



Interim Forest Management Plan

Ten Mile Creek Streambank Protection Area 2013

Property Identifiers

Property Name, Designation, and Type:	Ten Mile Creek Streambank Protection Area Streambank Protection Fee Area-Wood County
DNR Property Code(s):	Ten Mile Creek Streambank Protection Area: 5803 Streambank Protection Fee Area-Wood County: N/A
Forestry Property Code(s):	Ten Mile Creek Streambank Protection Area: 7204 Streambank Protection Fee Area-Wood County: 7205
Property Location - County:	Wood County
Property Acreage:	Ten Mile Creek Streambank Protection Area: 320 acres Streambank Protection Fee Area-Wood County: 151 acres
Master Plan Date:	N/A
Property Manager:	Dale Kufalk & Jennifer Bergman

Property Assessment

- A. Ecological Landscape description and property context
The property is located in the Central Sand Plains Ecological Landscape.

Bedrock: Late Cambrian sandstone that contains strata of dolomite and shale. Most exposures are of Cambrian sandstones. Precambrian igneous (granite) and metamorphic (gneiss) rocks lie beneath the sandstone.

Geology & Landforms: An extensive, nearly level expanse of lacustrine and outwash sand that originated from a huge glacial lake characterizes much of the Central Sand Plains. Sand was deposited in Glacial Lake Wisconsin by outwash derived from melting glaciers to the north. Exposures of eroded sandstone bedrock remnants as buttes, mounds and pinnacles are unique to this Ecological Landscape.

Soils: Most soils formed from deep sand deposits of glacial lacustrine or outwash origin or in materials eroded from sandstone hillslopes and sometimes with a surface of wind-deposited (aeolian) sand. These soils are excessively drained, with very rapid



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permeability, very low available water capacity, and low nutrient status. In lower-lying terrain where silty lacustrine material impedes drainage, the water table is very close to the surface. Such areas are extensive in the western part of the Ecological Landscape, where soils may be poorly drained with surfaces of peat, muck or mucky peat. Thickness of peat deposits ranges from a few inches to more than 15 feet.

Hydrology: Large areas of wetlands and a number of generally low-gradient streams that range from small coldwater streams to large warmwater rivers. Major rivers include the Wisconsin, Black, East Fork of the Black, Yellow, and Lemonweir. A number of headwaters streams originate in the extensive peatlands west of the Wisconsin River. Natural lakes are rare, and are limited to riverine floodplains and a few scattered ponds within the bed of extinct Glacial Lake Wisconsin. The hydrology of this Ecological Landscape has been greatly disrupted by past drainage, channelization, impoundment construction, and groundwater withdrawal.

Current Landcover: The eastern portion of the Central Sand Plains is a mosaic of cropland, managed grasslands and scattered woodlots of pine, oak, and aspen. Many of the historic wetlands in the east were drained early in the 1900s and are now used for agricultural purposes. The western portion of this Ecological Landscape is mostly forest or wetland. Oak, pine, and aspen are the most abundant forest cover types. Plantations of red pine are common in some areas. On wet sites the forests are of two major types: tamarack and black spruce in the peatlands, and bottomland hardwoods in the floodplains of the larger rivers. Many attempts to practice agriculture west of the Wisconsin River failed due to poor soils, poor drainage, and growing season frosts..

- B. General property description – management, adjacent land uses, topography, soils, etc. The property is fragmented and exists as 9 small blocks of state ownership over approximately 8.5 miles of Ten Mile Creek (see Green polygons on Map) in the Ten Mile Creek Streambank Protection Area. In addition, there are four easements to access state ownership for the property (see Yellow lines on Map). The Ten Mile Creek Streambank Protection Area was established and approved by the Governor in 1994. The purpose of establishing the Streambank Protection Area was to protect Ten Mile Creek and the fishery from erosion, overdevelopment, livestock, chemical runoff, and other detrimental activities. Ten Mile Creek supports a Class II trout fishery from Bell Road downstream to the confluence with the Wisconsin River, and a Class III trout fishery upstream of Bell Road. Class II means that natural reproduction occurs, but may not be sufficient to support the fishery. Class III means that no natural reproduction has been found. The fisheries manager submits an annual stocking quota for brown trout to the State hatcheries. The property is managed for fishing opportunities by stocking, beaver control, beaver dam removal, maintaining public parking areas, and posting. The surrounding land use is agricultural crops, pasture, forestry, and residential development.

The topography is primarily flat with areas of steep slopes along Ten Mile Creek.

The 3 primary soil types that exist on the Ten Mile property are:

- Alluvial land (soil symbol: Ab) 165 acres, or 35% of property
- Plainfield sand, 0-2% slopes (soil symbol: PfA) 99 acres, or 21% of property
- Plainfield sand, 12-35% slopes (soil symbol: PfE) 52 acres or 11% of property.

The remainder of the property contains several other soil types that are sand to loamy sand in texture with 0 to 12% slopes.

Current forest types, size classes and successional stages

The property consists of 471 acres, of which 135 (29%) is non-forest and 336 (71%) is forest.

Type classification for the 135 non-forest acres are:

Grass.....7 acres
Lowland Brush.....37 acres



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Alder.....83 acres
Stream.....8 acres

Timber types for the 336 even-aged forest acres are:

Aspen.....38 acres
Central Hardwoods....18 acres
Scrub Oak.....103 acres
Jack Pine.....33 acres
Red Pine.....74 acres
White Pine.....24 acres
Swamp Hardwoods....39 acres
White Spruce.....7 acres

Over all timber types, age class by acreage is distributed across the 10-19 year class up to the 90-99 year age class, with the majority of acres in the 50-59 year age class. The Aspen type (38 acres) is mature to overmature with age range of 50 to 60 years. Some of this acreage was damaged by the 2011 tornado. The Central Hardwoods type (18 acres) is mature to overmature; 16 acres are nearly 100 years old, and 2 acres are approximately 50 years old. The Scrub Oak type (103 acres) is the most common timber type and makes up 31% of the forest acres. The age distribution of the Scrub Oak type ranges from 55 years to 90 years with over 80% of the acreage over the 80 year age class. The Jack Pine type (33 acres) makes up 10% of the forest acres. The age distribution of the Jack Pine type ranges from 30 years to 70 years with the majority in the 50-60 year age classes. The Red Pine type (74 acres) is all of plantation origin with an age distribution of 10 to 50 years with the majority in the 20-30 year age classes. The White Pine type (24 acres) has an age distribution of 50 to 60 years. Two acres of White Pine are of plantation origin and the remainder is natural seed origin. The Swamp Hardwoods type (39 acres) occur in lowland areas along the Ten Mile Creek with age range of 35 to 50 years. All Swamp Hardwoods acreage has been omitted from the timber harvest schedule due to the proximity to the Ten Mile Creek. The White Spruce type (7 acres) is mature and in the 60 year age class. All White Spruce type acres are of plantation origin.,

The primary forest management objectives for the forest timber types on the Ten Mile property are listed below.

Aspen: Aspen Forests consist predominately of trembling aspen (also known as quaking aspen and white popple) and bigtooth aspen (also known as yellow popple). Aspen forests in the northern parts of the state sometimes contain balsam poplar. Red maple, paper birch, balsam fir, red oak, white pine and other native trees commonly grow with Aspen. Aspen is a relatively shortlived tree that usually regenerates all at once following a major disturbance such as wind, fire or cutting. Aspen requires full sunlight and does not grow well in the shade of taller trees. Aspen grows best on well-drained loamy soils but can do well within a wide range of soil conditions. Clearcutting (coppice) is the best method to regenerate aspen. The target rotation age for aspen on the Ten Mile property is 45 years.

Central Hardwoods: Central Hardwood Forests consist of mixtures of upland hardwood species, predominantly oaks, hickory, elms, black cherry, red maple, ash, basswood, hackberry, or sugar maple. Depending upon site conditions and history, the relative abundance of these tree species can vary greatly, but oak or maple do not dominate these stands. Many central hardwood forests are in the process of succession from oak forests. Central hardwoods grow best on well-drained loamy soils, but exist on well drained sandy loam soil on the Ten Mile property. The objective for Central Hardwoods is even-aged management on a 70 year rotation.

Scrub Oak: Scrub Oak Forests consist of over 50% black oak, pin oak, white oak, or bur oak. Trees with low quality timber and slow growth rates characterize scrub oak forests, which are located on nutrient poor sites such as ridge tops and sandy soils. Trees commonly growing with these oaks may include aspen, red maple, white birch, hickory, black cherry, white pine or jack



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pine. All oaks require significant disturbance of the forest, both overstory and understory, in order to regenerate. Scrub oak forests tend to regenerate the easiest of all oak forests since there is less competition from other trees on the nutrient poor sites. Fire is one tool that facilitates the regeneration and maintenance of oak forests. To regenerate oak, foresters commonly mimic the effects of fire using mechanical tools or chemical application. Regeneration of scrub oak on the Ten Mile property can be accomplished by clearcutting at the target rotation age of 55 years. Oak wilt, a fungal disease, is prevalent on the Ten Mile property and must be considered during forest management activities.

Jack Pine: Jack Pine Forests are composed of more than 50% jack pine. Red pine, white pine, oak, aspen and other native trees commonly grow with jack pine. Jack pine needs full sunlight and regenerates after forest fires. Jack pine is declining in abundance in Wisconsin due to fire control efforts. It is a hardy species and is most common on dry sandy soils, but grows best on well-drained loamy sands. Jack pine is managed through even-aged silviculture such as clearcutting and over-story removal harvests. The target rotation age for the Jack Pine type on the Ten Mile property is 45 years.

Red Pine: Red Pine Forests are composed of more than 50% red pine. White and jack pine, aspen, oak and other native trees commonly grow with red pine. Red pine has been a common tree in plantations. Red pine grows best in well-drained loamy sands and sandy loams within its range in northern and central Wisconsin. It can grow well on a wide range of other soil conditions if introduced by planting. All of the Red Pine acreage on the Ten Mile property is of plantation origin. The objective of the Red Pine type on the Ten Mile property is to conduct improvement thinnings at ages 25, 35, and 45, with a final harvest for regeneration at age 55. Red Pine in central Wisconsin faces several insect and disease issues which must be evaluated and considered during management.

White Pine: White Pine Forests consist of more than 50% white pine. Red and jack pine, aspen, paper birch, red maple, oak, balsam fir, white spruce, eastern hemlock and other native trees commonly grow with white pine. White pine is a long-lived tree species that was common in Wisconsin's historic forests. Heavy logging during the cutover made white pine scarce for a time. As trees are becoming old enough to be good seed producers, its numbers are increasing. White pine grows in almost all soil conditions in Wisconsin but does best on loamy sands, sandy loams, and loam soils. The White Pine type on the Ten Mile property has both natural and plantation origin stands. The objective for White Pine on the Ten Mile property is to encourage maintenance and expansion of this type through improvement thinnings and regeneration harvests at age 90.

Swamp Hardwoods: Swamp Hardwood Forests consist of any combination of more than 50% black ash, green ash, red maple, silver maple, swamp white oak, or American elm. This type occurs on wetlands characterized by a fluctuating water table near or above the soil surface with a subsurface water flow. Aspen, white cedar, balsam fir, white pine, white birch and other native trees commonly grow with swamp hardwoods. Swamp hardwoods typically grow on very wet soils in closed water basins that do not have a stream or river running through them and that experience significant water table fluctuation. Though capable of growing in semi-stagnant conditions, they grow best if the water is moving and aerated. Swamp hardwoods are subject to wind throw due to high water table. When selecting a cutting method, consider its effect on the water table. On some sites, the growth of swamp hardwoods can be slow, making these swamp hardwood stands non-productive. Forest management for all Swamp Hardwood acreage on the Ten Mile property is passive management.

White Spruce: White Spruce Forest. White Spruce Forests consist of more than 50% white spruce. Aspen, white birch, balsam fir and other native trees commonly grow with white spruce. White spruce is native only to northern Wisconsin, but has been widely planted in plantations in



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southern Wisconsin where nearby tree species often invade it over time. White spruce grows in a wide range of soil conditions, but does not do well on extremely dry or wet soils.

A.

B. NHI: Endangered, threatened, Special Concern species, Species of Greatest Conservation Need (SGCN)

There is one federally endangered species, one state endangered species, one state threatened species and several state special concern species identified within the general vicinity of the property. Negative impacts to these species will be avoided by following DNR's Species Guidance Documents:

<http://dnr.wi.gov/topic/EndangeredResources/guidance.asp>. In cases where species guidance documents haven't yet been developed, avoidance to rare species will occur via practices such as time of year restrictions, modified harvest boundaries, and/or consultation with rare species experts.

C. Wildlife Action Plan Conservation Opportunity Areas (COA)

The property does not fall within a Conservation Opportunity Area as identified within the state's Wildlife Action Plan (WAP). However, there are a number of High Priority Species of Greatest Conservation Need (SGCN), and natural communities identified within the plan for the Central Sand Plains Ecological Landscape that merit consideration for management on the property.

http://dnr.wi.gov/topic/WildlifeHabitat/documents/PriorityRpt_EL7.pdf These species include: American woodcock, Golden-winged warbler, Whip-poor-will, western slender glass lizard, dusted skipper butterfly, karner blue butterfly, Persius duskywing butterfly, Olympia marble butterfly (young forest/early successional species), and the Red-shouldered hawk (old forest/late successional species). The natural communities include: central sands pine-oak forest, northern sedge meadow, floodplain forest, and oak/pine barrens. Additionally, there are a number of Priority Conservation Actions identified within the WAP that could be implemented on the property. These include:

Maintain lowland shrub communities like alder thicket and shrub-carr, and manage the surrounding working forest to benefit Golden-winged Warblers by leaving scattered off-site aspen, ash and tamarack in shrub-dominated areas and managing the adjacent upland forest in a shifting mosaic of patch sizes and age classes to provide continuous habitat.

Manage oaks as a large-scale mosaic of patches along a successional gradient that includes oak forest, oak woodland, oak opening, and open wetland.

Maintain or restore mixed pine-oak forests to represent the full natural range of variability in patch sizes and age classes.

Identify and restore oak/conifer barrens and shrub-dominated habitats through the application of prescribed fire and timber management.

D.

E. Significant cultural or archeological features

The Ten Mile property has known historical and archaeological sites. Contact with the State Historical Society is required prior to any activities near known sites.

F. Invasive species

The invasive species known to exist on the property include spotted knapweed and



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honeysuckle. Wisconsin's BMP's for Invasive Species are mandatory on state owned land and will be followed prior to conducting any forest management activities.

- G. Existing State Natural Areas (SNA) designations/natural community types limited in the landscape
- H. Primary public uses (recreation)

Ten Mile Creek is a Class II and III trout stream and provides a brown trout fishery to the public. Brook trout have been found during monitoring surveys, but brown trout are the dominant species. Public Access to the Ten Mile Creek is available at many locations. Easements for public access exist where state ownership doesn't border roads. The state land is available to the public for hunting. Ducks, Ruffed Grouse, American Woodcock, squirrel and deer are hunted. Canoeing and kayaking may become popular in the future. Stream habitat improvement funded by the trout stamp program will be planned for the future. Ten Mile Creek provides trout fishing, canoeing, and hunting opportunities. In the future, trout stream habitat improvement work may be implemented on state lands.
- I. Biotic Inventory Status
[Not completed as of September 2013](#)
- J. Deferral/consultation area designations
[No proposed sites as of September 2013](#)

IFMP components

Management Objectives: (Outline primary forest management objectives):

[These parcels are managed primarily to restore habitat conditions within the stream corridor, protect water quality, and to provide quality wildlife habitat. Forest management objectives include maintaining existing forest types and developing a diversity of age classes with emphasis on young but including 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 avoid disturbance to riparian areas along the stream corridor.](#)

Forest Management Objectives:

1. [Maintain oak cover types where feasible.](#)
 - a. [Diversify age classes with emphasis on developing younger stands](#)
 - b. [Regenerate oak stands where feasible and promote oak in young mixed hardwood stands.](#)
 - c. [Promote/retain larger diameter trees where feasible.](#)
2. [Maintain central hardwoods](#)



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- a. Diversify age classes
 - b. Promote mast producing trees such as oak
3. Maintain conifer cover types
 - a. Promote older, large diameter white and red pine
 - b. Encourage expansion of white pine
4. Maintain aspen with emphasis on developing younger stands
5. Swamp hardwoods
 - a. Monitor ash resource for emerald ash borer
 - b. Develop old forest/old-growth forest with associated attributes such as large diameter trees, large snags, and large course woody debris
6. All Stands
 - a. Promote snags and course woody debris.
 - b. Protect hydrology
 - c. Protect rare species

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):

Scrub Oak – Regenerate and promote this type primarily through clearcutting (even-aged management) with a target rotation age of 55 years. Other methods such as shelterwood, seed tree, or others may also be used as described in the DNR Silviculture and Forest Aesthetic Handbook. Retain groups or individuals as reserve/legacy trees, green tree retention within harvested stands to maintain a component of large mast trees and to develop snags and course woody debris.

Central Hardwoods - Regenerate and promote this type primarily through clearcutting (even-aged management) with a target rotation age of 70 years. Other methods may also be used as described in the DNR Silviculture and Forest Aesthetic Handbook. Retain groups or individuals with emphasis on mast bearing species as reserve/legacy trees, green tree retention within harvested stands to maintain a component of large mast trees and develop snags and course woody debris. Consider extended even aged rotation age constraints to 120 years for stand 8, compartment 1 (nearly 100 years old), managed old forest, extended rotation old forest (both uneven aged) or passively manage.

Swamp Hardwoods – Passively manage.

Aspen - Regenerate and promote this type primarily through clearcutting (even-aged management) with a target rotation age of 45 years.

Jack Pine – Regenerate and promote this type primarily through clearcutting (even-aged management) with a target rotation age of 45 years. Consider planting trees or seed if natural regeneration is poor.



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Red Pine – Conduct improvement thinnings at ages 25, 35, and 45 with a final harvest at 55. Consider retaining some larger trees at final harvest for compositional/structural complexity and aesthetics.

White Pine - Conduct improvement thinnings approximately every 10-15 years to develop large diameter trees. Consider retaining some larger trees at final harvest for compositional/structural complexity and aesthetics.

White Spruce - Conduct improvement thinnings and harvest all trees when appropriate.

True Grasses – These sites (example: Compartment 1, stand 10-7205) may contain remnant prairie/barrens vegetation with associated rare species. Passively manage except allow mowing, prescribed fire, and invasive species control. These sites may be used for log landings however negative rare species impacts must first be addressed

All stands –

- Utilize BMP's for Water Quality to protect streams and wetlands when conducting timber sales.
- Utilize BMP's for Invasive Species to help limit the introduction and spread of invasive species when conducting timber sales
- Retain reserve/legacy/green tree retention trees as groups or individuals throughout the property within harvested stands
- Follow DNR's Species Guidance Documents: <http://dnr.wi.gov/topic/EndangeredResources/guidance.asp>. to protect rare species. In cases where species guidance documents haven't yet been developed, avoidance to rare species will occur via practices such as time of year restrictions, modified harvest boundaries, and/or consultation with rare species experts.

Summary of Public Involvement and Comments Received

Maps (Optional)

- a. Property Boundary and ownership Maps
- b. Forest Cover Type Maps

PREPARED BY:



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Property Manager

Date

APPROVED:

Area Program Supervisor

Date

REVIEWED BY:

Forester

Date

District Ecologist

Date



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Ten Mile Creek Streambank Protection
Scale: 1:75000

