



Interim Forest Management Plan

Property Identifiers

Property Name: Cady's Marsh State Natural Area

Property Location: Sauk County

Property Acreage: 80 acres

Forestry Property Code: 5711

Property Manager: Nate Fayram

Part 1: Property Assessment

A) Landscape and Regional Context

Cady's Marsh is located in the Baraboo River basin, just east of the City of Reedsburg. It is located in the unglaciated Driftless Area, just north of the Baraboo Range.

Cady's Marsh lies in the Western Coulee and Ridges Ecological Landscape. The Western Coulee and Ridges Landscape is characterized by its highly eroded, unglaciated topography with steep sided valleys and ridges, high gradient headwaters streams, and large rivers with extensive, complex floodplains and terraces.

Cady's Marsh includes a wet-mesic prairie. Wet-mesic prairie is rare in this Ecological Landscape. Past conversion to agriculture has impacted nearly all former wet-mesic prairies. All remaining sites are small and isolated, with the notable exception of Avoca Prairie in Iowa County. Remnant prairie sites should be preserved, buffered, and enlarged where they exist. Connectivity should be maintained or restored where possible. Restoration of wet-mesic prairie is also needed in this Ecological Landscape.

B) General Property Description

Cady's Marsh contains dry sandy prairie grading into loamy mesic and wet-mesic prairie with sedge meadow and shallow emergent aquatic marsh also present. Deep-soil loamy prairies are one of the rarest natural plant communities in Wisconsin with nearly all having fallen to the plow. The site contains an interesting assemblage of plant species. Characteristic plants include blue-joint grass, big blue-stem, mountain mint, prairie blazing-star, and culver's-root. Uncommon species are lesser purple fringed orchid, Michigan lily, glaucous white lettuce, Riddell's goldenrod, Kalm's St. John's-wort, and Clinton's bulrush.

Site objectives

Manage the site as a wet-mesic prairie restoration project. Extensive cutting and prescribed fire will determine the structure of the prairie. Provide opportunities for research and education on prairie restoration techniques and results.

Management approach

Small patches of native prairie will be managed and expanded through tree/shrub control using tree harvest, brushing and especially fire to mimic natural disturbance patterns. In the northern portion, pine plantation and oak forest will be managed for sustainable timber products, with long-term oak maintenance as a buffer for the prairie restoration. Other allowable activities include control of invasive plants and animals.



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C) History of land use and past management

Previous management has included thinning of the pine plantation and girdling of aspen.

D) Current forest types, size classes and successional stages:

Aspen/Marsh- a total of 54 acres (68% of the forested acreage). The majority of the acreage is 50+ years old, which is within the normal rotation length of 50-60 years for the species. Other mixed hardwood species are also present (primarily black oak and red maple).

White Pine – a total of 13 acres (16% of the forested acreage). The white pine plantation is approximately 65 years old. Normal rotation length 80-160 years.

Red maple/Central hardwoods – a total of 7 acres (9% of the forested acreage). Age distribution mostly between 25-80 years, with about half the acreage being 25 years old and the other half 80 years old. Normal rotation length for red maple is 80-90 years.

Oak – a total of 6 acres (7% of the forested acreage). There are two parcels, with one parcel aged 40-50 years old and the other parcel aged over 115 + years old. Normal rotation length is 70-110 years.

E) State Natural Area designations:

Cady's Marsh was designated a State Natural Area in 1998.

F) High Value Conservation Forests (HCVF) or other resources/natural community types limited in the landscape:

Wet-mesic prairie – This herbaceous grassland community is dominated by tall grasses, including big bluestem, Canada bluejoint grass, cordgrass, and Canada wild-rye. The forb component is diverse and includes azure aster, Eastern shooting-star, sawtooth sunflower, prairie blazing-star, prairie phlox, prairie coneflower, prairie docks, late and stiff goldenrods, and culver's-root. This community type was common historically but now is rare. Well over 99% of our tallgrass prairies - including wet-mesic prairie - have been destroyed.

Wet-mesic prairie sometimes occurred in large wetland complexes with wet prairie, southern sedge meadow, calcareous fen, and emergent marsh communities. It was most abundant on level or gently rolling glacial moraine or outwash landforms where there were few natural barriers to wild fire, and where the upland vegetation was composed mostly of fire-dependent communities such as Mesic prairie and Oak opening.

The wet-mesic prairie natural community is listed as S2 (imperiled in the state). These natural communities are represented by fewer than 20 sites or have factors that make them vulnerable to extirpation from the state. These communities should be given high levels of recognition and management to maintain or increase their size in the state.

Native prairies are open herbaceous communities with distinctive plants and animals, and have suffered dramatic losses since European settlement. One hundred and fifty years ago over 2 million acres of prairie were found in Wisconsin. An exhaustive survey of prairie experts determined that approximately 8,000 acres remain. Most of the larger sites and over ½ of the acres are under protective Department ownership. The Department should recognize and manage all remnant patches of native prairie.

G) Biotic Inventory status:

This site has been surveyed by DNR staff several times including in 1978, 79, 80, 90, and 91. A floristic survey is planned for summer 2015.



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H) Deferral/consultation area designations: None

I) Natural Heritage Inventory/Rare Species:

Natural Heritage Inventory screenings will be conducted prior to all management for both rare species and natural community types. Species guidance protocols will be followed during any future management activities. One Natural Community (Wet-mesic prairie) is present.

J) Invasive species:

The property has both non-native and native invasive species present. Non-native invasive species include exotic bush honeysuckle, common buckthorn, Japanese barberry, multiflora rose, garlic mustard, and black locust. Native invasive species include box elder, ironwood, red maple, and aspen.

Priority action areas and strategies for controlling invasive species (see map):

- Oak Management Areas – non-native woody species and undesirable native species, including red maple and box elder, will be controlled by harvest, mechanical, and chemical means.
- Prairie and Wetland Area - aspen, red maple, and all other non-oak woody species will be controlled with combinations of timber harvest, mechanical (cutting, girdling, mowing), chemical control, and prescribed fire.
- Oak Transition Area – Control red maple and other non-oak woody species through combinations of timber harvest, mechanical, chemical control, and prescribed fire.
- Pine Management Area – Lowest priority area for invasives control. Invasive species should be controlled by chemical and mechanical treatments, especially in conjunction with timber harvests.

K) Significant cultural or archeological features:

There are no known Archeological, Historical or Cultural concerns for the property according to the database that was checked on December 8, 2014.

Cady's Marsh is of historic interest in that it served as one of the last strongholds of prairie chickens (*Tympanuchus cupido*) in Sauk County.

L) Primary public uses (recreation):

Wildlife viewing, hunting, and trapping. A snowmobile trail crosses through the property.

Part 2: IFMP Components

Management Objectives

- Restore and expand wet-mesic prairie and associated grassland and wetland communities.
- Restore an oak savanna transition to the wetland portion of the property ("Oak Transition Area" adjacent to the "Prairie and Wetland Area", see attached map).
- Manage and maintain oak communities where feasible. Maintain mature oak as much as possible.
- Manage white pine on an even-aged basis. Harvest and utilize white pine before it is lost due to mortality. Long term, convert to oak or other more desirable cover type at the end of the pine plantation's life span.



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- Regenerate aspen using even-age management methods to the extent possible to benefit game and non-game wildlife. Special focus will be given to retaining oak wherever possible to meet native community objectives and to provide habitat and mast production for wildlife. After even aged harvest, prescribed fire and other techniques will be used to decrease the aspen cover type within the Prairie and Wetland Area (see map), and maintain aspen in an early successional state within a complex of oak savanna and grassland communities.
- Red maple/central hardwoods - Where feasible, try to slow the progression of natural succession to this cover type, especially the red maple cover type. Where it is appropriate, try to convert these cover types to oak or grassland communities.
- Establish timber sales per long-term harvest goal in coordination with State Natural Area Property Manager/District Ecologist and Forester.
- Identify threatened and endangered species and protect/provide habitat for a variety of game and non-game wildlife species.
- Identify priority action areas and strategies for controlling invasive plant species.
- 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 of 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.

Property Prescriptions

WDNR State Natural Area program management guidance, WDNR Silviculture Handbook, and this IFMP will be the primary guiding tools resource managers will utilize to determine objectives and prescriptions for individual stands within the property. A wide host of additional resources including, but not limited to, the Wisconsin Wildlife Action Plan, Wisconsin Best Management Practices (BMP's) for Water Quality, the Wisconsin Natural Heritage Inventory, and the Archeological, Historical and Cultural Inventory will be utilized on a regular basis to plan for the management of individual stands, as well as the property as a whole. The prescriptions listed below are guidance for future management, but will not preclude utilization of other appropriate commonly accepted forestry management prescriptions that will enhance the goals and objectives for this property.

Forest Types

- 1) **Oak** – Focus on maintaining existing oak stands and increasing acreage where possible through planting, prescribed fire, and other techniques. Oak forests are regionally important for wildlife habitat, ecologic, economic, and aesthetic value. Employ multiple silviculture systems where appropriate based on stand and property level evaluation. Seek areas to plant oak to increase property acreage in this type. Site preparation and invasive species control is necessary for successful advancement of oak regeneration. Conduct intermediate thinnings when needed to maintain stand health and vigor. Use even-aged management to regenerate oak stands through coppice, seed tree or shelterwood harvesting and uneven-aged management through group selection.
- 2) **White pine** – Maintain stands through rotation with intermediate thinnings, or convert plantation to other types as appropriate. The plantation can also be thinned to mimic natural stands and carried to extended rotation for ecological, aesthetic and economic benefit. Determine management objectives for the white pine plantation based on property level ecological goals.
- 3) **Aspen** – Harvest through even-aged coppice regeneration harvests when silviculturally appropriate, or as desired for prairie or oak savanna native community management.



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Green tree retention will be practiced in this stand while focusing on snag and den/cavity tree retention. Special focus will be given to retaining oak wherever possible to improve stand diversity, cover, and mast production for wildlife. Aspen outside of harvested stands, or within wet-mesic prairie restoration areas, may be girdled or treated by mechanical or chemical means to reduce overall aspen cover and expand desirable prairie acreage. Experimental harvests and treatments of aspen are allowed to meet native community objectives.

- 4) **Red maple/central hardwoods** – Convert these types to more desirable oak, savanna, or grassland communities as feasible, using timber harvests, mechanical and chemical control, and prescribed fire. Maintain and promote oak and shagbark hickory as long as possible, and discourage red maple expansion and succession where feasible. Regeneration options include uneven-aged management through group selection, or even-aged management clear-cutting (with oak reserves).

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.

- Utilize BMP's for Invasive Species to help limit the introduction and spread of invasive species when conducting timber sales.
- Utilize any opportunities to set back or control invasive species and to establish natural forest regeneration instead.
- Endangered Resources Species Guidance documents will be consulted and the management guidance and avoidance sections will be used to determine how and if timber management can occur.

Summary of Public Involvement and Comments Received

The plan was available for public review and comment from January 9-23, 2015. Only one comment was received: "I would like to see the snowmobile access eliminated. Very disruptive to wildlife."

MAPS: Cady's Marsh SNA IFMP Management Areas (Attached)



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PREPARED BY:

[Handwritten Signature]

Property Manager

1/26/15

Date

APPROVED:

[Handwritten Signature]

Area Program Supervisor

1/28/15

Date

REVIEWED BY:

[Handwritten Signature]

Forester

1/27/15

Date

[Handwritten Signature]

District Ecologist

1/26/15

Date



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