Interim Forest Management Plan

Property Identifiers

Property Name: **Little Wolf River Fisheries Area**

Property Managers: **Portage County-Tom Meronek**
Waupaca County-Jake Fries

Counties: **Portage & Waupaca**

Property Acreage: **1,755 Acres in Portage County**
727 Acres in Waupaca County

Forestry Property Code: **5011 - compartments 211, 212, 213, 214 Little Wolf River Fisheries Area**
6912 - compartments 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, & 17 Little Wolf RIver Fisheries Area

Master Plan Date: **1985**

Part 1: Property Assessment

General Property Description

The Little Wolf River Fishery Area is located in the Forest Transition Ecological Landscape of northeastern Portage and northwestern Waupaca Counties. The Little Wolf River Fishery Area includes parcels of state lands on the Little Wolf River and Bradley, Jackson, Comet, Spaulding and Flume creeks, and some of their associated tributaries. The Little Wolf River Fishery Area is managed to preserve and enhance these streams, the fishery in them, the wildlife habitat on the surrounding uplands, and the natural scenic beauty of the area.

The entire watershed contains numerous Exceptional Resource Waters (ERW) and Outstanding Resource Waters (ORW).

Partners:

The Friends of the Little Wolf Headwaters [exit DNR]
N5967 Murray Rd
Ogdensburg WI 54962
920-244-7456

Landscape and Regional Context:

Forest Transition Ecological Landscape:

The Forest Transition Landscape was entirely glaciated. This Ecological Landscape extends east-west across much of Wisconsin and the climate is quite variable. Two major river systems drain this Ecological Landscape, the Wolf and Wisconsin Rivers.

The Ecological Landscape is dominated by forest and agricultural uses (with most of the historically abundant mesic forest cleared) and a mixture of various lakes.

The entire Forest Transition Ecological Landscape stretches east to west across most of Wisconsin, north of the Tension Zone and is quite heterogeneous. This Ecological Landscape has lost over half of its historic forests (though this is highly variable in different areas), and overall, is one of the most deforested landscapes north of the Tension Zone. Areas to the east remain heavily forested, the central areas are open and intensively farmed, and the western end is a mosaic of agricultural land, forest, and recreational lands.

Important concerns and considerations for this Ecological Landscape include the fragmentation and isolation of major habitats, groundwater withdrawals, ground and surface water contamination and the introduction and spread of invasive species.

History of Land Use:

Prior to State of Wisconsin ownership, the land use history includes hunting, fishing, grazing, and marginal timber management. These scattered properties have been donated or purchased to protect the streams, manage timber for wildlife as well as to provide public fishing, hunting, and other approved recreational opportunities. Current land use includes fishing, hunting, trapping, cross country skiing, hiking, and wildlife viewing in addition to active forest management via timber harvests

Site Specifics

- **Property Context/Opportunity:**
  This property consists of approximately 21 isolated parcels totaling 2,482 acres of which over a quarter, or ~650 acres, is 95 years old or older. This represents an opportunity to begin to develop old growth forest through both passive and active forest management. Many parcels lie within a mostly forested context which contributes more ecological function to these embedded older forest blocks. These areas can provide habitat that is especially beneficial to species that utilize large trees, large cavity trees, large snags, and large downed coarse woody debris which is limited on a statewide basis. Additionally some parcels lie within a more fragmented context providing opportunity to develop younger forest for both game and non-game species. Two State Ice Age Trail Areas (SIATA) are adjacent to or are embedded within the fishery area (northern SIATA: http://dnr.wi.gov/files/PDF/pubs/pr/PR2580.pdf; southern SIATA: http://dnr.wi.gov/files/PDF/pubs/pr/PR2585.pdf).

- **State Natural Areas:** Four State Natural Areas have been designated within the Little Wolf River Fishery Area. See below under “High Conservation Value Forests” for details.

- **High Value Conservation Forests (HCVF):** The property contains 4 State Natural Areas considered to be High Conservation Value Forests. The Upper Little Wolf State Natural Area is located in section 2 of the Town of Alban in Portage County. It covers 33 acres and was designated a natural area in 2008. It features the upper part of the Little Wolf River, a clear, hard water trout stream flowing through a northern mesic hardwood forest. The Bradley Creek Swamp Conifer State Natural Area covers 21 acres in section 13 of the Town of Alban in Portage County. It was designated in 2008 as a state natural area and highlights Bradley Creek a clear, hard water trout stream flowing through a stand of balsam fir, white pine and hemlock with a diverse understory. The Flume Creek Cedars State Natural Area is found in section 36 of the Town of Alban and was established as a natural area in 2008. It covers 138 acres of dense white cedar and balsam fir swamp. Flume Creek, a clear trout stream flows through the area. The Jackson Creek Woods State Natural Area is located in section 4 of the Town of Harrison in Waupaca County. It covers 120 acres and was designated a natural area in 2008. It features the upper part of the Jackson Creek, a clear, hard water trout stream flowing through a northern mesic hardwood forest. Additionally, this property contains a number of stands over 100 years old or very close to this age. Depending on the stand size, context, and composition, some of these could be considered HCVF due to the small percentage of forest statewide that is this old.

- **Wildlife Action Plan/Species of Greatest Conservation Need:** The Wildlife Action Plan identifies Northern Mesic Forest (aka "Northern Hardwoods") as a High Priority natural community for this Ecological Landscape. Additionally, it lists Coldwater stream, Alder thicket, and other associated steam side natural communities. Species of Greatest Conservation Need associated with these natural communities within the Little Wolf River Fishery Area are Redside Dace, Four-toed Salamander, Pickerel Frog, Wood Turtle, Eastern Red Bat, Hoary Bat, Northern Long-eared Bat, Water Shrew, Lancet Clubtail and Pygmy Snaketail, Armored Mayflies, Small Square-gilled Mayfly, Flat-headed Mayflies, Primitive Minnow Mayflies, Dubirhapia Riffle Beetles, Riffle Beetles, and Water Measurers. Of all these species only one has been identified within the Little Wolf River Fishery Area.

- **Conservation Opportunity Area:** The Little Wolf River is identified in the Wildlife Action Plan's Implementation document for the Forest Transition Ecological Landscape as a Conservation Opportunity Area (COA) of Upper Midwest/Regional Significance for Coldwater/Coolwater streams including stream side communities and Alder Thicket. These waters contain significant populations of fish and rare invertebrates such as mussels and dragonflies.

- **Biotic Inventory Status:** A Rapid Ecological Assessment focusing on rare plants, rare animals, and high quality natural communities has not been completed for this state property.

- **Deferral/Consultation Area Designations:** Because there has been no Rapid Ecological Assessment completed for this property focusing on rare plants, rare animals, and high quality natural communities, there are no subsequent formal (MC 1750.15) deferral or consultation sites on either property. However, cursory work has identified an area now designated as the Upper Little Wolf River State Natural Area which constitutes an informal "consultation" site as an interdisciplinary team from fisheries, forestry, wildlife and endangered resources shall be consulted before any on ground management occurs.

- **Rare species:** There is one state threatened species known to occur in the general vicinity of the properties. Natural Heritage Inventory screening is conducted before any land management activities are undertaken.

- **Invasive Species:** There are several high-priority species found in isolated pockets.

- **Soils:** Mainly well drained soils ranging from loamy sand to sandy loam on the upland stands. Lowland area soils range from poorly drained to somewhat poorly drained that are mainly muck soils.

Cultural and Recreational Considerations

- **Cultural and archeological sites:** There is one archeological site that has been identified by the Wisconsin Historical Society on these properties. Prior to any management activity consultation shall occur between property management and/or forestry staff and the Department Archaeologist.

- **Recreational Opportunities**

- Hunting - white tailed deer, bear, ruffed grouse, woodcock, turkey, waterfowl, squirrel, rabbit, fox, coyote
- Trapping
- Hiking
- Cross Country Skiing
- Wildlife Viewing
- Fishing
- Bird Watching
- Pets
- Berry Picking
- Canoeing

Two segments of the local snowmobile trail runs through the Little Wolf Properties. The first on the property is along County Highway "I" and the second on the corner of County "A" and Flume Road.

Segments of the Ice Age Trail may be developed on the SIATA which would create new opportunities for the backpacking and dispersed camping.

Forest Specifics – 5011 - compartments 211, 212, 213, 214 (Portage County)
6912 – compartments 5-13 &15-17 (Waupaca County)

- **Current Forest Types:** Current forest types for these scattered properties include aspen, cedar, hemlock, northern hardwoods, oak, red maple, red pine, spruce, swamp hardwoods, tamarack, white birch and white pine. The timbered areas range in age from year of origin of 1871 – 2013 and in size class from saplings through large sawtimber.

Part 2: IFMP Components

PROPERTY MANAGEMENT OBJECTIVES:

The Little Wolf River Fishery Area is managed to preserve and enhance these streams, the fishery in them, the wildlife habitat on the surrounding uplands, and the natural scenic beauty of the area. Forest management objectives include maintaining existing forest types and developing

a diversity of age classes including both young and old forest areas for both game and non-game species dependent on these types. This will largely be accomplished through sustainable silvicultural systems that will increase the diversity and structural complexity of wildlife habitat while at the same time avoiding disturbance to seepage and riparian areas along the stream corridors.

Management decisions regarding old forest or young forest development should largely be based on existing age, stand/compartment context, tree species composition, and State Natural Area designation. Older stands adjacent to State Natural Areas or embedded in larger forest blocks should have old forest development as an overall goal. Stands adjacent to open areas and species that have good regeneration potential (such as aspen, red maple and oak) should have young forest development as an overall goal. Additionally, stands on wet sites and/or contain species that are more difficult to consistently regenerate (hemlock, white cedar) should have an older forest goal.

SIATA Property Management Objectives:
Ice Age Trail Areas (NR 1.29) permanently protect lands to provide for segments of the Ice Age Trail; preserve Wisconsin's glacial landscape features and other natural and cultural resources associated with the trail route; and, where possible, offer a primitive atmosphere of relative solitude and perceived remoteness where visitors may experience a quiet connection with nature.

Vegetation Management Objectives:
Native community types existing at the time of acquisition shall be retained or enhanced.

1) Vegetative management shall focus on enhancing the scenic and natural values along the Ice Age Trail. Cropped lands may be planted with a permanent grass cover. Tree plantations may be thinned to create a more natural appearing condition.
2) Invasive species may be removed or controlled.
3) Any proposed forest management requires consultation with the managing bureau of the property to ensure that scenic values along the Ice Age Trail are being preserved or enhanced.

Due to the funding source used to acquire the northern SIATA, there is a federal deed restriction that may affect decisions on resource management. See management prescriptions below under "The Upper Little Wolf SNA' for specific management. The Upper Little Wolf State Natural Area (33 acres) Manage the site as an old-growth northern mesic forest reserve and an ecological reference area. Natural processes will determine the structure of the forest. Provide opportunities for research and education on the highest quality old-growth northern mesic forests.

Bradley Creek Swamp Conifers State Natural Area (21 acres) Manage the site as a northern wet-mesic reserve, an aquatic reserve and wetland protection site, and as an ecological reference area. Natural processes will determine the structure of the forest. Provide opportunities for research and education on the highest quality native northern wet-mesic forests.

Flume Creek Cedars State Natural Area (138 acres) Manage the site as a northern wet-mesic forest reserve, an aquatic preserve and wetland protection site, and as an ecological reference area. Natural processes will determine the structure of the forest. Provide opportunities for research and education on the highest quality native northern wet-mesic forests.

The Jackson Creek Woods State Natural Area (120 acres) Manage the site as an old-growth northern mesic forest reserve and an ecological reference area. Natural processes will determine the structure of the forest. Provide opportunities for research and education on the highest quality old-growth northern mesic forests.

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):

Northern hardwoods – The majority of these stands should be managed for extended rotation. This is a sustainable uneven-aged silvicultural system to maintain vigorous growth, manipulate composition and structure, and produce high quality timber. Standard silvicultural systems will be adapted to grow relatively larger and older trees, develop and maintain reserve trees, develop and maintain large standing and downed coarse woody debris, and encourage compositional and structural diversity.

They will be managed with the long term goal of the development of old-growth attributes. Harvesting will be applied to enhance and accelerate old-growth compositional, functional, and structural attributes. Traditional single-tree selection stocking guides will not be applied regularly to the management of these stands since these guidelines typically have an upper end maximum diameter limit and are usually entered every 10-15 years. Timber sales that occur will have closer to a 20 year re-entry period and a concerted effort will be in place to develop larger diameter trees sooner.

Canopy gaps will be created during each harvest to regenerate these stands back into northern hardwoods, while trying to encourage more mid tolerant species. These hardwood stands are dominant to sugar maple, consequently larger gaps will be needed in order to regenerate species other than sugar maple. Promoting mid tolerant species will increase the resilience of the northern hardwood type to future climate change impacts.

Specific guidance can be found in the WDNR Old-growth and Old Forests Handbook
http://intranet.dnr.state.wi.us/int/mb/handbooks/24805/

Hemlock – Hemlock will be passively managed with the goal of protecting the watershed and allowing it to develop into old forest and eventually old growth forest. As cavity trees, snags, and large downed coarse woody debris are an important habitat component, some mortality is desired. This older forest will provide unique habitat, including compositional, structural, and functional attributes limited on the surrounding landscape. Exceptions pertain to portions of stands on more upland sites that offer potential for some regeneration. In these cases the type will be managed on an all aged basis to promote a variety of age classes within each of the stands. This management will promote the more shade tolerant species in each of the respective forest cover types.

Red and White pine, including SIATA –Natural stands will be thinned to promote large diameter trees for both wildlife and aesthetics. Small groups or individuals will be retained as legacy trees or to develop into legacy trees and provide structural and compositional variability within stands dominated by other species. Thin pine plantations using the standard silvicultural order of removal to attain a more natural appearing forest of old pines and to promote development of old-growth characteristics. Rotation age range can vary from 65 – 120 years for red pine and 80 – 180 years for white pine depending on soil type. Most red pine stands will naturally convert to oak or white pine through continuous silvicultural thinning. Eventually the pine will be a component of the newly established stand and may serve as big tree silviculture and provide old growth attributes. With this in mind, the pine stand may never be completely rotated.

White Cedar –White cedar is the oldest type on the property with approximately 50 acres that are 140 years old. Because of regeneration uncertainty, potential adverse natural community and water quality impacts, and its ability to grow old, the majority of this type will be passively

managed to develop into old forest and eventually old growth forests. As cavity trees, snags, and down coarse woody debris are an important habitat component, some mortality is desired. This older forest will provide unique habitat, including compositional, structural, and functional attributes limited on the surrounding landscape. Passively managed stands should be larger stands on wetter sites, in the context of a larger block of forest. Stands identified for management will be carefully evaluated for regeneration potential and water quality impacts before stands are manipulated. Rotation age is generally 80 – 120+ years depending on site conditions. Strip clear-cuts are successful at regenerating the cedar type in this area of the state and would be the preferred method.

Spruce/Fir/Tamarack – Passively manage the few acres of this type on the property.

Swamp hardwood – Consider passively managing the oldest stands (>100 years old) to begin to develop old forests and to protect water quality. As cavity trees, snags, and large downed coarse woody debris are an important habitat component, some mortality is desired. This older forest will provide unique habitat, including compositional, structural, and functional attributes limited on the surrounding landscape. In stands selected for management, use normal silvicultural methods with an emphasis on promoting red maple and white pine regeneration in anticipation of the arrival of the Emerald Ash Borer. A salvage sale may be applied if EAB (Emerald Ash Borer) is found in the immediate area. Stands identified for management will be carefully evaluated for regeneration potential and water quality impacts before stands are manipulated.

Oak – The oak cover type will be managed to regenerate to oak or to slowly convert to more shade tolerant hardwoods or white pine depending each sites specific conditions. Old stands that are largely in a forested context on richer sites (red maple/northern hardwood secondary type),including on the southern SIATA, should be lightly thinned from below to retain the largest/healthiest trees into the future as long as possible. As cavity trees, snags, and large downed coarse woody debris are an important habitat component, some mortality is desired. This older forest will provide unique habitat, including compositional, structural, and functional attributes limited on the surrounding landscape. Larger gaps can be created to capture/release advanced oak regeneration or other favorable species such as white pine. On drier sites, sites adjacent to fields or close to other open areas, or sites that have limited shade tolerant species competition in the understory, manage with a goal of regenerating the type.

Rotation ages vary from 45 – 90 years depending on if it is a scrub oak, black oak, pin oak or red oak site. Oak will generally be managed using even-aged silvicultural systems to promote opportunities for early-successional wildlife species and to maintain the oak type on the landscape.

Red maple - The red maple stands will be managed as even aged using an array of silviculturaly accepted practices to promote the red maple type and possibly promote a variety of age classes within the stands. Rotation age is generally 40 – 90 years depending on the soil type.

Aspen – Maintain aspen cover type by regenerating the stand using a simple coppice system. Rotation age is generally 40 - 45 years. Achieve age-class diversity by flexing rotation age within the compartment as well as across the landscape. Aspen will generally be managed using even-aged silvicultural systems to promote opportunities for early-successional wildlife species and to maintain the aspen type on the landscape.

Grasslands/Agricultural – Consider afforestation of some of these sites to provide greater forest connectivity.

All stands

- Utilize BMP's for Water Quality to protect streams and wetlands when conducting timber sales.
- Identify invasive plant species and implement control practices such as prescribed fire, hand pulling, chemical and mechanical control to eliminate or reduce negative impacts.
- Utilize BMP's for Invasive Species to help limit the introduction and spread of invasive species when conducting timber sales
- Retain reserve/legacy trees as groups or individuals throughout the property within harvested stands
- Identify rare plant and animal species and protect/provide habitat for a variety of game and non-game wildlife species, including aquatic species.
- Endangered Resources Species Guidance documents (those that are complete) will be consulted (http://dnr.wi.gov/topic/EndangeredResources/guidance.asp) and the management guidance and avoidance sections will be used to determine how and if timber management can occur.

State Natural Areas

The Upper Little Wolf State Natural Area (33 acres)

Native species are managed passively, allowing nature to determine the ecological characteristics. Exceptions include: patchy thinning in the mesic forest to enhance stand diversity, control of invasive plants and animals, and maintenance of existing facilities. Salvage of trees after a major wind event is not considered compatible with management objectives. Composition and old-growth characteristics of the upland forest, as well as the need for management to enhance the old-growth forest, are determined by an interdisciplinary team of foresters, silviculturists, wildlife managers and natural area ecologists. These management prescriptions should be followed for the northern SIATA.

- Topographic map [PDF]

Bradley Creek Swamp Conifers State Natural Area (21 acres)

The native species are managed passively, which allows nature to determine the ecological characteristics of the site. Exceptions include control of invasive plants and animals, maintenance of existing facilities, and access to suppress fires. Salvage of trees after a major wind event is not considered compatible with management objectives.

- Topographic map [PDF]

Flume Creek Cedars State Natural Area (138 acres)

The native species are managed passively, which allows nature to determine the ecological characteristics of the site. Exceptions include control of invasive plants and

animals, maintenance of existing facilities, and access to suppress fires. Salvage of trees after a major wind event is not considered compatible with management objectives.

- Topographic map [PDF]

The Jackson Creek Woods State Natural Area (120 acres)

Native species are managed passively, allowing nature to determine the ecological characteristics. Exceptions include: control of invasive plants and animals, and maintenance of existing facilities and access to suppress fires. Salvage of trees after a major wind event is not considered compatible with management objectives.

- Topographic map [PDF]

Approvals:

Armund O Bartz 6/5/14
Regional Ecologist West Central Region Date

Armund O Bartz 6/5/14
Regional Ecologist Northeast Region Date

Lyle T Erickson 6/5/14
Forester Portage County Date

Michael A Schmidt 6/30/14
Forester Waupaca County Date

Interim Forest Management Plan

Forester Waupaca County — Date

6-5-14

Property Manager for Little Wolf Properties of Portage County — Date

06.30.2014

Property Manager for Little Wolf Properties of Waupaca County — Date

6-5-14

Area/Team Supervisor Portage County — Date

June 30 2014

Area/Team Supervisor Waupaca County — Date