

COUNTY FOREST COMPREHENSIVE LAND USE PLAN

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CHAPTER 800

INTEGRATED RESOURCE MANAGEMENT

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800 CHAPTER OBJECTIVES

1. To introduce and communicate to the public, the County Board of Supervisors, and to the Wisconsin DNR, the integrated resource approach that forestry, wildlife and other natural resource staff will use on the Burnett County Forest during this planning period.
2. To provide "Integrated Resource Management Units" (IRMU) that will identify and summarize the natural resources, social and physical management potential and opportunities for each unit. (These units are identified and are to be updated in the appendix #3000).

805 INTEGRATED RESOURCE MANAGEMENT APPROACH

Integrated Resource Management is defined as: "the simultaneous consideration of ecological, physical, economic, and social aspects of lands, waters and resources in developing and implementing multiple-use, sustained yield management" (Helms, 1998).

This balance of ecological, economic, and social factors is the framework within which the Burnett County Forest is managed.

The working definition of Integrated Resource Management means, in large part, keeping natural communities of plants and animals and their environments healthy and productive so people can enjoy and benefit from them now and in the future.

The remainder of this chapter is written to help communicate how the Forest is managed on an integrated resource approach.

810 SUSTAINABLE FORESTRY

The definition of sustainable forestry in the Wisconsin Administrative Code and the Wisconsin Statutes is as follows:

"the practice of managing dynamic forest ecosystems to provide ecological, economic, social and cultural benefits for present and future generations" [NR 44.03\(12\)](#) Wis. Adm. Code and [s.28.04\(1\)\(e\)](#), Wis. Stats.

For the purpose of this chapter, sustainable forestry will be interpreted as the management of the Forest to meet the needs of the present without knowingly compromising the ability of future generations to meet their own needs (economic, social, and ecological) by practicing a land stewardship ethic which integrates the growing, nurturing, and harvesting of trees for useful products with the conservation of soil, air and water quality, and wildlife and fish habitat. This process is dynamic, and changes as we learn from past management.

810.1 TOOLS IN INTEGRATED RESOURCE MANAGEMENT

810.1.1 Compartment Recon

The County will support and utilize the compartment reconnaissance procedures as set forth by the [DNR Public Forest Lands Handbook 2460.5](#). WisFIRS serves as the database for housing recon information.

810.1.2 Forest Habitat Classification System

The Forest Habitat Classification System (*A Guide to Forest Communities and Habitat Types of Northern Wisconsin Second Edition; Kotar, et al.*) is a natural classification system for forest communities and the sites on which they develop. It utilizes systematic interpretation of natural vegetation with emphasis on understory species.

Forest Habitat Classification Types are discussed in greater detail in the "Integrated Resource Management Units" (Section 845) section of this chapter.

810.1.3 Soil Surveys

Forestry staff's knowledge of forest ecology and their experience across the landscape can assist in associating forest habitat types and site indices with soil type information. These associations can be beneficial in determining management prescriptions for specific sites. WisFIRS contains soil survey data, and this information can also be found on the NRCS website-based soil survey.

810.1.4 Ecological Landscapes of Wisconsin

The Wisconsin DNR uses Ecological Landscapes of Wisconsin (WDNR Handbook 1805.1) which is an ecological land classification system based on the National Hierarchical Framework of Ecological Units (NHFEU). Ecological landscapes distinguish land areas different from one another in ecological characteristics. A combination of physical and biological factors including climate, geology, topography, soils, water, and vegetation are used. They provide a useful tool and insight into ecosystem management. Land areas identified and mapped in this manner are known as ecological units.

Generally accepted silvicultural systems are prescribed on a stand level scale, in recognition of the position within an ecological landscape. Burnett County Forest ownership falls within the Northwest Sands, Northwest Lowlands and Forest Transition Ecological Landscapes.

810.1.5 Integrated Pest Management

Integrated Pest Management for the purpose of this Plan, is defined as follows:

“The maintenance of destructive agents, including insects, at tolerable levels, by the planned use of a variety of preventive, suppressive, or regulatory tactics and strategies that are ecologically and economically efficient and socially acceptable”

The Committee has the authority to approve and direct the use of pesticides and other reasonable alternatives in an integrated pest management program on the Forest. Refer to Chapter 600 (610.3) for more detailed discussion and integrated pest management strategies.

810.1.6 Best Management Practices for Water Quality

The most practical and cost-effective method to assure that forestry operations do not adversely affect water quality on the County Forest is to utilize "best management practices" (BMP's) as described in *Wisconsin's Forestry Best Management Practices for Water Quality*. [*Publication number FR-093.*](#)

Consistent with the aforementioned manual Burnett County will use BMP's on the Forest with the understanding that the application of BMP's may be modified for specific site conditions with guidance from a forester or other natural resource professional.

Modifications will provide equal or greater water quality protection or have no impact on water quality. Areas with highly erodible soil types, proximity to streams or lakes, or steep slopes may require mitigating measures in excess of those outlined in the manual.

All Burnett County employees practicing forestry will receive BMP training.

Additionally, Burnett County will encourage BMP training of all logging contractors that operate on County timber sales.

810.1.7 Fire Management

See chapter 605 for further information for fire control on the Burnett County Forest.

810.1.7.1 Prescribed Fire

Prescribed burning on the County Forest may play an important role in management. Many of the plant communities present today are the result of wild fires.

As the needs are presented to regenerate or maintain timber types or other plant communities, the Committee may examine the costs and benefits of each opportunity. Increased regulations, the county's cost of completing the burn, and the risk of breakouts and uncontrolled fires will have to be considered with any benefits of vegetation management through prescribed burning.

All prescribed burning will be done in accordance with Wisconsin State Statutes [26.12](#), [26.14](#), and the [DNR Prescribed Burn Handbook 4360.5](#) and in cooperation with the Department of Natural Resources per section 605 of this plan.

810.1.8 Outside Expertise, Studies and Survey

Additional data necessary to make management decisions on the County Forest will be sought from agencies or individuals, who have the best capability and technical expertise, including, but not limited to:

- Water Resources: WDNR
- Wildlife Resources: WDNR
- Soil Resources: NRCS
- Mineral Resources: WDNR
- Wetland Resources: WDNR, Army Corps of Engineers, County Zoning
- Navigable Streams: WDNR, Army Corps of Engineers, County Zoning
- Floodplains: County Zoning
- Cultural Resources: WDNR, State Historical Society
- Entomology / Pathology: WDNR
- Natural Heritage Conservation: WDNR
- Forestry: Cooperative Field Trials, see WDNR website
- Other subjects as needed

810.1.9 Local Silvicultural Field Trials

As new ideas and methods come about for management, field trial may be used to test these new opportunities for management.

A compilation of silvicultural trials on State and County lands is available at:
<https://dnr.wi.gov/topic/forestmanagement/silviculturetrials.html>

815 MANAGEMENT CONSIDERATIONS TO REDUCE LOSS

815.1 RISK FACTORS

815.1.1 Wind

Burnett County tries to manage its lands so that stands are healthy and growing at adequate rates. This supports a healthy root system and helps to minimize damage during wind events. Young healthy forests are more capable in handling adverse weather events than over mature forests.

815.1.2 Flooding

Burnett County uses WI BMP's for water quality when managing our lands next to water resources. When using these practices correctly, it helps to minimize erosion and can also help to reduce the chances of flooding in some areas. Using correctly sized culverts on woods roads would be an example of this.

815.1.3 Fire

Wildland fire poses a great threat to the Burnett County Forest. While the WI DNR is responsible for wildland fire control, Burnett County remains a partner with WI DNR to minimize the impacts of potential fires. We assist with fires control as well as notification of burning bans when needed. Burnett County also allows the DNR to maintain a fuel break on the County Forest land to help with fighting a large scale fire.

815.1.4 Climate Change

While management of our forests with regards to climate change is relatively a new concept, it cannot go without saying how important it is to continue to grow young health forests to battle this ever changing issue. It is not known how our forest will fit in the big picture of climate change, but it is important that Burnett County keeps an open mind to how the county forest can help with this issue in the future as new ideas and techniques are brought forward for consideration.

815.1.5 Timber markets

Timber markets are one of the biggest factors that our logging contractors deal with on a regular basis. With the loss of mills in Wisconsin, we have seen soft wood pulp markets decline. Without adequate markets for our wood, Burnett County stands to lose revenues from our forests products, and the ability to manage our forests if there is no market for the wood. Burnett County has and continues to support efforts to grow Wisconsin's wood industry. Having our county forest lands third party certified is a direct result of trying to promote the wood industry in Wisconsin.

820 PLANT COMMUNITIES MANAGEMENT

Burnett County recognizes the importance of maintaining the diversity of the forest under an ecosystem approach. The process involved in making management decisions to encourage or not encourage specific species or communities is complex. It includes an understanding of:

- Objectives of the County
- Integration of landforms, soils, climate, and vegetative factors
- Habitat classification
- Past, present and future desired condition
- Surrounding ownership patterns and general objectives
- Wildlife habitat and other values
- Social needs

820.1 SILVICULTURAL PRACTICES/TREATMENTS

Silviculture is the art and science of controlling forest composition, structure, and growth to maintain and enhance the forest's utility for any purpose. These practices are based on research and general silviculture knowledge of the species being managed. The goal is to encourage vigor within all developmental stages of forest stands, managed in an even aged or uneven aged system. The application of silviculture to a diverse forest needs a unified, systematic approach. The [DNR Public Forest Lands Handbook \(2460.5\)](#) and [DNR Silvicultural Guidance](#) will be used as guidelines for management practices used on the County Forest.

820.1.1 Natural Regeneration

Where feasible, natural regeneration will be encouraged through the use of silvicultural methods that promote regrowth and recruitment of the forest. In general, the particular silvicultural method chosen will depend on the biological functions of the target species or forest type.

820.1.1.1 Clearcutting/Coppice

Clearcutting is a silvicultural method used to regenerate shade intolerant species.

Complete, or nearly complete removal of the forest canopy will stimulate the regeneration and growth of species such as aspen, jack pine, and white birch.

This method is also used as a final rotation removal in species such as red oak, red pine and others. Tree retention guidelines are followed when prescribing clearcut or coppice cuts.

820.1.1.2 Shelterwood / Seed Tree

Shelterwood harvest is a method used to regenerate mid-shade tolerant and shade tolerant species. Partial canopies stimulate regeneration, enhance growth and can provide seed source. Canopies are eventually removed. This method is used for white birch, white pine, red oak, and northern hardwood (when managing even aged).

820.1.1.3 All Aged Regeneration Harvests

All aged regeneration harvests are used in shade tolerant species. Gaps in the forest canopy allow regeneration to occur throughout the stand. Over time, multiple entries into the stand will create multiple age class structure with the intent of creating a fully regulated stand. All aged regeneration harvests may be prescribed in the form of single tree selection, group selection or patch selection. This method is used in northern hardwood and occasionally in swamp hardwoods (when managing for all aged).

820.1.1.4 Prescribed Burning

Prescribed burning may be utilized as a tool to promote regeneration. A number of forest types in Burnett County are ecologically tied to fire. Burning may create seeding conditions or release regeneration from competing vegetation. Prescribed fire may be used for regeneration of red oak, jack pine or white pine.

820.1.1.5 Soil Scarification

Scarification is a technique used to prepare a seedbed beneath forest stands scheduled for harvest and regeneration. This mechanical disturbance that exposes bare mineral seedbeds and creates conditions necessary for regeneration of pine species. Disturbance that mixes seed into duff and soil layers creates optimal conditions for regeneration of oak, white birch, fir and others. Burnett County utilizes salmon blades, root rakes, straight blade, anchor chain and roller chopping for soil scarification.

820.1.1.6 Other

Other natural regeneration techniques may be considered where necessary and appropriate. New methods for natural regeneration are continually tested for effectiveness.

820.1.2 Artificial Regeneration

When natural regeneration fails, or when tree species present do not coincide with management objectives for the site, artificial means will be employed to establish a desirable stand of trees. Artificial regeneration on a site usually requires some form of site preparation followed by seeding or planting.

820.1.2.1 Mechanical Site Preparation

Mechanical site preparation includes the use of soil disturbance equipment such as a disc, roller chopper, patch scarifier, disk trencher or V-plow prior to tree planting or seeding. These types of equipment are used to reduce logging debris to a smaller size, incorporate debris into the soil, clear brush and debris from the site, and to reduce competition from other vegetation.

820.1.2.2 Chemical Site Preparation

Herbicide application can be an effective means of controlling unwanted vegetation in order to establish seedlings or plantations. It should be used sparingly and in situations where mechanical treatment is not expected to provide the level of vegetative control needed. Chemical will be applied in strict accordance with label recommendations, requirements, and under the oversight of a certified applicator. Herbicides will normally be applied with motorized, ground based equipment, hand applications, or aurally. A written prescription for each herbicide application will be prepared and kept on file.

820.1.2.3 Prescribed Burning

Prescribed burning for site preparation can be used to reduce logging debris, clear the site, reduce competing vegetation, and to release nutrients into the soil.

820.1.2.4 Tree Planting / Seeding

Both machine and/or hand planting/seeding will be utilized to insure adequate regeneration. The selection of species will be determined according to the specific management objectives and capabilities of each site. Planting or seeding will primarily occur in areas where natural regeneration is inadequate or conflicts with the management goals of the site. County will make all reasonable efforts to source seeds/seedlings from local genetics.

820.1.3 Intermediate Treatments

Intermediate treatments are those practices used to enhance the health and vigor of a forest stand. In general, intermediate treatments are applied to forest stands managed as even aged.

820.1.3.1 Mechanical Release

Mechanical release is the removal of competing vegetation by means other than herbicide or fire. Mechanical may include releasing young pine plantations from competing vegetation using chain saws or other hand-held equipment; or mowing to release regeneration.

820.1.3.2 Chemical Release

Chemical Release is the removal of competing vegetation from desirable trees through the use of herbicides. It should be used sparingly and in situations where mechanical treatment is not expected to provide the level of vegetative control needed. Chemical will be applied in strict accordance with label recommendations, requirements and under the oversight of a certified applicator. A written prescription for each herbicide application will be prepared and kept on file.

820.1.3.3 Non-Commercial Thinning (TSI)

In general, most thinning needs are accomplished through commercial harvest operations. Non-commercial thinning may be considered if the individual site requirements, funding and/or available labor make it desirable.

820.1.3.4 Thinning / Intermediate Cuts

Management of some even aged forest types necessitates the use of commercial thinning, also known as intermediate harvests, to maintain forest health and vigor. Thinning is generally prescribed in forest types such as red pine, red oak, and in cases of even aged hardwood management. Thinning may be prescribed on other even aged types as appropriate and where feasible. Intermediate harvests include prescriptions for residual densities, marking priorities, spacing, crown closure, diameter distribution, or other measurements.

820.2 SILVICULTURAL PRESCRIPTIONS

820.2.1 Even-Aged Management

A forest stand composed of trees having relatively small differences in age. Typical cutting practices include: clear cutting, shelterwood cutting and seed-tree cutting. Even aged management is generally required to manage shade intolerant, early successional forest types.

820.2.1.1 Aspen

These are types where aspen trees comprise of more than 50% of the stems. On the forest, aspen types may be dominated by quaking or big tooth aspen or a combination of both. Aspen stands contain a wide variety of associated hardwood and conifer species.

<u>Shade tolerance:</u>	Intolerant
<u>Habitats:</u>	PArVAm, AVDe
<u>Intermediate treatments:</u>	None
<u>Median rotation age:</u>	45-50
<u>Primary regeneration method:</u>	Natural
<u>Harvest method:</u>	Clearcutting with coppice
<u>Habitat value:</u>	Early successional related species
<u>Economic value:</u>	High fiber production/bolts
<u>Insect disease considerations:</u>	Hypoxylon and other cankers
<u>Trends:</u>	General declines on statewide acreage
<u>Landscape considerations:</u>	Retain/increase acreages where possible

820.2.1.2 Jack Pine

These are types where jack pine makes up more than 50% of the stems. Common associates in Burnett County are pin oak, aspen, and white birch.

<u>Shade tolerance:</u>	Intolerant
<u>Habitats:</u>	PQGc, QAP, ParVam
<u>Intermediate treatments:</u>	None
<u>Median rotation age:</u>	45-50
<u>Primary regeneration method:</u>	Natural seeding, scarification
<u>Harvest method:</u>	Clearcutting
<u>Habitat value:</u>	Early successional related species

<u>Economic value:</u>	Medium fiber production/bolts
<u>Insect disease considerations:</u>	Bud worm infestations
<u>Trends:</u>	Declining on statewide acreage
<u>Landscape considerations:</u>	Retain acreages when possible

820.2.1.3 Northern Pin Oak (Scrub Oak)

These are types where northern pin oak trees make up more than 50% of the stems. Common associates in Burnett County are jack pine, aspen, white birch, red pine, white pine and soft maple.

<u>Shade tolerance:</u>	Intolerant to mid-tolerant
<u>Habitats:</u>	PQGc, QAP, ParVam
<u>Intermediate treatments:</u>	None
<u>Median rotation age:</u>	75-90
<u>Primary regeneration method:</u>	Natural stump sprouting
<u>Harvest method:</u>	Clearcutting/thinning
<u>Habitat value:</u>	Early successional related species
<u>Economic value:</u>	Medium fiber production/bolts/logs
<u>Insect disease considerations:</u>	Oak wilt, Gypse Moth
<u>Trends:</u>	Declining on statewide acreage
<u>Landscape considerations:</u>	Retain acreages when possible

820.2.1.4 Red Pine

These stands are dominated by Red pine consisting of 50% of the stems. Other associated species consist of jack pine, white pine and pin oak.

<u>Shade tolerance:</u>	Intolerant
<u>Habitats:</u>	PQGc, QAP, ParVam
<u>Intermediate treatments:</u>	Thinnings
<u>Median rotation age:</u>	90-100
<u>Primary regeneration method:</u>	Natural seeding or planting
<u>Harvest method:</u>	Thinning with clearcut at rotation age
<u>Habitat value:</u>	Early successional related species
<u>Economic value:</u>	High fiber production/bolts/logs
<u>Insect disease considerations:</u>	Anoisum, bark beetle
<u>Trends:</u>	Declining on statewide acreage
<u>Landscape considerations:</u>	Retain acreages when possible

820.2.2 Uneven-Aged Management

A forest stand composed of trees in various age and size classes. The typical cutting practice is selection cutting, where individual trees are removed from the stand. Regeneration is continually occurring after the stand is cut. Uneven-aged management is generally used to manage shade tolerant forest types.

820.2.2.1 Northern Hardwood/Red Oak

These are stands dominated by shade tolerant and mid-shade tolerant species. In Burnett County, northern hardwood/red oak stands are typically dominated by sugar maple, ash, aspen and basswood.

<u>Shade tolerance:</u>	tolerant to mid-tolerant
<u>Habitats:</u>	AVDe, AAt
<u>Intermediate treatments:</u>	none
<u>Median rotation age:</u>	n/a
<u>Primary regeneration method:</u>	natural – all aged regeneration
<u>Harvest method:</u>	single tree, gaps,
<u>Habitat value:</u>	(consider the Wildlife Action Plan data)
<u>Economic value:</u>	high, pulp, bolt logs
<u>Insect disease considerations:</u>	emerald ash borer, gypse moth, oak wilt
<u>Trends:</u>	Increasing with lose of Aspen & Oak stands
<u>Landscape considerations:</u>	Retain one richer soil types when possible

Other less common species on the forest also exist but contribute to the smaller volume of managed acreage. These species include but are not limited to, White Pine, White Birch, Tamarac, Black Spruce, Black Ash, and Red Maple. The same Silvicultural treatments for both Even and Uneven aged management described above are used when managing these species.

820.3 LOCALLY UNCOMMON TREES / FOREST TYPES

The presence or lack of a particular tree species is dependent on land capability, climate, natural range, natural or human disturbance and many other factors. The following tree types are considered uncommon on the Burnett County Forest and likely across the general region. These trees may be left as reserves in even aged management prescriptions, or in thinnings and all aged regeneration harvests.

Northern White Cedar, Bitternut Hickory, Butternut

820.4 FOREST TYPES REQUIRING INTENSIVE EFFORT TO REGENERATE

There are certain forest types within the County Forest that are difficult to regenerate. In many cases, this difficulty may be related to the exclusion of fire from the landscape, deer herbivory or other factors. The following list itemizes forest types with difficult regeneration and County management goals:

820.4.1 Jack Pine

Jack Pine is a shade intolerant species normally found in even aged stands. It appears jack pine evolved to regenerate after disturbances such as fire. The County is committed to retain jack pine when possible. Regeneration efforts will include pre-sale blade scarification for natural seeding, blade scarification and aerial seeding as well as hand planting when needed.

820.4.2 Red Pine

Red Pine is a shade intolerant to mid tolerant species found in primarily even aged stands. Red pine appears to require disturbance to regenerate and herbivory appears to be a limiting factor on regeneration success. The County is committed to retain as much of the existing acreage of red pine as possible. Regeneration efforts will focus on timing soil scarification with final harvest to promote natural seeding. Regeneration may require hand planting and bud capping as well.

820.5 INVASIVE PLANT SPECIES OF CONCERN

Invasive plants can cause significant damage to the forest. Invasive species can displace native plants and hinder the forest regeneration efforts. Preventing them from dominating forest understories is critical to the long-term health of the forest. There are a number of invasive plant species in varying densities on the County Forest. Some warrant immediate and continual treatment efforts while others may be allowed to remain due to extent and financial ability to control them. The County will continue to train staff in invasive species identification as well as attempt to secure funding sources to control them as much as is practical.

820.6 LEGALLY PROTECTED AND SPECIAL CONCERN PLANT SPECIES

There are plants in Wisconsin that are protected under the Federal Endangered Species Act, the State Endangered Species Law, or both. On County Forest, no one may cut, root up, sever, injure, destroy, remove, transport or carry away a listed plant without a valid endangered or threatened species permit. There is an exemption on public lands for forestry, agriculture and utility activities under state law. The County will, however, make reasonable efforts to minimize impacts to endangered or threatened plants during the course of forestry/silviculture activities (typically identified in the timber sale narrative).

The Wisconsin Department Natural Resources Bureau of Natural Heritage Conservation tracks information on legally protected plants with the Natural Heritage Inventory (NHI) program. The NHI program also tracks Special Concern Species, which are those for which some problem of abundance or distribution is suspected, but not yet proven. The main purpose of this category is to focus attention on certain species before they become threatened or endangered.

The County has access to this data under a license agreement and is committed to reviewing this database for endangered resources that may occur within proposed land disturbing project areas.

820.7 TREE RETENTION GUIDELINES

Silvicultural practices are designed to manipulate vegetation to achieve management objectives. Retention of some trees, both alive and dead, has associated ecological benefits. Burnett County will implement tree retention guidelines consistent with the [Burnett County Forest Tree Retention Guidelines](#) appended to the plan in chapter 1000. Burnett County may also want to consider planning for future long-term vertical, horizontal and diagonal structure. Plan for present and future dying and decaying trees to plan for a forest with multiple age structures. In addition to retaining existing snags and cavities, retain some trees that are expected to die soon after reserved snags and cavities fall over and reserve some trees expected to die before the next timber sale to plan for future live/dead standing cavities that will be the long-term future down woody debris. Furthermore, Even-aged regeneration harvests can vary in size and shape and may include little to no tree retention, such as with barren site-specific objectives.

820.8 BIOMASS HARVESTING GUIDELINES

Silvicultural practices are designed to manipulate vegetation to achieve management objectives. Bio-Mass harvesting of trees, both alive and dead, have associated ecological effects. Burnett County will implement Bio-Mass Harvesting Guidelines consistent with the [WI Bio-Mass Harvesting Guidelines](#).

825 ANIMAL SPECIES MANAGEMENT

Burnett County Forest provides a wide range of wildlife habitats from open grasslands/barrens to mature forests, from bogs to forested wetlands, from spring ponds to lake shorelines. A primary goal of wildlife management on the Burnett County Forest is to provide a diversity of healthy ecosystems necessary to sustain and enhance native wildlife populations. This forest will be managed primarily to provide habitats for a suite of species rather than focusing on a specific species, with exceptions made for Federal or State Listed Endangered or Threatened Species.

825.1 TECHNICAL PLANNING

Management of wildlife populations on the Burnett County Forest falls under the jurisdiction of the DNR. Planning may be a cooperative effort of the County Forest staff, DNR liaison forester and wildlife manager in formulating management plans and utilizing forest and wildlife management techniques to accomplish desired forest and wildlife management goals.

825.2 GUIDELINES

DNR operational handbooks including the [Public Forest Lands Handbook \(2460.5\)](#), manual codes and guidance documents are important references and guidelines to utilize in fish and wildlife planning efforts.

825.3 INVENTORY

Habitat needs will be determined by analysis of forest reconnaissance information. Population estimates will be conducted periodically by DNR wildlife, endangered resources personnel, and other trained cooperators. Currently, Department Wildlife staff conduct the following surveys on or adjacent to the Burnett County Forest:

- Biotic Inventories
- Summer deer observations
- Summer brood surveys (turkey, grouse, woodcock)
- Spring game bird surveys (ruffed grouse, sharp-tailed grouse, woodcock, turkey, and waterfowl)
- Furbearer / wolf tracking
- Wolf howling surveys
- Bear snare surveys
- Waterfowl banding
- Brood surveys
- Furbearer tracking
- Frog and toad surveys (now done by private citizens)
- Bat monitoring

- Snapshot Wisconsin (done by private citizens and DNR)
- Eagle nest surveys

825.4 RESOURCE MANAGEMENT CONSIDERATIONS FOR WILDLIFE

The following areas of focus are identified for achieving plan objects and for benefit of wildlife.

825.4.1 General Management Policies

Forest management practices may be modified to benefit wildlife and diversity. The following will be considered when planning for management activities:

- Even-aged regeneration harvests (clearcuts) should vary in size and shape and include retention considerations, where they will not interfere with barren site-specific objectives.
- A diversity of stand age, size and species.
- Mast-bearing trees and shrubs, cavity trees, and an adequate number and variety of snags.
- Cull trees (future snag or den trees) not interfering with specific high value trees.
- Timber types, habitat conditions and impacts on affected wildlife.
- Access management.
- Best management practices for water quality (BMP's).

825.5 IMPORTANCE OF HABITATS

Important habitat types are those cover types known to be of importance to certain native wildlife and whose absence would make that wildlife significantly less abundant. These shortages may be on a local or broader scale. The following habitat types can be considered important:

825.5.1 Non-forested Wetlands/Aquatic Habitat

The Burnett County Forest contains approximately 15,520 acres of non-forested wetland types providing a variety of habitats for common, rare and endangered species. Emergent wetland, sedge meadow, muskeg bog and deep marsh provide habitat for species such as wood turtle, black tern, American bittern, and numerous other species. As well as a number of lakes, rivers, streams, ponds and other aquatic habitats. Open water provides habitat for species such as wood duck, trumpeter swan, boreal chorus frog, water shrew and many other species reliant on water related resources.

825.5.2 Riparian and other non-managed areas

Undisturbed shoreline and riparian areas present on the forest and provide habitat for species such as red shouldered hawk, green frog, and woodland jumping mouse.

825.5.3 Early successional forests

Management of aspen, white birch, jack pine and other shade intolerant species creates habitat for a large suite of wildlife species that benefit from early successional forests. On the Burnett County Forest there are currently approximately 50,865 acres of these forest types present. This is a key habitat used for recreational hunting activities providing conditions favorable for American woodcock, ruffed grouse, white-tailed deer and non-game species such as golden-winged warbler, and black-billed cuckoo. Burnett County may choose to follow DNR consideration as out lined in the [Young Forest Aspen, Ruffed Grouse Considerations](#) or [Young Forest Aspen, Ruffed Grouse Management Considerations](#).

825.5.4 Conifers

Conifers, whether jack pine, red pine, white pine, spruce, fir or other types are an important habitat for a number of wildlife species. The Burnett County Forest currently has approximately 36,730 acres of coniferous habitat. Connecticut warbler, red crossbill, northern flying squirrel, and many others utilize conifer types. Jack pine areas can be managed to provide temporary barrens habitat providing habitat for Kirtland's warbler, sharp-tailed grouse and other barrens related species.

825.5.5 Oak management

Oak is an important mast producing food source on the forest, providing acorns for a wide variety of game and non-game species. The Burnett County Forest has approximately 16,770 acres of oak habitat. It is considered a critical resource to retain on the landscape for both its timber and wildlife value, providing habitat for species such as scarlet tanager, wood thrush, red headed woodpecker, and black bear.

825.5.6 Uneven/all-aged management

Management of uneven aged stands provides for multi-storied canopies, diverse age structure and potentially older forest characters. The Burnett County Forest has approximately 3,364 acres being managed under an all aged management system. Species such as Canada warbler, little brown bat, black throated blue warbler and many others benefit from these forest type. In addition, numerous amphibian and reptiles utilize these forest types.

825.5.7 Large forest blocks

Large blocks of County Forest provide habitat for numerous interior species. Gray wolf, black throated blue warbler, Canada warbler and least flycatcher are a few examples of animals that rely on these large blocks.

825.5.8 Grasslands, openings, upland brush

Wildlife openings, grass rights-of-way, natural openings, upland brush and other upland open habitats provide for diversity and unique habitats benefitting pollinators, numerous species including turkeys, American woodcock and whip-poor-will. Burnett County Forest currently has approximately 1,320 acres identified as open grassland or upland brush habitat.

Historically, Burnett County has been maintaining 100s of wildlife openings that have benefited many different game and non-game species. Recent evaluations suggest that log

landings and large-scale clear cuts provide ephemeral wildlife openings that may provide more efficient and more valuable wildlife habitat than historical wildlife openings, especially for land within the Northwest Sand Ecological Landscape. During the time of this management plan, DNR will work with Burnett County to evaluate options to the wildlife openings program using the more up-to-date research and developing wildlife openings criteria and recommendations.

825.6 WISCONSIN WILDLIFE ACTION PLAN/SPECIES OF GREATEST CONSERVATION NEED (SGCN)

In addition to species listed as endangered, threatened or special concern within the NHI database, the Department also maintains a statewide list of species of greatest conservation need.

This list includes species that have low or declining populations and may be in need of conservation action. The list includes birds, fish, mammals, reptiles, amphibians and insects that are:

- Already listed as threatened or endangered
- At risk due to threats
- Rare due to small or declining populations
- Showing declining trends in habitat or populations

The WWAP working list can provide information on how management activities may impact, or in many cases benefit species of greatest conservation need. More information is available on the WWAP website:

<https://dnr.wi.gov/topic/wildlifehabitat/actionplan.html> .

825.7 FISH AND WATERS MANAGEMENT

Public waters shall be managed to provide for optimum natural fish production, an opportunity for quality recreation, and a healthy balanced aquatic ecosystem. Emphasis will also be placed on land-use practices that benefit the aquatic community.

Management of County Forest lands will attempt to preserve and/or improve fish habitat and water quality.

825.7.1 Technical Planning and Surveys

Management of all waters within the County Forest is the responsibility of the DNR. Technical assistance will be provided by the local fisheries biologist. Studies and management will be conducted in the manner described in [DNR Fish Management Handbook 3605.9](#). Water and Population Surveys fall under the jurisdiction of the Department and will be conducted as needed by fisheries biologists.

825.7.2 Access and Development

Access and development of County Forest waters will be limited to those activities consistent with the above water management policies. See Chapter 935 for information on water access.

825.7.3 Important Water Resources

Management activities adjacent to these water resources, or in areas with sensitive soils or severe slopes, should consider measures above and beyond the customary BMP practices. County staff may work with their liaison forester in cooperation with the local DNR water resources staff to develop site-specific measures where appropriate.

An inventory of water resources can be obtained from DNR Water staff for the County. Important water resources on the Burnett County Forest are found on the DNR website at <https://dnr.wi.gov/topic/SurfaceWater/orwerw.html>.

830 EXCEPTIONAL RESOURCES, UNIQUE AREAS

Exceptional Resources include such things as wild rivers and lakes, natural areas, ruffed grouse management areas, areas of unique geological features, historical, temporary barrens habitat and archeological sites. It is the policy of Burnett County to manage these types of resources to enhance and protect their individual exceptional features.

The DNR established criteria for establishing HCVFs on state lands is found below. For the purpose of this plan, the county recognizes this criterion for identifying HCVFs on county land. This does not preclude the county from identifying other unique areas that do not meet the definition of HCVFs.

<https://dnr.wi.gov/topic/TimberSales/documents/DNRLandsHCVFSelectionCriteriaFinal.pdf>

830.1 AREAS RECOGNIZED BY STATE OR FEDERAL GOVERNMENT

830.1.1 Wisconsin State Natural Areas

The Wisconsin State Natural Areas Program which is located with the Department of Natural Resources Bureau of Natural Heritage Conservation and advised by the Natural Areas Preservation Council is a program that helps protect outstanding examples of native natural Communities, significant geological formations and archaeological sites. These natural communities (SNA's) with the assistance from the DNR will be identified and considered for entry into the SNA program. At the current time the Burnett County Forest has no designated SNA's. Upon review of information obtained from the DNR, the Natural Resources Committee will consider designating some SNA sites on the County Forest with acceptable management agreements.

830.1.2 Habitat for Species Identified as Rare, Threatened, Endangered, or Greatest Conservation Need

Though the Burnett County Forest has no one area designated to one particular habitat type for one particular species, it is important to note that with the management of the forest many habitat types are created for many different species to use. The Karner Blue Butterfly is one example of an Endangered Species that our management routinely promotes habitat for.

830.2 AREAS RECOGNIZED BY COUNTY OR LOCALLY-High Conservation Value Forests

While the Burnett County Forest has few passively managed forests within our boundaries, there are areas along the Scenic and Wild Riverways and a few individual stands that present a unique opportunity for the opportunity to have High Conservation Valued Forests. Many of these areas are passively managed and are left in their natural state. This may be due to terrain, proximity to the river way, aesthetic importance, or a native tree species that is uncommon to the area. A list of the Burnett County Forest HCVF can be found appended to this plan in chapter 1000, section 1030.

830.3 CULTURALLY SIGNIFICANT SITES

830.3.1 Burial mounds, cemeteries

Only a few burial and cemetery site are known to exist on the county forest. The local Historical Society has been working on documenting all known cemetery site. When we come across a known burial or cemetery site, management will be altered to protect the historic site.

830.3.2 Logging Camps, Dams, Forest History

No known or documented sites exist on the county forest. If any sites are discovered management will be altered to protect and preserve the site.

830.3.3 CCC Camps

One known Conservation Camp exists on the County Forest. This area has been signed and any management will be altered to preserve and protect this historic site.

835 AESTHETICS

Public perception of forestry has changed over the last planning period and in general it appears that the public is much more accepting of the visual impact of sound forestry. In response to this, aesthetic management planning is intended to be much more simplified in this Plan.

835.1 AESTHETIC MANAGEMENT

Aesthetic management techniques may be applied in areas of high visibility or high public use. Altered management, visual screens, slash disposal, conversion to other species, no cut zones or other methods may be employed, depending on the circumstances of the specific site.

835.2 AESTHETIC MANAGEMENT ZONES

Aesthetic Management Zones include areas where there may be high levels of public presence because of scenic attraction, or some use of the area that would be enhanced by special timber management practices.

835.2.1 Aesthetic Management Zone Examples

- Park and recreation areas
- Lakes and rivers with significant recreational use
- Roads with heavy traffic or scenic drive.

Stand specific aesthetic management prescriptions are itemized in Chapter 3000.

835.2.2 Aesthetic Management Prescriptions/Options

- Adjustment timing of timber harvesting
- Slash restrictions/requirements

- Staggered Harvests / Visual Screens
- Forced conversion to longer lived species
- Irregular harvest lines, interrupted sight distances

835.2.3 Regulated Aesthetic Management Zone Areas

835.2.3.1 Scenic Riverway & Wild Rivers

These areas of the Forest that is adjacent to the St. Croix, Namekagon and Totagatic Rivers, which have been listed under the Federal Wild and Scenic Rivers Act ([Public Law 90-542](#), October 2, 1968). Much of these these rivers in Burnett County are free of impoundments, with shorelines mostly forested and undeveloped but accessible in places by roads. This zone holds outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, and other natural values.

The boundary of the Scenic Riverway zone shall be no less than 412 feet back from the ordinary high water mark on each side of the river. The boundaries shall be determined by field examination by County Forest staff when planning management in these areas.

840 LANDSCAPE MANAGEMENT

The County will make efforts to evaluate surrounding landscapes while managing the County Forest. The County will strive to provide management that compliments the landscapes, but also try to provide for resources or forest types that are lacking or declining within surrounding landscapes.

840.1 CONSERVATION OF BIOLOGICAL DIVERSITY

For the purposes of this plan, biological diversity will be interpreted to reference the variety and abundance of species, their genetic composition, and the communities, ecosystems, and landscapes in which they occur. Forest management activities on the

Burnett County Forest enhance biological diversity by managing for a wide variety of habitat types, age structures and by attempting to perpetuate and protect declining forest types.

840.2 HABITAT FRAGMENTATION

For the purposes of this plan, habitat fragmentation is interpreted as conversion of forests to land uses other than forestry. Lands enrolled in the County Forest Law help protect against habitat fragmentation. A continued program of encouraging land acquisition within the forest blocking boundary is intended to decrease the conversion of forest land to other uses.

845 INTEGRATED RESOURCE MANAGEMENT UNITS

845.1 OBJECTIVES

Previous chapters have outlined the planning objectives, decision guides and management considerations for administering the County Forest.

The intent of using integrated resource management units is to document the differing physical characteristics of individual units on the Forest as well as any unique management considerations. Resource managers can use these chapters as a tool to guide management and to communicate management goals and resource needs to other foresters and resource managers.

845.2 UNIT NARRATIVES

Each unit chapter contains a general resource map, as well as maps of forest types and soil types as well as summaries of the following information:

- IRM or LM Unit Name and Number
- Forest reconnaissance compartments and acreage
- Predominant Cover Types (and changes over time if available)
- Ecological Landscape
- General description of soils and any pertinent landforms or geology

- Listing of water resources (lakes, rivers, streams)
- Any pertinent recreational uses / issues
- Historical, cultural, archeological sites (generalized)
- Surround land use
- Protection needs
- Description of general habitat classifications

In addition, the IRMU/LMU Chapters contain Forest Management Goals and Guidelines for the unit that will guide foresters in making management decisions within the unit. Additionally, site specific management opportunities are included that itemize unique forestry opportunities as well as recommendations for recreational development, land acquisition, access, law enforcement, and others.

Units are compiled in Chapter 3000 of this plan.