



BRULE RIVER STATE FOREST



ACKNOWLEDGEMENTS

This plan has been developed through a team effort by many individuals from the Department of Natural Resources. Through their hard work and expertise, these people have developed a plan that will guide the Brule River State Forest into the future.

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This plan has been developed with significant public and partner input and engagement including a wide range of interested and affected stakeholders with passion and interest in the future management of the Brule River State Forest.

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INTRODUCTION AND SUMMARY

PROPERTY OVERVIEW

The Brule River State Forest is a remarkable place with a rich natural and cultural history and unique opportunities for restoration and management to provide the features that people have valued for so many generations. Located in eastern Douglas County in northwest Wisconsin, the Brule River State forest is approximately 30 miles north to south. It ranges from six miles wide at the south end, two miles wide for much of its length, and has eight miles of frontage on Lake Superior. The town of Brule, near BRSF headquarters, is at the junction of HWY 2 and HWY 27 and is approximately 35 miles east of the city of Superior. The project boundary encompasses 90,000 acres of which approximately 47,000 acres are under state ownership. BRSF contains the entire 44 mile long Bois Brule River and 45% of its watershed. There is a total of 165 miles of stream length including 74 named and unnamed streams and there are five small lakes within the boundary.

Three major ecoregions are represented on BRSF. The Lake Superior Clay Plain, formerly covered by a unique form of boreal forest, today is a landscape that is fragmented into farmland, aspen stands and spruce-fir remnants. The Bayfield Sand Barrens once supported an extensive pine barrens and dry pine-oak forest cover. Pine plantations dominate this region, with sandy, poor soils and level to rolling topography. It is also the site of the “Brule Spillway”, a complex of unique natural features. The Mille Lacs Uplands is a ridge of igneous bedrock that wedges between the other two ecoregions and supports one of the few areas of northern hardwood forest on the Brule River State Forest.

Present forest cover includes 21,500 acres of aspen, 700 acres of white birch, 10,300 acres of red, jack or white pine, 1500 acres of scrub oak, 2,275 acres of fir/spruce cover, 1,650 acres of swamp conifers, 2,200 acres of oak/hardwoods, 1,800 acres of swamp hardwoods, and 3,700 acres of grassy or brushy dominated areas. A diversity of habitats located within BRSF is reflected in an equally diverse mix of bird and mammal species including white-tail deer, black bear, beaver, otter, fisher, mink, bobcat, timber wolf, along with game birds such as the ruffed and sharp-tailed grouse. More than 200 additional species of birds have been recorded in the Brule River State Forest.

Forty-four rare species of special concern, three state endangered and seven state threatened have been documented on the Brule River State Forest. Some of these species have both state and federal protection status. Over 90 occurrences of 20 natural communities were surveyed on the property. Most of these rare species on the Brule River State Forest (BRSF) are associated with aquatic or wetland habitats.

The coldwater fishery supports both native and introduced fish species. Species such as resident and anadromous trout and salmon include brook, rainbow, and brown trout, and Coho and Chinook salmon. A lamprey barrier exists on the lower river to block passage of sea lampreys to their previously productive spawning areas.

The Brule River State Forest is highly regarded for the high quality water based recreation opportunities it offers. The river is the premier trout fishery in the region and attracts anglers from across the state, nation, and around the world. The upper and lower stretches of the river combine to offer canoeing and kayaking opportunities ranging from Class I to Class III (high water) that are not comparable to any other in the region.

The property also offers exceptional forest based recreation. Hunting, particularly for deer, bears, and grouse, is popular on the forest. The property is the official “portal” for the North Country National Scenic Trail as it extends from Maine to North Dakota. There are numerous other trail uses on the forest including hiking, snowmobiling, snowshoeing, and cross-country skiing on the very popular Afterhours Ski Trail.

HISTORY AND BACKGROUND OF THE PROPERTY

The Bois Brule River has been an important corridor through history. Following the ice age it was the southern drainage of Glacial Lake DuLuth. It was an important travel route for early Native Americans. European attention was first documented in 1680 when Daniel Greysolon DuLuth ascended the “burnt river”. Later, it became the critical travel route for explorers, trappers, fur traders and missionaries traveling from Lake Superior to the St. Croix River and points beyond along the famous Brule/St. Croix Portage Trail.

The Bois Brule River's modern history began in the mid to late 1800s when families would travel to the river and camp. Its beauty and the sporting opportunities to fish and hunt remained with them. These early families enjoyed the river and began to build lodges and cabins to spend more time along the river. Some of these lodges are quite exquisite and are still owned by the original families. These families have taken great care over the generations to preserve and protect their properties. This is evidenced by The Nature Conservancy being able to acquire voluntary conservation easements on almost three-quarters of the private lands within the forest boundary.

The lure of the Bois Brule River attracted at least five presidents to its banks. Visits by presidents Grant, Cleveland, Coolidge, Hoover, and Eisenhower have been documented. President Coolidge made the Cedar Island Estate his "summer White House" in the summer of 1928 and housed the federal government in Central High School in Superior.

In the 1870s exploitive logging of the pine forests began. This was followed by devastating forest fires that effected lands that were not protected by the river valley and the landowners of the lodges along the river. The land has also been managed under various agricultural practices, most of which were unsuccessful.

Following the initial donation of 4,320 acres around the present day Ranger Station from Frederick Weyerhaeuser in 1907, there were several acquisitions that brought state ownership to about 9,000 acres in 1911. Little additional land was acquired until after BRSF was officially established in 1932 and the state began to acquire tax delinquent failed farmland. At this time the entire forest boundary was south of HWY 2. A boundary change in 1945 extended the project to the southwest as far as Lake St. Croix and north to HWY 2. In 1956 the boundary was extended to one mile south of CTH FF and in 1959 the boundary was expanded to include an area adjacent to Lake Minnesuing at the south and the Mouth of the Brule River at the north. Another adjustment to the property boundary was in 1979 when the Lake Superior shoreline ownership was extended six miles to the west and as much as a mile to the south of the lake. In 2002, the project boundary was expanded to include more areas between Highway 13 and Lake Superior on the north as well as expanding the boundary to Highway A on the south.

Camp Brule Civilian Conservation Corp (CCC) camp was established in 1933 and from then until 1942, the CCC fought fires, planted trees, performed habitat work in the Brule River and improved the fish hatchery. They had a powerful influence on the re-establishment of forests on the old farm fields and burned over lands.

In the 1950s a full-time manager was assigned to the Brule River State Forest and a sustained yield forestry program and recreational facilities began to be developed. The first forest staff was stationed at the former Gordon State Forest Nursery. In 1963 the staff moved to quarters at the Brule Ranger Station.

STATUTORY PURPOSE OF THE PROPERTY AND REGULATORY REQUIREMENTS

The Brule River State Forest is designated as a state forest under Wisconsin Statute 28.04, Management of State Forests, Section (2) Purposes and Benefits of State Forests reads:

1. The department shall manage the state forests to benefit the present and future generations of residents of this state, recognizing that the state forests contribute to local and statewide economies and to a healthy natural environment. The department shall assure the practice of sustainable forestry and use it to assure that state forests can provide a full range of benefits for present and future generations. The department shall also assure that the management of state forests is consistent with the ecological capability of the state forest land and with the long-term maintenance of sustainable forest communities and ecosystems. These benefits include soil protection, public hunting, protection of water quality, production of recurring forest products, outdoor recreation, native biological diversity, aquatic and terrestrial wildlife, and aesthetics. The range of benefits provided by the department in each state forest shall reflect its unique character and position in the regional landscape.
2. In managing the state forests, the department shall recognize that not all benefits under par. (a) can or should be provided in every area of a state forest.
3. In managing the state forests, the department shall recognize that management may consist of both active and passive techniques.

Sustainable forestry, as used here, is defined by Wisconsin Statute 28.04 (e): "the practice of managing dynamic forest ecosystems to provide ecological, economic, social, and cultural benefits for present and future generations."

PLAN PROCESS

Wisconsin Administrative code, Ch. NR44, requires the department to review property master plans every fifteen years. The master plan for the Brule River State Forest was completed and approved by the Natural Resource Board in December of 2002. Since then a number of plan amendments and vari-

ances have been completed to address changing conditions and legislative requirements.

The purpose of a 15-year master plan review is to assess the adequacy of the current plan and to determine if any revisions are needed. The review compiled and used updated biotic inventories, forest inventories, use patterns, recreation demands and regional and property trends, issues, and opportunities. The department initiated the master plan review process, with approval from the Natural Resource Board, in 2016.

During the initial phase of the plan review process the department developed a public involvement plan and engaged the public. Throughout the plan review process, public input helped identify considerations for plan changes to address the trends, issues and opportunities. Options were explored and proposed plan changes were developed. The plan was repackaged in a format similar to other Northern State Forest master plans and included all previous amendments, variances and changes based on the plan review.

A Land Management Classification variance was included as part of the Brule's 15-year master plan review but integrated in a separate variance process for all Northern State Forests as directed by State Statute. The variance was approved by the department on March 14, 2017 following public review periods ending in November of 2016 and February of 2017. The variance has been incorporated into the plan review.

OVERVIEW OF PROPERTY MANAGEMENT PLAN

The overall management theme described in this plan is taken from Wisconsin State Statute – Chapter 28.04, part of which directs Northern State Forests to designate 75 percent of land as forest production management areas. This Master Plan has been developed to take into full consideration, the unique physical, ecological, historical and sociological characteristics of the Brule River State Forest that make it different from any other public property. These unique characteristics of the property, along with the best scientific information available and input received from the public and other units of government, have functioned as the fundamental building blocks of this Master Plan.

Ecologically, the Brule River State Forest will be managed with an emphasis on the production of recurring forest products, as well as restoring, enhancing, or maintaining ecosystems that provide multiple benefits and are unique to this forest. Socially, BRSF will be managed to continue to provide unique angling, hunting, canoeing, kayaking, camping, and cross-country skiing opportunities. Motorized recreation will be maintained at its current level on designated trails and routes.

Land Management

Unique land management areas have been designated across the Brule River State Forest and are accompanied by sections within this master plan that set management objectives and guide forest management for each unique area. Current forest conditions, desired future stand conditions, and ecological potential were considered as decisions were made concerning these management units.

Primarily, forest management is accomplished through professional foresters assessments of forest stand conditions followed by a competitively bid timber sale process. Other primary forest management activities include site preparation for forest regeneration activities, tree planting, and direct seeding.

Other land management activities that regularly occur include hazard tree removal in recreation developed sites, trail mowing, and prescribed burning.

Recreation Management

Recreation management on BRSF will generally maintain the current capacity of recreational facilities, with some minor changes. The BRSF's recreational facilities and management will continue to focus on the primary recreational activities on the property, including; fishing, paddling and hunting, as well as, hiking, camping, wildlife viewing, cross-country skiing, snowmobiling, etc. The management of recreation will continue to emphasize silent sports and limited, rustic development.

This plan recognizes the role of state forests as described by state statute and acknowledges the unique capabilities of the Brule River State Forest. An earnest attempt has been made to accommodate the many diverse interests people have regarding the property. All these interests were weighed against the ecological capability of the land as well as the recreational interests involved.

Land Acquisition Overview

There are no proposed changes to the acquisition boundary for the Brule River State Forest. All purchase of lands is from willing sellers only and at a mutually agreeable price. Payment in lieu of taxes is made to taxing authorities on all lands acquired in the state forest.

MANAGEMENT AND DEVELOPMENT





MANAGEMENT AND DEVELOPMENT

MASTER PLAN

The management goals and prescriptions described in this chapter have been developed within the context of a regional landscape setting and a long-range view of ecological restoration and management. The Brule River State Forest (BRSF) exists as one small part of a larger landscape that contributes to or detracts from the various goals outlined in this plan. It is recognized that landscape level ecological goals for natural communities such as boreal forests or pine barrens cannot be achieved without a property expansion and regional cooperation with other landowners. It is also recognized that ecological restoration and management goals, particularly for forests, often cannot be met in the typical 15-20 year time frame of a state property master plan. This reality is reflected in the time frames described in the Management Area objectives. It is the intent of this plan to outline the specific steps that can be taken to contribute to the regional and long-range goals with the realization that they will not be achieved before this plan is reviewed for revision in the next planning cycle.

VISION STATEMENT

The Brule River State Forest provides for the sustainability of a unique river system and biologically rich forest community. The BRSF's natural resources are managed, protected and restored to promote ecological health and natural communities, to complement the larger ecosystem, and to recognize cultural and economic values. The state forest accommodates recreational activities consistent with the natural quality and scenic settings found along the Bois Brule River. The Department of Natural Resources (DNR) works with federal, state,

tribal and local governments, neighboring industrial and private forest owners, and the citizens who enjoy and subsist on the resources of the Brule River State Forest.

GOAL STATEMENTS

- Maintain and enhance the high water quality and natural flow of the Bois Brule River.
- Provide an environment that emphasizes natural beauty and enhances a sense of solitude and quietness.
- Maintain and enhance the quality of the fishery and fishing opportunities.
- Maintain hunting opportunities on the BRSF.
- Provide and accommodate a range of land and water based recreational opportunities while protecting the natural beauty and quiet experiences.
- Use sustainable forestry practices to manage the forest resources for present and future generations.
- Maintain and restore native ecological communities and habitats.
- In consultation with tribal governments, manage the land and other natural resources to provide for the exercise of Chippewa Treaty rights, in accordance with applicable law.
- Increase educational opportunities on the forest for all users.
- Involve the public as partners in the planning and management of the forest.
- Continue to purchase private land from willing sellers that are within the Brule River State Forest boundary, as such land becomes available.



LAND MANAGEMENT AREAS

The Brule River State Forest is divided into 16 Land Management Areas. Six are classified as Forest Production Management Area, six are classified as Native Community Management Areas, one Scenic Management, one Habitat Management, one Special Management, and one is Recreation Management Area – Type 3 Setting.

Each management area has specific short-and long-term objectives that articulate the future desired condition based on the ecological capabilities. Because forests and landscapes change slowly, actions taken, or not taken, over the next 15 years may require 50-100 years to affect the forest as a whole. Each management area has area-specific land management objectives and prescriptions, and in some cases area-specific recreation management and development objectives and prescriptions based on the area's unique characteristics and capabilities. The long and short term objectives, as written, reflect the intent and ability to meet those objectives under ideal conditions. Biotic factors such as poor regeneration, lack of crop trees for some species, or major wind events may impact the ability to meet the stated objectives.

Each Land Management Area contains the following information:

- Overview and summary
- Description of the resource
- Current and projected land cover
- Short and long term management objectives
- Management prescriptions

RECREATION MANAGEMENT AREA CLASSIFICATION

Area 1: Afterhours Recreation Management Area

SPECIAL MANAGEMENT AREA CLASSIFICATION

Area 2: Administrative Management Area

HABITAT MANAGEMENT AREA CLASSIFICATION

Area 3: Highway 13 Grassland Habitat Management Area

SCENIC RESOURCE MANAGEMENT AREA CLASSIFICATION

Area 4: Brule River Scenic Management Area

NATIVE COMMUNITY MANAGEMENT AREA CLASSIFICATION

Area 5: Clay Plain Native Community Management Area

Area 6: Sugar Camp Hill Native Community Management Area

Area 7: Vapa Willard Native Community Management Area

Area 8: Motts Ravine Native Community Management Area

Area 9: Brule Bog Native Community Management Area

Area 10: Lake Minnuesing Native Community Management Area

FOREST PRODUCTION MANAGEMENT AREA CLASSIFICATION

Area 11: Superior Clay Plain Forest Production Management Area

Area 12: Miller Road Forest Production Management Area

Area 13: Troy Pit Pines Forest Production Management Area

Area 14: Hilltop Forest Production Management Area

Area 15: Hazel Prairie Pines Forest Production Management Area

Area 16: Gordon Forest Production Management Area

STATE NATURAL AREAS

Five State Natural Areas (SNA) are designated on the Brule River State Forest. State Natural Areas recognize sites with special, high quality ecological or habitat values. SNA's are sites that contribute to rare species habitat, provide ecological reference areas, or contain significant geological or archaeological features. SNA's and their management are fully compatible with the overall management purpose of the management area where they are located. Each SNA has its own objectives and prescriptions designed to protect and or enhance the area's unique values.

ORGANIZATION OF THIS CHAPTER

The first section of this chapter covers the land management areas and the management of each. The primary focus for all the areas, except the Recreation Management Area, is on resource management and not recreation. Public use and recreation management and development is discussed in a property-wide format in the section following the management areas. The last portion of the chapter covers general, property-wide management provisions.

LAND MANAGEMENT AREAS



RECREATION MANAGEMENT AREA



RECREATION MANAGEMENT AREA

The purpose of a recreation management area is to provide and maintain land and water areas and facilities for outdoor public recreation or education. Objectives and prescriptions incorporate future desired landscape conditions, management activities, and policies for the protection, maintenance, enhancement, or restoration of the visual characteristics important to the recreational use of the area. The general forest management prescriptions by primary forest type are authorized unless restricted by a prescription within the management area itself.

Recreation Management Areas are defined in NR44.06(B) and the type 3 Recreational Use Setting is defined in NR44.07(6)

RECREATION MANAGEMENT AREA		
Area #	Recreation Management Area - Type 3	Acres
1	Afterhours Recreation	900
	Total	900

RECREATION MANAGEMENT AREA





The Afterhours Recreation Management Area is located south of HWY 2 and west of the Bois Brule River. This area is approximately 900 acres in size under state forest ownership. It is across the river and directly west of the Ranger Station. The current forest cover consists primarily of a deciduous and conifer mix. While it is within the Bayfield Sand Plains it is in a transition area among the three primary ecological landscapes within the BRSF. Its current condition and management objectives have resulted in a management prescription that favors the Mille Lacs Uplands potential for this area.

The Afterhours Ski Trail system is the primary public use focus of the management area. This is a highly popular cross-country ski area well known for its excellent grooming and dependable snow coverage. The system is currently about 17 miles of lightly developed trail on gently rolling terrain. The trail system has easy and difficult entry loops and linking loops which are groomed for both classic and skate skiing styles. One loop is groomed for classical only skiing. Two snowshoe trail loops also are provided for those that prefer this activity. During the non-snow seasons, hiking is popular here, and the trails also provide hunter walking access during the hunting season.

The trailhead has parking 50 cars as well as restrooms. A new warming house at the trailhead was completed during 2017. A maintenance/storage facility for grooming equipment is also located there.

RECREATION MANAGEMENT

Management Objectives

- Provide high quality opportunities for cross-country skiing, snowshoeing, biking, hiking and other compatible non-motorized trail uses on lightly developed trails. Continue to support the regional snowmobile trail that passes through the management area.
- Maintain and continue to improve trail conditions and facilities to meet the current and projected demands of the cross- country skiers and other users while maintaining the general rustic character of the management area.

Management Prescriptions

- Develop a new ski trail loop that features challenging topography to provide additional opportunities for more advanced skiers.
- Develop a new designated ski-joring trail in close proximity to the parking area for those who wish to ski with their pets.
- One to two small indoor group camps (camper cabins) of a very rustic nature that accommodate 6-10 persons each are authorized to be built in the Afterhours ski area for overnight use. Design options will be shared with the public for comment during implementation.

- Create a mountain bike trail system in and around the Afterhours Recreation Management Area to accommodate this popular use. As appropriate, use existing trails, such as the snowshoe trail, and construct new lightly developed trail where necessary.
- Authorize the use of fat tire bikes the winter ski trails, snowshoe trails, and mountain bike trails. Snow grooming for winter fat tire bike use will be done as resources allow. (Note: Bikes may be ridden on any location of the state forest, except on designated hiking trails.)
- Conduct vegetation maintenance along all designated trails to facilitate grooming and safe recreation.
- Provide additional restroom facilities as needed.
- Maintain the snowmobile trail that crosses the management area.
- An archery course is authorized to be built and maintained on the ski trail system. (An archery course was developed in the mid 2000’s by a local archery club. This was a walk-through course was developed and maintained by volunteers from the club. Interest in using this area for archery has diminished, but a practice range continues to get some regular use.)

RESOURCE MANAGEMENT

Afterhours Recreation Area – Long-term Management

Objectives (100 years)

- Provide a desirable setting for high quality year round trail activities.
- Maintain a mixed conifer/hardwood forest consistent with the areas ecological capabilities and the scenic recreational setting.

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	588	500
Balsam Fir	-	88
Oak	156	136
Red Pine	11	11
Tamarack	22	22
White Pine	66	66
White Spruce	-	20
Other	23	23
Total	866	866



Afterhours Recreation Area – Short-term Management Objectives (50 years)

- Improve and maintain trail conditions that meet the current and projected demands of the cross country skiers while maintaining the general rustic character of the management area. Use tree harvesting to expand the cleared width of the trail to provide better and consistent grooming.
- Assure regeneration of desired trees species with the goal of producing a scenic and diverse (age class and species) forested setting.

Afterhours Recreation Area – Authorized Management Activities

Activities may include clearcuts, shelterwood, group selection and selection harvests, mechanical ground disturbance, mechanical or hand planting, seeding, mowing, prescribed fire, mechanical or chemical brush control, and seeding.

Afterhours Recreation Area – Resource Management Prescriptions

As appropriate for the specific site, existing ecological communities and timber stand conditions, the following management

prescriptions will be used to achieve the long-term and short-term objectives identified above:

- Establish a healthy stand of mature long-lived species with emphasis on various hardwoods, red pine and white pine. Use primarily selection, shelterwood, and small clearcut harvests to promote large trees, age class diversity, and regenerate the desired species.
- Focus management on the development of longer lived species as well as the spreading out of age classes in future stands.
- Use primarily small-scale management actions (timber harvest, scarification, planting, prescribed fire, etc.) to maintain pine and oak components in this forest. Conduct management generally in the summer and fall months to avoid the primary ski season.
- Selectively harvest and remove diseased and defective trees to enhance the scenic quality of the area, particularly near trails. Use clearcuts primarily in aspen cover types.
- Within 100 feet of recreational trails, treat all slash so it is at a height less than 24 inches to minimize the visual impact.



SPECIAL MANAGEMENT AREA



SPECIAL MANAGEMENT AREA

The management objective of a special management area is to provide and maintain areas and facilities for special uses not included under other land management classifications. Examples of special management areas include administrative or service facility areas, cultural resource protection areas, propagation or nursery areas and demonstration or experimental management areas.

Special Management Areas are defined in NR44.06(7)

SPECIAL MANAGEMENT AREA		
Area #	Special Management Area	Acres
2	Ranger Station/Hatchery Administrative Management Area	400
	Total	400

SPECIAL MANAGEMENT AREA





The administrative area encompasses the Ranger Station, CCC era garages, the maintenance garage, the wildlife and fishery garages, and the open area just north of the fishery garage. This area is approximately 400 acres in size. It is roughly one mile long, running from the end of Ranger Road nearly to HWY 27, and is just north of Stoney Hill. The Little Brule River is located within this area, as well as the Brule Fish Rearing Station.

Administrative – Long-term Management Objectives (100 years)

- Maintain the structures and facilities in this area that provide functions such as forest headquarters offices, customer service to the public, garages, equipment storage and maintenance.

Administrative – Short-term Management Objectives (50 years)

Develop additional educational opportunities and customer services in association with the existing building complex.

Administrative – Management Prescriptions

Authorization of any modifications to WDNR administrative offices / buildings would be handled separately from the

master plan under the WDNR facilities development process. Management actions, other than modifications to WDNR administrative offices / buildings, would include the following: Construct a rustic shelter on the terrace north of the headquarters building for use during education programs. Opportunities for such education facilities were identified in the Environmental Education and Awareness Assessment (Fannucchi et al. 1998).

- Forest resources would be managed with the objective of developing a stand of large pines and maintaining regeneration of a pine community through a variety of management activities.
- Diseased and defective trees would be removed annually.
- Remove invasive species.

Administrative – Cultural Resource Management

- Preserve, protect and interpret the site of the former CCC camp and maintain interpretive sign to explain that camp’s role in the history of BRSF. Opportunities for this type of user education were identified in the Environmental Education and Awareness Assessment. (Fannucchi et al. 1998)

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	184	180
Balsam Fir	3	3
Oak	6	6
Red Maple	10	11
Red Pine	118	118
Scrub Oak	0	-
White Birch	6	6
Other	35	38
Total	362	362



RANGER STATION/HATCHERY ADMINISTRATIVE MANAGEMENT AREA

SPECIAL MANAGEMENT AREA

AREA

2



HABITAT MANAGEMENT AREA



HABITAT MANAGEMENT AREA

The management objective of habitat management areas is to provide or enhance habitat (upland, wetland, or aquatic) to support specific species of plants or animals. Habitats and communities with this designation are managed for a wide variety of purposes, including focused species production and protection.

Habitat Management Areas are defined in NR44.06(5)

HABITAT MANAGEMENT AREA		
Area #	Habitat Management Area	Acres
3	Highway 13 Grassland	650
	Total	650

HABITAT MANAGEMENT AREA





This management unit consists of approximately 650 acres of state owned land which is located primarily along the Hwy 13 corridor, with a few outlying grassland areas include near Hwy FF as well as Fasteland Road near the town of Brule. These areas are located on previously farmed areas that consist of restored wetlands with surrounding associated grasslands.

The managed wetland/grassland areas offer waterfowl hunting, wildlife viewing, wetland wildlife habitat and provides storm water storage to reduce rate and volume of major snow-melt and rain events. The grasslands currently maintained in this area were not a part of the historic condition but offer opportunities to manage for rare or declining grassland birds as well as some game species. Grasslands were the only existing habitats in this area where specific management needs for rare or uncommon species were noted in this area by the Biotic Inventory of the Brule River State Forest.

Long-term and Short-term Management Objectives

- Maintain, create and enhance constructed wetlands to provide habitat for a wide variety of wetland birds such as sora rail, American bittern, spotted sandpiper, pied-billed grebe; song birds such as sedge wrens, yellow-headed black birds, eastern kingbird; and waterfowl such as mallard, blue-winged teal, hooded merganser, and Canada goose.
- Maintain areas of existing grassland in an early successional grass and shrub cycle of management in order to provide habitat for a variety of game and non-game wildlife species, including upland sandpiper, sharp tailed grouse, eastern meadowlark, clay colored sparrows, woodcock and bobolink. The grasslands would also provide summer habitat for leopard frogs, nesting habitat for waterfowl, grazing and fawning areas for deer, and contribute to year-round habitat for sharp-tailed grouse.
- Continue to provide grassland-wetland habitat to support the unique hunting and wildlife viewing opportunities offered by the Brule River State Forest.
- Continue to provide rain and snowmelt runoff storage.

Area 1 – Authorized Management Activities

Management of grasslands and wetlands require a variety of active management techniques. Activities may include mechanical ground disturbance, mowing and mechanical brush control, haying, earthwork for drainage and wetland management, water level manipulation on existing impoundments, planting native trees, shrubs or ground vegetation, chemical vegetation manipulation, and prescribed fire.

Resource Management Prescriptions

- Reduce peak stormwater flows to the Brule River by plugging old drainage ditches to restore more natural drainage patterns across the landscape to protect water quality.
- Maintain grasslands through hay contracts, periodic mowing, or prescribed burns.
- Wetlands would be restored, enhanced, or created to foster sedge meadows, shallow marshes, and open marsh wetland habitats through water manipulation and earthwork necessary to construct or maintain water control structures.
- Native species, such as wild rice, may be planted as part of wetland enhancement
- Use herbicides to control invasive plants or to create the desired vegetative composition when other natural or mechanical methods are not effective.

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	49	49
Balsam Fir	8	10
Red Pine	5	5
Swamp Hardwoods	7	7
White Pine	5	5
White Spruce	1	1
Grassland	506	506
Water	43	43
Other	9	7
Total	633	633



HIGHWAY 13 GRASSLAND HABITAT MANAGEMENT AREA

HABITAT MANAGEMENT AREA

AREA

3



SCENIC RESOURCE MANAGEMENT AREAS



SCENIC RESOURCE MANAGEMENT AREAS

The management objective of a scenic resources management area is to protect, maintain, and enhance for long-term public enjoyment lands or waters having unique aesthetic qualities or outstanding scenic beauty and lands where managing for aesthetics is a primary concern due to significant or special public use of the area. This classification is applied to lands with outstanding scenic attractions; to scenic lakes, rivers and streams with high value for water-based recreation; and to scenic highways, roads, trails or vistas for the specific use of enjoying the scenery. Vegetation management approaches appropriate for use within scenic resource management areas may vary from passive management to active management, depending upon the long-term scenic management objective and the site’s ecological capability, vegetation types, and site conditions. Examples of potential vegetation management activities that may be prescribed by the master plan include timber harvesting, planting, herbicide application, mowing, burning, flooding, installation of fish habitat improvement devices, road construction, and erosion control. Additional restoration activities potentially include cutting trees and shrubs to maintain or create scenic vistas, under-planting or replanting for visual variety or to speed conversion to a scenically desirable forest type and removal of invasive species.

Scenic Resource Management Areas are defined in NR44.06(9) and the Recreation Use Setting is defined in NR44.07(6).

SCENIC RESOURCE MANAGEMENT AREAS

Area #	Scenic Management Area - Type 3 Setting	Acres
4	Brule River Scenic	4,000
	Total	4,000

SCENIC RESOURCE MANAGEMENT AREAS





The Brule River Scenic Management Area stretches approximately 16 miles from CTH B to the mouth of the river at Lake Superior. This management area has significant scenic, biological and recreational resources that will be well supported by this designation. The management area includes several distinct management aspects or areas that will be discussed separately. These include the scenic river corridor and eastern border forest.

At the narrowest stretches this management area generally contains the lands on both sides of the river up to the top of the slope where a change in habitat type is recognized. It includes all of the canoe landings with their accessory facilities north of HWY B, including parking areas, restrooms, signage, etc. and the angler parking lots located at various points along the river’s course. This area is approximately 4,000 acres under state forest ownership.

SCENIC RIVER MANAGEMENT AREA

The scenic management area includes all the public lands on both sides of the Brule River from Lake Superior upstream to CTH B where it joins the Brule Bog and Spillway Native Community Management Area. Forest covertypes vary through this area with common types being ash and alder dominated floodplain forest, upland aspen, mixed aspen/fir forest, boreal mixtures of pine/hardwood/fir/spruce, and northern hardwood forests. Along each side of the river the management area extends from the Brule River to a management line corresponding to the topography and vegetation change found where the slopes leading to the river flatten out to a more level upland or a minimum of 400 feet from the river’s edge whichever is greater. It should be recognized that not all river shorelands are part of the state forest and some private owners maintain lawns, buildings and other settings.

Management for this area is divided into two distinct management zones, the “River Corridor” and the backland “Boarder Forest” zone. Management objectives and prescriptions for each zone are listed separately below.

Scenic River Zone – Long and Short-term Management Objectives

- Maintain the natural scenic quality of the river with a conifer dominated older forest corridor.
- Manage public access areas to support use of the river but not detract from the scenic quality.

Scenic River Zone – Authorized Management Activities

Activities will be conducted to maintain a scenic and safe experience for recreational users and will not be conducted for natural community management. Maintenance of public use facilities, exotic plant control, erosion mitigation, hazard tree

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	2101	1700
Balsam Fir	507	1000
Black Spruce	-	18
Jack Pine	1	0
Northern Hardwoods	50	50
Oak	33	20
Red Maple	63	75
Red Pine	78	78
Scrub Oak	26	26
Swamp Hardwoods	247	247
Tamarack	12	32
White Birch	18	0
White Cedar	9	9
White Pine	104	175
White Spruce	19	65
Brush/Grass	219	355
Water	203	203
Developed Use	92	94
Other	19	1
Total	4148	4148

removal, and salvage harvests would occur if deemed necessary to maintain the scenic and safe nature of the management area.

Scenic River Zone – Resource Management Prescriptions

- No ongoing active management (timber harvest/ground disturbance) would occur within this corridor. The only timber cutting that would occur along the river would be done to provide a safe and scenic experience to users of the forest and river.
- Maintain the approximately 35 acre “Brule River Marsh and Lagoon” complex in a healthy natural condition with no further developments.
- Maintain existing public use access and recreation areas consistent with the overall scenic character of the management area. These sites are detailed in the river recreation section.
- Monitor for invasive plant infestations and use control methods appropriate to the species and infestation threat. These methods may include mechanical removal, herbicide applications or biological control.



BORDER FOREST ZONE

The border forest includes all forested lands within this management area that lie outside of the River Zone as described above. In general, this border forest describes lands that lie outside of 400 feet from the river. The largest block of this border forest area begins 0.5 mile south of CTH FF and includes lands between the top of the eastern slope of the river zone and the eastern property line south to HWY 2. South of HWY 2 it includes lands from the top of the eastern slope of the river zone east to HWY 27.

Most of this narrow section of the management unit is within the Lake Superior Clay Plain and has similar ecological condition and history to the forest described in that section. However, in this section forest management will be conducted with an emphasis on developing and maintaining a forest for scenic resources rather than a specific ecological condition.

Border Forest Zone – Long-term Management Objectives (100 years)

- Develop a forest of older trees dominated by conifer species to promote a scenic setting between the river corridor and the public roads.
- Manage public access areas to support use of the river but not detract from the scenic quality.

Border Forest Zone – Short-term Management Objectives (50 years)

- Increase the covertime of white pine and fir-spruce.
- Establish white pine, white spruce and white cedar in areas lacking these species.
- Explore management opportunities to reduce area of alder in favor of other wet soil species such as white cedar and tamarack.

Border Forest Zone – Authorized Management Activities

Depending on the existing community type, different management activities will be used to manage the forest toward the same future desired condition of a scenic older conifer forest.

Activities may include passive management, clear cuts, shelterwood harvests, seed tree, selective harvests, seeding, planting and site preparation, exotic plant control and maintenance of existing public access areas.

Border Forest Zone – Resource Management Prescriptions

As appropriate for the specific site, existing ecological communities, and scenic resources, the following management prescriptions will be used to achieve the long-term and short-term objectives identified above.

- Encourage existing aspen stands to convert to a more boreal mixture of conifers through a combination of

active and passive management. Harvest areas would generally be small in size and irregularly shaped to blend into the landscape. Where applicable, the harvest areas would be replanted or seeded with boreal conifers (white pine, white spruce, and white cedar). Any harvest areas greater than three acres in size will involve leave trees as a residual stand to discourage aspen regeneration. In general, small patch clearcutting methods would be used to encourage the development of mid to shade tolerant species.

- Harvest operations would be limited to frozen or dry ground conditions.
- Manage the existing hardwood types (primarily oak and poor quality northern hardwood stands) to promote the growth of large diameter trees. Long-lived species such as oak, sugar maple, and pine species would be encouraged within this management unit for their aesthetic qualities. Regeneration treatments on these stands will be done with small patch clearcutting methods to encourage species such as fir, oak, pine and spruce.
- Periodically thin pine plantations in order to create a density of large diameter trees with a natural appearance.
- Grow pine on extended rotations using natural regeneration systems to produce a new stand of trees.
- Whenever appropriate, use harvesting methods which leave a large number of residual trees to minimize the visual impact.
- Plant a native mix of trees when natural regeneration fails, avoiding straight row look.
- In the event of a catastrophic event such as a major windstorm, fire, or flood, use timber salvage operations to clean up the areas affected by the event.



NATIVE COMMUNITY MANAGEMENT AREAS



NATIVE COMMUNITY MANAGEMENT AREAS

Native community management areas are managed with the primary objective of representing, restoring, and perpetuating native plant and animal communities, whether upland, wetland, or aquatic and other aspects of native biological diversity. Management activities are designed to achieve land management objectives through natural processes or management techniques that mimic natural processes when possible. Areas that do not have the desired community conditions but have a reasonable potential to be restored to those conditions are included in the Native Community Classification. Native community management areas also provide low-impact public access for uses such as hiking, bird-watching, photography, and nature study. Opportunities are also available for research, ecological interpretation and education.

Native Community Management Area are defined in NR44.06(4)

NATIVE COMMUNITY MANAGEMENT AREAS		
Area #	Native Community Management Area	Acres
5	Clay Plain	5,900
6	Sugar Camp Hill	1,500
7	Vapa Willard	1,700
8	Motts Ravine	1,500
9	Brule Bog	3,100
10	Lake Minnuesing	470
	Total	14,170

NATIVE COMMUNITY MANAGEMENT AREAS





This management area, including state owned lands within the area boundary, is approximately 5,600 acres in size. This management area involves lands north of an irregular line that approximately follows CTH FF and the east side of the Brule Valley, as well as lands lying between Clevedon Road and Hwy 13 lying north of where Hwy 13 crosses the Brule River. Also included are lands bordering Lake Superior shoreline across the entire 9 mile length of state land ownership.

The uplands of the Clay Plain NCMA consist of about 50% aspen with many of these stands showing strong development of balsam fir as a secondary species. While the fir-spruce covertype totals about 10% of the land base. The remaining acreage consists of a diversity of forest and shrub habitats. Stands of white birch, alder, red pine, and white pine are present throughout the uplands. Generally, white birch has shown a steady decline while balsam fir is regenerating well. Scattered individual white spruce and white pine exist through this area but regeneration of these species is limited.

Extensive stretches of undeveloped Lake Superior shoreline are found to the east and west of the mouth of the Brule River. Much of this is an unvegetated sand beach. The present upland vegetation behind the beach and above the low clay bluffs generally consists of open stands of trembling aspen, white birch and a dense shrub layer of speckled alder.

The existing natural community composition provides a variety of benefits. The aspen areas provide habitat for early successional wildlife and popular game species and maintenance of this habitat provides a sustainable source of forest products. However, early successional habitats are common throughout the clay plain on other lands. Recreational data indicate that while similar game habitat is found elsewhere in the region, the BRSF attracts hunters seeking the unique setting it provides. Over 30,000 hunter visits are made to the entire state forest each year.

The most unique quality of this management area is its potential for restoration of the historic clay plain boreal forest (Epstein et al. 1999, Eckstein et al. 2001, Brusoe et al. 2001). The boreal forest community was historically of limited extent within Wisconsin. Although boreal forest exists broadly in other parts of the continent, it is now considered a rare community in Wisconsin. Analysis of historic records shows a high importance of white spruce, white pine, and white birch, the “three whites,” in the original forest cover along with

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	3455	3500
Balsam Fir	610	760
Oak	24	20
Red Pine	24	24
Swamp Hardwoods	184	143
Tamarack	17	17
White Birch	203	210
White Cedar	5	5
White Pine	140	140
White Spruce	74	74
Grass/Brush	688	688
Other	16	16
Total	5597	5597

common associates including white cedar, red maple, balsam fir, aspen, upland white cedar and upland tamarack. (Mossman et al. 1997, Bartelt et al. 1999, Eckstein et al. 2001). Management on the BRSF has been slowly increasing the fir-spruce covertype in this area to a percentage that is twice that of the surrounding landscape. In addition, much of the aspen covertype in this management area supports balsam fir at various age classes as the second most dominant tree species. The existing conifer dominated forests in this part of the BRSF provide multiple benefits such as increased regional biodiversity, aesthetic values and habitat for boreal birds and plants on the southern edge of their range. Some existing areas of fir-spruce are developing old growth structural attributes for this community type such as large trees, snags, coarse woody debris and tip-up mounds. This forest composition is rare throughout the region and is generally not expected to be a management priority for other landowners (Bartelt et al. 1999). This unique opportunity is the basis for the management emphasis of this area.

The restoration of the historic clay plain boreal forest community faces some difficult challenges and will be a slow process (>100 years) with no guarantee of success (Eckstein et al. 2001). The Community Restoration and Old Growth Assessment recognizes the challenge of restoration in this commu-



nity type and recommends a varied and adaptive management approach. Increasing some components of this forest community such as white birch may be achieved sooner than other components such as white pine. To maximize the chances of success, the restoration plan would need to be adaptive to prescriptions that work and would need to experiment with alternative methods. While the forest management practices within the BRSF over the last 40 years have facilitated some increase in conifers on the clay plain, the changes in soil structure and seed sources prior to state ownership have created long-term impacts to this system. Many of the historically occurring seed sources are reduced or no longer present in the area. Restoration efforts will be further challenged by the clay soil in the area, which is often either too wet or too dry for successful seeding or planting of trees. The size and shape of the property and dominant land uses in the surrounding landscape will limit large-scale conservation opportunities. The following objectives and prescriptions for this management area focus primarily on using a variety of passive and active management techniques to increase the dominance of the historic clay plain boreal forest species.

Long-term Management Objectives – 100 years

Develop and maintain an ecological landscape dominated by clay plain boreal forest communities interspersed with areas of wetland and stream habitats. The upland landscape would be large enough for a diversity of covertypes and ages to exist at levels necessary to support the wildlife and plant species associated with these different habitats and successional stages.

- Manage the upland forest toward a dominance of white spruce, white pine, and white birch, along with common associates including white cedar, balsam fir, aspen, red pine and upland tamarack. This forest would have a representation of a full spectrum of age classes within these forest types.
- Establishing large forest patches (100s to 1,000s acres) with relatively high canopy closure and good representation of clay plain forest species.
- Develop a forest with at least 10% of the stands supporting a structure containing large trees of longer lived species such as white pine, white spruce and white cedar and much of the structural diversity typical of natural old growth forests, including large living trees, dead trees, snags, tip-up mounds and a substantial amount of coarse woody debris. The understory would likely be characterized by a dense growth of shrubs such as alder and beaked hazel. This forest structure would benefit wildlife

such as woodpeckers, cavity nesters, small mammals, amphibians and predators such as fisher and bobcat.

- Maintain white birch as a dominant component along with associated early successional species.
- Protect water quality and aquatic habitat of streams by managing the riparian forest primarily to reduce runoff from clay soils and prevent unnatural levels of bank erosion.
- Manage several conifer dominated areas passively and monitor as reference areas with considerations. Management actions would be considered in cases of exotic plant control and public safety needs.
- Provide the habitat and setting to support the unique hunting opportunities offered by the Brule River State Forest.
- Manage the Brule River Boreal Forest State Natural Area and the Pearsen Creek portion of the Bear Beach State Natural Area as passive management reference sites to provide base information for adaptive management approaches to clay plain boreal forest restoration.
- Manage the Bear Beach State Natural Area to protect the banks and beach of the Lake Superior shoreline.
- Preserve and enhance the natural aesthetic quality in areas seen from the Brule River; its tributaries, lagoons, the Lake Superior shoreline and designated public use areas.

Short-term Management Objectives – 50 years

- Conduct forest reconnaissance monitoring of vegetation every 10 years to measure change in actively and passively managed areas
- Use monitoring information on changes in composition and structure from existing conifer dominated reference areas for future management decisions.
- Reduce aspen acreage to allow an increase in other covertypes. Aspen would remain a component of these other covertypes.
- Increase acreage of fir and spruce.
- Increase acreage of white pine and increase the presence of white pine throughout other covertypes.
- Establish white pine and white spruce seed source in areas lacking these species.
- Increase the white birch covertype acreage.
- Regenerate some areas of aspen and fir and slowly convert other areas to the target species.
- Experiment with management options to increase white cedar or tamarack in areas currently dominated by tag alder.



Authorized Management Activities

Depending on the existing community type, different management activities will be used to manage the forest toward the same desired future condition. Because of the experimental nature of restoring a conifer dominated clay plain forest, a variety of techniques will be applied over small areas to determine successful management scenarios. Management of grasslands and wetlands also require a variety of active management techniques. Activities may include, passive management, clearcuts, shelterwood, group selection and selection harvests, mechanical ground disturbance, mowing, chemical, and mechanical brush control, earthwork for drainage and wetland management, planting and seeding of native trees shrubs or ground vegetation, and prescribed fire.

Resource Management Prescriptions

As appropriate for the specific site, existing ecological communities and current conditions, the following management prescriptions will be used to achieve the long-term and short term objectives identified above:

- Reduce peak stormwater flows to the Brule River by plugging old drainage ditches to restore more natural drainage patterns across the landscape to protect water quality.
- Limit logging operations to periods when the soil is dry or frozen and restrict construction of new roads in order to reduce potential for increasing runoff. Perform no timber harvests on the slopes along the stream corridors, except as necessary to maintain public safety and control invasive exotic species. Retain large woody debris to minimize erosion, reduce rate of run-off, and increase habitat quality for both fish and wildlife.
- In some areas increase downed woody debris to benefit wildlife, including wood frogs, toads, blue-spotted salamanders, mice, chipmunks, etc.
- Manage the Brule River Boreal Forest State Natural Area (652 acres) and the Pearsen Creek portion of the Bear Beach SNA as passive management reference sites to provide information for the adaptive management approach to clay plain boreal forest restoration.
- Manage the Bear Beach State Natural Area (103 acres) to protect the banks and beach of the Lake Superior shoreline.

Passive Management Reference Areas

- Perform no forest management in designated reference areas, except as necessary to maintain public safety and control invasive exotic species.

- Three sites will serve as reference areas for boreal forest. These sites include the Task Creek-Weir Riffles, Bracket's Corner and the Pearson Creek sites.
- The Trask Creek-Weir Riffles site and the Pearson Creek site (as part of the Bear Beach SNA) will be established as a State Natural Area. (Refer to the State Natural Area map in the Maps Section at the back of this Document)
- Continue to monitor these areas for vegetative changes at least every 10 years using forest reconnaissance and repeat biotic inventory monitoring at least every 20 years.

Conifer-dominated stands

- Balsam fir is currently the dominant conifer on the clay plain of the Brule River State Forest. Manage areas of balsam fir to perpetuate balsam fir and increase white pine, white spruce and white birch through shelterwood, group selection, and selection harvests. Where white pine and white spruce are absent plant these species to establish a seed source. Various planting techniques and configurations will be used and monitored for success.
- Encourage conifers through selective removal of hardwoods (including aspen), seeding, planting, or allowing natural succession.
- Existing areas of white pine or white spruce can serve as a seed source so actions may be concentrated on managing surrounding areas to encourage regeneration of these species. Within these stands they may be thinned to allow growth of larger trees while increasing the presence of old growth structure such as snags and downed woody debris.
- Stands of white cedar will be retained as a seed source for expanding the distribution of this species.
- The few red pine plantations in this area will be gradually thinned to create forest stands with greater diversity and a more natural structure.

White birch

Manage for areas of white birch with a mix of other early successional species through clear cuts, group selection harvest, shelterwood harvest and ground disturbance. Ground treatments necessary for white birch regeneration may include prescribed burning, anchor chaining, blade scarification, or summer whole tree skidding.

Alder/Forested Wetlands

Some stands of existing alder, particularly on upland clay soils, are present because of soil conditions, altered hydrology, and



tree seed source lost during the period before state management. A goal is to shift these areas to increased presence of species that were historically more common on these sites, such as white cedar and tamarack. A variety of active management techniques including harvesting and planting will be experimented with to reduce the area or dominance of alder. Areas of alder will also be maintained through maintenance mowing, which will rejuvenate alder stands, which may have a positive effect on the presence of productive forest cover on these wet sites.

The presence of Emerald Ash Borer within the county necessitates the management of lowland forested sites to maintain productivity and health of the forest. All options will be considered when managing lowland stands with the presence of ash to regenerate productive forested cover.

Aspen-dominated stands

- Use clear cuts, group selection, or seed tree harvests to remove overstory aspen or other hardwood species in order to increase the conifer component by allowing more sunlight for improved conifer reproduction and growth.

- These management prescriptions are not intended to replicate the historic disturbance sizes or frequency but represent a balance of managing for desired species, minimizing the potential for increasing run off on clay soils, working within the narrow nature of the current property and aesthetic conditions desired by some users of the state forest.
- These actions will regenerate aspen and early successional species while increasing the percentage of conifers over several rotations.
- These harvests would be designed to promote regeneration of white spruce, white pine and white birch, which require partial to full sunlight while allowing maintain aspen as a component. Additional actions such as ground disturbance, fire or planting may be used if natural regeneration fails.

Lake Superior Beach

- The beaches and banks along Lake Superior would be maintained for their scenic and ecological values. The Bear Beach a State Natural Area will encompass much of this habitat.





This area under state ownership is approximately 1500 acres in size. It is located on the west side of BRSF in the area known as the Copper Range. This area includes the following sites identified in the Biotic Inventory: CCC Miller Boreal Forest and Pines, Sugar Camp Hill, and Lenroot Ledges. As suggested in the Biotic Inventory, these sites have been combined into a single management area, thereby increasing their combined conservation value. This is the core area of the largest block of closed canopy, northern hardwood forest that currently exists on the Brule River State Forest. BRSF cover within this area contains a mixture of northern red oak, basswood, sugar maple, ash, balsam fir, aspen, and white birch. Reproduction of shade-tolerant species like sugar maple and basswood is good under this closed canopy while reproduction of red oak or white birch will depend on future disturbance. Closer to the river, white pine and white spruce become more common. This area contains the richest soils found on the BRSF, however, they are still poor compared to other ownerships in the adjacent Mille Lacs Ecological Landscape.

Scientific assessments noted the potential to support a northern hardwood forest on Sugar Camp Hill and boreal forest on Lenroot Ledges. However, the Community Restoration and Old Growth Assessment (Eckstein et al. 2001) rated the restoration /old growth opportunity for the northern hardwood community as low. The Regional Ecology Assessment noted that other public lands in the region have greater opportunity to support the northern hardwood community type.

Wisconsin Department of Natural Resources (WDNR) experts discussed the varied findings of the assessments and determined that, while the opportunity to restore an “old growth” northern hardwood community was considered a relatively low priority in the regional context, it was agreed that it is an important community in the context of the BRSF’s landscape management. It is important because it provides the largest block of closed canopy forest, which increases the conservation value for many forest dwelling species and natural processes. It also provides wildlife habitat, stand diversity, serves as a buffer for rare species, and contributes to the establishment of a wildlife corridor.

Land ownership in this area is a mixture of public and private. This area contains several sites of historical value. The Old Bayfield Road hiking trail follows an old travel route that connected the towns of Superior and Bayfield and was traveled by foot and later by horse and wagon. Copper mines were

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	489	500
Balsam Fir	231	220
Northern Hardwoods	209	200
Oak	370	300
Red Maple	65	137
Swamp Hardwoods	120	120
White Pine	4	10
Other	21	22
Total	1509	1509

active on Sugar Camp Hill in the 1870s and one old mine can be viewed from the hiking trail.

A designated snowmobile and winter ATV trail crosses through this area. It connects with the Tri-County Corridor on the south end, continues northward from Miller Road, turns east and crosses the river near the Copper Range Campground, continues east and connects with a Bayfield County snowmobile trail. Winter motorized recreation is popular in the Brule region. This trail is a connector snowmobile trail that crosses the Brule River State Forest, linking a regional trail network.

Long-term Management Objectives – 100 years:

- Develop a primarily closed canopy, managed old-growth, native mixed species forest connected with the Brule River corridor.
- In the Sugar Camp Hill area maintain the well developed canopy with a full mix of northern hardwood species.
- In the Lenroot Ledges area, the objective would be to maintain a conifer-dominated forest realizing that much of this area is in private ownership and out of state control.
- In the remainder of the area (primarily aspen) develop northern hardwood forest with some areas dominated by conifers (balsam fir, white spruce, white pine). The vegetation would be characterized by a large block of northern hardwood forest containing a mixture of northern red oak, sugar maple, basswood, yellow birch, ash, balsam fir, aspen, and white birch. This would provide potential habitat for a variety of wildlife species including some



SUGAR CAMP HILL NATIVE COMMUNITY MANAGEMENT AREA

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rare species such as black-throated blue warbler and red-shouldered hawk.

- Closer to the river, white pine and white spruce would be encouraged. These stands would be represented by large and relatively old trees (older than their traditional rotation age). This community would have much of the structural diversity of typical natural old growth forests, including dead trees, snags, tip-up mounds and a substantial amount of coarse woody debris.
- Forest aesthetic qualities would be preserved and enhanced, particularly in areas seen from the Brule River, its tributaries, and designated public use areas.
- Maintain the existing recreational opportunities (Refer to the Recreation map in the Maps Section at the back of this Document) to accommodate visitors while maintaining the rustic character of the property, two goals identified in the Recreational Supply and Demand Assessment and the Property Vision and Goals (Watkins et al 2001).

Short-term Management Objectives – 50 years:

- Increase the acreage of northern hardwood forest while encouraging a diverse forest of northern red oak, sugar maple, basswood, yellow birch, balsam fir, aspen and white birch.
- Maintain the existing acreage of red oak by encouraging regeneration of this species.
- Manage for an increase in the fir-spruce acreage cover-type and the white pine covertype from particularly along the Brule River and tributaries, on state ownership in Lenroot Ledges area and in CCC Miller Boreal Forest and Pines area.
- Decrease the acreage of aspen.
- Manage for large diameter, native tree species and old-growth structural characteristics.

Authorized Management Activities

Depending on the existing community type, different management activities will be used to manage the forest toward the same desired future condition. Activities may include, passive management, patch clearcuts, shelterwood, group selection and selection harvests, prescribed fire, seeding and planting.

Resource Management Prescriptions

As appropriate for the specific site, existing ecological communities and timber stand conditions, the following management prescriptions will be used to achieve the long-term and short term objectives identified above:

Overall

Management practices will be used which extend the rotation ages for long-lived tree species on the best quality sites to establish larger trees and other old growth characteristics. In this management area it would include white pine, northern hardwood and red oak on the best quality sites for those species.

- Perform no timber harvests on the slopes of the stream corridors, except as necessary to maintain public safety and control invasive exotic species. Retain large woody debris on slopes along streams to minimize erosion, reduce rate of run-off, and increase habitat quality for both fish and wildlife.
- Protection of vernal (ephemeral) ponds and rock outcroppings





Northern Hardwood

- Sugar Camp Hill area - Manage existing northern hardwood stands with small scale actions designed to develop stands that meet the objective of developing stands with a variety of native species.
- Use selective harvest in the northern hardwood coverts to encourage development of a managed old growth condition.

Red Oak

- In northern hardwood areas limited management would occur to maintain a component of oak. This would include small clear cuts to regenerate this species. These small cut areas would be done in conjunction with a good acorn crop year to facilitate regeneration of the oak.
- These cuts will be staggered over time to assure that there are large block of continuous forest cover in the management area.
- Manage existing stands of red oak through small clear cuts to regenerate the species but allow trees to develop to their biological rotation age.
- Oak regeneration will be monitored and ground disturbance methods such as fire, scarification, or release may be used if needed.

Conifer-dominated stands

- Balsam fir is currently the dominant conifer on the clay plain of the Brule River State Forest. Manage areas of balsam fir to perpetuate balsam fir and increase white pine and white spruce through shelterwood, group selection, and selection harvests combined with planting if necessary to establish a seed source.
- Existing areas of white pine or white spruce can serve as a seed source so management actions may concentrate on managing surrounding areas to encourage regen-

eration of these species. Within these stands they may be thinned to allow growth of larger trees while increasing the presence of old growth structure such as snags and downed woody debris.

- Stands of white cedar will be retained as seed source for expanding the distribution of this species.

Aspen

Small clear cuts, group selection, selection or seed tree harvests to remove overstory aspen in order to allow in more sunlight for improved conifer or northern hardwood reproduction and growth. These harvests may be needed in conjunction with planting or seeding to promote the conifer coverts.

Alder/Forested Wetlands

Manage to maintain the species diversity characteristics of this community type. Some stands of existing alder, particularly on upland clay soils, are present because of soil conditions, altered hydrology, and tree seed source lost during the period before state management. A goal is to shift these areas to increased presence of species that were historically more common on these sites, such as white cedar and tamarack. A variety of active management techniques including harvesting and planting will be experimented with to reduce the area or dominance of alder. Areas of alder will also be maintained through maintenance mowing, which will rejuvenate alder stands, which may have a positive effect on the presence of productive forest cover on these wet sites.

The presence of Emerald Ash Borer within the county necessitates the management of lowland forested sites to maintain productivity and health of the forest. All options will be considered when managing lowland stands with the presence of ash to regenerate productive forested cover.

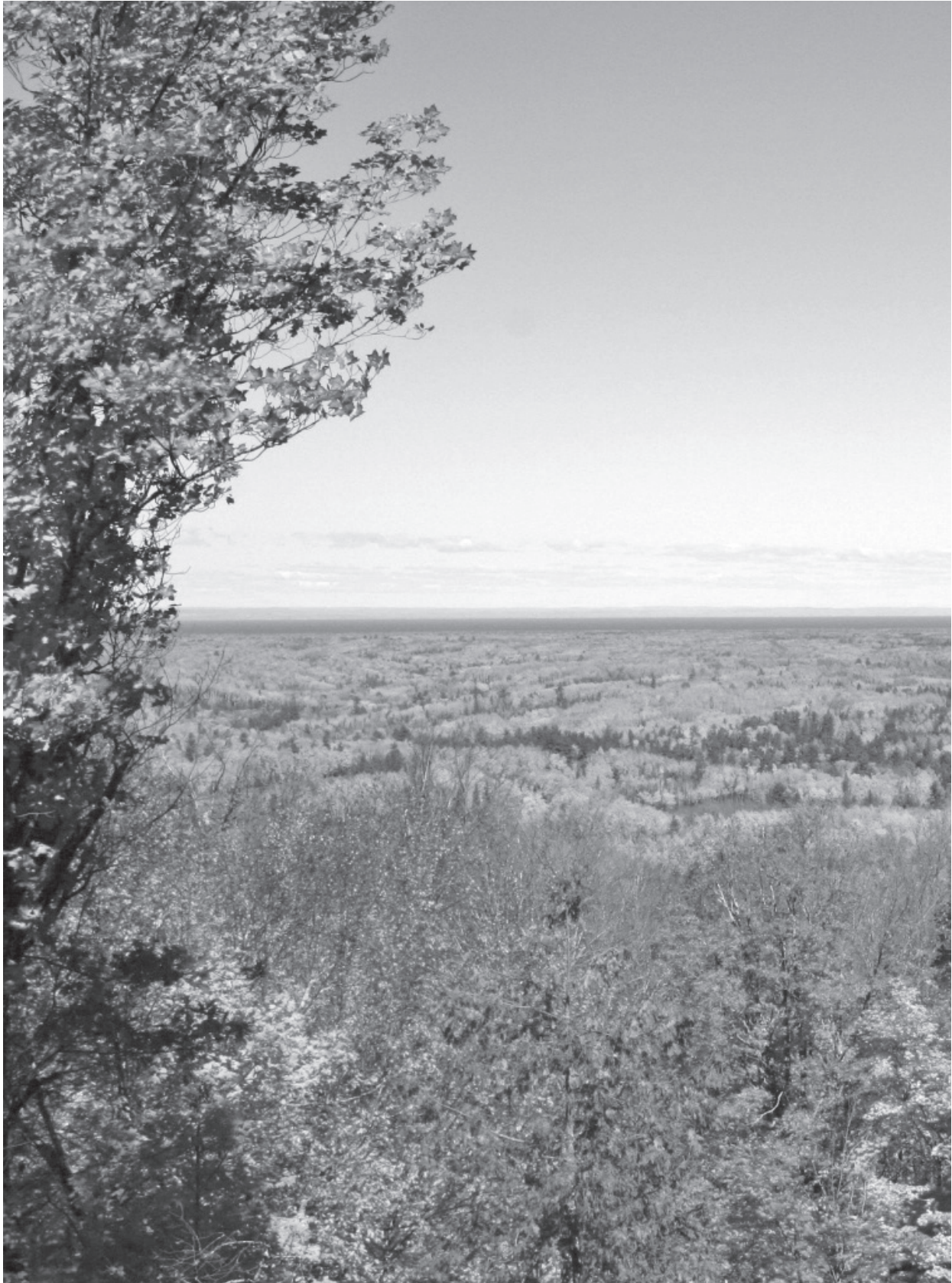


SUGAR CAMP HILL NATIVE COMMUNITY MANAGEMENT AREA

NATIVE COMMUNITY MANAGEMENT AREAS

AREA

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The Willard Road Native Community Management Area occurs along a transition between the Bayfield Sand Plain and Mille Lacs Upland ecological landscapes. The area included in this management unit is approximately 1700 acres under state ownership. It is located on the western edge of the Brule River State Forest in the area north and west of the Brule River between CTH B and CTH S.

The Mille Lacs Upland has a richer and moister soil conditions than most uplands within the BRSF and studies suggest that it has the potential to support a northern hardwood forest. This management area represents a gradual transition into the drier soils of the disturbance dominated forests on the Bayfield Sand Plain. Historically this area likely experienced periodic windthrows and fires but at a lower frequency than the area east of the Brule River. Very large forest fires altered this area’s forest cover in the 1920s, causing large areas dominated by aspen. Much of the oak presently found also got its start following these fires but white pine did not fare well. The BRSF Community Restoration and Old Growth Assessment rated the northern hardwood restoration opportunity as low on the BRSF. The Regional Ecology Assessment notes that other public lands have greater opportunity to support the northern hardwood community type in this area (Bartelt et al. 1999). This area contains varied topography, with small kettle swamps filled with black spruce surrounded by upland oak and aspen. The area provides high-quality groundwater to the Brule River and its tributaries. Within this management unit are two Biotic Inventory sites that contain remnants of native red pine stands.

Willard Road – Long-term Management Objectives (100 years)

- Restore and perpetuate the native mixed hardwood forest ecosystem including aspen, white birch, yellow birch, red maple, sugar maple, red pine, white pine and red oak.
- Promote a diverse mixture of size and age classes while slowly increasing the percentage of northern hardwood, oak, and white pine covertypes in the area.
- Establish 2 forest management reference areas within this management area located at the Vapa Road Pines and Willard Road Pines sites. Portions of these sites would be passively managed to favor large red/white pine reference sites.

Willard Road – Short-term Management Objectives (50 years)

- Reduce the dominance of aspen allowing the other hardwoods present to increase acreage of northern hardwood covertypes.
- In areas adjacent to passively managed reference sites, seek opportunities to establish natural origin red pine and white pine stands.

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	929	934
Balsam Fir	-	25
Black Spruce	25	33
Jack Pine	18	0
Oak	243	250
Red Pine	288	288
White Spruce	13	13
Brush/Grass	122	122
Other	18	10
Total	1675	1675

- Maintain a presence of white birch, pine, aspen, and oak covertypes on the landscape through active management practices to encourage these species.

Willard Road – Authorized Management Activities

Activities may include passive management, clearcuts, shelterwood, group selection, selection harvests, mechanical ground disturbance, mechanical or hand planting, mowing, prescribed fire and mechanical brush control.

Willard Road – Resource Management Prescriptions

As appropriate for the specific site, existing ecological communities and timber stand conditions, the following management prescriptions will be used to achieve the long-term and short term objectives identified above:

- Regenerate the mixture of hardwoods and pine that are native to this area by clearcutting small, irregularly shaped areas and leaving seed source trees along the edges of the cut areas.
- Hand-planting of pine within and along the edges of the small cut areas and protect young trees from animal browsing.
- Use management actions such as selection, shelterwood, seed tree harvests and non- commercial treatments in conjunction with scarification to promote pine, oak, and birch regeneration.
- Use scarification around existing large pine to promote establishment of pine seedlings into the ecosystem.
- Perform site scarification for white birch. This species is declining in numbers across this area and requires an adequate seedbed for its regeneration. Small-scale attempts would specifically be made to regenerate this

**VAPA WILLARD NATIVE COMMUNITY MANAGEMENT AREA**

species using intensive site scarification in conjunction with shelterwood and seed tree cuts. Direct seeding efforts may be tried following the scarification to bolster natural seeding.





This site occurs within the larger Bayfield Sand Plain ecological landscape which is an important groundwater recharge area which provides high quality water to the Brule River. This area is approximately 1500 acres under state ownership. The management area contains the 600 acre Mott's Ravine State Natural Area. This area is generally located in the area surrounding Motts Ravine road in the southeast corner of the property.

This management area can provide management of some barrens and dry pine community elements at the scale of 100s of acres. However, to manage for the complex plant communities and seral stages present in a barrens/dry pine forest ecological landscape management must occur at a scale in the 1,000s to 10,000s of acres. There are opportunities to work with neighboring landowners both public and private to manage this landscape to have a better representation of the barrens community. Work has been done to do complimentary management on adjacent lands under other ownerships.

The vegetation of the Motts Ravine Native Community Management Area is a mixture of red and jack pine plantations, scrub oak, and aspen forest types. Other existing native communities include open, grassy-brush prairie (a.k.a. barrens), pine savannas (pine barrens), dense regenerating pine forest, and mature pine forests. Prior to the extensive salvage of jack pine in the early to mid 1990s due to an outbreak of jack pine budworm, the forest cover was dominated by jack pine with red pine being the second most dominant forest type. Other less common forest types found here were white pine, oak, aspen, and mixed hardwoods.

Within the current state forest project boundaries the Biotic Inventory of the Brule River State Forest identifies a site referred to as the "North Country Trail Barrens". Approximately half of this 2,800-acre site is in private ownership. It is recommended that consideration be given to maintaining the existing natural community remnants and expanding them where feasible. According to early surveyors notes, native communities found here prior to 1850 ranged from open, grassybrush prairie (a.k.a. barrens) to pine savannas, dense regenerating pine forest, and mature pine forests. The forest cover was dominated by jack pine with red pine being the second most dominant forest type. Other less common forest types found here were white pine, oak, aspen, and mixed hardwoods. The Community Restoration and Old Growth Assessment recognized the unique but small opportunity to restore 400-600 acres of barrens on the existing state forest land in the Motts Ravine area and also recommends the maintenance of the existing jack pine component. Within the region there are other public lands with greater acreage and potential for barrens restoration than the BRSF (Bartelt et al. 1999).

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	53	60
Jack Pine	662	657
Oak	1	0
Red Pine	605	505
Scrub Oak	42	30
Grassland/Shrub	145	256
Total	1508	1508

Pine Forest and Barrens – Long-term Management Objectives (100 years)

- Through management of existing state ownership and additional neighboring lands create a pine barrens landscape with permanent open areas and a shifting mosaic of the full compliment of barrens plant communities and seral stages at a scale of 1,000s and 10,000s of acres. This diverse ecosystem would be large and dynamic enough to more closely replicate historic disturbance patterns and support sustainable populations of characteristic wildlife such as sharp-tailed grouse.
- Restore and maintain a mosaic of native vegetative communities that provide a range of conditions from open barrens to dry pine forest types.
- Mimic natural disturbance patterns in rates and size, as best as knowledge and implementation constraints allow.
- Maintain jack pine as the dominant tree species with red pine being secondary.
- Maintain white pine, oak, aspen, and hardwoods in significantly smaller amounts.
- Maintain existing recreation of primarily snowmobile trails, hiking trails, wildlife viewing, berry picking and hunting.
- Protect the water quality and quantity of an important groundwater recharge area and tributaries of the Brule River.

Pine Forest and Barrens – Short-term Management Objectives (50 years)

- Gradually thin existing red pine plantations to natural dry forest, pine savanna or barrens conditions. Over time the acreage of red pine plantations would be reduced upon the existing red pine plantations reaching economic rotation age.
 - Increase the grass and shrub covertype.
 - Increase acreage of jack pine.
 - Decrease oak acreage.
 - Decrease the aspen cover



- Conduct monitoring of vegetation every ten years to measure the effects of management and aid in developing adaptive management approaches.

Pine Forest and Barrens – Authorized Management

Activities:

Activities may include clearcuts, shelterwood, group selection and selection harvests, plantation thinning, mechanical and hand planting, seeding, mechanical and chemical shrub control, mechanical ground disturbance, road and fire break maintenance, mowing and mechanical brush control, and prescribed fire.

Pine Forest and Barrens – Resource Management

Prescriptions

As appropriate for the specific site, existing ecological communities and timber stand conditions, the following management prescriptions will be used to achieve the long-term and short-term objectives identified above:

- Conduct forest reconnaissance monitoring of vegetation every ten years and develop additional vegetation monitoring as needed to evaluate management results.
- Use a combination of timber harvest, prescribed fire, mechanical scarification/site preparation, and seeding or planting to mimic natural disturbances.
- Additional information on the Mott's Ravine State Natural Area is provided in the Appendix – Brule River State Forest State Natural Areas write up and map.

Barrens

- Restore open barrens and pine savannas areas in the Motts Ravine State Natural Area, through clearcutting, thinning and prescribed burns to re-create a representative natural vegetative community that includes jack pine and scrub oak as scattered individual trees and small groves.
- A central core area of grass and shrub habitat of 200-400 acres would be permanently maintained through prescribe fire or mechanical vegetation management as needed.
- Lands surrounding this central core, within and outside the State Natural Area, would use timber harvest to provide a shifting mosaic of early age forest, grass and shrub habitats to increase the effective size of the early successional habitat in the core area.

Pine-dominated Sites

The pine forest would be managed to maintain a dominance of jack pine, with red pine, aspen and oak as lesser components. Management would consist of regeneration harvests at or before biological rotation age (40-70 years old) followed by treatments (anchor chaining or prescribed fire) to stimulate natural regeneration. In some cases direct seeding or planting

may occur to bolster regeneration numbers and/or alter species composition. Fully stocked stands of pine would be the goal within these areas.

- Final harvest of a timber stand would range from 50 to 100% of the mature trees on an area ranging in size up to several hundred acres.
- Prolong regeneration attempts 3-5 years to mimic the natural period of open grassland/savanna habitat following fire. Less than optimal (full stocking rates) would be accepted in some areas in order to provide savanna conditions.
- Use natural regeneration where possible. Consider planting of trees and other native vegetation when needed to restore the full community.
- Site preparation for planting may include techniques such as furrowing, prescribed burning, anchor chain scarification, patch scarification, pre-sale scarification with bulldozers, and fully plowing and disking specific sites.
- Use herbicide as needed to control invasive exotic species or to create a specific effect on the vegetative structure and composition needed to fulfill a complete community restoration objective.





Refer to the Land Management map in the back of this document to locate the Brule River Bog and Spillway Area. This management area occurs within the larger Brule River System ecological landscape. This area spans a state owned acreage of over 3,100 acres. It extends to the slopes adjacent to the Bog leading out of the valley on both sides of the river from Upper St. Croix Lake to CTH B on the Brule River. Primarily, this management area consists of the spillway and bog area adjacent to the river and the surrounding lowland forest associated with the river. The Brule Glacial Spillway State Natural Area encompasses about 2,510 acres of this management area.

As described above, this area is an ecologically rich site and important to maintaining the water quality and quality of the Brule River ecosystem. It also has historic significance as the early portage route between Lake Superior and the St. Croix River. The primary management needs involve periodic monitoring of the water quality and plant composition to assuring the long-term sustainability of this area. Potentially significant ecological changes to the current condition could come from exotic plant invasion, large-scale wildfires or the continued poor regeneration of white cedar. Conditions related to these issues will be monitored and additional research or action will be implemented as indicated by the monitoring results.

The boundaries, descriptions, objectives and prescriptions for the Brule River Spillway State Natural Area are detailed in the State Natural Area section.

Brule River Bog and Spillway – Long-term and Short-term Management Objectives (100 years)

- Maintain a high quality forest and shrub wetland system for ecological, water quality, and habitat values. The vegetation would be characterized by shrub wetlands and lowland forest associated with the river; composed of a mixture of northern white cedar, tamarack, black spruce, and balsam fir.
- Develop and maintain a natural upland forest (red pine, jack pine and aspen) on several ridges located within the area near the headwaters of the East Fork of the Brule.
- Protect the water quality of wetlands, springs, spring ponds and streams within the management area.
- Maintain the existing levels of public use access and facilities with a rustic setting. Maintain the overall scenic nature of the river, wetlands and forest.
- Prohibit any utility corridors through this management area.
- Conduct research to determine the impact of the loss of white cedar on other biota and successful methods to regenerate white cedar in forested wetlands.

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	652	610
Balsam Fir	41	74
Black Spruce	83	230
Jack Pine	6	0
Oak	9	9
Red Pine	5	5
Swamp Hardwoods	312	312
Tamarack	69	69
White Birch	49	30
White Cedar	9	854
White Pine	5	23
White Spruce	154	154
Brush/Grass	512	565
Water	204	204
Other	40	3
Total	3142	3142

Brule River Bog and Spillway – Authorized Management Activities

Timber harvest to thin existing pine plantations, exotic plant control activities, maintenance of existing roads and public use access, mowing and brush cutting in existing public use areas, development activities necessary for stated improvements to public use facilities, and monitoring and research activities.

Brule River Bog and Spillway – Resource Management Prescriptions

- Monitor for the presence of exotic plants. Exotic species to watch for in the bog area include glossy buckthorn and purple loosestrife. Implement cutting and limited herbicide use to control exotic plants.
- Monitor the forest composition and regeneration, specifically white cedar. Conduct research activities to learn more about regeneration of existing wetland conifers.
- No timber harvesting would be performed within the bog area.
- Hazard tree removal and salvage harvests would be conducted if deemed necessary to maintain the scenic nature and provide for public safety.
- Develop a monitoring strategy for the aquatic community, forest composition and exotic plants.
- If significant evidence of exotic plants is found, implement control activities.



- Continue to identify sites where habitat restoration or improvement could benefit the fishery, without impacting the native community qualities and continue to apply the appropriate habitat management techniques at those sites.





This management unit is located on the western end of the BRSF and extends along the western and southern shores of Lake Minnesuing. This area is approximately 470 acres in state ownership. The area is bordered by County Hwy L and P, and several town roads managed by the town of Bennett are within its borders. The state forest maintains primitive boat launches at the end of Park Road and Bennett Road on Lake Minnesuing. These are lightly used as boat landings, but are heavily used at times during winter months to access the lake for ice fishing.

This area consists of a diverse mix of aspen, oak, northern hardwood, and lowland forested cover types on a rolling morainal topography with wetlands and ephemeral ponds scattered across the area. Dominant species include aspen, red oak, sugar maple, red maple, hemlock, basswood, balsam fir, black spruce, and black ash. The understory in places is dominated by a thick growth of ironwood and balsam fir.

Lake Minnesuing – Long-term Management Objectives (100 years)

- Develop an older forest of primarily shade tolerant species such as northern hardwoods and hemlock. Red oak and white pine will also be encouraged to be retained in future stands.
- Monitor hemlock and white pine regeneration to determine if management actions are necessary to keep these species as a component of the forest.
- Manage lowland forest areas to maintain healthy forest cover on the sites.

Lake Minnesuing – Short-term Management Objectives (50 years)

- Monitor hemlock and white pine regeneration and recommend management actions; openings, planting etc. to provide a future generation of these species.
- If management actions in other areas of the forest are shown to be successful in shifting species composition from black ash to other species, portions of lowland forest areas shall be managed to shift species composition in wetland forested areas away from a dominance of black ash to other species such as tamarack and white cedar. Trials shall be completed on other areas to show successful establishment of other lowland species prior to the work being done on this management area.
- Allow natural succession as well as use active management to reduce areas of aspen and white birch in favor of mid tolerant and shade tolerant northern hardwoods. This will take several rotations to see a major shift in species.

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	185	150
Black Spruce	20	20
Northern Hardwoods	53	53
Oak	96	91
Red Maple	-	40
Swamp Hardwoods	84	84
Other	20	20
Total	458	458

Lake Minnesuing – Authorized Management Actions

Single tree selection harvests, patch clearcuts, research activities surrounding hemlock regeneration, monitoring and control of exotic plants, planting and direct seeding. Encourage regeneration efforts of northern hardwood and hemlock species through management activities and planting.

Lake Minnesuing – Resource Management Prescriptions

As appropriate for the specific site and existing ecological communities, the following management prescriptions will be used to achieve the long-term and short term objectives identified above.

- Stands will be managed to maintain mixed hardwood and conifers, with emphasis on maintaining and increasing hemlock in future stands.
- Management will be focused on regeneration of species such as hemlock, sugar maple, red oak, white pine, basswood, and red maple. Management emphasis will not be on area wide, stand level regeneration harvests, but will focus on portions of stands that do not exhibit the tendencies to develop into an older forest of mixed hardwood and conifers.
- Large woody debris, particularly near ephemeral ponds, should be encouraged and increased to provide habitat for amphibians.
- In the case of a catastrophic event such as a windstorm, a fire, or flood, timber salvage operations would be conducted to clean up the areas affected by the event and restore scenic beauty following consultation with an integrated team of resource staff.
- Research in the Lake Minnesuing area would be focused upon obtaining hemlock and white pine regeneration.
- Within wetland forested types, a goal is to increase the presence of species that were historically more common on these sites, such as white cedar and tamarack.



- The presence of Emerald Ash Borer within the county may necessitate the management of lowland forested sites to maintain productivity and health of the forest. All options will be considered when managing lowland stands with the presence of ash to regenerate productive forested cover. Proven techniques tried and proven on other areas of the forest will be utilized within this management unit to regenerate stands if necessary to maintain site productivity.



FOREST PRODUCTION MANAGEMENT AREAS



FOREST PRODUCTION MANAGEMENT AREAS

The primary management objective of the forest production areas is the production of timber and other forest products. Areas are managed to maximize timber production while using accepted silvicultural practices. Specific objectives for individual forest production areas consider the site’s capability to produce timber, the type of timber produced in the area, the market for forest products, and the economy. Management activities or techniques may occur when consistent with the management objective specified in the plan for that area and compatible with the area’s ecological capability and the practice of forestry. Given the large size and diversity of forest production areas, while managing for timber products and based on the markets for forest products and the local recreation, tourism, and hunting economy, some stands are managed for timber production in a way that also promotes wildlife and visual appeal.

Forest Production Management Areas for State Forests are defined in 28.04(3), wisstats.

FOREST PRODUCTION MANAGEMENT AREAS		
Area #	Forest Production Management Areas	Acres
11	Superior Clay Plain	7,500
12	Miller Road	2,100
13	Troy Pit Pines	6,292
14	Hilltop Road	900
15	Hazel Prairie Pines	8,200
16	Gordon Forest	1,000

FOREST PRODUCTION MANAGEMENT AREAS





This management area is approximately 7500 acres in size. This management area includes all of the lands that were purchased in 2007 as part of the 7,800 acre “great addition”. These management units are generally located north of where Hwy 13 crosses the Brule River, both on the east and west sides of the Brule River Valley. In addition to these recently purchased areas, one other large block of forest that has been under state ownership for a longer period of time is included which is located just south of Hwy 13 on the west side of the Brule River Valley.

Historically, the lands included within the management unit have been managed under a forest production objective over the last 50 plus years, and consist of all age classes of highly productive aspen forest with generally good road access. Soils are red clay, which limits management opportunities to dry or frozen conditions.

The uplands of this management area consist primarily of aspen, with balsam fir, black ash, and white spruce being other major tree species. Contiguous conifer cover can be found in drainages heading to Lake Superior in the northwestern block of this area. Scattered individual white spruce and white pine exist through this area with regeneration of white spruce in particular being prevalent in areas of good seed sources.

Long-term Management Objectives – 100 years

- Maintain the aspen covertype while increasing percentage of conifer species within these stands over several rotation periods.
- Encourage white birch, white pine, and white spruce as conditions allow and as species components within aspen stands.

Short-term Management Objectives – 50 years

- Maintain aspen acreage.
- Allow and encourage an increase of fir, spruce, and white pine prevalence on the landscape.
- Work to maintain the presence of white birch across the area.
- Experiment with management options to increase white cedar or tamarack in areas currently dominated by tag alder. Tag alder areas can be managed through mowing and shearing to both regenerate desired tree species as well as to provide young alder for forest wildlife species that desire that habitat such as migratory woodcock and ruffed grouse.

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	6025	6140
Balsam Fir	150	91
Black Spruce	24	24
Oak	4	4
Swamp Hardwoods	614	614
Tamarack	5	5
White Birch	231	190
White Cedar	21	21
White Pine	95	100
White Spruce	102	100
Grass/Brush	467	451
Other	41	39
Total	7779	7779

Authorized Management Activities

Activities may include clearcuts, shelterwood harvest, group selection and selection harvests, mechanical ground disturbance, mowing, chemical, and mechanical brush control, seeding or planting native trees, shrubs or ground vegetation, aerial seeding, and prescribed fire.

Resource Management Prescriptions

As appropriate for the specific site, existing ecological communities and current conditions, the following management prescriptions will be used to achieve the long-term and short term objectives identified above:

- Reduce peak stormwater flows to the Brule River by plugging old drainage ditches to restore more natural drainage patterns across the landscape to protect water quality.
- Limit logging operations to periods when the soil is dry or frozen and restrict construction of new roads in order to reduce potential for increasing runoff. Establish all weather road systems to facilitate the harvest and hauling of forest products from this management unit. Protect slopes along stream corridors and follow BMPs for water quality during all harvesting operations. Retain large woody debris within waterways to minimize erosion, reduce rate of run-off, and increase habitat quality for both fish and wildlife.

Aspen-dominated stands

- Manage aspen on a 40-60 year rotation through regeneration clearcut harvest techniques.



SUPERIOR CLAY PLAIN FOREST PRODUCTION MANAGEMENT AREA

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- Conifers patches can be left to facilitate green tree retention standards.
- These actions will regenerate aspen and early successional species while increasing the percentage of conifers over several rotations.

Conifer-dominated stands

- Areas of conifers shall be managed to maintain their presence on the landscape to produce recurring forest products. Conifers shall be encouraged across all cover types to maintain a diversity of choices in future management of stands.

White birch

Manage for areas of white birch with a mix of other early successional species through clear cuts, group selection harvest, shelterwood harvest and ground disturbance. Ground treatments necessary for white birch regeneration may include prescribed burning, anchor chaining, blade scarification, or summer whole tree skidding.

Alder/Forested Wetlands

Some stands of existing alder, particularly on upland clay soils, are present because of soil conditions, altered hydrology, and tree seed source lost during the period before state management. A goal is to shift these areas to increased presence of species that were historically more common on these sites, such as white cedar and tamarack. A variety of active management techniques including harvesting and planting will be experimented with to reduce the area or dominance of alder. Areas of alder will also be maintained through maintenance mowing, which will rejuvenate alder stands, which may have a positive effect on the presence of productive forest cover on these wet sites. The presence of Emerald Ash Borer within the county necessitates the management of lowland forested sites to maintain productivity and health of the forest for long term production of forest products. All options will be considered when managing lowland stands with the presence of ash to regenerate productive forested cover.





The majority of this management area occurs within the larger Lake Superior Clay Plain ecological landscape. The area is south of the Sugar Camp Hill area, west of the Brule River and primarily north of HWY 2. This area, including both private and state owned lands, is approximately 2,500 acres under state ownership. The history of this area includes attempts at pasturing followed by large areas of timber harvesting in the 1960s and 1970s.

The current vegetation is about 50% aspen dominated stands ranging from 20-60 years old. Alder lowlands makes up another 22% of the area. Smaller portions of the management area consist of grassland/wetland, red pine and conifers found primarily on the steeper terrain along river and creek drainages. This historic boreal landscape contained areas of younger aspen/birch forest but in a much lower percentage than currently exists here. The aspen areas provide high quality habitat for early successional wildlife and popular game species and maintenance of this habitat provides a sustainable source of forest products. Early successional habitats are common throughout the clay plain on other lands, however state forest lands are easily accessible and are a popular hunting area.

No specific management needs for rare or uncommon species were noted for this area in the Biotic Inventory of the Brule River State Forest.

Recreation in this area is primarily hunting, wildlife viewing and snowmobiling. The snowmobile trail in this area is an important “connector” trail that crosses the Brule River State Forest, linking a regional trail network.

Long-term Management Objectives – 100 years

- Manage for a forest dominated by the early successional stages of the clay plain boreal forest but with greater species and age class diversity than occurs presently. This will continue to provide for high quality habitat for game and non-game wildlife species. Species that would benefit from maintaining early successional habitats range from game species such as ruffed grouse, woodcock, snowshoe hare, deer, and bear to many non-game birds such as goldenwinged warbler, yellow-shafted flicker, clay-colored sparrow, and amphibians such as green grass snake and leopard frogs. Predator species that utilize these prey species would be sharpshinned hawks, broad-winged hawks, fisher, bobcat, red fox, coyote, and timber wolves.
- Continue to generate forest products through managing for a diverse forest and desired wildlife habitat.
- Manage riparian forests along stream corridor slopes to promote conifer cover and to retain large woody debris and protection of soils and maintenance of fish habitat.

CURRENT AND PREDICTED COVER TYPES		
Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	1814	1880
Balsam Fir	13	20
Black Spruce	94	94
Northern Hardwoods	8	5
Red Maple	21	15
Red Pine	39	39
Swamp Hardwoods	89	89
White Birch	40	33
Grass/Birch	336	279
Other	91	91
Total	2545	2545

Short-term Management Objectives – 50 years

- Manage for regeneration of aspen as the dominant forest covertype but diversify the age classes within the area to produce a steady supply of forest products while optimizing wildlife habitat.
- Increase the diversity of conifer and hardwood species as secondary types.
- Maintain existing openings and trails to be utilized as access points and log landings to be used during management activities.

Authorized Management Activities

Depending on the existing community type and desired forest condition different management actions will be implemented. Activities may include clearcuts, shelterwood harvest, group selection and selection harvests, mechanical ground disturbance, mowing and mechanical brush control, chemical use, earthwork for drainage and wetland management, planting, seeding and prescribed fire.

Resource Management Prescriptions

As appropriate for the specific site, the following management prescriptions would be used to achieve the long-term and short-term objectives identified above.

Overall

- Limit logging operations to periods when the soil is dry or frozen.
- Perform no timber harvests on the direct slopes of stream corridors, except as necessary to maintain public safety and control invasive exotic species. Retain large woody debris to minimize erosion, reduce rate of run-off, and increase habitat quality for both fish and wildlife.



Aspen

- Maintain aspen and white birch through patch clearcuts and manage for multiple age classes. Encourage bur oak, white spruce, white pine, white birch, and balsam fir to create stand diversity.
- Continue to maintain smaller scattered forest openings and trails through mowing, hand cutting, herbicide applications, and grading. These trails and openings will be utilized for logging access points.

Conifer-dominated stands

- Balsam fir is currently the dominant conifer on the clay plain of the Brule River State Forest. Manage areas of balsam fir to perpetuate balsam fir and increase white pine, white spruce and white birch through shelterwood, group selection, and selection harvests. Where white pine and white spruce are absent plant these species to establish a seed source.
- Stands of white cedar will be retained as seed source for expanding the distribution of this species.
- A few small stands of red pine currently exist in this unit. Conduct periodic thinnings and site preparation to encourage growth and natural regeneration. Where natural regeneration does not occur, prepare appropriately for planting.

Alder/Forested Wetlands

Some stands of existing alder, particularly on upland clay soils, are present because of soil conditions, altered hydrology, and tree seed source lost during the period before state management. A goal is to shift these areas to increased presence of species that were historically more common on these sites, such as white cedar and tamarack. A variety of active management techniques including harvesting and planting will be experimented with to reduce the area or dominance of alder. Areas of alder will also be maintained through maintenance mowing, which will rejuvenate alder stands, which may have a positive effect on the presence of productive forest cover on these wet sites.

The presence of Emerald Ash Borer within the county necessitates the management of lowland forested sites to maintain productivity and health of the forest for long term production of forest products. All options will be considered when managing lowland stands with the presence of ash to regenerate productive forested cover.





This management area occurs within the larger Bayfield Sand Plain ecological landscape. This area has approximately 6,500 acres under state ownership. The Troy Pit Pines area is characterized by very sandy soils, a very rolling topography with a mixed forest cover dominated by red and jack pine with aspen and scrub oak dominant in some areas. Historically, this area had scattered failed farms that were planted with red pine or jack pine during the CCC era in the 1930s and 1940s. Numerous moderately developed town roads cross this management area.

The area is within the Bayfield Sand Barrens ecological area which naturally supports a variety of disturbance dominated natural communities and has good site potential for growth of pine species. The Community Restoration and Old Growth Assessment identifies maintenance of the jack pine forest through active management as an important opportunity on the BRSF. Maintenance of aspen/birch and oak areas is important to wildlife species and hunting recreation on the BRSF. Within this forest production area, there are three sites that were identified for significant natural features; specifically Rush Lake, Kurt's Deep Depression, and Devils Hole Pines. Specific management actions for these areas are noted within the management prescriptions. Management directly surrounding these would be adapted to compliment the management prescriptions for these areas. Kirtland's Warblers, an endangered (state and federally listed) bird species has been found in the area immediately adjacent to this management area and opportunities exist to create and maintain its habitat through specific harvest and forest regeneration techniques. The area as a whole provides high-quality groundwater to the Brule River and its tributaries.

The management unit currently provides dispersed recreational opportunities with the potential to offer additional facilities. The existing snowmobile and winter ATV trail that crosses the Brule River State Forest provides a link to a regional trail network. The North Country Trail crosses the BRSF providing an important link for this regional hiking trail. Several lightly traveled forest roads in this area are important in providing access for hunters and other non-motorized recreators as well as fire breaks for forest fire suppression efforts. Interest in additional cross-country ski areas is evidenced by use levels as the Afterhours Ski area, staff observations and the recreation supply and demand assessment.

Long-term Management Objectives (100 years)

- Maintaining a dry pine forest community for the compatible values of ecological characteristics and a steady supply of renewable forest products. This would include maintenance of primarily pine covertypes, with scattered patches of mixed hardwoods.

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	1531	1330
Balsam Fir	67	80
Black Spruce	11	49
Jack Pine	1555	1700
Oak	270	253
Red Maple	99	125
Red Pine	2023	2023
Scrub Oak	572	600
Swamp Hardwoods	38	0
White Birch	56	50
White Pine	52	65
White Spruce	18	20
Brush/Grass	174	183
Other	39	27
Total	6505	6505

- Maintain 22 acre Rush Lake's water quality, diverse beach community, aquatic resources and scenic setting. Rush Lake is designated as a State Natural Area.
- Maintain the 33 acre Kurt's Deep Depression aquatic community and dry slope vegetation.
- Promote a late successional stage forest in the Devils Hole Pines area, dominated by older red pine. Protect the natural stand of red pine and enhance the site by promoting the regeneration of native pine.
- Provide recreational opportunities, which are compatible with the physical characteristics and other uses in the area, including hunting, snowmobiling, hiking, horseback riding, and cross-country skiing.

Short-term Management Objectives (50 years)

- Increase covertype of jack pine.
- Decrease covertype of red pine.
- Decrease covertype of scrub oak.
- Maintain aspen and white birch acreage.
- Maintain a component of white pine in various covertypes.
- Maintain 200-300 acres of barren type areas of open grass and upland shrubs in shifting mosaic within the management area.
- Manage the 52 acres forest of the Devils Hole Pines to favor old growth red pines and sustained pine regeneration.

**TROY PIT PINES FOREST PRODUCTION MANAGEMENT AREA****Authorized Management Activities**

Activities may include clearcuts, shelterwood, group selection and selection harvests, plantation thinning, mechanical and hand planting, mechanical and chemical shrub control, mechanical ground disturbance, road and fire break maintenance, mowing and mechanical brush control, and prescribed fire. Development and maintenance of a new ski trail system, toilet and warming facilities and a parking area would require some land clearing and construction.

Resource Management Prescriptions

As appropriate for the specific site, existing ecological communities, wildlife species and timber stand conditions, the following management prescriptions will be used to achieve the long-term and short-term objectives identified above.

- Encourage a mixture of white pine in all natural stands of trees. This is a species that was historically found scattered across the landscape.
- Attempt to eliminate exotic species such as scotch pine through primarily hand cutting treatments.
- Monitor for presence of invasive plants such as leafy spurge and spotted knapweed, particularly in areas where ground disturbance is used for regeneration of tree species

Red Pine

Manage existing red pine plantations using timber management guidelines found in the DNR Silvicultural Handbook. Young stands would be released from competing vegetation using a variety of methods, including both mechanical and





chemical means. Stands would be thinned by entire rows or by more selective methods depending on stand conditions. As stands are thinned, pockets of natural regeneration would be encouraged to grow by removal of overstory where appropriate.

- Red pine natural regeneration techniques would be used whenever feasible, but if not successful, the stand would be mechanically prepared for planting, through either trench, furrow, or spot scarification treatments. The stand would then be replanted either by hand or by machine.
- Regenerate red pine at recommended rotation ages.

Jack Pine

- Manage jack pine on a 40-55 year rotation with natural regeneration techniques being used as the first choice for regeneration. Jack pine will be managed for multiple age classes to reduce the potential impact of jack pine budworm. The primary technique used to regenerate jack pine would be to harvest all jack pine and other species within a stand followed by anchor chaining to expose mineral soil and distribute existing seeds across the treated area. Prescribed fire may also be used where feasible. Success of these techniques would be evaluated through a regeneration survey five growing seasons after the chaining occurs to determine if jack pine regeneration was successful. If the natural regeneration is not successful, the area would then be planted.

Aspen

Maintain current levels of aspen in its present locations for timber production purposes as well as to provide habitat for a variety of wildlife. Differing age classes would be maintained in areas where aspen is most prevalent for optimum wildlife habitat. The aspen would be managed on a 50-year rotation, at which time the stand would require a regeneration harvest. Diversity would be encouraged in the aspen covertime by not requiring all competing species to be cut within regeneration cuts. Very poor aspen sites would be converted to pine through planting of pine species suitable to the site along with site preparation treatments (either mechanical or chemical) to ensure the success of the planting.

Oak

Maintain scrub oak on poor quality pine sites but convert to jack pine where possible. Stands that are to be maintained as scrub oak would be harvested on a 60-80 year rotation to maintain a mixture of age classes of this species. Much of the acreage now typed as scrub oak is actually this

mixture of oak, aspen, red maple, and other species. These types would be maintained using patch clearcuts. Whole tree harvesting techniques followed by aerial seeding has shown promise in increasing percentages of jack pine in future stands.

White birch

Attempt to maintain white birch in this ecosystem on current sites that have a predominance of birch. Birch requires mineral soil exposure and full sunlight to regenerate. Generally, the most birch regeneration on the forest is found in the most disturbed areas such as the sides of old skid roads where mineral soil was exposed. This would be done through a combination of timber harvests and soil scarification techniques such as anchor chaining before or following timber harvests. Prescribed fire would be used where feasible.

Kurt's Deep Depression

This 33 acres site was noted for the aquatic community found in the pond and wetland in the bottom of this glacial kettle as well as the upland barrens vegetation found on the steep slopes descending to the pond. It will be managed to maintain these characteristics.

Devils Hole Pines

- Maintain the natural stand of red pine.
- Promote the regeneration of native pine through soil scarification. Some areas surrounding the stand of older pine would be encouraged to develop old growth characteristics through the removal of non-pine species through commercial thinning operations.

Rush Lake

This site has been recognized for a unique geological setting and important aquatic resources by the State Natural Areas program. The 25 acres lake and surrounding shoreline to the ordinary high water mark will be managed as a State Natural Area. The location, objectives and management are detailed in the Brule River State Forest State Natural Areas in the back of this document. The surrounding forest will be managed to replicate natural disturbance in keeping with the objectives of the State Natural Area.



TROY PIT PINES FOREST PRODUCTION MANAGEMENT AREA



The Hilltop Road FPMA management area occurs along a transition between the Bayfield Sand Plain and Mille Lacs Upland ecological landscapes. The area included in this management unit is approximately 900 acres under state ownership. The bulk of this area is located between Hilltop Road and the Brule River and western side of the Brule Valley

The Mille Lacs Upland has a richer and moister soil conditions than most uplands within the BRSF and studies suggest that it has the potential to support a northern hardwood forest. This management area represents a gradual transition into the drier soils of the disturbance dominated forests on the Bayfield Sand Plain. Historically this area likely experienced periodic windthrows and fires but at a lower frequency than the area east of the Brule River. Very large forest fires altered this area's forest cover in the 1920s, causing large areas dominated by aspen. This area has a very high site productivity for aspen, as evidenced by the present stands of aspen found on this management area. Much of the oak got its start following these fires but white pine did not fare well. Areas of mixed conifer cover are interspersed with the primarily aspen and oak covertypes which dominate this area.

Hilltop Road – Long-term Management Objectives (100 years)

- Maintain the high productivity aspen and oak stands found across this management unit.
- Promote a diverse mixture of size and age classes while slowly increasing the percentage of northern hardwood and pine covertypes in the area.

Hilltop Road – Short-term Management Objectives (50 years)

- Maintain the presence of aspen through active management options which increase the age class diversity of the area.
- Maintain and increase the presence of white birch, pine, and oak covertypes on the landscape through active management practices to encourage these species.

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	566	568
Black Spruce	2	6
Jack Pine	14	14
Oak	177	170
Red Pine	63	63
Swamp Hardwoods	17	17
White Pine	13	20
Brush/Grass	28	26
Other	4	0
Total	884	884

Hilltop Road – Authorized Management Activities

Activities may include clearcuts, shelterwood, group selection and selection harvests, mechanical ground disturbance, mechanical or hand planting, mowing, prescribed fire, mechanical or chemical brush control, and seeding.

Hilltop Road – Resource Management Prescriptions

As appropriate for the specific site, existing ecological communities and timber stand conditions, the following management prescriptions will be used to achieve the long-term and short term objectives identified above:

- Regenerate aspen and oak within this through active regeneration harvests designed to increase age class diversity across the area.
- White pine seed sources will be used to increase the presence of white pine within aspen and oak stands.
- Use management actions such as selection, shelterwood and seed tree harvests in conjunction with scarification to promote pine, oak, and birch regeneration.
- Use scarification around existing large pine to promote establishment of pine seedlings into the ecosystem.
- Perform site scarification and other specific management activities to promote white birch regeneration. This species is declining in numbers across this ecoregion and requires an adequate seedbed for its regeneration. Direct seeding efforts may be tried following the scarification to bolster natural seeding.



HILLTOP ROAD FOREST PRODUCTION MANAGEMENT AREA





This area is located in the southern part of the Brule River State Forest both north and south of the Brule River valley. There are approximately 8200 acres under state ownership within this management unit. Very few town roads are located within this management unit, with Hazel Prairie and Jersett roads being the most heavily traveled. Ownership within this management area is primarily state owned, with only a few private parcels.

This area is a flat, outwash sand plain with very sandy soils. The management area also includes an approximately 400 acre terrace area near the Brule River. No significant rare species were noted on these terraces, however, the potential for these sites to produce an older forest of red and white pine has been recognized. This management area also contains an aquifer that provides high quality groundwater to this headwaters region of the Brule River. Much of this land area was once farmed, and is now primarily vegetated with pine plantations. There is an area of over 2,000 acres of contiguous red pine plantations in the area near Turkey Farm Road. As part of the Bayfield Sand Plains, this area naturally supports a variety of disturbance dominated natural communities and has good site potential for growth of pine species. This unit is on the northern edge of the larger Northwest Sands ecological community and is bisected by the Brule River. Historically, the north side of the river had a lower dominance of jack pine and a higher percentage of red pine, white pine and hardwoods than the areas south of the Brule River.

Portions of this forest were heavily damaged by a hailstorm in August 2000, resulting in the high mortality of trees, primarily jack pine, red pine and aspen. This created a number of forest management challenges including fire control, disease concerns and future regeneration plans. The forest area most impacted by this storm was harvested and was regenerated.

The primary recreation in this area is hunting. Maintenance of aspen/birch and oak areas is important to wildlife species and hunting recreation on the BRSF. In this region of Wisconsin the generation of forest products and forest based recreation have been shown to be compatible and often complimentary. Forest roads in this area provide access for hunting and management as well as serve as fire breaks.

Long-term Management Objectives (100 years)

- Maintain a dry pine forest community for the compatible values of wildlife habitat, ecological characteristics, water quality protection and a steady supply of renewable forest products. This would include maintenance of primarily pine covertypes in different age classes.

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	2700	2650
Balsam Fir	65	80
Black Spruce	88	88
Jack Pine	1141	1150
Northern Hardwoods	45	35
Oak	162	150
Red Maple	11	25
Red Pine	2505	2535
Scrub Oak	948	950
Swamp Hardwoods	76	76
Tamarack	79	79
White Birch	90	75
White Cedar	26	26
White Pine	19	38
White Spruce	6	6
Brush/Grass	353	361
Other	112	102
Total	8426	8426

- Maintain areas of a mixed hardwood forest with areas of oak and aspen for wildlife habitat and a steady supply of renewable forest products.
- Manage the terrace area toward an older forest of red and white pine.

Short-term Management Objectives (50 years)

- Increase covertype of jack pine.
- Increase covertype of white pine.
- Decrease covertype of aspen.
- Maintain oak, red pine, and birch acreage.
- Maintain a diverse healthy pine forest of varying species and age structure.

Authorized Management Activities

Activities may include: clearcuts, shelterwood, group selection and selection harvests, plantation thinning, mechanical and hand planting, seeding, mechanical and chemical shrub control, mechanical ground disturbance, road and fire break maintenance, mowing and mechanical brush control and prescribed fire.



Resource Management Prescriptions

As appropriate for the specific site, existing ecological communities, wildlife species and timber stand conditions, the following management prescriptions would be used to achieve the long-term and short-term objectives identified above.

Pine-dominated sites

- Manage existing red pine plantations using timber management guidelines found in the DNR Silvicultural Handbook and described under the Troy Pit Pines management area.
- Following harvest, prepare sites for tree planting using mechanical planting site preparation methods such as furrowing, disk trenching, or spot scarification.
- Use natural and artificial regeneration techniques to encourage a native mix of jack pine, red pine, white pine, and various hardwoods on the landscape. Preference will be applied to natural origin jack pine stands where possible.
- Plant red pine with a mixture of white pine and jack pine in some locations to provide forest diversity to maintain a healthy forest.
- Plant existing openings that are not within frost pockets with red pine, provided they are not suitable for future log landings.

- Maintain jack pine on sites that it currently occupies as well as in frost pockets. It would be managed on a 40-60 year rotation with natural regeneration techniques being used as the first choice for regeneration.

Aspen/Oak

- Manage aspen on a 40-60 year rotation, at which time the stand would require a regeneration harvest. Diversity would be encouraged in the aspen covertime by not requiring all competing species to be cut within all regeneration cuts.
- Maintain scrub oak on poor quality pine sites but convert to jack pine where possible. Stands that are to be maintained as scrub oak would be harvested on a 60-80 year rotation to maintain a mixture of age classes of this species. Much of the acreage now typed as scrub oak is actually this mixture of oak, aspen, red maple, and other species. These types would be maintained using patch clearcuts. Whole tree harvesting techniques followed by aerial seeding has shown promise in increasing percentages of jack pine in future stands.





The Gordon Annex Forest Production Area is located about 10 miles south of the main portion of the state forest. This 1,000 acre area was once used as a state forest tree nursery, closing nursery operations in the mid 1960s. Now located on the property is a minimum security prison, which is operated there by agreements between the Department of Corrections and the DNR.

This land area is located within the Bayfield Sand Plain and has very sandy soil conditions. The Eau Claire River flows through the Gordon Annex. A small, unnamed lake is located partially within the property in the northeast corner of state ownership. Surrounding ownership is primarily industrial forestland, with only a few bordering private non-industrial owners.

Vegetation types on this management unit primarily consist of pine plantations. Much of this area was planted with leftover trees from nursery operations. There are small areas of aspen and one undisturbed kettle bog is located in the center of the property. A rare plant was found in a barrens remnant within a pine plantation adjacent to the bog and rare invertebrates occur in the Eau Claire River.

Long and Short-term Management Objectives

- Provide a steady supply of renewable forest products with emphasis on growing red pine.
- Maintain acreage of red pine, jack pine, and aspen.
- Provide for a mix of tree species in aesthetic areas along the river and public roads.
- Maintain the long term lease of 45 acres with Department of Corrections for use as a minimum security prison
- Maintain the bog in a natural state to continue to provide habitat for a rich native flora of highly specialized species.

Authorized Management Activities

Activities may include clearcuts, shelterwood harvest, group selection and selection harvests, plantation thinning, seeding, mechanical and hand planting, mechanical and chemical shrub control, mechanical ground disturbance, road and fire break maintenance, mowing and mechanical brush control, and prescribed fire.

Resource Management Prescriptions

Maintain existing forest openings and woods roads throughout this area to provide firebreaks in case of a wildfire.

- This area would also remain available for fire training operations. Historically, this area had been used as a location for fire equipment training and certification.
- Maintain other species such as scrub oak, birch, and red maple as components of jack pine and aspen stands.

CURRENT AND PREDICTED COVER TYPES

Cover Type	CURRENT	PROJECTED 50 YEAR
	Acres	Acres
Aspen	92	97
Jack Pine	201	210
Red Pine	458	458
Brush/Grass	89	75
Water/Bog	98	98
Other	24	24
Total	962	962

- Manage the riparian areas of the Eau Claire River to encourage species such as scrub oak, red maple, and aspen mixtures.
- Eliminate scotch pine from the landscape primarily through hand-cutting.

Red pine

- Manage existing red pine plantations using timber management guidelines found in the DNR Silvicultural Handbook. Practices used would vary by stand condition but would follow a similar prescription to that described in the Troy Pit Pines Management Area.
- Plant red pine with a small amount of white pine mixed into the first 20 rows adjacent to town roads. Prior to planting, the site would be prepared through a mechanical scarification treatment.

Jack Pine

Maintain jack pine as a small component of future stands as natural regeneration.

- Maintain the jack pine that presently borders the river.
- Manage jack pine on a 40-60 year rotation with natural regeneration techniques being used as the first choice for regeneration.
- The primary technique used to regenerate jack pine would be to harvest all jack pine and other species within a stand followed by anchor chaining to expose mineral soil and distribute existing seeds across the treated area. If jack pine regeneration is poor, replanting would be done. In some cases this would mean the entire area would be replanted, in others it would mean that spot planting would be done to bolster stocking rates.



Aspen

Maintain current levels of aspen in its present locations for timber production purposes as well as to provide habitat for a variety of wildlife.

- Manage aspen on a 40-60 year rotation, at which time the stand would require a regeneration harvest.
- Recreation Management Prescriptions
- Due to the location of the prison, much of this area is off limits to public use. The only developed recreation area on the property is a rustic boat landing on the Eau Claire River located off of Highway G. Other recreational activities involve hunting outside of the posted area surrounding the prison.
- The current network of forest roads would be utilized during management activities, and individual roads would be closed to public use following timber sales based upon the potential for resource degradation. Any new forest roads and drivable skid trails built during forest management activities would be closed following the completion of the timber sale activities.

STATE NATURAL AREA

State Natural Areas (SNAs) are part of a statewide system of sites identified for the purposes of ecological research, education, and to assure the full range of ecological diversity for future generations. After the designation of land management areas, and identifying their specific resource management objectives and prescriptions, the master planning team examined opportunities to further protect areas with exceptional natural features. Bureau of Natural Heritage Conservation staff evaluated sites that could contribute to critical habitat for rare species, provide ecological reference areas, or which contain significant geological or archaeological features.

STATE NATURAL AREAS PROGRAM

The primary purpose of State Natural Areas (SNAs) is to protect outstanding examples of Wisconsin's native natural

communities, significant geological formations, and archeological sites.

SNAs are valuable for research and educational use, the preservation of genetic and biological diversity, and for providing benchmarks for determining the impact of use on managed lands. They also provide some of the last refuges for rare plants and animals. Sections 23.27-23.29 Wis. Statutes provide legislative authority and direction for the acquisition, designation, dedication, and management of SNAs. Section 23.27 (1) defines natural areas as "reserves for native biotic communities... habitat[s] for endangered, threatened, or critical species...or areas with highly significant geological or archaeological features". Section 23.28(1) provides authority to designate natural areas as SNAs, and Section 23.29 provides authority to legally dedicate and protect SNAs in perpetuity.



BRULE GLACIAL SPILLWAY STATE NATURAL AREA

DESCRIPTION OF SITE

Following the retreat of the glaciers, Lake Superior drained southwestward through what are now the Bois Brule and St. Croix River valleys. This created the long, narrow, steep-sided, relatively straight valley, which exists today and possesses many unusual ecological attributes. The present Brule River originates from springs within an extensive conifer swamp near Solon Springs, and flows north to Lake Superior. (This swamp is also the headwaters area of the St. Croix River which flows south to join the Mississippi.) The upper stretches of the river are slow, with many meanders, and receive cold, clean water from numerous springs and seepages. Just above Stone's Bridge the character of the river changes: the gradient begins to grow steeper; the bottom materials include gravel, cobbles and boulders (rather than just organic sediments); meanders are much less frequent; and several large spring ponds feed the main stem (rather than numerous small seepages). The State Natural Area runs from the base of the slope north of the river and west of Stones Bridge, follows the 1050 contour line south of the river, and encompasses the state ownership north of Stones Bridge in the spillway.

Significance of Site

This site is of the highest ecological significance. No similar opportunity to designate a State Natural Area with these features is present in the state. The extent and quality of the natural communities present, the aquatic features represented, the unique geological feature (glacial spillway), and the concentration of rare plants and animals found here are not duplicated elsewhere.

Management Objectives for the SNA

Maintain the high quality forested and shrub wetlands for ecological and research values. Limit management in the glacial spillway to research, and monitoring, and the control of invasive exotic species.

MANAGEMENT PRESCRIPTIONS

1. Exotic species of concern are glossy buckthorn and purple loosestrife. Control methods for these species include pulling, digging, or limited direct application of approved herbicides.
2. Research would be driven based upon findings of previous research work done in the area.
3. No timber harvesting would be performed within the spillway SNA.
4. The only cutting that would occur along the river and public use areas would be done to provide a safe experience to users of the river. This cutting generally will not remove timber products from the area.
5. The fisheries management prescribed for the rest of management area will also be allowed within the SNA.
6. Monitoring of changes to the forest cover and associated vegetation would be conducted using forest reconnaissance and additional methods recommended by Department scientists.

MOTT'S RAVINE STATE NATURAL AREA

DESCRIPTION OF SITE

Mott's Ravine lies on an old glacial outwash channel and contains patches of dense natural jack pine forest, scrubby Hill's and bur oak thickets, and small pine barrens remnants. Historically, the vegetation of much of this area was pine barrens and pine-oak scrub, with scattered patches of xeric forest. Mott's Ravine contains the full range of vegetation expected on the glacial outwash. Prairie plants such as asters, blazing stars, puccoon, and wood lily are inter-mixed with patches of "heath" containing bearberry, sweet fern, and blueberry.

Significance of Site

These community types are rare and declining throughout the western Great Lakes, making their presence here very significant. The Bayfield Sand Barrens ecoregion contains a large share of the significant occurrences of pine barrens. Mott's Ravine SNA, though not especially large, is still important, especially in light of the management direction on nearby non-state-owned lands. Rare or uncommon species often associated with barrens habitats are found at this site, including prairie skink, upland sandpiper, Brewer's blackbird, Connecticut warbler, and Richardson's sedge.

Management Objectives

Due to the decline of pine barrens, pine-oak scrub, and xeric forest throughout Wisconsin, it is worth maintaining the existing natural community remnants, expanding them where feasible, and developing a management plan which would both

maintain barrens and dry forest types. However, for the foreseeable future, barrens and dry forest management opportunities here will be limited in scale with small patches of recently burned barrens, regenerated pine barrens, jack-pine oak scrub, and old xeric forest.

MANAGEMENT PRESCRIPTIONS

Several management issues are of importance. There is relatively high potential for the establishment and spread of invasive species owing to soil disturbance associated with salvage and replanting operations. Colonies of leafy spurge and spotted knapweed, aggressive exotic plants, were noted in scraped areas along HWY 27 just south of CTH S. Also, the long-term suppression of fire from this ecosystem and the widespread planting of conifer monocultures have not only suppressed many of the native barrens species but has also simplified natural community structure and composition.

1. Invasive exotic species, especially spotted knapweed and leafy spurge would be controlled by fire, pulling, and most likely limited direct application of approved herbicides.
2. Fire would be used for management of the open barrens.
3. The SNA would keep patches of young pine barrens, 20 – 60 year old jack pine/scrub oak forest and old (> 100 years) xeric forest.
4. Timber harvest would occur to manage pine plantations towards barrens or xeric forest community and regenerate pine/oak forest when the mid-aged patches are nearing old status.

RUSH LAKE INTERIOR BEACH STATE NATURAL AREA

DESCRIPTION OF SITE

This slightly alkaline, softwater seepage lake of 22 acres has clear water, a sandy bottom, and a maximum depth of 9 feet is a unique geologic feature of this landscape. The most notable natural feature here is an undisturbed shoreline with a good example of an inland lake beach. The lake experiences significant natural water level fluctuations which have kept the littoral zone open and allowed colonization by several distinct floristic associations. The inundated zone is composed mostly of spikerushes and bulrushes. The middle beach, with a substrate of moist sand, supports a diverse array of sedges and rushes, creeping clubmoss, purple gerardia, and several large populations of the insectivorous round-leaved sundew. The dry upper beach is vegetated with coarser plants such as grass-leaved goldenrod, boneset, Canada bluejoint grass, and red-stemmed gentian. Along the south shore of the lake, an area of spring seepages was noted.

Significance of Site

This site is exemplary for its aquatic invertebrate community. A rare mayfly, in addition to many uncommonly collected aquatic invertebrates, were documented here. The site also merits recognition for its botanical values, especially its well-developed beach. The site would be the first interior beach designation in the state natural areas program..

Management Objectives

Maintain the site below the high water mark as a State Natural Area. Protect the beach from vehicular traffic.

MANAGEMENT PRESCRIPTIONS

1. Allow natural water levels fluctuations.
2. Promote research on the interior beach community.
3. Prohibit vehicular use on the site below the high water mark.
4. No chemical treatment of the lake or of stocking with non-native fish.

BRULE RIVER BOREAL FOREST STATE NATURAL AREA

DESCRIPTION OF SITE

Clay slopes along the Bois Brule River support boreal forest in various stages of recovery. The most mature stands are composed of large white pine, white spruce, balsam fir, balsam poplar, with an occasional white cedar. Younger stands are generally aspen dominated. Paper birch is also sometimes a significant component of the more disturbed stands. Terraces along this stretch of river support swamp hardwood stands, composed of black ash and red maple, alder thicket, and stands of emergent marsh in old abandoned oxbows.

Significance of the Site

This natural community management area offers the best opportunity to protect, manage, and restore a conifer-dominated boreal forest on state forest lands. The State Natural Area represents a portion of the boreal forest that has recovered for a longer period than most of the clay plain forest. The site can be used as comparison area for the restoration efforts elsewhere on the clay plain. Contiguous forest cover is greater than elsewhere on the clay plain, at least on public lands.

Management Objectives

Maintain a closed canopy forest, conduct research and monitoring, and remove invasive exotic species.

MANAGEMENT PRESCRIPTIONS

1. Remove invasive exotic species by pulling, digging or limited direct application of approved herbicides.
2. No timber harvest nor timber salvage would be permitted due to the excessive erosion probabilities and values for comparison woody debris for boreal forest restoration.
3. Hazard trees can be removed for the safety of users. This cutting generally would not remove the material from the area.
4. Research plots to measure changes in canopy, shrub and ground layer vegetation for the purpose of providing a baseline for boreal forest restoration will be established.
5. Deer exclosures may be built depending on funding availability.

BEAR BEACH STATE NATURAL AREA

DESCRIPTION OF SITE

The primary features of interest here are several extensive stretches of undeveloped beach along the Lake Superior shore, west of the Brule River mouth. The beaches are composed mostly of sand, and are unvegetated due to their exposure to wave and ice action. Locally, there are small pockets of cobblestones and driftwood "gardens". The site includes the slump clay banks that contain uncommonly occurring combinations of plants and animals. This site will move with time the clay banks are continually eroding, as they have for thousands of years. The clay banks and sandy beach constitute the State Natural Area, and they will move spatially as storms continue to erode the banks.

Significance of Site

During bird migration periods this area is used for foraging and resting by terns, shorebirds, gulls, snow buntings, water pipits and others, sometimes in substantial numbers. Bear sign was common on the beach and in the adjacent thickets. As development pressures on shoreline habitats are high and increasing in northern Wisconsin, this site merits protection in an undeveloped state. Very rare are the opportunities to designate a beach and clay banks State Natural Area on over five miles of unobstructed beach for its biological values.

Management Objectives

Maintain the site for use by migratory birds, natural beach features and uncommonly occurring plants found on the clay banks.

MANAGEMENT PRESCRIPTIONS

This site was severely damaged by past land use activities. Some of the slopes above the shoreline are unstable, with noticeable seepages. In a few areas raw, eroding slumps are depositing clay sediments directly onto the beach or into the lake waters.

1. The beach and clay banks would have no timber management.
2. No salvage of woody material deposited on the beach.
3. The clay banks would be stabilized with naturally established vegetation. No artificial structure development, nor vegetation planting would take place.
4. Invasive exotic species would be removed using pulling, and limited direct herbicide application.
5. Walk-in and boat beach access would not be restricted.
6. Research and education would be encouraged.



PROPERTY-WIDE RECREATION MANAGEMENT

Recreational use and facilities of various types extend across the property in all management areas. In most areas recreation use and management is not the primary focus, with compatible recreational uses being a secondary, but very important function. Since recreational uses and in some cases facilities, like trails, extend across the property and multiple management areas the recreation management program largely has a property-wide focus. The overall recreation management program for the BRSF is discussed in this section below. The exception being the Afterhours Recreation Management Area; there recreational use is the primary management focus so the recreation management and development details for this area are discussed under that section of the plan, Management Area One.

This plan recognizes the role of state forests as described by state statute and acknowledges the unique capabilities of the Brule River State Forest. An earnest attempt has been made to accommodate the many diverse interests people have regarding the property. All these interests were weighed against the ecological capability of the land and the actions described in this plan reflect the decisions made.

All existing recreation developments will be maintained and a number of new enhancements are planned based on a 2016 master plan review. The prescribed management, facilities and staffing levels are designed to provide the necessary support for the public use levels. The successful implementation of the planned use and development depends on available resources in the form of labor and funding.

PROPERTY-WIDE RECREATION MANAGEMENT OBJECTIVES

- Provide a recreational experience on the Brule River State Forest that is rustic in nature and focusing on the use and appreciation of the natural resources of the property. In particular, provide opportunities for a wide range of high quality outdoor activities with an emphasis on “silent-sport” activities, including; fishing, paddling and hunting, as well as, hiking, camping, wildlife viewing, cross-country skiing.
- Continue to accommodate motorized recreation on the Brule/St. Croix ATV and Snowmobile Trail (winter only) and the Tri-County Corridor.

- Provide opportunities to educate state forest visitors and interpret the environment and provide information that will help them develop respect for the land, the river, other users and private landowners.

MANAGEMENT PRESCRIPTIONS BY RECREATIONAL ACTIVITY

TRAILS

HIKING TRAILS

Old Bayfield Road Hiking Trail

- Maintain the historic Old Bayfield Road Hiking Trail found on Sugar Camp Hill as a lightly developed trail.
- Maintain the connecting trail to the Copper Ranger Campground to cross to the Brule River at the Park Road bridge location. This provides for a connection between this hiking trail and the Copper Range Campground. Construct an additional trail loop on the campground end of this trail to allow users of the campground a more easily accessed hiking trail.
- Maintain the parking lot at the trailhead at its current capacity of approximately 6-8 cars.
- Construct a small accessible unisex pit toilet at the trailhead.

Waino Rock Trail and Overlook

This plan calls for the development of a scenic overlook at Waino Rock as well as a half mile long hiking trail in the area. This overlook site is located on the west side of CTH H approximately one-half mile south of CTH FF. The overlook provides a panoramic view that extends to the west across the Brule River Valley; on clear days extends north to Lake Superior.

- Construct a six to eight car parking lot along the west side of CTH H. Maintain a 25-foot wide visual buffer of existing vegetation between CTH H and the parking area.
- Construct an overlook access trail extending approximately 300 yards west from the parking lot to the overlook (the Promontory). The overlook site is a large rock outcrop, which would serve as a viewing area and provides natural seating. Maintain the natural, scenic quality of the overlook site; provide no additional facilities there.
- Construct a half mile long five-foot wide, lightly developed hiking trail with primitive surfacing and minimal grading, leading through a combination of open and wooded areas.

Historic Portage Trail

- Maintain the portion of the Historic Portage Trail that extends into the Bog Area from Upper St. Croix Lake as a lightly developed trail.

North Country Scenic Trail

- Maintain the existing North Country Scenic Trail that passes through the forest as a lightly developed trail; and maintain the parking areas at the Samples Road and the Gaylord Nelson parking access on Hwy 27 as they currently exist.
- Maintain the primitive campsites along the trail for back-pack camping.

Note: Primitive campsites are minimally developed single-unit, primitive campsites [defined in NR 44.07(5)(e)] with a minimally cleared and leveled tent site or sites, a fire ring (stone or steel), and a box latrine.

Primitive Access Trails

Short primitive access trails have existed along the river for generations which have primarily been developed and used by anglers. Such trails on state land have been surveyed for condition; and erosion control measures, like water bars and steps, have been installed to mitigate damage from heavy foot traffic and erosion. These trails have appeal to hikers if they are identified and maintained.

- Continue trail maintenance and environmental protection measures.
- Continue efforts to better identify and map these trails for users.

Hunter Walking Trails

There currently are over 60 miles of hunter walking trails utilizing permanent primitive management roads on the Brule River State Forest.

- Maintain approximately the same amount of hunter walking trails for public use.
- The trails may be relocated if appropriate as habitat for hunting changes and opportunities allow.
- Where needed, provide small gravel parking lots at major access points to hunter walking trails to reduce traffic safety issues due to parking on town roadside

CROSS COUNTRY SKIING**Afterhours Ski Trail System**

Currently, the focus for cross country skiing on the BRSF is on the Afterhours Ski Trail system. Opportunities for both skate skiing and classical style skiing as well as snowshoeing are offered on the 17 miles of trail at this location. Refer to the Area One, Afterhours Recreation Management Area section in this plan for details on management.

Devils Hole Trail System

This plan authorizes development of a second cross country skiing trail system in the area east of Hwy 27 near Samples Road, about 1 ½ miles from the intersection of Troy Pit Road and HWY 27. This area provides adequate area to construct parking lots, buildings, and trails on flatter lands adjacent to the rolling topography sought out for skiing. It also utilizes existing roads to access the site. These developments would accommodate the increase in demand for new trails while protecting the natural qualities of the Brule River State Forest.

- Develop the Devils Hole Trail System with a 20-25 mile network of lightly developed (unsurfaced) trails that are specifically laid out for the purpose of cross-country skiing. These trails will be unsurfaced and mowed.
- Develop a parking lot for the Devils Hole Trail System with the capacity for 100 cars with a natural surface of grass or other suitable natural material.

TRAIL DEVELOPMENT LEVELS

The department constructs and maintains trails to different standards based on their intended use, anticipated level of use, and land management classification. There are two levels of trails within the BRSF, primitive trails and lightly-developed trails. Trail development standards are described in NR 44.07, Wis. Adm. Code as follows:

Primitive trail

A primitive trail shall be a minimally developed single-file trail with a maximum sustained cleared width normally not exceeding 8 feet and a minimal tread width for the intended use, have a rough, ungraded bed where large rocks, stumps and downed logs may be present. It primarily follows the natural topography, has no or few shallow cuts and fills,

and is surfaced with primitive or native materials, except for limited distances where environmental conditions require the use of other materials. Modifications to the natural trail surface are limited to that which is minimally necessary to provide essential environmental protection.

Lightly developed trail

A lightly developed trail shall be a trail with a maximum sustained cleared width normally not exceeding 16 feet, a moderately wide tread width for the designated uses, a rough-graded base to remove stumps and large rocks, and a surface of primitive or native materials, except where other materials are required due to environmental conditions or where the trail also serves as a lightly developed road where other types of surfacing materials are used.

- A rustic warming shelter with flush toilets, and a separate and concealed maintenance facility are authorized.

BIKE TRAILS

This plan authorizes the development of new trails specific for mountain biking within and around the Afterhours Trail System. This use fits well within the silent sports niche of the property. The use of fat tire bikes is also allowed on the winter ski trails, snowshoe trails, and mountain bike trails. Refer to the Area One, Afterhours Recreation Management Area section in this plan for details.

PICNIC AREAS

Three small picnic areas exist or are planned.

Mouth of the Brule River on Lake Superior (existing)

The Beach of Lake Superior is a very popular day use destination for property visitors. Facilities here include a hand pump for water, restroom facilities, a small grassy picnic area with tables, and a moderately developed boat landing.

- Maintain this existing picnic/day use area generally as it currently exists.

Lake Superior - Bracket's Corner Site (planned)

The addition of a small, rustic picnic site on the beach is planned for a location near the area known as Bracket's Corner.

- Extend the existing road approximately 800 feet and develop a 20-30 car parking lot.
- Install a pit toilet and well.
- Construct an accessible boardwalk from the parking lot to the beach area, approximately 300 feet.

St. Croix Picnic Area (planned)

The addition of a picnic area is planned for the existing St. Croix Lake boat launch site. The boat landing and pier will continue to be provided.

- Develop the picnic area in a rustic, CCC era style. Use round wood construction of picnic tables and benches, round wooden signposts, and rustic routed wooden signs in a historic font.
- Provide parking for 10-15 vehicles and trailers.
- Provide up to 10 picnic tables.
- Conduct shoreline management on St. Croix Lake to demonstrate best management practices to other waterfront owners.
- Manage the vegetation on the site to screen the picnic area from full view as well as to develop large trees to provide shade to the area.

- Relocate the historic marker located near this to the picnic area to offer a better opportunity to pause and read the marker text as well as make a connection between the state forest and the protection of this important trail.
- Fit the artesian well, a focal point of the area, with an attractive wellhead and shelter that reflects CCC era construction of similar sites.

This site is classified as a Recreation Management Area – Type 4 Setting [NR 44.06(8) and NR 44.07(7)(e)4c]

CAMPING

On the BRSF a variety of camping opportunities are offered or are planned. They range from developed campgrounds to primitive backpacking and lakeshore campsites. Each is discussed below.

Campgrounds

There are two campgrounds, Copper Range and Bois Brule. These are popular for a variety of camper groups, ranging from school and summer camp groups, to family tent campers, to users of moderately sized campers and recreational vehicles. Reservations are currently available for approximately one half of the sites to allow for both those who wish to plan their trip in advance, as well as for those who are last minute planners or are passing through the area. These campgrounds provide an opportunity for paddlers to start at the headwaters and camp several nights as they follow the river to its mouth at Lake Superior. Camping along the river is prohibited on state land except at the two designated campgrounds.

Copper Range Campground

The Copper Range Campground is located four miles north of HWY 2 on CTH H (Refer to the Recreation map in the Maps Section at the back of this document). The footprint of the existing campground is approximately 10 acres in size, however the management described here includes approximately 30 acres and would include the adjacent canoe landing. There is a single contemporary pit toilet and a hand pump to serve the campground. The campground is popular with anglers in the spring and fall and is filled on many weekends in the summer. It is located convenient to favorite fishing holes and canoe routes. A canoe landing is located a short walk from the campground.

Management Objectives

- Manage this site to provide a scenic, rustic-focused camping opportunity with sufficient services to maintain a safe and enjoyable experience.

Management Prescriptions

- Maintain 15 to 20 auto accessible sites. Evaluate the layout of the campground and make changes that will

increase the vegetation screening and space between campsites. Define the sites by plantings and pad maintenance, in keeping with the natural qualities and rustic character of the area. Up to 10 of these campsites are authorized to have electric service installed. Cluster the electrified campsites together to minimize impact with other campers.

- A new vault toilet building is planned to be installed during the spring of 2017. Flush toilets and shower facilities are specifically prohibited at this campground.
- Improve the campground water supply facilities to provide a safe, dependable drinking water source. The well may be converted to a pressurized system to provide more consistently safe water samples.
- Develop 3-4 walk-in campsites along the trail to the canoe landing. These sites have a picnic table, fire ring, and a bench, along with a level area for a tent pad. Some fencing may also be used to define the campsite boundaries.
- Maintain the trail across the Coop Park Bridge that connects the campground to the Old Bayfield Road Trail, and develop a new loop hiking trail closer to the campground as part of this system

The Copper Range Campground site is a Recreation Management Area – Type 4 Setting [defined by NR 44.06(8) and NR 44.07(7)]. The campground is classified as a modern campground, [defined by NR 44.07(7)(e)5b]; this is due to the authorized electric hookups, which are not allowed within a rustic classified campground. It is a restricted modern campground. In every respect, except for the limited electric hookups, it will follow the rustic campground standards.

General Campground Vegetation Management Strategy

The Copper River Campground has a diverse age and species structure. Vegetative management focuses on annual removal of diseased and defective trees and occasional (1-5 year interval) removal of selected trees to release the understory. The objective is to maintain an all-aged stand that provides privacy between campsites. Planting may be done to enhance this with species that are not highly favored by deer for browse.

Vegetation will be managed consistent with the scenic river corridor to provide a safe and scenic recreational experience. Trees that are considered hazards because of damage or structural deterioration are regularly removed from public use areas for safety purposes. If needed to achieve the rustic and scenic goal for this campground, native vegetation may be planted in and around the campground.

Bois Brule Campground

The Bois Brule Campground is a 22-unit rustic campground located between the Bois Brule River and Ranger Road just north of BRSF Headquarters. This area is approximately five acres in size. It has 18 existing auto-accessible campsites and four walk-in campsites. The campground is popular, filling most weekends during the summer. One pit toilet constructed in 2000 and another pair of pit toilets of a late 1960s vintage serves the campground. There is a single hand pump for water. Research and comments have indicated that campers value this campground for its rustic character.

Adjacent to the campground is a rustic picnic area with a canoe landing. Also, the 1.6 mile Stoney Hill nature trail is nearby.

Management Objectives

- Provide rustic and scenic camping and day-use opportunities with sufficient services to maintain a safe and enjoyable experience for users.

Management Prescriptions

- Maintain the 22-unit rustic campground, picnic area and canoe landing.

(Note: in a rustic campground [NR 44.07(7)(e)4b], electrical campsite hookups are specifically prohibited, except at a campground host site, and flush toilet and shower facilities are prohibited as well.)

- Construct a rustic group camp facility north of the current Bois Brule Campground consisting of four distinct sites, each capable of accommodating up to 20 people. Provide a central parking area for 20 cars, a pit toilet and water supply.
- Maintain the 1.6 mile Stony Hill Nature Trail located adjacent to the campground as a lightly developed trail. Provide interpretive signage featuring the unique cultural and natural history of the Brule River Valley, including the significant contribution of the CCCs stationed at the Brule CCC camp. Also, maintain the connecting trail links



to the campgrounds with the fish hatchery and the North Country Trail.

General Campground Vegetation Management Strategy

The Bois Brule Campground is dominated by a canopy of red pine planted around 1918 as part of the Stony Hill Plantation. Shade and heavy camper use have diminished the amount of brush and the campground has an open understory.

Annually, diseased, defective and selected mature trees are removed to gradually expose the undergrowth to sunlight and increase vegetation growth and their screening effect.

By performing this operation annually the potential for windthrow is reduced. The removal of trees is performed by property staff. Five to ten trees are removed each year in addition to the diseased and defective trees. The removed trees are used for firewood in the campground or for construction projects on the property in the style of the CCC era.

Lake Superior Watertrail Camping

- Develop 1 to 4 primitive, water accessible campsites along the Lake Superior shoreline. This will provide legal camping options for persons traveling the Lake Superior shoreline. A camping permit will be required.

Note: Primitive campsites are minimally developed single-unit, primitive campsites [defined in NR 44.07(5)(e)] with a minimally cleared and leveled tent site or sites, a fire ring (stone or steel), and a box latrine.

RIVER RECREATION

Paddler access

Ten designated canoe landings are located along the river to provide trip lengths from a half an hour to multiple days with camping available at two campgrounds. The river landings are listed below from upstream to downstream:

- Hwy P,
- Stone Chimney,
- Stone's Bridge,
- Winneboujou,
- Bois Brule,
- Hwy 2,
- Copper Range,
- Pine Tree,
- Hwy 13, and
- Mouth of the Brule.

The river is closed by state statute 30.73(1) to all inflatable devices including inertubes, fishing rings, rafts, inflatable kayaks, motorized boats, and others.



Launching and landing watercraft, as well as the regulation of beverage containers on Brule River State Forest lands is regulated by NR45.13(14) of the Wisconsin Administrative Code.

Management Prescriptions

- Maintain the current canoe landings along with current levels of parking at each river access point, except at the Hwy 13 landing.
- Monitor the use of the Highway 13 canoe landing parking area and assess the number of days when the lot is above capacity and users are parking along Highway 13. Based on the monitoring results, retain the option to open the current parking area on the north side of the highway (known as the former "Drew" site) for 5 to 15 vehicles. The additional parking needs shall recognize the additional parking area is likely only needed during peak days not the entire summer season. The opening of the parking area may be done on a daily basis and on a limited number of days to serve as an "overflow" parking area only at needed times. The department will also explore signage options with Wisconsin DOT with the goal of safety improvements along Hwy 13.
- Provide drinking water wells and pit toilets at the most popular canoe landings.
- Provide information on use regulations and etiquette on the river. Use a combination of informational kiosks as well as stationing Forest Staff at key landings on peak use days.
- Post all landings as quiet zones in compliance with NR45.04 (3)(k).

Angler access

- Maintain the existing eighteen parking lots located in the northern half of the forest that provide off-road parking for anglers at present levels. These lots have gravel surfacing and include no other facilities. Each lot also has signs with a property map, the general rules of the river and property, and a graphic to assist with identification of the species of trout and salmon in the river.
- If the need warrants, develop small (5 car) parking areas at two locations off of Hwy H locally called Shumway and the Spruce plantation
- Maintain the angler access trails at present levels, and improve them as needed to provide safe travel to users as well as to prevent erosion.

ARCHERY

An archery course has been developed by volunteers from a local archery club on the Afterhours Ski Trail System. Refer to the Area One, Afterhours Recreation Management Area section in this plan for details.

Hunting, Fishing, and Wildlife Watching

This plan continues to provide habitat and abundant access for bird watching, hunting and fishing, which are the primary recreation pursuits in this area.

- Maintain the current size and number of parking lots that provide safe off-road parking for both anglers using the river as well as at popular hunting locations to keep parking off of town, county, and state roadways.
- Continue to provide abundant foot access for these activities afforded by the hunter and angler trails.
- Fishing regulations and management are not set by this plan and will continue to be administered through the department's fisheries program.



RECREATION MANAGEMENT



ROAD MANAGEMENT



ROAD MANAGEMENT

Roads, skid trails and landings are all part of the forest transportation system. Roads connect the forest land to existing public roads. They provide access for such activities as timber management, improving fish and wildlife habitat, fighting fires, and recreation. Access across and within the Brule River State Forest is on a variety of road types, including State and County Highways, Town roads and State Forest Roads.

State and County Highways and Town Roads

There are approximately 21 miles of State Highway, (State Highways 13, 2, and 27), 24 miles of County Highway (FF, H, B, S, P, L, and A) and 75 miles of town roads within or directly adjacent to the BRSF. These roads are maintained by the respective unit of Government and are not part of this master plan.

State Forest Roads

There are approximately 75 miles of State Forest roads seasonally open for public vehicles. State Forest Roads are considered State Highways by law. There are additional 73 miles of permanent and temporary State Forest roads closed

to public vehicles and used for management purposes. These roads vary in development and maintenance standards, depending on their purpose. All state forest roads are closed to ATVs unless designated for such use. Roads closed to public vehicles are gated, blocked or signed. While management roads are not specifically designed or maintained as public use facilities, they are open to foot access for hunting, trapping, hiking and other general recreational uses.

All permanently maintained department-managed roads are shown on the appropriate property master plan maps. These maps also indicate each road’s NR 44 classification and which roads are open to public vehicle access (street-licensed vehicles). Most public vehicle-access roads managed by the DNR are constructed and maintained to be accessible by all street-licensed vehicles. However, primitive roads may not be accessible by all vehicles. If open, high-clearance four-wheel-drive vehicles may be required.

Property managers may temporarily close a road to public use to conduct habitat management activities (e.g., prescribed burn) or for safety or law enforcement reasons. In this case the road will be signed and may be gated or otherwise blocked. Property managers may open closed management roads to public vehicles for short-term, special events or activities (e.g., firewood cutting). Property managers also may develop or open temporary roads or access ways as needed to conduct short-term management activities such as timber harvest or invasive species treatment. These access ways shall be closed and appropriately abandoned when the management activity has been completed. The following management objectives and prescriptions apply to department-managed roads.

ROAD MANAGEMENT OBJECTIVES

- Provide vehicle access to meet the management access needs of managers and the recreation access needs of the public in ways that are sustainable and compatible with the property’s recreational use and resource management and protection objectives.

ROAD SUMMARY			
Development Level	Open	Closed	Total Miles
Lightly-developed Road	0.12	0.33	0.45
Primitive Road	74.35	72.92	147.26
Total Miles	74.46	73.25	147.71

STATE FOREST ROAD CLASSIFICATION

A primitive road is defined as having a maximum sustained cleared width normally not exceeding 12 feet, little or no roadbed grading, minimal cut and fill, a surface of primitive or native material. Due to their unimproved, rough condition, primitive roads may not always be negotiable by ordinary highway vehicles.

A lightly developed road is defined as primarily a single lane road with a cleared width that is normally 16 feet or less. Its surface is lightly to well-graded and there are minimal cuts and fills. It is surfaced with primitive, native, or aggregate materials, except in limited special use situations where asphalt may be use. It has a maximum speed design of 15 mph.

ROAD MANAGEMENT

- Provide a network of roads on the Brule River State Forest that meet land management and recreation objectives.
- Maintain state forest roads to the designated road standards and in a sustainable condition and minimizing environmental impacts.
- Protect and maintain scenic values along road corridors in balance with management area objectives.

ROAD MANAGEMENT PRESCRIPTIONS

- Monitor and manage the spread of invasive plant species along roads using Wisconsin's Forestry Best Management Practices for Invasive Species. Control invasive species uses appropriate management techniques including but not limited to, herbicides, burning, cutting and mowing.
- Maintain visibility and clearance along roads that is adequate for the road classification and use.
- Maintain permanent roads to their designated NR 44 road classification standard.
- Route, design, and construct permanent and temporary roads to minimize habitat fragmentation and impacts to endangered, threatened and special concern species.
- Inspect permanent roads throughout the year. Develop a road inspection and maintenance schedule, maintaining all roads in a sustainable condition following Wisconsin's Forestry BMPs for Water Quality.
- As appropriate for the road's classification standards, shape roads periodically to maintain proper surface drainage and stable road surfaces.
- Inspect active roads after heavy storm events and clear debris as needed from road surfaces, culverts and ditches to decrease unsafe conditions and prevent road and vehicle damage.
- Keep traffic to a minimum during wet periods and spring breakup to reduce maintenance needs.
- Close and restore temporary management access roads (including timber harvest roads) to non-erosive conditions in accordance with Wisconsin's Forestry BMPs for Water Quality after the management activity for which they were established is completed.
- As appropriate to the each road's level of public use, adjust forest management techniques to maintain and enhance the long-term scenic conditions.
- Collaborate with municipal, town, and county roadside maintenance crews to protect and enhance the quality of roadside easement areas, especially to control the spread of invasive species.

Access Policy for Public Vehicles

All state forest roads are open to public access with street licensed vehicles unless the road is bermed, gated, or signed closed. State forest roads are closed to ATVs unless designated for such use. The State Forest Manager may close a road to public use if it becomes degraded, unsafe, or for law enforcement reasons. State forests regularly open and close forest roads primarily to conduct forest management. Roads open for management purposes are generally open to the public during the management period (one to two years) and a short time thereafter to allow access for firewood collection or other uses. Following this period they are closed with gates or berms. The state forest will not maintain roads for the expressed benefit of private individuals or residents, but may, at the discretion of the State Forest Manager, consider land use agreements.





REAL ESTATE MANAGEMENT

Acquisition Policies

It is the policy of the Natural Resources Board and the DNR to acquire lands from willing sellers only. The department pays just compensation, estimated fair market value based on an appraisal, for property it acquires. At times, it is in the interest of both the department and the landowner for the department to acquire only part of the rights to a property, or an easement. The department has a number of easement options available to address these situations. Fisheries easements provide access for anglers, protection of riparian habitat, and control of land to conduct habitat development or management projects. This option should be pursued on streams and rivers to protect critical or unique habitat when fee acquisition is not feasible due to costs, local concerns, or an owner's desire to retain fee title to the land.

Staff may periodically contact landowners within the project boundary to explain the department's land acquisition program and to see if they have an interest in selling their property. Acquisition priorities for the properties vary from year to year and are based on a number of factors, such as resource management or recreation needs and available funding, which may be from a variety of sources.

The following are some criteria typically used to assess the conservation and recreation merits of property being offered by willing sellers:

- Ecological needs.
 - Places that harbor high priority native communities or that provide critical habitat for Species of Greatest Conservation Need.
 - Places that provide critical landscape or ecosystem linkages.
 - Places that protect critical headwaters, recharge areas or priority undeveloped lands and rivers.
- Recreation needs.
 - Places that provide high quality trail-based activities, and associated opportunities such as wildlife watching and camping.
 - Places that provide hunting, trapping, fishing and wildlife watching opportunities within 60 miles of 500,000 or more people.
 - Places with extraordinary scenic or geologic features
- Economic and social needs.
 - Places providing public access to priority areas with high recreation potential.
 - Places that will help maintain or contribute to significant additional economic activity (e.g., recreation and tourism, biomass production or wood products industry).
 - Places that will leverage significant partner funds
 - Places that have high levels of documented public and landowner support.
 - Places where acquisition efforts to protect conservation and recreation lands will complement state, regional or federal conservation plans or local land use plans.
 - Portions of properties not needed for conservation purposes may be sold/leased back for agricultural or other compatible uses, though the state may retain development and public access rights.

The department is granted permission to acquire lands in targeted areas through a project boundary and acquisition goal or through a statewide acquisition authority, as established by the Natural Resources Board. A project boundary is the area within which a parcel of land can be acquired; the acquisition



goal is the total acreage that can be acquired for a project. Project boundary establishment or project boundary adjustments require approval by the Natural Resources Board per NR 1.40 (3). Wisconsin Administrative Code, Chapter NR 44 provides a plan amendment process that may be used to make adjustments in the project boundary after the master plan is approved. Where land purchase or easements are being considered, the department can acquire land under the various authorities described in S. 23.09, Wisconsin Statutes.

Project boundary adjustments often follow roads or natural features (e.g., streams or rivers). This approach greatly facilitates providing public access to lands that may be acquired in the future, and makes it easier to depict boundaries on maps. Nearly all project boundaries encompass more land than their respective acreage goals. This provides the department and partners with flexibility when negotiating the purchase, sale or trade of land for recreation and conservation purposes.

Using roads as boundaries will bring some developed parcels (e.g., homes, farmsteads and other improvements) into project boundaries. The DNR does not seek to acquire parcels with improvements. Acquisition criteria reduce the scores of parcels with substantial improvements. When buildings are purchased as part of a larger land holding, the buildings are typically split from the larger parcel and sold according to and consistent with local ordinances. An occasional purchase/easement across developed parcels may be sought to provide public access to an isolated portion of a property.

Aids in Lieu of Taxes

State law requires the department to make payments in lieu of property taxes (PILT). The department uses an automated process for collecting information and calculating PILT payments. The process is determined by statute with little room for interpretation or calculation by the department. There are two separate statutes and several formulas under each statute that dictate the amount of each individual payment.

Section 70.113, Wisconsin Statutes, applies to land acquired by the department prior to January 1, 1992. Payments under this statute are made directly to the taxation district in which the land is located. Schools, VTAE (Vocational, Technical, and Adult Education) institutions, and counties do not receive any payment under this law.

Section 70.114, Wisconsin Statutes, governs payments in lieu of property taxes for all lands purchased by the department after January 1, 1992. This law has been amended several times, so the specific formula used by the department to determine each specific payment varies depending on when the property was acquired and how. Payments are made to

each taxing district in January, similar to the way a private citizen would pay property taxes, and each taxing district then makes payments to all taxing jurisdictions in the taxing district.

For detailed information on how the department pays property taxes, visit <http://dnr.wi.gov> and search "PILT".

Future Boundary Adjustment Process

From time to time adjustments in property boundaries are needed. In some cases parcels of land are removed from the project boundary to allow alternative, necessary public uses by local governments, a landowner wishes to be removed or existing development prohibits future acquisition. In other cases it may be desirable to add small parcels adjacent to the project boundary so they can be purchased for resource protection, to provide better public access or to meet expanding recreational needs.

Land Sales

State law authorizes the sale of department land under certain circumstances. Separate statutes address the sale of land within and outside of approved project boundaries.

Section 23.15, Wisconsin Statutes, authorizes the sale of department lands within project boundaries established on or before May 1, 2013 if the Natural Resources Board determines that the lands are no longer necessary for conservation purposes. Proceeds from any such land sales are deposited into a conservation fund used exclusively for the purchase of other areas of land.

Wisconsin 2013 Act 20 (Section 23.145, Wisconsin Statutes) contains a provision requiring the department to make at least 10,000 acres of land outside of project boundaries established on or before May 1, 2013 available for sale by June 30, 2017. Lands offered for sale will meet some or all of the following criteria:

- Parcels of land outside of a project boundary with difficult or no access for the department for management purposes;
- Parcels of land outside of a project boundary with limited or no public access;
- Parcels of land outside of a project boundary that have limited public recreational or natural resources value;
- Parcels of land that have been identified for sale as a result of a NRB action; and
- Parcels of land recommended for sale as a result of a master planning process or other department action.

Parcels will be sold in the following order of priority:

PROPERTY-WIDE MANAGEMENT PROVISIONS

- Sale to a unit of government or Wisconsin sovereign tribal nation
- Private sale for trespass or boundary settlement or with adjacent property owner under special circumstances
- Public sale to the general public

As part of the master planning process, any parcels of land proposed for sale are evaluated and a field review conducted. Before any land is offered for sale, Department real estate staff will determine if federal funds were used to acquire the land and, if so, obtain the appropriate approvals.

Cooperation with Adjacent Property Owners

The department will continue to pursue cooperative management of land with private landowners within the Brule River State Forest project boundary. The opportunity for the department to cooperate with other landowners in the management of adjacent lands is also extremely important to the future health of ecological systems within BRSF. The Bois Brule watershed consists of an approximately 195-square mile area that extends well beyond the boundary of the BRSF. The Bois Brule River system was included in NR 102.10(1)(d) under Class I trout streams. The entire river and all of its tributaries, and their tributaries are considered Outstanding Resource Waters. Thus, land use decisions by jurisdictional governing bodies or agencies, concerning areas outside of the state forest boundary deserve careful consideration for any potential impact on the water quality of the Bois Brule River system.

Implementation of the master plan would include on-going communication with the municipalities, county governments, county foresters, land trust organizations, industrial forest owners and private property owners, paying particular attention to the protection of the water quality within the watershed. DNR staff would work to encourage stewardship of the lands, particularly in the Bois Brule watershed and the identified sub-watersheds, which drain into the Brule River. (Refer to the Bois Brule River Watershed map in the Maps Section at the back of this master plan.) Whenever possible, the Department will consider alternatives to direct public purchase, such as; the purchase of easement rights (i.e. scenic, development or management rights), or voluntary cooperative management agreements with private landowners..



PROPERTY-WIDE MANAGEMENT PROVISIONS

The following section describes general practices and policies that would be applied to all lands in the Brule River State Forest that are under state ownership.

EASEMENTS, ACCESS PERMITS, AND LAND USE AGREEMENTS

Easements provide access across state property for utilities, town roads, or county highways. Easements are permanent and would continue to be upheld under the master plan. Access permits provide access across state property to private ownership within the forest boundary. Land use agreements provide for a variety of uses on state forest property, such as snowmobile trails and other recreational facilities open to the public. The Wisconsin Department of Natural Resources has a long history of cooperation in managing and maintaining public recreational and community facilities and access. A minimum-security correction facility is located on the Gordon Unit of the state forest. The Department of Corrections operates this facility on the state forest property through a long-term lease agreement with the DNR.

Use of the property by the military will be restricted to those uses that are compatible with the objectives of the master plan. Military activities are approved by a special use permit and generally include activities such as orienteering training or wilderness camping. Other activities that may occur would be cooperative training or development projects, which further the goals of the property such as trail construction or fish habitat improvement.

ENDANGERED, THREATENED AND RARE SPECIES

Individuals of all endangered, threatened, special concern species and populations of Species of Greatest Conservation Need (SGCN) will be protected. All known critical habitat for these species will be protected or maintained through management which incorporates guidance from staff specialists, research and current literature, and consultation with the Bureau of Natural Heritage Conservation. The Natural Heritage Inventory (NHI) will be checked prior to any management activity to ensure that any adverse impacts associated with listed species are avoided or minimized to the greatest extent practical.

PROPERTY-WIDE MANAGEMENT PROVISIONS

TRIBAL RESOURCES IN CEDED TERRITORY

The Brule River State Forest is located within the Ceded Territory of the state and is located in Douglas County north and west of the Bad River, Lac Courte Oreilles and St. Croix Bands of the Ojibwe.

Native American tribes are independent, sovereign nations, as they were prior to the arrival of Europeans in North America. The Ojibwe Tribes ceded lands in the northern one-third of Wisconsin to the United States Government in the Treaties of 1837 and 1842. In those Treaties, they reserved their rights to hunt, trap, fish, and gather within various publically-owned lands. Treaty rights are currently being exercised and implemented by the Ojibwe Tribes within the Ceded Territory.

FUNDING CONSTRAINTS

Implementation of a master plan is dependent upon staffing and funding allocations that are set by a process outside of the master plan. Funding for land acquisition can come from a variety of federal (e.g., Pittman-Robertson and others), state (e.g., Stewardship), local, and private (e.g., land trusts) sources as well as land donations. Capital and operational funding for the department is established by the state legislature. Funds also are provided by federal programs and occasionally from private sources. Development projects similarly follow an administrative funding and approval process outside of the master plan. Many of the initiatives contained within the plan are dependent upon additional funding and staffing support. Therefore, a number of legislative and administrative processes outside of the master plan will determine the rate at which a master plan will be implemented.

Properties that have either been purchased or managed using funding from the Federal Aid in Wildlife Restoration Act (also known as the Pittman-Robertson Act) or the Federal Aid in Sport Fish Restoration Act have additional management constraints that must be considered. The statutes and applicable regulations prohibit a state fish and wildlife agency from allowing recreational activities and related facilities that would interfere with the primary purpose for which the State acquired, developed, or is managing the land.

FACILITY MANAGEMENT

All infrastructure used for habitat management and public access shall be inspected and maintained as required in program guidance and manual codes. This infrastructure includes, but is not limited to, dikes, spillways, water control devices, roads, gates, parking lots, boat launches and buildings.

Dikes and water control structures are essential for controlling water levels in flowages and enhancing emergent marsh habitats. The following routine activities apply to the maintenance of dikes and water control structures:

- Conduct dike maintenance and approved water manipulation activities.
- Maintain dikes to secondarily provide pedestrian access for hunters and trappers.
- Control beaver and muskrat populations to mitigate burrowing and damming.
- Plan and implement major maintenance of dikes on approximately 20-year rotations.

The property manager may relocate or temporarily close road and trail segments or other public use facilities as deemed necessary to conduct timber harvests or other habitat management activities or for public safety or law enforcement reasons.

All facilities, roads, and structures providing either public recreation or supporting public recreation activities or other administrative services will be designed and constructed in compliance with state building codes and department design standards, including NR 44. The location and design of new structures, roads, or trails must also be consistent with the management objectives for the area in which they are located.



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Significant remodeling or new construction projects will include LEED (Leadership in Energy & Environmental Design) standards for energy efficiency to the greatest extent possible.

INSPECTION OF DESIGNATED USE AREAS

All designated use areas must be inspected semi-annually (s. 23.115, Wis. Stats.). Vegetation inspections in designated use areas must be performed semi-annually with one of the inspections performed by a person trained in the identification of hazard trees. Monitoring will pay particular attention to forest infestations that pose a serious threat to forest resources such as red pine pocket decline, annosum root rot, oak wilt, pine bark beetles, gypsy moth, forest tent caterpillar, two-lined chestnut borer, and emerald ash borer. Control measures will be performed as needed.

PUBLIC HEALTH AND SAFETY

All facilities will comply with federal, state, and local health and sanitation codes. The property manager has the authority to close trails and other facilities on the property when necessary due to health, safety, or environmental damage concerns. In designated public use areas, such as designated parking lots and designated trails, trees or other natural elements that are deemed public hazards will be removed. Safety inspections are done at least twice per year.

EMERGENCY ACTION PLAN

Each property maintains an emergency action plan on file that describes staff response and coordination with other agencies to natural disasters as they affect public safety and facilities. This plan is reviewed annually.

REFUSE MANAGEMENT

Refuse is collected by a private contractor from designated sites at campgrounds and other primary use facilities. Recyclables are also collected on the property. Visitors are required to carry out any refuse they bring when no designated refuse or recycling receptacles are available. This carry-in, carry-out policy applies to most primitive campsites and trails. Burying of refuse is not allowed anywhere on department properties.

RESEARCH

Department properties are diverse in character, located throughout the state and containing examples of all major habitats and landforms as well as many rare features. Many department properties, therefore, may offer strategic locations for experimental trials or research on a wide variety of topics or specific features. The research conducted by department managers, scientists, and educational partners can be beneficial for the properties, the department and the general public. Scientific research that is compatible with the ecological and aesthetic attributes of a property is generally supported. Prop-

erty managers or supervisors have the authority to approve or deny requests for research projects on department properties. All research activities will be carried out in locations and using methods that are consistent with the management classifications and management objectives in the property's master plan.

DISABLED ACCESSIBILITY

The department is committed to providing exceptional outdoor recreation opportunities around the state for people of all abilities. All new construction and renovation of infrastructure will follow guidelines set forth within the Americans with Disabilities Act and also be done in a manner consistent with NR 44 standards of the land use classification of the site where the development is located.

Property managers have the authority to make reasonable accommodations for people with disabilities, consistent with the requirements of an area's land use classification. Property managers also may allow the use of power-driven mobility devices with a WDNR-issued permit, consistent with a March 15, 2011 U.S. Department of Justice ruling. Approval will depend on various factors including: the physical characteristics of the device; the volume of pedestrian traffic at the location; the design and operational characteristics of the site; safety considerations; and whether the proposed use creates substantial risk of serious harm to environmental, natural or cultural resources.

CLOSURES

In the event of an emergency that may threaten public health and safety (e.g., wind storm, tornado, flood, or other safety hazards) or to protect the resource values of a property (e.g., erosion from over-use, trail damage during spring thaw, etc.), property managers are authorized, under NR 45.04(1)(b), Wis. Admin. Code, to temporarily close, by posted notice, any land, land improvement, facility or property owned or administered by the State of Wisconsin and under the management, supervision and control of the DNR, and to take corrective actions as necessary. This applies to department-managed roads but not to Town, County or State roads managed, supervised or controlled by other agencies.

PROTECTION OF CULTURAL RESOURCES

All cultural sites (including both archaeological sites and historic structures) occurring on public lands are protected against unauthorized disturbance under provisions of various federal and/or state laws, and burial sites (including cemeteries and mound sites) are protected on private lands as well.

Management policy requires that any activities with potential to disturb archaeological sites will only be undertaken after

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consultation with the Departmental Archaeologist. Any sites with cultural or historical value identified on the department properties or acquired with future land purchases will be managed in accordance with department guidance and statutory requirements (see Wis. Stats. 44.40 and Manual Code 1810.10). Archaeological and other cultural resource investigations may be necessary before a project is approved, and projects should designate funds for required investigations as a component of the project budget.

WATER QUALITY ISSUES

Best management practices (BMPs) for agriculture (buffer strips along waterways, leaving crop residue on fields, plowing in spring instead of fall, contour plowing, etc.) greatly reduce sediment transport and turbidity problems that negatively affect water quality. Construction BMPs (seeding and mulching, silt fencing, straw bales, detention ponds, etc.) should be used for the same reasons on any construction project. All forest management activities will comply with the most recent version of Wisconsin Forestry's BMPs for Water Quality. Maintenance of natural shorelines and a minimum of a 30-ft-wide associated buffer should be encouraged on state lands to protect water quality and maintain the aesthetic quality of the river for recreational boaters. Buffer strips on developed lots should be encouraged to intercept the runoff from lawns, which can carry excess nutrients, fertilizers, herbicides and pesticides directly to the water.

FOREST CERTIFICATION

In 2004, Wisconsin State Forests gained dual Forest Certification from the Forest Stewardship Council (FSC) and Sustainable Forestry Initiative (SFI). In 2009, State Forests were re-certified under FSC and SFI and the balance of WDNR-owned land was added to the certification. Independent, third-party certification means that management of Wisconsin's DNR-owned land meets strict standards for ecological, social, and economic sustainability. Forest certification helps Wisconsin remain competitive in global markets that increasingly demand certified raw materials. Management of multi-use lands involves balancing the goals of conserving forestland, supporting economic activities, protecting wildlife habitat, and providing recreational opportunities. Objective review is also instrumental in improving how the department cares for the land it manages.

FOREST INVENTORY AND RECONNAISSANCE

The DNR uses a forest inventory system (Wisconsin Forest Inventory and Reporting System, or WisFIRS) to gather and record information about forested areas on state-owned lands. The database created from the inventory captures the physical description of these areas (dominant forest cover type, soils, ecological attributes, stand origin, guidelines, restrictions, and

goals). Reports are generated to summarize information about forest stands that are scheduled for management review. The acreage listed for review is considered the property's sustainable harvest, indicating that those lands are due for a decision regarding management. Some stands inventoried, such as passive management zones contained in some native community management areas, are excluded from the management schedule.

DNR Forestry staff conduct field exams to verify whether stands scheduled for management are ready for the prescription. If stands are not yet ready for management, WisFIRS is updated and the stands are rescheduled for future review. Stands rescheduled for future review are still considered accomplishments toward the property's annual sustainable harvest acreage. For stands that are ready for management, Forestry staff consult with staff in other DNR programs such as Natural Heritage Conservation, Fisheries, and Wildlife Management to ensure an integrated resource approach prior to implementing the proposed practice. When implementing the practice, silvicultural guidelines and BMPs for Water Quality and Invasive Species are followed. After a management practice is completed, WisFIRS is updated.

FOREST PEST CONTROL

Wisconsin Statute 26.30 states, "It is the public policy of the state to control forest pests on or threatening forests of the state...". Any significant forest pest events will be evaluated with consideration given to the property management goals and the potential threat of the pest to other landowners. Infestations will be managed according to the relevant management plan, if such exists. Responses to significant infestations from pests (e.g., emerald ash borer) include timber salvage or pesticide treatments. Any response to a significant pest outbreak or threat of a significant pest outbreak will be evaluated by an interdisciplinary team of scientists and communicated through press releases and notices to interested parties. If necessary, an immediate emergency response to prevent a major outbreak may be authorized by the Chief State Forester.

FIRE SUPPRESSION

As stated in Wisconsin Statute 26.11, "The department is vested with power, authority and jurisdiction in all matters relating to the prevention, detection and suppression of forest fires outside the limits of incorporated villages and cities in the state except as provided in sub (2), and to do all things necessary in the exercise of such power, authority and jurisdiction." Wildland fire suppression actions will consider the property management goals and the threats of the fire to life and property. Appropriate techniques will be used in each event to provide effective fire suppression while minimizing resource damage.

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AUTHORIZED RESPONSE TO CATASTROPHIC EVENTS

Catastrophic events are rare, but allowances must be made to provide management flexibility when such events occur. These events may include severe flooding, ice and wind storms, insect and disease infestations, wildfires, or other catastrophic occurrences. The immediate management responses to these events will follow existing department protocols. If management objectives and prescriptions need to be revised, a master plan variance must be approved by the Natural Resources Board.

Wildfires, tree diseases and insect infestations shall be controlled to the degree appropriate to protect the values of each management area. However, emergency actions may be taken to protect public health and safety, or as directed by the State Forester to prevent a catastrophic incident from spreading to adjacent forest lands.

Management responses to catastrophic events are determined on a case-by-case basis. Salvage of trees damaged by wind, fire, ice, disease, or insects may occur if consistent with the objectives and prescriptions for the management area. Salvage also may occur as part of an emergency response plan authorized by the Chief State Forester.

PRESCRIBED FIRE

Prescribed fire is a management tool that mimics natural fire disturbance and helps control many woody plants and invasive weeds, improves the quality of wildlife habitat, reduces fuels to lessen wildfire hazard, and liberates nutrients tied up in dead plant material. It can help regenerate forest cover types such as oak, and create or maintain grassland/prairie and savanna/barrens habitat. Upland nesting cover used by pheasants, waterfowl, and songbirds is more productive if periodically burned. Wetlands also benefit from fire. Prescribed fire may be used as a management tool where feasible and safe except when restricted by management area prescription.

CONTROL OF INVASIVE SPECIES

Invasive non-native species are a major threat to the integrity of most of our native plant communities, and can significantly harm the habitat and recreational value of department lands. These species have the ability to invade natural systems and proliferate, often dominating a community to the detriment and sometimes the exclusion of native species. Invasive species can alter natural ecological processes by reducing the interactions of many species to the interaction of only a few species. Best Management Practices (BMPs) for Invasive Species will be incorporated into management practices on DNR properties. If detected, invasive species may be controlled using appropriate and effective methods, including but not limited to the use of bio-control, herbicides, cutting,

smothering, hand removal, or fire. Control methods may be restricted in certain sensitive management areas. Before initiating control measures, the management prescriptions for the area being treated will be referenced.

The rules set forth in Chapter NR 40 of the Wisconsin Administrative Code create a comprehensive, science-based system with criteria to classify invasive species into two categories: "Prohibited" and "Restricted". These rules are aimed at preventing new invasive species from getting to Wisconsin, and enabling quick action to control or eradicate those here but not yet established. The rules also include preventive measures that are not species-specific but instead address common pathways that may allow invasives to spread.

In addition to control of terrestrial invasives, rules aimed at preventing the introduction and spread of aquatic invasive species also are important to many department properties, where boating and fishing are popular. These rules include: cleaning and disinfecting boats and equipment before transport to another waterbody; prohibitions on transporting live fish or spawn away from waters; and rules governing transportation of bait species and surface water between waterbodies. These rules, if followed by all lake and river users, will greatly slow the introduction and spread of undesirable aquatic species.

CHEMICAL USE

Herbicides and pesticides may be used for various purposes such as the control of invasive plants, controlling plant competition in vegetation regeneration areas, or insect control except as restricted in the management prescriptions of a master plan. All department procedures and herbicide and pesticide label requirements will be followed.

NON-METALLIC MINING

The department may use gravel, sand, fill dirt, or other fill material from DNR-owned lands for department use. Under certain circumstances other government bodies or agencies may also have access to these materials. Section 23.20 of the Wisconsin Statutes states, "the department may permit any town, county, or state agency to obtain gravel, sand, fill dirt or other fill material needed for road purposes from any department-owned gravel pit or similar facility if this material is unavailable from private vendors within a reasonable distance of the worksite. The department shall charge a fee for this material commensurate with the fee charged by private vendors."

Nonmetallic mining is regulated under the requirements of Chapter NR 135 Nonmetallic Mining Reclamation, Wis. Adm. Code, except for sites that do not exceed one acre in total for

PROPERTY-WIDE MANAGEMENT PROVISIONS

the life of the mining operation. Site reclamation under NR 135 is administered by the county. NR 135 requires mining sites to be located appropriately, operated in a sound environmental manner, and that all disturbed areas be reclaimed according to a reclamation plan. New sites will not be considered where they would impact geological or ecological features of significance or within any designated State Natural Area.

Department of Transportation (DOT) projects are exempt due to project reclamation requirements.

HISTORIC TRAILS AND TRAIL EASEMENTS

The Tri-County Corridor Recreational Trail connects the City of Superior to the City of Ashland and passes through BRSF boundary but is not an easement or part of the state forest. The state forest does not manage this trail system; therefore the management of this trail is outside the scope of this master plan. The North Country Trail is administered through the National Park Service and runs from Maine to North Dakota. The state will continue to honor our cooperative agreement with the National Park Service to allow this trail to cross a segment of the state forest.

PUBLIC COMMUNICATIONS PLAN

The public and other governmental agencies will have the opportunity for on-going involvement in the implementation of this master plan. This communication plan describes how the public will be notified about activities and issues on the Brule River State Forest .

Annually the State Forest Superintendent will prepare a report that summarizes the following:

- For the past year, the primary management and development activities that were completed and other significant issues that were addressed.
- For the coming year, outline any proposed management and development activities and any changing management actions or approaches.

The annual report may also include information of interest to the public on various topics related to management and use of the forest such as the status of forest insect or disease problems, fires or storm damage, new information on endangered or threatened species, recreational management Issues or new opportunities, and recreational use changes or trends.

The State Forest Superintendent will be the Department representative responsible for communicating the goals and management of BRSF as well as answering questions from the public regarding land management, recreation and law enforcement. As property manager, the Superintendent will also maintain a contact list of persons or groups interested in receiving information about important management issues on the property. The public will be notified of significant developments by e-mail or postal mail and the Department's internet web site.

An annual public meeting to describe management plans for the coming year will continue to inform and update stakeholders and interested parties on proposed state forest activities. The Department and interested parties can explore options such as cooperative projects, increased resources or, if necessary, follow master plan variance, amendment, or revision procedures as described in Chapter NR 44, Wis. Administrative Code to address needs that arise from these meetings. The Department will work with local citizens on any user group conflicts and adapt techniques of public involvement to resolve problems and best serve the public's needs.

In the event the Department considers a change to the master plan through a plan variance or amendment, the public will be advised of the proposal and informed of the review and comment process. As appropriate, stakeholders will be noti-

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fied by public news release, email distribution, and Department of Natural Resources internet web pages and public notices.

Contact Person

The Brule River State Forest Property Manager should be contacted regarding the master plan or other state forest related topics. At the time of this publication this contact is:

Brule River State Forest Property Manager
Wisconsin Department of Natural Resources
Brule River State Forest
6250 South Ranger Rd.
Brule, WI 54820
715-372-5678



IMPACTS OF MANAGEMENT REVISIONS

IMPACTS OF MANAGEMENT REVISIONS FROM THE PLAN REVIEW

This chapter, in combination with the 2002 plan, regional and property assessments, previous plan amendments and variances, current proposed plan and summary of public comments, collectively constitute the environmental analysis. The intent of this analysis is to disclose the environmental effects of the proposed changes stemming from the master plan review. Property planning under Chapter NR 44, of the Wisconsin Administrative Code, is an integrated analysis action under Chapter NR 150, Wis. Admin. Code, and meets the requirements of the Wisconsin Environmental Policy Act (WEPA) and Chapter NR 150.

Following a thorough assessment and public review of the 2002 Master Plan, the plan was revised to accommodate new recreational uses to meet increased public interests and demands. In order to maintain the revered character of “the Brule”, and the integrity of its abundant resources, the proposed master plan review revisions are balanced, meeting users and stakeholders desires, and very minor in scope and relatively conservative.

Projected increases in public use and recreation are minimal and within the capabilities of a sizeable resource base. Overall, changes in future management are expected to have only minimal effects on natural resources and the public’s use of the property. Best management practices and policies are in place to guide resource management decisions and activities. In addition, implementation of management actions and public uses are monitored annually.

Proposed recreation changes and actions are key elements in the master plan review. The following impacts describe some of the more significant actions and their expected impacts or effects. To locate or review specific topics refer to individual management prescriptions and objectives described in this document.

PUBLIC ACCESS AND RECREATION

The revised Master Plan works to establish a balance of scenic resource management, public access, and recreation. Recreation on the forest is primarily nature-based, with opportunities

for water related activity, camping, hunting and trapping, trail and backcountry experiences.

Opportunities will continue largely unchanged for traditional recreational activities such as hunting and trapping, fishing, boating and canoeing, hiking, remote camping, birding, canoeing, kayaking, scenic viewing, nature study and photography. A focus of the plan review was to maintain a safe, visually appearing natural river experience with very little change to access and use of the river.

Under the plan revision, road access will remain unchanged from current conditions.

The revised plan provides more camping opportunities. Planned improvements include; confirmation of support for the 2003 proposed group camp at the Bois Brule campground, two to three new remote water-accessible primitive campsites on the shoreline of Lake Superior, several primitive walk-in campsites at the Copper Range campground, camper cabin at the Afterhours ski trail area, and electrical hookups at Copper Range campground. These changes will have a positive effect to separate and meet desired experiences.

Angler parking areas will be maintained, and improved slightly at some high use areas, to protect the river and enhance user experience and safety.

There are recreation trail enhancements at the Afterhours ski trail area, including an additional loop trail, a new ski-joring loop, and designated mountain bike trail. These enhancements will meet user’s interests and demands.

These relatively modest recreation developments and amenities will serve to enhance public recreation, accommodate public demands and further diversify use of the property. These actions pose minimal impacts on natural resources and the public’s experience and appreciation of the Brule River State Forest.

Conclusion

As demographics and recreational trends change and more people seek opportunities to recreate, the Brule River State Forest will continue as a recreational travel destination. The Brule’s extensive river base and surrounding natural features

IMPACTS OF MANAGEMENT REVISIONS

offer the ability to accommodate diverse recreational uses throughout the seasons, while maintaining an acceptable level of user separation with manageable impacts to natural resources.

Given its size and contiguous land and water acreage, the Brule is both a productive and popular public property. With its diverse natural resource base ranging from remote habitats to varied and accessible recreational opportunities, the Brule will continue to provide significant social, ecological, and economic benefits now and into the future.



PRINTED ON RECYCLED PAPER
PUB-FR-225-2017