production Area*

Alternative: Designate special forest management zones along the free-flowing portion of the river corridor based on slopes, hydrology, topography, and vegetation types. These zones

would be given a special emphasis using passive management and allowing for natural regeneration and conversion in many areas. The goals would be to maintain an intact forested corridor that would provide for connectivity between forested blocks and minimize deer impacts to the area. Most of the declining aspen stands would be allowed to naturally convert to other longer-lived species. Any increase to the conifer component of the forest would be caused primarily through natural white pine regeneration where possible.

This alternative land management classification was not chosen because: 1) it would not allow for maintaining current levels of aspen acreage for forest productivity and habitat for wildlife game species, 2) would result in a number of declining oak and aspen stands that would persist for several years and could be expected to be more susceptible to gypsy moth infestations, 3) would be less productive, 4) would not allow for establishing jack pine in this area, and 5) in areas dominated by aspen, losing the site to hazel brush competition for a period of time. As noted above, even with a Forest Production emphasis, a large portion of this area will not be actively managed due to the steep slopes, visual impact, and the 200 foot Shoreland Management Overlay Zone. Anticipated impacts would be reduced levels of aspen acreage, causing lower forest productivity in terms of wood products and wild game habitat; and the creation of declining stands of oak and aspen thus increasing the susceptibility to infestations of gypsy moth and invasion of hazel brush.



**LAND MANAGEMENT ALTERNATIVES****NATIVE COMMUNITY BOUNDARY MODIFICATIONS AND REFINEMENT****High Falls North**

Preferred Alternative: Modify the original boundary from the biotic inventory's "Primary Site." Trimming the boundary in the northeast portion of the site would exclude an area that did not contain bedrock glades. The new boundary limits the area north of the river to the prominent bedrock features along the river.

Other Alternative: Keep the Biotic Inventory Primary Site boundary. This alternative was not chosen since the site would have included areas that were not consistent with the goals for this site. The anticipated impact would be a lack of protection for the bedrock glades.

Issue: Management Focus—Barrens Management

Preferred Alternative: Manage the site for an older, multi-species Northern Dry / Dry-mesic forest with increased proportions of red maple and conifers (favoring white pine) with high-quality bedrock inclusions.

Other Alternative: Manage the site for barrens along with Northern dry forest. The alternative was not chosen due to the lack of opportunities for managing for high-quality barrens at this site. The anticipated impact of this action would simply be difficulty or outright failure of attempts to establish a high quality barrens community on this site.

**Location of boundaries**

Preferred Alternative: Expand the original boundary (same as the Johnson Falls Dam "Primary Site" from the Biotic Inventory) to include all state owned lands which are west and north of the Medicine Brook up to the Johnson Falls Dam, and including all privately owned lands south of High Falls Road. This alternative is preferred because it includes all the lands that contain the high quality natural communities and associated species which are in need of special management.

Other Alternative: Adopt the original boundary which was not inclusive enough. The anticipated impact of this action would

be the inability to manage contiguous tracts of forest communities in an efficient manner.

**Location of boundary—Caldron Falls**

Preferred Alternative: Adopt a boundary similar to the Caldron Falls Primary Site from the Biotic Inventory, except that the west line will be expanded to the east shoreline of Boat Landing 10 Bay, and the north boundary will be expanded slightly northward to the present property line.

Other Alternative: Adopt the original Caldron Falls Primary Site boundary without any changes. This was not adopted because it would have the potential impact of excluding some small areas to the west and north that logically should be included in the native community.

Other Alternative: Expand the original Caldron Falls Primary Site boundary to the west and north as described above, but shrink the east boundary slightly to the legal description line to make a hard boundary. An anticipated impact of this alternative would be that it would not allow an adequate buffer on the east side to protect the black spruce swamp.

Management Focus —Kirby Lake

Preferred Alternative: Manage this site as a Native Community Management Area. Important features to protect include Northern Mesic Forest, Northern Wet-mesic Forest, and several rare plants.

Other Alternative: Include this site with the nearby Fly-fishing Area, utilizing similar management objectives for that site (currently an emphasis on forest production with aesthetic considerations). This was not chosen because it would have the potential impact of not adequately addressing management considerations for this site.



# SUMMARY OF THE PUBLIC INVOLVEMENT PROCESS

In accordance with Wisconsin Administrative Code, NR 44 - Master Planning for Department Properties, the Peshtigo River State Forest (PRSF) embarked on a plan to involve the public in the process of developing a revised master plan. From its beginning, steps were taken to ensure opportunities for public involvement throughout the planning process.

The Department developed a Citizen Participation Plan which was available for public review on the internet and in print. This plan describes the legislative standards that guide the planning process, methods of communication between the DNR and public, and how decisions are made.

## PRIMARY STAKEHOLDERS

People of varied interests and backgrounds participated in Peshtigo River State Forest master planning activities. Some of these "stakeholders" in the future of the Peshtigo River State Forest include resident and non-resident property owners, a waterfront owners association, local and regional elected officials, tribal representatives, motorized recreation groups, non-motorized recreators, hunting and fishing enthusiasts, conservation organizations, equestrian groups, representatives from the timber industry, seasonal visitors, tourism providers, state and federal agencies and various members of the local business community.

In compliance with the Chippewa Treaty rights litigation and the Wisconsin Administrative Code NR 44, the Department of Natural Resources consults with tribal governments during the development of master plans for state lands in the ceded territory. The Department of Natural Resources staff and tribal representatives agreed to the following goal for Wisconsin State Forests: "In consultation with tribal governments, manage the land and other natural resources to provide for the exercise of Chippewa Treaty rights in accordance with applicable law."

For the Peshtigo River State Forest planning process, representatives from the Great Lakes Indian Fish and Wildlife Commis-

sion (GLIFWC) and any other interested tribal members were consulted and invited to comment on all phases of the developing master plan document.

Government-to-government contact was consistently made with local towns and county representatives.

## METHODS OF PUBLIC CONTACT AND INVOLVEMENT

Various methods were used to inform the public of the planning process and promoted public involvement throughout the development of the plan. Besides the general public, the Department communicated with local governments, state and federal agencies and tribal contacts. A variety of techniques were used to contact the public, gather information and provide ways for people to participate in the planning process. These communication methods included

- Internet web pages
- Statewide news releases and media interviews
- Direct mailings
- Public meetings and presentations to interested groups
- Personal contact through telephone or written correspondence
- Government-to-government consultations
- Regular newsletters and progress updates

A Wisconsin Department of Natural Resources internet web site was the most comprehensive resource used to facilitate the public involvement plan (<http://dnr.wi.gov/org/land/forestry/stateforests/SF-Peshtigo/>). The Peshtigo River State Forest web pages presented nearly all documentation produced on the plan. Draft planning documents were posted on the web site as they were made available to the public. Comment

forms were posted on line for people to electronically provide comments during the public comment periods or to email the property manager at anytime.

The following topics were posted on the web site:

*Forest Master Plan Overview*—This link explains the Department's master planning approach.

*Plan Details and Phase*—This link describes the general phases and timeline of a master plan. It includes the Vision and Goals for the property and steps to achieve the final plan.

*Regional and Property Assessment Document*

*Preferred Alternative and Options Document*

*Draft Plan Document*

*Community Involvement*—This link includes a Citizen Participation Plan and opportunities to join the Peshtigo River State Forest mailing or email distribution list, to check the website for informational updates, to contact the Property Superintendent, or to request various forestry assessments and publications.

*Upcoming Meetings*

*Summary and Response to Public Comments*

*Sign up for Mailing List*

## SUMMARY OF PUBLIC COMMENTS

Throughout the planning process, Department staff recorded the public's comments in a computer database. A summary of comments was produced following public review of each phase of master plan development and presented back to the public. The Department's analysis and summary of comments is intended to be qualitative rather than quantitative, although the general level of comment on a topic is noted. The summary of comments describes what was heard collectively and reports that information back to the public.

In developing the new plan, the Department carefully considered the input received from the public, tribal representatives and other governing bodies along with the technical input of the WDNR's interdisciplinary team of scientists. Other considerations include the statutory purpose of a state forest, the vision statement and property goals, information contained in various assessments such as the Biotic Inventory and Regional and Property Assessment and other available data.

## ISSUE IDENTIFICATION

In the first step of the master planning process, a broad vision and goals statement was developed for the Peshtigo River State Forest. The vision and goals incorporated public comment gathered through written comment forms (available in hard copy or on-line) and at a public meeting. The vision and goals were developed as part of the Governor Thompson State Park planning in 2002. Issues identified in this early phase of planning for the Peshtigo River State Forest master plan were built into the Preferred Alternative and Options. Issues were further discussed and defined as a part of the public involvement phase of the Preferred Alternative and Options and during development of the Master Plan and Environmental Analysis.



A series of three open-house style public meetings and a public review period were scheduled to provide opportunity for interested or affected parties to review, react, and respond to management proposals.

The following are some of the key issues identified as a result of public input throughout the planning process.

### **Land management**

Public comments generally supported the land management proposals in the Preferred Alternative which include establishing five Native Community Management Areas and three Forest Production Areas. Additional management opportunities that were suggested include wild resource protection, expanded watershed protection, and reforestation.

### **Recreation**

Recreation was the issue that received the most comments throughout the master planning process. No matter what type of recreation a person preferred, it was clear that the public feels the PRSF is an important recreation resource in the area not only for personal enjoyment but as an economic benefit to the region. Many expressed the desire to maintain and/or increase the levels of public access to the forest and water resources. People also voiced an interest in an expanded trail system that would include accommodations for people with physical limitations, horseback riding (and equestrian campground), mountain biking, hiking, and motorized recreation. A few opposed the expansion of Boat Landing 3/ East Bay, stating these areas would generate more use (traffic on roads and water) and in turn affect the quality of visitor experience and degrade the habitat.

### **Motorized Recreation**

Many comments were received in favor of expanding motorized recreational opportunities on the Peshtigo River State Forest. Comments indicated a desire for motorized trail connectors for both ATVs and snowmobiles. The most critical aspect of this issue is linking the north and south sections of the spring/summer/fall ATV trail systems. Stakeholders also commented on the need for trails and connectors to local services such as restaurants, gas stations and lodging, which could impact the local economy. Comments in opposition to motorized recreation focused on the potential for negative environmental effects from vehicles and potential user conflicts. Where proponents saw motorized recreation as a beneficial addition to a multi-use property, opponents often cited the incompatibility with silent sports.

### **Boundary Expansion**

The public is generally supportive of the boundary expansion proposal. The proposal calls for acquiring additional land as it becomes available to promote ecological values and allow for a broader range of regional recreational opportunities. People supporting boundary expansion describe a desire to preserve scenic, undeveloped beauty; to prevent further land parcelization and fragmentation due to development; and to accommodate the many potential uses of the forest.

### **MASTER PLANNING PUBLICATIONS**

Information on a variety of topics was compiled to support the planning process and was made available to the public. These documents are available in paper copy by order request from the Division of Forestry. The web site is a long term repository for master planning documents and the final plan which can be accessed in the future.

### **Northern State Forest Assessments**

DNR scientists and collaborators produced a series of assessments to document their inventory and analysis of the forest. These publications address the following topics: Biodiversity, Monitoring and Evaluation, Socio-Economics for the NHAL State Forest Region, Sustainable Forestry, Environmental Education and Awareness, Recreational Supply and Demand, the 2005 Annual Report on Wisconsin's State Forests and others. Executive summaries of all documents were made available to the public on the internet.

### **Planning Documents**

Working documents were developed with involvement from the public as the master plan's focus narrowed toward completion. For the Peshtigo River State Forest, these included a Citizen Participation Plan, Vision and Goals Statements, Regional and Property Assessment, and the Preferred Alternative and Options, which all led to a Master Plan and Environmental Analysis. Completed documents were made available to the public by request, during public meetings and were posted on the internet. They were also distributed statewide to key public and depository libraries. Maps depicting various management areas and proposals were produced throughout the process as a tool for planners and an aid in informing participants during public meetings. They were also included with documents posted on the Peshtigo River State Forest master planning web site. Table 6.1 Chronological Summary of Public Involvement Activities for the Peshtigo River State Forest Master Plan.

**TABLE 6.1 CHRONOLOGICAL SUMMARY OF PUBLIC INVOLVEMENT ACTIVITIES FOR THE PESHTIGO RIVER STATE FOREST MASTER PLAN.**

2002-2004	SUMMARY OF EVENTS AND CONTACTS
03/2002	Postcards were mailed to all participants of record explaining the decision to create the initial stages of master plans for both the Peshtigo River State Forest and Governor Thompson State Park concurrently.
08/2002	Two public meetings held introducing the public to the master planning process. Public input received along with the Governor Thompson State Park planning process.
12/19/2002	Comprehensive Planning meeting for town governments - Lake, Porterfield and Middle Inlet. DNR presented an informational presentation on future master planning process with a focus on the Potato Rapids Unit.
04/15-16/2003	Public meetings in Green Bay and Township of Stephenson to discuss the Vision and Goals statements of both the PRSF and Governor Thompson State Park.
07/20-21/2004	Public meetings held in Crivitz and Green Bay to discuss the Master Plan/EA for Governor Thompson State Park. Public comment period held open until July 31, 2004.
09/2004	Governor Thompson State Park Master Plan approved by NRB.
2005	The master planning process for both the Governor Thompson State Park and PRSF were started at the same time. Focus was put on the park to finish first and then effort was redirected to the forest. During 2005, data collection and inventories were occurring on the PRSF in support of planning.
2006	
07/2006	Regional and Property Assessment document posted on internet page for public review.
09/15/2006 -11/03/2006	Public comment period for the Preferred Alternative and Options.
10/2006	Public meetings held in Crivitz, Green Bay, and Oshkosh to gather comments on the Preferred Alternative and Options.
12/2006	Response to comments on the Preferred Alternative and Options sent to public mailing list and posted on internet page.
2007	
03/09/2007 – 04/27/2007	Public comment period for Master Plan and Environmental Assessment.
03/20-21/2007	Public meetings held in Green Bay and Stephenson to gather comments on the Master Plan and Environmental Assessment.
07/2007	Response to comments on the Master Plan comment period sent to public mailing list and posted on internet page.
09/2007	Natural Resource Board Approval of PRSF Master Plan.







## APPENDICES

### PESHTIGO RIVER MASTER PLAN DESIGNATION PROCESS FOR STATE NATURAL AREAS

Generally, natural areas are tracts of land or water harboring natural features that have escaped most human disturbance and that represent the diversity of Wisconsin's native landscape. They contain outstanding examples of native biotic communities and are often the last refuges in the state for rare and endangered plant and animal species. State Natural Areas may also contain exceptional geological or archaeological features. The finest of the state's natural areas are formally designated as State Natural Areas. The Wisconsin State Natural Areas Program oversees the establishment of SNAs and is advised by the Natural Areas Preservation Council. The stated goal of the program is to locate, establish, and preserve a system of SNAs that as nearly as possible represents the wealth and variety of Wisconsin's native landscape for education, research, and to secure the long-term protection of Wisconsin's biological diversity for future generations. SNAs are unique in state government's land protection efforts, because they can serve as stand alone properties or they can be designated on other properties, such as a State Forest. By designating SNAs within the boundary of the Peshtigo River State Forest, we are helping to accomplish two different, legislatively mandated Department goals. This arrangement makes abundant fiscal sense because the state does not have to seek out willing sellers of private lands to meet the goals of multiple Department programs. This avoids duplicating appraisal and negotiation work and provides dual use of land that is already in public ownership.

The process to establish a SNA begins with the evaluation of a site identified through field inventories conducted by DNR ecologists including the Biotic Inventory and Regional Analysis. Assessments take into account a site's overall quality and diversity, extent of past disturbance, long-term viability, context within the greater landscape, and rarity of features on local and global scales. Sites are considered for potential SNA designation in one or more of the following categories:

- Outstanding natural community
- Critical habitat for rare species
- Ecological reference (benchmark) area
- Significant geological or archaeological feature
- Exceptional site for natural area research and education

### DESIGNATION PROCESS OF SNAs

**Step 1:** Results from the Biotic Inventory were used to decide which areas would have special management prescriptions. The data gathered for the Biotic Inventory identifies and evaluates the natural communities, significant plant and animal populations, and selected aquatic features and their associated biotic communities. This report emphasized important protection, management, and restoration opportunities, focusing on both unique and representative natural features of the Peshtigo River property and surrounding landscape.

**Step 2:** Using both the Biotic Inventory and the Peshtigo River Preferred Alternative, the team took sites ranked high to moderate, or having a good potential for special management or other unique biological resources and created Native Community Management Areas.

**Step 3:** After public review of the preferred alternative, these identified sites were modified and the land classification was carried onto the Master Plan.

**Step 4:** The last step in the process involved the SNA program staff in the Bureau of Endangered Resources and Peshtigo River master plan team which incorporates experts from many different programs. After the SNA ecologists developed the list of SNA opportunities it was given to the master plan team to evaluate. The sites were compared the ecological gap analysis of the SNA system. Then, the sites were compared to the previously agreed management proposals for the forest. Thus, if the plant and animal species that made up the site were good representatives of a native community, filled a gap in the SNA system, and the intended management for the

**APPENDIX A: STATE NATURAL AREAS (SNAs)**

native community did not conflict, it was considered a good candidate.

Once approved by the Natural Resources Board, sites are formally “designated” as SNAs and become part of the Wisconsin State Natural Areas system. Designation confers a significant level of recognition of these sites natural values through state statutes, administrative rules, and guidelines

**IMPACT TO MASTER PLAN PROCESS**

The process for selecting and designating SNAs is determined by cooperative efforts between two programs within the DNR: The Division of Forestry and the Bureau of Endangered Resources. The master planning process for State Forests requires that the goals set by the Division of Forestry be considered before the Bureau of Endangered Resources submits candidate sites for SNA designation. This is done so that all sites are evaluated for timber production, which is outlined as a Division of Forestry priority. As a result, SNAs are considered overlays to Land Management Areas. The same piece of land can achieve the goals of two different Department programs. Management activities for each SNA reflect the general management prescriptions planned for the area in which the SNA is located. For example, an SNA located within an area managed for hemlock hardwoods, will follow the hemlock hardwoods management objective, rather than a separate SNA management plan. The exact same timber management would occur with or without SNA designation.

**SNA MANAGEMENT ACTIVITIES**

State Natural Areas are not exclusively passive management. Within the past five years, over 200 SNAs all over Wisconsin have had some type of active management. Examples of management activities include exotic species removal, burning and fuel reduction, brushing, trail development, ditch filling and planting. Timber harvesting is not a primary focus of an SNA, but it is often necessary to achieve the desired ecological goals of a specific habitat. Regardless of any designation, wildfires on state forests would be actively suppressed, safety measures would occur in developed areas and insect and disease outbreaks would be considered for control.

**RECREATIONAL IMPACTS**

Impacts would be minimal because the recreation opportunities for any given area were determined before consideration as an SNA. State Natural Areas are not appropriate for intensive recreation and such areas were automatically ruled out as potential sites. However, SNAs can accommodate low-impact activities such as hiking, bird watching, and nature study. Examples of existing facilities within SNA sites include remote and canoe campsites (limited facilities), hiking and cross-country ski trails, boat landings and ramps, snowmobile trails, and a paved bike trail. Most areas have walk-in or water access

only. To comply with the SNA designation, existing trails may need to be rerouted to better protect sensitive areas, for safety reasons, for fire control access, or if it enters into a wetland area. Disabled access would be accommodated at sites with existing trails and roads.

**BENEFITS FOR A PARTNERSHIP BETWEEN STATE FORESTS AND THE STATE NATURAL AREAS PROGRAM**

The SNA program has standardized methods for conducting long-term monitoring of ecosystems and also has a network with a broad range of researchers, from aquatic biologists and botanists to zoologists that can be encouraged to conduct research on the state forest to enhance our understanding of the Peshtigo River ecosystem. The experts in the Division of Forestry have experience in monitoring the trees and other plants, while SNA ecologists have expertise in monitoring aquatic flora and fauna, terrestrial invertebrates, fungi and lichens, ground layer plants, mammals, reptiles and amphibians, and birds. Together an exceptional collaborative monitoring program could be developed.

- The SNA program can bring a broad range of educators together to assist in understanding and interpreting the ecology of the Peshtigo River.
- The SNA Program can lend its expertise to help create ecological interpretive signs and trail guides for better understanding of the full range of biological diversity on the Peshtigo River.
- The SNA Program can assist in conducting land management activities such as invasive exotic species control, brushing and conducting prescribed burns.
- The Division of Forestry would not lose any of its management or decision-making authority, but gain the ability to provide a broader range of opportunities that would help fill its mission by collaborating with the SNA Program.

An outside forest certification audit of the State Forest Program concluded that cooperation between the Division of Forestry and the State Natural Areas Program was commendable. This cooperation should continue to maintain such a high rating by future auditors.

With a joint consideration, the same piece of land can achieve the goals of two different programs. If there were a lack of teamwork, the SNA Program would still pursue sites to fulfill its goals. Such a venture could duplicate an additional 675 acres of land with a cost of \$2,000,000 or more to the state of Wisconsin. Cooperation makes abundant fiscal sense.

**APPENDIX B: SCIENTIFIC AND COMMON NAMES USED IN THE PESHTIGO RIVER STATE FOREST MASTER PLAN AND EA**

SCIENTIFIC NAME	COMMON NAME
<b>TREES AND SHRUBS</b>	
<i>Abies balsamea</i>	balsam fir
<i>Acer saccharum</i>	sugar maple
<i>Acer rubrum</i>	red maple
<i>Alnus spp.</i>	alder
<i>Amelanchier spp.</i>	Juneberry
<i>Betula alleghenensis</i>	yellow birch
<i>Betula papyrifera</i>	paper or white birch
<i>Corylus spp.</i>	hazel
<i>Diervilla lonicera</i>	bush honeysuckle
<i>Fagus grandifolia</i>	American beech
<i>Fraxinus americana</i>	white ash
<i>Fraxinus nigra</i>	black ash
<i>Hamamelis virginiana</i>	witch hazel
<i>Larix laricina</i>	Tamarack
<i>Picea mariana</i>	black spruce
<i>Pinus banksiana</i>	Jack pine
<i>Pinus resinosa</i>	red pine
<i>Pinus strobus</i>	white pine
<i>Populus tremuloides</i>	quaking aspen
<i>Prunus virginiana</i>	chokecherry
<i>Quercus alba</i>	white oak
<i>Quercus ellipsoidalis</i>	northern pin, Hill's, or scrub oak
<i>Rubus idaeus</i>	raspberry
<i>Rubus occidentalis</i>	blackberry
<i>Thuja occidentalis</i>	northern white cedar
<i>Tilia americana</i>	basswood
<i>Tsuga canadensis</i>	hemlock
<i>Ulmus americana</i>	American elm
<i>Vaccinium angustifolium</i>	blueberry
<i>Viburnum acerifolium</i>	maple-leaved viburnum
<b>HERBS AND FORBS</b>	
<i>Amphicarpaea bracteata</i>	hog peanut
<i>Anemone quinquefolia</i>	wood anemone
<i>Apocynum androsaemifolium</i>	spreading dogbane
<i>Aralia nudicaulis</i>	sarsaparilla
<i>Aster macrophyllus</i>	large-leaved aster
<i>Comptonia peregrina</i>	sweet fern

SCIENTIFIC NAME	COMMON NAME
<b>HERBS AND FORBS</b>	
<i>Fragaria vesca</i>	wild strawberry
<i>Gaultheria procumbens</i>	wintergreen
<i>Hepatica americana</i>	round-lobed hepatica
<i>Lysimachia quadrifolia</i>	whorled loosestrife
<i>Lythrum salicaria</i>	purple loosestrife
<i>MaiAnthemum canadensis</i>	wild lily-of-the-valley
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil
<i>Polygonatum pubescens</i>	hairy Solomon's seal
<i>Pteridium aquilinum</i>	bracken fern
<i>Smilacina racemosa</i>	false Solomon's seal
<i>Trientalis borealis</i>	starflower
<i>Trillium grandiflorum</i>	trillium
<b>MAMMALS</b>	
<i>Canis lupus</i>	gray wolf
<i>Canis lupus lycaon</i>	timber wolf
<i>Glaucomys sabrinus</i>	northern flying squirrel
<i>Napaeozapus insignis</i>	woodland jumping mouse
<i>Sorex palustris</i>	water shrew
<b>BIRDS</b>	
<i>Accipiter gentilis</i>	northern goshawk
<i>Anrostomus vociferous</i>	whip-poor-will
<i>Buteo lineatus</i>	red-shouldered hawk
<i>Catharus fuscescens</i>	veery
<i>Empidonax minimus</i>	least flycatcher
<i>Haliaeetus leucocephalus</i>	bald eagle
<i>Pandion haliaetus</i>	osprey
<i>Tringa solitaria</i>	solitary sandpiper
<i>Vermivora chrysoptera</i>	golden-winged warbler
<i>Wilsonia canadensis</i>	Canada warbler
<b>FISH AND AQUATIC ORGANISMS</b>	
<i>Ambloplites rupestris</i>	rock bass
<i>Catostomus commersonii</i>	white sucker
<i>Dreissena polymorpha</i>	zebra mussel
<i>Esox lucius</i>	northern pike
<i>Esox masquinongy</i>	muskellunge

**APPENDIX B: SCIENTIFIC AND COMMON NAMES USED IN THE PESHTIGO RIVER STATE FOREST MASTER PLAN AND EA**

SCIENTIFIC NAME	COMMON NAME
<b>FISH AND AQUATIC ORGANISMS</b>	
<i>Lepomis gibbosus</i>	pumpkinseed
<i>Lepomis macrochirus</i>	bluegill
<i>Micropterus dolomieu</i>	smallmouth bass
<i>Micropterus salmoides</i>	largemouth bass
<i>Morone americana</i>	white perch
<i>Neogobius melanostomus</i>	round goby
<i>Oncorhynchus mykiss</i>	rainbow trout
<i>Oronectes propinquus</i>	northern Clearwater crayfish
<i>Perca falvescens</i>	yellow perch
<i>Pomoxis nigromaculatus</i>	black crappie
<i>Salmo trutta</i>	brown trout
<i>Sander vitreus vitreus</i>	walleye
<b>REPTILES AND AMPHIBIANS</b>	
<i>Clemmys insculpta</i>	wood turtle
<i>Emydoidea blandingi</i>	Blanding's turtle
<i>Hemidactylium scutatum</i>	four-toed salamander
<i>Lithobates palustris</i>	pickerel frog
<i>Necturus maculosus</i>	mudpuppy
<i>Rana catesbeiana</i>	bull frog
<i>Rana septentrionalis</i>	mink frog
<b>INSECTS</b>	
<i>Cicindela patruela patruela</i>	tiger beetle
<i>Gomphurus lineatifrons</i>	splendid clubtail
<i>Gomphurus ventricosus</i>	skillet clubtail
<i>Gomphus quadricolor</i>	rapids clubtail
<i>Gomphus viridifrons</i>	green-faced clubtail
<i>Lymantria dispar</i>	gypsy moth
<i>Nasiaeschna pentacantha</i>	Cyrano darner
<i>Neurocordulia yamaskanensis</i>	Stygian shadowfly
<i>Ophiogomphus anomalus</i>	extra-striped snaketail
<i>Ophiogomphus carolus</i>	rifle snaketail
<i>Ophiogomphus howei</i>	pygmy snaketail

**APPENDIX C: SPECIES OF SPECIAL CONCERN, WISCONSIN STATE THREATENED AND WISCONSIN STATE ENDANGERED SPECIES WITHIN THE PESHTIGO RIVER STATE FOREST**

**NHI WORKING LIST PLANTS IN PESHTIGO RIVER STATE FOREST AND SURROUNDING AREA**

SCIENTIFIC NAME	COMMON NAME		YEAR	STATE RANK	GLOBAL RANK	STATE STATUS
<i>Arabis missouriensis</i> var. <i>deamii</i>	Deam's Rockcress		2003	S2	G4G5QT3?Q	SC
<i>Arethusa bulbosa</i>	Swamp-pink	*	1991	S3	G4	SC
<i>Asclepias ovalifolia</i>	Dwarf Milkweed		2003	S3	G5?	THR
<i>Carex assiniboinensis</i> **	Assiniboine Sedge	*	1981	S3	G4G5	SC
<i>Carex vaginata</i>	Sheathed Sedge	*	2003	S3	G5	SC
<i>Cypripedium reginae</i>	Showy Lady's-slipper	*	2003	S3	G4	SC
<i>Epilobium palustre</i> **	Marsh Willow-herb	*	2003	S3	G5	SC
<i>Malaxis monophyllos</i> var. <i>brachypoda</i>	White Adder's-mouth	*	1992	S3	G4Q	SC
<i>Medeola virginiana</i>	Indian Cucumber-root		1997	S3	G5	SC
<i>Platanthera hookeri</i> **	Hooker Orchis		1960	S2S3	G5	SC
<i>Platanthera orbiculata</i>	Large Roundleaf Orchid		2003	S3	G5?	SC
<i>Vaccinium pallidum</i>	Blue Ridge Blueberry		2003	S1	G5	SC

\* Species associated with wetlands or aquatic features

\*\* Species not located within the Peshtigo River State Forest

**APPENDIX C: SPECIES OF SPECIAL CONCERN, WISCONSIN STATE  
THREATENED AND WISCONSIN STATE ENDANGERED  
SPECIES WITHIN THE PESHTIGO RIVER STATE FOREST**
**NATURAL HERITAGE INVENTORY WORKING LIST ANIMALS FOUND IN THE PESHTIGO RIVER STATE FOREST AND ADJACENT AREAS**

SCIENTIFIC NAME	COMMON NAME		YEAR	STATE RANK	GLOBAL RANK	STATE STATUS	FEDERAL STATUS
BEETLE							
<i>Cicindela patruela patruela</i> **	A Tiger Beetle		2002	S2	G3T3	SC/N	
BIRD							
<i>Accipiter gentiles</i>	Northern Goshawk		2002	S2B,S2N	G5	SC/M	
<i>Haliaeetus leucocephalus</i>	Bald Eagle	*	2002	S3B	G4	SC/FL	LT, PD
<i>Pandion haliaetus</i>	Osprey	*		S3S4B	G5	Thr	
BUTTERFLY							
<i>Pieris virginiensis</i> **	West Virginia White	*	2002	S3	G3G4	SC/N	
CRUSTACEAN							
<i>Oronectes propinquus</i>	Northern Clearwater Crayfish	*			SUG5	SC/N	
DRAGONFLY							
<i>Gomphurus lineatifrons</i>	Splendid Clubtail	*	1991	S3	G4	SC/N	
<i>Gomphurus ventricosus</i> **	Sillet Clubtail	*	2002	S3	G3	SC/N	
<i>Gomphus quadricolor</i>	Rapids Clubtail	*		S4	G3G4	SC/N	
<i>Gomphus viridifrons</i>	Green-faced Clubtail	*		S3	G3	SC/N	
<i>Nasiaeschna pentacantha</i>	Cyrano Darner	*	1988	S3	G5	SC/N	
<i>Neurocordulia yamaskanensis</i>	Stygian Shawdowfly	*		S3	G5	SC/N	
<i>Ophiogomphus anomalus</i>	Extra-striped Snaketail	*		S1	G3	END	
<i>Ophiogomphus carolus</i>	Riffle Snaketail	*	1980	S3	G5	SC/N	
<i>Ophiogomphus howei</i>	Pygmy Snaketail	*		S3	G3	THR	
FROG							
<i>Rana catesbeiana</i>	Bullfrog	*	2003	S3	G5	SC/H	
SALAMANDER							
<i>Hemidactylium scutatum</i> **	Four-toed Salamander	*	2003	S3	G5	SC/H	
TURTLE							
<i>Clemmys insculpta</i>	Wood Turtle	*	2003	S3	G4	THR	
<i>Emydoidea blandingii</i> **	Blanding's Turtle	*	2002	S3	G4	THR	

\* Species associated with wetlands or aquatic features.

\*\* Species not located within the Peshtigo River State Forest.

**Adaptive Management:** A dynamic approach to forest management in which the effects of treatments and decisions are continually monitored and used, along with research results, to modify management on a continuing basis to ensure that objectives are being met.

**Basal Area:** The basal area of a tree is usually defined as the cross-sectional area at breast height in square feet.

**Biological Diversity:** The variety and abundance of species, their genetic composition, and the communities, ecosystems and landscapes in which they occur. Biological diversity also refers to the variety of ecological structures, functions, and processes at any of these levels.

**Community Restoration:** recognizes that communities, species, structural features, microhabitats, and natural processes that are now diminished or absent from the present landscape have a valuable role to play in maintaining native ecosystems. Under some definitions, community restoration means moving the current composition and structure of a plant community to a composition and structure that more closely resembles that of the pre-settlement vegetation.

**Drumlins:** Glacier features formed by erosion and deposition of materials beneath the glacier.

**Eskers:** Ridges composed of sand and gravel that were deposited by streams which flowed beneath the glacier.

**Extended Rotation Stands:** can be either even or uneven aged. They are managed well beyond the economic rotation to capture ecological benefits associated with mature forests. These stands are carried beyond their normal economic rotation age and are harvested before reaching pathological decline.

**Forest Cover Type:** A category of forest usually defined by its vegetation, particularly its dominant vegetation as based on percentage cover of trees.

**Forest Structure:** Forest stands can be characterized by their structural features, including type and density of dominant tree species, type of understory (ground vegetation), and amount of standing and fallen dead trees. These attributes undergo a predictable pattern of change as stands age, and together they can be used to classify stands into young, mature, and old stages.

**Invasive Species:** These species have the ability to invade natural systems and proliferate, often dominating a community to the detriment and sometimes the exclusion of native

species. Invasive species can alter natural ecological processes by reducing the interactions of many species to the interaction of only a few species.

**Moraines:** Ridges of sediment that accumulated along the margin of the glacier as the glacier stood in place for a long period of time.

**Outwash plains:** Are formed by meltwater rivers that flowed beyond the margin of the glacier and deposited sandy and gravelly sediment. When the ice melted, the sand and gravel collapsed to form an irregular surface that typically contains many closed depressions known as kettles.

**Passive management:** means the goals of the native community management area are achieved primarily without any direct action. Nature is allowed to determine the composition and structure of the area. For example, patches of large woody debris and the accompanying root boles (tip-up mounds) that are characteristic of old-growth structure are best achieved through natural processes. Passive management, however, does not mean a totally hands off approach. Some actions are required by law, such as wildfire suppression, consideration of actions when severe insect and disease outbreaks affects trees, and hazard management of trees along trails and roads. Other actions, such as removal of invasive exotic species, are necessary to maintain the ecological integrity of the site.

**Relict Forests:** are stands that appear to have never been manipulated or disturbed by humans of European descent. Some presettlement forest ecosystem conditions have been perpetuated. Ancient forest, a sub-category, is relict forest with the presence of some old, biologically mature trees. Very few relict forests still exist in Wisconsin.

**Sustainable Forestry:** The practice of managing dynamic forest ecosystems to provide ecological, economic, social, and cultural benefits for present and future generations.

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## APPENDIX F: GUIDANCE FOR ALL-TERRAIN VEHICLE USE ON DEPARTMENT LANDS

Wisconsin DNR January 1, 2005

### 1. INTRODUCTION

There is a growing demand for ATV use on Department lands. Because unauthorized ATV use and inappropriate siting can have adverse impacts on natural resources and other property users, requests for ATV use on Department lands should be evaluated using the process and criteria specified below.

It is not the intent of this guidance to direct property managers to evaluate all department properties to determine if ATV trails are suitable on those properties. The purpose is to provide criteria based decision-making model in the event that an ATV trail is planned for a property. This guidance is intended to assist Department staff in evaluating requests for ATV trails on Department owned or managed lands. The department will review each trail proposals on a case by case basis and is not obligated to establish an ATV trail in every case.

### 2. WHERE ATV'S MAY BE AUTHORIZED

All-terrain vehicle (ATV) use is permitted on Department lands only:

- a) By permit for persons with disabilities as a mode of personal conveyance. Permits can be obtained on a case-by-case basis per the procedure and restrictions in MC 2527.7
- b) As a designated use by posted notice (s. NR45.05(3) Wis. Adm. Code), authorized by approved plan, in the following situations:
  - A connector trail leading to a local or regional trail system under county or municipal management.
  - On a linear State Trail. Linear State Trails may be state or cooperatively managed.
  - A loop trail on a property in those limited situations where the size and configuration of that property can accommodate ATV use that is in compliance with the criteria outlined below.
  - Within an intensive use area on lands purchased for that specific purpose, or on lands no longer necessary for conservation purposes, that will be operated under a lease agreement.

### 3. GENERAL GUIDELINES FOR DESIGNING, SITING, AND MAINTAINING TRAILS

The goal of the Department regarding all trails is to design, site, and maintain trails that provide a quality experience for the user and which are sustainable.

Sustainable trails:

- a) Are ecologically sustainable—they minimize ecological impacts of trails.
- b) Are physically sustainable—they are created to retain their shape throughout time without abrupt change by accommodating the human and natural forces acting upon them. Routine maintenance may be necessary periodically.
- c) Are social/economically sustainable --Are accepted and/or substantially supported by affected parties.

These principles should be an integral part of decision-making for any trail or trail use. One result of developing sustainable trails is that the trail experience may foster a sense of stewardship, i.e. a desire by the user to sustain the trails and the land that supports them, in the user.

### 4. ATV TRAILS

ATV trails, like all Department trails should be considered within the context of sustainability (see above). All trails have ecological impacts, yet we try to stay within the site-specific capability of each location to accommodate the trail. Although the wear surface of natural-surface trails continually changes, attempts must be made to design trails that can remain relatively stable with appropriate management and maintenance.

ATV use on Department lands should be authorized as part of a comprehensive property master planning process so that the location of ATV use can be considered with both existing and potential future uses of the property. If ATV use is being considered for properties that have an existing master plan, the use would have to be authorized through a plan amendment or variance process. There will also be times that there will be legitimate requests (e.g., critical linkages with trail systems, cooperative State Trails) that will have to be carefully evaluated on properties where no master plan exists. Regardless of whether a master plan exists, an evaluation of the impacts on the resources and public input is essential components of the process.

### 5. CRITERIA FOR EVALUATING ATV USE ON DEPARTMENT LANDS

This document contains a list of criteria that should be addressed when evaluating proposals for ATV use on Department property. In some cases, analysis of one (such as property designation, potential effects on the resources, etc.), or more, of the criteria will result in a determination by

## APPENDIX F: GUIDANCE FOR ALL-TERRAIN VEHICLE USE ON DEPARTMENT LANDS

the Department that the proposed ATV use is not feasible. However, in order for ATV use to be approved, all of the criteria below should be evaluated following the procedure explained on Page five. Use the form on page six of this guidance to address the criteria.

### a) Property Designation/Funding Source

New trails must be compatible with the existing setting and uses of a property, including its statutory designation, deed restrictions or covenants, and any restrictions/purposes related to the funding source used to purchase or manage the property such as any restrictions that may be associated from federal (e.g. PR, DJ, ORAP, LAWCON, TE) funding.

Using the criteria contained in this document, State Natural Areas, State Parks, Wild Rivers properties, and State Ice Age and North Country Trail Areas will generally not be suitable for ATV use. On these properties, ATV use will only be considered by exception (Secretary sign-off) and will generally be restricted to a select few larger properties where the trail siting criteria can be met. Requests for trails on other property types will be reviewed on a case by case basis. Other property types (e.g. Wildlife Areas, Fishery Areas) may have limited potential for ATV trail connectors due to existing use patterns, existing stipulations and restrictions that would not allow for uses that would interfere with the purpose that the property was established (e.g. hunting, fishing, wildlife propagation).

### b) Potential Effects on the Resources

The trail should not be in a location where significant adverse impacts on natural resources cannot be prevented through proper siting and trail construction and maintenance. Utilizing proper design standards, trails should generally be located within existing upland travel corridors as much as possible

to avoid fragmentation of properties and habitat and should be located away from identified sensitive areas such as high-quality natural communities, wetlands, nesting areas, wild resources, scenic areas, and unique aquatic or terrestrial habitat. The sensitivity of the natural community in the area of use will need to be evaluated for potential impacts, such as invasive species introduction concerns, and noise and dust effects. Certain animal species and vegetation communities may be particularly vulnerable during certain seasons (e.g. ground bird-nesting season). Limits on the season of use may be warranted in some situations.

The potential for adverse impacts to adjacent off-trail areas, not just the trail itself, will be evaluated in case of unauthorized, off-trail use. Some indications of adverse impacts are erosion scars, severe rutting, washouts, streambank and wetland damage, and siltation. Whenever possible trails should be located away from waterways to minimize potential impacts and discourage inappropriate use. Stream and wetland crossings should only be permitted if other practicable alternatives are not available. State statutes and administrative rules must be complied with, and county zoning requirements should be complied with, to assure protection of lakes, streams, and wetlands, and consideration of the public interest associated with them. Federal permits are also required for certain wetland modifications (see table), and local land use ordinances should be considered.

### c) Safety

Assess whether there are conditions that pose potential safety problems for trail users. Are there terrain features that pose potential hazards to trail riders, e.g., steep drop-offs, rocky outcroppings, unstable native tread surfaces? Can these potential hazards be minimized through trail construction or signing techniques or be avoided? Are there existing infrastructure

### WATERWAYS AND WETLAND PROTECTION REQUIREMENTS (PARTIAL LIST)

ENVIRONMENTAL ISSUE	AUTHORITY	CONTACT
Waterway Crossings and Modifications	Chapter 30 Stats	DNR Water Management Specialist
Wetland Crossings and Modifications	NR103 (Chapter 281, Stats) Federal Clean Water Act, Section 404	DNR Water Management Specialist US Army Corps of Engineers
Stormwater and Grading	NR 216 (Chapter 283, Stats)	DNR Water Management and Wastewater Specialist
Shorelands and Floodplain	County Shoreland and Floodplain Zoning Ordinances Pursuant to Chapters NR 115, (Chapter 59, Stats) and NR 116 (Chapter 87, Stats)	County Zoning office Also check with local jurisdiction (township, village, city)

## APPENDIX F: GUIDANCE FOR ALL-TERRAIN VEHICLE USE ON DEPARTMENT LANDS

situations that might pose safety concerns, e.g., necessity to cross roads, utilize highway rights-of-way or highway bridge structures to cross streams or rivers? Are there alternatives that can be sited or constructed at reasonable costs to avoid or minimize these situations, e.g., construction of a ramp to approach a highway or road-crossing at grade?

### d) Social Considerations

Trails should be located to minimize impacts to other recreational uses, such as camping, hiking, wildlife viewing, hunting, or fishing that are already established on the property. ATVs may be compatible on larger properties where space is available to provide use without disruption to others. If potential conflicts exist with the proposed location, alternatives should be considered that minimize these conflicts, such as alternate locations, seasonal use, visual and sound buffers, and time-of-day restrictions. Existing appropriate recreational uses will generally have priority over new proposals if conflicts cannot be mitigated. Impacts to other property users, such as noise and dust, must be evaluated. An evaluation/summary of public opinion about the proposal must be considered.

### e) Economic

Consider the trail's impact on the local economy. Identify opportunities to connect with communities, restaurants, lodging, and other facilities.

### f) Cooperation

The degree of demonstrated local support and interest in cooperative efforts should be documented and an assessment of a potential sponsor's ability to develop, maintain, and insure the trail be made. A Memorandum of Understanding will be developed that outlines responsibility between a recognized club/unit of government and the Department to develop and operate trails on department lands. Local cooperators and their responsibilities should be identified.

### g) Management/Administrative Criteria

- Evaluate existing level of staff and funding available to manage, maintain, and monitor this trail and MOU. Determine if clubs/units of government are willing to provide the necessary resources.

Insufficient resources may result in a determination by administration that the project is not feasible.

- Assess development costs and determine funding sources.
- Enforcement. An evaluation of enforcement resources is needed. Assess the need and availability of law enforce-

ment to patrol the trail. This could be either Department or local government personnel.

## 6. PROCEDURE FOR ATV TRAIL REQUESTS ON DEPARTMENT PROPERTIES

Manual Code #2527.9 outlines the policy for handling requests for ATV trails on Department properties. ATV trails that are being considered as part of an NR 44 master plan process or plan revision need to follow the substantive provisions of this guidance but not the procedure outlined in the manual code.

## 7. APPROVED ATV TRAILS

### a) Monitoring

Regular and on-going monitoring of ATV trail tread and adjacent areas is imperative to detect and correct impacts while they are manageable, and before permanent degradation occurs or repair costs become prohibitive. The required semi-annual designated use area inspection may be insufficient to detect problems, and more frequent inspections may be needed.

### b) Closure Authority

The Department has the authority to close Department land, by posted notice (NR 45.04) if necessary. Property managers should exercise that authority if issues of safety, resource damage, or other legitimate concerns arise until such time as the problem can be resolved. Lack of sufficient resources to maintain trails, unauthorized off-trail use, annual spring break-up and failure of cooperators to adhere to terms of MOU are valid reasons for closing trails. The ultimate closure authority lies with the regional director.

## 8. GLOSSARY

**Intensive Use Area:** An intensive use area is an area that is designated, usually by fencing or signage, for the use of ATVs. Riding opportunities may consist of riding courses and trails and associated support facilities (e.g., restroom facilities, ATV wash-down facilities, unloading ramps, and/or camping facilities). Intensive use areas are typically supervised and/or patrolled during hours of operation. Typically, an entrance fee is charged to make use of the riding opportunities. Riding courses and trails are actively managed and maintained.

**Approved Plan:** An approved plan can be one of the following: a property master plan or, where no master plan exists, a site plan on a 1:24,000 USGS topographical map, signed off through channels, or a plan resulting from a signed cooperative State Trail agreement.