Interim Forest Management Plan

Property Identifiers

Property Name and Designation: Peshtigo Brook Wildlife Area

County: Oconto

Property Acreage: 2,258

Forestry Property Code(s): 4354

Master Plan Date: 1981

Part 1: Property Assessment (1-2 pages maximum)

The following items should be considered during the property assessment. Not all sections may be relevant for all properties.

General Property Description

- Landscape and regional context

The Peshtigo Brook Wildlife Area is located within the Northeast Sands Ecological Landscape which occupies a narrow, diagonal area of northeast Wisconsin. This ecological landscape formed in glacial outwash sand plains (some of them pitted), and has steep outcropping Precambrian bedrock knolls of basalt, rhyolite, or granite. Sandy ground moraines and end moraines are also interspersed in the ecological landscape.

Historically, extensive oak/jack pine barrens and jack pine forests were 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 this ecological landscape is still forested; aspen predominates, followed by northern hardwoods. Jack pine remains on the outwash plains along with northern pin oak. There are several ecologically significant examples of jack pine/oak barren communities. A small percentage of this ecological landscape contains spruce-fir-cedar forest and lowland hardwood forest. The Brazeau Swamp Conservation Opportunity Area, much of which is managed by Oconto and Marinette Counties, includes one of the largest cedar swamps in Wisconsin.

Though some areas have experienced severe hydrological disruption (especially by state highway 64), conversion to cropland, heavy past logging, and excessive deer browse, there are examples of high quality sedge meadow and shrub swamp embedded within an extensive lowland forest of variable quality composed of conifers and hardwoods. Canopy associates of the dominant northern white-cedar and black ash include tamarack, black spruce, balsam fir, red maple, paper birch, yellow birch and eastern hemlock. Much of this area is publicly-owned, as parts of the Oconto and Marinette County Forests.

- History of land use and past management: The property was originally purchased and managed for sharp-tailed grouse. Impoundments created in the mid-1950's generated interest in waterfowl management. Potential for waterfowl production and use is limited in the area and sharp-tailed grouse disappeared by the early 1960's. Since the early 60's, the area has been managed for forest wildlife with a recognition of the unique habitats provided by the open sedge meadows and sand ridges that are found on the Peshtigo Brook Wildlife Area. An interior service road on the property is seasonally opened for access. Vegetation management has used prescribed fire to maintain open

habitat in the sedge meadows and timber sales have maintained timber types on the property.

Site Specifics

The Peshtigo Brook Wildlife Area is about 44% forested. Current forest types include:

Aspen:	455 acres	45% (of forested lands)
Swamp Hardwoods:	243 acres	24%
Scrub Oak:	235 acres	23%
White Pine:	35 acres	3%
Red Pine:	23 acres	2%
Jack Pine:	8 acres	1%
Misc. Deciduous:	8 acres	1%

Various size classes and successional stages are present on the property. Early successional stages are dominated by aspen. Most of the aspen stands are in the sapling to poletimber size classes, with 89% of all aspen stands being less than 30 years of age. The aspen stands have been created and/or maintained through commercial timber harvests.

Swamp hardwood stands vary from poletimber to large sawlog sized stands. All of the of the swamp hardwood stands are older than 66 years, with the oldest stand currently over 100 years old. Tree height and diameter within these stands is often determined mainly by site productivity and drainage patterns over stand age (i.e.: old stands often have small diameter trees where productivity is low). Self-sustaining swamp hardwood stands are now the likely the climax type for many of these stands, but these stands generally lack the complex structure of a climax forest at this time.

Scrub oak dominates the excessively drained sandy soils on this property. The scrub oak ranges from poletimber to large sawtimber size. The scrub oak on these sites can be considered a middle successional type. Further development of the white pine as a component of these stands would be expected with age. Some of the larger, older oak has begun to decline in health with many individual trees dying. Age, gypsy moth, and two-lined chestnut borer have been contributing factors to oak decline. Oak wilt is also a concern.

- State Natural Area designations: Peshtigo Brook Meadow and Woods SNA
- High Value Conservation Forests (HCVF) or other resources/natural community types limited in the landscape: 10 acres of 120 year old white cedar, 29 acres of 80 year old hemlock and 11 acres of 95 year old white pine. Harvest in these stands will be deferred until after a thorough examination of the property and surrounding landscape. A biotic inventory conducted during the next revision of the Master Plan will provide guidance on the status of these stands.
- Biotic Inventory status: No
- Deferral/consultation area designations (refer to the following website): No
- Rare species: two rare birds, one rare plant and one rare herptile.

Cultural and Recreational Considerations

- Cultural and archeological sites: There are no known archaeological or historic sites on the property. A service road enters the property from county-owned land in the southeast corner. This road is usually gated but is opened occasionally for recreational use.

Part 2: IFMP Components (1-2 pages maximum)

Management Objectives (Outline primary forest management objectives):

Peshtigo Brook Meadow and Woods SNA

1. Manage the site as a reserve for northern sedge meadow, oak barrens and northern dry-mesic forest, as a wetland protection area, and as an ecological reference area. Note: It is understood that over the course of time, the oak and red pine component in the dry-mesic forest will decrease under a passive management regime. Other State Natural Areas, however, are managed to maintain an old-growth oak cover type. Both management scenarios are needed as ecological reference areas. Harvesting of timber within this SNA can occur if the harvest contributes to the structural attributes desired in the type.
2. Another objective is to provide opportunities for research and education on the highest quality sedge meadows.

All forested stands outside of the state natural area are currently scheduled for management. The objectives for the major forest cover types are:

Aspen: Provide wildlife habitat while producing forest products by maintaining the aspen type. Aspen will be managed through coppice regeneration harvests at rotation age while adhering to green tree retention guidelines. Diversification of age classes and early successional types can be maintained through this method.

Swamp Hardwood: Maintain water quality, provide wildlife habitat, and to a lesser extent produce forest products while maintaining the swamp hardwood type. Several of these stands are portions of riparian management areas and/or offer very limited logging chance.

Scrub Oak: Provide wildlife habitat, produce mast, produce forest products, and maintain the type. Regeneration harvests and post-harvest treatments will likely be required to maintain the type long term.

White Pine: Provide unique habitat by growing tall, large diameter trees. Management will be even-aged with extended rotations and/or to encourage old growth characteristics.

Other timber types representing small proportions of the overall property will generally be managed to maintain the type following the guidelines set forth in the WDNR Silviculture Handbook.

Property Prescriptions (Identify specific and pertinent prescriptions by area or forest type, including passive management areas, extended rotation, and other information that will help achieve the objectives):

Peshtigo Brook Meadow and Woods SNA

1. The ecological characteristics of the oak barrens will be primarily shaped by an intensive fire management program in conjunction with timber management. The sedge meadow species and barrens/forest understory species are managed actively through tree/shrub control using tree harvest, brushing and occasional fire to mimic natural disturbance patterns. The native dominant barrens/forest tree species (primarily oaks) are managed passively, though some thinning of the canopy may be needed.
2. Augmentation of the barrens ground layer will only add species that historically would have been found on the site, using seeds or plugs from local genetic material species; this usually occurs in the early stages of restoration.
3. The native dry-mesic forest species are managed passively, allowing nature to determine their ecological characteristics.
4. The dry-mesic forest will be managed to promote old-growth characteristics which may include conversion over time to a more mesic forest condition. Other allowable activities across the entire site include control of invasive plants and animals, and access to suppress wildfires.

Aspen will be managed even-aged with coppice regeneration harvests conducted at rotation age. Green tree retention guidelines will be followed. Rotation ages may be modified to increase age diversity as desired. Generally snag, den, and mast trees will be retained during harvests.

Swamp hardwood may be managed even-aged or uneven-aged with stand level determinations needed. Several of the swamp hardwood stands offer limited logging chance and may be managed passively for water quality and wildlife habitat. Swamp hardwood silviculture is currently developing and the WDNR Silviculture Handbook guidelines will be followed.

Scrub oak will be managed even-aged with shelterwood, coppice, or overstory removal methods depending on stand level characteristics. Extended rotations to may be desirable where the oak remains healthy. Maintenance of the type through harvesting will be needed in declining stands. Snag, den, and mast/seed trees will be maintained during final harvests. Green tree retention guidelines will also be followed.

White pine will be managed even-aged to encourage the development of large trees. Extended rotations and/or encouraging old growth characteristics are desirable.

Forested stands within the state natural area will generally be managed passively except where vegetative management is needed to achieve desired conditions.

The other timber types cumulatively represent 7% of the forested types and will be managed in accordance with the WDNR Silviculture Handbook.

Interim Forest Management Plan

Approvals:

Joe Henry 5/14/2013

Regional Ecologist Date

Ryan Severson 05/14/2013

Forester Date

John Huff 05/14/2013

Property Manager Date

Jeff Pritzl 05/14/2013

Area/Team Supervisor Date