

Chapter 3 – Management Area Direction

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Chapter 3 – Management Area Direction

Introduction

This portion of the Land and Resource Management Plan for the Ottawa National Forest (the Ottawa) includes specific direction for managing different land areas within the Ottawa; these areas are called management areas (MAs). Each management area may involve differing sets of management activities and vegetative emphases. All National Forest System (NFS) lands within the Ottawa are assigned a management area prescription. Sometimes management areas overlap, such as where a Wild and Scenic River overlaps a designated wilderness. When this occurs, the more stringent or restrictive management area standards and guidelines are generally applied.

In addition, recreation, trails, heritage and ecological features may overlap several management areas. Specific land management allocations and designations are not intended to affect Native American tribes' treaty-guaranteed hunting, fishing and gathering rights.

Forestwide management direction also applies to management areas unless there is more stringent direction within the management area direction, for example in wilderness (MAs 5.1, 5.2, and 5.3). If a specific resource such as recreation, transportation or heritage is not mentioned in a management area then the Forestwide standards and guidelines provide adequate direction.

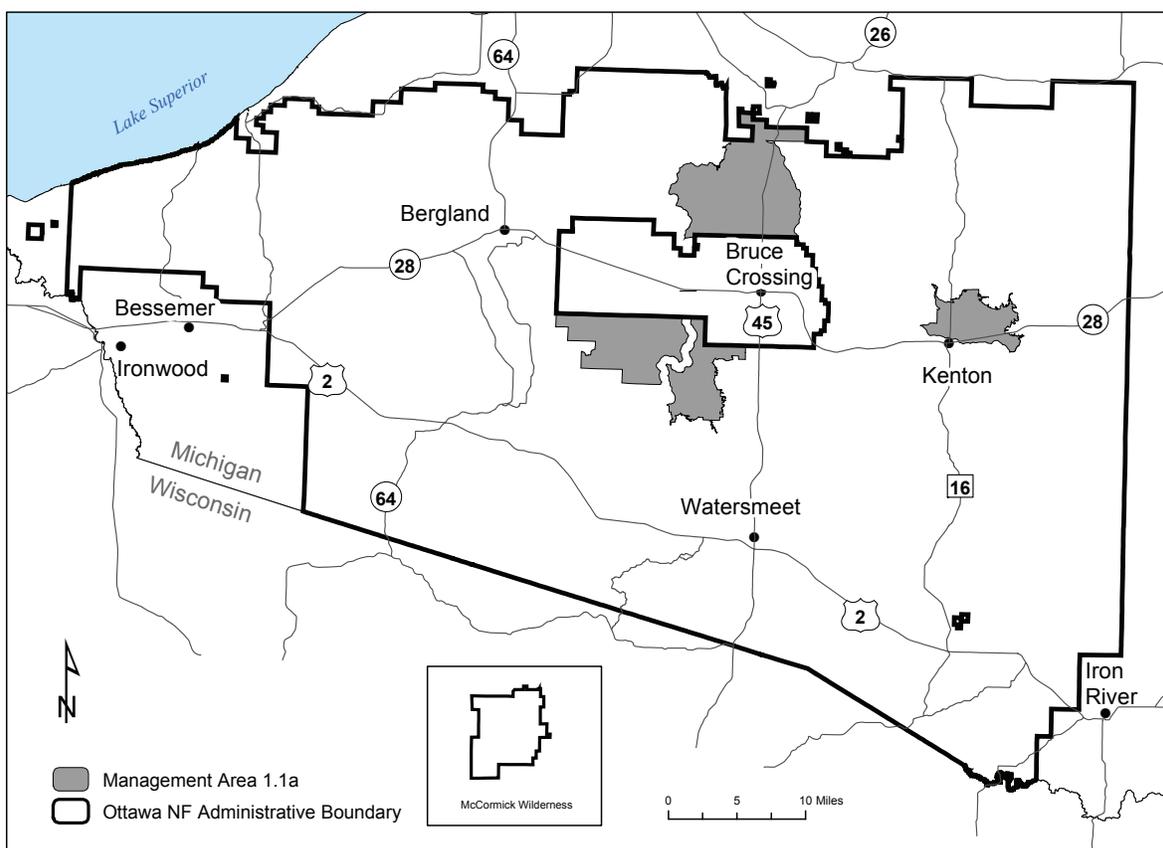
As stated in Chapter 1, the revision process began with the 1986 Forest Plan and much of the management direction and format found there was carried over to the 2006 Land and Resource Management Plan (2006 Forest Plan) during the revision process. Relevant federal and state laws and regulations and the Forest Service Directives System apply; even though not specifically identified in the 2006 Forest Plan. As such, management area direction that has not been revised (e.g., MAs 5.1, 5.2, 5.3, 6.1, 6.2, 7.1, 8.1, 8.2 and 9.2), reflects changes made to decrease reiteration of applicable laws, regulations and Forest Service directives. Efforts were also made to clarify intent of management area direction where needed.

In this Chapter for each management area is:

- Purpose
- Area Description
- Desired Condition of the Land
- Resource Specific Standards and Guidelines
 - Presented in Forest Service file code designation order;
 - If there is no specific direction for a resource in a given management area, then that resource is not listed and Forestwide guidance applies.

Management Prescription 1.1a

Figure 3-1. Management Prescription 1.1a



Purpose

This management prescription:

- Emphasizes early-successional community types within a roaded natural motorized recreation environment.
- Maintains potential conditions for moderate to high populations of game species such as deer and ruffed grouse, key prey species for predators such as Canada lynx, gray wolf and Northern goshawk, and non-game species such as chestnut-sided warbler.
- Maintains moderate to high amounts of aspen type along with associated timber products and habitat conditions.
- Provides an appearance that is predominantly forested with frequent temporary openings.

Area Description

Management Area 1.1a dominates the heavy clay lake plain in the central part of the Ottawa. This management area, in great part, lies adjacent to a large contiguous area of private land in the middle of the Ottawa's administrative boundary, known as the "hole in the donut," that is characterized as an open landscape used for pasture or abandoned pasture land. This tends to concentrate much of the Ottawa's early-successional habitat adjacent to an extensive area of open land.

Historical records indicate that much of the aspen on the Ottawa that was present during pre-European settlement times occurred in this area.

Areas allocated to this form of management are generally 20,000 contiguous acres or larger in size. The management area encompasses approximately 81,300 acres, of which about 62,200 acres are NFS lands. Current conditions are dominated by aspen, with some hardwood types as well as scattered areas of white pine, balsam fir, and spruce.

The dominant Landtype Association (LTA) is 212Jo01, Ontonagon Lake Plain (over 80% of the MA). This is a nearly level lake plain, with dissected ravines. Soils have loamy surfaces over calcareous, clayey till and lacustrine deposits. Ravines were created by post-glacial erosional processes. Prevalent soil permeability is very slow.

Desired Condition of the Land

This management area features the largest contiguous patches of aspen on the Ottawa, and includes a mosaic of temporary openings and stands featuring aspen, paper birch, and balsam fir. This management area provides a substantial proportion of the early seral vegetation conditions on the Ottawa. Stands of even or uneven-aged northern hardwoods are interspersed throughout the management area. Tables 3-1 and 3-2 describe the desired vegetation composition.

For early-successional forest types, trees within each stand are about the same age and size. However, stands within the management area are of many different ages. Four to five distinct ten year age classes are present and are often spatially arranged in close proximity to one another, to favor species that have small home ranges such as ruffed grouse and snowshoe hare.

The combination of openings and forest cover provides habitat for a diverse group of plant and animal species. White-tailed deer, snowshoe hare, and ruffed grouse densities tend to be higher than in other areas of the Ottawa.

Old growth forests are uncommon and tend to be isolated in small patches (few to tens of acres in size) utilizing mostly unsuited lands, riparian corridors and areas with steep slopes.

A fairly equal mix of even and uneven-aged management producing a continuous forest cover with many different-sized trees may be practiced in northern hardwood forest types.

The even-aged silvicultural system used for aspen and softwoods typically results in clearcuts accessed by many temporary roads that are obliterated after the timber is removed. In addition, the system of long-term local and collector roads averages 2-1/2 to 3-1/2 miles per square mile.

Big game and upland game bird hunting is a common recreational activity. Dispersed access for hunting is available.

This moderately roaded environment with both open and closed roads provides a mix of motorized and non-motorized recreation opportunities.

Table 3-1. MA 1.1a Desired Vegetative Composition

Forest Type	Desired Condition (%) ¹
Aspen/Paper Birch ²	60-70
Long-lived Conifers (Red Pine, White Pine, White Spruce, Hemlock) ²	5-10
Short-lived Conifers (Jack Pine, Balsam Fir, Lowland Conifer) ²	10-20
Northern Hardwoods (Upland and Lowland Hardwoods) ²	5-20

¹ Desired condition is the long-term goal which may not be achieved in this plan period

² Based on total acres of forested National Forest System lands

Table 3-2. MA 1.1a Additional Desired Vegetative Characteristics

Vegetative Characteristics	Desired Condition (%) ₁
Old Growth ²	1-3
Permanent Openings ³	1-3

¹ Desired condition is the long-term goal which may not be achieved in this plan period

² Based on total acres of forested National Forest System lands

³ Based on total acres of National Forest System lands

2300 Recreation Management

Visual Quality

Guideline

Apply visual quality objectives displayed in the matrix by sensitivity level, distance zone, and variety class.

Table 3-3. MA 1.1a Visual Quality Objectives¹

Variety Class	Distance Zone-Sensitivity Level						
	Highest Sensitivity			Average Sensitivity			Lowest Sensitivity
	Fore-ground	Middle-ground	Back-ground	Fore-ground	Middle-ground	Back-ground	All Distances
Class A Distinctive	Retention	Partial Retention	Partial Retention	Partial Retention	Modification	Modification	Modification
Class B Common	Partial Retention	Modification	Modification	Partial Retention	Modification	Maximum Modification	Maximum Modification
Class C Minimal	Partial Retention	Modification	Modification	Modification	Maximum Modification	Maximum Modification	Maximum Modification

¹See Appendix G of this document for definitions of terms.

2400 Timber Management

Guidelines

Feature even-aged management as the primary silvicultural system for the maintenance and regeneration of the aspen forest type and associated plant and animal habitats.

Even-aged management is also the predominant silvicultural system for managing conifers in the management area.

Northern hardwood stands will be managed using the silvicultural system that is appropriate for the site based on Ecological Landtype Phase capabilities, site specific considerations, and long-term management objectives for the area. As a result, a mix of even and uneven-aged management is expected in the northern hardwood type.

Provide for management of a long-term mix of vegetation (as shown in Tables 3-1 and 3-2) through the scheduling of management practices to provide a mix of timber products.

2600 Wildlife, Fish and Sensitive Plants

Canada Lynx

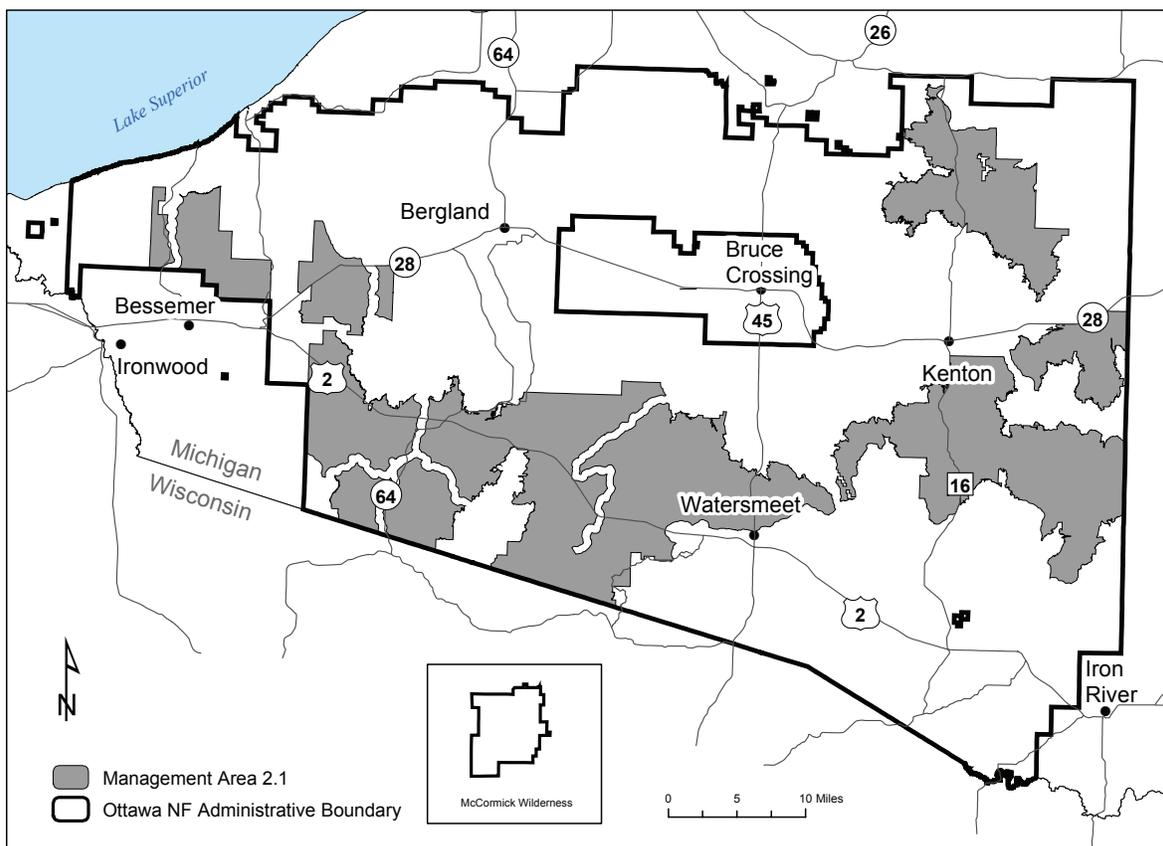
Guidelines

Manage for jack pine regeneration stocking densities of 1,000 to 1,500 stems/acre.

Manage for white spruce regeneration stocking densities of >1,000 stems/acre.

Management Prescription 2.1

Figure 3-2. Management Prescription 2.1



Purpose

This management prescription:

- Emphasizes late-successional community types within a roaded natural motorized recreational environment.
- Maintains moderate to high amounts of northern hardwood type along with associated timber products and habitat conditions.
- Emphasizes a moderate to high amount of uneven-aged management of the northern hardwood type to provide for high visual quality, production of high quality sawtimber and veneer, and habitat conditions for wildlife species such as the black-throated green warbler and red-eyed vireo that are representative of this community type.
- Provides an appearance that is predominantly forested.

Area Description

Areas allocated to this form of management are generally 40,000 contiguous acres or larger in size. The management area encompasses approximately 414,400 acres, of which about 285,900 acres are NFS lands. Current conditions are dominated by hardwoods with some aspen. Conifers occur, particularly in the lowlands.

Several of the till-based Landtype Associations (LTAs) dominate this management area. LTA 212Jc02, Winegar moraines (over 40%) is a rolling, collapsed and water-worked terminal moraine with loamy soils over acid, sandy loam till. This moraine has numerous depressions, many of which contain lakes and/or wetlands. Prevalent soil permeability is moderately slow.

Another LTA is 212Jb02, the Gile/Erwin till plain (over 10%), which is a rolling bedrock - controlled, moraine with loamy soils over acid, sandy loam till, igneous/metamorphic bedrock, and low rock outcrops are common. Prevalent soil permeability is slow.

Over 10% of MA 2.1 is also occupied by LTA 212Sn12, the Watton-Six Mile moraines. This is a rolling, dissected, terminal moraine complex with loamy soils over calcareous, clay loam till with some stony areas. Prevalent soil permeability is moderately slow.

Other till deposits present but composing less than 10% of the area within this MA include LTA 212Jb02, the Tenderfoot till plain, LTA 212Jb03, the Saxon/North Ironwood till plain, and LTA 212Xc01, Iron River/Argonne drumlins.

Desired Condition of the Land

A continuous canopy of northern hardwoods, mixed with aspen and softwoods, covers Management Area 2.1. This management area contributes to the largest contiguous patch of northern hardwood forest type in the western Upper Peninsula of Michigan. The hardwood forests continue to recover from the heavy logging era of the late 1800s and early 1900s. Silvicultural treatments are applied to restore the structural diversity of the northern hardwood forests to conditions more representative of native conditions. Trees within each stand are a mix of sizes and ages from seedling to relatively large, old trees. Stands are generally managed to maintain or develop structural and compositional complexity. Complexity within the stands is enhanced through the creation of canopy gaps to promote regeneration and tree species diversity, development of multi-storied canopies, increasing the amounts of standing and downed coarse woody debris, and maintenance or expansion of long-lived conifers on compatible habitat types.

Occasional temporary openings occur where even-aged management is applied but uneven-aged stands of northern hardwoods are most common. Although sugar maple is predominant, white ash, yellow birch, basswood, red maple, eastern hemlock, eastern white pine, and other shade-tolerant, and mid-tolerant species are also found. Tables 3-4 and 3-5 describe the desired vegetation composition.

Old growth forests tend to be connected by riparian areas, areas of steep slopes, and larger river corridors, with some isolated patches. Patches of old growth tend to be from tens to hundreds of acres in size.

The relatively continuous forest canopy favors shade-tolerant understory plant species and associated wildlife. White-tailed deer densities tend to be lower than on most other portions of the Ottawa.

Because of their frequent use, local and collector roads are generally permanent. Road density varies with the mix of tree species present and associated harvest methods, but the average density is 3 to 4 miles per square mile. However, portions of this MA are within the remote habitat area which has an open road density of less than or equal to 1 mile per square mile. The location and design of these roads limit their visual and physical impact.

This highly roaded environment with both open and closed roads provides a mix of motorized and non-motorized recreation opportunities. The roaded environment and the extensive area of northern hardwood forests provides some of the best fall color viewing opportunities in the Upper Midwest. The majority of the developed recreation sites on the Ottawa are located within this management area.

Table 3-4. MA 2.1 Desired Vegetative Composition

Forest Type	Desired Condition % ²
Aspen/Paper Birch ¹	15-20
Long-lived Conifers (Red Pine, White Pine, White Spruce, Hemlock) ¹	0-10
Short-lived Conifers (Jack Pine, Balsam Fir, Lowland Conifer) ¹	10-20
Northern Hardwoods (Upland and Lowland Hardwoods) ¹	50-70

¹ Based on total National Forest System forested acres

² Desired condition is the long-term goal which may not be achieved in this plan period

Table 3-5. MA 2.1 Additional Desired Vegetative Characteristics

	Desired Condition (%) ¹
Old Growth ²	8-10
Permanent Openings ³	1-5

¹ Desired condition is the long-term goal which may not be achieved in this plan period

² Based on total National Forest System forested acres

³ Based on total National Forest System acres

2300 Recreation Management

Visual Quality Guideline

Apply visual quality objectives displayed in the matrix by sensitivity level, distance zone, and variety class.

Table 3-6. MA 2.1 Visual Quality Objectives¹

Variety Class	Distance Zone-Sensitivity Level						
	Highest Sensitivity			Average Sensitivity			Lowest Sensitivity
	Fore-ground	Middle-ground	Back-ground	Fore-ground	Middle-ground	Back-ground	All Distances
Class A Distinctive	Retention	Retention	Retention	Partial Retention	Partial Retention	Partial Retention	Partial Retention
Class B Common	Retention	Partial Retention	Partial Retention	Partial Retention	Modification	Modification	Modification
Class C Minimal	Partial Retention	Partial Retention	Modification	Modification	Maximum Modification	Maximum Modification	Maximum Modification

¹See Appendix G of this document for definitions of terms.

2400 Timber Management

Guidelines

Northern hardwood stands will be managed using the silvicultural system that is appropriate for the site based on Ecological Landtype Phase capabilities, site specific considerations, and long-term management objectives for the area. As a result of a strong successional trend towards sugar maple on many of the northern hardwood sites, uneven-aged management is expected to be the primary silvicultural method for northern hardwoods in this management area.

Even-aged management may be used as a secondary silvicultural method in northern hardwoods where needed to meet specific resource objectives, such as for enhancement of plant or animal habitat or tree species diversity. This will be generally on less productive sites without a strong successional trend towards sugar maple.

Northern hardwoods will be the most common forest type, with components of aspen and conifers providing variety.

Even-aged management will be the primary silvicultural method for aspen and conifer vegetation types.

Provide for management of a long-term mix of vegetation (as shown in Tables 3-4 and 3-5) through the scheduling of management practices to provide a mix of timber products.

Schedule selection or improvement cuttings on a 10- to 20-year cutting cycle depending on stand structure, productivity, and market conditions.

2600 Wildlife, Fish and Sensitive Plants

Northern Goshawk and other Raptors

Guideline

To provide foraging habitats for goshawks and other predators, regenerate aspen where stands of aspen or stands with significant aspen component exceeding 60 acres exist. These stands should be managed to provide at least three distinct age classes to provide for prey needs. However, regeneration of this type should be the first priority where delay in harvesting would result in forest type loss due to natural succession.

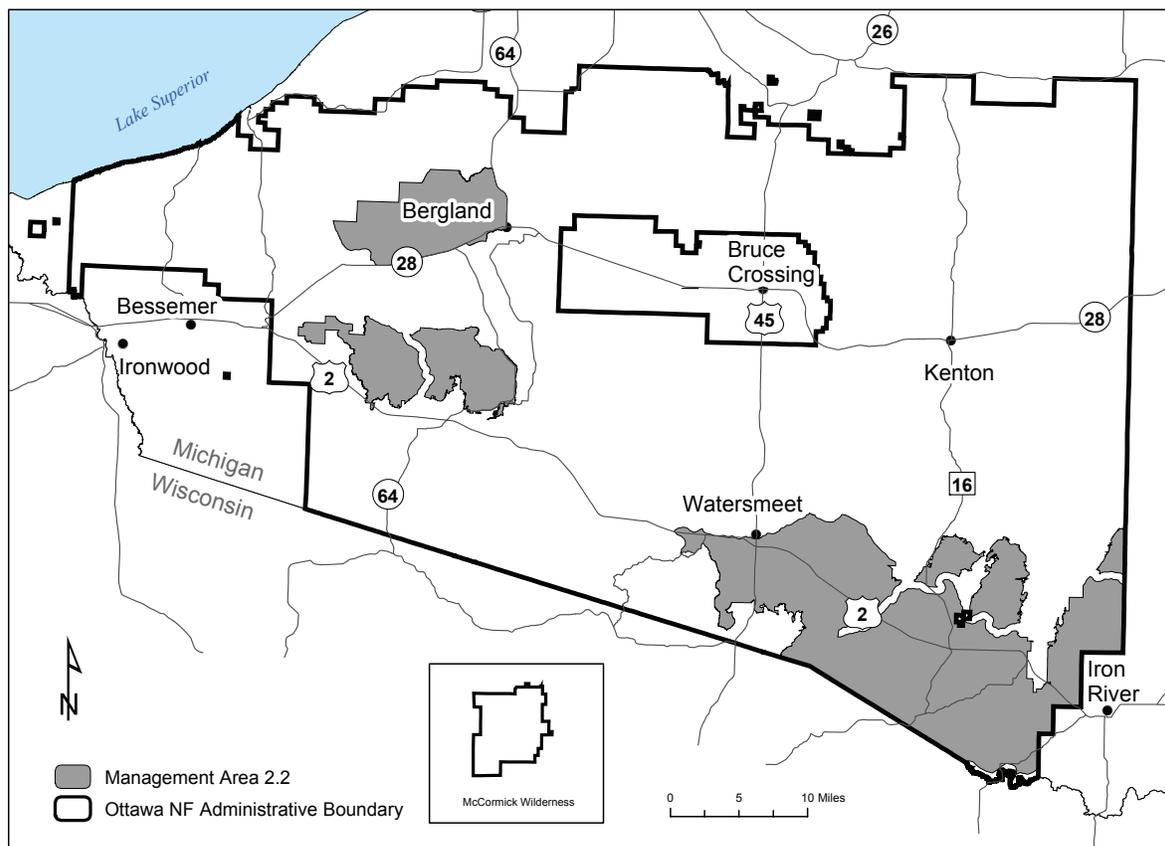
Ruffed Grouse

Guideline

Maintain three distinct age classes of aspen, 0-9 year, 10-30 year, and greater than 31 years, well-dispersed or interspersed in aspen patches greater than 60 acres. Regeneration of the forest type is the first priority where delay of harvesting would result in forest type loss due to natural succession.

Management Prescription 2.2

Figure 3-3. Management Prescription 2.2



Purpose

This management prescription:

- Emphasizes late-successional community types within a roaded natural motorized recreational environment.
- Maintains high amounts of northern hardwood type along with associated timber products and habitat conditions.
- Emphasizes a high amount of uneven-aged management of the northern hardwood type to provide for high visual quality, production of high quality hardwood sawtimber and veneer, and habitat conditions for wildlife species such as the black-throated green warbler and red-eyed vireo that are representative of this community type.
- Provides an appearance that is predominantly forested.
- Provides few acres of permanent openings.

Area Description

Areas allocated to this form of management are generally 30,000 contiguous acres or larger in size. The management area encompasses approximately 259,200 acres of which about 153,700 acres are NFS lands. Current conditions are strongly dominated by hardwoods with some aspen. Conifers occur, particularly in the lowlands.

Two of the till-based Landtype Associations (LTAs) dominate this management area. LTA 212Xc01, the Iron River/Argonne drumlins (about 60%) which are hilly, drumloid ridges and valleys, linear northeast to southwest. This is a till plain with silty soils over acid, sandy loam and loamy sand till. Prevalent soil permeability is moderately slow.

The other dominant LTA is 212Jb01, the Penokee/Gogebic Iron Range (about 15%), which is a hilly bedrock-controlled moraine with loamy soils over acid, sandy loam till or igneous/metamorphic bedrock. Rock outcrops are abundant. Prevalent soil permeability is moderately slow.

Desired Condition of the Land

A continuous canopy predominantly consisting of uneven-aged northern hardwoods interspersed with some aspen and softwoods. This management area contributes to the largest contiguous patch of northern hardwood forest type in the western Upper Peninsula of Michigan. The hardwood forests continue to recover from the heavy logging era of the late 1800s and early 1900s. Silvicultural treatments are applied to restore the structural diversity of the northern hardwood forests to conditions more representative of native conditions. Trees within each stand are a mix of sizes and ages from seedlings to very large, old trees. Stands are generally managed to maintain or develop structural and compositional complexity. Complexity within the stands is enhanced through the creation of canopy gaps to promote regeneration and tree species diversity, development of multi-storied canopies, increasing the amounts of standing and downed coarse woody debris, and maintenance or expansion of long-lived conifers on compatible habitat types. Permanent upland openings are uncommon and tend to be small.

Infrequent temporary openings occur where even-aged management is applied, but uneven-aged stands of northern hardwoods are most common. Sugar maple is the dominant species, but minor components of yellow birch, basswood, red maple, eastern hemlock, eastern white pine, and other shade-tolerant and mid-tolerant species also are found. Tables 3-7 and 3-8 describe the desired vegetation composition.

Old growth forests tend to be connected each other by riparian areas, areas of steep slopes, and larger river corridors, with some isolated patches. Patches of old growth tend to be from tens to hundreds of acres in size.

The relatively continuous forest canopy favors shade-tolerant plant species and associated wildlife. White-tailed deer densities tend to be lower than on most other portions of the Ottawa.

Because of their frequent use, local and collector roads are generally permanent. Road density varies with the mix of tree species present and associated harvest methods, but the average

density is 3 to 4 miles per square mile. However, portions of this MA are within the remote habitat area, which has an open road density of less than or equal to 1 mile per square mile. The location and design of these roads limit their visual and physical impact.

This moderately roaded environment with both open and closed roads provides a mix of motorized and non-motorized recreation opportunities. The roaded environment and the extensive area of northern hardwood forests provides some of the best fall color viewing opportunities in the Upper Midwest.

Table 3-7. MA 2.2 Desired Vegetative Composition

Forest Type	Desired Condition % ¹
Aspen/Paper Birch ²	5-15
Long-lived Conifers (Red Pine, White Pine, White Spruce, Hemlock) ²	5-10
Short-lived Conifers (Jack Pine, Balsam Fir, Lowland Conifer) ²	10-20
Northern Hardwoods (Upland and Lowland Hardwoods) ²	65-75

¹ Desired condition is the long-term goal which may not be achieved in this plan period

² Based on total National Forest System forested acres

Table 3-8. MA 2.2 Additional Desired Vegetative Characteristics

	Desired Condition % ¹
Old Growth ²	8-10
Permanent Openings ³	0-2

¹ Desired condition is the long-term goal which may not be achieved in this plan period

² Based on total National Forest System forested acres

³ Based on total National Forest System acres

2300 Recreation Management

Visual Quality Guideline

Apply visual quality objectives displayed in the matrix by sensitivity level, distance zone, and variety class.

Table 3-9. MA 2.2 Visual Quality Objectives¹

Variety Class	Distance Zone-Sensitivity Level						
	Highest Sensitivity			Average Sensitivity			Lowest Sensitivity
	Fore-ground	Middle-ground	Back-ground	Fore-ground	Middle-ground	Back-ground	All Distances
Class A Distinctive	Retention	Retention	Retention	Partial Retention	Partial Retention	Partial Retention	Partial Retention
Class B Common	Retention	Partial Retention	Partial Retention	Partial Retention	Modification	Modification	Modification
Class C Minimal	Partial Retention	Partial Retention	Modification	Modification	Maximum Modification	Maximum Modification	Maximum Modification

¹See Appendix G of this document for definitions of terms.

2400 Timber Management

Guidelines

Northern hardwood stands will be managed using the silvicultural system that is appropriate for the site based on Ecological Landtype Phase, capabilities, site specific considerations, and long-term management objectives for the area. As a result of a very strong successional trend towards sugar maple on most of the northern hardwood sites, uneven-aged management is expected to be the primary silvicultural system for northern hardwoods in this management area.

A limited amount of even-aged management may be done in the northern hardwoods where needed to meet specific resource objectives, such as enhancement of plant or animal habitat and tree species diversity. This will be generally on less productive sites without a strong successional trend towards sugar maple.

Uneven-aged northern hardwoods will be the most common forest type, with small components of even-aged northern hardwoods, aspen, and conifers.

Even-aged management will be the primary silvicultural system for aspen and conifer vegetation types.

Provide for management of a long-term mix of vegetation (as shown in Tables 3-7 and 3-8) through the scheduling of management practices to provide a mix of timber products.

Schedule selection or improvement cuttings on a 10- to 20-year cutting cycle depending on stand structure, productivity, and market conditions.

2600 Wildlife, Fish and Sensitive Plants

Northern Goshawk and other Raptors

Guideline

To provide foraging habitats for goshawks and other predators, regenerate aspen where stands of aspen or stands with significant aspen component exceeding 60 acres exist. These stands should be managed to provide at least three distinct age classes to provide for prey needs. However, regeneration of the type should be the first priority where delay in harvesting would result in forest type loss due to natural succession.

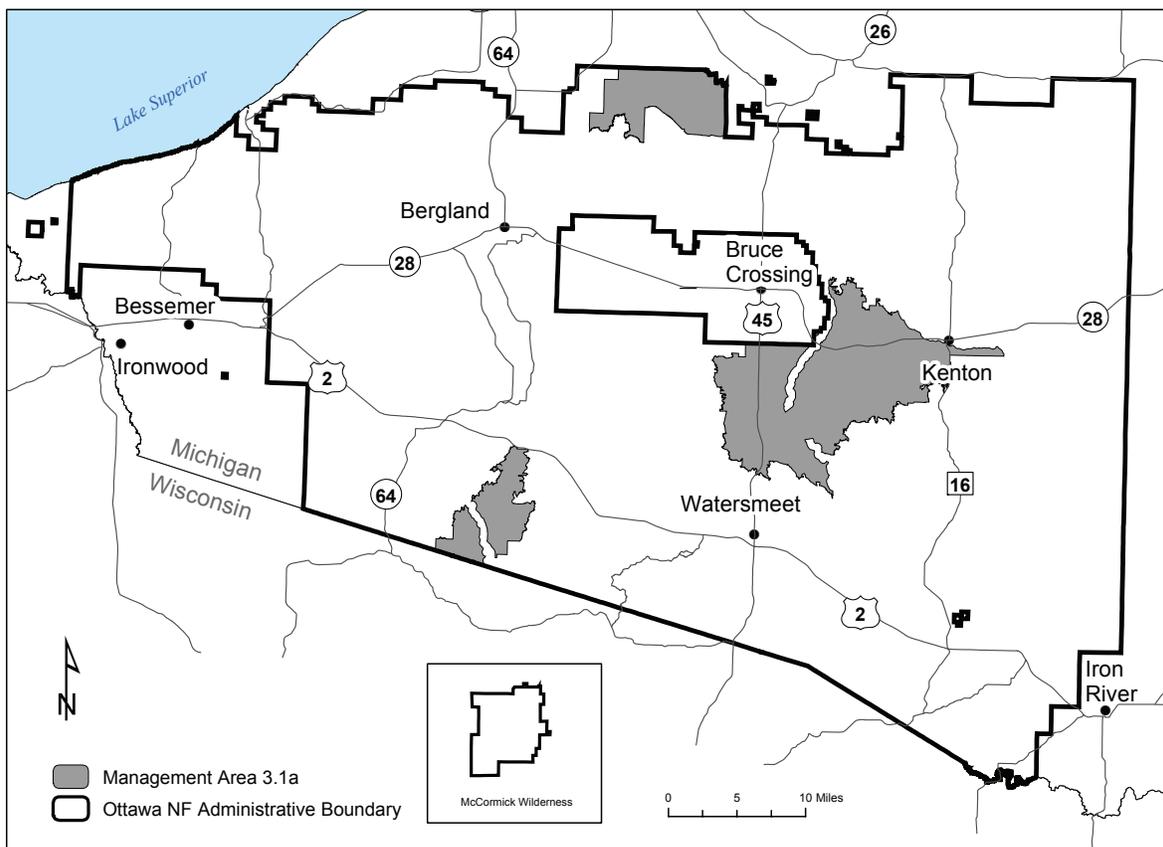
Ruffed Grouse

Guideline

Maintain three distinct age classes of aspen, 0-9 year, 10-30 year, and greater than 31 years, well-dispersed or interspersed in aspen patches greater than 60 acres. Regeneration of the forest type is the first priority where delay of harvesting would result in forest type loss due to natural succession.

Management Prescription 3.1a

Figure 3-4. Management Prescription 3.1a



Purpose

This management prescription:

- Emphasizes a wide variety of vegetative conditions including moderate amounts of early, middle, and late-successional community types, all within a roaded natural motorized recreation environment.
- Maintains moderate to high amounts of hardwood, softwood, and aspen cover types along with associated timber products and habitat conditions.
- Provides a variety of cover types and age classes through even and uneven-aged management of the vegetation, providing favorable habitat conditions for species, such as the black-throated blue and Canada warblers.
- Provides an appearance that is predominantly forested with occasional permanent upland openings as well as stands of larger and older trees.

Area Description

Areas allocated to this form of management are generally around 30,000 contiguous acres or larger in size. The management area encompasses approximately 125,000 acres, of which about 87,800 acres are NFS lands. Current conditions are co-dominated by aspen and hardwoods, with a representation of pine, spruce and balsam fir.

MA 3.1a is found on a mixture of Landtype Associations (LTAs), with sandy tills as well as lake-influenced tills with silty and loamy soils.

The most dominant LTA is 212Jc02, Winegar moraines (over 25%). This is a rolling, collapsed and water-worked terminal moraine with loamy soils over acid, sandy loam till. This moraine has numerous depressions, many of which contain lakes and/or wetlands. Prevalent soil permeability is moderately slow.

Another dominant LTA is 212Jc22, the Calderwood hills (over 20%), which is a hilly, stratified, ice-contact portion of Winegar Moraine with sandy soils over acid, sandy till. Prevalent soil permeability is rapid.

Over 15% of MA 3.1a is also occupied by LTA 212Jo01, Ontonagon Lake Plain. This is a nearly level lake plain, with dissected ravines. Soils have loamy surfaces over calcareous, clayey till and lacustrine deposits. Ravines were created by post-glacial erosional processes. Prevalent soil permeability is very slow.

MA 3.1a also contains over 10% of LTA 212Ja10, Cranberry Creek fluted lake plain. This is an undulating, fluted, lake-modified, till plain with numerous, small intermittent, parallel drainages to Lake Superior. Soils are loam over calcareous, clay loam till. Prevalent soil permeability is moderately slow.

Small portions of LTAs 212Jb14 Tenderfoot Creek till plain, 212Jb02 Gile/Erwin till plain, and 212Jb07 Gogebic Ridge-Bergland Hill-Trap Hills-Norwich Bluffs moraine are also present in this MA.

Desired Condition of the Land

This management area provides a transitional landscape between management areas featuring emphasis on early seral vegetation and management prescriptions with emphasis on late seral vegetation conditions. The forest is a mosaic of northern hardwoods, aspen, hemlock, pine, white spruce, balsam fir, and lowland conifer stands, interspersed with permanent upland openings and wetlands. Tables 3-10 and 3-11 describe the desired vegetation composition.

The combination of temporary and permanent upland openings and forest cover provides habitat for a diverse group of plant and animal species. White-tailed deer densities tend to be in the moderate to high range compared with other portions of the Ottawa. Densities of snowshoe hare and ruffed grouse are also generally moderate.

Even-aged management techniques are applied to most aspen and conifer forest types resulting in temporary openings from clearcuts and shelterwood removal harvests.

Northern hardwood forest types are managed through a relatively equal mix of even and uneven-aged harvest types.

Old growth forests tend to be connected to each other by riparian areas, areas of steep slopes, and larger river corridors, with some isolated patches. Patches of old growth tend to be from tens to hundreds of acres in size.

Road density varies with the mix of tree species present and associated harvest methods, but the average density is 3 to 4 miles per square mile. However, portions of this management area are within the remote habitat area, which has an open road density of less than or equal to 1 mile per square mile. The location and design of these roads limit their visual and physical impact.

This moderately roaded environment with both open and closed roads provides a mix of motorized and non-motorized recreation opportunities. The principal recreational activities in this management prescription are big game hunting, upland bird hunting, fishing, and snowmobiling.

Table 3-10. MA 3.1a Desired Vegetative Composition

Forest Type	Desired Condition (%) ¹
Aspen/Paper Birch ²	35-45
Long-lived Conifers (Red Pine, White Pine, White Spruce, Hemlock) ²	10-20
Short-lived Conifers (Jack Pine, Balsam Fir, Lowland Conifer) ²	10-20
Northern Hardwoods (Upland and Lowland Hardwoods) ²	25-45

¹ Desired condition is the long-term goal which may not be achieved in this plan period

² Based on total National Forest System forested acres

Table 3-11. MA 3.1a Additional Desired Vegetative Characteristics

	Desired Condition (%) ¹
Old Growth ²	4-7
Permanent Openings ³	1-3

¹ Desired condition is the long-term goal which may not be achieved in this plan period

² Based on total National Forest System forested acres

³ Based on total National Forest System acres

2300 Recreation Management

Visual Quality Guideline

Apply visual quality objectives displayed in the matrix by sensitivity level, distance zone, and variety class.

Table 3-12. MA 3.1a Visual Quality Objectives¹

Variety Class	Distance Zone-Sensitivity Level						
	Highest Sensitivity			Average Sensitivity			Lowest Sensitivity
	Fore-ground	Middle-ground	Back-ground	Fore-ground	Middle-ground	Back-ground	All Distances
Class A Distinctive	Retention	Partial Retention	Partial Retention	Partial Retention	Modification	Modification	Modification
Class B Common	Partial Retention	Modification	Modification	Partial Retention	Modification	Maximum Modification	Maximum Modification
Class C Minimal	Partial Retention	Modification	Modification	Modification	Maximum Modification	Maximum Modification	Maximum Modification

¹See Appendix G of this document for definitions of terms.

2400 Timber Management

Guidelines

Northern hardwood stands will be managed using the silvicultural system that is appropriate for the site based on Ecological Landtype Phase capabilities, site specific considerations, and long-term management objectives for the area. As a result, a mix of even and uneven-aged management is expected in the northern hardwood forest type.

Feature even-aged management as the primary silvicultural system in the aspen and conifer forest types.

Provide for management of a long-term mix of vegetation (as shown in Tables 3-10 and 3-11) through the scheduling of management practices to provide a mix of timber products.

2600 Wildlife, Fish and Sensitive Plants

Canada Lynx

Guidelines

Manage for jack pine regeneration stocking densities of 1,000 to 1,500 stems/acre.

Manage for white spruce regeneration stocking densities of >1,000 stems/acre.

Northern Goshawk and other Raptors

Guideline

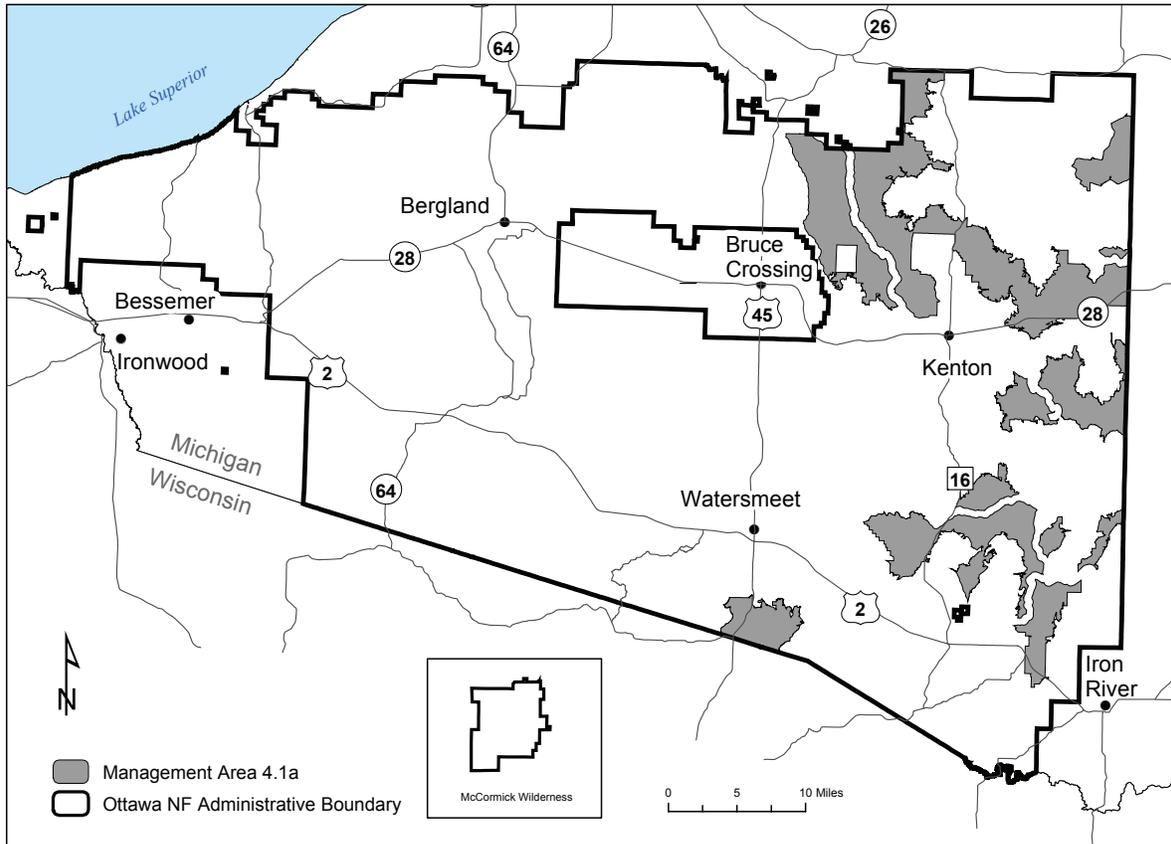
To provide foraging habitats for goshawks and other predators, regenerate aspen where stands of aspen or stands with significant aspen component exceeding 60 acres exist. These should be managed to provide at least three distinct age classes to provide for prey needs. However, regeneration of this type should be the first priority where delay in harvesting would result in forest type loss due to natural succession.

Ruffed Grouse**Guideline**

Maintain three distinct age classes of aspen, 0-9 year, 10-30 year, and greater than 31 years, well-dispersed or interspersed in aspen patches greater than 60 acres. Regeneration of the forest type is the first priority where delay of harvesting would result in forest type loss due to natural succession.

Management Prescription 4.1a

Figure 3-5. Management Prescription 4.1a



Purpose

This management prescription:

- Emphasizes middle- to late-successional coniferous community types within a roaded natural motorized recreational environment.
- Maintains moderate to high amounts of long-lived conifer cover types along with associated timber products and habitat conditions.
- Provides a variety of cover types and age conditions.
- Provides an appearance that is predominantly forested with occasional permanent upland openings as well as stands of larger and older trees.

Area Description

Management area 4.1a is predominantly on outwash sands. Notable are the Vilas-Oneida outwash plains area, the Paint River terraces, Frost Junction, Sidnaw, and Nesbit Lake corridor. Fire disturbance regimes (FR) within MA 4.1a are dominantly FR 2 or FR 3 (Cleland et al. 2004b, see glossary for definition). Both of these categories have historically experienced stand replacing fires.

Areas allocated to this form of management are generally 11,000 contiguous acres or larger in size. The management area encompasses approximately 163,600 acres, of which about 138,200 acres are NFS lands. Current conditions are dominated by pines, with representations of both aspen and hardwoods. The Landtype Associations (LTAs) that compose this MA are formed through outwash processes, and overall are sandy and relatively droughty.

The most dominant LTA is 212Xc11, Paint River terraces (about 20%). These are nearly level river valley terraces with a few bedrock outcrops. Soils are loamy over acid, gravelly sandy outwash. These terraces were formed as fast flowing meltwaters scoured peri-glacial valleys. Sand and gravel filled the valleys as the discharge slowed and created the river valley and series of terraces. Prevalent soil permeability is moderately rapid.

Other dominant LTAs are 212Sn11 the Sidnaw outwash plain, and 212Jo05 the Sidnaw Delta (together, about 20%). These are gently sloping, outwash plain and delta with sandy soils over acid, sandy outwash. Soil permeability is moderately rapid to rapid.

Over 10% of MA 4.1a is also occupied by LTA 212Jc24, Nesbitt Lake outwash plain, an undulating outwash plain with sandy soils over acid, stratified, gravelly outwash. Soil permeability is rapid.

Approximately another 10% of MA 4.1a is occupied by LTA 212Jo04, Kits Creek delta, a nearly level delta with sandy soils over acid, sandy river sediments. Sandy sediments from the Ontonagon River formed this delta, when a glacial lake occupying the Lake Superior basin had an altitude of 645 ft. during the waning stages of the Ontonagon Lobe during the last glacial advance. Soil permeability in this delta is moderately rapid.

The Vilas-Oneida outwash plains, nearly level, pitted and unpitted outwash plains with sandy soils over acid, outwash with rapid soil permeability occupy about 5% of the management area.

Desired Condition of the Land

The forested landscape is a spatial arrangement of long-lived conifers featuring red pine, white pine, and white spruce. Interspersed within the coniferous mosaic are stands of short-lived conifers, aspen, paper birch, northern hardwoods, and permanent upland openings. A few stands of jack pine could be large (300 acres or more) to mimic fire disturbance regimes. Tables 3-13 and 3-14 describe the desired vegetation composition.

Trees within each stand are about the same age and size. However, stands within the management area are of many different ages and sizes. Stands are generally managed to

maintain or develop structural and compositional complexity. Complexity within the stands may be enhanced with any of the following components: a variety of stand densities, gaps in the canopy, varying amounts of snags, dead and downed wood, and stands with a variety of conifer species compositions.

Old growth forests tend to be connected by riparian areas, areas of steep slopes, and larger river corridors, with some isolated patches. Patches of old growth tend to be from tens to hundreds of acres in size.

The combination of openings and forest cover is habitat for diverse plant and animal species. Some upland openings could be quite large (greater than 75 acres) and feature conditions ranging from essentially grasslands to pine and oak savannahs and pine barrens. The number and size of permanent openings are higher than other management areas of the Ottawa. Populations of white-tailed deer, snowshoe hare, and ruffed grouse are low to moderate.

Prescribed fire as a (selectively) restored natural process is used to develop and maintain wildlife habitats such as large upland openings, blueberries and habitats for the northern blue butterfly. Fire is also used to prepare sites for natural regeneration of species such as jack pine, paper birch, and northern red oak. Vegetation management practices that reduce the risk of wildfire are relatively more common in this management area.

Intensive site preparation, tree planting, and manual/mechanical release are common practices. Even-aged management of most species results in temporary openings due to final harvests through clearcutting or shelterwood overstory removals. Northern hardwood forest types are managed both uneven-aged and even-aged.

Road density varies with the mix of tree species present and associated harvest methods, but the average density is 3 to 4 miles per square mile. However, portions of this MA are within the remote habitat area, which has an open road density of less than or equal to 1 mile per square mile. The location and design of these roads limit their visual and physical impact.

This moderately roaded environment with both open and closed roads provides a mix of motorized and non-motorized recreation opportunities.

Table 3-13. MA 4.1a Desired Vegetative Composition

Forest Type	Desired Condition (%)¹
Aspen/Paper Birch ²	15-25
Long-lived Conifers (Red Pine, White Pine, White Spruce, Hemlock) ²	30-60
Short-lived Conifers (Jack Pine, Balsam Fir, Lowland Conifer) ²	20-25
Northern Hardwoods (Upland and Lowland Hardwoods) ²	15-25

¹ Desired condition is the long-term goal which may not be achieved in this plan period

² Based on total National Forest System forested acres

Table 3-14. MA 4.1a Additional Desired Vegetative Characteristics

	Desired Condition (%)¹
Old Growth ²	4-7
Permanent Openings ³	1-10

¹ Desired condition is the long-term goal which may not be achieved in this plan period

² Based on total National Forest System forested acres

³ Based on total National Forest System acres

2300 Recreation Management

Visual Quality Guideline

Apply visual quality objectives displayed in the matrix by sensitivity level, distance zone, and variety class.

Table 3-15. MA 4.1a Visual Quality Objectives¹

Variety Class	Distance Zone-Sensitivity Level						
	Highest Sensitivity			Average Sensitivity			Lowest Sensitivity
	Fore-ground	Middle-ground	Back-ground	Fore-ground	Middle-ground	Back-ground	All Distances
Class A Distinctive	Retention	Partial Retention	Partial Retention	Partial Retention	Modification	Modification	Modification
Class B Common	Partial Retention	Modification	Modification	Partial Retention	Modification	Maximum Modification	Maximum Modification
Class C Minimal	Partial Retention	Modification	Modification	Modification	Maximum Modification	Maximum Modification	Maximum Modification

¹See Appendix G of this document for definitions of terms.

2400 Timber Management

Guidelines

Feature even-aged management as the primary silvicultural system in the aspen and conifer forest types.

Northern hardwood stands will be managed using the silvicultural system that is appropriate for the site based on Ecological Landtype Phase capabilities, site-specific considerations, and long-term management objectives for the area. As a result, a mix of even and uneven-aged management is expected in the northern hardwood type.

Feature long-lived conifers as the predominant forest type in this management area.

Provide diversity by managing for low to moderate amounts of hardwood and aspen forest types.

Provide for management of a long-term mix of vegetation (as shown in Tables 3-13 and 3-14) through the scheduling of management practices to provide a mix of timber products and wildlife habitats.

2600 Wildlife, Fish and Sensitive Plants

Canada Lynx

Guidelines

Manage for jack pine regeneration stocking densities of 1,000- to 1,500 stems/acre.

Manage for white spruce regeneration stocking densities of >1,000 stems/acre.

Kirtland's Warbler

Guidelines

Strive to regenerate jack pine habitats in large patches generally between 300 acres and 550 acres in size.

For Kirtland's warbler management, strive to regenerate jack pine stands with the appropriate stem density and non-forested openings, as determined in collaboration with the USDI Fish and Wildlife Service.

Pre-commercial thinning or release of jack pine should not occur in areas managed for Kirtland's warbler prior to vegetation exceeding 20 feet in height (approximately 16 – 21 years), unless such activity maintains or enhances Kirtland's warbler habitat on the Forest.

To provide optimal breeding habitat for the Kirtland's warbler, harvesting of immature stands is permitted to create large treatment blocks.

Generally provide 15 to 25 snags per acre in treatment blocks.

Northern Goshawk and other Raptors

Guideline

To provide foraging habitats for goshawks and other predators, regenerate aspen where stands of aspen or stands with significant aspen component exceeding 60 acres exist. These stands should be managed to provide at least three distinct age classes to provide for prey needs. However, regeneration of the type should be the first priority where delay in harvesting would result in forest type loss due to natural succession.

Ruffed Grouse

Guideline

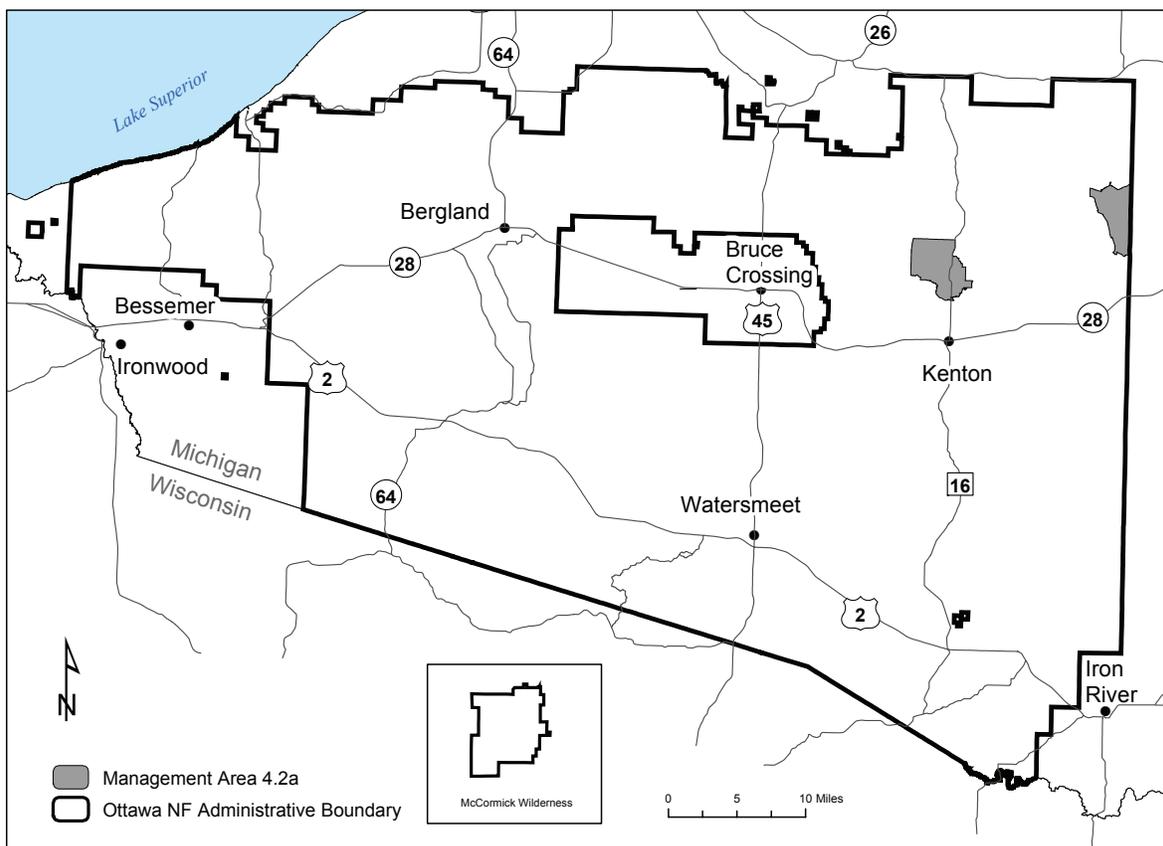
Maintain three distinct age classes of aspen, 0-9 year, 10-30 year, and greater than 31 years, well dispersed or interspersed in aspen patches greater than 60 acres. Regeneration of the forest type is the first priority where delay of harvesting would result in forest type loss due to natural succession.

Grasslands/Dry Openings**Guideline**

Seek opportunities to maintain and create large openings (>10 acres) on xeric ELTPs where fire was historically part of the disturbance regime.

Management Prescription 4.2a

Figure 3-6. Management Prescription 4.2a



Purpose

This management prescription:

- Emphasizes early to mid-successional coniferous community types within a roaded natural motorized recreational environment.
- Maintains moderate to high amounts of short-lived conifer cover types along with associated timber products and habitat conditions.
- Provides a variety of cover types and age classes through even-aged management of vegetation.
- Provides an appearance that is predominantly forested with some temporary openings.

Area Description

Management area 4.2a is characterized by the dry outwash sands of the Baraga Plains, which has a dominant fire disturbance regime (FR) of FR 2 (Cleland et al. 2004b). The other well represented Landtype Association (LTA) in this MA is the Sidnaw Delta, which has a fire disturbance regime of FR 4.

Areas allocated to this form of management are generally 5,800 contiguous acres or larger in size. The management area encompasses approximately 14,400 acres, in which about 12,900 acres are NFS lands. Current conditions are very strongly dominated by pines, with some representation of aspen and hardwood.

The dominant LTA is 212Sn14, Baraga sand plains (over 40%). This is a nearly level, sandy lake plain with sandy soils over acid, sandy outwash fluvial and lacustrine sediments, and contains stabilized, post-glacial wind-blown (dunes) features. Soil permeability is rapid.

The other dominant LTA is 212Jo05, the Sidnaw Delta (about 40%), is a gently sloping, outwash delta with sandy soils over acid, sandy outwash. Soil permeability is moderately rapid to rapid.

Desired Condition of the Land

The landscape is a mosaic of large temporary openings created through even-aged management of short-lived conifers and aspen. Jack pine is the dominant short-lived conifer in this management area and grows in densely stocked stands. The arrangement of the stands, the large stand size, and the stocking density mimics the fire regime conditions of the area. Interspersed with the predominantly short-lived conifer forest are occasional stands of long-lived conifers, scattered clumps of northern red oak, numerous small openings and occasional large permanent upland openings. Tables 3-16 and 3-17 describe the desired vegetation composition.

Trees within each stand are about the same age and size. Most stands within the management area are large, frequently 300 acres or larger. Stands of early-successional coniferous species may not contain much structure or compositional complexity. Stands of late-successional coniferous communities are generally managed to maintain or develop structural and compositional complexity. Complexity with the early-successional changes may be enhanced with numerous snags and varying amounts of dead and downed coarse woody debris. Complexity of the late-successional stands may be enhanced with any the following components; a variety of stand densities, gaps in the canopy, varying amounts of snags, and dead and downed wood.

Old growth forests are uncommon and tend to be isolated with small patches (few to tens of acres in size) utilizing mostly unsuited lands, riparian corridors and areas with steep slopes.

The combination of openings and forest cover provides habitat for a diverse group of plant and animal species. Some permanent upland openings could be large (greater than 75 acres) and feature conditions ranging from essentially grasslands to pine and oak savannahs, and pine barrens. The number and size of permanent openings are higher than most other management

areas of the Ottawa. Densities of white-tailed deer, snowshoe hare, and ruffed grouse tend to be moderate.

Prescribed fire as a (selectively) restored natural process is used to develop and maintain wildlife habitats such as large upland openings, blueberries and habitats for the northern blue butterfly. Fire is also used to prepare sites for natural regeneration of species such as jack pine, paper birch, and northern red oak.

Even-aged management that results in clearcuts (temporary openings) is the predominate management of all forest types, but the northern hardwood type may also be managed uneven-aged. Vegetation management practices that reduce the risk of wildfire are relatively more common in this management area.

Because of their frequent use, local and collector roads are generally permanent. Road density varies with the mix of tree species present but the average density is about 2-1/2 to 3-1/2 miles per square mile.

There is a combination of both open and closed roads providing a mix of motorized and non-motorized recreation opportunities.

Table 3-16. MA 4.2a Desired Vegetative Composition

Forest Type	Desired Condition (%) ¹
Aspen/Paper Birch ²	10-25
Long-lived Conifers (Red Pine, White Pine, White Spruce, Hemlock) ²	10-25
Short-lived Conifers (Jack Pine, Balsam Fir, Lowland Conifer) ²	50-60
Northern Hardwoods (Upland and Lowland Hardwoods) ²	0-15

¹ Desired condition is the long-term goal which may not be achieved in this plan period

² Based on total National Forest System forested acres

Table 3-17. MA 4.2a Additional Desired Vegetative Characteristics

	Desired Condition (%) ¹
Old Growth ²	1-3
Permanent Openings ³	1-5

¹ Desired condition is the long-term goal which may not be achieved in this plan period

² Based on total National Forest System forested acres

³ Based on total National Forest System acres

2300 Recreation Management

Visual Quality

Guideline

Apply visual quality objectives displayed in the matrix by sensitivity level, distance zone, and variety class.

Table 3-18. MA 4.2a Visual Quality Objectives¹

Variety Class	Distance Zone-Sensitivity Level						
	Highest Sensitivity			Average Sensitivity			Lowest Sensitivity
	Fore-ground	Middle-ground	Back-ground	Fore-ground	Middle-ground	Back-ground	All Distances
Class A Distinctive	Retention	Partial Retention	Partial Retention	Partial Retention	Modification	Modification	Modification
Class B Common	Partial Retention	Modification	Modification	Partial Retention	Modification	Maximum Modification	Maximum Modification
Class C Minimal	Partial Retention	Modification	Modification	Modification	Maximum Modification	Maximum Modification	Maximum Modification

¹See Appendix G of this document for definitions of terms.

2400 Timber Management

Guidelines

Feature even-aged management as the primary silvicultural system for the aspen and conifer forest types.

Northern hardwood stands will be managed using the silvicultural system that is appropriate for the site based on Ecological Landtype Phase capabilities, site specific considerations, and long-term management objectives for the area. As a result, a mix of even and uneven-aged management is expected in the northern hardwood type.

Feature short-rotation conifers as the predominant type.

Provide diversity by managing for low to moderate amounts of hardwood and aspen forest types.

Provide for management of a long-term mix of vegetation (as shown in Tables 3-16 and 3-17) through the scheduling of management practices to provide a mix of timber products.

Emphasize natural regeneration. Utilize logging methods that help accomplish natural regeneration.

2600 Wildlife, Fish and Sensitive Plants

Canada Lynx

Guidelines

Manage for jack pine regeneration stocking densities of 1,000 to 1,500 stems/acre.

Manage for white spruce regeneration stocking densities of >1,000 stems/acre.

Kirtland's Warbler**Guideline**

Strive to regenerate jack pine habitats in large patches generally between 300 acres and 550 acres in size.

For Kirtland's warbler management, strive to regenerate jack pine stands with the appropriate stem density and non-forested openings, as determined in collaboration with the USDI Fish and Wildlife Service.

Pre-commercial thinning or release of jack pine should not occur in areas managed for Kirtland's warbler prior to vegetation exceeding 20 feet in height (approximately 16 to 21 years), unless such activity maintains or enhances Kirtland's warbler habitat on the Ottawa.

To provide optimal breeding habitat for the Kirtland's warbler, harvesting of immature stands is permitted to create large treatment blocks.

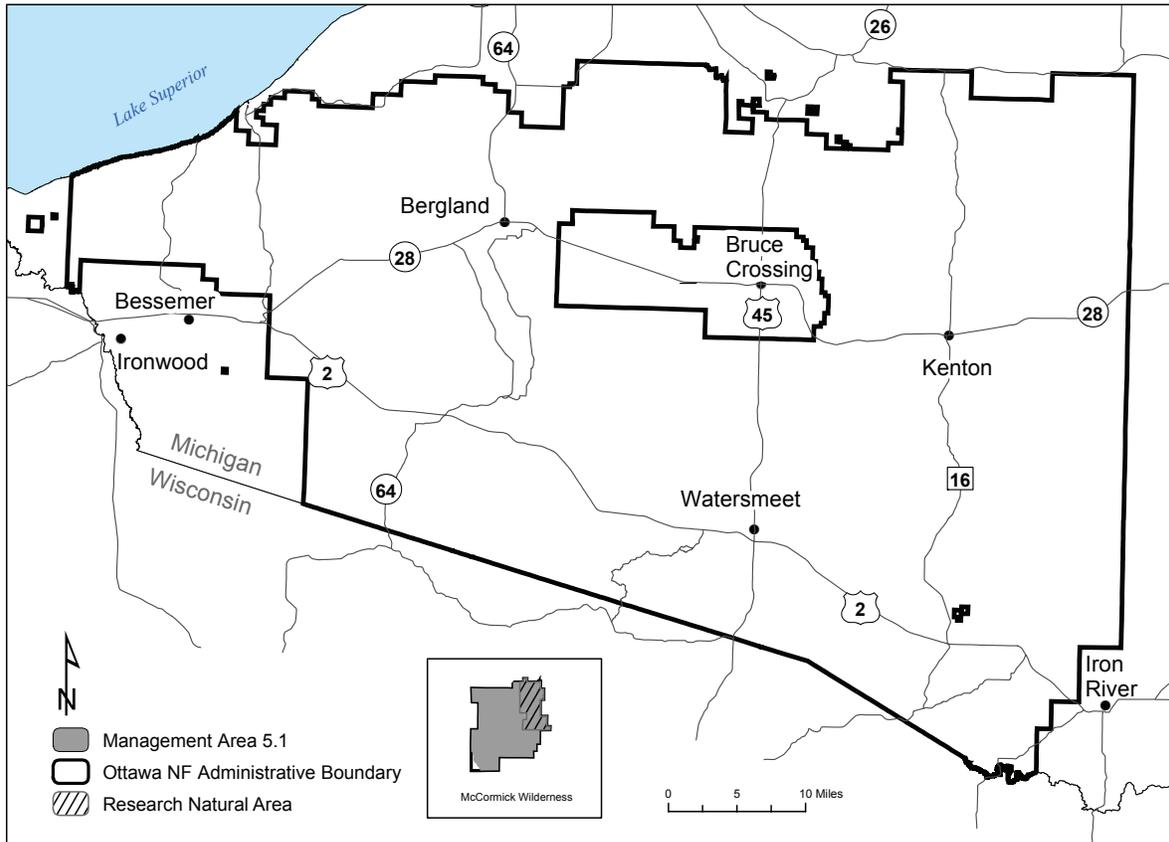
Generally provide 15 to 25 snags per acre in treatment blocks.

Grasslands/Dry Openings**Guidelines**

Seek opportunities to maintain and create large openings (>10 acres) on xeric ELTPs where fire was historically part of the disturbance regime.

Management Prescription 5.1

Figure 3-7. Management Prescription 5.1



Purpose

This management prescription:

- Provides for management and protection for the McCormick Wilderness, a congressionally designated wilderness (Michigan Wilderness Act of 1987) and the McCormick Research Natural Area.
- Protects the wilderness character for future generations.
- Provides a wilderness experience.
- Preserves natural ecosystems.

Area Description

The McCormick Wilderness is located on the Kenton Ranger District in Baraga and Marquette Counties. The management area encompasses approximately 16,850 acres as cited in the 1987 Michigan Wilderness Act. The established McCormick Research Natural Area (RNA) is located in the northeast corner of the McCormick Wilderness and includes 3,675 acres. The airshed of the McCormick Wilderness is designated as Class II.

The dominant Landtype Association (LTA) is 212Sq06, Peshekee highlands, (over 80%), which is a very hilly, bedrock-controlled moraine with loamy soils over acid, loamy and sandy till. Rock outcrops are numerous. This LTA is composed of a bedrock-controlled, thin veneer of till, which includes the Covington Moraine (kame moraine) and a large area of “dead” stagnant ice, which melted in place washing bedrock knobs “clean” and depositing ablation till. Soils within this group have a wide range of permeability, but most common is rapid permeability.

The remainder of the McCormick Wilderness is LTA 212Sq04 Dodge City moraine, a moderately sloping, disintegration moraine with associated glaciofluvial deposits, and sandy soils of rapid permeability over acid, sandy till.

Desired Condition of the Land

Remote, undisturbed areas offer a secluded setting. Visitors to the McCormick Wilderness will find rolling hills, rocky outcrops, lakes, islands, marshes, bogs, wetlands, and quiet secluded forests.

Down, dead or dying trees remain within the forest, offering habitat for a wide variety of wildlife species.

A diversity of tree species, ages and sizes are found in this natural appearing forest. The experience is that of quiet, secluded wild woodland.

1900 Land and Resource Management Planning

Vegetative Management Guidelines

Vegetative composition will generally evolve through natural succession and disturbance.

Manage vegetation to protect wilderness values. Considerations may include protection of adjacent property from fire or pests, or removal of non-indigenous species.

Allow areas to revegetate naturally. Consider means to revegetate only those areas that are heavily impacted and do not have a chance to revegetate naturally, using local native plant species and hand tool scarification.

2300 Recreation Management

Recreation Management Standards

Use hand tools for construction and maintenance activities.

Prohibit use of wheeled vehicles such as portage wheels or bicycles, except non-motorized wheelchairs as provided for in the Americans with Disabilities Act.

Prohibit the use of sail-powered watercraft.

Guidelines

Feature semi-primitive non-motorized recreation opportunities. Allow recreational use consistent with protecting wilderness values.

Manage for low interaction between users.

Provide only minimum facilities when they are necessary to prevent the deterioration of wilderness values. Construct facilities primarily with natural materials.

Limit signing to major trail intersections and trailhead facilities.

Trailhead facilities and wilderness information will normally be located outside wilderness boundaries.

Trail Use and Operation

Guidelines

In general do not build new trails.

Design, construct, and maintain trails to minimize impacts to vegetation, soils, and water.

Reroute, rehabilitate, or close existing trails as necessary for resource protection and to minimize user impact.

Watercraft/Aircraft

Standards

Storage of boats or equipment is not allowed, except for those items used in conjunction with a current visit.

Prohibit mooring, use, or transportation of aircraft, amphibious craft of any type, or watercraft designed for or used as floating living quarters on National Forest System land or on lakes within the wilderness.

**Visual Quality
Standard**

The overall desired Visual Quality Objective of wilderness is preservation, which allows for ecological changes only. Since some management practices are allowed in wilderness, these practices must meet, at the minimum, a VQO of retention.

**Human Waste
Guideline**

Facilities for human waste may be provided at designated sites and trailheads or specified sites outside wilderness.

2400 Timber Management**Standard**

Silvicultural systems are not applicable to this management area. Timber is not harvested in wilderness.

2500 Soil, Water and Air**Guidelines**

Mitigate erosion with control measures commensurate with the soil characteristics, expected use, and management objectives of the area.

Limit watershed improvement projects to correcting human-caused problems and natural disasters that threaten health and safety.

Rehabilitate areas using local native plant materials.

2600 Wildlife, Fish and Sensitive Plants**Guideline**

To prevent a trend toward federal listing under the Endangered Species Act, consider active restoration of dwarf bilberry (*Vaccinium caespitosum*) and northern blue butterfly (*Lyceides idas nabokovi*), which could include manual pruning of trees and shrubs within McCormick Wilderness, and identifying suitable sites for transplant on other parts of the Ottawa.

2700 Special Use Management**Utility Transmission Corridors****Standards**

Prohibit corridors for reservoirs, water conservation works, power projects, transmission lines, and other facilities except as authorized by the act establishing the wilderness.

No new utility transmission corridors shall be permitted.

Other Special Uses**Standard**

Competitive events shall not be permitted.

Guideline

Special uses, such as outfitter/guiding activities, which do not require fixed improvements or modification of natural conditions, may be considered on a case-by-case basis.

2800 Minerals and Geology***Federal Minerals*****Standards**

No permit, lease, or other authorization shall be issued for the exploration or mining of minerals owned by the United States.

Recommend against U.S. Department of Agriculture consent to mineral extraction plans.

3400 Forest Pest Management**Standards**

Obtain Regional Forester approval for all pesticide applications in wilderness.

Do not control insect or disease outbreaks unless necessary to prevent unacceptable damage to resources on lands outside the wilderness, or an unnatural loss to wilderness resources due to exotic pests.

4000 Research**Standards**

Research activities shall be authorized by permit.

Research and monitoring may be allowed in wilderness when the desired information cannot be obtained from a location outside the wilderness.

Guidelines

Allow research activities that comply with wilderness standards.

Locate research activities away from trails, facilities, and other areas where people may be concentrated.

Research Natural Areas**Guideline**

The RNA may be closed to public use when needed to protect botanical or other attributes from disturbances.

Utilize the Eastern Region RNA user permit process for all research activity proposals.

5100 Fire Management

Guideline

If suppression is appropriate, use tactics and equipment that minimize potential damage to wilderness values, visual quality objectives, federally threatened, endangered species, and cultural sites unique to the area.

5400 Landownership

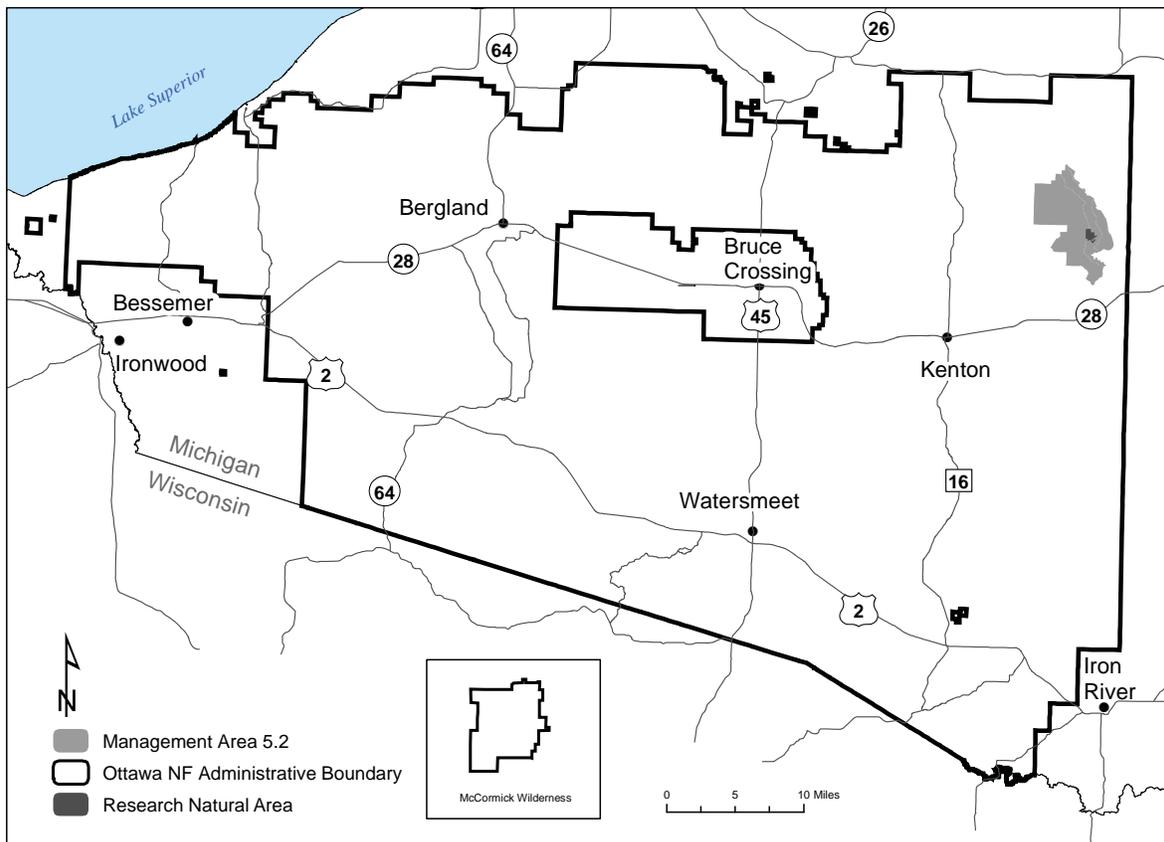
Subsurface Ownership

Guideline

Acquire subsurface mineral rights through exchange with the State of Michigan where feasible. Establish federal claims based on the State Dormant Minerals Act where the law can be applied to free leasable minerals. Acquire subsurface mineral rights in other cases on a willing seller, willing buyer basis.

Management Prescription 5.2

Figure 3-8. Management Prescription 5.2



Purpose

This management prescription:

- Provides for management and protection for the Sturgeon River Gorge Wilderness, a congressionally designated wilderness (Michigan Wilderness Act of 1987) and the Sturgeon River Gorge RNA.
- Protects the wilderness character for future generations.
- Provides a wilderness experience.
- Preserves natural ecosystems.

Area Description

The Sturgeon River Gorge Wilderness is located on the Kenton and Ontonagon Ranger Districts (managed by the Kenton Ranger District) in Baraga and Houghton Counties. The management area encompasses approximately 14,500 acres as cited in the 1987 Michigan Wilderness Act. A Research Natural Area (RNA) has been established within the Sturgeon River Gorge Wilderness. The area is about 351 acres. The airshed of the Sturgeon River Gorge Wilderness is designated as Class II.

The most common Landtype Association (LTA) is 212Sn07, Sturgeon River Gorge (about 65%), which consists of very steep, unstable, river valley walls and floodplains with variable acid soils. Numerous smaller streams have incised the valley walls, creating a complex, dissected, ridge and ravine landscape. Seepages (springs), landslides, soil creep, and mass wasting are quite common. Colluvial soils common. Soil permeability is variable.

The remainder is LTA 212Sn12, Watton-Six Mile moraines. This is a rolling, dissected, terminal moraine complex with loamy soils over calcareous, clay loam till. There are some stony areas, and soil permeability is commonly moderately slow.

Desired Condition of the Land

Remote, undisturbed areas offer a secluded setting. Visitors to the Sturgeon River Gorge Wilderness will find rocky outcrops and steep terrain along the gorge, rivers, marshes, bogs, wetlands, and quiet secluded forests.

Down, dead or dying trees remain within the forest, offering habitat for a wide variety of animals and birds.

A diversity of tree species, age and size are found in this natural appearing forest. The experience is that of quiet, secluded, wild woodland.

1900 Land and Resource Management Planning

Vegetative Management Guidelines

Vegetative composition will generally evolve through natural succession and disturbance.

Manage vegetation to protect wilderness values. Considerations may include protection of adjacent property from fire or pests, or removal of non-indigenous species.

Allow areas to revegetate naturally. Consider means to revegetate only those areas that are heavily impacted and do not have a chance to revegetate naturally, using local native plant species and hand tool scarification.

2300 Recreation Management

Recreation Management Standards

Use hand tools for construction and maintenance activities.

Prohibit use of wheeled vehicles such as portage wheels or bicycles, except non-motorized wheelchairs as provided for in the Americans with Disabilities Act.

Guidelines

Feature semi-primitive non-motorized recreation opportunities. Allow recreational use consistent with protecting wilderness values.

Manage for low interaction between users.

Provide only minimum facilities, when they are necessary, to prevent the deterioration of wilderness values. Construct facilities primarily with natural materials.

Limit signing to major trail intersections and trailhead facilities.

Trailhead facilities and wilderness information will normally be located outside wilderness boundaries.

Trail Use and Operation

Guidelines

In general, do not build new trails.

Design, construct, and maintain trails to minimize impacts to vegetation, soils, and water.

Reroute, rehabilitate, or close existing trails as necessary for resource protection and to minimize user impact.

Watercraft Standard

Storage of boats or equipment is not allowed, except for those items used in conjunction with a current visit.

Visual Quality Standard

The overall desired Visual Quality Objective (VQO) of wilderness is preservation, which allows for ecological changes only. Since some management practices are allowed in wilderness, these practices must meet, at the minimum, a VQO of retention.

Human Waste**Guideline**

Facilities for human waste may be provided at designated sites and trailheads or specified sites outside wilderness.

2400 Timber Management**Standard**

Silvicultural systems are not applicable to this management area. Timber is not harvested in wilderness.

2500 Soil, Water and Air**Guidelines**

Mitigate erosion with control measures commensurate with the soil characteristics, expected use, and management objectives of the area.

Limit watershed improvement projects to correcting human-caused problems and natural disasters that threaten health and safety.

Rehabilitate areas using local native materials.

2700 Special Use Management**Utility Transmission Corridors****Standards**

Prohibit corridors for reservoirs, water conservation works, power projects, transmission lines, and other facilities, except as authorized by the act establishing the wilderness.

No new utility transmission corridors will be permitted.

Other Special Uses**Standard**

Competitive events are not permitted.

Guideline

Special uses, such as outfitter/guiding activities, which do not require fixed improvements or modification of natural conditions, may be considered on a case-by-case basis.

2800 Minerals and Geology**Federal Minerals****Standards**

No permit, lease, or other authorization will be issued for the exploration or mining of minerals owned by the United States.

Recommend against U.S. Department of Agriculture consent to mineral extraction plans.

3400 Forest Pest Management

Standards

Obtain Regional Forester approval for all pesticide applications in wilderness.

Do not control insect or disease outbreaks unless necessary to prevent unacceptable damage to resources on lands outside the wilderness, or an unnatural loss to wilderness resources due to exotic pests.

4000 Research

Standards

Research activities shall be authorized by permit.

Research and monitoring may be allowed in wilderness when the desired information cannot be obtained from a location outside the wilderness.

Guidelines

Allow research activities that comply with wilderness standards.

Locate research activities away from trails, facilities, and other areas where people may be concentrated.

Research Natural Areas

Standards

In Research Natural Areas (RNAs), ecological processes prevail with minimum human intervention. Management emphasizes conserving or enhancing the resources and ecosystem features for which the RNA was selected, and activities which detract from these values and features are prohibited.

Prohibit the use of horses in RNAs.

Guidelines

Avoid activities which diminish the eligibility of the area for research. Activities that would enhance a RNA's eligibility for research, such as a land ownership adjustment, may be undertaken after careful review of project design and probable impacts.

Avoid recreational use that threatens or interferes with the purposes for which the RNA may be established. These areas may be closed to public use when needed to protect botanical or other attributes from disturbances.

Allow control actions for non-native invasive species to protect adjacent resources or the features for which the RNA was selected.

For all significant data collections, the locations, collectors, methods, and dates are known and the unanalyzed data are available. Copies of all data, reports, and publications resulting from studies in the area, including theses, dissertations, articles, monographs, etc., are provided to the Ottawa.

Utilize the Eastern Region RNA user permit process for all research activity proposals.

5100 Fire Management

Guideline

If suppression is appropriate, use tactics and equipment that minimize potential damage to wilderness values, visual quality objectives, federally threatened and endangered species, and cultural sites unique to the area.

5400 Landownership

Surface Ownership

Guidelines

Work with private landowners to protect wilderness values.

On a case by case basis, acquire in holdings within the Sturgeon River Gorge Wilderness boundaries where necessary to protect the wilderness character.

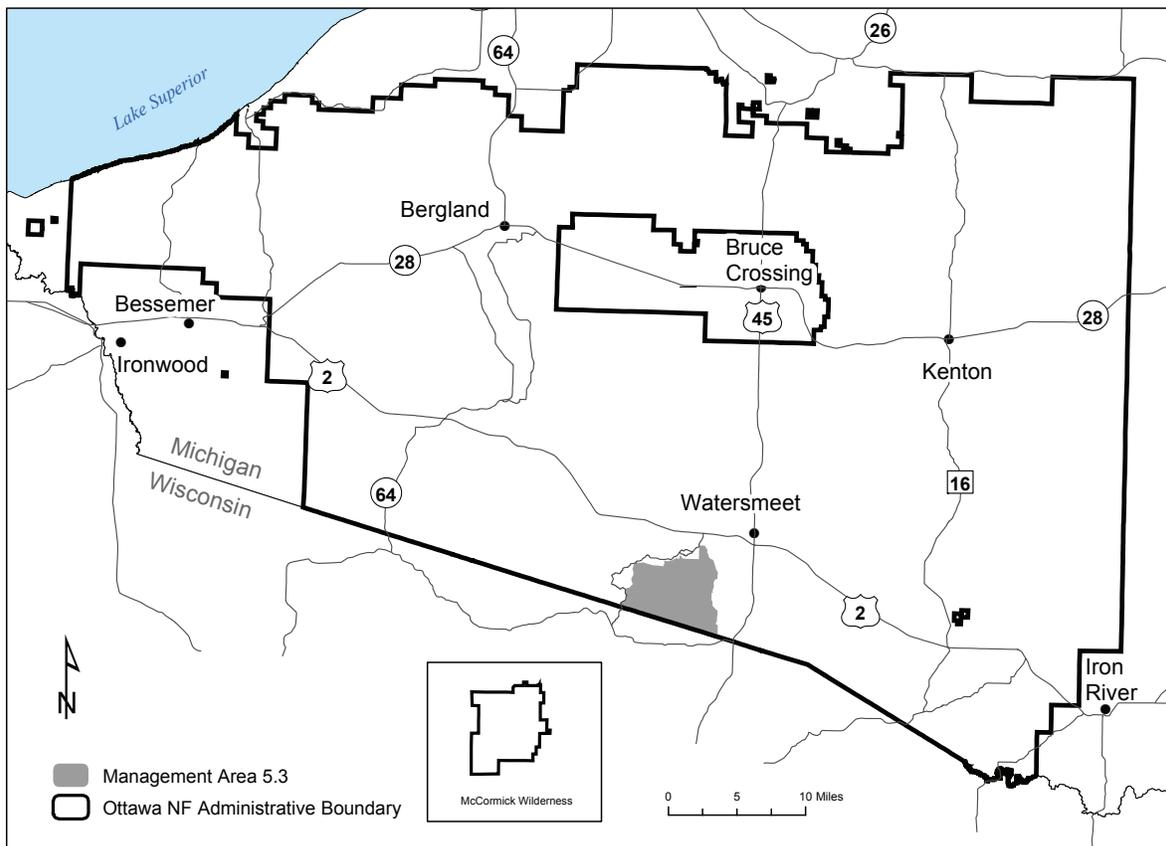
Subsurface Ownership

Guideline

Acquire subsurface mineral rights through exchange with the State of Michigan where feasible. Establish federal claims based on the State Dormant Minerals Act where the law can be applied to free leasable minerals. Acquire subsurface mineral rights in other cases on a willing seller, willing buyer basis.

Management Prescription 5.3

Figure 3-9. Management Prescription 5.3



Purpose

This management prescription:

- Provides for management and protection for the Sylvania Wilderness, a congressionally designated wilderness (Michigan Wilderness Act of 1987).
- Protects the wilderness character for future generations.
- Provides a wilderness experience.
- Preserves natural ecosystems.

Area Description

The Sylvania Wilderness is located on the Watersmeet Ranger District in Gogebic County. The management area encompasses approximately 18,400 acres. The airshed of the Sylvania Wilderness is designated as Class II.

The Sylvania Wilderness is strongly dominated by Landtype Association 212Jc02, Winegar moraines (about 95%), which are rolling, collapsed and water-worked terminal moraines with loamy soils over acid, sandy loam till. The moraine contains numerous depressions, many of which contain lakes and/or wetlands.

Landtype Association 212Xb03, Vilas-Oneida outwash plains, occurs in a small portion of the wilderness, near the Wisconsin border.

Desired Condition of the Land

Remote, undisturbed areas offer a secluded setting. Visitors to the Sylvania Wilderness will find lakes, islands, rolling hills, marshes, bogs, wetlands, and quiet secluded old growth forests.

Access may be by foot, canoe, skiing, and watercraft as specifically allowed in accordance with the Michigan Wilderness Act of 1987.

Facilities, such as wilderness latrines and fire rings, may be present when necessary to protect the wilderness character of the area; such facilities are normally limited to very low-visual impact recreation sites. Foot trails exist where needed to control use patterns. Random recreational opportunities for hiking, hunting, fishing, snowshoeing, backpacking, and canoeing may be found in the area. Isolated fishing areas may be found on interior lakes. Little evidence of human intrusion into the area is apparent. Old roadbeds are allowed to naturally revegetate except as needed to maintain a trail system. Interaction of wilderness visitors is at a minimum.

Down, dead, or dying trees remain within the forest, offering habitat for a wide variety of wildlife species.

A diversity of tree species, age, and size are found in this natural appearing forest. The experience is that of quiet, secluded wild woodland.

1300 Administration

Guidelines

The District Ranger at Watersmeet, Michigan, is responsible for administration and protection of the Sylvania Wilderness.

Monitor utilizing the Limits of Acceptable Change and other processes to measure changes in the vegetation, water, recreation use, air, and other resources to determine progress toward desired future conditions, to determine the effectiveness of management practices and policies, and to guide future management.

Resource and social management decisions will be based on the necessity to protect wilderness values and not on visitor convenience.

1600 Information Services

Guidelines

Whenever appropriate and possible, utilize partnership and volunteer agreements to accomplish activities and projects identified in the Sylvania Wilderness Implementation Schedule.

Emphasize public contacts prior to user visit including interpretation and education materials related to the wilderness. Emphasize Leave No Trace minimum impact practices.

Develop education programs for visitors to ensure that their behavior is compatible with protection and preservation of the wilderness.

Develop and implement education and interpretive programs that address the ethics of use associated with wilderness.

Develop interpretive materials that highlight the unique characteristics and management of the wilderness.

1900 Land and Resource Management Planning

Vegetative Management

Guidelines

Vegetative composition will generally evolve through natural succession and disturbance.

Manage vegetation to protect wilderness values. Considerations may include protection of adjacent property from fire or pests.

Revegetation

Guidelines

As needed, work to maintain wild rice in the portions of Crooked Lake where it has historically grown.

Allow areas to revegetate naturally. Revegetate only those areas that are heavily impacted and do not have a chance to revegetate naturally, using local native plant species and hand tool scarification.

2100 Environmental Management

Air Quality **Guidelines**

The Sylvania Wilderness is designated Class II. Advise the Regional Forester of areas where re-designation to Class I is necessary to protect wilderness of other unique National Forest System lands

2200 Range Management

Standards

Grazing will not be permitted

2300 Recreation Management

Recreation Management

Standards

Use hand tools for construction and maintenance activities.

Prohibit use of sail-powered watercraft.

Prohibit use of wheeled vehicles such as portage wheels or bicycles, except non-motorized wheelchairs as provided for in the Americans with Disabilities Act.

Guidelines

Feature semi-primitive non-motorized recreation opportunities. Allow recreational use consistent with protecting wilderness values.

Discourage the use of electronic fish-finders, boom-boxes and other mechanical or battery-operated devices.

Provide only minimum facilities, when they are necessary, to prevent the deterioration of wilderness values. Construct facilities primarily with natural materials.

Locate wilderness latrines so as to consider privacy.

Minimize use of signing. In general, use signs only when absolutely needed for resource protection or personal safety. Use minimum wording or symbols. Use rustic, unstained, unpainted posts for all new and replacement signs.

Containers of fuel, insect repellent medicines, personal toilet articles, and other items that are not foods or beverages are the only cans and bottles allowed in wilderness. Non-burnable disposable food and beverage containers are not allowed. Returnable beverage bottles are not permitted even though a deposit is charged. Only reusable (those purchased empty and /or designed for reuse) containers will be permitted.

Promote pack-in/pack-out policy for all other items used by recreationists.

Minimize or eliminate noise generated by Forest Service activities or facilities, both inside and outside of the wilderness.

Seek noise reduction on a cooperative basis with adjacent landowners.

Do not allow digging and trenching.

Trail Use and Operation

Guidelines

Use native materials for rehabilitation and closure of trails.

Maintain an average trail tread width of 24 inches, except on selected trails identified as wheelchair accessible, where width may be maintained up to 36 inches.

Reroute, rehabilitate, or close existing trails as necessary for resource protection and to minimize user impact.

In general do not build new trails.

On Crooked, Devils Head, and Big Bateau Lakes

Standard

Only electric motors with a maximum size of 24 volts or 48 pounds of thrust (4 horsepower equivalent) or less will be permitted on Big Bateau, Crooked, and Devil's Head Lakes within the Sylvania Wilderness. All watercraft on these lakes are restricted to a slow no-wake speed.

Watercraft/Aircraft

Standards

Storage or mooring of boats, motors, or equipment on National Forest System land is not allowed, except for those items used in conjunction with a current visit.

Prohibit mooring, use, or transportation of aircraft, amphibious craft of any type, or watercraft designed for or used as floating living quarters on National Forest System land or on lakes within the wilderness.

Guideline

Cooperate with local airports and Military to minimize conflicts over Sylvania airspace.

Visual Quality

Standard

The overall desired VQO of wilderness is preservation, which allows for ecological changes only. Since some management practices are allowed in wilderness, these practices must meet, at the minimum, a VQO of retention.

**Campsites
Standards**

Allow open fires only within cast iron fire rings at designated Forest Service sites.

Allow cooking only at designated Forest Service sites.

Camping is permitted only at designated campsites. A campsite is designated by a Forest Service fire ring.

Do not develop new group campsites.

Guidelines

Evaluate all sites with fire rings. Relocate or eliminate those fire rings that are impacting soil, cultural, or other resources.

Close campsites as necessary to meet objectives for resource protection and protection of user solitude.

Rotate temporary closure of sties as necessary for rehabilitation.

Consider developing new primitive single-site camp units when needed to better distribute visitor use in consideration of solitude and campsite capacity of a lake.

Identify sites that are accessible to people with disabilities.

**Group Size
Guidelines**

Allow up to five persons to occupy each individual campsite. Exceptions may be made for families with young children.

Other than at campsites, limit group size for traveling or gathering to 10 members.

**Registration
Guidelines**

Require all day-users and overnight campers to register.

Day users entering through the main entrance area are required to register in person during hours of operation. Day users entering through the main entrance when the entrance station is closed are permitted to self-register. Day users entering through other areas are permitted to self-register at trailheads.

All overnight campers must register in persons at the main entrance to Sylvania when the entrance station is open and staffed.

Utilize a permit system for campsites.

Permit self-registration for campsites in the off-season only (early spring, late fall, winter).

Pack and Saddle Stock

Guideline

Use of pack and saddle stock is not permitted

Dogs and Other Domestic Pets

Guideline

Dogs and other domestic animals must be on a six foot or shorter leash at all times, and must not be left unattended or otherwise out of control (i.e. barking). Dogs actively being utilized for hunting during the State of Michigan sanctioned hunting season are exempt from this provision.

Washing and Bathing

Standard

Prohibit the use of soaps or other cleaning agents (when bathing, washing dishes, etc) within 150 feet of any lake, pond, or wetland area.

Human Waste

Guideline

Facilities for human waste (such as wilderness latrines) may be provided at designated sites and trailheads or specified sites outside wilderness.

Search and Rescue

Guideline

Develop a search and rescue plan detailing the conditions for use in wilderness of motorized and mechanical devices, special equipment, and resources.

Cultural Resources

Guideline

Survey the wilderness for evidence of cultural resources. Give priority to high impact areas and lakeshores.

2400 Timber Management

Standard

Silvicultural systems are not applicable to this management area. Timber is not harvested in wilderness.

2500 Soil, Water and Air

Guidelines

Mitigate erosion with control measures commensurate with the soil characteristics, expected use, and management objectives of the area.

Limit watershed improvement projects to correcting human-caused problems and natural disasters that threaten health and safety.

Rehabilitate canoe landings and portage trails using local native materials.

Provide for a water sampling program for lakes to monitor changes in water quality and characteristics over time.

2600 Wildlife, Fish and Sensitive Plants

Standards

Prohibit the transport of smallmouth or largemouth bass across National Forest System lands within the wilderness except from Crooked Lake to the campsites on Crooked Lake.

Prohibit use of islands from “ice-off” to July 15 (to protect nesting loons). Discourage use at other times.

Guidelines

Emphasis in lake fisheries will be for larger fish to provide quality fishing experiences.

Emphasize the protection of natural processes in all fish and wildlife management activities.

Manipulate habitats only when necessary to correct conditions resulting from human influence or to protect threatened or endangered species.

Permit research and management surveys and activities if done in a manner compatible protecting wilderness values and preservation of the wilderness resource.

Allow natural-appearing artificial (man-made) structures, (i.e. nesting platforms or islands for wildlife benefit) on a case-by-case basis, with emphasis on correcting human-caused problems.

Provide for management of forage species (fish) for eagles, loons, and osprey on a case-by-case basis.

Fish Surveys

Guidelines

Conduct lake surveys, including fish population surveys, before fish habitat improvements are prescribed or carried out.

Perform fish surveys using minimum equipment necessary to do the job. Conduct tests to determine whether surveys can be accomplished using non-motorized methods.

Do not permit motorized vehicle access to lakes to perform surveys.

Transport all fish survey equipment across land by non-motorized means.

Perform fish surveys on weekdays only.

Fish Stocking

Guideline

Routine fish stocking is prohibited. Examine fish stocking requests on a case-by-case basis, with special consideration for recovery or protection of threatened or endangered species, or restoration of species eliminated or reduced by human influence.

Chemical Reclamation

Standard

Examine requests for chemical reclamation of fish populations on a case-by-case basis. Use this option only for unusual or extreme cases, such as removal of a species accidentally introduced by humans.

2700 Special Use Management

Utility Transmission Corridors

Standards

Corridors for transmission lines and other utilities/facilities are not permitted.

Other Special Uses

Standards

Competitive events are not permitted.

Prohibit commercial guiding. Guiding in this case refers to arrangements in which direct compensation is received for personal services provided, such as fishing or hunting instruction. Outfitting services, such as providing and/or transporting equipment or supplies outside of wilderness for use in the wilderness, may be permitted under special use authorization.

2800 Minerals and Geology

Federal Minerals

Standards

No permit, lease, or other authorization will be issued for the exploration or mining of minerals owned by the United States.

Recommend against U.S. Department of Agriculture consent to mineral extraction plans.

Acquire mineral rights within the entire wilderness.

3400 Forest Pest Management

Standards

Obtain Regional Forester approval for all pesticide applications in wilderness.

Use pesticides only when necessary to prevent the loss of significant aspects of the designated wilderness or to prevent significant losses to resource values on private or public lands bordering the wilderness.

Do not control insect or disease outbreaks unless necessary to prevent unacceptable damage to resources on lands outside the wilderness, or an unnatural loss to wilderness resources due to exotic pests.

Use of insect-killing foggers is prohibited.

4000 Research

Standards

Research and monitoring devices may be installed and operated in wilderness only when the desired information is essential and cannot be obtained from a location outside the wilderness, and the proposed device is the minimum tool necessary to accomplish the objective safely and successfully and with minimum visual impact.

Research and monitoring may be allowed where a wilderness setting is appropriate and necessary to conduct such research.

Research activities shall be authorized by permit. Permits will outline guidelines for marking permanent plots, submitting progress reports, clean up and other activities. Use of unnatural materials (plastic flagging, metal markers, etc.) is not permitted.

5100 Fire Management

Guideline

If suppression is appropriate, use tactics and equipment that minimizes potential damage to wilderness values, visual quality objectives, federally threatened and endangered species, and cultural sites unique to the area.

5400 Landownership

Sub Surface Guideline

Acquire subsurface mineral rights through exchange with the State of Michigan where feasible. Establish federal claims based on the State Dormant Minerals Act where the law can be applied to free leasable minerals. Acquire subsurface mineral rights in other cases on a willing seller, willing buyer basis.

7400 Public Health and Pollution Control Activities

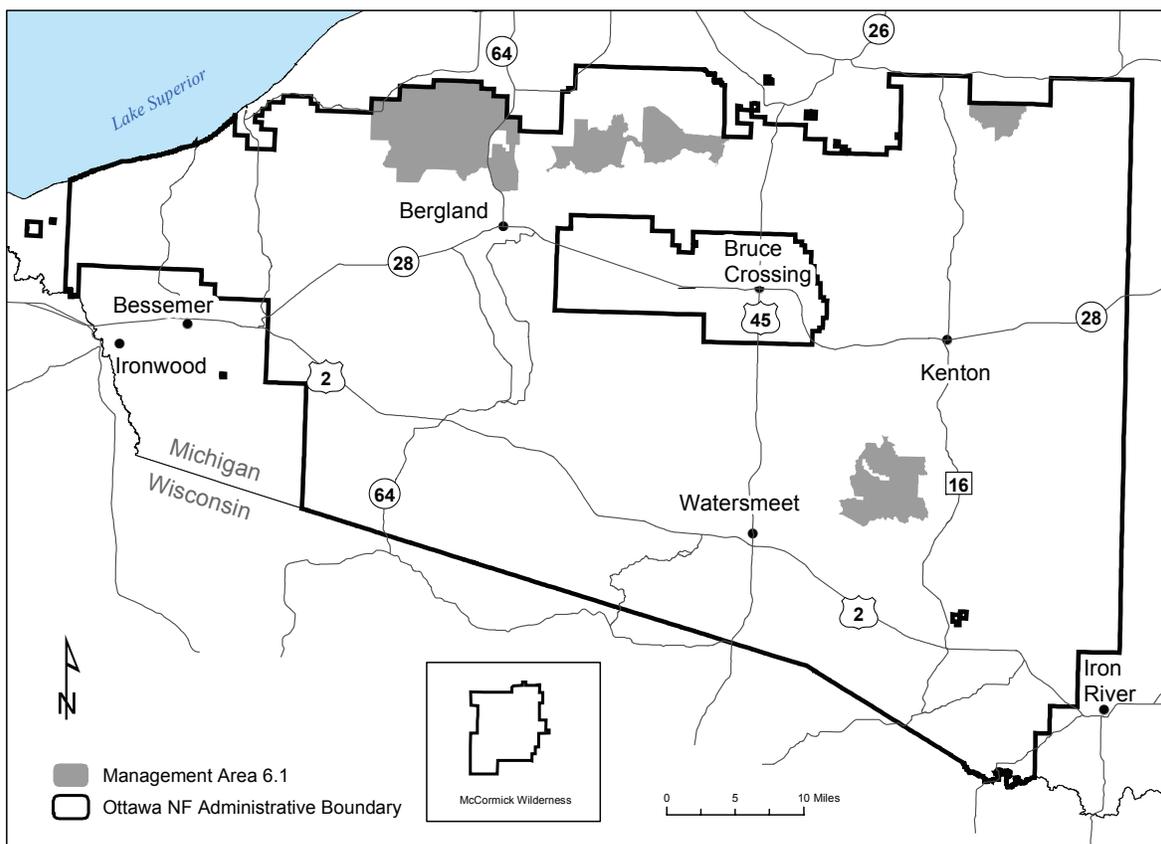
Standards

These lands shall not be considered for landfills or waste disposal.

Do not develop drinking water sources.

Management Prescription 6.1

Figure 3-10. Management Prescription 6.1



Purpose

- Provide a semi-primitive non-motorized recreational environment.
- Maintains potential conditions for low to moderate densities of non-game wildlife species, with particular emphasis on species requiring remoteness or closed canopy conditions.
- Maintains moderate to high amounts of the northern hardwood forest type along with associated habitat conditions and timber products.
- Emphasizes uneven-aged management of the northern hardwood forest type to provide for high visual quality, habitat conditions for wildlife species such as fishers, ovenbirds, red-eyed vireos and barred owls, and production of low to moderate amounts of high quality northern hardwood sawtimber and veneer.

- Provides a natural appearance that is predominantly forested with infrequent permanent upland openings.
- Provides mostly later successional community types.

Area Description

Areas allocated to this form of management are generally about 20,000 contiguous acres or larger in size. The management area encompasses approximately 80,500 acres, of which about 57,000 acres are NFS lands. Current conditions are strongly dominated by hardwoods with a small component of aspen, and a few areas of conifers, particularly in lowlands.

All the Landtype Associations (LTAs) in MA 6.1 are generally characterized as till.

The most dominant LTA is 212Ja05, Iron River basin (over 40%), which is a gently sloping, higher basin of the Iron River drainage system on a lake - modified, till plain. Soils are loamy over calcareous, clay loam till.

Another common LTA is 212Jc02, Winegar moraines (about 20%), is a rolling, collapsed and water-worked terminal moraine with loamy soils over acid, sandy loam till. This moraine has numerous depressions, many of which contain lakes and/or wetlands. Prevalent soil permeability is moderately slow.

Also composing about 20% of MA 6.1 is LTA 212Jb07 Gogebic Ridge-Bergland Hill-Trap Hills-Norwich Bluffs moraine. These are high, very steep, bedrock controlled moraine and bedrock outcrops. Soils are silty over acid, sandy loam till. There are escarpments on southern aspects.

LTAs 212Sn12 Watton-Six Mile moraines, and 212Ya10 Cranberry Creek, fluted lake plain, are also present in MA 6.1, but comprise less than 10% of the area.

Desired Condition of the Land

A continuous canopy of northern hardwoods, interspersed with aspen and softwoods, and permanent upland and temporary openings occur in the management area. Tables 3-19 and 3-20 describe the desired vegetation composition.

Uneven-aged stands of northern hardwoods with scattered permanent upland openings, are common. Although sugar maple is predominant, white ash, yellow birch, red maple, northern red oak, eastern hemlock, eastern white pine, and other shade tolerant species are also found. Trees within each stand are a mix of sizes and ages from seedlings to very large, old trees. Stands are generally managed to maintain or develop structural and compositional complexity. Complexity within the stands may be enhanced with any the following components: gaps in the canopy, a number of vertical canopy layers, increased amounts of dead and downed wood, and a hemlock and white pine component. Uneven-aged management is the featured silvicultural system. Harvesting can enhance the long-term desired condition by shaping the vegetation through emphasis on late-successional communities, adjusting the species composition within

stands to develop mixed hardwood-hemlock conditions, and to develop stands of larger diameter trees.

Old growth forests tend to be in patches of hundreds to thousands of acres. While they may be isolated from other large patches of old growth on the forest, they do connect to a nearly continuous forest canopy.

The combination of forest cover and openings provides habitat for a diverse group of plant and animal species. Densities of white-tailed deer, snowshoe hare, and ruffed grouse will generally be low.

Recreation opportunities such as hunting, horseback riding, camping, hiking, and cross-country skiing occur in a semi-primitive non-motorized forest setting. This management area provides opportunities for solitude that are enhanced by low road densities and the non-motorized prescription. Objective maintenance level 1 and 2 roads (local roads), and trails are closed to public motorized vehicle use, except as needed for administrative uses and other uses associated with harvesting of timber products.

Recreation and special use facilities such as trailhead signs, transmission structures, and utility corridors are permitted provided they are compatible with the character of the area.

Motorized uses (except snowmobiles) occur on Forest Service OML 3, 4, or 5 roads. OHV and snowmobiles are permitted on existing Forest Service designated trails (Pioneer Multi-Use Trail). Motorized uses also occur on roads or designated trails under state, county, or township jurisdictions.

The system of long-term local and collector roads within the area has an average density from 1-1/2 to 2-1/2 miles of road per square mile.

Table 3-19. MA 6.1 Desired Vegetative Composition

Forest Type	Desired Condition (%) ¹
Aspen/Paper Birch ²	10-55
Long-lived Conifers (Red Pine, White Pine, White Spruce, Hemlock) ²	1-45
Short-lived Conifers (Jack Pine, Balsam Fir, Lowland Conifer) ²	1-30
Northern Hardwoods (Upland and Lowland Hardwoods) ²	15-90

¹ Desired condition is the long-term goal which may not be achieved in this plan period. This MA was placed based on characteristics/emphasis other than vegetation potential. Therefore, maximum vegetation composition flexibility was desirable.

² Based on total National Forest System forested acres

Table 3-20. MA 6.1 Additional Desired Vegetative Characteristics

	Desired Condition (%)¹
Old Growth ²	10+
Permanent Openings ³	1-5

¹ Desired condition is the long-term goal which may not be achieved in this plan period

² Based on total National Forest System forested acres

³ Based on total National Forest System acres

2300 Recreation Management

Trail Use and Operation Guidelines

Trails are restricted to non-motorized uses with the following exceptions:

- Administrative use or under written authorization.
- OHV/Snowmobile use of existing Forest Service designated OHV/snowmobile trails and routes.

Relocate existing designated Forest Service OHV/snowmobile trails outside of SPNM areas when reasonable alternative routes can be found.

Generally OML 3 roads will not be designated for OHV or snowmobile use.

Snowmobile use on unplowed roads is not allowed.

Visual Quality Guideline

Apply visual quality objectives displayed in the matrix by sensitivity level, distance zone, and variety class.

Table 3-21. MA 6.1 Visual Quality Objectives¹

Variety Class	Distance Zone-Sensitivity Level						
	Highest Sensitivity			Average Sensitivity			Lowest Sensitivity
	Fore-ground	Middle-ground	Back-ground	Fore-ground	Middle-ground	Back-ground	All Distances
Class A Distinctive	Retention	Retention	Retention	Partial Retention	Partial Retention	Partial Retention	Partial Retention
Class B Common	Retention	Partial Retention	Partial Retention	Partial Retention	Modification	Modification	Maximum Modification
Class C Minimal	Partial Retention	Partial Retention	Modification	Modification	Maximum Modification	Maximum Modification	Maximum Modification

¹ See Appendix G of this document for definitions of terms.

2400 Timber Management

Guidelines

Northern hardwood stands will be managed using the silvicultural system that is appropriate for the site based on Ecological Landtype Phase capabilities, site specific considerations, and long-term management objectives for the area. As a result, uneven-aged management is expected to be the primary silvicultural system for the northern hardwood forest type in this management area.

Even-aged management can be used as a secondary silvicultural system in the northern hardwood forest type where needed to meet specific resource objectives. Utilize even-aged management systems in the hardwood type on less productive sites, for creation of plant and animal habitat, improvement of stand quality, and to enhance tree species diversity on ecological sites suited to their establishment and maintenance.

Even-aged management is the primary silvicultural system for the aspen and conifer forest types.

Feature northern hardwoods as the predominant forest type, along with interspersed stands of aspen and softwood forest types.

Provide for management of a long-term mix of vegetation (as shown in Tables 3-19 and 3-20) through the scheduling of management practices to provide a mix of timber products.

Emphasize natural regeneration.

Temporary openings created by even-aged management will generally not exceed 25 acres.

2600 Wildlife, Fish and Sensitive Plants

Guideline

Where feasible, wildlife habitat is managed to benefit species requiring remoteness and mature forest conditions with an abundance of standing snags and coarse woody debris.

Northern Goshawk and other Raptors

Guideline

To provide foraging habitats for goshawks and other predators, regenerate aspen where stands of aspen or stands with significant aspen component exceeding 60 acres exist. These stands should be managed to provide at least three distinct age classes to provide for prey needs. However, regeneration of the type should be the first priority where delay in harvesting would result in forest type loss due to natural succession.

Ruffed Grouse**Guideline**

Maintain three distinct age classes of aspen, 0-9 year, 10-30 year, and greater than 31 years, well-dispersed or interspersed in aspen patches greater than 60 acres. Regeneration of the forest type is the first priority where delay of would result in forest type loss due to natural succession.

2800 Minerals and Geology**Common Variety Minerals****Guidelines**

Allow extraction only where needed for national forest purposes and only when reasonable alternative sources are not available.

Generally, do not permit private use of common variety minerals.

7400 Public Health and Pollution Control Activities**Standard**

Do not provide landfill disposal sites

7700 Transportation System**Guidelines**

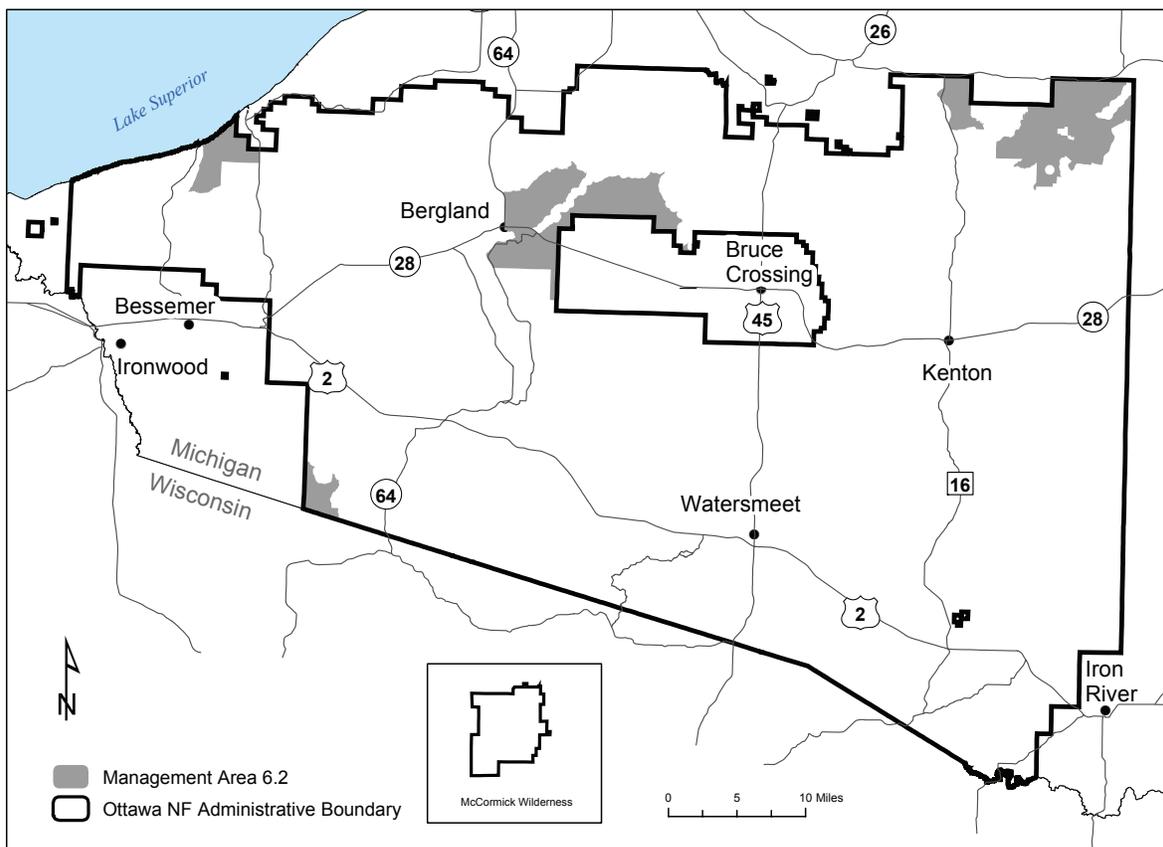
Design, construct, and manage roads so they meet semi-primitive non-motorized ROS setting requirements.

Emphasis is on constructing low standard roads and requiring longer skidding distances.

Close OML 1 and 2 roads to motorized uses following the completion of Forest management activities.

Management Prescription 6.2

Figure 3-11. Management Prescription 6.2



Purpose

This management prescription:

- Emphasizes semi-primitive motorized recreational environment.
- Maintains potential conditions for low to moderate populations of primarily non-game wildlife species, with particular emphasis on species requiring remoteness or old growth habitat. Portions of the area may provide conditions for moderate densities of wildlife game species.
- Maintains high amounts of the northern hardwood forest type, with some aspen emphasized in portions of the area, along with associated wildlife habitat conditions and timber products.

- Emphasizes uneven-aged management of the northern hardwood forest type to provide for high visual quality, habitat conditions for wildlife species such as fishers and barred owls, and production of low to moderate amounts of high quality northern hardwood sawtimber and veneer. Even-aged management of the aspen forest type provides habitat conditions for game species such as deer and ruffed grouse.
- Provides a natural appearance that is predominantly forested with infrequent permanent upland openings and some temporary openings.

Area Description

Areas allocated to this form of management are generally about 12,700 contiguous acres or larger in size. The management area encompasses approximately 76,700 acres, of which about 52,400 acres are NFS lands. Current conditions are mostly hardwoods and aspen, with a few areas of conifers, particularly in lowlands.

A wide variety of Landtype Associations (LTAs) in MA 6.2 are present, with only three comprising more than 10% of the area.

Landtype Association 212Jo01, Ontonagon Lake Plain (about 20% of the MA), is a nearly level lake plain, with dissected ravines. Soils have loamy surfaces over calcareous, clayey till and lacustrine deposits. Ravines were created by post-glacial erosional processes. Prevalent soil permeability is very slow.

Also comprising about 20% of MA 6.2 is LTA 212Jn06 Silver River lake plain. This is a nearly level, lake plain with loamy soils over acid, loamy glaciolacustrine materials deposited in lakes ponded in front of the Keweenaw Bay Lobe ice margin. Soil permeability is commonly slow.

LTA 212Sn12 Watton-Six Mile moraines (about 15%) are rolling, dissected, terminal moraine complex with loamy soils over calcareous, clay loam till. There are some stony areas, and soil permeability is commonly moderately slow.

Other LTAs that are present within MA 6.2, but comprise less than 10% include: 212Sn07, Sturgeon River Gorge; 212Ya04, Iron/Gogebic, dissected lake bench; 212Jb03, Saxon/North Ironwood, till plain; 212Jb07, Gogebic Ridge-Bergland Hill-Trap Hills-Norwich Bluffs moraine; and 212Jb08, Lake Gogebic lowlands.

Desired Condition of the Land

A continuous canopy of northern hardwoods interspersed with aspen, softwoods, and occasional permanent upland and temporary openings occur in the management area. Tables 3-22 and 3-23 describe the desired vegetation composition.

Uneven-aged stands of northern hardwoods, with scattered permanent upland openings, are common. Although sugar maple is predominant, white ash, yellow birch, red maple, northern red oak, eastern hemlock, eastern white pine, and other shade-tolerant species are also found. Portions of the area may favor early-successional plant communities. Stands are generally

managed to maintain or develop structural and compositional complexity. Complexity within the stands may be enhanced with any the following components: gaps in the canopy, a number of vertical canopy layers, increased amounts of dead and downed wood, and a hemlock and white pine component. Harvesting occurs in this management area prescription. Uneven-aged management is the featured silvicultural system. Harvesting can enhance the long-term desired condition by shaping the vegetation through emphasis on late-successional communities, adjusting the species compositions within stands to develop mixed hardwood hemlock conditions, and to develop stands of larger diameter trees.

Old growth forests tend to be in patches of hundreds to thousands of acres. While they may be isolated from other large patches of old growth on the Ottawa, they do connect to a nearly continuous forest canopy.

The combination of older and younger forest stands provides habitat for a diverse group of plant and animal species. Densities of white-tailed deer, snowshoe hare, and ruffed grouse will be low in some portions of the area and moderate in others.

Recreation opportunities such as hunting, fishing, camping, backpacking, hiking, and cross-country skiing occur in a semi-primitive motorized forest environment. This management area provides opportunities for solitude that are enhanced by low road densities.

Recreation and special use facilities such as trailhead signs, transmission structures, and utility corridors are permitted provided they are compatible with the character of the area.

The system of long-term local and collector roads within the area has an average density from 1-1/2 to 2-1/2 miles per square mile. However, portions of this MA are within the remote habitat area, which has an open road density of less than or equal to 1 mile per square mile.

Table 3-22. MA 6.2 Desired Vegetative Composition

Forest Type	Desired Condition (%) ¹
Aspen/Paper Birch ²	10-55
Long-lived Conifers (Red Pine, White Pine, White Spruce, Hemlock) ²	1-45
Short-lived Conifers (Jack Pine, Balsam Fir, Lowland Conifer) ²	1-30
Northern Hardwoods (Upland and Lowland Hardwoods) ²	15-90

¹ Desired condition is the long-term goal which may not be achieved in this plan period. This MA was placed based on characteristics/emphasis other than vegetation potential. Therefore, maximum vegetation composition flexibility was desirable.

² Based on total National Forest System forested acres

Table 3-23. MA 6.2 Additional Desired Vegetative Characteristics

	Desired Condition (%) ¹
Old Growth ²	10+
Permanent Openings ³	1-5

¹ Desired condition is the long-term goal which may not be achieved in this plan period

² Based on total National Forest System forested acres

³ Based on total National Forest System acres

2300 Recreation Management

Visual Quality Guideline

Apply visual quality objectives displayed in the matrix by sensitivity level, distance zone, and variety class.

Table 3-24. MA 6.2 Visual Quality Objectives ¹

Variety Class	Distance Zone-Sensitivity Level						
	Highest Sensitivity			Average Sensitivity			Lowest Sensitivity
	Fore-ground	Middle-ground	Back-ground	Fore-ground	Middle-ground	Back-ground	All Distances
Class A Distinctive	Retention	Retention	Retention	Partial Retention	Partial Retention	Partial Retention	Partial Retention
Class B Common	Retention	Partial Retention	Partial Retention	Partial Retention	Modification	Modification	Maximum Modification
Class C Minimal	Partial Retention	Partial Retention	Modification	Modification	Maximum Modification	Maximum Modification	Maximum Modification

¹See Appendix G of this document for definitions of terms.

2400 Timber Management

Guidelines

Northern hardwood stands will be managed using the silvicultural system that is appropriate for the site based on Ecological Landtype Phase capabilities, site specific considerations, and long-term management objectives for the area. As a result, uneven-aged management is expected to be the primary silvicultural system for the northern hardwood forest type in this management area.

Even-aged management can be used as a secondary silvicultural system in the northern hardwood forest type where needed to meet specific resource objectives. Utilize even-aged management systems in hardwoods on less productive sites, for creation of plant and animal habitat, improvement of stand quality, and to enhance tree species diversity on ecological sites suited to their establishment and maintenance.

Even-aged management is the primary silvicultural system for the aspen and conifer forest types.

Feature the northern hardwood forest type along with interspersed stands of aspen and softwoods.

Provide for management of a long-term mix of vegetation (as shown in Tables 3-22 and 3-23) through the scheduling of management practices to provide a mix of timber products.

Emphasize natural regeneration.

Temporary openings created by even-aged management will generally not exceed 25 acres.

2600 Wildlife, Fish and Sensitive Plants

Guidelines

Manage most wildlife habitat in the northern hardwood ecosystem for wildlife species preferring remoteness and mature forest conditions, with an abundance of standing snags and coarse woody debris.

Manage some wildlife habitat in the aspen ecosystem for those wildlife species that require an early-successional vegetative condition.

Northern Goshawk and other Raptors

Guideline

To provide foraging habitats for goshawks and other predators, regenerate aspen where stands of aspen or stands with significant aspen component exceeding 60 acres exist. These stands should be managed to provide at least three distinct age classes to provide for prey needs. However, regeneration of the type should be the first priority where delay in harvesting would result in forest type loss due to natural succession.

Ruffed Grouse

Guideline

Maintain three distinct age classes of aspen 0-9 year, 10-30 year, and greater than 31 years, well-dispersed or interspersed in aspen patches greater than 60 acres. Regeneration of the forest type is the first priority where delay of harvesting would result in forest type loss due to natural succession.

2800 Minerals and Geology

Guidelines

Allow extraction of common variety minerals only where needed for national forest purposes and only when reasonable, alternative sources are not available.

Generally, do not permit private use of common variety minerals.

7400 Public Health and Pollution Control Activities

Standard

Do not provide landfill disposal sites.

7700 Transportation System

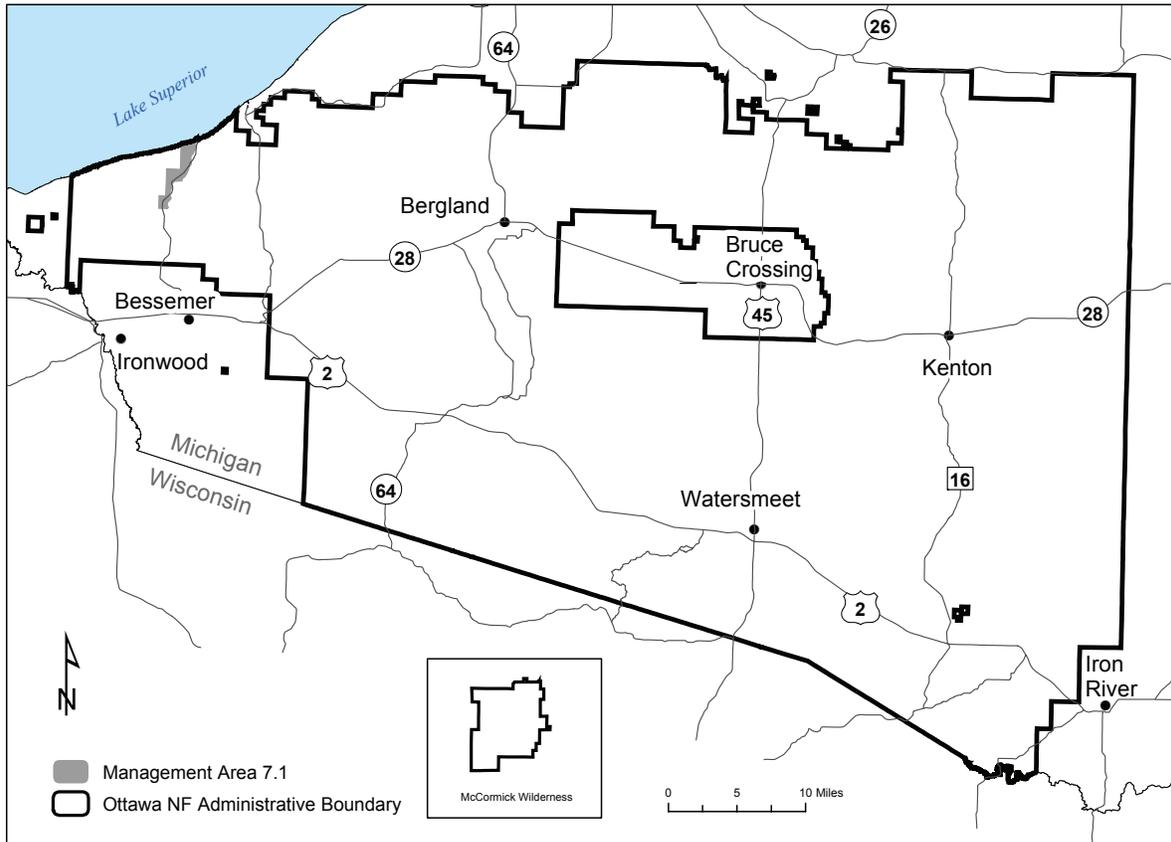
Guidelines

Emphasis is on constructing low standard roads and requiring longer skidding distances.

Close all OML 1 and OML 2 roads to motorized uses, except OHVs and snowmobiles, following completion of Forest management activities.

Management Prescription 7.1

Figure 3-12. Management Prescription 7.1



Purpose

This management prescription:

- Provides high density, roaded natural recreational opportunities in the Black River Recreation Area.

Area Description

The management area encompasses approximately 2,900 acres, of which about 1,100 acres are NFS lands within the Black River Recreation Area, Gogebic County.

Three tills are present nearly in equal thirds on this small MA: LTA 212Jb03, Saxon/North Ironwood till plain, an undulating, till plain with loamy soils over acid, loamy till with few rock outcrops, and usually slow soil permeability.

LTA 212Jb04, Bald Mountain-Point Mountain-Black River Highlands moraines is a moderately steep, bedrock-controlled moraine with loamy soils over acid, sandy loam till. Some bedrock outcrops are present, and soil permeability is usually moderately slow.

LTA 212Ya04 Iron/Gogebic dissected lake bench, is an undulating, dissected, lake-modified, till plain with silty soils over calcareous, clay loam till with dominant soil permeability moderately slow.

Desired Condition of the Land

Landscape management techniques maintain the long-term viability, safety, and attractiveness of the area and its vegetation.

This forested environment contains developments such as a major recreation area at Black River Harbor on Lake Superior, scenic overlooks, waterfall viewing, hiking and backpacking trails, and cross-country skiing.

The roads and trails that access the area are designed to accommodate heavy use.

Recreation facilities and structures are present and may dominate the landscape. Design, building materials, and placement of facilities and structures are compatible with the character of the area. Utility corridors and other special uses compatible with the character of the area are present.

Mineral exploration may occur where geologic studies suggest special needs for subsurface information. Federal surface and subsurface ownership is ensured because of major investments in the developed facilities and structures.

Landscape management techniques maintain the long-term viability, safety, and attractiveness of the area and its vegetation.

2300 Recreation Management

Recreation Opportunities

Guideline

Give priority to maintaining and improving the docking and service facilities, including periodic dredging of the Black River.

Visual Quality

Guideline

Apply visual quality objectives displayed in the matrix by sensitivity level, distance zone, and variety class.

Table 3-25. MA 7.1 Visual Quality Objectives ¹

Variety Class	Distance Zone-Sensitivity Level						
	Highest Sensitivity			Average Sensitivity			Lowest Sensitivity
	Fore-ground	Middle-ground	Back-ground	Fore-ground	Middle-ground	Back-ground	All Distances
Class A Distinctive	Retention	Retention	Retention	Partial Retention	Partial Retention	Partial Retention	Partial Retention
Class B Common	Retention	Partial Retention	Partial Retention	Partial Retention	Modification	Modification	Maximum Modification
Class C Minimal	Partial Retention	Partial Retention	Modification	Modification	Modification	Maximum Modification	Maximum Modification

¹See Appendix G of this document for definitions of terms.

2400 Timber Management

Standard

Manage vegetation to enhance the recreation use of the area.

Guidelines

Restrict harvesting operations as needed to minimize conflicts with recreational use.

Feature uneven-aged management as the primary silvicultural system.

Utilize commercial timber harvest to achieve desired management of vegetation where possible.

Temporary Openings Created by the Application of Even-Aged Silviculture Standard

Ensure that temporary openings created through even-aged management are compatible with visual and recreation objectives.

2700 Special Use Management

Utility Transmission Corridors

Guideline

Work with utilities to develop vegetation management plans for projects such as pipelines and transmission lines. Manage rights-of-way vegetation for wildlife habitat, visual quality, and other resources.

Other Special Uses

Guideline

Use of the seasonal boat dock at the Black River Marina is on a first come-first served basis. A waiting list for seasonal boat dock space is kept at the Ranger district office in Bessemer, Michigan.

2800 Minerals and Geology

Federal Minerals

Standard

Prohibit surface-disturbing exploration (including core drilling) in this management area. Allow exploration that does not modify the ecosystem, or otherwise conflict with the objectives of the management area.

Common Variety Minerals

Guidelines

Allow extraction only where needed for national forest purposes and only when reasonable alternative sources are not available.

Generally, do not permit private use of common variety minerals.

7300 Buildings and Structures

Standard

Provide buildings and structures needed to support resource management objectives.

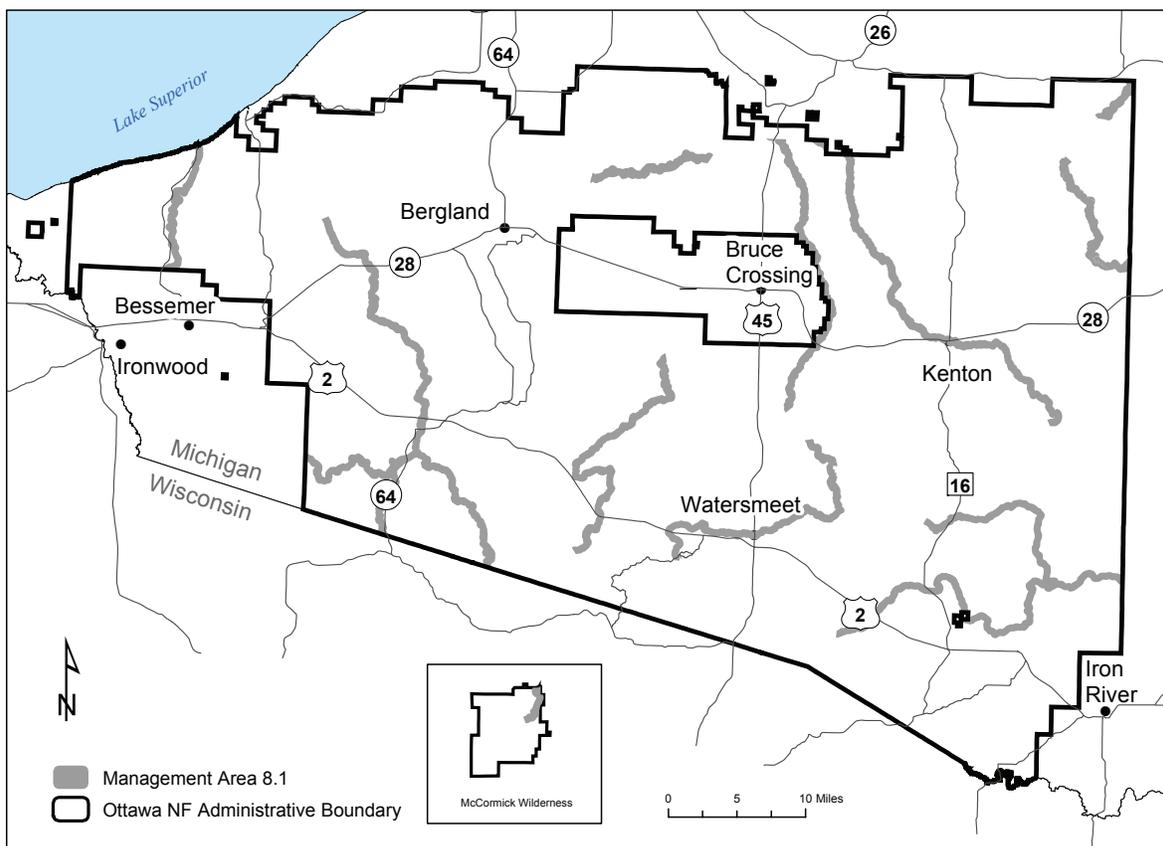
7400 Public Health and Pollution Control Activities

Standard

Do not provide landfill disposal sites.

Management Prescription 8.1

Figure 3-13. Management Prescription 8.1



Purpose

This management area will emphasize land and resource conditions that will provide for the protection and management of designated Wild & Scenic River corridors within the Ottawa National Forest. The rivers involved were designated National Wild and Scenic Rivers in the Michigan Scenic Rivers Act of 1991. The standards and guidelines established for this management area will maintain and/or enhance the character of the existing river environment of these individual river corridors.

These standards and guidelines apply to land within one-quarter mile from the normal high water mark on either side of the designated river. This boundary will remain in effect until such time as the official management corridors (boundaries) are identified and specific river management plans are developed. The standards and guidelines for management of various segments will

protect the river's outstandingly remarkable resource values yet not preclude management to their maximum potential under the Wild and Scenic Rivers Act.

Area Description

The management area encompasses approximately 87,800 acres, of which about 67,000 acres are NFS lands. This protection and management is being prescribed for the following rivers:

Black River

The 14-mile segment from the Ottawa National Forest boundary to Lake Superior, as a Scenic River.

Ontonagon River

Segments of certain tributaries, totaling 157.4 miles as follows:

- (A) The 46-mile segment of the East Branch Ontonagon from its origin at Spring Lake (also known as Jingle Lake) to the Ottawa National Forest boundary in the following classes:
 - (i) The 20.5-mile segment from its origin at Spring Lake to its confluence with an unnamed stream in Section 30, Township 48 North, Range 37 West, as a Recreational River.
 - (ii) The 25.5-mile segment from its confluence with an unnamed stream in Section 30, Township 48 North, Range 37 West, to the Ottawa National Forest Boundary, as a Wild River.
- (B) The 59.4-mile segment of the Middle Branch Ontonagon, from its origin at Crooked Lake to the northern boundary of the Ottawa National Forest in the following classes:
 - (i) The 20-mile segment from its origin at Crooked Lake to Burned Dam, as a Recreational River.
 - (ii) The 8-mile segment from Burned Dam to Bond Falls Flowage as a Scenic River.
 - (iii) The 8-mile segment from Bond Falls Flowage to Agate Falls, as a Recreational River.
 - (iv) The 6-mile segment from Agate Falls to Trout Creek, as a Scenic River.
 - (v) The 17.4-mile segment from Trout Creek to the northern boundary of the Ottawa National Forest, as a Wild River.
- (C) The 37-mile segment of the Cisco Branch Ontonagon from its origin at Cisco Lake Dam to its confluence with Ten-Mile Creek south of Ewen in the following classes:
 - (i) The 10-mile segment from the origin of the Cisco Branch Ontonagon River at Cisco Lake Dam to the County Road 527 crossing, as a Recreational River.

- (ii) The 27-mile segment from the Forest Development Road 527 crossing to the confluence of the Cisco Branch and Ten-Mile Creek, as a Scenic River.
- (D) The 15-mile segment of the West Branch Ontonagon from its confluence with Cascade Falls to Victoria Reservoir, in the following classes:
 - (i) The 10.5-mile segment from its confluence with Cascade Falls to its confluence with the South Branch Ontonagon as a Recreational River.
 - (ii) The 4.5-mile segment from its confluence with the South Branch Ontonagon to Victoria Reservoir, as a Recreational River.

Paint River

Segments of the mainstream and certain tributaries totaling 51 miles as follows:

- (A) The 6-mile segment of the mainstream from the confluence of the north and south branches Paint to the Ottawa National Forest boundary, as a Recreational river.
- (B) The 17-mile segment of the North Branch Paint from its origin at Mallard Lake to its confluence with the South Branch Paint, as a Recreational River.
- (C) The 28-mile segment of the South Branch Paint from its origin at Paint River Springs to its confluence with the North Branch Paint, as a Recreational River.

Presque Isle River

Segments of the mainstream and certain tributaries totaling 57 miles as follows:

- (A) The 23-mile segment of the mainstream from the confluence of the East and West Branches of the Presque Isle to Minnewawa Falls to be classified as follows:
 - (i) The 17-mile segment from the confluence of the East and West Branches Presque Isle to Michigan State Highway 28, as a Recreational River.
 - (ii) The 6-mile segment from Michigan State Highway 28 to Minnewawa Falls, as a Scenic River.
- (B) The 14-mile segment of the East Branch Presque Isle within the Ottawa National Forest, as a Recreational River.
- (C) The 7-mile segment of the South Branch Presque Isle within the Ottawa National Forest, as a Recreational River.
- (D) The 13-mile segment of the West Branch Presque Isle within the Ottawa National Forest, as a Scenic River.

Sturgeon River

The 25-mile segment from its entry into the Ottawa National Forest to the northern boundary of the Ottawa National Forest in the following classes:

- (A) The 16.5-mile segment from its entry into the Ottawa National Forest to Prickett Lake, as a Wild River (portions of this segment are within the Sturgeon River Gorge Wilderness and will be managed consistent with those wilderness values) .
- (B) The 8.5-mile segment from the outlet of Prickett Lake Dam to the northern boundary of the Ottawa National Forest, as a Scenic river.

Yellow Dog

The 4-mile segment from its origin at the outlet of Bulldog Lake Dam to the boundary of the Ottawa National Forest as a Wild river. The entire four-mile segment of the Yellow Dog is within the McCormick Wilderness and will be managed consistent with those wilderness values.

Desired Condition of the Land

River corridors are composed of diverse, dynamic, and complex habitat types. Vegetative communities are diverse by virtue of the varied ecotonal zones occurring within the corridor ranging from terrestrial to aquatic ecosystems. Native vegetation occurs in various successional stages or seres, but often transition to a climax community is most common and the vegetative composition is tied to the site potential of the ecological units upon which they occur. Native trees, shrubs, herbaceous, and emergent vegetation provide for a wide array of functions which include: shade for moderation of river water temperature, providing a source of fine litter and large woody debris to streams, stabilizing banks, filtering sediment and nutrients, modifying microclimate, and providing wildlife habitat and connectivity. Long-lived, large diameter conifer and hardwood tree species are a common component of the river corridor. Where native vegetation has been altered by past human activities, restoration will work to restore ecological function.

1900 Land and Resource Management Planning

Standard

On other public lands or private lands the Forest Service will recommend denial of any permits for proposals that may negatively impact the values for which such a river was designated.

2100 Environmental Management

Pesticide Use

Standard

With the exception of epidemics that threaten adjacent lands or resources, allow indigenous insect and plant diseases to play their natural ecological role. If control is deemed necessary for epidemics that threaten adjacent lands or resources, alternative methods will be considered before pesticide is used.

2300 Recreation Management

Recreation Opportunities

Standards

Wild River Segments:

A semi-primitive non-motorized recreation opportunity spectrum (ROS) will be emphasized.

Scenic River Segments:

A semi-primitive motorized or non-motorized ROS will be emphasized, consistent with the Management Area designation of adjacent land(s).

Recreational River Segments:

A roaded natural or rural ROS will be emphasized.

Developed Sites

Standards

Wild River Segments:

Primitive to semi-primitive recreation facilities, well-screened from the river, are permitted to prevent site deterioration of the current river environment. Substantial additions to existing improvements are prohibited.

Scenic and Recreational River Segments:

Recreation facilities such as campgrounds, picnic areas, launching facilities for watercraft, observation sites, and trailheads may be established.

Dispersed Sites

Standards

Wild River Segments:

The following dispersed facilities are appropriate:

Campsites	Horseback trails
Day hiking trails	Canoe/portage trails and access sites
Backpacking trails	Mountain bike trails

Removal of trees and large woody debris for the clearing of land and water trails is permitted to allow for reasonable safe passage consistent with the river classification.

Trail density will normally not exceed three miles per 1,000 acres. Trails will be maintained at Objective Maintenance Level 1 or 2. New trail construction should emphasize transecting rather than paralleling the river.

Scenic and Recreational River Segments:

The following dispersed facilities are appropriate:

Campsites	Cross country ski trails
Day hiking trails	Horseback trails
Backpacking trails	Canoe/portage trails and access sites
Snowmobile trails	OHV trails
Mountain bike trails	

Trail density will normally not exceed 10 miles per 1,000 acres. Trails will be maintained at Objective Maintenance Levels 2 to 4.

Visual Quality

Guidelines

Wild River Segments:

Management activities will apply a VQO of preservation.

Scenic River Segments:

Management activities will apply a VQO of retention/partial retention.

Recreational River Segments:

Management activities will apply a VQO of partial retention.

For scenic and recreational river segments, the Scenic Condition Level for specific management activities within the river area may be adjusted one level, either direction, to more quickly meet the long-term management situation and achieve the desired future condition within the river corridor.

Management activities will be designed to maintain and protect the existing river scenery as viewed from the river first, and second from within the river corridor.

Heritage Resources

Standards

Wild River Segments:

Heritage resource interpretation will not normally occur.

Scenic River Segments:

Interpretation of heritage resources will be compatible with the natural character and recreation opportunities in the area.

Recreational River Segments:

Interpretation of heritage resources is encouraged. It will be designed to protect sites and will be compatible with the natural character and recreation opportunities in the area.

Off-Highway Vehicles (OHVs)

Standards

Manage OHV use to provide for resource protection and public health and safety, and to minimize user conflict.

Wild River Segments:

OHV and snowmobile use will not normally be permitted. An occasional snowmobile/OHV trail may be maintained.

Scenic and Recreational River Segments:

OHV use is permitted on designated trails and road routes.

Snowmobile use is permitted on trails and minor roads (Objective Maintenance Levels 1 and 2) where use is not expressly prohibited.

Following are examples of where OHV and snowmobile use is not permitted because of public safety concerns or user conflicts:

- Snowmobiles on snow plowed roads
- Major roads maintained for passenger car travel (Objective Maintenance Levels 3 to 5)
- On trails signed as being prohibited; example, a designated hiking or cross country ski trail

2400 Timber Management

Vegetation Management**Standards****Wild River Segments:**

Cutting of trees will not be permitted except when needed in association with a primitive recreation experience (such as clearing for trails and protection of users) or to protect the environment (such as control of fire). Timber outside the boundary but within the viewshed should be managed and harvested in a manner to provide special emphasis to protect the VQO of preservation.

Scenic River Segments:

Vegetative management will enhance the recreation experience and will maintain the near natural environment of the river corridor. Management activities are not apparent to the casual forest visitor when viewed from the river.

Recreational River Segments:

Vegetative management will enhance the recreation experience. Management activities may be apparent, but must remain subordinate to the character of the landscape and appear natural when viewed from the river.

Silvicultural Systems**Standards****Wild River Segments:**

Vegetation manipulation will only be used to enhance and improve the river values within the context of the purpose set for the wild river segments.

Scenic River Segments:

A wide range of silvicultural practices are allowed provided that such practices will have no adverse affect to the Outstandingly Remarkable Values. These practices will generally promote the retention of long-lived tree species, leading toward the development of a big tree character

throughout the river area. Vegetation management practices should be scheduled to maintain or enhance the Outstandingly Remarkable Values for which the segments were designated.

Recreational River Segments:

A wide range of silvicultural practices is allowed, provided that such practices will maintain or enhance the Outstandingly Remarkable Values within the designated river corridor. Forestry practices will include those similar in nature and intensity to practices present in the river areas at the time of interim classification. These practices will generally promote the retention of long-lived tree species, leading toward the development of a big tree character throughout the river area. Vegetation management practices should be scheduled to maintain or enhance the Outstandingly Remarkable Values for which the segments were designated.

Reforestation**Standards****Wild River Segments:**

No artificial regeneration will be done for commercial timber production purposes. Selective planting may be made for site stabilization purposes or for river restoration.

Scenic and Recreational River Segments

Forestry practices may include a wide range of regeneration methods such as seeding, hand planting, and site preparation for both artificial and natural regeneration providing they protect or enhance river values.

Harvest Practices**Standards****Wild River Segments:**

Commercial timber harvest is not permitted.

Scenic River Segments:

Timber management, harvesting, and related activities will not be emphasized. If timber harvesting practices are initiated within the river corridor they will normally be scheduled to avoid the primary recreation use season.

Recreational River Segments

Timber management, harvesting, and related activities are permitted provided the management activities maintain or enhance the recreation emphasis within the designated river corridor.

2500 Soil, Water, and Air**Standards****Wild River Segments:**

Where watershed improvements projects are undertaken, unobtrusive treatment will be prescribed. Only native materials (rocks, logs, and native plants) will be used in restoration work.

Watershed improvements projects will be limited to correcting human-caused resource damage or resource damage from natural disasters, which threaten downstream health and safety.

Highest priority areas for restoration will be resource damage at user-developed sites or along trails adjacent to water bodies.

No flood control dams, levees, or other works are allowed in the channel or river corridor. The natural appearance and primitive character of the river area is maintained.

Scenic River Segments:

Where watershed improvement projects are undertaken, unobtrusive treatment will be prescribed. Only natural materials (rocks, logs and native plants) will be used in restoration work. Existing impoundments and levees may be maintained; new structures are prohibited.

Recreational River Segments:

Forestwide standards and guidelines apply. In addition, existing low dams, diversion works, rip rap, and other minor structures are allowed provided the waterway remains generally natural and riverine in appearance. Existing impoundments and levees may be maintained, new impoundments and levees are prohibited.

2600 Wildlife, Fish and Sensitive Plants

Standards

Wild River Segments:

New structures and the improvements of old ones are allowed where they are compatible with the primitive and natural values of the river.

Scenic and Recreational River Segments:

River restoration or habitat improvement will emphasize maintenance of essential habitat for wildlife associated with late-successional stages of vegetation. Habitat improvement (wildlife, aquatic and native plants) which is natural appearing and which enhances those values that uniquely “are” a part of the scenic or recreation river experience and meet the VQO objectives assigned are permitted.

2700 Special Use Management

Standards

Wild and Scenic River Segments:

Existing special uses will be evaluated at the special use termination date according to objectives for wild and scenic rivers, before an extension of use will be granted. Application for new special use permits will be evaluated on a case-by-case basis to determine suitability to the purpose of the river segment designation. Existing facilities under special use permit will be managed consistent with the ROS and VQO for the river designation.

Recreational River Segments:

Existing special uses may be continued. Application for new special use permits will be evaluated on a case-by-case basis to determine suitability to the purpose of the river segment designation. Existing facilities under special use permit will be consistent with the ROS and VQO for the river designation.

2800 Minerals**Standards****Wild River Segments:**

No permit, lease, or other authorization will be issued for exploration of minerals owned by the United States.

Scenic and Recreational River Segments:

Exploration on federally administered mineral rights will be permitted where such exploration will not adversely impact the values for which the river is being managed.

Recreational River Segments

Surface disturbance or occupancy for development and extraction of federally owned minerals excluding sand and gravel, will not be permitted.

Sand and gravel may be removed but only by special use permit issued by the Forest Supervisor.

Borrow sites must be small, inconspicuous, well screened from the river, and must be restored to a near-natural condition promptly after completion of use.

No sand and gravel may be removed from any area below the ordinary high-water mark.

5400 Landownership**Guideline****Wild, Scenic, and Recreational Segments**

This management area has the following priorities for land acquisition:

1. Donation
2. Exchange
3. Purchase

Engineering Operations**Standard****Wild, Scenic, and Recreational River Segments:**

Property line marking standards to be used are Class C (subdued visibility).

7300 Buildings and Other Structures

Standards

Wild River Segments:

Primitive facilities (including trail bridges) to protect the resource or environmental values are allowed.

Scenic River Segments:

Buildings and structures (including trail bridges) may be provided to support resource management objectives.

Recreational River Segments:

Buildings and structures (including trail bridges) may be provided to support resource management objectives.

7400 Public Health and Pollution Control Facilities

Standard

Solid waste disposal sites or landfills are not permitted.

7700 Transportation System

Standards

Wild River Segments:

No new construction is permitted within the river corridor.

Scenic River Segments:

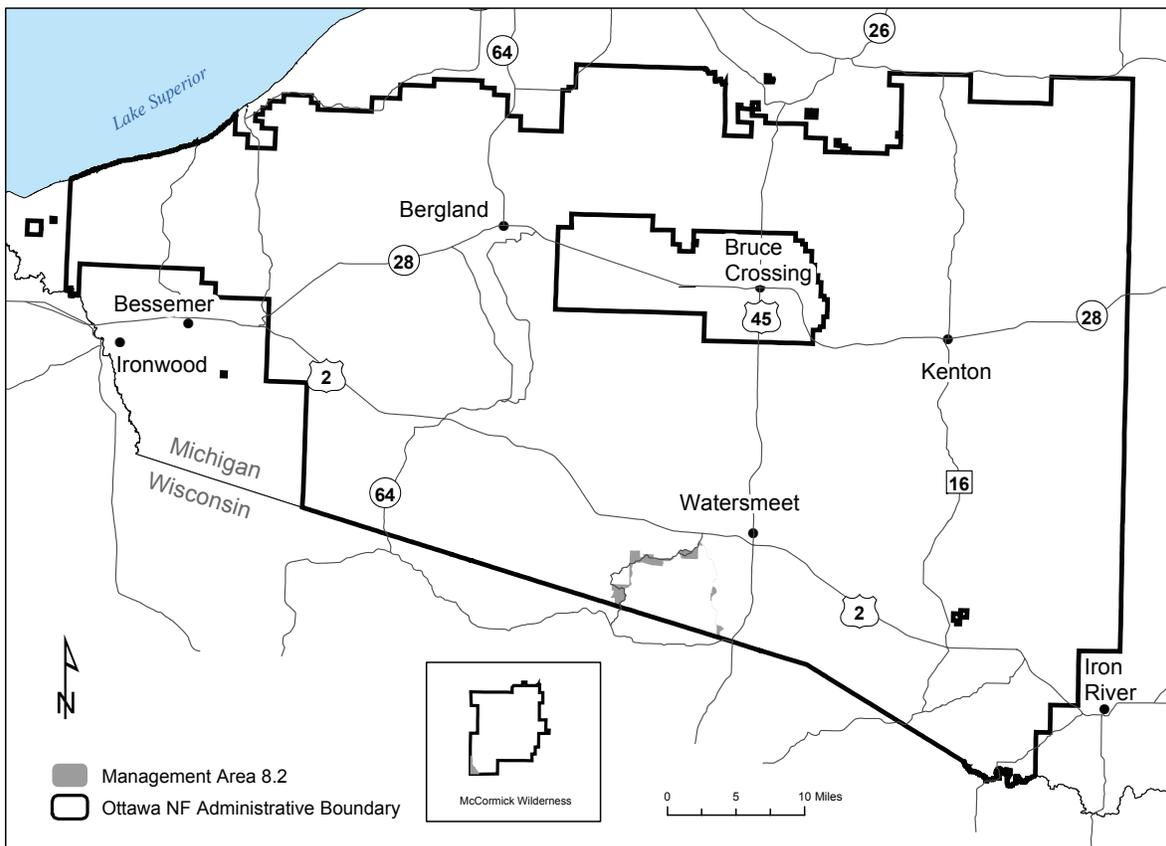
Roads may be retained at the standard currently existing on the ground. Limited reconstruction of existing roads may occur when necessary to control road-caused erosion and sedimentation. Where a thorough resource and transportation analysis reveals the need for newly constructed access (including potential bridging of the river), a well-engineered facility will be required. Proposals for river crossings may be approved where the crossing will not adversely impact the values or change the classification for which the river is being managed.

Recreational River Segments:

Limited construction or reconstruction may occur to increase or upgrade access or control road-caused erosion and sedimentation. Existing corridors and river access points should be used whenever possible. New river access may be developed to provide greater resource utilization than provided by existing access points. Additional river crossing may be developed where total number of crossings does not adversely affect other resources, crossing is economically justified, and stream protection is emphasized.

Management Prescription 8.2

Figure 3-14. Management Prescription 8.2



Purpose

This management prescription:

- Provides primarily roaded natural motorized recreation opportunities in a distinctive environment in the Sylvania Perimeter and McCormick Entrance areas.

Area Description

The management area encompasses approximately 3,500 acres, of which about 2,600 acres are NFS lands within the Sylvania Perimeter Area, Gogebic County, and the McCormick Entrance Area, Marquette County.

Desired Condition of the Land

Recreation improvements provide opportunity for activities associated with roaded natural Recreation Opportunity Spectrum (ROS) recreation such as camping, picnicking, swimming, boating, snowmobiling, canoeing, trailheads, hiking, cross-country skiing, hunting, fishing, sightseeing, pleasure driving, and vehicle parking.

Registration stations provide visitor information, interpretive facilities, registration for interior campsites (Sylvania), and information and regulations pertaining to the use of the wilderness and perimeter areas.

Vegetation will be managed to protect the safety and health of visitors and to maintain the scenic forest environment.

1900 Land and Resource Management Planning

Vegetation Management Guidelines

Manage vegetation primarily for non-commodity purposes, primarily recreation, visual quality, and/or ecosystem enhancement.

Allow planting and management of native plant species for visual quality and/or for perpetuation of ecosystems that require active management.

Prohibit the cutting of live vegetation except where necessary for the reconstruction or maintenance of approved facilities, to provide for user safety, or to meet the objectives stated above.

Revegetation Guideline

Revegetate those areas that are heavily impacted and do not have a chance to revegetate naturally, using local native plant species.

2300 Recreation Management

Recreation Opportunities Guideline

Where appropriate, rehabilitate, replace and/or remove existing recreation developments, facilities and trails to correct health and safety problems, protect the environment and investments, and complement and enhance recreation visitor opportunities in conformance with the designated recreation opportunity spectrum (ROS) class setting guidelines and accessibility requirements.

**Camping
Standard**

Allow camping only at designated sites within the Sylvania Perimeter Area.

**Washing and Bathing
Standard**

Prohibit the use of soaps or other cleaning agents within 150 feet of any river, lake, pond, or wetland area.

**Fires
Standards**

Permit open fires only within Forest Service fire rings or grills at designated Forest Service sites within the Sylvania Perimeter area.

Allow campers to collect only dead and down wood for campfires.

**Watercraft
Standards**

In Sylvania Perimeter Area, prohibit the transport of motors across National Forest System lands for use on Clark, Snapjack, Dream, and Helen Lakes. Allow motorized use of Long Lake to continue. For that portion of Crooked Lake within the Perimeter Area, allow motorized use as currently permitted.

Prohibit storage or mooring on National Forest System lands of watercraft, motors, mechanical devices, or equipment not being used in connection with a current visit.

Prohibit mooring, use, or transportation of aircraft, amphibious craft of any type, or watercraft designed for or used as floating living quarters on National Forest System lands.

Do not allow sailboats on Clark Lake.

**Dogs and other Domestic Pets
Standards**

Dogs and other domestic animals must be on a leash at all times when at designated campsites or on trails and portages, and must not be left unattended or otherwise out of control (i.e., barking) while in the Sylvania Perimeter Area. Dogs actively being utilized for hunting during the State of Michigan sanctioned hunting season are exempt from this provision.

In Sylvania Perimeter Area, dogs and domestic pets are not allowed within the Clark Lake swimming area on the beach, or within the picnic area except where designated by signs.

**Off-Highway Vehicles and Snowmobiles
Standards**

The Sylvania Perimeter is closed to off-highway vehicle (OHV) and snowmobiles use except on designated routes or trails.

Provide designated parking areas at trailheads.

Guidelines

Limit signs to those needed for public information, safety, and traffic control.

Reconstruct, rehabilitate, operate and maintain trails to provide for public safety and health, to protect resources, and for accessibility.

Visual Quality**Guideline**

Apply the visual quality objective of retention to partial retention in the development and management of these areas.

2400 Timber Management**Standards**

Do not schedule routine commercial harvest of timber from these lands.

Salvage of timber resulting from damage or insect and disease is permitted.

Design timber harvest to minimize conflicts with recreation uses.

2600 Wildlife, Fish and Sensitive Plants**Standards**

Emphasis in lake and stream fisheries will be for larger fish to provide for a high quality fishing experience.

Prohibit transport of smallmouth or largemouth bass across National Forest System lands from Devil's Head Lake and all State of Michigan special regulation lakes.

2700 Special Use Management**Utility Transmission Corridors****Standards**

Provide for buried utility transmission only in existing corridors when granting rights-of-way.

Emphasize the use of existing transportation system and utility corridors in the placement of any additional buried utilities. When feasible, require multi-utility use of individual rights-of-way within corridors.

Utility Distribution Systems**Guideline**

Consider applications for distribution systems crossing National Forest System lands (such as utility rights-of-way serving individual residents) on an individual basis.

Other Special Uses

Outfitting services, such as providing and/or transporting equipment or supplies within the Sylvania Perimeter Area for use within the adjacent Sylvania Wilderness, may be permitted under special use authorization.

2800 Minerals and Geology***Federal Minerals*****Standards**

Prohibit surface-disturbing exploration (including core drilling) in this area.

Use a no-surface-occupancy stipulation when consenting to mineral leases.

Private Minerals**Guideline**

Acquire, to the extent possible, private mineral rights.

Common Variety Minerals**Standard**

Prohibit removal of common variety minerals.

5100 Fire Management**Guideline**

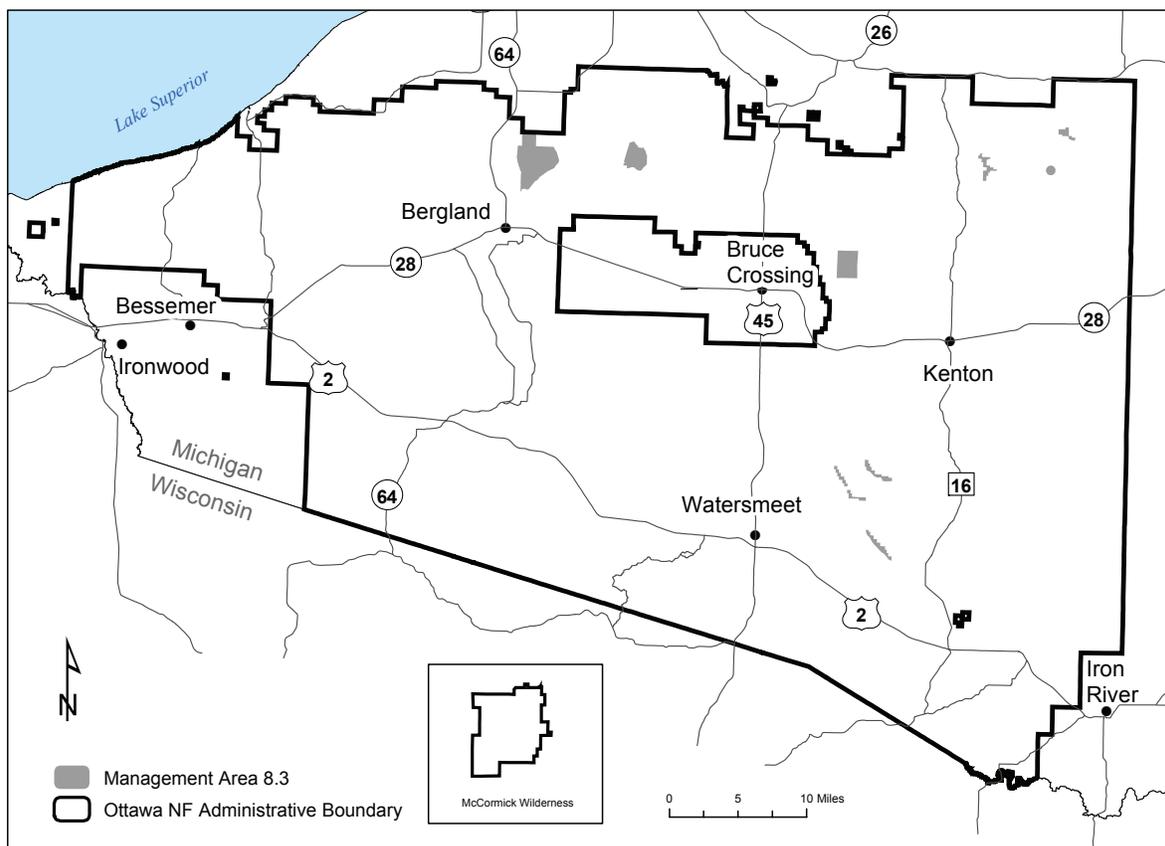
Where feasible, use suppression tactics and equipment that minimize potential damage to wilderness values, visual quality objectives, federally threatened and endangered species, and cultural sites unique to the area.

7400 Public Health and Pollution Control Activities**Guideline**

In general, do not develop new drinking water sources in the Sylvania Perimeter Area.

Management Prescription 8.3

Figure 3-15. Management Prescription 8.3



Purpose

Special interest areas (SIAs) occur in a variety of places on the Ottawa. The environmental conditions in which they exist differ, however, they all exhibit scenic, geologic, botanic, zoologic, recreational, or historic values of particular interest. SIAs on the Ottawa include a podzol terrace, an ancient volcanic vent plug, a headwater wetland complex, a sand wetland, an esker complex, and higher elevation escarpment and outcrop features. SIAs are managed to highlight and protect their geologic and other features; land management and recreational uses continue with interpretive opportunities emphasized. This management prescription emphasizes a semi-primitive non-motorized recreation environment.

Area Description

The management area encompasses approximately 10,900 acres, of which about 10,600 acres are NFS lands.

Table 3-26. MA 8.3 Special Interest Area descriptions and approximate acreages

SIA Name/Acres	SIA Type	Description
Posse Podzol Terrace <i>313 acres</i>	Geologic	This encompasses most of ELTPs 152b and f known on the Ottawa. It is a unique set of terrace walls and terraces, formed at the interface between an outwash deposit to the south and a lake-influenced heavy till to the north and represents a benchmark in the history of soil taxonomy.
Silver Mountain Ancient Volcanic Vent Plug <i>245 acres</i>	Geologic, scenic, recreational	This is an isolated basalt dome that was the interior of a volcanic vent. Erosion and glacial scouring has exposed the harder inner core rock and left examples of glacial grooves on its summit. At an elevation of 1,312 feet, it commands a spectacular view of Prickett Lake and the majority of the Sturgeon River Gorge Wilderness and surrounding forest. There is also an abandoned (sealed) mine adit at its base and remnants of a base once used for fire tower at its summit.
Bell-Bracken-Englesby Esker Complex <i>1,423 acres</i>	Geologic	Eskers are formed by rivers of water flowing through and under the continental ice sheet. As river sediments form, gravel and sand are deposited within the stream and appear as a long, thin, sinuous and steep-sided hill when the glacier recedes.
Sturgeon Headwater Wetland Complex <i>503 acres</i>	Geologic	A complex of wetlands in the headwaters of the West Branch Sturgeon River. There is a large spring supplying the water for large areas of organic wetlands and floodplain landforms. It lies within a basin formed in the 6 Mile End Moraine (LTA 6). Side slopes are steep around the edges instead of gradual.
Divide Sand Wetland <i>1,905 acres</i>	Geologic, botanic	A complex of wetlands east of the Gardner Road, mostly in sections 10 and 15 of T48N R38W. It is uniquely large and flat, with not one 20-foot contour in the two section area. It forms a watershed divide, with water draining in several directions from the wetland. The organic mat in non-forested portions of the wetlands ranges from 20 to 80 cm, which overlies sand. This combination is unusual for the Ottawa. There is also a rare plant occurring in this area.

SIA Name/Acres	SIA Type	Description
Trap Hills Escarpment <i>4,889 acres</i>	Geologic, scenic, recreational, botanic, zoologic	This area includes scenery/vistas and cliffs; mining history; several rare plants; a history of peregrine falcon breeding; and recreation opportunities, including a segment of the North Country National Scenic Trail. Mostly LTA 5 with a small area of LTA 9, it includes all of the ELTPs with enriched colluvial soils, rock outcrops, talus, or bedrock complexes that are strongly associated with the Trap Hills. It is mostly northern hardwoods forest type, with small areas of black ash drainages.
Norwich Outcrop, <i>1,593 acres</i>	Geologic, scenic, recreational, botanic, historic	The Norwich area includes high elevations, cliffs, views (from on top and from below looking up), several rare plant sites, and a section of the North Country National Scenic Trail, as well as a heritage interpretive trail. It is mostly LTA 5 with a small area of LTA 13. It is mostly northern hardwoods forest type, with some oak. Remains of a fire tower and mining works occur in this area as well.

Desired Condition of the Land

Areas are managed to promote and perpetuate their special conditions and values. Non-motorized uses occur. Vegetation change is primarily due to natural succession.

Standards

Land uses (e.g., vegetation management) and management activities conserve or enhance the characteristics for which the SIA was designated.

Federal mineral exploration and development activities that disturb the surface are not permitted.

Guidelines

Use control actions for non-native invasive species to protect the features for which the special interest area was established or adjacent resources. With the exception of epidemics that threaten adjacent lands or resources, allow indigenous insect and plant diseases to play their natural ecological role.

Avoid conveyance of federal land in SIAs.

Recommend against U.S. Department of Agriculture consent to extraction plans for federally owned minerals.

Areas are restricted to non-motorized uses except for administrative use or under written authorization.

These areas may be closed to public use when needed to protect geologic, scenic, botanic, zoologic, historic, or other attributes for which the area was designated from disturbances.

Avoid new utility corridors and communication sites in SIAs.

Evaluate existing special uses at termination date according to objectives for the SIA before granting an extension of use. Evaluate applications for new special use permits, including research and educational activities, on a case by case basis to determine suitability with the objectives of the SIA.

Management activities will apply VQO of partial retention.

Posse Podzol terraces

Guideline

Avoid management activities which break down the terrace walls.

Silver Mountain Ancient Volcanic Vent Plug

Guideline

Avoid management activities which cause erosion of steep surfaces.

Bell-Bracken-Englesby Esker Complex

Standard

Prohibit any new common variety minerals extraction, unless they are privately owned.

Trap Hills Escarpment

Standards

Timber lands are not part of the suitable base. Harvest may occur to control disease and insect infestations or to protect and enhance the SIA characteristics.

Prohibit commercial special forest products harvest.

Guideline

Avoid new system roads unless needed for SIA-value enhancing timber harvest.

Norwich Outcrop

Standards

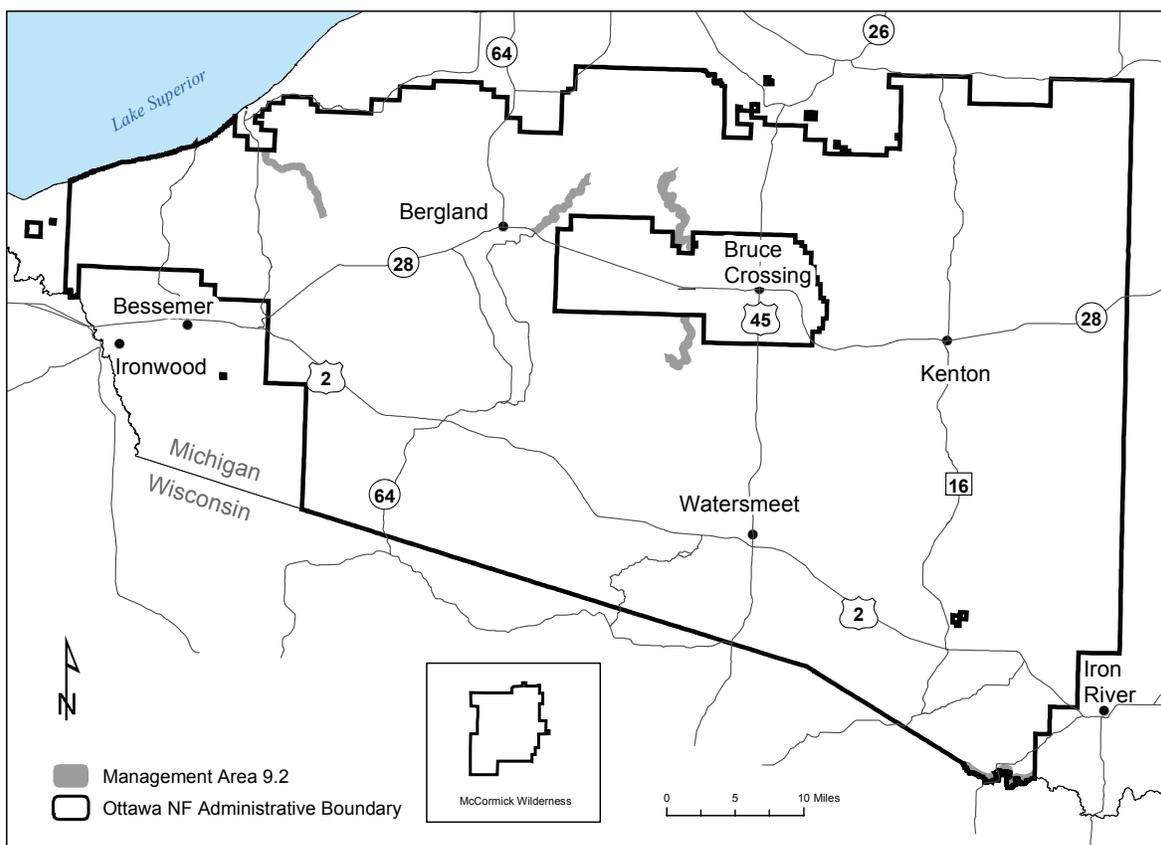
Timber lands are not part of the suitable base. Harvest may occur to protect and enhance the SIA characteristics.

Prohibit commercial special forest products harvest.

Prohibit road construction.

Management Prescription 9.2

Figure 3-16. Management Prescription 9.2



Purpose

This management area will emphasize land and resource conditions that will provide for the interim protection and management of study river corridors on National Forest System lands administered by the Ottawa National Forest. The corridors involved were authorized as National Wild and Scenic Study Rivers in the Michigan Scenic Rivers Act of 1991. The standards and guidelines established for this management area will enable the retention of the existing river environment of these individual river corridors until such time as the appropriate studies can be accomplished to determine if a recommendation for inclusion into the Wild and Scenic Rivers System is warranted.

Area Description

The management area encompasses approximately 13,400 acres, of which about 8,900 acres are NFS lands. This protection and management is being prescribed for the following rivers:

Brule River

Michigan and Wisconsin – The 33-mile segment from Brule Lake in the Northeast (SE) quarter of Section 15, Township 41 North, Range 13 East to the National Forest boundary at the Southeast (SE) quarter of Section 31, Township 41 North, Range 17 East.

Ontonagon River

The 32-mile segment of the Ontonagon as follows:

- (A) The 12-mile segment of the West Branch from the Michigan State Highway 28 crossing to Cascade Falls.
- (B) The 20-mile segment of the South Branch from the confluence of the Cisco Branch and Ten Mile Creek to the confluence with the West Branch Ontonagon.

Paint River

The 70-mile segment as follows:

- (A) 34 miles of the mainstream beginning at the eastern boundary of the Ottawa National Forest in Section 1, Township 44 North, Range 35 West, to the city of Crystal Falls.
- (B) 15 miles of the mainstream of the Net River from its confluence with the east and west branches to its confluence with the mainstream of the Paint River.
- (C) 15 miles of the east branch of the Net River from its source in Section 8, Township 47 North, Range 32 West, to its confluence with the mainstream of the Net River in Section 24, Township 46 North, Range 34 West.
- (D) 14 miles of the west branch of the Net River from its source in Section 35, Township 48 North, Range 34 West, to its confluence with the mainstream of the Net River in Section 24, township 46 North, Range 34 West.

Presque Isle River

The 13-mile segment of the mainstream from Minnewawa Falls to Lake Superior.

Sturgeon River

The 36-mile segment of the mainstream from the source at Wagner Lake in Section 13, Township 49 North, Range 31 West, to the eastern boundary of the Ottawa National Forest in Section 12, township 48 North, Range 35 West.

Desired Condition of the Land

Areas in the management area will be managed to perpetuate the existing river environment. This strategy will enable the river corridors to retain the characteristics that qualify them for consideration as potential additions to the National Wild and Scenic Rivers system.

1900 Land and Resource Management Planning

Standards

These standards and guidelines apply to land within one-quarter of a mile from the normal high water mark on either side of the rivers listed. The standards and guidelines for management of the various segments will protect the rivers, yet not preclude management to their maximum potential under the Wild and Scenic River System. These levels of protection will apply to the river until an eligibility and suitability study is completed. If found suitable, interim river classification will continue until a final determination is made by the U.S. Congress and River Management Plans are developed for each designated river. If the river is determined to be unsuitable, the river will remain under this management direction until such time as Congress removes the river from the listing of Authorized Study Rivers. The river would then be assigned to the management area designation to which it is adjacent.

Plans to study any of these rivers will be consistent with direction in the Michigan Scenic Rivers Acts of 1991 including the appointment of Study River Committees. These studies will be coordinated with other governmental agencies involved including other national forests and the Michigan Department of Natural Resources (Michigan DNR) and local units of government. (In the case of the Brule River, the Wisconsin Department of Natural Resources as well as the Michigan DNR would be involved.)

On private lands, the Forest Service will recommend denial of any permits for proposals that may negatively impact the free flow characteristics or outstanding and remarkable features of a Study River.

2100 Environmental Management

Pesticide Use

Standard

Potential Wild, Scenic, and Recreational River Segment

Allow indigenous insect and plant diseases to play, as nearly as possible, their natural ecological role. If control is deemed necessary for epidemics that threaten adjacent lands or resources, alternative methods will be considered before pesticide is used.

2300 Recreation Management

Recreation Opportunities

Standards

Potential Wild River Segments:

A semi-primitive non-motorized recreation opportunity spectrum (ROS) will be emphasized.

Potential Scenic River Segments

A semi-primitive motorized or non-motorized ROS will be emphasized, consistent with the Management Area designation of adjacent land(s).

Potential Recreational River Segments

A roaded natural or rural ROS will be emphasized.

Developed Sites

Standards

Potential Wild River Segments:

Primitive to semi-primitive recreation facilities, well-screened from the river, are permitted to prevent site deterioration of the current river environment. Substantial additions to existing improvements are prohibited.

Potential Scenic and Recreational River Segments:

Recreation facilities such as campgrounds, picnic areas, launching facilities for watercraft, observation sites, and trailheads may be established.

Dispersed Sites

Standards

Potential Wild River Segments:

The following dispersed facilities are appropriate:

Campsites	Horseback trails
Day hiking trails	Canoe/portage trails and access sites
Backpacking trails	Mountain bike trails

Removal of trees and large woody debris for the clearing of land and water trails is permitted to allow for reasonable safe passage.

Trail density will normally not exceed 3 miles per 1,000 acres. Trails will be maintained at Objective Maintenance Level 1 or 2.

Potential Scenic and Recreational Segments

The following dispersed facilities are appropriate:

Campsites	Cross country ski trails
Day hiking trails	Horseback trails
Backpacking trails	Canoe/portage trails and access sites
Snowmobile trails	OHV trails
Mountain bike trails	

Removal of trees and large woody debris for the clearing of land and water trails is permitted to allow for reasonable safe passage.

Trail density will normally not exceed 10 miles per 1000 acres. Trails will be maintained at Objective Maintenance Levels 2 through 4. New trail construction should emphasize transecting rather than paralleling the river.

Visual Quality

Standards

Potential Wild River Segments

Management activities will meet a VQO of preservation during the river study period.

Potential Scenic River Segments

Management activities will meet a VQO of retention during the river study period.

Potential Recreational River Segments

Management activities will meet a VQO of partial retention during the river study period.

For scenic and recreation river segments, the VQO for specific management activities within the river area may be adjusted one level, either direction, to more quickly meet the long-term management situation and achieve the desired future condition within the river corridor.

Management activities will be designed to maintain and protect the existing river scenery as viewed from the river first and second from within the river corridor.

**Off-Highway Vehicles (OHVs)
Standards**

Manage OHV use to provide for resources protection and public health and safety, and to minimize user conflict.

Potential Wild River Segments:

OHV and snowmobile use will not normally be permitted. A semi-primitive non-motorized recreation opportunity spectrum (ROS) will be emphasized. An occasional snowmobile trail or designated OHV trail may be permitted.

Potential Scenic and Recreational River Segments:

OHV use on designated trails and snowmobile use is permitted on trails and minor roads (Objective Maintenance Levels 1 and 2) where use is not expressly prohibited. Following are examples of where OHV and snowmobile use is not permitted because of public safety concerns or user conflicts:

- Snowmobiles on snow plowed roads
- Major roads maintained for passenger car travel (Objective Maintenance Levels 3 through 5)
- On trails signed as being prohibited; example, a designated hiking or cross-country ski trail

Unless there is a road, trail or area closure posted, snowmobiles are allowed.

2400 Timber Management**Standards****Potential Wild River Segments**

Cutting of trees will not be permitted except when needed in association with a primitive recreation experience (such as clearing for trails and protection of users) or to protect the environment (such as control of fire). Timber outside the boundary but within the viewshed should be managed and harvested in a manner to provide special emphasis to protect the Scenic Condition Level (SCL) of preservation.

Potential Scenic River Segments

Vegetative management will enhance the recreation experience and will maintain the near natural environment of the river corridor. Management activities are not apparent to the casual forest visitor when viewed from the river.

Potential Recreational River Segments

Vegetative management will enhance the recreation experience and maintain the SCL of the river corridor. Management activities may be apparent, but must remain subordinate to the character of the landscape and appear natural when viewed from the river.

Silvicultural Systems**Standards****Potential Wild River Segments**

Vegetation manipulation will be used to enhance and improve the river values within the context of the purposes set for the wild river segments.

Potential Scenic River Segments

A wide range of silvicultural practices are allowed however, river areas should be maintained in their near natural environment. These practices should promote the retention of long-lived tree species, leading toward the development of a big tree character throughout the river area.

Vegetation management practices should be scheduled in conjunction with other resource activities to enhance the visual resource and minimize disruptions of the recreation experience.

Potential Recreational River Segment:

A wide range of silvicultural practices are allowed as long as they are similar in nature and intensity to practices present in the river areas at the time of study authorization. These practices will promote the retention of long-lived tree species, leading toward the development of a big tree character throughout the river area. Vegetation management practices should be scheduled in conjunction with other resource activities to enhance the visual resource and minimize disruptions of the recreation experience.

Reforestation**Standards****Potential Wild River Segments:**

No artificial regeneration will be done for commercial timber production purposes. Selective planting may be made for site stabilization purposes or for river restoration needed to mitigate the effects of previous management activities and enhance river values.

Potential Scenic and Recreational River Segments:

Forestry practices may include a wide range of regeneration methods such as seeding, hand planting, and site preparation for both artificial and natural regeneration.

Harvest Practices**Standards****Potential Wild River Segments:**

Commercial timber harvest is not permitted.

Potential Scenic and Recreational River Segments:

Timber management, harvesting, and related activities will not be emphasized. If timber harvesting practices are initiated within the river corridor they will normally avoid the primary recreation use season.

Potential Recreational River Segments

Timber management, harvesting, and related activities are permitted provided the management activities maintain or enhance the recreation emphasis within the designated river corridor.

2500 Soil, Water, and Air**Standards****Potential Wild River Segments**

Where watershed improvement projects are undertaken, unobtrusive treatment will be prescribed. Only native materials (rocks, logs, and native plants) will be used in restoration work.

Watershed improvements projects will be limited to correcting human-caused resource damage or resource damage from natural disasters, which threaten downstream health and safety.

Highest priority areas for restoration will be resource damage at user-developed sites or along trails adjacent to water bodies.

No flood control dams, levees, or other works are allowed in the channel or river corridor. The natural appearance and primitive character of the river area must be maintained.

Potential Scenic River Segments

Where watershed improvements projects are undertaken, unobtrusive treatment will be prescribed. Only natural materials (rocks, logs, and native plants) will be used in restoration work.

Potential Recreational River Segments

In addition, existing low dams diversion works, rip rap, and other minor structures are allowed provided the waterway remains generally natural and riverine in appearance.

2600 Wildlife, Fish and Sensitive Plants**Standards****Potential Wild River Segments:**

New structures and the improvement of old ones are allowed where they are compatible with the primitive and natural values of the river.

Potential Scenic and Recreational River Segments

River restoration or habitat improvement will emphasize maintenance of essential habitat for wildlife associated with later successional stages of vegetation. Habitat improvement (wildlife

aquatic and native plants) which is natural appearing and which enhances those values that are uniquely a part of the scenic or recreation river experience are permitted.

2700 Special Uses Management

Standards

Potential Wild and Scenic River Segments:

Existing special uses will be evaluated at the termination date, according to objectives for Wild and Scenic Rivers before an extension of use will be granted. Application for new special use permits will be evaluated on a case-by-case basis to determine suitability to the purpose of the potential river segment designation.

Potential Recreational River Segments:

Existing special uses may be continued. Application for new special use permits will be evaluated on a case-by-case basis to determine suitability to the purpose of the potential river segment designation.

2800 Minerals

Federal Minerals

Standards

Potential Wild River Segments

No permit lease or other authorization will be issued for exploration of minerals owned by the United States.

Potential Scenic and Recreational River Segments

Surface-disturbing exploration (including core drilling) may be permitted in areas where reserved and outstanding mineral rights exist. Exploration on federally owned minerals will be permitted where such exploration will not adversely impact the values for which the river is being managed.

Mineral Development

Standards

Potential Wild and Scenic River Segments:

Development of common variety and other minerals on federal administered mineral rights will not be permitted. Development of privately owned minerals on National Forest System land must be conducted in a manner that minimizes surface disturbance, sedimentation, pollution, and visual degradation.

Potential Recreational River Segments

Development of privately owned minerals on National Forest System land must be conducted in a manner that minimizes surface disturbance, sedimentation, pollution, and visual degradation.

Surface disturbance or occupancy for development and extraction of federally owned minerals excluding sand and gravel, will not be permitted.

Where appropriate, sand and gravel may be removed but only with authorization through a special use permit.

Borrow sites must be small, inconspicuous, well screened from the river, and must be restored to a near-natural condition promptly after completion of use.

No sand and gravel may be removed from any area below the ordinary high-water mark.

5400 Land Exchange or Acquisition

Guideline

Potential Wild, Scenic and Recreational River Segments

This management area has the following priorities for land acquisition:

1. Donation
2. Exchange
3. Purchase

7100 Engineering Operations

Standard

Potential Wild, Scenic, and Recreational River Segments:

Property line marking standards to be used are Class C (subdued visibility).

7300 Buildings and Other Structures

Standards

Potential Wild River Segments:

Primitive facilities (including trail bridges) to protect the resource or environmental values are allowed.

Potential Scenic River Segments:

Buildings and structures (including trail bridges) may be provided to support resource management objectives.

Potential Recreational River Segments:

Buildings and structures (including trail bridges) may be provided to support resource management objectives.

7400 Public Health and Pollution Control Facilities

Standard

Solid waste disposal sites or landfills are not permitted.

7700 Transportation System

Roads

Standards

Potential Wild River Segments:

No new construction is permitted within the river corridor.

Potential Scenic River Segments:

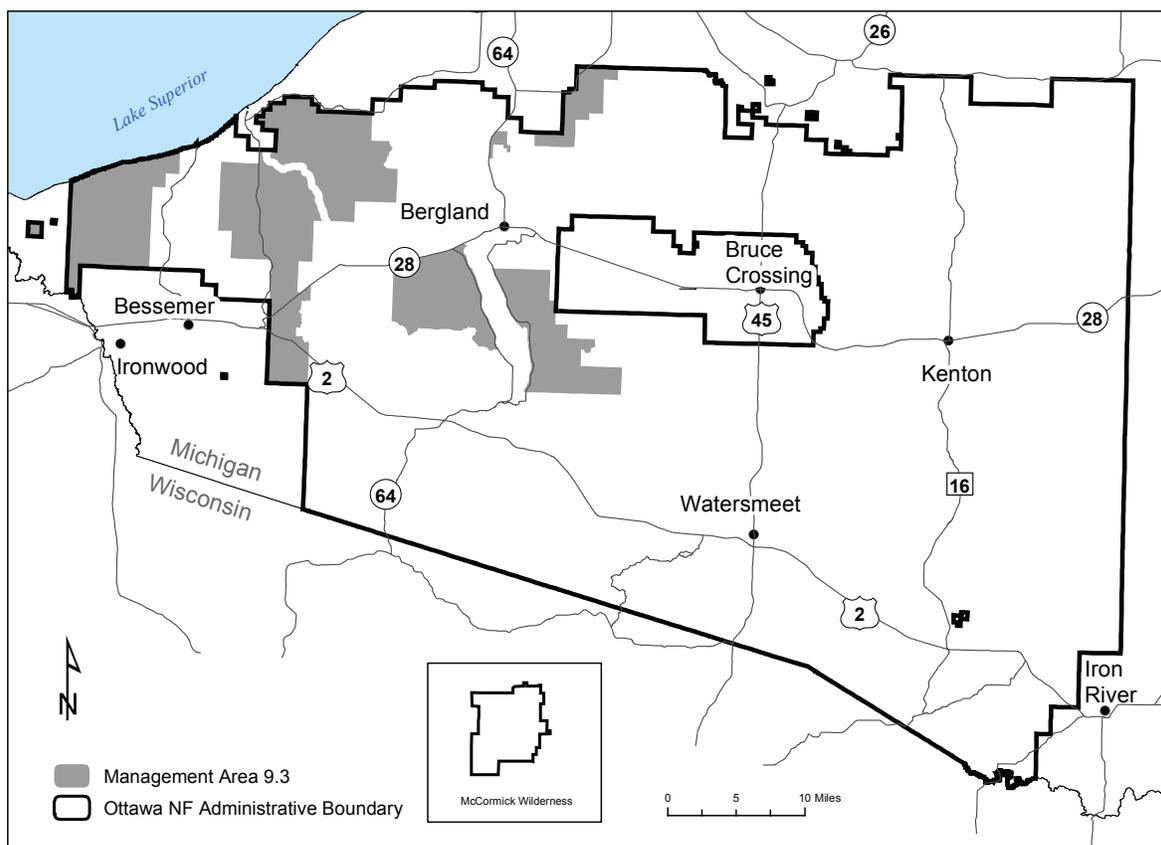
Roads may be retained at the standard currently existing on the ground. Limited reconstruction of existing roads may occur when necessary to control road-caused erosion and sedimentation. Where a thorough resource and transportation analysis reveals the need for newly constructed access (including potential bridging of the river) a well-engineered facility will be required. Proposals for river crossings may be approved where the crossing will not adversely impact the values or change the potential classification for which the river is being managed.

Potential Recreational River Segments:

Limited construction or reconstruction may occur to increase or upgrade access or control road-caused erosion and sedimentation. Existing corridors and river access points should be used whenever possible. New river access may be developed to provide greater resource utilization than provided by existing access points. Additional river crossings may be developed where total number of crossings does not adversely affect other resources, crossing is economically justified, and stream protection is emphasized.

Management Prescription 9.3

Figure 3-17. Management Prescription 9.3



Purpose

This management prescription will maintain the minimum level of management needed to:

- Protect environmental values
- Protect the health and safety of the public

Area Description

The management area encompasses approximately 167,400 acres, of which about 3,200 acres are NFS lands.

Areas allocated to this form of management vary in size and ownership pattern. Many of the parcels that occur in this MA are isolated or small areas of NFS ownership that are surrounded, or nearly so, by other ownerships which makes them difficult to actively manage.

A variety of land conditions occur. In general, little or no vegetation manipulation, development, or capital investment occurs. Whatever conditions exist now are maintained and influenced only by natural forces.

Desired Condition of the Land

The forest vegetation is natural appearing. Management activities include only those needed to protect life, health, and safety of incidental users; to prevent environmental damage caused by water, soil, pests, or fire on land of other ownership or downstream areas; to administer unavoidable non-Forest Service special uses; and to meet other legal requirements. Depending on the area, evidence of human activities such as mineral exploration, incidental recreation use, and salvage logging may occur. Wildlife populations are variable, depending on the management of adjacent lands.

Existing roads and trails provide access to the areas. Existing facilities are generally maintained. Additional facilities or improvements are provided only for protection of the land and public health. Utility corridors and other special use applications are decided on a case-by-case basis.

2300 Recreation Management

Recreation Opportunities Standards

Feature existing recreation opportunities (semi-primitive non-motorized to roaded natural).

Manage existing recreation opportunities without further investment.

Visual Quality Guideline

Apply visual quality objective displayed in the matrix by sensitivity level, distance zone, and variety class.

Table 3-27. MA 9.3 Visual Quality Objectives ¹

Variety Class	Distance Zone-Sensitivity Level						
	Highest Sensitivity			Average Sensitivity			Lowest Sensitivity
	Fore-ground	Middle-ground	Back-ground	Fore-ground	Middle-ground	Back-ground	All Distances
Class A Distinctive	Retention	Partial Retention	Partial Retention	Partial Retention	Modification	Modification	Modification
Class B Common	Partial Retention	Modification	Modification	Partial Retention	Modification	Maximum Modification	Maximum Modification
Class C Minimal	Partial Retention	Modification	Modification	Modification	Maximum Modification	Maximum Modification	Maximum Modification

¹See Appendix G of this document for definitions of terms.

2400 Timber Management

Standard

With the exception of epidemics that threaten adjacent lands or resources, allow indigenous insect and plant diseases to play their natural ecological role.

Make no investments in vegetation management unless needed to protect adjoining lands from pests or fire or to protect the resources and existing investments.

Silvicultural Systems

Standards

Do not schedule commercial harvest of timber from these lands.

Permit timber salvage only for fire hazard reduction, pest management, and prevention of significant resource loss.

Silvicultural Examination

Standard

Schedule silvicultural examination to maintain the inventory of the vegetation and other resource conditions to the extent needed to monitor the changes in timber land suitability and for future Forest Plan revisions.

2500 Soil, Water, and Air

Guidelines

Mitigate erosion with control measures commensurate with the soil characteristics, expected use, and management objectives of the area.

Limit watershed improvement projects to those necessary to maintain environmental values and to protect public health and safety.

2700 Special Use Management

Guideline

Work with utilities to develop vegetation management plans for projects such as pipelines and transmission lines of greater than 34.5 KV. Manage rights-of-way vegetation for wildlife habitat, visual quality, and other resources.

2800 Minerals and Geology

Standard

Permit surface-disturbing exploration for federally owned minerals (including core drilling) in most areas. Permit exploration especially where there is a potential to discover minerals of compelling domestic significance (as defined by U.S. Department of the Interior).

5400 Landownership**Guideline**

Emphasize land adjustment by utilizing NFS lands in the management area to exchange for privately owned lands needed in other management areas to meet management objectives.

7400 Public Health and Pollution Control Activities**Guideline**

Do not develop drinking water sources.

7700 Transportation System**Guideline**

Provide roads only as needed for access to adjacent areas or to protect resources.

References

Cleland, C.T., T.R. Crow, S.C. Saunders, D.I. Dickmann, A.L. Maclean, J.K. Jordan, R. L. Watson, A.M. Sloan, and K.D. Brosofske., 2004b. Characterizing Historical and Modern Fire Regimes in Michigan (USA): A Landscape Ecosystem Approach. *Landscape Ecology*, 19:311-325.