



Lake Pepin Wildlife Area Interim Forest Management Plan

Property Identifiers

Property Name and Designation: Lake Pepin Wildlife Area

County: PEPIN

Property Acreage: 198.64

Forestry Property Code(s): 4702

Master Plan Date: 1986

Property Assessment

Lake Pepin Wildlife Area was originally purchased in 1969-1970 for the purpose of developing a State Park along Lake Pepin. The state park was never developed and eventually reverted to state wildlife area. The primary objective of the Wildlife Area is to be managed for wildlife habitat and maintain a unique parcel of state land along Lake Pepin with diverse flora and fauna.

LANDSCAPE AND REGIONAL CONTEXT

The property lies along the steep Bogus bluff which lies above Lake Pepin and the Horse Thief Coulee between the villages of Stockholm and Pepin. It is in an area of Wisconsin which is noted for sharp rugged terrain with a mix of deciduous forest farmland. The Pepin/Stockholm area along Lake Pepin and Lake Pepin itself is a heavily visited tourist area and aesthetic appearance is very important. The area is influenced by agriculture and heavy development pressure. This parcel is surrounded by privately owned woods and farmland. Most of the surrounding woods are managed (mismanaged) to produce forest products. Therefore this property offers the opportunity to develop a unique niche of old growth native deciduous forest. In addition to maintaining old growth hardwoods, the property also has the opportunity to experiment with hardwood regeneration techniques and apply lessons learned to private lands in the area. There are also several threatened and endangered plant and animal species found or likely to be found on the property and there is the opportunity to promote them. Invasive species are a large concern in the area. Early detection and control is a challenge on this property because of adjacent development pressure.

Hydrology: This property lies on the steep bluff facing Lake Pepin which is a lake formed on the Mississippi River starting at the confluence with the Chippewa River. The slopes range from 20 to 65 percent and for the most part all of the property is highly erodible.

Current Land Cover: All of property is forested with the exception of a prairie along Hwy 35 which passes through the property on the lower end of the slope.

HISTORY OF LAND USE AND PAST MANAGEMENT

This land was historically owned by several private landowners who for the most part managed the land for agriculture and forestry. The lands were purchased by the Wisconsin DNR and for the most part have been undeveloped. The only activities that have occurred since the state purchased the land in 1970 are prairie management and forest management.

WILDLIFE ACTION PLAN/SPECIES OF GREATEST CONSERVATION NEED

Species of Greatest Conservation Need (SCGN's) associated with the natural communities of Lake Pepin Wildlife Area are numerous. The property contains a large area of dry bluff prairie, adjacent oak woodland, and an area of older southern dry-mesic forest. Because of this, the property has an excellent opportunity to manage for this continuum of natural community types and associated species of greatest conservation need.



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CONSERVATION OPPORTUNITY AREA

The Lake Pepin Wildlife Area falls within the "Mississippi Bluffs and Floodplain" Conservation Opportunity Area. This COA has continental significance because it lies along a large river corridor, the Mississippi River. There are numerous unique and significant biological communities that fall within this COA, most of which are riparian communities, however the ones found on this parcel are upland communities. These include Southern Dry-mesic Forest, Oak Woodland, and Dry Cliff/Dry Prairie.

NATURAL HERITAGE INVENTORY - RARE SPECIES

At the time of this plan (2013) 21 threatened and special concern species and communities were identified as being on or in the vicinity of this property. - NHI screening will be conducted prior to all future management activities.

HIGH VALUE CONSERVATION FOREST (HCVF) or other resources/ natural community types limited in the landscape

Dry prairie, dry cliff, and the older southern dry-mesic forest could be considered HCVF. Additionally, a recent timber sale in stand 2 has released an exceptional assemblage of open oak woodland/oak opening understory species.

BIOTIC INVENTORY STATUS:

There are no known biotic inventories for this property.

CULTURAL AND ARCHEOLOGICAL SITES: (including tribal sites)

According to Wisconsin Historical Society records there are archaeological sites associated with Lake Pepin Wildlife Area. For each management activity that is proposed, the DNR archeologist will be contacted at during the planning to establish control measures to mitigate negative impacts from the activity.

RECREATIONAL USES

This property has no developed recreation facilities. It is open to public access for non-motorized uses to include hunting, hiking, and wildlife viewing. Most of the recreational use is most likely from local residents.

INVASIVE SPECIES

A thorough Invasive species inventory has not been taken, but buckthorn and garlic mustard were found on the property and are known to be common in some of the area. There is high potential for invasive establishment due to development in the area and access by recreationists.

SOILS

The soils are almost exclusively stony and rocky land with silt or loamy soils. The soils vary in the depth and the amount of exposed rock present. The silty and loamy soil is over acid to calcareous till with a base of dolomitic sandstone.

The property itself is made up of predominantly two soil series, Brodale and Dorerton. The Brodale series is where the dry prairie and rock outcrops are located (Stands 8 and 9). This is the steepest and most rugged part of the property. In general there is about 50 inches of soil over the dolostone bedrock and the best use is for wildlife habitat as the slopes range from 60-90 percent and excess to the point of making



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management impractical. The Dorerton series is where most of the manageable forest land exists (Stands 1, 2, 4, 5, 6, 7, 10). The soil is similar to Brodale, but the depth to the dolostone is more like 40-70 inches and the slopes range from 30-60 percent making management activities feasible. Other soils series on the property include Alganssee (Stand 12) which is the floodplain soil, Plainfield Sand 15-30 percent which is stand 11 on the south side of Highway 35, and Forkhorn sandy loam which is the soil series where the managed prairie (stand 3) is located.

CURRENT FOREST TYPES, SIZE CLASSES AND SUCCESSIONAL STAGES

Lake Pepin Wildlife Area consists of about 200 acres of mostly deciduous forestland with 12 acres of open old field with a little remnant prairie on the bluff top and 6 acres of Lowland marsh (wetland). All of the forestland with the exception of stand 12 is upland hardwoods. Stand 12 is bottomland hardwoods.

Upland Deciduous Forest:

There are about 160 acres of upland deciduous forest on the property (Stands 1,2,4,5,6,7,8,9,10,12). The most abundant species are Red Oak, White Oak, and Black Walnut. Other species present to varying degrees are Basswood, American Elm, Slippery Elm, Hackberry, Green Ash, Big Tooth Aspen, Bitternut Hickory, Black Locust, and on the very steep rocky sites, Eastern Red Cedar. For the most part the upland species present are shade intolerant and are best managed using even age management techniques. Most of the mature trees are of good health and form and originated between 1890 and 1920. Site index for Oak and Walnut is typically 55-65 throughout most of the area, with the exception of stands 8 and 9 where it is more like 35-45. Stands 2 and 10 were harvested recently (2009 and 2013 respectively). Stand 2 was harvested using individual group selection management retaining large diameter oaks and walnuts. Stand 10 was harvested with a 2 stage shelterwood. Stage 1 being completed in 2012 and the 2nd stage scheduled for 2015-2016. In the spring of 2013, 2,500 Walnut, Red Oak, and White Oak seedlings were hand-planted in Stand 10 to augment natural regeneration.

Access is generally good for most of the woods from the existing roads. The southern two parcels however have generally poor access due to being land-locked or having excessively steep slopes along highway 35, making highway access impractical. In all about 60 acres of the property is inaccessible due to steepness or being land-locked.

Bottomland Forest:

There are currently about 20 acres of flood plain or bottomland forest along Lake Pepin. This area is generally medium stocked with Silver Maple, Green Ash, Cottonwood, Elm, and Hackberry. The trees are about 50-60 years of age and generally of low form and quality. Access is generally poor except across privately owned land to the east. Aesthetics is very important in this area and therefore this is likely a non-management area with potential to manage for old growth floodplain hardwoods.

FUTURE MANAGEMENT

This property is managed primarily to protect the sensitive bluff land habitats and provide habitat for wild birds and animals. The production of forest products is consistent with these management objectives and is feasible over the long term to provide a variety of ages and species of trees.

There are about 90 acres of woodland on the property which are can be managed to produce forest products and wildlife habitat. These 90 acres can be divided into about 5-6 timber sale units. If these timber sales are set up and sold every 4-6 years, it will take about 25-30 years to rotate through the property, at which time the areas first harvested will likely be ready for follow-on commercial harvests or non-commercial management treatments. Two of these areas as mentioned were recently harvested. The remainder has been set on a harvest rotation.

Forest Management Objectives:

1. Control Soil Erosion on the steep, highly erodible slopes that are present throughout the property.



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2. Maintain variety of age classes and stocking levels of deciduous upland timber through management practices with primary focus on Black Walnut and Red oak.
3. Retain some remnant areas of old-growth timber for wildlife and aesthetic purposes.
4. Develop some of the deciduous forests into areas with larger diameter trees through extended rotations as long as tree vigor allows.
5. Identify invasive species and implement practices to eliminate/minimize impact to property.
6. Identify rare/endangered species and protect/provide habitat.
7. Maintain dry cliff/prairie habitat through periodic mechanical treatment and prescribed fire.

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.)

The following schedule is a guide to planned forest management practices:

- 2016:** Not later than 2016 complete the second stage of the two stage shelterwood harvest of stand 10, Removing 90% of the remaining Red Oak and Walnut present. Several large culls or white oaks per acre could be left for wildlife mast trees; however the uncut area of the stand between the cut area and stand 8 provides diversity and representation of the original stand type. Total harvest of 26 acres.
- 2018:** Regeneration Harvest of Stand 1 by Shelterwood, Seed Tree or Clear-cut to regenerate Oak and Walnut. Thinning/Selection Harvest of Stand 5 to manage stand for aesthetics using big tree silviculture. Thinning of Red Oak in Stand 7. Total harvest of 16 acres.
- 2023:** Regeneration harvest of Stand 6 by Shelterwood, Seed Tree or Clear-cut to regenerate Oak and Walnut. Thinning/Selection Harvest of Stand 4 to manage stand for aesthetics using big tree silviculture. If access is possible for parts of stand 9, it could be included in this harvest, otherwise stand 9 will be passively managed. Total Harvest of 11 Acres.
- 2028:** Harvest of Mature Walnut and hardwoods in Stand 12 using individual and group Selection. If access is possible conduct a selection harvest of the Bottomland hardwoods in stand 11. In both areas consider the aesthetics of the Highway 35 corridor and Lake Pepin. Total Harvest of 39 Acres.
- 2033:** Individual and Group Selection Harvest of Stand 2. Manage stand for Big tree silviculture. Total Harvest of 18 Acres. Consider managing this stand as open oak woodland grading into the dry prairie at stand 8.

Passive management is planned for stands 8 and 9 (60 acres) as these areas are steep and access is very difficult. The dry cliff (stand 8) could be restored to original vegetation by mechanical removal of the red cedars. The prairie/old field along Highway 35 (stand 3) and remnant prairie/dry cliff/open oak woodland (stand 8) can be maintained by periodic prescribed burns to control the tree and shrub encroachment.

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



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- Retain reserve/legacy/green tree retention trees as groups or individuals throughout the property within harvested stands
- Identify and protect any Archeological or Historical sites prior to management activities and plan.
- 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.

Approvals:

Armund Bartz

25 March, 2014

Regional Ecologist Armund Bartz

Date

Keith Krajewski

25 March 2014

Forester Keith Krajewski

Date

Jess Carstens

25 March 2014

Property Manager Jess Carstens

Date

Harvey Halvorsen

March 25, 2014

Area/Team Supervisor Harvey Halvorsen

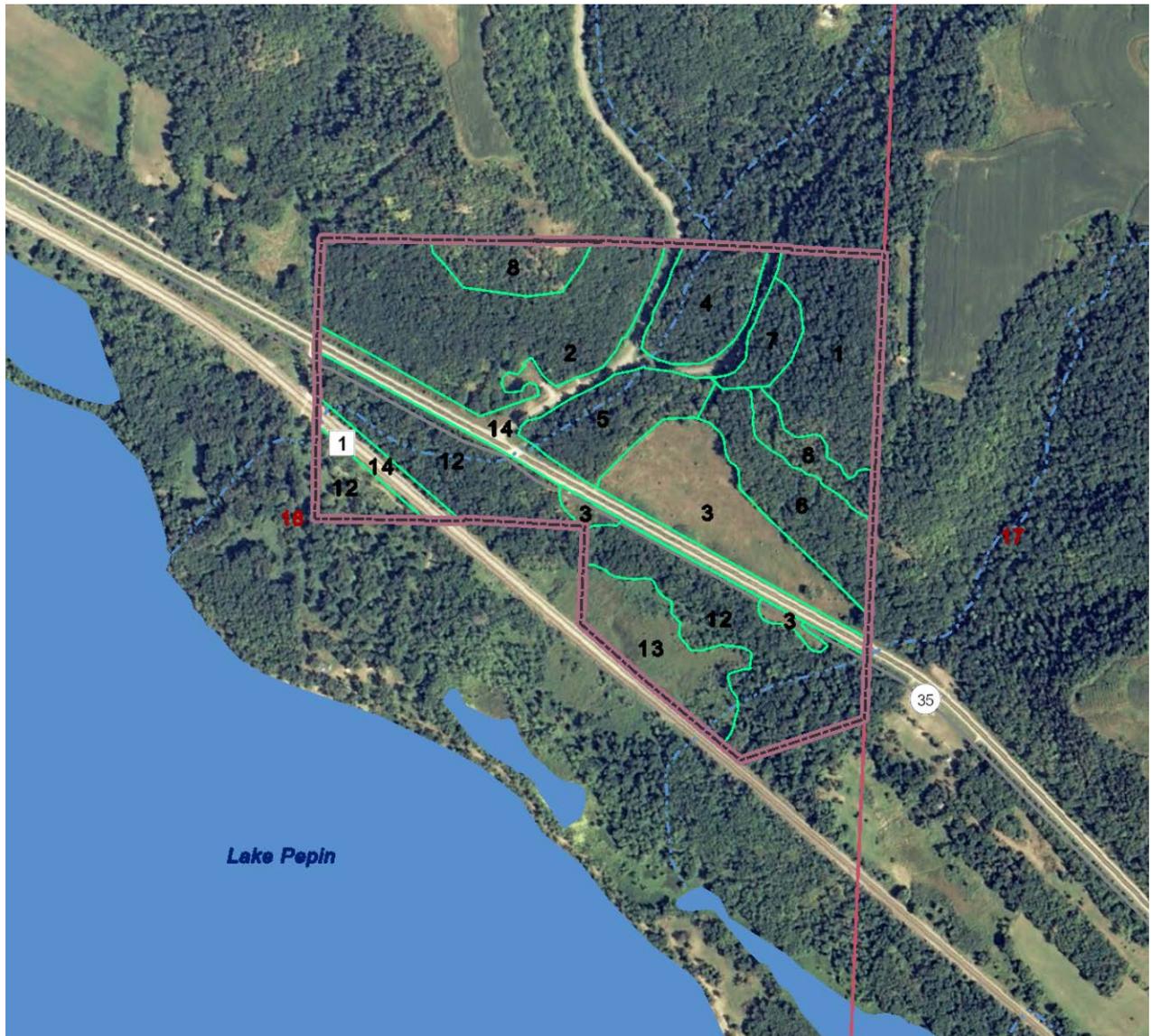
Date



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Lake Pepin Wildlife Area Air Photo and Recon Map

North Part of Compartment 1





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Lake Pepin Wildlife Area Air Photo and Recon Map

Middle and South Part of Compartment 1





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Print Date: 6/12/2013
Report 110

Stand Information by Compartment

Treatment Description

TN - Thinning, non-commercial
HU - Habitat maintenance, non-commercial
SP - Site Prep
FR - Pruning
RL - Planting
Release

T - Thinning, commercial
RE - Regeneration even-aged harvest
RA - Regeneration aged harvest

A - Active
X - Tract # assigned, contract not signed

Harvest Status

Property : 4702 - LAKE PEPIN WILDLIFE AREA

Pre	Exam	Year	T	S	D	T	S	D	T	S	D	Habitat	Acres	Yr.	HL	M&D	\$pp.	81#	BA	CD	SOFT	Lvl	Roll	Obj	Mgt.	Forester Pres.	Year	Status	
Compartment No : 1																													
1	2013	O	1500	3	CH	0511	1					AVCI	9	1906	78	23	OR	55	160	6	14,900	30	D	W	RE	2.0,0	2018		
2	2010	O	1500	2	CH	0511	1					AVCI	18	1906	65	15	W	55	68	7	3,200	31	C	G	RA	5.0,0	2033		
Stand 2 is combined with stand 3 after 2010 harvest was completed. (11/10) Individual/group selection harvest to convert to CH. (May 35 scenic E)(11/10)																													
3	2013	GG	UB										12	0	0	0	0	0	0	0	0	31	C	O					
4	2013	CH	1500	3	CH	0511	3						5	1947	65	17	OR	74	163	16	9,280	30	D	A	T	2.0,0	2018		
5	2013	CH	1500	2	CH	0511	2	LB				AVCI	5	1933	50	22	OR	73	126	13	7,980	30	D	A	T	2.0,0	2033		
6	2013	O	1500	3	O	0511	2					AVCI+Ph	6	1906	65	18	OR	56	140	13	10,020	31	C	I	RE	8.0,0	2023		
7	2008	O	1115	2	O	0511	3					AVCI	2	1956	70	13	OR	55	120	20	2,200	31	C	A	TN	1.0,0	2018		
8	2013	Z	CH	0005	1								25	0	0	0	0	20	4	100	32	B	A						
9	2013	O	1500	1	CH	0511	2					AVCI	35	1906	65	24	OR	45	97	10	3,300	31	C	A	T	2.0,0	2028		
10	2008	O	1500	1	O	0005	2	W	0005	1	AVCI	26	1906	72	20	OR	48	30	6	1,500	30	D	A	RE	5.0,0	2015			
2012 completed first cut of shelterwood, remove overstory in 2016. (01/13) Beautiful OR & Walnut, needs to be harvested soon-shelterwood. (12/08)																													
11	2008	BH	1500	2	BH	0511	1					AVCI	17	1956	55	14	MG	50	80	11	2,600	30	J	A	RA	5.0,0	2028		
12	2013	W	1500	1	CH	0511	2						22	1870	60	28	W	55	80	6	3,700	30	D	A	T	1.0,0	2028		
13	2008	KG											6	0	0	0	0	0	0	0	31	G	A						
14	2013	ROW											12	0	0	0	0	0	0	0	31	C	A						



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