



# Interim Forest Management Plan

## Waunakee Wildlife Area

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### Property Identifiers

Property Name and Designation: **WAUNAKEE WILDLIFE AREA**

Forestry Property Code: **1345 (Compartment 1, stand 1)**

Property Location – County: **DANE COUNTY**

Property Acreage: **468 acres, Harvest is in stand 1 (21 acres)**

Master Plan Date: **Master Planning has not been scheduled for this property.**

Property Manager: **Andy Paulios**

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### Part 1: Property Assessment

#### A. ECOLOGICAL LANDSCAPE DESCRIPTION AND PROPERTY CONTEXT

This property is located within the Southeast Glacial Plains Ecological Landscape (EL) and the Lower Rock River Basin. This EL is largely comprised of glacial till plains and moraines. Soils tend to be lime-rich tills overlain by silt-loam loess. Historically the landscape provided a mixture of prairie, oak forests and savanna and maple basswood forests. End moraines and drumlins largely supported savannas and forests. Wet-mesic prairies, southern sedge meadows, emergent marshes and calcareous fens are also found within the landscape. Mid 1800's land-cover around the property likely consisted of marsh/sedge meadow and a mixture of oak openings and oak woodlands. In terms of hydrology and aquatic productivity, this Ecological Landscape is among the highest in the state. Major river systems include the Wolf, Bark, Rock, Fox, Milwaukee, Sugar, Mukwonago and Sheboygan and several lake chains also exist. Extensive marshes, fens, sedge meadows, wet prairies, tamarack swamps and floodplain forests are also significant features found within this landscape. The Waunakee Wildlife Area lies within the Six Mile and Pheasant Branch Creek Watersheds within the Lower Rock River Basin. This watershed is a continuing Nonpoint Source Pollution Priority Watershed project as it feeds into Lake Mendota.

Since Euro-American settlement, large portions of the Southeast Glacial Plains have been intensively developed for agricultural or urban-industrial uses, significantly altering the historical vegetation. The hydrology of this Ecological Landscape has been greatly altered and affected by modifications (ditching, diking, tiling), grazing, invasive plants, excessive inputs of sediment- and nutrient-laden runoff from croplands and human development. Remaining forests today occupy only about 10% of the land area and consist of maple-basswood, lowland hardwoods and oak. Most of the rare or natural communities that remain are associated with large moraines or in areas where the Niagara Escarpment occurs close to the surface.

#### B. GENERAL PROPERTY DESCRIPTION – MANAGEMENT, ADJACENT LAND USES, TOPOGRAPHY, SOILS, ETC.

Waunakee Marsh Wildlife Area is a 470 acre property consisting of approximately 50 acres of hardwood upland forest, 25 acres of upland warm season grassland, and 400 acres of marsh dominated by cattail with some areas of sedge meadow. It was established in 1958 with the intent to protect the extensive wetlands associated with the upper reach of Six Mile Creek and its springheads as well as to provide public hunting opportunities. It is situated within the Six Mile and Pheasant Branch Creek watershed which consists primarily of agricultural cropland, open water and developed land. Currently forest makes up only 6% of the entire watershed and is comprised primarily of smaller, fragmented patches of forest similar to the forested acres on the wildlife area itself.



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Soils for the area are characterized by well drained and poorly drained, deep and moderately deep silt loams and mucks that are underlain by silt, sand, and gravel. This property lies within the Waunakee Moraines LTA (222Ke07) where the characteristic landform pattern is rolling till plain and irregular drumlins with scattered bedrock knolls, lake plains, and outwash plains. Soils are predominantly well drained silt and loam over calcareous sandy loam till or bedrock. The property is not located in a Conservation Opportunity Area nor is it identified as an Important Bird Area.

Past and current management efforts have not been extensive outside of occasional DNR and volunteer control of invasives in the open habitats south of HWY 19. As is the case with many portions of the Southeast Glacial Plains Ecological Landscape, the property has invasive non-native species present such as buckthorn and honeysuckle.

The highly fragmented nature of the forests in this region limits the overall impact this property can have on forest wildlife. There is a large body of research showing the direct relationship between demographics of forest birds and wildlife and total forest in the landscape. Due to the fragmented nature of this landscape we recommend the following management objectives:

- Maintain oak(s) within the stand where possible. Oaks are an important source of mast for many species of mammals and birds. In addition, recent research suggests that many bird species prefer oaks and oak forests during spring migration due to the abundance of lepidopteron larvae and other insects.
- Open up the stand through intensive timber management to temporarily benefit bird species associated with oak openings and regenerating forest. Target SGCNs include brown thrasher, field sparrow, red-headed woodpecker and declining species such as Eastern kingbird and northern flicker. Re-setting succession throughout the stand will provide nesting and foraging habitat for these species as well as herptile species that require open habitats for thermoregulation.
- Retain or create large cavity trees throughout the stand as suitable nesting habitat for red-headed woodpecker, northern flicker and other species that require standing dead trees or large dead limbs for nesting cavities. Many of the open-country or savanna bird species are NOT area-sensitive and would respond to management within this fragmented landscape and small patch sizes.

### C. CURRENT FOREST TYPES, SIZE CLASSES AND SUCCESSIONAL STAGES

Of the 468-acre Waunakee Wildlife Area, only 50 acres are upland woods. The other 418 acres are grassland or lowland vegetation. Stand 1 (22 acres) is the stand being harvested. It is located in the NW corner of the property except for 1 acre located 2 miles to the east along Highway 19. The other forested area is stand 5 (28 acres) consisting of central hardwood poletimber.

Stand 1 is converting from a black oak woodland to a central hardwoods woodland. The sawtimber-size trees are primarily over-mature black oak and high quality black walnut. Other sawtimber trees are bur oak, white oak, hickory, black cherry, red maple, sugar maple and basswood. Poletimber-size species are hickory, walnut, hackberry, bur oak, black oak, red maple, aspen and elm. The forest floor is dominated by native shrubs and forbs, but does contain areas with significant invasion of non-native buckthorn.

### D. NHI: ENDANGERED, THREATENED, SPECIAL CONCERN SPECIES, SPECIES OF GREATEST CONSERVATION NEED (SGCN)

NHI screening protocols will be conducted prior to all future management activities. Based on NHI screening protocols at the time of this plan (2013), one threatened and one special concern reptiles have been documented within a two mile buffer of the property. Depending on time of year, either species could be potentially impacted by implementation of forest management activities on the property due to the species' habitat preferences. Species guidance protocols will be followed during any future management activities.



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### **E. WILDLIFE ACTION PLAN CONSERVATION OPPORTUNITY AREAS (COA)**

This property does not lie within a COA

### **F. SIGNIFICANT CULTURAL OR ARCHEOLOGICAL FEATURES**

According to the Wisconsin Historical Society database, no historic sites are recognized on this property. Standard procedure calls for known sites to be protected during forest management operations and for the state archeologist to be consulted prior to any ground-disturbing activity to prevent disturbance of known sites.

### **G. INVASIVE SPECIES**

As is the case with many portions of the Southeast Glacial Plains Ecological Landscape, the property has invasive non-native species present such as buckthorn and honeysuckle.

### **H. EXISTING STATE NATURAL AREAS (SNA) DESIGNATIONS/NATURAL COMMUNITY TYPES LIMITED IN THE LANDSCAPE**

No State Natural Areas are present at this site.

### **I. PRIMARY PUBLIC USES (RECREATION)**

The property was established as a State Wildlife Area in 1958 with the intent to protect the extensive wetlands as well as to provide public hunting opportunities.

### **J. BIOTIC INVENTORY STATUS**

There have been no formal biotic inventories conducted in the recent past by DNR NHC staff or partners. Given the property's Tier III status there will likely not be an inventory conducted in the near future.

### **K. DEFERRAL/CONSULTATION AREA DESIGNATIONS**

No deferral/consultation area designations are present at this site.

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## **Part 2: Future Management – IFMP components**

### **FOREST MANAGEMENT OBJECTIVES** (*Outline primary forest management objectives*)

With all forest management objectives, there are several more universal objectives that can be attained including options such as increasing large snags and coarse woody debris, controlling the spread of invasive plant species and consideration for Wildlife Action Plan priorities and management of SGCNs. Integrating Priority Actions from Wisconsin's 2005-2015 Wildlife Action Plan to the extent possible within framework of this document, or avoiding actions that might preclude successful implementation of these actions in the future is recommended.

The forest management objectives are to use uneven-aged management to release good quality pole and sawtimber trees while maintaining a diversity of species and encouraging the growth of oak where possible. Control invasive species as needed.



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**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)*

Perform a group selection harvest.

- Create scattered canopy openings ranging in size from 0.1 to 0.5 acres to release desirable trees (saplings and poletimber) and encourage regeneration.
- In the non-opening area, use the following order of removal:
  1. Remove at risk trees (trees not likely to live beyond ten years).
  2. Release crop trees from competition.
  3. Remove trees of moderate to poor quality.
  4. Remove trees to attain an average stocking level of 75 sq. ft. of basal area.
- Following the above order of removal will result in the harvest of a high proportion of black oak.
- In areas where no vegetation is growing under the red maple, DNR park stock oak trees may be planted in canopy openings.

**ALL STANDS** – The Wildlife Action Plan describes Priority Conservation Actions that make effective use of limited resources and address multiple species with each action. Implementing these actions and avoiding activities that may preclude successful implementation of these actions in the future would greatly benefit SGCNs within the property. All proposed forestry prescriptions should reference Priority Conservation Actions, Wildlife Action Plan priorities, property objectives and be based on individual stand level needs.

## SUMMARY OF PUBLIC INVOLVEMENT AND COMMENTS RECEIVED

### MAPS (Optional)

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

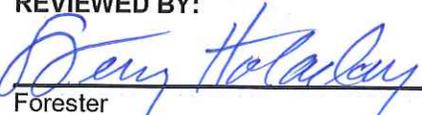
### PREPARED BY:

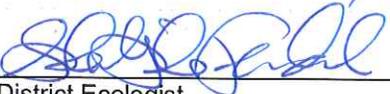
Andy Paulios  12/3/13  
Property Manager Date

### APPROVED:

Ronald Bates  12-4-13  
Area Program Supervisor Date

### REVIEWED BY:

Benny Holaday  12-5-13  
Forester Date

 11/27/2013  
District Ecologist Date