

DECISION NOTICE/DESIGNATION ORDER

Decision Notice Finding of No Significant Impact Designation Order

By virtue of the authority vested in me by the Secretary of Agriculture under regulations 7 CFR 2.42, 36 CFR 251.23, and 36 CFR Part 219, I hereby establish the McCaslin Mountain Research Natural Area. It shall be comprised of lands described in the section of the Establishment Record entitled "Location."

The Regional Forester has recommended the establishment of this Research Natural Area in the Record of Decision for the Nicolet National Forest Land and Resource Management Plan. That recommendation was the result of an analysis of the factors listed in 36 CFR 219.25 and Forest Service Manual 4063.41. Results of the Regional Forester's Analysis are documented in the Nicolet National Forest Land and Resource Management Plan and Final Environmental Impact Statement which are available to the public.

The McCaslin Mountain Research Natural Area will be managed in compliance with all relevant laws, regulations, and Forest Service Manual direction regarding Research Natural Areas. It will be administered in accordance with the management direction/prescription identified in the Establishment Record.

I have reviewed the Nicolet Land and Resource Management Plan (LRMP) direction for this RNA and find that the management direction cited in the previous paragraph is consistent with the LRMP and that a Plan amendment is not required.

The Forest Supervisor of the Nicolet National Forest shall notify the public of this decision and will mail a copy of the Decision Notice/Designation Order and amended direction to all persons on the Nicolet National Forest Land and Resource Management Plan mailing list.

Based upon the Environmental Analysis, I find that designation of the McCaslin Mountain Research Natural Area is not a major Federal action significantly affecting the quality of the human environment (40 CFR 1508.27).

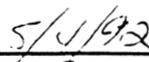
This decision is subject to appeal pursuant to 36 CFR Part 217. A Notice of Appeal must be in writing and submitted to:

The Secretary of Agriculture
14th & Independence Ave., S.W.
Washington, D.C. 20250

Any appeal of this decision must include the information required by 36 CFR Part 217.9 including the reasons for appeal. Two (2) copies of the Notice of Appeal must be filed with the Secretary of Agriculture within 45 days from the date of legal notice of this decision in the Federal Register. Review by the Secretary is wholly discretionary. If the Secretary has not decided within 15 days of receiving the Notice of Appeal to review the Chief's decision, appellants will be notified that the Chief's decision is the final administrative decision of the U.S. Department of Agriculture (36 CFR 217.7(a)).



for Chief



Date

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

ESTABLISHMENT RECORD FOR MCCASLIN MOUNTAIN
RESEARCH NATURAL AREA WITHIN THE
NICOLET NATIONAL FOREST, FOREST COUNTY, WISCONSIN



MCCASLIN MOUNTAIN

EXHIBITS

Exhibit 1: Location Map

Exhibit 2: Proximity Map

Exhibit 3: Topographic Map

Exhibit 4: Ownership Map

Exhibit 5: Cover Type Map

Exhibit 6: Photographs

USDA-FOREST SERVICE PHOTOGRAPHIC RECORD (See FSM 1643.52)	PHOTOGRAPHER Eric Epstein	DATE SUBMITTED 09/01/88
	HEADQUARTERS UNIT Nicolet N.F.	LOCATION Forest County, Wisconsin

INITIAL DISTRIBUTION OF PRINTS AND FORM 1600-11

WO
 RO
 DIV.
 FOREST
 DISTRICT
 PHOTOGRAPHER
 Date October, 1986

INSTRUCTIONS: Submit to Washington Office in quadruplicate. Permanent numbers will be assigned and the forms will be distributed as follows: (1) Washington Office, (2) RO or Station, (3) Forest or Center and (4) Photographer.

PHOTOGRAPH NUMBER		SELECTED FOR W.O. PHOTO LIBRARY	DATE OF EXPOSURE	LOCATION (State, Forest, District and County)	CONCISE DESCRIPTION OF VIEW	NEGATIVE (Show size and BW for black and white or C for color) (7)
TEMP.	PERMANENT (To be filled in by the WO)					
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.			Sep.86	NICOLET NATIONAL FOREST, LAONA RANGER DISTRICT, FOREST COUNTY, WISCONSIN: Sec. 35&36 T34N, R16E	McCaslin Mountain Research Natural Area - Mature hardwood stand dominated by red oak and beech.	C - slide
2.			"	"	McCaslin Mountain Research Natural Area - Groundcover of Wood Betony and Big-leaved Aster under canopy of mature red oak and beech.	"
3.			"	"	McCaslin Mountain Research Natural Area - Foliose lichens on quartzite outcrop.	"
4.			"	"	McCaslin Mountain Research Natural Area - Second-growth northern hardwood poletimber.	"
5.			"	"	McCaslin Mountain Research Natural Area - Quartzite outcrop near summit ridge.	"
6.			"	"	McCaslin Mountain Research Natural Area - Logging skid trail east of RNA boundary.	"



PHOTO 1: McCaslin Mountain RNA - Mature hardwood stand dominated by red oak and beech.



PHOTO 2: McCaslin Mountain RNA - Groundcover of Wood Betony and Big-leaved Aster under canopy of mature red oak and beech.



PHOTO 3: McCaslin Mountain RNA - Foliose lichens on quartzite outcrop.

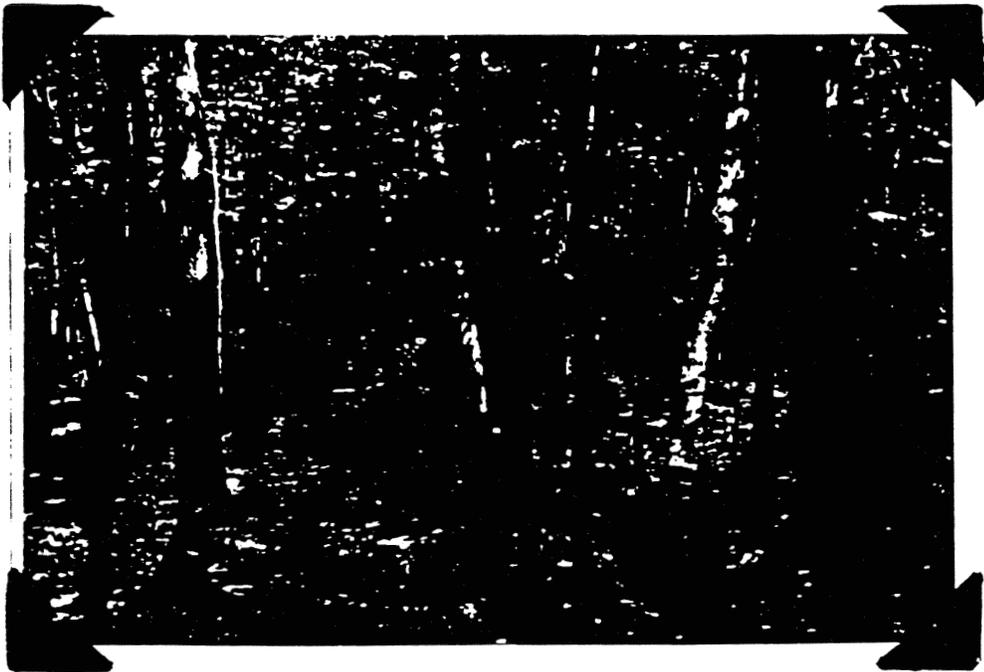


PHOTO 4: McCaslin Mountain RNA - Second-growth northern hardwood poletimber.



PHOTO 5: McCaslin Mountain RNA - Quartzite outcrop near summit ridge.



PHOTO 6: McCaslin Mountain RNA - Logging skid trail east of RNA boundary.

McCaslin Mt. RNA
Laona R.D.
Nicolet N.F. #1



hardwood stand

McCaslin Mt. RNA
Laona R.D.
Nicolet N.F. #2



ground vegetation

McCaslin Mt. RNA
Laona R.D.
Nicolet N.F. #3



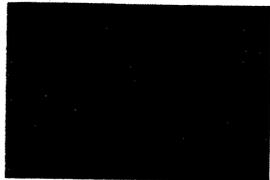
Lichens on rock
outcrop

McCaslin Mt. RNA
Laona R.D.
Nicolet N.F. #4



hardwood patchfinder

McCaslin Mt. RNA
Laona R.D.
Nicolet N.F. #5



quartzite outcrop

McCaslin Mt. RNA #6
Laona R.D.
Nicolet N.F.



skid trail - outside
of RNA boundary

SIGNATURE PAGE

for

RESEARCH NATURAL AREA ESTABLISHMENT RECORD

McCaslin Mountain Research Natural Area

Nicolet National Forest

Forest County, Wisconsin

The undersigned certify that all applicable land management planning and environmental analysis requirements have been met, and that boundaries are clearly identified in accordance with FSM 4063.21, Mapping and Recordation, and FSM 4063.41 5.e(3) in arriving at this recommendation.

Prepared by *Fred Fouse* Date 9/9/91
Fred Fouse, Forestry Technician, Nicolet National Forest

Recommended by *Darrell E. Richards* Date 9/16/91
Darrell Richards, Acting District Ranger, Laona District

Recommended by *Michael B. Hathaway* Date 9/23/91
Michael B. Hathaway, Forest Supervisor, Nicolet National Forest

Recommended by *Jim Jordan* Date 10/18/91
Floyd J. Marita, Regional Forester, Eastern Region

Recommended by *R. D. Lindmark* Date 10/31/91
Ronald D. Lindmark, Station Director, North Central Forest and Range Experiment Station

TITLE PAGE

Establishment Record for McCaslin Mountain
Research Natural Area within the Nicolet
National Forest, Forest County, Wisconsin

INTRODUCTION

McCaslin Mountain Research Natural Area (RNA) lies entirely on lands administered by the Nicolet National Forest in Forest County, Wisconsin. A location map (Exhibit 1), proximity map (Exhibit 2), topographic map (Exhibit 3), land ownership map (exhibit 4), cover type map (Exhibit 5), and color photographs (Exhibit 6) are attached to this report.

Recognition of the natural qualities of the McCaslin Mountain tract lead to its listing as a Candidate RNA early in 1986. During the summer of 1986 the area was inspected by biologists from the Wisconsin Department of Natural Resources (WDNR) Bureau of Endangered Resources. They gathered basic data on the biota of the candidate RNA, assessed quality, condition and extent of the natural features there, and developed recommendations for protection status, management area boundaries, and management strategies.

McCaslin Mountain was included in the list of candidate Research Natural Areas in the Nicolet National Forest Final Environmental Impact Statement (FEIS) in Chapter III, pages 8-9. The FEIS listed this RNA as being 185 acres (75 ha) in size.

The RNA is part of a four-mile long quartzite hill, with local relief of over 200 feet (60 m), that runs generally east-west. Such shallow-to-bedrock features are not common on the Nicolet National Forest because most the Forest is covered by 50 feet (15 m) or more of glacial drift. The combined effects of macroclimate, physiography, bedrock and glacial geology, soil, and vegetation within the RNA make it a distinctive natural feature.

The RNA supports a hardwood-dominated forest representative of Society of American Foresters (SAF) Cover Type 55: Red Oak, and Cover Type 60: Beech/Sugar Maple. Kuchler (1966) cover type, representing potential natural vegetation is Number 97: Northern Hardwoods.

EA decision made 4/9/90 (Appendix G) recommends designation and sets the boundary for the RNA. Included within the RNA as a result of logical boundary location and to protect the ridge complex are some areas of dense aspen (Populus, sp.) regeneration resulting from clearcut harvests from 1977 to 1982. (Appendix H - Logging History) The hardwood timber up on the ridge of McCaslin Mountain is one of the distinguishing natural features. It was subject to harvest during the old growth logging era in the early decades of this century. Cutting would have occurred prior to the Forest Service acquisition of the properties within the RNA from 1934 to 1938.

Timber inventory data lists the years of origin of stands variously from 1916 to 1941. It is likely that most logging took place by the mid-1920's and the residual timber and natural regeneration was affected by subsequent wildfire. Section 35 was purchased from the Menominee Bay Shore Lumber Company in 1934, along with thousands of acres of other land in the vicinity. This land would have been sold only after depletion of the timber resource. The intensity of cutting varied, probably due to the nature of the timber at that time. More trees from the original stand would have been left where size was small and log quality or species merchantability was poor.

Evidence suggesting past logging and fire history is found in the dominant vegetation. There are very old pine cut stumps and overstory hardwoods of stump sprout origin. Overstory trees with good log quality now occupying the site were of sub-merchantable size some 70 years ago. Defective overstory trees with old wounds on the lower bole are not uncommon and this suggests fire damage from perhaps 50 years or more in the past. Large bigtooth aspen (Populus grandidentata) and paper birch (Betula papyrifera) in the overstory also suggest fire and logging disturbance from many decades ago.

Much of the forest in northern Wisconsin was subject to successive waves of selective logging as different species and lower quality timber became merchantable. It is not unlikely that McCaslin Mountain has a similar logging history. Since the time of old growth logging prior to the beginning of the National Forest in the 1930's, the hardwood ridge has remained undisturbed. Forest Service management has been custodial in nature since acquisition and there has been no timber harvest on the ridge.

There are no known currently listed Federal endangered or threatened flora or fauna species in the RNA. There is suitable habitat and recorded sightings of the cerulean warbler (Dendroica cerulea)[1], a species which has been added to the State of Wisconsin's "Threatened" list. Large tracts of mature upland forest provide suitable habitat for this species in northern Wisconsin. The presence of cerulean warblers on McCaslin Mountain has been documented by Wisconsin Department of Natural Resources specialists.

LAND MANAGEMENT PLANNING

The Regional Guide for the Eastern Region emphasizes in Management Goal 8 (Appendix A):

- (a) The preservation of unique ecosystems for scientific study.
- (b) Areas to conduct research to improve the benefits of forests and rangeland.
- (c) The protection of unique areas of national significance.

The McCaslin Mountain RNA is included in the Nicolet National Forest FEIS (Appendix B) list of candidate RNA's. All candidate RNA's have been included in Management Area 8.1 in the Land and Resource Management Plan (Forest Plan) (Appendix C) for the Nicolet National Forest. The Record of Decision (ROD) (Appendix D) for the Forest Plan makes a decision to protect candidate research natural areas until an evaluation of suitability for designation is completed.

Most of the area surrounding the RNA has been designated Management Area 3.2 in the Forest Plan which emphasizes an even age hardwood forest, wildlife associated with a variety of tree stands, and semi-primitive motorized recreation. Adjacent to a portion of the southern boundary of the RNA is an area that has been designated Management Area 4.2 which emphasizes upland softwood forest, wildlife associated with coniferous vegetation, and semi-primitive motorized recreation. The RNA lies within portions of record keeping compartments 170 and 171 on the Laona District, Nicolet National Forest.

[1] Authorities for common and scientific names listed in References.

OBJECTIVES

A Research Natural Area is a physical or biological unit in which current natural conditions are maintained insofar as possible. These conditions are ordinarily achieved by allowing natural physical and biological processes to prevail without human intervention. However, under unusual circumstances, deliberate manipulation may be utilized to maintain the distinctive feature that the Research Natural Area was established to protect.

The general objectives for establishing the McCaslin Mountain RNA are:

1. To preserve a representative area that typifies important natural forest situations for research, study, observation, monitoring, and those educational activities that maintain unmodified conditions.
2. To preserve and maintain genetic diversity.
3. To protect against serious environmental disruptions.
4. To serve as reference areas for the study of succession.
5. To provide on-site and extension educational activities.
6. To serve as a baseline area for measuring long-term ecological changes.
7. To serve as a control area for manipulative research.
8. To monitor effects of resource management techniques and practices.

Research natural areas may be used only for research, study, observation, monitoring, and those educational activities that maintain unmodified conditions and natural processes. Research natural areas also may assist in carrying out provisions of special acts, such as the Endangered Species Act.

JUSTIFICATION

Establishment of this tract as a RNA will increase the level of protection and recognition of the quartzite hill and knoll complex, and its components of climate, geological parent material, physiography, soil, vegetation, and wildlife. Within the Nicolet National Forest, there are few shallow-to-bedrock ecosystems. There are several similar quartzite hills in the vicinity of McCaslin Mountain with similar vegetation, but they are smaller and not as good a representative example of this type of natural feature.

The total acreage of shallow soils overlying bedrock is low on the Nicolet. The largest delineated area of such soil is within the McCaslin Mountain RNA.

The overstory vegetation is a beech/oak/maple association which is uncommon in Wisconsin. There are only five examples of this association with varying levels of protection on State lands, and only two of these lie within a larger forest matrix.

Component species of the forest types within the RNA include some at the edge or extremes of their range. The McCaslin Mountain area is at the western edge of the range of the American beech (Fagus grandifolia). White oak (Quercus alba) is present, at the northern extreme of its range in this area. Witch hazel (Hamamelis virginiana) is present in the shrub layer. It is north of its normal range.

The Regional Guide for the Eastern Region, Table 3-21, lists SAF Cover Type 55 - Northern Red Oak as priority number 2 in the Lake States for representation as a Research Natural Area. Priority number 2 cover types are currently represented by one site in the Region.

Landform, vegetation and microclimates in the RNA combine to create unique wildlife habitats. The cerulean warbler has been observed within the RNA along with other species such as the wood thrush (Hylocichla mustelina) that nest in mature hardwood timber. There is a potential nesting site for turkey vultures (Cathartes aura) within the RNA, a species at the northern periphery of its breeding range. Black bear (Ursus americanus), white-tailed deer (Odocoileus virginianus), gray squirrels (Sciurus carolinensis) and many other more common animals are attracted to the McCaslin Mountain area by food resources such as oak mast, thermal amenities of the south-facing slopes, and the cover provided by rock structure.

PRINCIPAL DISTINGUISHING FEATURES

The McCaslin Mountain RNA is an excellent representative example of a quartzite hill and knoll complex, the best example of such an ecosystem on the Nicolet National Forest or in the vicinity. This ecosystem is a unique product of intergrading components of climate, geologic parent material, physiography, soil, vegetation, and wildlife. Specific distinctive features include a mature mesic hardwood association of beech, northern red oak (Quercus rubra) and sugar maple (Acer saccharum); a white oak component; perched wetlands and vernal ponds; exposed bedrock structure; and nesting habitats for the cerulean warbler and turkey vulture.

LOCATION

McCaslin Mountain RNA is on the Laona Ranger District of the Nicolet National Forest in Forest County, Wisconsin. The Supervisor's Office of the Nicolet National Forest is located at Rhinelander, Wisconsin.

Latitude is 45° 22' 52" north; longitude is 88° 27' 12" west.

Access

The area may be reached with a sedan vehicle by driving east and north from Lakewood, Wisconsin on County Road F approximately 6.3 miles and then turning west on Forest Road 2141 for approximately 2.1 miles. (Forest Road 2141 may not be driveable during the winter months if not snowplowed, or during spring breakup when the gravel surface may be soft.)

The west boundary of the RNA is along FR-2141. The south boundary of the RNA is defined by FR-2673, which joins FR-2141 from the east. Forest Road 2673 is driveable the entire length of the south boundary when dry. Access to most of the interior of the RNA is best gained off of this road. The north boundary comes out to FR-2141 a short distance north of the intersection of FR-2141 and FR-2671, which joins FR-2141 from the east. (See Map Exhibits 2 and 3.)

Maps

In addition to the location map, proximity map, site topographic map, cover type map, ownership map, and cover type map included as Exhibits 1 through 5 of this report, further details regarding this area may be found on the McCaslin Mountain, Wisconsin topographic quadrangle map (USGS 7.5 series). This quadrangle map is available at the Laona District Office in Laona, Wisconsin or in the Supervisor's Office in Rhinelander, Wisconsin.

Photos

Six color photographs are included in Exhibit 6 of this report.

Forest Service aerial photographs 486-95 and 486-96 for flightline 16 taken in May, 1986 cover this area. These photos are available at the Laona District Office in Laona, Wisconsin or in the Forest Supervisor's Office in Rhinelander, Wisconsin.

Elevation

The elevation within the RNA ranges from 1360 feet (415m) to 1609 feet (490m).

Boundary

The following parcel of land also known as McCaslin Mountain Research Natural Area and being located in Sections 35 and 36, Township 34 North, Range 16 East, Fourth Principal Meridian, Forest County, Wisconsin and further described as follows:

Commencing at the East One-sixteenth corner common to Sections 25 and 36, the point of beginning of this description, thence,

Westerly along the section line to the West-East One-sixty-fourth corner common to said Sections 25 and 36, thence,

Southwesterly to a point on the section line to Sections 35 and 36 being 500 feet north of the Quarter corner to said Sections 35 and 36, thence,

Westerly to a point 50 feet south and east of the intersection of Forest Road 2671 and Forest Road 2141, thence,

Southerly along a line 50 feet east of the centerline of Forest Road 2141 to a point 50 feet north and east of the intersection of Forest Road 2141 and Forest Road 2673, thence,

Easterly along a line 50 feet north of the centerline of Forest Road 2673 to a point 50 feet north of the intersection of the centerline of Forest Road 2673 and the East One-sixteenth line of Section 36, thence,

Northerly along said East One-sixteenth line back to the point of beginning.

Area

This Research Natural Area occupies 524 acres (212 hectares).

AREA BY COVER TYPES

1. Society of American Foresters Types

The hardwood stands within the RNA are composed primarily of red oak and associated species such as beech, sugar maple, big-toothed aspen, basswood (Tilia americana), white ash (Fraxinus americana), yellow birch (Betula alleghaniensis), paper birch and some white oak. Most of the hardwood timber falls within SAF (Eyre, 1980) cover type No. 55 - Northern Red Oak. Other upland hardwood stands are in beech and maple types, No. 60 - Beech/Sugar Maple and No. 26 - Sugar Maple/Basswood.

The other major forest type is SAF type No. 16 - Aspen. Most of aspen acreage within the RNA was harvested and regenerated by clearcutting from 1976 to 1981. (See Appendix G - Cutting History) None of the acres within these aspen harvest areas on the north side of the RNA are part of the distinguishing natural features for which the RNA is established. These stands are included as a result of logical boundary location. They have value in that they will be a protected space between the north boundary and the distinguishing natural features on the ridge. They would also offer an opportunity for long term study of aspen regenerated by timber harvest.

There is on small stand of lowland hardwoods and some scattered nonforested acres in upland openings, rock outcrops and roadway clearing on the RNA boundaries. Summary of types is as follows:

No. 60 - Beech/Sugar Maple	25 acres (10 ha.)
No. 55 - Northern Red Oak	282 acres (114 ha.)
No. 39 - Black Ash/American Elm/Red Maple	9 acres (4 ha.)
No. 26 - Sugar Maple/Basswood	9 acres (4 ha.)
No. 16 - Aspen	191 acres (77 ha.)
nonforested upland	8 acres (3 ha.)
	<u>524 acres (212 ha.)</u>

2. Curtis Community Types (Curtis, 1959)

There is an intergradation of Curtis types within the RNA, ranging from wet-mesic to dry-mesic. The small area of lowland hardwoods fits the Wet-Mesic Northern Forest classification. Upland hardwoods dominated by sugar maple and beech are within the Mesic Northern Hardwood classification, while the areas dominated by red oak may grade into a Dry-Mesic Northern Hardwood situation.

More xeric sites, at higher elevations on the ridge and shallow-to-bedrock with a southern aspect, may be classified as Dry Northern Forest. However, the white oak component in places is suggestive of the Dry Southern Forest type which Curtis places south of the tension zone in his plant community key.

3. Kuchler Cover Types

Presettlement vegetation is thought to have been within Kuchler's (1966) classification No. 94 - Mixed Mesophytic Forest - a complex dominated by maple, beech, red oak, basswood, and hemlock (Tsuga canadensis). Kuchler classifications are based on the climax vegetation expected to develop in the absence of disturbance.

PHYSICAL AND CLIMATIC CONDITIONS

The regional climate is continental, characterized by long, often severely cold winters and relatively short summers with warm days and cool nights. Spring and fall are often short, with the transition from winter to summer and summer to winter quite rapid. Changes in weather from late fall to early spring can be expected every few days as frequent storms pass through the area along the Colorado and Alberta weather tracks. Prevailing winds are northwest to westerly late fall to early spring and from the south the rest of the year.

The McCaslin Mountain area is within a homogeneous macroclimatic zone classified as Homocline No. 4 by Rauscher (1984). The average temperature in January is 12°F (-11°C) and the average minimum temperature in January is 3°F (-16°C). The average temperature in July is 70°F (21°C) and the average maximum temperature in July is 82°F (28°C). The average annual frost-free period is 134 days. In comparison, the average annual frost-free period on most of the Nicolet National Forest which lies to the north is 112 days.

Average annual precipitation is 32 inches (810 mm). The average annual total snowfall is 46 inches (117 cm). Mean annual total hours of sunshine is 2,400, in comparison to 2,300 for the northern portion of the Nicolet.

Base data used by Rauscher was compiled using readings from the National Oceanic and Atmospheric Administration (NOAA) network of climatological data stations. [The nearest NOAA stations to McCaslin Mountain as mapped by Rauscher appear to be at the town of Wabeno, 10 miles (17 km) to the northwest, and at Townsend, 8 miles (13 km) to the southwest.] Wabeno has an elevation of about 1550' (472 m) and Townsend has an elevation of about 1350 feet (411 m). Elevation within the McCaslin Mountain RNA ranges from 1360 to 1609 feet (415 m to 490 m).

DESCRIPTION OF VALUES

1. Flora

The RNA supports a hardwood forest dominated by red oak, beech, sugar maple, and big-toothed aspen. Associates present include white ash, basswood, paper birch, yellow birch, and hemlock, along with a few widely scattered white pine (Pinus strobus). Seedling and sapling class beech and sugar maple are established in abundance and in some places a subcanopy of ironwood (Ostrya virginiana) is present.

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There is a generally sparse shrub layer. The more common species are beaked hazelnut (Corylus cornuta), fly honeysuckle (Lonicera canadensis), bush honeysuckle (Diervilla lonicera) round-leaved dogwood (Cornus rugosa) and maple leaved viburnum (Viburnum acerifolium). Witch hazel is found on south slopes.

There is considerable variation in the composition of the herb layer within the RNA. Species that are at least locally characteristic are Pennsylvania sedge (Carex pensylvanica), big-leaved aster (Aster macrophyllus), wild sarsaparilla (Aralia nudicaulis), wood betony (Pedicularis canadensis), lady fern (Athyrium angustum) and interrupted fern (Osmunda claytoniana). At least five parasitic or saprophytic species are found within the RNA, including beech drops (Epifagus virginiana), squawroot (Conopholis americana), spotted coral root (Corallorhiza maculata), Indian pipe (Monotropa uniflora), and pinesap (M. hypopithys).

Rock outcrops at the summit of McCaslin Mountain support species such as pink corydalis (Corydalis sempervirens), rock spikemoss (Selaginella rupestris), and bearberry (Artostaphylos uva-ursi). Masses of lichens vegetate much of the exposed bedrock.

No Federal listed endangered or threatened species, or species of special concern, are known to occur within the RNA. There is one State of Wisconsin listed "Threatened" species, the cerulean warbler.

Ecological Land Types (Appendix F) are:

Stambaugh- Padus ELT	82 acres (33 ha.)
Sarona-Keweenaw ELT	98 acres (40 ha.)
Michigamme Rock Outcrop Complex	344 acres (139 ha.)
	524 212 ha.

2. Fauna

Common mammals on McCaslin Mountain are the white-tailed deer, black bear, gray squirrel, porcupine (Erethizon dorsatum), eastern chipmunk (Tamias striatus), and fisher (Martes pennanti). Birds present are those characteristic of large tracts of mature hardwood timber, including the cerulean warbler, wood thrush (Hylocichla mustelina), yellow-throated vireo (Vireo flavifrons), least flycatcher (Empidonax minimus), eastern wood peewee (Contopus virens), red-eyed vireo (Vireo olivaceus), ovenbird (Seiurus aurocapillus), and scarlet tanager (Piranga olivacea). The wood thrush and yellow-throated vireo generally inhabit forest types lacking conifers and are more common to southern Wisconsin.

The presence of the cerulean warbler is significant in that it prefers large tracts of mature stands of timber composed of large canopy trees. It is sensitive to forest fragmentation and is vulnerable to cowbird (Molothrus ater) parasitism. Because of low numbers and spotty distribution, the cerulean warbler is now on the State of Wisconsin's "Threatened" list.

Turkey vultures have been observed over McCaslin Mountain. The RNA includes a potential nest site. This area would be at the northern periphery of their nesting range, but they have apparently been extending their nesting range northward.

Wild turkeys are present on the Lakewood Ranger District and have been observed within three miles (4.8 km) to the southeast of the RNA. (Zimmer, G., pers. comm.) McCaslin Mountain, with its oak and beech mast, and potential roost sites, appears to be suitable habitat for turkeys.

3. Geology

A distinctive feature of the RNA is the bedrock outcroppings that are at or near the surface. Such shallow-to-bedrock outcroppings are not common on the Nicolet National Forest because most of the Forest is covered by 50 feet (15 m) or more of glacial drift. Quartzite hills are not unique in northern Wisconsin, but the size of McCaslin Mountain makes it an outstanding example.

There is a major change in glacial material at this point on the Forest. The material on the north side of McCaslin Mountain was deposited by the Langlade Lobe and the glacial material on the south side was deposited by the Green Bay Lobe during the Wisconsin ice advance. These lobes, from two different directions, flowed over different parent rock and therefore deposited glacial till and outwash that differ significantly. The glacial drift of these two lobes meets at many other places on the Forest, but not with an exposed quartzite hill in between. (Hoppe, Dave, Nicolet Soil Scientist, pers. comm.)

4. Soils

Soils in this area are unique where development occurred shallow-to-bedrock. This unit is called Michigamme Rock Outcrop Complex in the soil resource inventory. Total acreage of this soil type across the Forest is very low and the largest delineation of it is on McCaslin Mountain. Soil of the Green Bay Lobe parent material south of the ridge is called Sarona. This unit occurs in large acreages from McCaslin Mountain south and west across the Lakewood Ranger District, so it is not unique to the area. The Padus soil which developed from the Langlade Lobe parent material on the north side of the ridge is found extensively across the Forest on pitted and unpitted outwash plains. (Hoppe, Dave, Nicolet Soil Scientist, pers. comm.)

5. Lands

The McCaslin Mountain RNA includes only National Forest lands. Part of the mineral estate within the RNA is owned by the United States and part is not. See discussion of minerals under "Impacts and Possible Conflicts" on page 11.

6. Cultural Resources

Cultural Resource surveys were conducted in the McCaslin Mountain area in 1982, 1983 and 1985. Six historic sites have been located in the general area. All sites include surface features and have not been evaluated. The two sites within the RNA, the McCaslin Fire Lookout (tower removed) and a historic period hunter's camp remnant, do not appear to meet the National Register of Historic Places eligibility criteria.

Local folk history suggests there was an attempted mining operation on McCaslin Mountain that resulted in a vertical and horizontal mine shaft. The site reportedly is in Marinette County and there is no documented evidence to indicate it is within the RNA.

1. Mineral Resources

The 1982 Mineral Inventory Report for the Nicolet National Forest by Marion J. Malinowski, U.S. Minerals Management Service states that the McCaslin Mountain quartzite and pebble conglomerate is an area of exploration interest. There are four major areas of the world known to contain quartz pebble conglomerates enriched in uranium and/or gold; one in South Africa, one in Brazil, and two in Canada in the Northwest Territories and the Province of Ontario.

The McCaslin conglomerate unit is thought to be similar to the other quartz pebble conglomerates in that they all appear to be of the same age (middle Precambrian), have equivalent composition and lithology, are located near the edge of the Precambrian shield, and may have had source rocks that contained uranium (Anderson, 1979). Kalliokoski (1976) describes a radioactive anomaly in the McCaslin Quartzite in his reconnaissance study of known uranium and thorium occurrences in Wisconsin and the Upper Peninsula of Michigan. A reported find of uranium-bearing quartz-pebble conglomerate near McCaslin Mountain has not been confirmed.

According to Anderson's study in 1979, it is unlikely that economic grade uranium occurrences within middle Precambrian metasediments (such as the McCaslin Quartzite) will be located by surface exploration methods. Only a minor percentage of these formations, which all occur as steeply dipping prominent ridges, are exposed. Outcrops are scarce along the ridges, so subsurface exploration would probably be the most successful method of locating economic radioactive mineralizations.

The Regional Office for the Minatome Corporation (P.O. Box 2334, 101 Hooper Street, Kingsford, Michigan 49801; telephone 906-774-6894 or 774-6895) proposed in writing on January 1, 1981 to Marion Malinowski, Staff Geologist, U.S. Geological Survey, Washington, D.C. that both entire townships of T34N, R16E and T34N, R17E be designated as areas of moderate to high mineral potential.

In a portion of the McCaslin Mountain RNA, Section 35 of T.34N., R.16E., mineral ownership was reserved by the Menominee Bay Shore Lumber Company when the land was sold to the federal government in 1934. Wisconsin statute enacted in 1987 permits surface owners to acquire subsurface rights when those rights have not been exercised within 20 years prior to 1986. The Nicolet National Forest has initiated an active program to acquire all such mineral rights in National Forest System lands. The Menominee Bay Shore Lumber Company ceased to exist many decades ago and it is not likely there was a corporate successor. Land sale was the last act of most of the timber companies of that era if they didn't simply abandon their holdings after timber harvest. It is likely mineral rights can be acquired by the United States.

Mineral ownership in the remainder of the RNA, in Section 36, is held by the United States. In an area adjacent to the RNA on the south, the N1/2NW, Section 1, T33N, R16E, mineral ownership has been reserved by Oconto County, the previous owner. The remainder of the mineral estate in the north one-quarter of Sections 1 and 2, T33N, R16E is owned by the United States.

2. Grazing

There is no grazing resource located within or adjacent to the RNA. There is no demand for range grazing on the Nicolet National Forest.

3. Timber

The timber management Standards and Guidelines in the Forest Plan for a Management Area 8.1 are consistent with the special management area objective. The timber resource will not be regulated; that is, timber management practices will not take place within the RNA. Management Area 8.1 is excluded from the land base allocated to timber production.

Approximately 500 acres (202 ha.) of suitable forest land is withdrawn by establishment of this RNA. (Compartment records indicate 515 acres (208 ha.) are suitable, but inclusions of steep slopes and rock outcrops reduce that figure slightly.) (The Nicolet FEIS previously withdrew 185 acres (74 ha.) These 500 acres are capable of producing an annual growth of approximately 180,000 board feet (807 cubic meters) of commercial mixed hardwood sawtimber per year. This estimate is based on the average productivity of the soil types in the RNA.

The old McCaslin Mountain Timber Sale (Contract 06-1269) was awarded in 1975 to the Great Northern Pulp Company, Inc. of Laona, Wisconsin. It included several payment units in the immediate vicinity of McCaslin Mountain. Aspen clearcut units which extend into the RNA from the north were harvested from 1976 to 1981. Approximately 167 acres (68 ha.) of the 191 acres (77 ha.) of aspen type listed for the RNA originated from the harvests of that time period. These areas are well stocked with aspen saplings resulting from the abundant root suckering stimulated by clearcutting. Some trees marked with blue, orange and yellow paint are scattered within the RNA boundary dating from these past timber sale activities.

The Battle Creek Timber Sale awarded by the Lakewood District in September, 1986 is expected to be completed by September, 1991. Some of the cutting units lie adjacent to FR-2141 and FR-2673 outside of the RNA. The RNA is of sufficient size to maintain distinguishing features without being influenced by silvicultural activities outside of its borders.

4. Watershed Values

There are no permanent bodies of water within the RNA. There are some small vernal ponds and an intermittent stream with surface flow during seasonal wet periods. The undisturbed forest will contribute to the stability of downstream water yield and quality.

5. Recreation Values

This area receives general light recreation use including such activities as hunting, berry-picking, hiking and sight-seeing. Other than some hunting most use is confined to roadways. Some off-road vehicle use is occurring off the end of FR-2673 to the east of the RNA onto private land. This use has been limited to FR-2673 as a means of traversing the area to reach the lands beyond.

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RWB

There has been no off-road use in the RNA. Most of the RNA is too rough and steep to invite such use. There has been some vehicle traffic to the fire tower site despite water bars that were constructed in the road. This use is confined to the old roadway and limited by protruding rocks to high clearance four-wheel drive vehicles. A visit to the site on 8/7/91 indicated infrequent use.

It is proposed that the old fire tower road be used as a foot trail from FR-2141 to the fire tower site. The road entrance will be obliterated and physically reduced to trail width. Use will not be strongly encouraged and this action will restrict current use by effectively excluding vehicles. Foot traffic will be largely confined to the trail by the slope and uneven terrain. If necessary, protection can be enhanced with informational signing. Signing which is also interpretive can include information to help educate the public on the need to protect the RNA from adverse impacts. The Forest would have the option of enforcing a seasonal closure in the unlikely event of excessive impacts from foot traffic.

6. Wildlife and Plant Values

Upland openings previously maintained for wildlife will gradually fill in with trees and be lost. However, this involves not more than 6 acres (2 ha) and "interior" forest wildlife species for which the RNA is well suited will not be harmed and some may in fact benefit from further canopy closure. Common "edge" or early successional species will find abundant habitat in the managed forest outside of the RNA. A moderate level of canopy closure will be maintained naturally on some sites due to exposed bedrock and dry soils of low fertility.

Structural features in the form of cavity trees, dead snags and down woody material will improve as size and defect in the maturing timber increase with age. Over a long period of time there will be a decline in the oak component and loss of the mast it provides with succession to more shade tolerant species such as sugar maple and beech. However, on the drier sites oak is likely part of a climax or very long-lived subclimax.

Oak is a key vegetative feature of the RNA, but it will be lost on the most fertile soils such as those within the Stambaugh/Padus ELT. It will likely persist as a climax component on the dry, infertile sites. In the areas intermediate between "dry" and "moist", successional trends may not be as clearly defined. Oak may be a climax component or it may persist as part of a long-lived subclimax which eventually declines in the absence of disturbance.

Vegetative structure and plant and animal species composition will shift as old growth conditions develop. Windfall or other natural catastrophic events will interrupt the process and begin it anew. Monitoring such natural cycling unmodified by human disturbance is one of the purposes for which Research Natural Areas are designated.

7. Special Management Values

The RNA is not in a proposed or designated Wilderness, Wild and Scenic River corridor, or National Recreation Area. Congressionally designated Wildernesses on the Nicolet National Forest were established in 1978 and 1984. Release language included in the 1984 legislation precluded any additional wilderness studies until at least the next planning period.

8. Land Uses

There are no apparent land use problems which would threaten the integrity of the RNA. The RNA is completely surrounded by National Forest System lands. The size of the RNA is sufficient to protect distinguishing features in the interior from any influence resulting from routine forest management practices in the adjacent managed forest.

9. Transportation System

The west boundary of the RNA is defined by FR-2141 and the south boundary is defined by FR-2673. The western corner of the north boundary is at FR-2671. The old road to the fire tower site, now closed and with water bars installed, (FR-8379) was the only developed access into the interior of the RNA. Use of this old road will be limited to foot travel. No new road development is planned in the immediate area.

MANAGEMENT PRESCRIPTION

Specific Management Objective: To preserve for scientific purposes the quartzite hill and knoll complex; to allow natural successional trends in existing vegetation and dependent wildlife take place unmodified by human disturbance for the benefit of scientific monitoring; to provide interpretive education regarding the McCaslin Mountain RNA, the RNA system, and the McCaslin Fire Tower historic site.

The Nicolet Land and Resource Management Plan (Appendix C) has Forest-wide standards and guidelines and those included in Management Area 8.1 which apply to the McCaslin Mountain Research Natural Area.

Fire suppression and insect and disease control will occur as needed to achieve the management objective of the area. Fire control methods causing minimum impacts will be used. Where pest management activities are prescribed, they shall be as specific as possible against target organisms and induce minimal impact to other components of the ecosystem. No actions will be taken against endemic insects, diseases, wild plants, or animals unless the Regional Forester and Station Director deem such action necessary to protect the features for which the RNA is established or to protect adjacent resources.

Low impact public use by foot travel on the old fire tower trail is anticipated with little increase in overall dispersed recreation off the trail. The old roadway would support a level of foot traffic far in excess of what can reasonably be expected without causing harm. It is unlikely the amount of hiking on the trail will exceed the current impact of occasional vehicle traffic. In the event of unacceptable change, seasonal closures may be placed in effect to control use and allow for natural revegetation.

Recreational use will be regularly monitored, to include at least one annual field inspection. In the event of conflict with public use, first priority will be given to protection and maintenance of RNA objectives.

Upon establishment of the RNA the following actions will be taken:

Boundary corners and turning points will be identified on the ground and clearly monumented.

A Forest Order will be issued to prohibit all use of motorized vehicles within the RNA. The entrance to the old fire tower road, FR-8379, will be obliterated and effectively closed to vehicular traffic. Any other short road segments that might enter the RNA will also be obliterated and closed if they are not deteriorated or overgrown to the extent vehicles are effectively excluded.

No cultural resource evaluations or management other than enforcement of protective regulations are planned at this time. Any cultural resource evaluation or management activity will be conducted in such a manner that it will not impact RNA objectives.

Mineral rights in Section 35 were reserved by the previous owner, the Menominee Bay Shore Lumber Company. This firm no longer exists and probably has no corporate successor. Efforts currently underway are aimed at claiming subsurface rights such as these that have not been exercised. The Forest will pursue acquisition of subsurface rights in Section 35.

Consideration will be given in all management practices outside the boundary of the RNA to potential environmental impacts within the RNA. Management practices outside the RNA will be designed to avoid any significant negative impacts. The 3.2 and 4.2 Management Areas surrounding the RNA feature even-age timber management. However, uneven-age silviculture is typically employed in some of the adjacent upland hardwood types and final harvest size is limited by the Forest Plan in even-age types. Group selection is an alternative that might be applied for regeneration of intolerants rather than stand clearcutting. Also, the RNA is of sufficient size to protect distinguishing features from the influence of routine forest management practices that occur on the outside.

The Record of Decision (Appendix D) for the Nicolet National Forest Land and Resource Management Plan was signed by the Regional Forester on 8/11/86.

Future management decisions will be made in consultation with the North Central Forest Experiment Station; the Heritage Conservation and Recreation Service, United States Department of the Interior; the Bureau of Endangered Resources, Wisconsin Department of Natural Resources; and the Region Nine Research Natural Area Committee, Forest Service, United States Department of the Interior.

ADMINISTRATIVE RECORDS AND PROTECTION

The administrator and protector of this area is:

District Ranger
Nicolet National Forest
Route 1, Box 11-B
Laona, Wisconsin 54541

Substitute New Page here.
Rm Burns

The research coordinator of this area is:

Director
USDA, Forest Service
North Central Forest Experiment Station
1992 Folwell Avenue
St. Paul, Minnesota 55108

The research data file is maintained by:

Director
USDA, Forest Service
North Central Forest Experiment Station
1992 Folwell Avenue
St. Paul, Minnesota 55108

Forest Supervisor
Nicolet National Forest
68 South Stevens St.
Rhineland, Wisconsin 54501

Research proposals are to be submitted to the Director, North Central Forest Experiment Station, for review and approval. The Forest Supervisor, Nicolet National Forest, then issues permits for approved non-manipulative research.

Plant collections will be housed at the Herbarium, University of Wisconsin, Madison.

Special protection needs are:

The issuance of a Forest Order to prohibit the use of motorized vehicles within the RNA.

Effective closure and obliteration of FR-8379 to vehicular traffic.

These items are discussed in more detail in the Management Prescription section.

Forest Orders issued for this RNA will be posted at the site, at the Laona District Office in Laona, Wisconsin, and at the Forest Supervisor's Office in Rhineland, Wisconsin.

BOUNDARY CERTIFICATION

I certify the enclosed boundary description of the McCaslin Mountain Research Natural Area was prepared under my direct supervision.




Forest Land Surveyor

Sept. 16, 1991
Date

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APPENDICES

- Appendix A: Regional Guide - Management Goal 8
- Appendix B: Nicolet Forest Plan - Opportunities for Research Natural Area/
Scientific Areas
- Appendix C: Nicolet Forest Plan - Forest-wide Standards and Guidelines
- Appendix D: Record of Decision, Nicolet Forest Plan FEIS - Special Areas
- Appendix E: McCaslin Mountain Research Natural Area Plant List
- Appendix F: Ecological Land Type Descriptions
- Appendix G: Environmental Assessment Decision Notice/FONSI
- Appendix H: Logging History
- Appendix I: Breeding Bird Surveys

McCaslin Mtn

USDA - Forest Service
Nicolet National Forest
Laona Ranger District
Forest County, Wisconsin

On April 9, 1990, Nicolet National Forest Supervisor Michael B. Hathaway made a decision to recommend designation of McCaslin Mountain as a Research Natural Area; to established a Management Area 8.1 boundary; to provide an improved closure of FR 8379; and to designate a one-half mile hiking trail providing onsite educational opportunities for the public.

The associated Decision Notice and Finding of No Significant Impact are available upon request from the Nicolet National Forest, 68 South Stevens Street, Rhinelander, Wisconsin 54501 and the Laona Ranger District, Laona, Wisconsin 54541.

This decision is subject to appeal pursuant to Forest Service regulations 36 CFR 217. Appeals must be filed within 45 days from the date of publication of this notice. Notices of Appeals must meet the requirements of 36 CFR 217.9.

DECISION NOTICE
and
FINDING OF NO SIGNIFICANT IMPACT

USDA - FOREST SERVICE

McCASLIN MOUNTAIN CANDIDATE RESEARCH NATURAL AREA
ENVIRONMENTAL ASSESSMENT

NICOLET NATIONAL FOREST
LAONA RANGER DISTRICT
FOREST COUNTY, WISCONSIN

An environmental assessment (EA) for the McCaslin Mountain candidate research natural area (RNA) is available for public review in the Forest Supervisor's Office in Rhinelander, Wisconsin and at the Laona District Office in Laona, Wisconsin. The EA documents the analysis of a proposed Federal action to implement the Nicolet National Forest Land and Resource Management Plan (Forest Plan) in the McCaslin Opportunity Area on the Laona District, Nicolet National Forest. The purpose of this analysis is to evaluate the McCaslin Mountain candidate research natural area and decide the appropriate management designation and management area boundary.

This analysis is needed because a decision was made on page 16 of the Record of Decision for the Final Environmental Impact Statement (FEIS) to protect the eighteen candidate research natural areas listed in the FEIS (Chapter 3, pages 8-9) until a more detailed evaluation on the suitability of each candidate area for designation could be completed.

- The FEIS states on page 9 of Chapter 3 that, "If through the evaluation process those areas do not qualify as RNA's or State Scientific Areas, they will then be assigned as Special Areas as described in the following section." Both the candidate Research Natural Areas and the other ecological special areas described in the FEIS on pages 3-8 to 3-12 received a designation of Management Area 8.1 in the Record of Decision and the Forest Plan.

The EA is tiered to the FEIS for the Forest Plan. The Forest Plan, Analysis Record and the individual compartment folders are also incorporated by reference in the Environmental Assessment. I have reviewed the EA and related material; my decision is based on that review.

The Decision

Based on the results of the analysis documented in the EA, it is my decision to implement a modification of Alternative F - Designation 2. Alternative F - Designation 2 includes:

1. Preparation of an Establishment Record recommending McCaslin Mountain for designation as a Research Natural Area and submit to the Chief of the Forest Service for approval. The name of the candidate Research Natural Area will be McCaslin Mountain.
2. The Management Area boundary will follow FR 2141 on the west, FR 2673 on the south, FR 2671 on a portion of the north and four straight line segments on the rest of the north and a portion of the east as shown in the EA and attached map. The Management Area boundary will include 524 acres. This is 339 acres more than the 185 acres shown in the FEIS for the Forest Plan.

3. All existing roads within the Management Area boundary will be closed to motorized vehicles.

Also, Alternative D - Designation 2 will be modified to change the length of the hiking trail:

4. The proposed 2.0 mile nonmotorized multi-purpose trail system in Alternative F will be reduced to a .5 mile hiking trail to provide onsite educational opportunities for the public. This trail would only be used to provide foot access into the candidate RNA for the public to observe the distinctive features. The hiking trail would follow the existing travelway, FR 8379, and would not extend east of the old McCaslin Lookout Tower site.

Where the management area boundary follows an existing system road the specific location of the boundary line is 50 feet from the centerline of the system road towards the interior of the candidate RNA to allow for routine road maintenance activities.

I have also decided to conduct routine repair and maintenance activities such as road maintenance, property line location and maintenance and carry out administrative actions such as cultural resource surveys and silvexam during the next ten year period.

Mitigation measures to be implemented consist of those Forest Plan Standards and Guidelines which apply Forest wide, and the standards and guidelines connected with a Management Area 8.1.

In conducting this analysis, consultation occurred between Nicolet National Forest personnel and representatives from the Bureau of Endangered Resources, Wisconsin Department of Natural Resources; The Nature Conservancy; a member of the Wisconsin Natural Areas Preservation Council; a faculty member at Wheaton College; and the Forest Sciences Laboratory, North Central Forest Experiment Station.

The Wisconsin Department of Natural Resources and Dr. Forest Stearns recommended a dual management area designation of research natural area and Wisconsin State natural area. Dr. Tom Crow would also support a concurrent designation. I have decided to defer a decision on a dual designation until a management decision has been made on several other candidate research natural areas. I will then evaluate a group of candidate research natural areas at the same time.

Other Alternatives considered and reasons for not being selected

Alternatives considered in the Environmental Analysis include: Alternative A - including 185 acres; Alternative B - including 278 acres; Alternative C - including 454 acres; Alternative D - including 409 acres and Alternative E - including 568 acres. Also in each alternative three possible management designations were included: Designation 1 - continue management as a Management Area 8.1, Designation 2 - recommend McCaslin Mountain for designation as a research natural area, and Designation 3 - establish McCaslin Mountain as a Wisconsin State natural area.

I did not choose Alternatives A, B, C, or D because none of these alternatives provided as many acres of SAF Forest Cover Type 55 or the Michigamme Rock Outcrop Complex as Alternative F.

Alternative A and B also did not include the Padus soil unit and proposed higher administrative costs to establish and maintain the management area boundary than Alternative F.

Selection of Alternative C would also close 1.1 miles of FR 2673 to public use, would not include the Padus soil unit, removed more volume from the proposed McCaslin Tower Timber Sale and included a management area boundary that would cost more to establish and maintain than Alternative F.

Alternative E was not selected because it had higher administrative costs for the installation and maintenance of the boundary line than Alternative F. Selection of this Alternative also closed .3 miles of FR 2673, removed more acres of available, suitable and capable land from such management practices as timber harvesting and wildlife opening construction, and removed more volume from the proposed McCaslin Tower Timber Sale than Alternative F.

Selection of Alternatives A, B or D also did not protect the distinctive features as well as Alternative F.

Reasons for Selecting Alternative D

I have chosen to implement Alternative D as modified because this alternative effectively addresses the public issues, concerns and opportunities and implements the Forest Plan with the least environmental impacts as listed below:

a. recommends establishment of McCaslin Mountain as a research natural area which provides national recognition to the distinctive features in the area.

b. if approved as a RNA, would provide representation of SAF Forest Cover Type 55 which is a target for the seven Lake States national forests in the Regional Guide.

c. provides research with adequate opportunity to study the Michigamme Rock Outcrop Complex in association with both the Sarona and Padus soil units as well as the relationship to the existing habitat types.

d. provides a greater degree of long-term protection for the distinguishing features than any of the other alternatives except Alternative E

e. generates lower administrative costs to install and maintain the boundary line than other alternatives except Alternative D.

The direction stated in FSM 4063.37 requires the Forest upon establishment of a research natural area, to clearly identify and monument corners and turning points of the boundary in the field.

f. does not close FR 2673 to public use with motorized vehicles.

g. removes less volume from the proposed McCaslin Tower Timber Sale than Alternatives C and E.

This action is not consistent with the Forest Plan, and will require a change to the Forest Plan prior to establishment as a research natural area.

The proposed actions are within established USDA - Forest Service policies and direction.

There will be no known adverse effects on prime lands, floodplains, wetlands, threatened and endangered species, cultural resources or civil rights.

Finding of No Significant Impact (FONSI)

I have reviewed the disclosure of environmental effects, including the cumulative effects, maps of the area and referenced FEIS disclosures documented in the environmental assessment for Alternative F - Designation 2 as modified and have determined that this action is not a major Federal action, individually or cumulatively, and will not significantly effect the quality of the human environment. Therefore, based on this information and my experience with similar decisions in the past, an environmental impact statement is not needed.

Implementation and Request for Review

This decision will be implemented immediately.

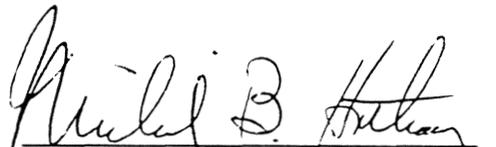
This decision is subject to appeal in accordance with the provisions of 36 CFR 217. Notices of Appeal, pursuant to 36 CFR 217.8, must be filed within 45 days of this decision, and must be sent to both the Reviewing Officer, in this case the Regional Forester of the Eastern Region, and the Deciding Officer, the Forest Supervisor of the Nicolet National Forest.

Floyd Marita, Regional Forester
USDA Forest Service, Eastern Region
310 West Wisconsin Avenue, Room 500
Milwaukee, Wisconsin 53203

Michael B. Hathaway, Forest Supervisor
Nicolet National Forest
Federal Building
68 South Stevens Street
Rhinelander, Wisconsin 54501

For further information contact Dale Staege, Laona District, Laona, Wisconsin 54541 or by telephone at (715) 674-4481.

Approved by:


MICHAEL B. HATHAWAY
Forest Supervisor
Nicolet National Forest

4/9/90
DATE

ENVIRONMENTAL ASSESSMENT FOR McCASLIN MOUNTAIN CANDIDATE RESEARCH NATURAL AREA

TABLE OF CONTENTS

	Page
A. PURPOSE AND NEED FOR THE PROPOSED FEDERAL ACTION	1
Need for the proposal	
Purpose of the proposal and proposed Federal action	
Forest Service Mission	
B. ISSUES, CONCERNS AND OPPORTUNITIES	2
Issues, Concerns and Opportunities that are beyond the scope of this analysis	
Issues, Concerns and Opportunities that will be addressed in this analysis	
C. MANAGEMENT AREA DESIGNATION OPPORTUNITIES	3
D. EXISTING CONDITION	5
E. CONSIDERATIONS FOR BOUNDARY PLACEMENT FROM AN ECOLOGICAL CLASSIFICATION PERSPECTIVE	8
F. MANAGEMENT IMPACTS AND POSSIBLE CONFLICTS	10
G. ALTERNATIVES	13
H. HOW EACH ALTERNATIVE RESPONDS TO THE ISSUES, CONCERNS AND OPPORTUNITIES	18
I. ENVIRONMENTAL EFFECTS	22
J. LISTING OF AGENCIES AND PERSONS CONSULTED	31
K. REFERENCES	31
APPENDIX A: TABLE 3-21 FROM THE REGIONAL GUIDE	

A. PURPOSE AND NEED FOR THE PROPOSED FEDERAL ACTION

Need for the proposal

The National Forest Management Act required the Forest Service to prepare a Land and Resource Management Plan (Forest Plan) for the Nicolet National Forest. The Forest Plan which was approved on August 11, 1986 establishes multiple use goals and objectives and guides management of the Nicolet National Forest for the period 1986 - 1995. Although a number of practices were identified in the Forest Plan Environmental Impact Statement (FEIS) and Forest Plan, no decisions on site specific projects were made. Final decisions on site specific projects will be made during Forest Plan implementation using an Integrated Resource Management (IRM) process.

A decision was made on page 16 of the Record of Decision for the FEIS for the Nicolet National Forest Plan to protect the eighteen candidate research natural areas listed in the FEIS (Chapter 3, pages 8-9) until a more detailed evaluation on the suitability of each candidate area for designation can be completed.

The Regional Guide for the Eastern Region dated September 1983, directs the Nicolet National Forest to work with National Forest Research Units in locating, evaluating, and establishing research natural areas based on the priorities shown in Table 3-21 (page 3-109). In addition, the Forests are encouraged to work with State and private conservation organizations in the identification of potential research natural areas. This direction can be found on page 3-107 of the Regional Guide.

Purpose of the proposal and proposed Federal action

The purpose of this analysis is to evaluate the McCaslin Mountain candidate RNA and decide the appropriate management designation and management area boundary. The proposed Federal action is to recommend the McCaslin Mountain candidate RNA for designation as a Research Natural Area (RNA) using the management area boundary described in Alternative A below and as shown on the map included in the appendix. Other alternatives to this proposed Federal action will be considered in this environmental assessment.

In developing an appropriate mix of alternatives the analysis process will follow principles contained in the National Environmental Policy Act and evaluate alternative uses of available resources and the issues, concerns and opportunities raised for this candidate RNA. The analysis of the environmental factors will enable the responsible official to select the most appropriate alternative and management area designation for this candidate RNA.

Forest Service Mission

The 1988-89 United States Government Manual states that the mission of the Forest Service is to:

Provide a continuing flow of natural resource goods and services to help meet the needs of the Nation and to contribute to the needs of the international community. To accomplish this, it has adopted the following objectives:

- provide a sustained flow of renewable resources-outdoor recreation, forage, wood, water, wilderness, wildlife, and fish-in a combination that best meets the needs of society now and in the future;
- administer the nonrenewable resources of the National Forest System to help meet the Nation's needs for energy and mineral resources;
- promote a healthy and productive environment for the Nation's forests and rangelands;
- develop and make available scientific and technological capabilities to advance renewable natural resource management, use and protection; and
- further natural resource conservation through cooperation with other Federal agencies and State and local governments.

B. ISSUES, CONCERNS AND OPPORTUNITIES

Issues, concerns and opportunities were developed through personal contacts, correspondence and meetings to discuss the candidate RNAs. Much of this effort occurred during the development of the Forest Plan. Interest groups, other public agencies, individuals and Forest Service employees were contacted.

Issues, Concerns and Opportunities that are beyond the scope of this analysis:

1. Should street-legal and off-road vehicles be allowed to use existing travelways in the vicinity of McCaslin Mountain?

Unlicensed motor vehicles, by Wisconsin statutes, are prohibited from using any public roads. Forest roads 2141, 2671, 2673, 8397 and any other existing travelways open for public use on National Forest land are considered to be public roads in the State of Wisconsin. As a result, the use of off-road vehicles on public roads is under the jurisdiction of the State of Wisconsin and will not be considered in this analysis. Street-legal or licensed vehicles can already use any public road open for public use on National Forest land by Wisconsin statutes.

Issues, Concerns and Opportunities that will be addressed in this analysis:

1. What is the appropriate management designation for the McCaslin Mountain candidate Research Natural Area? Some people think that the distinctive features and forest cover types represented within the area would make an excellent addition to the RNA Program. Others feel this area should be managed through a cooperative agreement with the Wisconsin Department of Natural Resources as a Wisconsin State Natural Area (WSNA). Still others feel that this area is not sufficiently distinctive and that the forest cover types

represented do not warrant a RNA or SNA designation and they also feel that the standards and guidelines in the Forest Plan provide adequate protection for any distinctive features found in the McCaslin Mountain site.

2. What management area boundary is necessary to protect the quartzite hill complex and the distinctive features? Representatives from the Laona District and the Wisconsin Department of Natural Resources feel a larger area is needed to protect the area. Others feel a smaller area could adequately protect the area.

3. What opportunities exist in the immediate vicinity of the candidate RNA to include any of the representative forest cover types listed in Table 3-21 of the Regional Guide for the seven Lake States National Forests including the Nicolet? One of the scientists at the North Central Forest Experiment Station suggested that we consider any opportunities that exist during our analysis.

The targets for locating, evaluating and establishing representative cover types from Table 3-21 in the Regional Guide are included in the Appendix of this environmental assessment.

4. What types of public use should be permitted within the management area boundary? Some people feel that all existing travelways within the management area should be closed year-around and that no additional recreation facilities such as hiking trails should be constructed within the management area boundary. Others feel that existing traffic levels on the low standard roads within the area are within acceptable limits and eliminating this established use is unnecessary. Still others feel that a trail within the management area boundary would allow the public access to the distinctive features and help provide onsite educational opportunities.

D. MANAGEMENT AREA DESIGNATION OPPORTUNITIES

Three alternative management designations will be considered in this environmental assessment. A brief description of each management designation is given below:

Management Area 8.1: The goals for a Management Area prescription will emphasize (a). the preservation of unique ecosystems for scientific purposes and (b). the protection of unique areas of biological significance. The assignment of an area as a Management Area 8.1 is a resource allocation decision which was made during the Forest planning process. The assignment of all management area prescriptions are recommended by the Forest Supervisor and approved by the Regional Forester.

The management area prescriptions for national forest land can be modified or changed by an amendment or revision of the existing Forest Land and Resource Management Plan at any time or as part of the second round of Forest planning.

There are no scheduled management practices in a Management Area 8.1.

All candidate research natural areas on the Nicolet National Forest will continue to be managed in compliance with the standards and guidelines for a management Area 8.1 regardless of any other subsequent management area designations such as research natural area or Wisconsin state natural area.

Research Natural Area: A Research Natural Area is a physical or biological unit in which current natural conditions are maintained insofar as possible. These conditions are ordinarily achieved by allowing natural physical and biological processes to prevail without human intervention. However, under unusual circumstances, deliberate manipulation may be utilized to maintain the distinctive feature that the Research Natural Area was established to protect.

The objectives for establishing a research natural areas (FSM 4063.02) are:

1. Preserve a wide spectrum of pristine representative areas that typify important forest situations that have special or unique characteristics of scientific interest and importance.
2. Preserve and maintain genetic diversity.
3. Protect against serious environmental disruptions.
4. Serve as reference areas for the study of succession.
5. Provide on-site and extension educational activities.
6. Serve as baseline areas for measuring long-term ecological changes.
7. Serve as control areas for manipulative research.
8. Monitor effects of resource management techniques and practices.

Research natural areas may be used only for research, study, observation, monitoring, and those educational activities that maintain unmodified conditions and natural processes. Research natural areas also may assist in carrying out provisions of special acts, such as the Endangered Species Act.

Following identification of a candidate research natural area, completion of a detailed evaluation for suitability and a decision to recommend establishment of a research natural area, a comprehensive Establishment Record document and Designation Order is prepared and submitted to the Chief of the Forest Service for review and approval.

Regional Research Natural Area Committees identify the need for research natural areas on National Forest System lands, ensure that prospective areas are identified in the Forest planning process and assist in the preparation of Establishment Records.

Research Station Directors, Research Project Leaders, Forest Supervisors and District Rangers coordinate all research activities, administer, manage and protect each research natural area following establishment.

The procedure for revising the boundaries of, or disestablishing, a research natural area are the same as those for forest and range experiment stations.

The prime consideration in managing research natural areas is maintenance of unmodified conditions and natural processes. As a result, management practices that can be used in a research natural area are limited to those activities that support and promote the basic objectives and purposes of establishing the area.

Current Forest Service manual direction requires that after establishment of a research natural area the corners and turning points of the boundary will be clearly identified and monumented in the field. Manual direction also requires use of the government land office system or the metes and bounds system to describe each area.

Funding of all on-the-ground resource protection and management activities on research natural areas within the National Forest System shall come from funds appropriated and allocated for the National Forest System.

Wisconsin State Natural Area: The mission of the Wisconsin Natural Areas Preservation Council, an advisory group to the Wisconsin Department of Natural Resources, is to locate and preserve a system of state natural areas to protect examples of all types of biotic communities and other significant natural features native to the state for education, research, and most importantly to secure long term protection of the State's genetic diversity for the benefit of future generations. On National Forest land this is accomplished through a cooperative agreement between the Wisconsin Department of Natural Resources and the Forest Service.

Following completion and approval of the cooperative agreement a specific plan for the management of each site is developed jointly by both public agencies. In most cases, the plan for each site limits public access, avoids any type of development and prohibits most on the ground management practices.

The cooperative agreement is approved by the Forest Supervisor for the Forest Service and the Secretary for the Wisconsin Department of Natural Resources.

D. EXISTING CONDITION

The McCaslin Mountain candidate RNA is located entirely on lands administered by the Nicolet National Forest in northeast Wisconsin. A location map (Exhibit 1) and proximity map (Exhibit 2) are included in the appendix.

This tract was included on a list of candidate RNAs compiled by Nicolet National Forest personnel early in 1986. During the summer of 1986 the area was inspected by biologists of the Wisconsin Department of Natural Resources (WDNR) Bureau of Endangered Resources to: 1) gather basic data on the biota of the candidate RNA; 2) assess the quality, condition and extent of the natural features there; 3) enable sound recommendations for protection status, management area boundaries, and management strategies.

The McCaslin Mountain candidate RNA was originally considered to be a part of a 4-mile long quartzite monadnock that runs generally east-west and has local relief of over 200'. A "monadnock" may be defined as an upstanding hill or mountain of resistant rock rising conspicuously above the general level of a peneplain in a temperate climate. In addition, it is an isolated remnant of a former erosion cycle in a mountain region that has been largely lowered to its base level (Glossary of Landform and Geologic Terms, National Soils Handbook, 1986).

For further clarification of the term "monadnock" for this glaciated region the Forest Soil Scientist, Dave Hoppe, made a conference call to Lee Clayton, Glacial Geologist, and Michael G. Mudrey, Geologist, with the University of Wisconsin-Extension Geology and Natural History Survey, in Madison, Wisconsin. These two men were both familiar with the area and agreed that the term "monadnock" is archaic and should not be used when referring to Wisconsin landscapes and especially not to McCaslin Mountain, as it was overridden by glacial ice. The recommended term to use is "quartzite hill" when referring to this area. There are many such quartzite hills in the State so it is not rare in that respect.

There are not many shallow to bedrock ecosystems on the Nicolet National Forest because most of the Forest is covered with 50 feet or more of glacial drift. The combination of macroclimate, physiography, bedrock geology, soil and vegetation within this area is distinctive on the Nicolet National Forest and this feature will be included in this analysis.

Scattered within the quartzite hill complex are also some perched wetlands and vernal ponds on the slopes and in the saddles between the rocky knolls.

The McCaslin Mountain candidate RNA supports a hardwood-dominated forest composed primarily of red oak and other associated species such as beech, big-toothed aspen, basswood, ash, birch, sugar maple and some white oak along the slope southwest of the lookout tower site. The largest canopy trees are in the 15-20" d.b.h. range and occur on the slopes and in ravines, or on saddles between the knolls of the ridge complex. Some of the stands within the candidate RNA boundary have a previous logging history. Trees growing on the most severely exposed, xeric sites along the ridgetop are often stunted, lacking girth and stature. A large clearcut is also present on the northwest side of McCaslin Mountain and is the result of harvesting activities connected with the McCaslin Tower Timber Sale awarded in 1975.

Composition of the ground layer varies considerably with slope, exposure, soil moisture and past history. The rocky knolls along the ridge complex in some cases appear almost "glade-like" in the understory but typically have a closed canopy overstory of hardwood trees.

Several similar but smaller and less impressive quartzite hills are found in the vicinity of the McCaslin Mountain candidate RNA. They support similar vegetation.

In the northeast corner of Section 36, T34N, R16E is a good quality stand of hardwoods dominated by red oak, beech, yellow birch, sugar maple and a small inclusion of hemlock at the end of FR 2673. This stand currently provides habitat for the cerulean warbler (Dendroica cerulea) which has been proposed for a "threatened" status in Wisconsin. This species was discovered in mature hardwoods on McCaslin Mountain in June 1986 by WDNR non-game biologist Michael Mossman. Large tracts of mature upland hardwood forest may be the only suitable habitat type for this species in northern Wisconsin (for a review of species habitat associations in southern Wisconsin, see "Breeding Birds of the Baraboo Hills" by Mossman and Lange, 1982).

"Forest Habitat for Birds of the Northeast" by Dick DeGraff, et al published in 1981 by the Forest Service, U.S. Department of Agriculture states that the cerulean warbler favors open stands of tall trees along riverbanks or dense deciduous forests with little undergrowth. As a result, this bird species is expected to nest in hardwood stands with a canopy height greater than twenty feet and little undergrowth. Using this criteria many of the hardwoods stands in the McCaslin Mountain area would meet the habitat requirements of the cerulean warbler.

In addition to the cerulean warbler, the wood thrush has been detected during the breeding season on McCaslin Mountain. Other bird species observed at McCaslin Mountain include the yellow-billed cuckoo, great-crested flycatcher, eastern wood-pewee, alder flycatcher, least flycatcher, American crow, red-eyed vireo, yellow-throated vireo, ovenbird, great blue heron, veery and hermit thrush. The eastern end of McCaslin Mountain (NE, Section 36, T34N, R16E) also includes potential roosting and nesting sites for the turkey vulture.

-The McCaslin Mountain area is also considered to be prime bear habitat because of the acorn production in the area which is a favored food source.

The overstory vegetation for the hardwoods stands represent Society of American Foresters (SAF) Cover Type Number 55: Northern Red Oak and Cover Type 60: Beech-Sugar Maple. SAF Cover Type 55 is listed in the Regional Guide on Table 3-21 as a priority two for representation which means this cover type is already represented once in Region Nine. SAF Cover Type 60 is not listed as a target for representation in the Lake States National Forests.

The original vegetation during the mid-1800's for the McCaslin Mountain area was a beech, hemlock and maple association.

McCaslin Mountain was included in the list of candidate Research Natural Areas in the Nicolet National Forest Final Environmental Impact Statement (FEIS) in Chapter III, pages 8-9. The FEIS lists this RNA as being 185 acres in size.

The McCaslin Mountain candidate RNA received a Management Area designation of 8.1 in the Forest Plan. This designation emphasizes the preservation of unique ecosystems for scientific purposes and the protection of unique areas of biological significance.

The area surrounding the McCaslin Mountain candidate RNA has been designated Management Area 3.2 in the Forest Plan which emphasizes an evenaged hardwood forest, wildlife associated with a variety of mast trees and evenaged hardwoods and a primarily semiprimitive motorized recreation environment.

There are no known Federal or State endangered or threatened flora or fauna species in this candidate RNA.

The area lies within portions of record keeping compartment 170 and 171 on the Laona District, Nicolet National Forest.

The specific management objective for the McCaslin Mountain candidate RNA is to preserve for scientific and educational purposes the forest overstory vegetation, the quartzite hill and knoll complex and other distinctive features allowing natural physical and biological processes to prevail without human intervention.

E. CONSIDERATIONS FOR BOUNDARY PLACEMENT FROM AN ECOLOGICAL CLASSIFICATION PERSPECTIVE

As we begin to better understand and describe the landscape ecosystems on the Nicolet National Forest it will become apparent that the natural holistic units of the landscape are best defined by their components of climate, geological parent material, physiography (landform and water bodies), soil, plants and animals. An Ecological Classification System (ECS) for Region Nine was developed during the late 1970's by DeVon Nelson and others. This system provides a hierarchical framework for stratifying forest landscapes into homogeneous resource capability units by integrating pertinent information about the above listed components. Climate and physiography strongly influence the regimes of energy and moisture which affect soil development and largely determine the structure and composition of vegetation and the occurrence of animal communities (Albert, Denton, and Barnes, 1986). The meaning, importance and inter-relationships among components with respect to each other have not been fully developed for the Nicolet National Forest. However, the components that influence forest ecosystems can be addressed in relation to the McCaslin Mountain area.

1. Climate

The functioning of ecosystems of all sizes is controlled by climatic regime, defined as the diurnal and seasonal fluxes of energy and moisture. Climate is the prime driving force of ecosystems. Forest structure, composition and productivity, and the genetic differentiation of plant populations are primarily controlled by photoperiod (a function of latitude), temperature and precipitation (Albert, Denton, Barnes, 1986). Areas within similar climatic influences, termed homoclimes, have been identified in the Lake States (Rauscher, 1984). From this work the Nicolet National Forest can be stratified into two significantly different homogeneous macroclimatic zones. This information is important for identifying landscape units that are functionally different at the Subsection level of the Ecological Classification System hierarchy. The McCaslin area is within Homoclimate 4, which is described

by Rauscher and differs from Homoclime 18, which covers the northern portion of the Nicolet National Forest.

2. Bedrock Geology

Generally speaking, bedrock outcropping at or near the surface is not common on the Forest because of the depth of glacial drift present in most areas. Though this quartzite hill is not rare mineralogically in northern Wisconsin, its size and presence merits the current analysis.

Boundary placement around the bedrock controlled terrain would be a logical decision. However, a reason for expansion of this boundary beyond just the bedrock controlled portion would be consideration of the influence this area is having on the adjacent downslope landscape from a moisture and nutrient perspective. The surrounding landform, soil and vegetation are affected by the water movement of the shallow to bedrock sites above them. This zone of influence varies and should be considered in management area boundary placement.

3. Glacial Geology

There is a major change in glacial material at this particular point on the Forest. The material on the north side of McCaslin Mountain was deposited by the Langlade Lobe and the glacial material on the south side of McCaslin was deposited by the Green Bay Lobe during the Wisconsin ice advance. These lobes came from two different directions, flowed over different parent rock and therefore deposited glacial till and outwash that differ significantly. This fact may influence management area boundary placement. The glacial drift of these lobes meets in many other areas on the forest, but not with an exposed quartzite hill between the two lobes.

4. Physiography

Physiography, because it controls fluxes of radiation and moisture and thereby strongly determines the pattern of soil, microclimate, and vegetation, (Rowe, 1984) is an important factor influencing landscape ecosystems. The effects of physiography are quite evident in the shallow to bedrock area of this area. The landforms surrounding the bedrock controlled landscape consist of ground or end moraine and unpitted outwash plains. These landforms are not rare to the Nicolet National Forest other than the fact that they are from two different glacial lobes (different parent materials) and are associated with the bedrock controlled terrain.

5. Soil

The soil resource of this area is rare where development occurred in shallow soil overlying bedrock. This unit was called Michigamme Rock Outcrop Complex in the soil resource inventory. McCaslin Mountain is the largest delineation of this unit on the Forest and total acreage across the Forest is very low. The soil resource of the Green Bay Lobe parent material on the moraine south of the hill is called Sarona. This unit occurs in large acreages from here to the

south and west on the Lakewood R.D., so is not rare to this area. The Padus soil developed in Langlade Lobe parent material on the north side of the hill and occurs extensively across the Forest on pitted and unpitted outwash plains. Consideration for the extension of the management area boundaries to include some of these landforms and soils can be related to their presence adjacent to the hill, and the associated influences this landscape position may be providing.

6. Vegetation

The plant communities existing in this area are related to all the factors mentioned so far as well as past disturbances, etc.. The habitat types associated with the Michigamme unit are rare to the Forest because we have very few acres of this landscape. The Habitat Types associated with the Sarona and Padus units are found elsewhere on the Forest and are not rare to this area.

Because the Michigamme rock outcrop complex soil mapping unit is rare on the Nicolet National Forest, the stable plant community and potential successional paths to reach the climax vegetative association have not been established for the McCaslin Mountain area.

F. MANAGEMENT IMPACTS AND POSSIBLE CONFLICTS

1. Improvements

The old McCaslin Mountain firetower site has four remnant cement foundations for each of the tower legs and one remnant cement landing for the stairway. - The firetower itself has been removed. Next to the tower site is a twelve foot by thirty foot cement garage foundation. The garage structure has also been removed. These improvements are considered to be cultural resources worthy of nomination to the National Register but may not meet the eligibility criteria.

Vehicle access to the old tower site was accomplished by a half-mile long low-standard road which has been closed to motor vehicle use by the installation of water bars. The public has driven over the water bars to the tower site but the intensity of use is low.

The east property line for National Forest land is marked by a flat blaze cut on the bole of the trees on the ownership line and this blaze is painted with red paint so that the paint marks are intervisible from one another.

2. Timber

The McCaslin Tower Timber Sale (Contract 06-1269) was awarded in 1975 to the Great Northern Pulp Company, Inc. of Laona, Wisconsin and included several payment units in the immediate vicinity of McCaslin Mountain.

A clearcut, apparently from seven to ten years old and exceeding 179 acres, lies just north of McCaslin Mountain. Part of the clearcut area extends up the

north slope of McCaslin Mountain. In addition, some trees painted with blue, orange and yellow paint are scattered throughout the candidate RNA.

The new McCaslin Tower Timber Sale has been proposed for FY 90. It appears that most of the payment units connected with this timber sale have been identified on the ground. The impact of the various alternatives on this proposed timber sale is discussed later in this environmental assessment.

A second timber sale, the Battle Creek Timber Sale awarded by the Lakewood District in September of 1986 and expected to be completed by September of 1991, lies adjacent to FR 2141 and FR 2673. However, none of the alternatives being evaluated in this environmental assessment will have an impact on this timber sale.

Three designated "superior trees" are located in the immediate vicinity of this candidate RNA. Seed from superior trees such as these are used to grow genetically superior planting stock on national forest land and is part of the Region Nine Tree Improvement Program. Each of the three trees is marked by two bands of white paint, a number painted on the bole of the tree and reference trees marked "A", "B" and "C".

3. Recreation

Heavy off-road vehicle use is occurring off the end of FR 2673 to the east and appears to extend beyond National Forest land onto private land.

This area receives general recreation use during the year including such activities as hunting, hiking and sight seeing.

A trail system has been proposed conceptually for the McCaslin Mountain area and is shown in the appendix as Exhibit 3. The trail system would have minimal clearing width, little or no surfacing and includes signing/marketing for public safety. Uses being considered are hiking, nature study, hunter-walking, cross-country skiing, educational and general recreation. Both options of constructing a multi-purpose trail and a trail limited to educational uses connected with the distinctive features for this candidate RNA are included in this environmental assessment.

4. Wildlife and Plant Values

The McCaslin Mountain area supports a varied array of native species, including some overstory vegetation that is more characteristic of southern forest types, such as white oak, or of eastern forest types, such as beech.

Evidence of deer, bear and gray squirrel use of the area was observed.

There are ten wildlife openings in compartment 170 and twelve wildlife openings in compartment 171. The management impacts will vary by alternative and will be discussed later in this environmental assessment.

5. Transportation

Four system roads exist in the immediate vicinity of McCaslin Mountain: Forest Roads 2141, 2671, 2673 and 8379.

Forest Roads 2671 and 2673 were reconstructed as part of the McCaslin Tower Sale by the purchaser, Great Northern Pulp Company, during 1975 and 1976. Later, in 1985, FR 2673 was extended .6 miles to its present location at a cost of \$14,168 or \$25,760 per mile.

FR 2141 has been in existence for many years and is a north-south road linking County Highway "C" and County Highway "F".

The McCaslin Lookout Tower road is designated as FR 8379 and has had the culverts removed and waterbars installed in order to close it to public use. However, the public continues to use this travelway with four-wheeled drive vehicles to reach the ridgetop and the old firetower site.

6. Minerals

The 1982 Mineral Inventory Report for the Nicolet National Forest by Marion J. Malinowski, U.S. Minerals Management Service states that the McCaslin Mountain quartzite and pebble conglomerate is an area of exploration interest. There are four major areas of the world known to contain quartz pebble conglomerates enriched in uranium and/or gold: the Elliot Lake area of Ontario, Canada, the Witwatersrand area of South Africa, the Jacobina area in Bahia, Brazil and the Henik Lakes area in the Northwest Territories of Canada (Anderson, 1979).

- The McCaslin conglomerate unit is thought to be similar to the above conglomerates in that they appear to be of the same age (middle Precambrian), have equivalent composition and lithology, are located near the edge of the Precambrian shield and may have had source rocks that potentially contained uranium (Anderson, 1979). Kalliokoski (1976) describes a radioactive anomaly in the McCaslin Quartzite in his reconnaissance study of known uranium and thorium occurrences in Wisconsin and Michigan's upper peninsula. A reported find of uranium-bearing quartz-pebble conglomerate near McCaslin Mountain has not been confirmed.

According to Anderson's study in 1979, it is unlikely that economic grade uranium occurrences within middle Precambrian metasediments (such as the McCaslin Quartzite) will be located by surface exploration methods. Only a minor percentage of these formations are exposed; they all occur as steeply dipping prominent ridges. Outcrops are scarce even along the ridges. Therefore, subsurface exploration for uranium or thorium would probably be the most successful method of locating economic radioactive mineralizations. The McCaslin Quartzite and conglomerate are classified as potential leasing areas.

The Regional Office for the Minatome Corporation, P.O. Box 2334- 101 Hooper Street, Kingsford, Michigan 49801 (Telephone 906/774-6894 or 774-6895) on January 9, 1981 proposed in writing to Marion Malinowski, Staff Geologist, U.S.

Geological Survey, Washington, D.C. that the entire township of both T34N, R16E and T34N, R17E be designated as areas of moderate to high mineral potential.

In a portion of the McCaslin Mountain area being considered in this environmental assessment, Section 35; the NENE, Section 36; and the NESE, Section 36, T34N, R16E have reserved mineral ownership. Mineral ownership in the remainder of Sections 35 and 36, T34N, R16E is held by the United States.

The mineral ownership in the N1/2NW, Section 1, T33N, R16E is held in reserve by Oconto County, the previous surface owner. However, the remainder of the mineral estate in the north one-quarter of Sections 1 and 2, T33N, R16E is owned by the United States.

7. Cultural Resources

Cultural resource surveys were conducted in the McCaslin Mountain area in 1982, 1983 and 1985. Six historic sites have been located and designated in the general area of McCaslin Mountain. All sites include surface features and have not been evaluated. One site, the McCaslin Fire Lookout (tower removed), does not appear to meet the National Register of Historic Places eligibility criteria. Only two of the designated cultural resource sites are located within any one of the alternative management area boundaries in this environmental assessment.

There is a rumor that there was a mining operation at one time on McCaslin Mountain which resulted in a vertical and horizontal mine shaft. The Forest was unable to locate the mine or other historical information.

G. ALTERNATIVES

This section describes the alternatives that were developed in response to the issues, concerns and opportunities. Here are the alternatives considered in this analysis:

In all the alternatives described below where the management area boundary follows an existing system road the specific location of the boundary line is fifty feet from the centerline of the system road towards the interior of the candidate RNA to allow for routine road maintenance activities.

ALTERNATIVE A: Establish a management area using the boundary line as shown on the attached map; includes 185 acres.

The size of the candidate research natural area in this alternative is the same as that listed in the Forest Plan FEIS on page 9 of Chapter 3 for McCaslin Mountain.

One of three possible management area designations are included in this alternative as described below:

Designation 1: Continue management as a Management Area 8.1 without any other special designations such as Research Natural Area or State Natural Area. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 would be used to guide management and provide protection for the distinctive features. Selection of Alternative A and this Management Designation 1 represents the no action alternative.

Designation 2: Prepare an Establishment Record for this candidate Research Natural Area recommending McCaslin Mountain for designation as a RNA; submit to the Chief for approval. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 and the contents of the Establishment Record would be used to guide management and provide protection for the distinctive features. Selection of Alternative A and this Management Designation 2 represents the proposed Federal Action.

Designation 3: Enter into a Memorandum of Understanding between the Forest Service and the Wisconsin Department of Natural Resources to establish the McCaslin Mountain State Natural Area. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 and the documents associated with the Memorandum of Understanding would guide management and provide protection for the distinctive features.

ALTERNATIVE B: Establish a management area using the boundary line as shown on the attached map; includes 278 acres.

One of three possible management area designations are included in this alternative as described below:

Designation 1: Continue management as a Management Area 8.1 without any other special designations such as Research Natural Area or State Natural Area. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 would be used to guide management and provide protection for the distinctive features.

Designation 2: Prepare an Establishment Record for this candidate Research Natural Area recommending McCaslin Mountain for designation as a RNA; submit to the Chief for approval. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 and the contents of the Establishment Record would be used to guide management and provide protection for the distinctive features.

Designation 3: Enter into a Memorandum of Understanding between the Forest Service and the Wisconsin Department of Natural Resources to establish the McCaslin Mountain State Natural Area. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 and the documents associated with the Memorandum of Understanding would guide management and provide protection for the distinctive features.

Also included in this alternative are the following management prescriptions:

- a. Close all existing roads within the management area boundary to motorized vehicles.
- b. Construct and maintain a 2.0 mile nonmotorized multi-purpose trail system within the management area boundary for such uses as hiking, cross-country skiing, hunter-walking and general recreation. This trail would be used to meet established educational; nature interpretation and study; and general recreation management objectives.

ALTERNATIVE C: Establish a management area using the boundary line as shown on the attached map; includes 454 acres.

One of three possible management area designations are included in this alternative as described below:

Designation 1: Continue management as a Management Area 8.1 without any other special designations such as Research Natural Area or State Natural Area. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 would be used to guide management and provide protection for the distinctive features.

Designation 2: Prepare an Establishment Record for this candidate Research Natural Area recommending McCaslin Mountain for designation as a RNA; submit to the Chief for approval. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 and the contents of the Establishment Record would be used to guide management and provide protection for the distinctive features.

Designation 3: Enter into a Memorandum of Understanding between the Forest Service and the Wisconsin Department of Natural Resources to establish the McCaslin Mountain State Natural Area. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 and the documents associated with the Memorandum of Understanding would guide management and provide protection for the distinctive features.

Also included in this alternative are the following management prescriptions:

- a. Close all existing roads within the management area boundary to motorized vehicles.
- b. Do not provide any additional recreation improvements such as a hiking trail within the management area boundary.

ALTERNATIVE D: Establish a management area using the boundary line as shown on the attached map; includes 409 acres.

One of three possible management area designations are included in this alternative as described below:

Designation 1: Continue management as a Management Area 8.1 without any other special designations such as Research Natural Area or State Natural Area. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 would be used to guide management and provide protection for the distinctive features.

Designation 2: Prepare an Establishment Record for this candidate Research Natural Area recommending McCaslin Mountain for designation as a RNA; submit to the Chief for approval. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 and the contents of the

Establishment Record would be used to guide management and provide protection for the distinctive features.

Designation 3: Enter into a Memorandum of Understanding between the Forest Service and the Wisconsin Department of Natural Resources to establish the McCaslin Mountain State Natural Area. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 and the documents associated with the Memorandum of Understanding would guide management and provide protection for the distinctive features.

Also included in this alternative are the following management prescriptions:

- a. Close all existing roads within the management area boundary to motorized vehicles.
- b. Construct and maintain a one mile hiking trail within the management area boundary to provide onsite educational opportunities for the public. This trail would only be used to provide foot access into the candidate RNA for the public to observe the distinctive features.

ALTERNATIVE E: Establish a management area using the boundary line as shown on the attached map; includes 568 acres.

One of three possible management area designations are included in this alternative as described below:

Designation 1: Continue management as a Management Area 8.1 without any other special designations such as Research Natural Area or State Natural Area. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 would be used to guide management and provide protection for the distinctive features.

Designation 2: Prepare an Establishment Record for this candidate Research Natural Area recommending McCaslin Mountain for designation as a RNA; submit to the Chief for approval. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 and the contents of the Establishment Record would be used to guide management and provide protection for the distinctive features.

Designation 3: Enter into a Memorandum of Understanding between the Forest Service and the Wisconsin Department of Natural Resources to establish the McCaslin Mountain State Natural Area. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 and the documents associated with the Memorandum of Understanding would guide management and provide protection for the distinctive features.

Also included in this alternative are the following management prescriptions:

- a. Close all existing roads within the management area boundary to motorized vehicles.
- b. Do not provide any additional recreation improvements such as a hiking trail within the management area boundary.

ALTERNATIVE F: Establish a management area using the boundary line as shown on the attached map; includes 524 acres.

One of three possible management area designations are included in this alternative as described below:

Designation 1: Continue management as a Management Area 8.1 without any other special designations such as Research Natural Area or State Natural Area. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 would be used to guide management and provide protection for the distinctive features.

Designation 2: Prepare an Establishment Record for this candidate Research Natural Area recommending McCaslin Mountain for designation as a RNA; submit to the Chief for approval. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 and the contents of the Establishment Record would be used to guide management and provide protection for the distinctive features.

Designation 3: Enter into a Memorandum of Understanding between the Forest Service and the Wisconsin Department of Natural Resources to establish the McCaslin Mountain State Natural Area. The standards and guidelines contained in the Forest Plan for a Management Area 8.1 and the documents associated with the Memorandum of Understanding would guide management and provide protection for the distinctive features.

Also included in this alternative are the following management prescriptions:

- a. Close all existing roads within the management area boundary to motorized vehicles.
- b. Construct and maintain a 2.0 mile nonmotorized multi-purpose trail system within the management area boundary for such uses as hiking, cross-country skiing, hunter-walking and general recreation. This trail would be used to meet established educational; nature interpretation and study; and general recreation management objectives.

H. HOW EACH ALTERNATIVE RESPONDS TO THE ISSUES, CONCERNS AND OPPORTUNITIES

For purposes of comparison between alternative responses to the issues, concerns and opportunities the descriptors highest, moderate, lower and least will be used in this section. A summary table is also included at the end of this section.

ALTERNATIVE A

ISSUE 1: This alternative includes the possibility of three alternative designations (1) no change-Management Area 8.1 with no other special designations; (2) a recommendation that McCaslin Mountain be established as a RNA and (3) a decision to enter into a Memorandum of Understanding with the Department of Natural Resources to establish the McCaslin Mountain State Natural Area. Selection of this alternative would also require a decision to select one of these three management designations.

ISSUE 2: Selection of this alternative would continue management in compliance with the standards and guidelines contained in a Management Area 8.1 of the Forest Plan. The management area boundary included in this alternative is shown on a map in the appendix and corresponds to the acreage listed in the FEIS for the Forest Plan. This alternative contains the least amount of acres of any of the other alternatives.

ISSUE 3: This alternative includes SAF Cover Type 55: Northern Red Oak and only insignificant amounts of other cover types.

ISSUE 4: This alternative allows motor vehicle use of the existing travelways to continue. The alternative does not, however, construct or designate any new trails for public use.

ALTERNATIVE B

ISSUE 1: This alternative includes the possibility of three alternative designations (1) no change-Management Area 8.1 with no other special designations; (2) a recommendation that McCaslin Mountain be established as a RNA and (3) a decision to enter into a Memorandum of Understanding with the Department of Natural Resources to establish the McCaslin Mountain State Natural Area. Selection of this alternative would also require a decision to select one of these three management designations.

ISSUE 2: Selection of this alternative would continue management in compliance with the standards and guidelines contained in a Management Area 8.1 of the Forest Plan. The management area boundary included in this alternative is shown on a map in the appendix and contains 93 acres more than that listed in the FEIS for the Forest Plan. This alternative contains the second lowest amount of acres of any of the other alternatives.

ISSUE 3: This alternative includes SAF Cover Type 55: Northern Red Oak and only an insignificant amount of SAF Cover Type 60: Beech-Sugar Maple.

ISSUE 4: Selection of this alternative would close all existing roads within the management area boundary to motorized vehicles. As a result, an improved method of closing FR 8379 would be identified and installed to prevent all motor vehicle use of this travelway.

This alternative would also provide for the construction of a 2.0 mile multi-purpose trail system within the management area boundary.

ALTERNATIVE C:

ISSUE 1: This alternative includes the possibility of three alternative designations (1) no change-Management Area 8.1 with no other special designations; (2) a recommendation that McCaslin Mountain be established as a RNA and (3) a decision to enter into a Memorandum of Understanding with the Department of Natural Resources to establish the McCaslin Mountain State Natural Area. Selection of this alternative would also require a decision to select one of these three management designations.

ISSUE 2: Selection of this alternative would continue management in compliance with the standards and guidelines contained in a Management Area 8.1 of the Forest Plan. The management area boundary included in this alternative is shown on a map in the appendix and contains 269 acres more than that listed in the FEIS for the Forest Plan. This alternative contains the third highest number of acres of any of the other alternatives.

ISSUE 3: This alternative includes SAF Cover Type 55: Northern Red Oak and SAF Cover Type 60: Beech-Sugar Maple. Both SAF Cover Types are listed in Table 3-21 of the Regional Guide, but only SAF Cover Type 55 is listed as an assigned target for the Lake States National Forests.

ISSUE 4: Selection of this alternative would close all existing roads within the management area boundary to motorized vehicles. As a result, an improved method of closing FR 8379 would be identified and installed to prevent all motor vehicle use of this travelway.

Selection of this alternative would also require closing approximately 1.1 miles of FR 2673 to public use with any motorized vehicle.

This alternative does not, however, provide for any additional recreation improvements such as a trail within the management area boundary.

ALTERNATIVE D:

ISSUE 1: This alternative includes the possibility of three alternative designations (1) no change-Management Area 8.1 with no other special designations; (2) a recommendation that McCaslin Mountain be established as a RNA and (3) a decision to enter into a Memorandum of Understanding with the Department of Natural Resources to establish the McCaslin Mountain State Natural Area. Selection of this alternative would also require a decision to select one of these three management designations.

ISSUE 2: Selection of this alternative would continue management in compliance with the standards and guidelines contained in a Management Area 8.1 of the Forest Plan. The management area boundary included in this alternative is shown on a map in the appendix and contains 224 acres more than that listed in the FEIS for the Forest Plan. This alternative contains the fourth highest number of acres of any of the other alternatives.

ISSUE 3: This alternative includes SAF Cover Type 55: Northern Red Oak and only insignificant amounts of other cover types. SAF Cover Type 55 is listed in Table 3-21 of the Regional Guide.

ISSUE 4: Selection of this alternative would close all existing roads within the management area boundary to motorized vehicles. As a result, an improved method of closing FR 8379 would be identified and installed to prevent all motor vehicle use of this travelway.

This alternative does, however, provide for the construction of a one mile hiking trail within the management area boundary to provide onsite educational opportunities for the public.

ALTERNATIVE E:

ISSUE 1: This alternative includes the possibility of three alternative designations (1) no change-Management Area 8.1 with no other special designations; (2) a recommendation that McCaslin Mountain be established as a RNA and (3) a decision to enter into a Memorandum of Understanding with the Department of Natural Resources to establish the McCaslin Mountain State Natural Area. Selection of this alternative would also require a decision to select one of these three management designations.

ISSUE 2: Selection of this alternative would continue management in compliance with the standards and guidelines contained in a Management Area 8.1 of the Forest Plan. The management area boundary included in this alternative is shown on a map in the appendix and contains 383 acres more than that listed in the FEIS for the Forest Plan. This alternative contains the highest number of acres of any of the other alternatives.

ISSUE 3: This alternative includes SAF Cover Type 55: Northern Red Oak and SAF Cover Type 60: Beech-Sugar Maple. Both SAF Cover Types are listed in Table 3-21 of the Regional Guide, but only SAF Cover Type 55 is listed as an assigned target for the Lake States National Forests.

ISSUE 4: Selection of this alternative would close all existing roads within the management area boundary to motorized vehicles. As a result, an improved method of closing FR 8379 would be identified and installed to prevent all motor vehicle use of this travelway.

Selection of this alternative would also result in the closing of .3 miles of FR 2673.

This alternative does not provide for any additional recreation improvements such as a trail within the management area boundary.

ALTERNATIVE F

ISSUE 1: This alternative includes the possibility of three alternative designations (1) no change-Management Area 8.1 with no other special designations; (2) a recommendation that McCaslin Mountain be established as a RNA and (3) a decision to enter into a Memorandum of Understanding with the Department of Natural Resources to establish the McCaslin Mountain State Natural Area. Selection of this alternative would also require a decision to select one of these three management designations.

ISSUE 2: Selection of this alternative would continue management in compliance with the standards and guidelines contained in a Management Area 8.1 of the Forest Plan. The management area boundary included in this alternative is shown on a map in the appendix and contains 339 acres more than that listed in the FEIS for the Forest Plan. This alternative contains the second highest number of acres of any of the other alternatives.

ISSUE 3: This alternative includes SAF Cover Type 55: Northern Red Oak and a small amount of SAF Cover Type 60: Beech-Sugar Maple. Only SAF Cover Type 55 is listed as an assigned target for the Lake States National Forests.

ISSUE 4: Selection of this alternative would close all existing roads within the management area boundary to motorized vehicles. As a result, an improved method of closing FR 8379 would be identified and installed to prevent all motor vehicle use of this travelway.

This alternative would also provide for the construction of a 2.0 mile multi-purpose trail system within the management area boundary.

SUMMARY COMPARISON OF THE ALTERNATIVE RESPONSES TO THE ISSUES, CONCERNS AND OPPORTUNITIES

Issue, Concern or Opportunity	Alternatives					
	A	B	C	D	E	F
(Acres in Alternative)	185	278	454	409	568	524
Potential RNA Designation	YES	YES	YES	YES	YES	YES
Potential WSNA Designation	YES	YES	YES	YES	YES	YES
Protection of Rare Features	LT	LR	MD	LR	HT	MD
Representative Cover Types	LT	LR	HT	LT	MD	MD
Public Use Opportunities	MD	HT	LT	HT	LR	MD

Note: LT = Least, LR = Lower, MD = Moderate, and HT = Highest

I. ENVIRONMENTAL EFFECTS

This section presents the environmental consequences that would result when one of the alternatives is chosen for this candidate RNA.

Chapter IV of the Final Environmental Impact Statement (FEIS) for the Land and Resource Management Plan of the Nicolet National Forest approved on August 11, 1986, contains a discussion of the elements of the environment affected by practices; the physical and biological effects of practices; the cumulative effects of alternatives; the relationship between short-term use and long-term productivity; irreversible or irretrievable commitment of resources; and mitigation measures common to all alternatives. I have reviewed this material and in my judgement the proposed actions in this environmental assessment can be included within the context of the discussion contained in the FEIS. As a result, this environmental assessment incorporates by reference the FEIS.

Copies of the FEIS are available at all four Ranger Stations and the Supervisor's Office on the Nicolet National Forest. Other environmental effects for the proposed actions in each alternative for this candidate research natural area are discussed in the remainder of this section.

A management practice is a set of activities intended to move the existing forest condition toward or perpetuate the desired future condition. A management practice is defined as a specific activity, measure, course of action or treatment, which when applied, changes the existing condition which may or may not cause a significant environmental effect.

Impacts are positive or adverse changes from present conditions that are expected to result from implementing each alternative. The descriptors "least" or "greatest" describe impacts as they compare from one alternative to another. The alternatives are not measured against absolute standards.

Employment, Revenue and Public Demand

The selection of one of the alternatives may preclude the utilization of other future resource management opportunities such as timber harvesting, road construction, wildlife management and the construction of some recreation facilities such as a trail or campground on the area included within the boundary of the candidate RNA. All land included within the boundary of this candidate RNA will meet the standards and guidelines for Management Area 8.1. The net result of selecting an alternative containing more upland acres than that specified in the FEIS would be to impact employment opportunities, financial revenue to counties and available land area to meet the public demand for certain outputs listed in the Forest Plan. The relative consequences in this regard of selecting each alternative is discussed below:

Alternatives C and D would have a moderate impact on employment, revenue and the ability to meet public demand in comparison to the other alternatives because these alternatives are approximately the same size and include approximately the same area of available, suitable and capable land for market outputs. Alternative A would have no impact because this alternative contains

the same area as listed in the FEIS. Alternative B would have the least impact because this alternative includes more available, suitable and capable land than Alternative A but less than Alternatives C, D, E and F. Alternatives E and F would have the greatest impact in comparison to the other alternatives because these alternatives includes more available, suitable and capable land than any other alternative. Although the selection of any one of the Alternatives B through F will have some impact on employment, revenue and the ability of the Forest to meet public demand, ranging from least to greatest respectively, because of the small acreage involved, that impact is not expected to be significant Forest wide.

Research Natural Area Designation

1. Distinctive Features:

- existing SAF Type 55-Northern Red Oak which is listed as priority two for representation in the Regional Guide for the Lake States National Forests.
- quartzite hill approximately four miles in length with relief over 200 feet which includes a Michigamme Rock Outcrop Complex soil unit. The glacial drift from the two distinct Langlade and Green Bay Lobes during the Wisconsin ice advance with this quartzite hill between the two lobes is not common on the Nicolet National Forest.
- cerulean warbler use of the area and habitat which is listed on the Wisconsin "watch" list. A species on the Wisconsin "watch" list means the species is rare or uncommon in the State (on the order of 21 to 100 known occurrences state-wide).

2. Research and Educational Interest

- some scientific and educational interest in the area has been expressed by Dr. Al Smith, Wheaton College, Dr. Forest Stearns, University of Wisconsin at Milwaukee and from the Forest Sciences Laboratory, North Central Forest Experiment Station.
- good vehicle access exists right to the candidate RNA.

3. Best Representative

- There is some concern by the Bureau of Endangered Resources, Wisconsin Department of Natural Resources that McCaslin Mountain does not constitute an exemplary stand of the old-growth red oak-beech cover type. They suggested that further inventory work is needed to make sure that the best representative stands are located.
- The Laona District is also concerned that the Hagar Mountain candidate RNA is so similiar to the McCaslin Mountain candidate RNA that only one of the two candidate RNAs should be considered for establishment as a RNA. However, both candidate RNAs will continue to be managed as a Management Area 8.1 regardless of the management area designation. In addition, the distinctive features for the two areas are not the same and there is a need to decide the appropriate management area boundary for each candidate RNA.

4. Establishment Objectives

McCaslin Mountain meets all of the objectives listed earlier in this assessment and Forest Service Manual 4063.02 for establishing a research natural area.

5. Conflicting Uses

There are some serious management conflicts to consider in any designation for this area:

a. The McCaslin Tower Timber Sale is scheduled for sale in FY 90. All of the treatments proposed in this timber sale are intermediate thinnings except for stand 15 in compartment 171 which received a eight acre final harvest prescription. There is also some concern that proceeding with this timber sale before a decision has been made on a management designation and more importantly, the management area boundary could damage the potential research value for the McCaslin Mountain candidate RNA.

The impact on the McCaslin Tower Timber Sale of each Alternative is discussed later in this environmental assessment.

In addition, final harvesting activities connected with the 1975 McCaslin Tower Timber Sale are visually evident on the north side of the candidate RNA.

b. As recently as 1981 this area was considered to have a moderate to high potential for mineral development, primarily uranium, and is classified as a potential leasing area.

c. Two historic cultural resource sites have been located within the McCaslin Mountain area. One of the sites is expected to be nominated for the National Register. Normally, cultural resource sites at some time in the future will be evaluated which would involve some earth disturbance. The extent of the earth disturbance often depends on which type of artifacts are found, their significance and the physical conditions at the site.

6. Human Disturbance

There are four separate situations that have caused human disturbance on McCaslin Mountain:

- The extension of FR 2673 for .6 of a mile in 1985.
- The construction of the McCaslin Lookout Tower and garage.
- The second historic cultural resource site would be located within the management area boundary for Alternatives C, D, E and F.
- The high level of off-road vehicle use off FR 2673 on the extreme east end of McCaslin Mountain.

It is assumed that most if not all of the McCaslin Mountain area has been burned over in the past.

7. Boundary Line Manageability

The boundary line included in each of the Alternatives A-F would be reasonable to manage. An established property line which has been marked with red paint exists on the Forest County/Marinette County line adjacent to land owned by the United States.

Alternative D would be the easiest to establish and maintain because the boundary line follows FR 2673 on the south, FR 2141 on the west, FR 2671 on part of the north and would be established using long straight lines on the north and east reducing administrative costs.

Alternative C would be the most difficult to establish and maintain because the boundary line does not follow any existing system roads, has the poorest vehicle access and meanders for the longest distance around McCaslin Mountain.

Alternative F would be the second easiest boundary line to establish and maintain because it follows the same system roads as Alternative D, but has more miles of straight boundary lines to establish than Alternative D.

Alternative E would be the third easiest boundary line to establish and maintain because it follows the same system roads as Alternative D, but has more miles of straight boundary lines to establish than Alternative D and F.

Alternative A would be more difficult to establish and maintain than Alternatives D, E and F but would be easier than Alternatives B and C. Alternative A does not follow any system roads but does have the shortest length of meandering lines in comparison to Alternatives B and C.

Alternative B would be the second most difficult boundary line to establish and maintain because the boundary line does not follow any system roads and has less distance of meandering boundary line than Alternative C but more than Alternative A.

It should be pointed out that if Alternatives A, B or C were selected and the candidate RNA was recommended for establishment as a RNA, some slight modifications to the boundary line would be required to meet Forest Service manual direction (FSM 4063.37 and FSM 4063.41 5c) and to prevent excessively high administrative costs. A "metes and bounds" type survey would be used to closely approximate the management area boundary as shown in this environmental assessment.

The boundary line evaluation in the paragraphs above is based on ease of survey to establish the boundary line and ease of access to maintain the boundary line. Roads are considered easier and cost less to survey along than through a forest stand. Long straight boundary lines are less costly than meandering lines which require short straight boundary lines with many turning points.

Boundary line maintenance is easiest along a road, but more difficult as the distance from the roadway to the boundary line becomes greater.

8. Administrative Control

All land within the alternatives included in this assessment is in public ownership and under the administrative control of the Forest Service.

Wildlife and Timber

The table below compares each alternative by the number of acres no longer available for wildlife management practices such as opening construction and timber management practices such as harvesting:

<u>Alternative</u>	<u>Acres removed from wildlife/timber management</u>
A	0
B	93
C	269
D	224
E	383
F	339

The table below compares each alternative by the number of wildlife openings that would no longer be maintained:

<u>Alternative</u>	<u>Number of wildlife openings not maintained</u>
A	2
B	2
C	3
D	7
E	7
F	7

The table below compares each alternative by the acres and volume of timber products impacted in the proposed McCaslin Tower Timber Sale scheduled for sale in FY 90:

<u>Alternative</u>	<u>Acre Reduction</u>	<u>Volume reduction in proposed McCaslin Tower Timber Sale</u>
A	76	267 MBF
B	76	267 MBF
C	162	568 MBF
D	127	446 MBF
E	161	565 MBF
F	135	464 MBF

Grouping all three impacts together- acres unavailable for many wildlife and timber management practices, number of wildlife openings no longer maintained and the volume reduction in the proposed McCaslin Timber Sale- the alternatives can be ranked as listed below for the purpose of comparison:

Alternative A	Least impact
Alternative B	Low impact
Alternative D	Moderate impact
Alternative C and F	High impact
Alternative E	Highest impact

Selection of one of the alternatives in this environmental assessment would tend to shift the area toward wildlife species which favor old growth and are not dependent upon a young forest or forest openings. Species such as the cerulean warbler, which is an interior dwelling songbird, woodland raptors and other neotropical migrants would benefit from this habitat type change.

It is also expected that within the management area boundary there will generally be a gradual successional change from oak to a maple dominated cover type as the area is protected from human disturbance.

Recreation

Alternative A would not have any impact on the current uses of the area.

Alternatives B, C, D, E and F would prohibit the use of motorized vehicles within the management area boundary. This would result in the closure of FR 8379 in all these alternatives. Alternative C would also require closure of 1.1 miles of FR 2673. Alternative E would close .3 miles of FR 2673 and Alternative F would close .1 mile of FR 2673.

Alternatives B, D and F would construct and maintain a trail system within the management area boundary. Alternative B and F would add a 2.0 mile multi-purpose trail and Alternative D would add a 1.0 mile hiking trail. Forest Service manual direction (FSM 4063.3) prohibits any trails within an established research natural area unless it contributes to the objectives or protection of the area. Trails can be constructed in a Wisconsin State Natural Area under certain conditions as long as it is mutually agreeable with both parties of the Memorandum of Understanding. Some members of the public would be opposed to constructing any new recreational facilities within this candidate RNA. On the other hand, in the past trails have provided valuable onsite educational opportunities and have provided needed site protection. On McCaslin Mountain, there are no known distinctive features that are sensitive to nonmotorized public use.

The installation of a 2.0 mile multi-purpose trail in Alternative B and F would require approximately 1.5 miles of new trail construction. The installation of a 1.0 mile hiking trail in Alternative D would require approximately .5 miles of new trail construction. The reason for this is that FR 8379 which already is in place could serve as the first .5 mile for either of these two trails.

This roadway has also been closed to public use with motorized vehicles and is suitable for walking.

New trail construction would require some cutting of the trees but is not expected to cause a long linear break in the overstory canopy. These trails would also require the installation of signs along the route and some work to construct a walking surface of native materials. This construction work would be visually evident within the candidate RNA.

Soils and Geology

This section compares each alternative from the soils and geology perspective including how much area of the Michigamme Rock Outcrop Complex, Sarona and Padus soil mapping units are included.

All alternatives include the quartzite hill complex which is the bedrock controlled landscape. Alternative E contains the greatest area of the quartzite hill complex. Then in descending order comes Alternatives C, F, B, D and Alternative A with the least amount.

The Michigamme Rock Outcrop Complex is not common on the Nicolet National Forest as was mentioned earlier.

Alternative E contains the largest area of the Michigamme Rock Outcrop Complex. Then in descending order follow Alternatives C, F, B, D and the least Alternative A.

Alternative E also contains the largest area of the Sarona and Padus soil mapping units. Alternative F contains the second largest area of Sarona and Padus soil mapping units and Alternative D contains the third largest area of Sarona and Padus soil mapping units. The remaining Alternatives, A, B and C contain some Sarona soil mapping units but no Padus soil mapping unit.

A management area boundary that includes all three soil mapping units, especially a significant area of the Michigamme Rock Outcrop Complex which is uncommon on the Nicolet National Forest would enhance the research opportunities for this candidate RNA.

Transportation

Alternative A does not include the closure of any existing roads. However, Alternatives B, C, D, E and F will include the closure of FR 8379. Alternative C also closes approximately 1.1 miles of FR 2673 and Alternative E an estimated .3 miles.

The table below compares each alternative by the dollar value of lost investment if the recently extended FR 2673 is closed to public use:

<u>Alternative</u>	<u>Lost investment in FR 2673</u>
A	0
B	0
C	\$28,336
D	0
E	\$7,728
F	0

It is expected that most residents and some other members of the public would oppose any closure of FR 2673.

The expected public reaction to these closures has been discussed earlier in this environmental assessment.

Compliance with the Nicolet Forest Plan

The candidate RNA will be managed in compliance with the standards and guidelines for a Management Area 8.1 in the Forest Plan.

Alternative A as described in this assessment is in compliance with the Forest Plan.

Alternatives B, C, D, E and F which includes more acres than is specified in the FEIS will require a change to be made in the FEIS. If Alternatives B, C, D, E or F is selected, a correction notice to the FEIS will be issued to the public prior to implementation. The additional area included in these alternatives is not considered to be a significant change to the FEIS.

Protection of the Distinctive Features

In Section H of this assessment, each alternative response to the issues, concerns and opportunities was discussed using descriptors like "least" or "greatest". Here is a discussion of "adequate" protection of the distinctive features:

All Alternatives, A-F, provide adequate protection for the distinctive features. Alternative A provides adequate protection because even if McCaslin Mountain is not designated as a RNA the standards and guidelines in the Forest Plan for a Management Area 8.1 will be used to provide adequate protection for the distinctive features. Alternatives B, C, D, E and F also provides adequate protection because all significant earth-disturbing management practices now require an environmental analysis prior to implementation. The environmental analysis will evaluate all potential impacts of any proposed management practices in the vicinity of McCaslin Mountain on the distinctive features and will generate mitigation measures necessary for an environmentally sound resource management decision.

Because Alternative E contains the most acres, this alternative is considered most likely to ensure unmodified conditions within the candidate research natural area.

It is currently Forest Service policy in Region Nine to use an interdisciplinary team approach to integrated resource management for the implementation of Forest Plans. The Nicolet National Forest is actively involved in this decision making process.

The value of a RNA designation is that it gives national recognition to the distinctive features at McCaslin Mountain. In addition, it is important to realize that it is much more difficult to revoke a RNA designation than it is to change the management area designation during the development of the next Forest Plan. From this point of view a management area designation that recommends establishment of McCaslin Mountain as a RNA would provide longer term protection and national recognition with less risk of a adverse impact on the distinctive features.

The value of a State Natural Area designation is that it helps meet the State of Wisconsin Natural Area Program objectives and forms a partnership between the Wisconsin Department of Natural Resources and the Forest Service in the management of this candidate Research National Area. However, a Wisconsin State Natural Area designation does not provide the same degree of national recognition as a RNA and it is easier to terminate a cooperative agreement than it is to revoke a RNA designation.

None of the alternatives are expected to have a significant negative impact on the following items:

- consumers, civil rights, minority groups or women
- prime farmland, rangeland or forestland
- wetlands or floodplains
- threatened or endangered species
- cultural resources

A statement regarding the effects of the proposed actions on each of the items listed above is required in the Environmental Policy and Procedures Handbook (FSH 1909.15) in Section 24.

The cumulative effect of adding land suitable for timber production to each candidate RNA on the National Forest is to increase the risk of impacting the Forest's ability to provide certain public benefits, employment opportunities and revenue to counties. The magnitude of the impact would depend on the total number of acres of land suitable for timber production included in all the RNAs.

None of the alternatives will impact the short or long-term productivity of the land.

The selection of any one of the alternatives in this environmental assessment is not considered to be an irreversible or irretrievable commitment of resources.

No additional management standards or mitigation measures are proposed in this environment assessment.

J. LISTING OF AGENCIES AND PERSONS CONSULTED

Eric Epstein, Bureau of Endangered Resources, Wisconsin Dept. of Natural Resources.

Mary Jean Houston, The Nature Conservancy.

Dr. Forest Stearns, Retired Professor, University of Wisconsin at Milwaukee and member of the Wisconsin Natural Areas Preservation Council.

Dr. Al Smith, Wheaton College, Wheaton, Illinois.

Dr. Tom Crow, Supervisory Ecologist, Forestry Sciences Laboratory, North Central Forest Experiment Station.

Dale B. Staeger, District Ranger, Laona District, Nicolet National Forest.

Terry Moore, Forest Planning, Soils and Watershed Staff Officer, Nicolet National Forest.

Dave Hoppe, Forest Soil Scientist, Nicolet National Forest.

Lee Clayton, Glacial Geologist, University of Wisconsin Extension Geology and Natural History Survey.

Michael G. Mudrey, Geologist, University of Wisconsin Extension Geology and Natural History Survey.

Correspondence and other contacts with numerous individuals and agencies in connection with analysis of the McCaslin Opportunity Area are on file at the Laona District Office. A complete listing of each contact is available by contacting the Laona District Ranger.

K. REFERENCES

Albert, Dennis A., Denton, Shirley R., Barnes, Barton V., 1986. Regional Landscape Ecosystems of Michigan. School of Natural Resources, University of Michigan.

Rauscher, Michael H., 1984. Homogeneous Macroclimatic Zones of the Lake States. Research Paper NC-240. North Central Forest Experiment Station.

L. APPENDIX A: Table 3 -21 from the Regional Guide for the Eastern Region.

L. APPENDIX A: TABLE 3-21 FROM THE REGIONAL GUIDE FOR THE EASTERN REGION

APPENDIX A: Table 3-21

Targets for Locating, Evaluating, and Establishing Research
 Natural Areas for the Eastern Region, January 1982
 (Society of American Forester Numbers and Forest Cover Types)

Priority #1 Unrepresented Forest Cover Types	Priority #2 Forest Cover Types Represented Once	Priority #3 Forest Cover Types Represented Twice
Chippewa, Superior, Nicolet, Chequamegon, Ottawa, Hiawatha, and Huron-Manistee National Forests		
13 Black spruce-tamarack 17 Pin cherry 18 Paper birch 20 White pine-northern red oak-red maple 26 Sugar maple-basswood 51 White pine- chestnut oak 52 White oak-black oak- northern red oak 108 Red Maple	14 Northern pin oak 21 Eastern white pine 23 Eastern hemlock 25 Sugar maple-beech- yellow birch 37 Northern white cedar 38 Tamarack 39 Black ash-American elm-red maple 55 Northern red oak	5 Balsam fir 15 Red pine 24 Hemlock-yellow birch

ENVIRONMENTAL ASSESSMENT
McCASLIN MOUNTAIN
CANDIDATE RESEARCH NATURAL AREA

NICOLET NATIONAL FOREST
LAONA DISTRICT
FOREST COUNTY, WISCONSIN

Recommended by: _____ Date: _____
Dale Staege, Laona District Ranger

For more information, contact:

D. Craig Beardsley
Nicolet National Forest
68 South Stevens Street
Rhinelander, Wisconsin

Deciding Officer:

Joel Holtrop
Acting Forest Supervisor
Nicolet National Forest

McCoy

United States
Department of
Agriculture

Forest
Service

Regional Guide for the Eastern Region

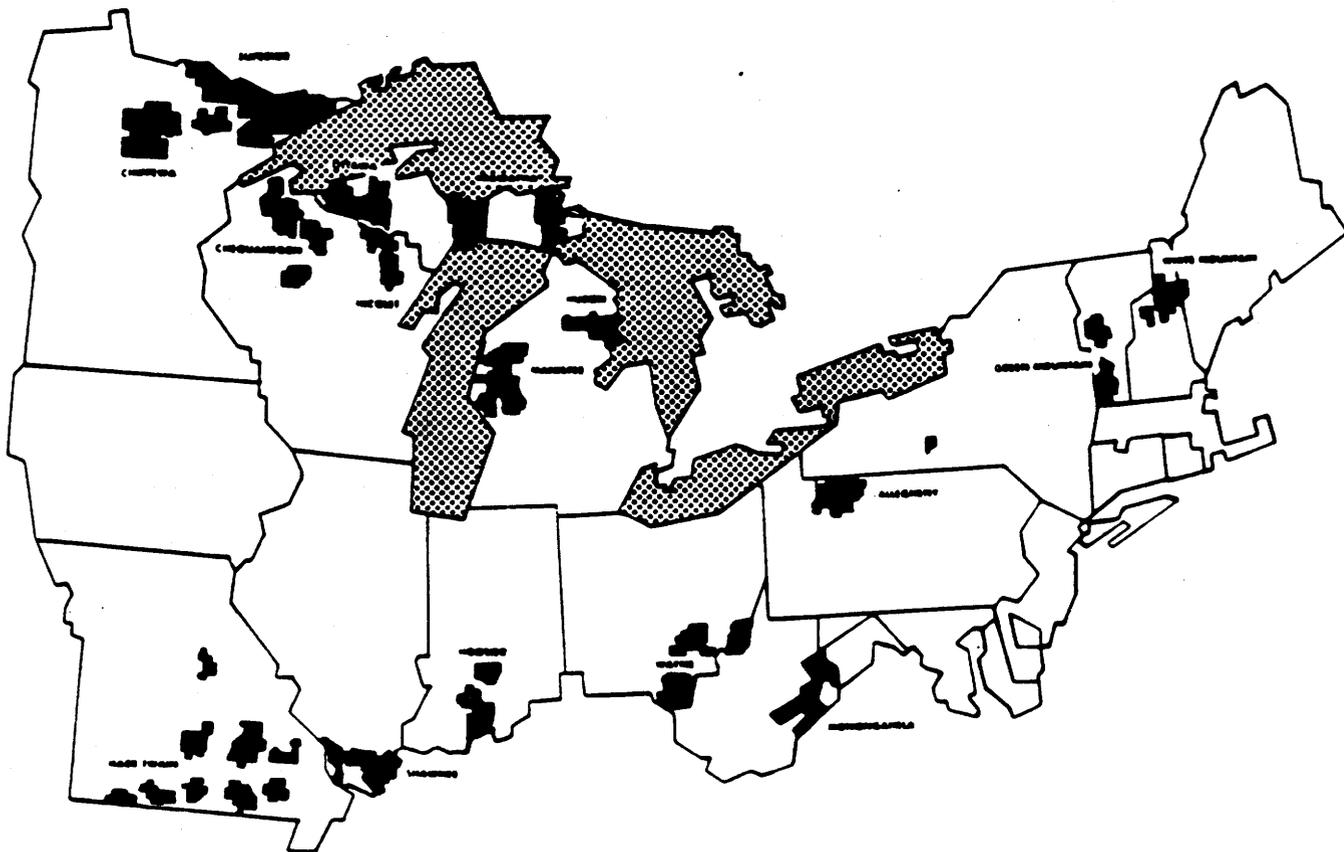
Eastern
Region

Milwaukee, Wis.



APPENDIX A

THE FOLLOWING PAGES WERE COPIED FROM THIS DOCUMENT



Management Goal 8

This goal will emphasize the following:

- a) The preservation of unique ecosystems for scientific purposes
- b) Areas to conduct research to improve the benefits of forests and rangeland
- c) The protection of unique areas of national significance

These areas will include a wide range of ecosystems for designated research natural areas, experimental forests, wild and scenic rivers, and other unique areas of national significance.

A system of roads and trails may provide access for administrative purposes and recreation activities if compatible with the purpose of the area. Management of these systems will depend on the objective of the area, with motorized and nonmotorized access often being regulated. Facilities and structures will be present and will be designed to be compatible with the natural surroundings. Evidence of human activities will vary, but generally will be controlled to reduce its effect on the area.

The size of the areas will vary, depending on the intended purpose.



STANDARDS AND GUIDELINES FOR MANAGEMENT GOAL 8

1900 LAND AND RESOURCE MANAGEMENT PLANNING

Vegetative Management

Vegetative management will be governed by the special area management objectives.

2100 ENVIRONMENTAL MANAGEMENT

Air Quality

Forests will advise the Regional Forester of areas where redesignation to Class I air-quality area is necessary to protect wilderness or other unique National Forest System lands.

2200 RANGE MANAGEMENT

Forage management will comply with the special area management objectives.

2300 RECREATION MANAGEMENT

Recreation Opportunities

Location of recreational developments will be determined with priority given to correcting health and safety problems, protecting the environment, complementing prescribed recreation opportunities, and meeting public demand.

Feature the ROS classes that are consistent with the special area management objectives.

Trails

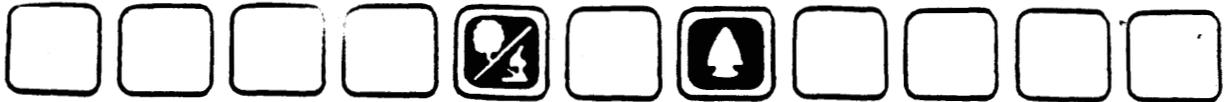
Trails will be consistent with the special area management objectives.

Off-Road Vehicles (ORV)

ORV use will be restricted to designated roads and trails, unless otherwise provided for by law, regulation, or the special area management objectives for each area.

Cultural Resources

Forest will set priorities for and will schedule evaluation of cultural resources for the National Register of Historic Places.



STANDARDS AND GUIDELINES FOR MANAGEMENT GOAL 8

Assess the nature and degree of damage to cultural resources caused by vandalism, visitor use, and natural deterioration and identify protective measures to be implemented.

Areas having unique cultural resource values of national significance will be identified for special management, including enhancement and interpretation. Cultural resource interpretation in other special management areas will be consistent with each area's purpose.

Visual Quality

Visual quality objectives will be consistent with special area management objectives.

2400 TIMBER MANAGEMENT

Silvicultural Systems

Even-aged or uneven-aged systems may be used on experimental forests. On unique areas other than experimental forest, Forest or area management plans will specify the systems to be used.

Harvest Cutting Methods

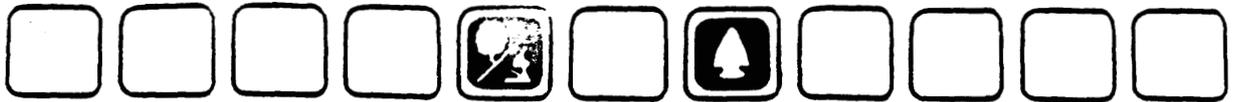
Harvest cutting methods must be consistent with the objectives stated for this Regional goal and as shown in the table titled: Harvest Cutting Methods in the Eastern Region by Forest Types, Regional Management Goals and Subregion, Appendix C.

Clearcutting will be used only where it is the optimum method to meet the goal objectives. Forest Plans will specify conditions and situations for variation from the appropriate harvest cutting method specified in Appendix C.

Temporary Openings Created by the Application of Even-Aged Silviculture

The maximum size of temporary openings created by even-aged management is 40 acres, except as provided in 1-4 below:

1. 370 acres in jack pine type for Kirtland's Warbler habitat on the Huron-Manistee National Forest



STANDARDS AND GUIDELINES FOR MANAGEMENT GOAL 8

2. 200 acres in aspen, birch, conifer types within areas managed for moose habitat on the Superior National Forest
3. 300 acres in designated special management areas on the Hiawatha, Ottawa, Chequamegon, and Huron-Manistee National Forests for sharp-tailed grouse and sandhill crane
4. Exceptions in the NFMA regulations, which are:
 - a) On an individual sale basis after 60 days public notice and review by the Regional Forester
 - b) As a result of natural catastrophic condition, such as fire, insect and disease attack, or windstorm

Creation of temporary openings and definition of their sizes will be further governed by the special area management objectives.

Management Intensity and Utilization

For the purpose of determining harvest levels, the utilization standards in Table 3-2 will apply.

Forests will consider a range of management intensities when developing prescriptions, yields, and output values. When determining intensity levels, the following practices will be considered: site preparation, seeding, planting, prescribed fire, precommercial and commercial thinning, release, fertilization, and integrated pest management. Practices will be employed when cost efficient and needed to meet the objectives of the relevant Regional goal.

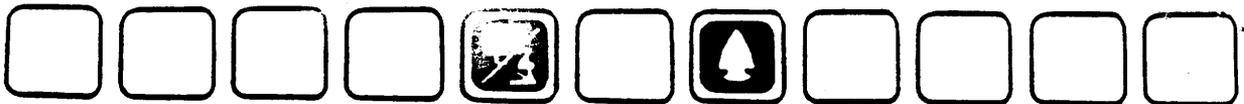
Silvicultural standards will incorporate genetic improvement principles and practices.

Forest Plans will specify management practices to be used to obtain desired conditions for each time type to be harvested.

Minimum stand size for timber production normally will be 10 acres. Forests will specify exceptions.

2500 WATER AND SOIL RESOURCE MANAGEMENT

Manage riparian areas using practices that are consistent with resource conditions, management objectives, and designated water use.



STANDARDS AND GUIDELINES FOR MANAGEMENT GOAL 8

Construction and rehabilitation of structures and facilities will preserve the beneficial values of floodplains and wetlands, will protect public safety, and will be cost efficient.

Heavily disturbed areas, such as borrow pits and mineral developments, when restored, will meet the objectives of this goal. Water bodies may be created when surface runoff and soil conditions permit.

Control measures to mitigate erosion will be commensurate with the soil characteristics, expected use, and management objectives of the area.

2600 WILDLIFE HABITAT MANAGEMENT

Wildlife

Protect existing spring seeps and other water areas that are critical to wintering wildlife. Each Forest will identify sites that require protection prior to implementing adjacent resource management activities.

Favor selective treatment of transmission line rights-of-way vegetation to improve wildlife forage.

Wildlife habitat management will comply with special area management objectives.

Fish

Fish habitat management will comply with special area management objectives.

Endangered, Threatened, and Sensitive Species

Identify and manage potential nest trees (2-3) within active and potential bald eagle or osprey nesting areas.

2700 SPECIAL USES MANAGEMENT

Utility Transmission Corridors

NOTE: See also 7700 Transportation System, Corridors.

Permit only those facilities that are required to serve recreational or administrative facilities. Exceptions will be considered on an individual basis.



STANDARDS AND GUIDELINES FOR MANAGEMENT GOAL 8

Utility Distribution Systems

Approval of application for distribution systems crossing National Forest System lands (such as utility rights-of-way serving individual residences) will be determined individually, consistent with the standards and guidelines for this Regional management goal.

2800 MINERALS AND GEOLOGY

Mineral Exploration

Surface-disturbing exploration (including core drilling) will be permitted wherever it is compatible with the management objectives of the area.

Mineral Development

USDA consent to mineral extraction plans will be determined individually, based on the relative value of the surface/subsurface resources and on consistency with the standards and guidelines in this Regional management goal.

5100 FIRE MANAGEMENT

Prescribed fire may be used to establish or maintain vegetation under established resource management prescriptions.

Activity fuels will be managed at a level commensurate with the allowable fire intensity and rate of spread that meets resource objectives in established prescriptions. Treatment along highways and adjacent properties will meet applicable State laws.

Fuelbreak management will be addressed in the development of management prescriptions, with locations and size based on analysis of probable fire locations, expected fire intensities, and potential versus allowable net resource value change.

Wildfire prevention, detection, and suppression, as well as fuels management, including fuelbreaks and hazard reduction, will be planned, based on an analysis of probable fire location, expected fire intensities, potential net resource value change, and risk to health and safety, and will be addressed in the development of management prescriptions.



STANDARDS AND GUIDELINES FOR MANAGEMENT GOAL 8

5400 LANDOWNERSHIP

Surface Ownership

Avoid encumbering land available for exchange with land uses that compromise land exchange opportunities.

7300 BUILDINGS AND STRUCTURES

Limit buildings and structures to those needed to support the special area management objectives.

7400 PUBLIC HEALTH AND POLLUTION CONTROL ACTIVITIES

Water Supply

Drinking water may be provided. If provided, it must meet Federal and State regulations and be protected to ensure its continued quality.

Solid Waste

Landfill disposal sites may be allowed only as permitted by the special area management objectives.

7700 TRANSPORTATION SYSTEM

Roads

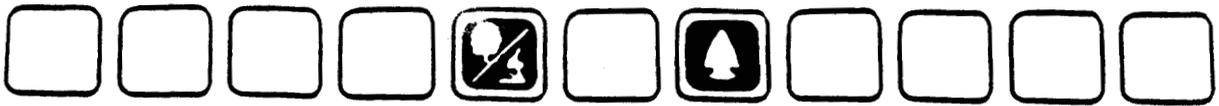
Collectors and local roads will be designed, constructed, and managed for transporting forest products and supporting administrative use.

Provide local roads as needed to comply with special area management objectives.

Roads may be closed to public use or restricted by vehicle type or season of use.

Roads will be maintained to at least maintenance level III if passenger car travel is intended, maintenance level II if passage of vehicles is limited, or maintenance level I if closed to vehicular traffic.

All temporary and short-term roads will be planned and constructed to be revegetated. Revegetation will be accomplished in a reasonable period of time, not to exceed 10 years after termination of the contract, lease, or permit.



STANDARDS AND GUIDELINES FOR MANAGEMENT GOAL 8

Identify all existing roads and determine those needed for administrative and public use. Unnecessary roads will be obliterated.

Corridors

Corridors up to one-half mile wide will be identified for each arterial or collector road (including Forest Highways that meet this definition) to be constructed or reconstructed.

Table 3-21

Targets for Locating, Evaluating, and Establishing Research Natural
Areas for the Eastern Region, January 1982
(Society of American Forester Numbers and Forest Cover Types)

Priority #1 Unrepresented Forest Cover Types	Priority #2 Forest Cover Types Represented Once	Priority #3 Forest Cover Types Represented Twice
Chippewa, Superior, Nicolet, Chequamegon, Ottawa, Hiawatha, and Huron-Manistee National Forests		
13 Black spruce-tamarack	14 Northern pin oak	5 Balsam fir
17 Pin cherry	21 Eastern white pine	15 Red pine
18 Paper birch	23 Eastern hemlock	24 Hemlock-yellow birch
20 White pine-northern red oak-red maple	25 Sugar maple-beech- yellow birch	
26 Sugar maple-basswood	37 Northern white cedar	
51 White pine- chestnut oak	38 Tamarack	
52 White oak-black oak-northern red oak	39 Black ash-American elm-red maple	
108 Red maple	55 Northern red oak	
Green Mountain and White Mountain National Forests		
5 Balsam fir	18 Paper birch	
13 Black spruce-tamarack	25 Sugar maple-beech- yellow birch	
16 Aspen	32 Red spruce	
17 Pin cherry		
19 Gray birch-red maple		
22 White pine-hemlock		
24 Hemlock-yellow birch		
27 Sugar maple		
30 Red spruce-yellow birch		
31 Red spruce-sugar maple-beech		
33 Red spruce-balsam fir		
35 Paper birch-red spruce-balsam fir		
37 Northern white-cedar		
38 Tamarack		
45 Pitch pine		
46 Eastern red cedar		
55 Northern red oak		
107 White spruce		
108 Red maple		

United States
Department of
Agriculture

Forest
Service

Eastern
Region



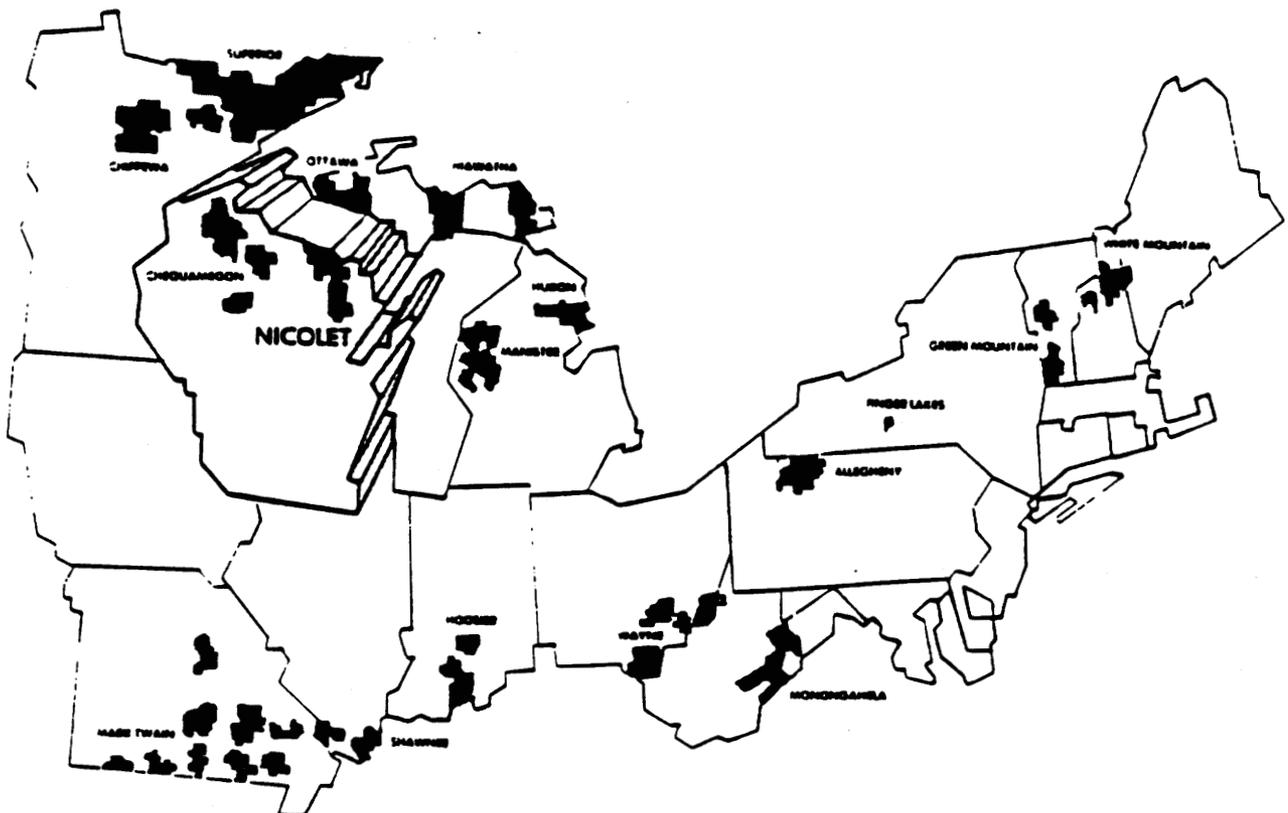
Final Environmental Impact Statement

Land and Resource
Management Plan

NICOLET NATIONAL FOREST

APPENDIX B

THE FOLLOWING PAGES WERE COPIED FROM THIS DOCUMENT



Wilderness

The Nicolet has three designated wildernesses, totaling 33,258 acres:

Blackjack Springs contains a series of springs in an area of slightly rolling and forested topography with a white pine-red oak component. The springs flow into the Deerskin River, a popular trout stream that forms the north wilderness boundary.

Headwaters Wilderness is comprised of three areas separated by gravel roads. These areas contain vegetation and topography representative of northern Wisconsin. Terrain is generally flat with hardwood ridges and forested swamp, muskeg and bog lowlands.

Whisker Lake contains several small lakes set in a forest consisting of white pine, hardwoods, aspen and some virgin red pine. The lakes provide fishing opportunities for people as well as eagle and osprey.

The primary activities occurring in these areas are hunting, fishing, camping and trail uses.

These areas have been congressionally designated as wilderness. Because of the congressional mandate, there is no variation possible through different alternative management, concerning the amount of wilderness acres on the Nicolet. In May 1984, when wilderness legislation was enacted for the Headwaters Wilderness, release language was included in the legislation precluding any additional wilderness studies until at least the next planning period, and other areas of the Forest that are not designated as wilderness are to be managed for multiple uses.

Opportunities for Research Natural Areas/Scientific Areas

Research Natural Areas (RNA's) are formally designated areas that represent natural ecologic communities. Their purpose is to promote and protect natural diversity in all its forms. These areas are available for nonmanipulative research and scientific study. As part of the forest planning process the forests were to identify areas in the Forest Plan that could be evaluated in the future for possible additions to the RNA system. Priority was to be given to those ecosystems that were represented by only one or two locations. Actions to evaluate the identified areas will follow the Forest Plan process. Establishment records will be prepared for qualified areas. These documents must be approved by the Chief of the Forest Service to officially establish the Research Natural Areas.

Scientific Areas are similar to RNA's but are formally designated by the State of Wisconsin. Dedication of new Scientific Areas within the

Table 3-1

SITES RECOMMENDED FOR POTENTIAL RESEARCH NATURAL AREAS
AND/OR STATE SCIENTIFIC AREAS (Management Area 8.1)

<u>Name</u>	<u>Town</u>	<u>Range</u>	<u>Section</u>	<u>Approx. Acres</u>
1. Alvin Creek Headwaters	40N	13E	10,11	119
2. Atkins Lake	37N	11,12E	25,30	800
3. Barney Creek	33N	15E	6	20
4. Bastile Lake	39N	14E	28	115
5. Brule River Cliffs	41N	16E	19,30	100
6. Glocke Lake	33N	15E	13,24	70
7. Grandma Lake Wetlands	39N	15E	33,34,35	374
8. Hagar Mountain	32N	17E	31,32	160
	31N	17E	5,6	
9. Kentuck Lake Swale	41N	12E	27,34	208
10. Snow Falls Creek	32N	16E	1,12	350
11. Waupee Lake	31N	17E	3	60
12. Wisconsin Slough	41N	15E	34	100
	40N	15E	4	
13. Scott Lake-Shelp Lake	38N	12E	17	266
14. Giant White Pine Grove	38N	12E	10	23
15. Bose Lake Hardwoods	40N	12E	22	22
16. Pine-Oak Grove	40N	11E	2	120
17. South Branch Grove	31N	15E	35,36	160
18. McCaslin Mountain	34N	16E	35,36	185

National Forest will be through negotiated management agreements with the State following the Forest Plan process.

Eighteen areas of the Nicolet are currently identified that need evaluation to determine if they represent the qualities of a RNA, and/or a State Scientific Area. These areas are listed in Table 3-1. All areas will be assigned to Management Area 8.1. Their natural integrity will be protected until they can be evaluated to determine their status. Additional areas may be listed and evaluated throughout the planning period.

Some of these areas have already been placed in special categories. The Bose Lake Hardwoods was designated a State Scientific Area (No. 119) in 1969 and as a Natural Landmark by the Secretary of the Interior in 1980. Scott Lake-Shelp Lake and Giant White Pine Grove were designated State Scientific Areas (No. 117 and No. 118) in 1969. Three of the areas: Scott Lake-Shelp Lake, Giant White Pine Grove, and Blackjack Springs White Pine-Red Oak are within designated wilderness.

If through the evaluation process those areas do not qualify as RNA's or State Scientific Areas, they will then be assigned as Special Areas as described in the following section.

Special Areas

Several areas have been identified that meet criteria for consideration as special areas. These criteria include unique plant and animal communities and geological formations. The 71 sites are listed in Table 3-2. The values of each area are not listed to avoid undue attention to them until specific boundaries are set and their management is determined, or through evaluation it is decided that they do not qualify as Special Areas. This will be done in cooperation with the State of Wisconsin following the Forest Plan process. For their protection, all areas are placed in Management Area 8.1.

Wild, Scenic and Recreation Rivers

Three rivers originating within the boundaries of the Nicolet National Forest and one boundary river are eligible for scenic or recreation river status. The rivers are the Pine, Popple, Peshtigo and Brule. In 1983, a task force was assigned to review these rivers and make a preliminary determination of the river's qualifications.

The task force determined that none of the rivers were eligible for federal wild classification. All the river segments were accessible by road, had developments on private lands along the rivers and contained visible evidence of ongoing land management. It was also reported that the rivers considered would meet the criteria for scenic or recreation classification. The National Forest land areas adjacent to the rivers could be managed for a full range of resource use if certain standards and guidelines were followed.

Adopting those standards for management of the National Forest lands would not preclude designation of the rivers as scenic or recreation rivers in the Federal system. Based on this finding, the Forest Service determined that the Pine, Popple, Peshtigo, and Brule Rivers be placed in Management Area 9, with no regulated harvests scheduled for the first decade in these corridors.

Refer to Appendix C for a more detailed analysis of these potential scenic and recreation rivers.

Wetlands

Wetland areas on the Nicolet are found on the Carbondale and Greenwood Ecological Land Types (ELT's). Lowland conifer and swamp hardwoods are the predominant timber types. Other classifications of land types found in the wetlands are sedge meadow, marsh, shrub swamp, bog, and open water. Approximately 153,000 acres, or 23% of the Forest is classified as wetland. (See Table D-1A, Appendix D for acreage breakdown.)

G. IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

An irreversible commitment of resources is one that results from action altering an area such that it is prevented from returning to its natural condition for an extended period of time or one that utilizes nonrenewable resources, such as minerals. The only irreversible commitment of resources anticipated under any alternative would be the extraction of mineral resources which would not vary significantly among alternatives the use of fossil fuels for energy in the administration and management of the forest and any inadvertent loss of cultural resources.

Irretrievable commitments of resources include lost production or loss of use of renewable resources due to a management decision. The opportunity to use the resource is foregone during the period of time that is committed to other uses. The loss is sustained only during the period of their unavailability to the alternate use. Management decisions that forego the production or use of renewable resources for relatively long periods of time and in varying amounts within each alternative include:

- The reduction of timber production on sites dedicated to roads, wildlife openings, recreation facilities, research natural areas, right-of-way corridors and seed production areas.
- Loss of resource production potential in management prescriptions for areas 5, 6.3, 8 and 9 (see Management Area Maps - and Forest Plan).
- Any inadvertent damage and subsequent loss of threatened, endangered or sensitive wildlife and plant species habitat, wetlands, soils, air quality or water quality. These losses could occur if mitigation measures are unsuccessful.
- Any shifts in the recreation opportunity class from the primitive end of the spectrum towards the urban end.
- Any shifts in the visual quality objective towards modification.
- Any loss of human health or life due to increase traffic on and use of the forest resources.
- Any loss of investments due to high risks. As an example, if developed recreation facilities are constructed, but the demand for these facilities turns out to be much lower than projected, the investments could be lost.

2. Forest-wide Standards and Guidelines

The Forest-wide standards and guidelines contain direction that applies to the entire Nicolet National Forest. When the appropriate practices apply, the following standards and guidelines are to be used (exceptions where they do not apply are noted). They are listed here:

1600 Information Services

Work to achieve informed public consent during development of land and resource management plans and programs prior to their implementation.

Implement a public information and education program in coordination with other public and private organizations to reduce the number, intensity, and cost of conflict producing and resource damaging situations.

1800 Human and Community Development

Identify Forest related opportunities that will help individuals and local communities enhance their self-sufficiency and their feelings of social well-being.

Identify opportunities in which individuals and volunteer organizations can assist in the management of the National Forest.

Do not allow resource management activities to preclude the right of American Indians to express and exercise their traditional religion.

1900 Land and Resource Management Planning

Plan Implementation

Assure that implementation of this plan is done through integrated resource management. All project activities must be driven by multiple use objectives as described in the plan. Resource needs (recreation, wildlife, timber, visual, soil, water, etc) must be specified and predetermined prior to project planning in an integrated manner and in accordance with this plan.

Vegetative Management

Does not apply to MA 5 or 9.1. Favor native species when restoring disturbed areas or providing vegetative screening. Ensure diversity of vegetative types by following the composition objectives of the Management Area. Openings, regeneration, old growth, mast producers, wetlands, forage, thermal cover and other vegetative types will be interspersed among the management areas as specified.

Limit whole tree removal to soils with sufficient nutrient content and nutrient storage capacity to support the new stand of vegetation and maintain soil productivity.

NEPA Process

A decision to implement any proposed action that could affect resources, land uses and environmental quality not covered under this Forest Plan shall be preceded by an environmental analysis. The Forest Supervisor will use the results of the analysis to determine if any documentation is required by the National Environmental Policy Act.

All actions in the annual program of work are covered by the Forest Plan. Any project identified in the Forest Plan must be assessed to determine if environmental effects will occur. The Nicolet will file a decision notice on the annual program of work.

2100 Environmental Management

Air Quality

Mitigating measures for forest management activities affecting air quality will be specified, and control will be coordinated with regulatory agencies.

Present and potential impairment of Forest resources attributable to air pollution will be identified, and the Regional Forester will be advised.

Pesticide Use

Pesticides will be used only after consideration of other alternatives clearly demonstrates pesticide use is

essential to meet management objectives. Consideration will be given to the environmental acceptability, economic efficiency, visual impact and biological effectiveness of available alternatives.

Alternatives include silvicultural, mechanical, manual, prescribed fire, biological, and chemical treatments.

Whenever possible, the application of herbicides in retention zones (see 2300 - Visual Quality Objectives) should occur so that the vegetation is deadened in the fall of the year.

Use only pesticides registered by the Environmental Protection Agency (EPA) in full accordance with the Federal Insecticide, Fungicide and Rodenticide Act, as amended, except as otherwise provided by regulations, orders, or permits issued by the EPA. In addition, certain pesticide uses require Regional Forester approval.

2300 Recreation Management

Recreation Opportunities

Recreation developments will be placed with priority given to protecting the environment, correcting health and safety problems, complementing prescribed recreation opportunities and meeting demand.

All new construction or improvements made to existing facilities will provide for handicapped access. This will include campground facilities, with handicap access to toilets, water fountains, and barrier free walkways.

Campgrounds, swimming beaches, picnic areas, boat launches and other intensive use sites will be provided primarily at experience Levels II, III or IV. Recreation sites that compliment and encourage dispersed use are featured.

Recreation Facilities (Practices Used)

These are the practices used on the Nicolet to produce recreation benefits. (These do not apply to MA's 5, 6.3, 8.1, 8.2 and 9.1.)

Noncharge Developed Recreation Construction Practices:

Practice consists of all work necessary to survey and construct new developed recreation noncharge sites, including Level II campgrounds, Level III and IV swimming and picnicking sites, boat launches and interpretive sites. Costs of supporting facilities, such as parking lots, toilets, trails, signs, water wells, etc. are included with construction costs.

Projected work plans will include detailed site and facility drawings approved by the District Ranger and Forest Supervisor in advance of construction activity.

New Area Campsite Construction Practices:

This practice consists of the construction of new recreation experience Level III charge campgrounds. Costs of supporting sites (swimming and boating) and facilities, such as interior trails, are included in the construction costs. Cost of the camp units includes costs of water wells, vault toilets, tables, fire rings, signs, tent pads, vegetative management, etc. These costs are prorated over the total number of new camp units.

Vegetation will be managed to maintain growth and health of all levels of vegetation, remove hazardous and over-mature trees and allow sunlight to reach the forest floor. As a minimum, informational signing in all areas will be provided for visitor services.

The degree of law enforcement needed to protect the users and to ensure adherence to policies will be provided.

Recreation Rehabilitation

Recreation area rehabilitation will be undertaken with priority given to correcting health and safety problems, protecting the environment, changing camp unit design to ease administration and refurbishing worn facilities.

Visual Resource Management

The visual resource will be routinely considered in all forest projects. Projects will borrow from line, form, color and texture of the characteristic landscape. Management activities will at least meet the visual quality objective of modification.

Management of the visual resource will be accomplished thru the application of various design techniques plus enhancement and rehabilitation projects. The objective of visual resource management is to ensure that management activities meeting other resource needs either maintain or upgrade the visual resource.

Visual Quality Objectives

Visual quality objectives (VQO's) are depicted on maps located at the Forest Supervisor's Office and Ranger District offices. Examples of VQO areas can be found in Appendix E. Guidance on achieving these objectives is given throughout the standards & guidelines section.

Management of the visual resource will be directed towards the attainment of the following visual quality objectives:

RETENTION - This VQO provides for management activities which are not visually evident. Activities may only repeat form, line, color and texture which are found frequently in the characteristic landscape. Reductions in contrast to form, line, color or texture should be accomplished during management activities or immediately after. Vegetation composition objectives will be the same as they are in each of the management areas, however, big trees will be featured in the long-lived species. Temporary openings may be 40 acres but are designed to appear smaller. Permanent openings are placed to create a view of scenic land features plus add diversity in foreground areas. Roads are less evident and intersections are kept to a minimum. There is little contrast in colors as road debris is removed for the first 100 feet in the foreground and the road ditches, shoulders and banks are seeded when construction is completed. Temporary roads are obliterated within two years after their use. Wherever possible, road closure devices, other than gates, will be

used. These devices should be natural appearing and subordinate to the surrounding landscape. Evidence of management activities is low. Enhancement and rehabilitation projects are given highest priority for implementation in retention foreground.

PARTIAL RETENTION - Management activities remain visually subordinate to the characteristic landscape. Reduction in contrast to line, form, color or texture should be accomplished in the first year or as soon after project completion as possible. Composition objectives will be the same as they are in each of the management areas, however, big trees will be featured in the long-lived species. Temporary openings may be 40 acres but are designed to appear smaller. Evidence of management activities are moderate but lessened within 1 year. When roads are to be closed, consideration should be given so that the road closure device is subordinate to the surrounding landscape. Partial retention areas are second in priority for implementation of enhancement and rehabilitation projects.

MODIFICATION - Management activities may dominate the original characteristic landscape. These activities, however, must borrow from naturally established form, line, color and texture so as to appear natural or compatible to the natural surroundings. Few visual enhancement or rehabilitation projects will be planned in modification foreground areas.

Trails

Materials that blend with the site will be used to the extent practical to build and maintain trails and/or recreation facilities. Rustic appearing signs and blazes will be used to direct and control use.

Management of National Recreation Trails will be compatible with standards incorporated in the Act establishing the trail and in the trail management plan.

The Forest will not groom snowmobile trails. These trails will be maintained through agreements with the respective counties.

Where compatible, trails will serve dual or multipurpose use, such as for snowmobile and hunter-walking trails.

Off-Road Vehicles (ORV)

The Nicolet ORV policy basically allows motor vehicles on all National Forest roads except those roads that are closed by signing, gating or other road closure devices. The policy prohibits vehicle travel off of a road.

Under State laws, vehicles operated on roads must be street-legal or legally exempted. Vehicles that are not street-legal or exempted are prohibited from use on the Nicolet.

Most trails are meant for snowmobile or foot travel, but those trails that look like roads are gated or otherwise closed to other vehicles.

The policy allows snowmobiles to be operated on designated snowmobile trails and on unsnowplowed roads.

The policy allows for exceptions by permit with off road vehicle use by handicapped persons.

Cultural Resources

Conduct cultural resource surveys and needed evaluations on all areas to be affected by earth disturbing projects and design activities to avoid, minimize, or mitigate adverse effects.

The Nicolet will schedule the inventory of cultural resources on all National Forest System lands giving priority to areas with high potential for disturbance, completing surveys by 1990.

A cultural resource overview detailing the history, ethnography and prehistory relative to the Nicolet has been developed.

Concurrent with the annual program of cultural resource inventory, both site-specific and thematic evaluations of identified cultural resource properties have been and continue to be conducted within the framework of National Register of Historic Places eligibility criteria. Those sites found National Register-eligible, as well as those not yet evaluated, have been preserved from potential management related impacts. A program of cultural resource site maintenance and protection has been implemented. This program is aimed at assessing the nature and degree of damage to cultural resources caused by vandalism, visitor use and natural deterioration, and serves to identify protection needs.

Cultural and historic values in relation to broader resource management objectives are approached and examined on a case-by-case basis. The Forest has maintained a close association with the Wisconsin State Historic Preservation Officer (SHPO), providing copies of all reports relative to the program, and in all cases, the Forest has requested SHPO comment on the treatment of cultural resource properties.

Opportunities for the interpretation of cultural resources for public education and enjoyment are being developed. Selected cultural resource properties have been signed, interpretive exhibits are being developed, and cultural resource brochures have been distributed through the Nicolets continued contact with interested public and private organizations.

Interpretive Service

Develop interpretative programs and materials that support Forest activities and programs, and explain the correlation of resource management direction to public interests and concerns. Programs will be based on audience analysis and on land managers' needs.

2400 Timber Management

These standards and guidelines do not apply to MA's 5 or 9.1:

Diversity

Diversity of tree species within stands will be maintained over time. Where timber stands consist primarily of red pine, jack pine, white pine and other conifers, there will be intermingled stands such as aspen, oak, or other mixed tree species arranged in a manner that breaks up the continuity of conifer stands. The maximum size for conifer stands will be 1000 acres. This condition is desirable for diverse wildlife habitat, visual variety, and as an aid to protecting the area from wildfire, insects and disease.

Vegetative Practices

Forested stands will generally be at least ten acres in size. Stand shape should blend with terrain and other natural features (biological, hydrological) to avoid artificial geometric patterns.

Harvest Methods

Harvest cutting methods are explained in Appendix A. For each timber type the harvest method to be used and rotation ages are shown later in this section. When managing for uneven aged stands, retain the sound trees 24" and greater that are within view (0-300 feet) from travelways or use areas. Unsound trees may be left to meet visual or wildlife needs unless they are a public hazard.

Clearcutting, where prescribed, has been determined to be the optimum method. When clearcuts occur in retention and partial retention areas, residual vegetation (other than reserve trees) 1" dbh or greater will be cut in the immediate foreground (0-300 ft) of travelways, use areas or water bodies.

Timber harvest practices are listed on the following pages:

Timber Harvest Methods (Practices Used)

These are the practices used on the Nicolet National Forest to produce timber benefits.

Even aged Harvest Practices:

Regenerate by clearcutting using full tree, tree length or shortwood logging. Do not leave residual red pine when area is to be regenerated to red pine to avoid sirocooccus infections on the new stand.

Begin thinning harvest at 30-50 years of age, except for aspen, jack pine, paper birch or balsam. Follow thinning regimes of red pine, white pine and white spruce Manager's Guides. Manager's Guides may vary between types.

Species	Rotation Age	CMAI*	Old Growth
Aspen	40-80	50-60	60-90
B. Fir	50-80	50-60	70-100
J. Pine	50-80	50-60	50-90
R. Pine	80-120	50-60	100-250
W. Pine	80-120	50-60	120-220
W. Spruce	80-120	50	90-120

*Culmination of Mean Annual Increment

Shelterwood Harvest Practices:

Paper Birch

Regeneration cut to 70-80% of crown closure favoring large diameter, high crown paper birch. Remove overstory when regeneration is established (about waist high and 1000 trees per acre). To maintain paper birch, site preparation should be done prior to harvest, if possible.

Begin thinning harvest when stand will produce operable volume. Thin at 10-20 year intervals. Maintain 100 square feet of basal area (B/A).

Species	Rotation Age	CMAI	Old Growth
P. Birch	60-80	50	70-100

Shelterwood Harvest Practices:

Northern Hardwoods, White Pine & Hemlock

Regenerate evenage stands by two-cut or 3 stage shelterwood method, using any logging method that doesn't degrade the site or cause excessive damage to residual stand. Regeneration cut 10 years before final harvest. Remove overstory when regeneration is 3-4 feet in height. (Ref: North Central guides for stocking)

Begin thinning harvest when stand will produce operable volume. Thin at 10-20 year intervals favoring species such as yellow birch, ash, basswood and hemlock. Follow stocking guides in North Central Guide 39.

Species	Rotation Age	CMAI	Old Growth
Hardwood	80-110	70	120-220
W. Pine	80-110	70	120-220
Hemlock	80-110	70	160-350

Shelterwood Harvest Practices:

Lowland Conifer

Regenerate evenage stands by two cut shelterwood method, tractor logging. Regeneration cut to 60-70% crown closure favoring large diameter cedar, spruce and tamarack with overstory removed later. Scarify before or after harvest for site preparation.

For lowland conifer types, enter stand at age 50-60 to remove mature balsam.

Species	Rotation Age	CMAI	Old Growth
L. Conifer	100-120	80	100-200

Selection Cutting Practices:

Regeneration of stand is achieved through unevenage management using the single tree selection harvest system. Thin stand through all size classes leaving the following basal areas:

20-24" DBH	20 Sq. Ft.
15-19" DBH	26 Sq. Ft.
10-14" DBH	22 Sq. Ft.
5- 9" DBH	16 Sq. Ft.
0- 4" DBH	<u>8 Sq. Ft.</u>
	92 Sq. Ft.

Begin thinning to develop stand structure when stand will produce operable volume. Harvest entry period approximately every 20 years until regulated stand is developed, then enter approximately every 10-20 years.

There is no rotation age for unevenage management stands.

Reserve Trees

Selected reserve trees will be retained in areas that are cut. These reserve trees should be a combination of single trees, groupings of trees and reserve islands. Single trees reserved should generally be within 200 feet of the cutting unit perimeter. See Nicolet Manual Supplement for selection criteria.

Provide snags to meet requirements of wildlife species as discussed in 2600 (Wildlife Habitat Management).

Temporary Openings

Temporary openings will vary in size and shape to blend with the surrounding forest environment. The maximum size of temporary openings will be 40 acres (25 acres in Management Areas 6.2 and 9.2) unless:

1. There has been 60 days public notice given on an individual proposal and the exception has been approved by the Regional Forester, or
2. There has been a natural catastrophic condition, such as fire, windstorm or an insect or disease attack, and the proposed action plan has been approved by the Regional Forester.

Temporary openings will generally be separated by a stand of at least ten acres and a distance of 500 feet. They will be considered as temporary openings until the new trees have reached a height that is equal to or greater than 20 percent of the height of the surrounding vegetation.

Temporary opening guidelines should be developed on a project by project basis with integrated resource management input. The maximum temporary opening to be allowed is 40 acres.

Suggested guides for temporary openings are listed below. In order to meet visual quality objectives, the open area that can be seen at any one point from a travelway, stream, use area or water body should not exceed the following suggested guidelines:

Travelway, Use Area or Stream

USE	AREA *		
	Reten	Part. Reten.	Mod.
Motorized	10 Ac	20 Ac	40 Ac
Nonmotor	5 Ac	10 Ac	30 Ac

* The actual size may be 40 acres but the area seen at any one point is shown above.

Water Body or Class 1&2 Trout Streams

In general, there will not be any temporary openings resulting from timber management activities immediately adjacent to lakes and streams with the following exception. Lakeshore and streamside vegetation manipulation, when necessary to maintain or enhance the visual and wildlife resource, will commonly consist of underplanting and thinning with the long-term objective of long lived big trees. When it is necessary to create a temporary opening next to a lake or stream, the size of this opening seen from any position on the shoreline should not exceed 5 acres (note that the actual opening size may be larger but only 5 acres can be seen).

Residue Treatment

A slash abatement plan should be developed on a project-by-project basis as part of the integrated resource management planning process.

Suggested guides for residue treatment are listed below. Trees (alive or dead) when reserved for other resource needs are not considered as residue requiring treatment. This includes snag and den trees, reserve trees or bearing trees. Residue treatment refers to the maximum height of residue above the ground.

The suggested guides are:

Non Motorized Use

Distance From Travelway,
Use Area or Waterbody

VQO	0-100 ft	100-200 ft
Retention*	< 24"	36"
Part Reten	< 24"	36"
Mod	< 36"	no standard

* For the first 25' complete removal

Motorized Use

Distance From Travelway,
Use Area or Waterbody

VQO	0-50 FT	50-100 ft
Retention	< 24"	< 36"
Part Reten	< 36"	< 48"
Mod	< 48"	no standard

Timber Utilization Standards

For the purpose of determining harvest levels, the following timber utilization standards will apply:

TIMBER UTILIZATION STANDARDS

Harvest Level Projections (36 CFR 219.9)

Product Type	Minimum Tree 5/ Specifications	Minimum Piece Specifications		
	d.b.h. (inches)	Length (feet)	d.i.b. at Small End (inches)	Percent of Gross Measure
Hardwood Sawlogs ^{2/}	11.0	8	9.6	40
Aspen Sawlogs ^{2/}	9.0	8	7.6	70
Softwood Sawlogs	9.0	8	7.6	40
Hardwood Pulpwood	5.0	8	4.0	70 sound & ^{3/} reasonably
Softwood Pulpwood	5.0	8	4.0	straight ^{4/}

1/ Plus trim allowance.

2/ Only logs that meet grade 3 or better factory logs are considered sawlogs. Logs less than grade 3 (construction grade or local use) and appraised positive can be considered sawlogs at Forest option. Caution: On integrated sales where only grade 3 and better logs are considered as sawlogs, a grade 4 or construction grade log may not meet pulpwood specifications because of percent soundness.

3/ 70 percent applies to rot, voids and char. Mechanical type defects such as sweep, crook, spider heart and ring shake, shall not be considered.

4/ Reasonably straight: When the true center line of a minimum length piece does not deviate more than one-half the inside diameter of the small end, plus 1 inch from a straight line drawn between the centers of the ends of the piece.

5/ A minimum tree must include at least one piece that meets minimum specifications.

Artificial Reforestation

Site Preparation

These are the artificial reforestation practices and standards that will be used on the Nicolet for site preparation:

Prepare sites for artificial regeneration by mechanical and/or herbicide treatment or prescribed burning. Objectives of treatment may include reduction of activity fuels but main purpose of treatment is to prepare seed bed by exposure of mineral soil and reduction of competition.

Provide filter strips as needed when applying mechanical and/or herbicide treatment within or adjacent to riparian areas and other ownership.

Protect slopes greater than 25% on Pence-Vilas Ecological Land Types from erosive forces.

Planting

These are the practices that will be used for planting on the Nicolet:

Treatment consists of hand or machine planting of tree seedlings or tubelings on natural or prepared sites. Practice also includes a minor amount of direct seeding and scatter planting for wildlife and visual management purposes. Tree stock planted should be of the highest genetic quality that is economically available. Normal stocking rates are shown below.

Practice includes fill in, replanting and first and third year stocking surveys, in addition to survival counts. Surveys beyond the third year survey will be required before some plantations can be certified as established.

Stocking Level (trees/acre):

	<u>Minimum</u> <u>Certifiable</u>	<u>Desirable</u>
Jack Pine	500	700
Red Pine	500	700
White Pine	500	700
White Spruce	500	700
Other Conifers	500	700

Regeneration is certified as complete when third year or later survival counts have 70% of the 1/700 acre sample plots stocked with a desirable or acceptable species, depending upon the distribution of acceptable stock.

Seeding

Practice consists of direct seeding on prepared sites. Tree seed should be of the highest genetic quality that is an economically available or genetically improved native species. Practice includes re-seeding and first and third year survival counts.

Regeneration is certified when 3rd year stocking surveys confirm that a minimumally acceptable number of seedlings per acre are present using the above table.

Natural Reforestation

Site Preparation

These are the natural reforestation practices and standards that will be used on the Nicolet for site preparation with natural reforestation:

Prepare sites for natural regeneration by mechanical treatment or prescribed burning. Objectives of treatment may include reduction of activity fuels but main purpose of treatment is to prepare seed bed by exposure of mineral soil. This practice is not used for aspen regeneration.

Protect slopes greater than 25% on Pence-Vilas ELT's from erosive forces.

These are the natural reforestation standards that will be used on the Nicolet for site prep:

Prepare sites for natural regeneration by removing residual overstory trees following harvest. Method is mainly hand felling but may include some amount of machine work, such as shear blading. This method applies to areas where objective is overstory removal without fuel treatment or a ground scarification.

For pure aspen regeneration following treatment, live residual overstory cannot exceed 10 square feet of basal area.

Natural Regeneration

Practice consists of regenerating forest areas by natural seed fall or sprouting on natural or prepared seed beds. Costs included consist of determining if adequate regeneration is present prior to final harvest in the shelterwood system or certifying regeneration has occurred within five years following the final harvest.

Regeneration is certified when the following stocking levels are met or exceeded:

	<u>Minimum</u> <u>Certifiable</u>	<u>Desirable</u>
Aspen	3200	5000
Oak	3200	5000
Birch	3200	5000
Other Hdws	3200	5000

Timber Stand Improvement

Chemical Release

Practice consists of releasing desired species from competing vegetation by aerial (helicopter or airplane) or ground application of a chemical agent to deaden unwanted vegetation. Practice includes a small amount of hand work to clean up edges or missed spots following treatment. (Refer to 2100-Pesticide Use.) Release treatment is applied one or more years after desired species are established by planting, direct seeding or natural regeneration.

Proposed aerial applications of pesticides will be evaluated through an environmental analysis process. The Forest Supervisor of the Nicolet N.F. must approve all uses of pesticides.

All applications will conform to the purposes and methods approved by the Environmental Protection Agency and issued in accordance with registered label instructions.

Areas treated with pesticides will be posted at points of probable public entry. Notices will include the type of material applied and the date of application. Posted notices will be removed 90 days after application.

Project plans for application of pesticides (ground or aerial) will include contingency plans for containment and clean-up of accidental spillage.

Hand Release

Practice consists of releasing established desired species from competing vegetation by cutting or girdling with hand tools. Release treatment is applied after desired species are established by planting, direct seeding, or natural regeneration.

Because of the character of the Nicolet National Forest watershed, the limits on the proportion of the drainage to be treated at any one time by vegetative removal are high, and generally not of concern. Changes in the timing or quantity of water flow as a result of proposed forest management activities are slight.

Riparian Areas

Preserve the beneficial values of floodplains and wetlands, protect public safety and be cost efficient in the construction, management, protection, maintenance and rehabilitation practices in all areas of structures and facilities. Review riparian area practices on a case-by-case basis to ensure that the practice is compatible with the riparian area and the practice has a low risk for the following:

- causing detrimental temperature or water chemistry changes.
- introducing pesticides into surface and groundwater.
- depositing undesired sediment.
- blocking stream flow.

Management activities proposed for riparian zones adjacent to lakes and streams, such as timber harvesting, road construction, site preparation or TSI work, will be reviewed by the hydrologist, landscape architect, wildlife biologist and/or soil scientist prior to their implementation.

In riparian areas adjacent to lakes and streams, limit heavy equipment use to periods when ground is dry or frozen. Provide filter strips as needed when applying mechanical and/or herbicide treatment within or adjacent to riparian areas. The following can be used as a guide:

<u>Slopes to</u> <u>Streams/Lakes</u>	<u>Width of Filter Strip</u>
Under 5%	10-25'
5-20%	25-50'
Over 20%	slope break or 50 ft.

Minimize risk of flood loss, restore and preserve floodplain values, and protect wetlands.

Watershed Disturbance

Heavily disturbed areas, such as borrow pits and mineral developments, will be restored under an approved site reclamation plan approved prior to surface disturbance. Water bodies may be created when surface runoff and soil conditions permit, if they meet the needs of impoundments. See 2600 - Wildlife Habitat Management.

Treat all disturbed areas that are subject to erosion for erosion prevention preferably within the growing season in which the disturbance occurs. When obliterating roads or closing short-term roads, use erosion control practices outlined in Watershed Structural Measures Handbook (FSH 2509.12).

Use erosion control practices for roads, skid trails, and other soil disturbing uses when slopes exceed 25% on Pence-Vilas ELT's.

Consider enhancement of soil productivity when opportunities are economically feasible.

2600 - Wildlife Habitat Management

Minimum Viable Populations

In cooperation with the WI Dept. of Natural Resources, monitor habitat conditions and population trends of management indicator species. Assess the impact of management practices on management indicator species and their habitat to insure that minimum viable populations are sustained.

Management Indicator Species

The effects of the Forest Plan on wildlife and fish will be monitored. However, because it would be impossible to track the effects of the Plan on each of the Nicolet's 368 species of wildlife and fish, 32 were selected as management indicator species that were felt to represent most habitats and the majority of all

other species on the Nicolet. These species are listed in the FEIS on page 3-33, with their associated habitat and the number of other species they are indicators for. The selection process is noted in a document on file at the Supervisor's Office - Rhinelander, Wisconsin. The monitoring of management indicator species is covered in Table 17 of Chapter 5.

**Federally Endangered,
Threatened and Sensitive
Species**

Because disclosing the locations of threatened, endangered and sensitive species may jeopardize them, all such locations will be kept confidential and disclosed only for management and valid research and study purposes.

**Existing/Potential
Essential Bald Eagle
Habitat**

Existing and potential, essential bald eagle habitat, as identified using criteria from the "Northern States Bald Eagle Recovery Plan," will be managed with the following emphasis:

1. Low human disturbance.
2. Land acquisition/adjustment priority.
3. Open road density for Management Areas 1.2, 2.2, 3.2 and 4.2 equal to or less than existing density. Low road construction standards.
4. Fisheries management to maintain an adequate fish prey base.
5. Manage toward maintaining and increasing white pine. Reserve existing and potential nest and perch trees.
6. Work with the U.S. Air Force to help mitigate low flying aircraft disturbance.

**Bald Eagle and Osprey
Nests, Great Blue Heron
Rookeries**

Bald eagle and osprey nesting areas and great blue heron rookeries will be governed by the following requirements:

1. Manage to control disturbances within approximately 330 feet of each eagle nest, osprey nest or great blue heron rookery.
2. Manage to control significant changes in the landscape within approximately 660 feet of an eagle or osprey nest or great blue heron rookery.

3. Restrict management activities that result in adverse disturbance to nesting birds within approximately 1,320 feet of an eagle nest, osprey nest or great blue heron rookery during the nesting period.

Potential Essential Gray Wolf Habitat

Potential essential wolf habitat is described in the FEIS on page 3-30. Within these areas, the open road density will be less than two miles/square mile. A proportion of both high and low standard roads will be closed. There will be an emphasis to reduce the total road density and lower the overall road standard. Habitat for the wolf's main prey, the white-tailed deer, will be maintained or increased (except in Management Area 5). Land acquisition and adjustment will receive high priority consideration.

Sensitive Species

A listing of candidate sensitive species for the Nicolet, together with the probable effects of management practices on them, is given in the matrix of Table 15. (A final sensitive species list will be developed by the Regional Forester using each Forest's candidate list.) Species not selected as sensitive species will be considered species of Nicolet Forest concern and still be managed according to the standards and guidelines given below. The complete Candidate Sensitive Species List Evaluation Process, developed in cooperation with the Wisconsin DNR and the Nature Conservancy, is on file at the Nicolet Supervisor's Office, Rhinelander, Wisconsin.

A biological evaluation is required where negative effects are shown to be possible for species with known locations. However, if standards and guidelines or other protection measures (such as inclusion in a RNA or 8.1 Management Area, or Forest-wide allocation of essential habitat) eliminate negative effects of management practices, a biological evaluation will not be needed.

TABLE 15 - EFFECTS OF MANAGEMENT PRACTICES ON CANDIDATE SENSITIVE SPECIES

Candidate Sensitive Species	MANAGEMENT ACTIVITIES																
	Timber Harvesting		Site Preparation		Regeneration			Timber Stand Imp.		Wildlife/Fish Hab. Imp.							
	Clearcut	Shelterwd/Thin Shelt/Thin LConif Uneven aged	Mechanical Felling	Prescribed Burn	Planting	Underplanting	Seeding	Natural	Hand Release	Select Chem. Release	Broadcast Chem. Release	Upland Opening Const.	Mech. Opening Maintenance	Chem. Opening Maintenance	Stream Brushing	Tree Drops	Impoundment/Pond Const.
Pine Marten	-																
*Bobcat	+	+	+														
Common Loon												+	+	+			
*Sandhill Crane	+		+	+							+	+					
*Black Tern											+	+					
*Upland Sandpiper	+		+	+								+	+	+			+
Common Merganser	-																+
Goshawk	-																
Cooper's Hawk	-																
Merlin	-																
Red-Shouldered Hawk	-																
Osprey	-											+	+	+			
*Marsh Hawk	+		+	+							+						+
Long-eared Owl	-										+	+	+	+			+
*Barred Owl	-											+	+	+			
*Spruce Grouse	-																
*Solitary Vireo	-																
*Eastern Bluebird	+		+	+							+	+	+	+			
*Grasshopper Sparrow	+		+	+							+	+	+	+			
*LeConte's Sparrow	+		+	+							+	+	+	+			
*Savannah Sparrow	+		+	+							+	+	+	+			
*Vesper Sparrow	+		+	+							+	+	+	+			
*Clay-Colored Sparrow	+		+	+							+	+	+	+			
Lincoln's Sparrow											+	+	+	+			
*Blackburnian Warbler	-																
Wood Turtle	-																
*Redside Dace																	
*Greater Redhorse																	
*Missouri Rock-Cress	-																
*Rugulose Grape Fern	-																
*Calypso	-																
*Stoloniferous Sedge	-																
Northern Bog Sedge		+															
Sheathed Sedge		+															
Ram's Head Lady's Slipper		+															
Stygian Rush		+															
White Adder's Mouth		+															
Small Round-Leaved Orchid		+															
Braun's Holly Fern	+																
Foam Flower																	
Small Purple Bladderwort	+																
Dwarf Bilberry																	
*Ginseng																	
Showy Lady's Slipper	+																

- Negative Effect
+ Positive Effect
Blank No Effect

TABLE 15 - EFFECTS OF MANAGEMENT PRACTICES ON CANDIDATE SENSITIVE SPECIES (continued)

Candidate Sensitive Species	MANAGEMENT ACTIVITIES																		
	Wildlife/Fish Habitat Improv			Road/Trail Const./Reconst. Management				Recreation Const./Expansion											
	Impoundment Drawdown	Artificial Nest/Den Str.	Beaver/Beaver Dam Removal	Instream Struct.	Bank Struct.	Underwater Struct.	Spawn Marsh	Lime/Fertilize	Chem. Fish Control	Mechanical Netting	High Std. Road Open	High Std. Road Closed	Low Std. Road Open	Low Std. Road Closed	Wetland Crossing	Stream Crossing	Developed Drive-in	Developed Walk-In	Dispersed Hike/ski
Pine Marten																			
*Bobcat																			
Common Loon		+																	
*Sandhill Crane			+																
*Black Tern		+																	
*Upland Sandpiper																			
Common Merganser																			
Goshawk																			
Cooper's Hawk																			
Merlin																			
Red-Shouldered Hawk																			
Osprey																			
*Marsh Hawk		+																	
Long-eared Owl																			
*Barred Owl																			
*Spruce Grouse																			
*Solitary Vireo																			
*Eastern Bluebird																			
*Grasshopper Sparrow																			
*LeConte's Sparrow																			
*Savannah Sparrow																			
*Vesper Sparrow																			
*Clay-Colored Sparrow																			
Lincoln's Sparrow																			
*Blackburnian Warbler																			
Wood Turtle																			
*Redside Dace																			
*Greater Redhorse																			
*Missouri Rock-Cress																			
*Rugulose Grape Fern																			
*Calypso																			
*Stoloniferous Sedge																			
Northern Bog Sedge																			
Sheathed Sedge																			
Ram's Head Lady's Slipper																			
Stygian Rush																			
White Adder's Mouth																			
Small Round-Leaved Orchid																			
Braun's Holly Fern																			
Foam Flower																			
Small Purple Bladderwort																			
Dwarf Bilberry																			
*Ginseng																			
Showy Lady's Slipper																			

*Protection or mitigation covered at the forest level of planning. All others will be evaluated at the project level. Biological evaluations not needed if site review indicates no probable negative effects.

The following standards and guidelines apply specifically to, or were developed specifically for, identified candidate sensitive species as a result of the evaluation process and the development of the matrix:

Pine Marten, Bobcat. Maintain the existing 120,000 acre area closed to dry-land trapping. This area was originally established in 1962 to protect reintroductions of fisher.

Common Loon. For small undeveloped lakes with a high percentage of National Forest ownership and with existing or potential loon nesting, cooperate with town boards, the WI DNR, and private riparian landowners to develop restrictions on motors. Restrict Forest Service developed recreation on these lakes.

Sandhill Crane, Upland Sandpiper, Marsh Hawk, Eastern Bluebird, Grasshopper Sparrow, Le Conte's Sparrow, Savannah Sparrow, Vesper Sparrow, Clay-Colored Sparrow, Dwarf Bilberry. Maintain existing upland sod openings and reclaim selected previously planted upland sod openings (3 acres and larger in size). Some maintenance will be done through prescribed burning to favor remnant open grassland vegetation.

Sandhill Crane, Lincoln's Sparrow. Maintain and reclaim selected large bogs in an open and brushy condition.

Common Loon, Black Tern, Common Merganser, Osprey, Redside Dace, Greater Redhorse. Chemical fish control proposals will be subjected to an environmental evaluation in waters containing or being used by these species.

Ginseng. Harvesting of ginseng without a permit (Form 2400-14) is a violation of 36 CFR 261.6(h). District Rangers will not grant permits of harvesting of ginseng from National Forest Lands.

Calypso, Stoloniferous Sedge, Northern Bog Sedge, Sheathed Sedge, Ram's Head Lady's Slipper, Stygian Rush, White Adder's Mouth, Small Round-Leaved Orchid, Small Purple Bladderwort, Showy Lady's Slipper. Control beaver (in conjunction with the WDNR) and remove beaver dams in areas of known rare plant sites threatened by flooding. Also protected under Management Area 8.1.

Wood Turtle. Retain alder along streams known to have populations of this species.

Spruce Grouse. As allocated in the Forest Plan, emphasize jack pine in portions of management areas 4.1 that do not have lowland conifer stands. The jack pine, by age class, will be spatially distributed to the extent possible.

Pine Marten, Bobcat, Common Merganser, Long-eared Owl, Barred Owl, Solitary Vireo, Blackburnian Warbler, Missouri Rock-creep, Rugulose Grape Fern, Braun's Holly Fern, Foam Flower. Protected under general standards and guidelines and when occurring in or placed in one of the following areas: wilderness, research natural areas/scientific areas, special areas, management areas 8.1, and 1.2, 2.2, 3.2, 4.2, 6.2 and 9.2 management areas.

Goshawk, Red-Shouldered Hawk. Within known territories the following protection guides will be adhered to:

1. Incorporate nest sites into a stand with a minimum size of 20 acres to be designated old growth. (Some territories will need to be larger to retain their productivity.)
2. Stands immediately adjacent (within a minimum of 300 feet) to the designated territory (old growth stand) will not be clearcut if practical silvicultural alternatives are available.

3. Generally, no new roads will be built or existing ones reconstructed within the designated territory (old growth stands), or within 300 feet of nests. Existing roads will be closed where possible. Where roads are built, seasonal restrictions will be imposed on their use.

4. Human disturbance, to the extent possible, will be eliminated or reduced between February 1st and August 1st, (the most critical nesting period being April 1st to May 15th).

5. The effects on raptor territories will be analyzed through the Integrated Resource Management implementation process.

The following standards and guidelines do not apply to MA 5 OR 9.1:

Permanent Openings

Existing and newly constructed permanent openings are distributed throughout the management areas. Where possible, they are well dispersed and located between contrasting timber types and also where they can serve as log landings, fire breaks or vistas. Constructed openings will be shaped to blend in with the surrounding landscape and be a minimum of 1 acre in size. During the construction of these openings the residue treatment guides found in the timber section should be followed. Permanent sod is the primary objective, but clover, upland brush and savannah conditions are also represented. Maintenance of existing openings is the highest priority and will be by mechanical mowing, herbicides, prescribed fire, or handcutting. They will range in size from one to several acres. Approximately 3% of the Forest's upland acres will be in permanent openings. Detailed project guidelines are contained in Nicolet Supplement 10.

Favor treatment of transmission line rights-of-way vegetation to improve wildlife forage.

Non-Forest Wetlands

Manage selected wetlands for waterfowl, furbearers, and other game and nongame wildlife. Maintain artificial nest and resting structures for waterfowl. These structures should be located as unobtrusively as possible. Manage water & vegetation through wetland pond and impoundment construction, beaver management, prescribed burning, maintenance of riparian aspen, seeding or planting. Detailed project guidelines are contained in Nicolet Supplement 11.

Impoundments

Wildlife impoundment construction sites will be selected in cooperation with the Wisconsin DNR and permits will be secured. Highest priority sites are those that will enhance existing bald eagle, osprey, and great blue heron nesting territories, or identified potential eagle habitat. Special consideration will be given to protecting the cold water trout resource. Interdisciplinary review and approval will precede construction. Actual design and construction will incorporate natural features and manufactured islands and peninsulas for wildlife and visual enhancement. Interpretive signing will be provided. Completed impoundments will be placed on a 3-5 year partial or full drawn-down schedule unless modified because of the presence or use of the impoundment by threatened, endangered or sensitive species.

Criteria for impoundment location:

Organic soil layer	. Under 6" thick
Extensive floating mats	. None acceptable
Watershed/impoundment ratio	. Greater than 0.75
Specific Conduct	. . Greater than 25 micro mhos/cm
Water level control Structure	. As beaver-proof as possible
Water depth Some portions more than 6 feet deep for fish survival

Woodland Ponds

Shallow small woodland ponds will be constructed on selected sites to provide a permanent water source for wildlife and for fire control. Existing intermittent ponds or wetlands can be deepened or new areas of high water table can be selected for construction. Site selection is based on nearness to permanent water, access, and soil/water table information.

Riparian Transition Zones

The following wildlife/fisheries management considerations will be given to riparian areas which comprise narrow zones between land and water, and between uplands and wetlands. Management can vary from emphasis toward old growth; special timber type management for hemlock, balsam fir, cedar, white pine, white birch and lowland hardwoods; aspen and alder treatment to either promote beaver, or discourage them (along trout waters); maintenance of conifer cover, and cavity and snag trees; and selected tree felling for fish cover.

Old Growth

5% of all managed upland timber stands, except for uneven aged hardwood, will be managed as old growth.

Old growth designated stands are not thinned or harvested until well beyond normal rotation age. Designated stands are distributed throughout the Forest and all timber types are represented, but emphasis is on long-rotation species. Old growth short-rotation species will not be located in retention areas. Selection criteria and management schemes are contained in Nicolet Supplement 15.

Reserve Trees

Snags, snag replacements, woody ground debris, cavity trees and other selected trees valuable to wildlife will be retained in all managed areas. Special consideration is given to riparian zone areas, essential habitats for threatened, endangered and sensitive species, and stands containing mast tree species and hemlock. In retention and partial

retention areas, single reserve trees should generally be within 200 feet of the perimeter of the cut area. Selection criteria and numbers per acre are contained in Nicolet Supplement 13 and 18.

Upland Game Bird Areas

Some diverse Forest areas within each management area are managed with an emphasis for upland game birds and the walking hunter. Vegetation composition is predominately aspen with mixtures of balsam fir, lowland conifers and alder. Average even aged stand size is 20 acres or less. Many of the travelways are closed to vehicle traffic, and maintained in sod cover. Interspersed within these areas, maintain 5-10% sod and brush openings, 1-3 acres in size.

Information signing and small parking areas, usually seeded, may be provided. Areas are spread across the Forest to disperse use.

Deer Yards

Designated deer yards within management areas are managed for wintering deer. Stand size for stands managed even aged is approximately 20 acres or less. Maintain or increase conifers, especially hemlock, white pine, jack pine, balsam fir, spruce and cedar as pure stands and as components in mixed stands. Maintain brush openings one acre and larger consistent with management objectives. Distribute timber harvesting spatially and evenly over time. Much of the commercial timber harvesting is to be done during the winter. Detailed project guidelines are contained in Nicolet Supplement 14.

Hunter-Walking Trails

Hunter-walking trails occur both as dense systems within upland game bird areas and as scattered loop trails. Hunter-walking trails are located mainly on closed or seasonally closed road locations. Trails are daylighted to allow for lush herbaceous growth and maintained through mowing. Where possible, trails are located in

aspen, balsam fir, or along conifer swamp or alder edges. Trail systems are distributed throughout the Forest to disperse hunter use.

Fisheries

Fisheries management will be coordinated with the State of Wisconsin and on boundary water with the State of Michigan. Maintain Class I and selected Class II trout waters free flowing. Maintain riparian areas (approx. 200 feet on each side) in a combination of long-lived hardwoods or conifers and in a meadow or shrub-meadow condition. These areas should follow topography and soil conditions so as to appear natural and avoid a straight edge appearance. EPA registered chemicals are permitted to remove rough fish or maintain stream-side meadow. There are selected streams intensively surveyed and managed for trout fishing with constructed bank and in-stream structures. Road access may vary depending on angler use and habitat maintenance needs (from every 1/4 mile of stream to every mile of stream). Small parking areas, usually seeded, and informational signing may be provided.

Vegetation canopy in and along streams should be manipulated to provide water temperatures within the prescribed ranges to meet the fisheries objective.

Manage habitat adjacent to selected warm water (nontrout) streams & lakes to maintain viable populations of beaver and other furbearers and associated aquatic species.

Conduct surveys and provide for lake fisheries management on those waters capable of supporting a viable fish population. Maintain and improve fish populations and cover and spawning improvement structures. Use permitted EPA registered chemicals to remove stunted or rough fish, or to fertilize selected waters.

Artificial Nest/Den Structures

Artificial nest and den structures will be made of materials that blend with the site and do not detract from the natural landscape. They will be concentrated in the most productive habitat based on field inventories. Waterfowl nest boxes will be placed in identified brood habitat. Squirrel boxes will be concentrated in oak stands where natural dens are lacking and where oak is to be regenerated naturally. Bluebird and Kestrel boxes will be placed on the edges of openings 10 acres or larger. Nest boxes will be erected for smaller, cavity-nesting birds only in recreation areas. Floating loon nesting islands will be placed in secluded bays of selected lakes over 50 acres in size (coordinate with Wisconsin DNR). Osprey platforms will be placed in cooperation with the Wisconsin DNR.

2700 LAND USE (Does not apply to Management Area 5)

Applications for proposed use of National Forest lands will be considered on a case-by-case basis. Items to consider when reviewing a proposed use application include suitability of the proposed use in the management area associated standards and guidelines, environmental factors, recreation opportunity classification, visual quality objective of the area and other uses of the affected land.

Utility Transmission and Distribution Corridors

Provide for utility distribution corridors. Emphasize use of existing corridors when granting appropriate new rights-of-way. Cables up to 34.5 kv must be buried, with the exception of those run over short distances in case of road relocations.

Utility transmission corridors will not be allowed to cross Management Area 5 (wilderness). As a guide, new corridors will be located as follows with respect to roads:

RETENTION AND PARTIAL RETENTION:
Consideration will be given to
locating overhead utilities out of
view from the traveling public.

MODIFICATION: Overhead utilities may
be located adjacent to roads.

Rights-of-way serving individual
residences will be evaluated on a
case-by-case basis.

2800 MINERALS

The following standards and
guidelines apply only to federally
owned lands and minerals.

All lands will be available for
exploration that does not disturb the
land surface. The reasons for
closing an area to land-disturbing
exploration must be supportable and
documented.

Exploration and Development

Hardrock minerals and mineral
materials exploration will continue
to be handled under a programmatic
environmental assessment; and
developmental drilling and extraction
of hardrock and leasable minerals
will be permitted on a case-by-case
basis on National Forest System lands
available for such activity, as long
as environmentally acceptable.

Mineral Exploration

(Does not apply to MA 5.) Surface-
disturbing exploration (including
core drilling) will be permitted in
most areas, especially where there is
a potential to discover minerals of
compelling domestic significance (as
defined by U.S. Department of the
Interior).

Mineral Development

(Does not apply to MA 5.) USDA
consent to mineral extraction plans
will be determined individually,
based on the relative value of the
surface/subsurface resources and on
consistency with the standards and
guidelines in this Regional
management goal..

Gravel

(Does not apply to MA 5.) The fair market value of all mineral materials shall be determined prior to their use or sale. A record shall be maintained of the quantity and quality of all mineral materials used or sold.

No materials source shall be utilized until a pit management plan has been approved. It is required that the area be developed and rehabilitated according to the pit management plan.

Nonfederal Minerals

Exploration

The procedure on use of Federal surface for exploration will be governed by reserved or outstanding rights indicated by title chain of ownership.

Land management decisions must not preclude the ability of private mineral owners to make reasonable use of the surface, as defined by deed and public law.

A special-use permit or lease is not required for nondestructive exploration, such as geologic mapping, geochemical studies or geophysical surveys, where timber cutting or motorized use does not occur.

Mining

Requests for surface use of Federal land for mining of non-federal minerals will be evaluated on a case-by-case basis.

3400 Forest Pest Management

Integrated Pest Management

Use integrated pest management methods to minimize or prevent the development of pest problems. Where unavoidable, select the solution that provides the most beneficial methods based on objectives, effectiveness, safety, environmental protection, and cost.

Wildfire prevention, detection and suppression, and fuels management, including fuelbreaks and hazard reduction, will be planned, based on an analysis of probable fire location, expected fire intensities, potential net resource value change, and risk to health and safety.

Fuel Management

Activity fuels will be managed at a level commensurate with the allowable fire intensity and rate of spread that meets resource objectives. Treatment along highways and adjacent properties will meet applicable state laws.

Construction and timber harvest activity fuels which constitute a fire hazard may be offered as fuelwood before other disposal methods are considered.

Fuel break construction, location and size will be determined by expected fire locations, intensities, and value at risk. Constructed fuel breaks will follow natural topography and/or other natural features where possible. Otherwise, the edge of these fuel breaks will vary so as not to create a straight edge appearance.

Agreements for fire detection and suppression on National Forest System lands, by cooperating firefighting agencies, must define suppression action commensurate with established resource management prescriptions and fire suppression action plans.

Suppression

(Does not apply to MA 5.) Suppress wildfire as necessary and by means and methods applicable to the area that the fire is burning in to protect National Forest lands, other ownerships, adjacent owners and lives and property. Operations under permit will be required to provide adequate fire protection.

Prescribed Fire

(Does not apply to MA 5.) Prescribed fire will be used for ecological, silvicultural, visual, wildlife and recreational purposes.

Selected areas in the Pence Vilas ELT will be maintained in an open sod, brush and savannah condition for the perpetuation or development of natural remnant vegetation. Such areas will serve as essential habitat for sensitive species, as well as for blueberry production, by burning

All prescribed fires will have an approved plan as described in FSM 5150. Examples of areas addressed in this plan include:

Control lines, weather restrictions, control forces, air quality and seasonal restrictions.

During prescribed fires, special consideration will be given to smoke sensitive areas that may lie downwind of the burn. Contingency plans will be developed to assure impacts are minimized and legal requirements are met. Examples of sensitive areas are:

1. Major highways (i.e. Highways 8,64,70)
2. Towns, private homesites
3. Threatened, endangered and sensitive species territories.
4. Hospitals, schools, airports

Residents within one mile of planned burns will be notified of the location and time of ignition. Preference will be given to times when wind direction is away from neighboring residences and sensitive areas.

Prescribed fire should be accomplished in the absence of air inversions. To assure that smoke is dispersed before the onset of stable nighttime conditions, it should generally be completed before 6:00 pm, although safety and control needs may necessitate a later completion time.

When initiating a prescribed fire, an easily extinguishable test fire will be set. Behavior of this fire will determine whether or not to proceed with the planned burning.

Permit prescribed fire in or immediately adjacent to developed recreation sites only during nonoccupancy periods.

Permit low intensity fires over buried cultural resource sites, but do not permit on surface sites.

5300 Law Enforcement

Ensure that the Forest is available to all persons for legitimate uses with a minimum of restrictions. Provide for the health and safety of visitors and their property, and protect Forest resources and facilities.

Law enforcement will be commensurate with frequency, severity and types of violations committed.

At all facilities, apply recommended security measures that are cost efficient in relation to risk and value of potential loss.

Adjust cooperative law enforcement agreements in accordance with tri-year evaluations of Forest law enforcement needs and services available.

Emphasize cooperation with state, county and municipal police agencies.

Regular patrol of Forest Service installations by both Forest Service personnel and cooperative law enforcement officers will take place on the basis of a written schedule during peak periods of activity.

Forest Service law enforcement capability will be maintained, particularly in dispersed areas.

Visitors will be informed of rules and regulations governing National Forest lands.

Security of Forest Service facilities will be maintained.

The Forest will annually plan the level of law enforcement needed forest-wide or area-wide in terms of total patrol units for cooperative law enforcement and total person days for in-service law enforcement.

5400 Land Ownership

Surface Ownership

Land adjustments (purchase or exchange) must satisfy one or more of the following purposes: (1) accomplish objectives of public law or regulations, (2) meet demand for National Forest System resources, (3) result in more efficient land-ownership patterns or (4) result in lower resource management costs.

Acquire only the interest needed to achieve land management objectives.

Avoid encumbering land available for exchange with land uses that compromise land exchange opportunities.

Priority parcels for acquisition include:

1. Existing and potential essential habitat for bald eagles, gray wolves and sensitive species.

2. Tracts with unique ecological, scientific, or recreational qualities including land bordering portions of undeveloped lakes and rivers.

3. Tracts that consolidate land holdings and provide management access needs.

4. Lands that add to the efficiency of resource management.

Priority parcels for exchange or trade include:

1. Lands outside the Forest boundary.
2. Isolated parcels.
3. For trespass resolution.
4. To reduce landlines and corner monumentation needs.
5. Tracts that are difficult to manage due to right-of-way problems, special use permits and section and quarter section subdivisions.
6. For municipal expansion needs.

Subsurface Ownership

Consider subordination or acquisition of subsurface rights when all of the following are met:

1. Conflicts between surface values and mineral activities cannot be mutually resolved.
2. The public benefits from the surface values exceed the costs of acquiring subsurface rights.
3. The cost is consistent with budget priorities.

7300 Buildings & Structures (Does not apply to MA's 5 or 9.1.)

Buildings and structures may be provided to support resource management objectives.

7400 Public Health & Pollution Control Activities

Solid Waste

Refuse generated or deposited on National Forest System lands should be disposed of through community or area wide systems that comply with Federal regulations.

Water Supply

(Does not apply to MA 5, 6.3 or 9.1.)
Drinking water may be provided. If provided, it must meet Federal and State regulations and be protected to ensure its continued quality.

7700 Transportation System

Roads

The Nicolet inventories and recognizes all roads that the public is driving with at least a 4-wheel drive some portion of the year.

Arterial and collector roads are in place and will only require maintenance or reconstruction. Maintenance will be at a level III or higher.

Local road construction and reconstruction will be designed to be suitable for transporting forest products and accomodating planned motorized recreation uses.

All temporary and short-term roads will be planned and constructed to be revegetated. Revegetation will be accomplished in a reasonable period of time, not to exceed 10 years after the termination of the contract, lease, or permit.

Density of Roads

The Forest as a whole will have a final average density of approximately 3 miles of all roads (level A-D) per square mile. Some of these roads will be closed. In management areas 1 through 4 and 6.2, the total (open and closed) average density will be up to 4 miles per square mile. In management areas 6.3, 9.1 and 9.2, the density will be only as needed for access to adjacent areas or to protect resources.

Road Construction/ Reconstruction Ratio

The construction/reconstruction ratio for C and D level roads will be 20% construction and 80% reconstruction.

Road Construction/ Reconstruction Standards

Road standards for construction/reconstruction will be of the level needed for management, with lower standards used wherever possible.

Traffic service levels are defined on the following page. Additional information on forest roads can be found in Appendix F of this Plan, including a more detailed explanation of the traffic service levels.

Road practices (These are guidelines only):

TRAFFIC SERVICE LEVEL A

All weather operations, fully surfaced - suitable for passenger car travel.

Number of Lanes	Double or single (generally double)
Traveled-way Width.	Double = 22-24', single = 12-14'
Shoulders	1-2' shoulder; Cut Slopes = 2:1, up to 4:1 (generally 2:1); Fill Slopes = 2:1
Turnouts	1000' max, or intervisible; 750' desired, 10' width; 75' min length
Curve Widening	Based on Critical Vehicle
Clearance	Normally; 4' Horizontal & 14' Vertical
Clearing Width.	Single Lane - 5' on cuts & 2-5' on fills Double Lane - 5' on cut and fill slopes
Design Speed	up to 40 MPH
Horizontal Alignment.	500' minimum radius (desired = 800'), Exceptions will be signed
Vertical Alignment.	12% maximum; 0.5% min; 8% max desirable
Drainage	Permanent - Designed not to impede traffic
Surfacing	Fully surfaced for all weather operations, asphalt or aggregate
Closure Device.	May be gated
Maintenance Level	3, 4 and 5

TRAFFIC SERVICE LEVEL B

All weather operations, fully surfaced - suitable for passenger car travel.

Number of Lanes	Single or double (generally single)
Traveled-way Width.	12-14' (commercial hauling); 10' (admin & rec)
Shoulders	Cut Slopes = 2:1 Fill Slopes = 2:1
Turnouts	1000' max or intervisible; 750' desired; 10' width; Design Vehicle length, 50' transition minimum.
Curve Widening	Based on Critical Vehicle
Clearance	Normally; 4' Horizontal & 14' Vertical
Clearing Width.	5' on cuts & 2-5' generally on fills
Design Speed	Up to 25 MPH
Horizontal Alignment.	300' minimum radius (desired = 350'), Exceptions will be signed
Vertical Alignment.	14% maximum; 0.5% min; 8% max desirable
Drainage	Permanent - Designed not to impede traffic
Surfacing	Fully surfaced for all weather operations, with aggregate
Closure Device.	May be gated
Maintenance Level	3, 4 and 5

TRAFFIC SERVICE LEVEL C

Mixed use - generally open road suitable for passenger car travel, may be restricted during off season and wet periods.

Number of Lanes	Single
Traveled-way Width.	12' Minimum (Commercial hauling); 10' (Admin & Rec)
Shoulders	Cut Slopes = 2:1, up to 1/4:1 Fill Slopes = 2:1 to 1:1
Turnouts	1000' Maximum
Curve Widening	Based on Critical Vehicle
Clearance	Normally; 4' Horizontal & 14' Vertical
Clearing Width.	Normally; 2-5' on cuts & 2' on fills
Design Speed	up to 40 MPH
Horizontal Alignment.	75' minimum radius, 200' desired
Vertical Alignment.	18% maximum; 0.5% minimum; 8-12% maximum desirable
Drainage	Permanent Drainage for Resource Protection
Surfacing (Base Course)	Spot Surfacing (may be fully surfaced [4-6" thick] for bearing capacity)
Closure Device.	May be gated
Maintenance Level	2 or 3

TRAFFIC SERVICE LEVEL D

Single use, not designed for mixed traffic - generally traffic restricted with a gate, or road closed. Not suitable for passenger car traffic (public vehicle traffic discouraged).

Number of Lanes	Single
Traveled-way Width.	12' Minimum (Commercial Hauling)
Shoulders	Cut Slopes = 2:1, up to vertical in suitable soils
Turnouts	1000' Maximum, not required if road gated (use natural openings)
Curve Widening	Based on Critical Vehicle
Clearance	Normally; 4' Horizontal & 14' Vertical
Clearing Width.	Normally; 2' in cuts and 2' in fills
Design Speed.	Up to 15 MPH
Horizontal Alignment.	50' minimum radius
Vertical Alignment.	18% maximum, 0.5% minimum; 10-14% maximum desirable
Drainage	Permanent Drainage designed to minimize maintenance or temporary structures if environmentally acceptable
Surfacing (Base Course)	Spot Surfacing for bearing capacity
Closure Device.	Generally closed by gating or earth mound
Maintenance Level	2, or 1 when closed to vehicular traffic

Open/Closed Roads	In management areas 1.2, 2.2, 3.2 and 4.2, a <u>maximum</u> of 2 miles per square mile of roads (level A-D) will be open; all others will be closed to public vehicles. Some of these areas may be managed with less than two miles per square mile of open road to provide habitat for the gray wolf.
	In management areas 1.1, 2.1, 3.1 and 4.1, selected C and D level roads may be closed to meet site specific management objectives. Existing roads not needed for management will be obliterated.
	In management area 6.2, retain the existing open roads, or reduce the existing density.
Maintenance	Refer to Appendix F for maintenance standards.
Road Visual Management	The following suggested guides may be used to coordinate road management with visual resource objectives.
Road Closure	<p>RETENTION: transplanted vegetation, rocks, and logs contouring to blend in with surrounding terrain. Gates will be used only as the exception for temporary road closures if the road is to be used for administrative purposes at least once a year.</p> <p>PARTIAL RETENTION: earth mounds, rocks, trees, logs, gates.</p> <p>MODIFICATION: gates, mounds, trees, logs.</p>
Construction/ Reconstruction	<p>RETENTION: remove debris within 100' of intersection, seed shoulders, ditches, and banks within 90 days after construction/reconstruction.</p> <p>PARTIAL RETENTION: remove debris within 50' of intersection, seed shoulders, banks, and ditches within 1 year.</p> <p>MODIFICATION: seed shoulders, banks and ditches within 2 years if needed.</p>

Obliteration

RETENTION: recontour first 100' to blend with surrounding terrain then transplant and seed.

PARTIAL RETENTION: recontour first 50'. Then transplant and seed.

MODIFICATION: seed and plant first 50'. Reditch to inhibit use.

Signing

RETENTION: wood supports

PARTIAL RETENTION: metal supports

MODIFICATION: metal supports.

On the following pages are the Management Area descriptions. Included with the Management Areas are the prescriptions and the standards and guidelines that apply only to the specific Management Areas. The Forest-wide standards and guidelines also apply to each Management Area if appropriate.

TABLE 16

SELECTION OF LAND TO MANAGEMENT AREAS
(Acres and Percent of Net National Forest Acres)

MGMT AREA	DESIRED CONDITION OF THE LAND	ACRES/ PERCENT
1.1	Mixed forest with large aspen component, wild- life emphasis, roaded natural recreation.	75,000 12%
1.2	Mixed forest with large aspen component, wild- life emphasis, semiprimitive motorized recreation.	16,200 2%
2.1	Unevenage hardwood forest, wildlife associated with shade tolerant vegetation, roaded natural recreation.	128,200 20%
2.2	Unevenage hardwood forest, wildlife associated with shade tolerant vegetation, semiprimitive motorized recreation.	37,100 6%
3.1	Evenage hardwood forest, wildlife associated with a variety of tree stands, roaded natural recreation.	85,100 13%
3.2	Evenage hardwood forest, wildlife associated with a variety of tree stands, semiprimitive motorized recreation.	27,800 4%
4.1	Upland softwood forest, wildlife associated with coniferous vegetation, roaded natural recreation.	68,000 10%
4.2	Upland softwood forest, wildlife associated with coniferous vegetation, semiprimitive motorized recreation.	6,700 1%
4.3	Wetland softwood forest, wildlife associated with wetlands, limited recreation.	1,600 0%

TABLE 16 (continued)

SELECTION OF LAND TO MANAGEMENT AREAS
(Acres and Percent of Net National Forest Acres)

MGMT AREA	DESIRED CONDITION OF THE LAND	ACRES/ PERCENT
5	Congressionally designated wilderness.	33,258 5%
6.1	Older forest with a variety of tree species, low improved road density, semiprimitive motorized recreation opportunities.	0 0%
6.2	Diverse forest with a variety of tree species, low improved road density, semiprimitive nonmotorized recreation opportunities.	13,600 2%
6.3	Wildlife emphasis primarily on wetlands that are not suitable for timber management.	58,600 10%
7	Intensive developed recreation areas.	0 0%
8.1	Forest areas to provide a setting for unique biological, geographical, or cultural values.	6,253 1%
8.2	Forest areas to conduct research to improve the benefits of the Forest.	6,999 1%
9.1	Natural Succession Forest, with wildlife species and recreation that occurs solely as a result of federal ownership of the land.	73,600 11%
9.2	River corridors.	16,300 2%

Note: Management Areas 1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 4.1, 4.2, 4.3 and 6.2 include wildlife openings, road corridors, etc., accounting for the different total suitable forest land acreage shown on page 29.



MANAGEMENT AREA 8.1

This goal will emphasize the following:

- a). The preservation of unique ecosystems for scientific purposes.
- b). The protection of unique areas of biological significance

This management area occurs mainly in small tracts (usually less than 100 acres) wherever management information has revealed the uniqueness of the site. The vegetative condition may range from a undisturbed ecosystem to a condition highly modified by past actions. Roads may be present or nearby but are often closed to protect the uniqueness of the area.

Management of the land and vegetation ranges from modified use to complete protection. Occasional recreation use may occur, but travelways and facilities are located to protect the areas. When facilities are present, they are designed to protect the special values from human use.

Included are National Landmarks, 18 candidate Research Natural Areas, State Scientific Areas and other ecological special areas as described in the FEIS on pages 3-8 to 3-12. These are not displayed on the accompanying LMP maps.

MANAGEMENT PRESCRIPTIONS FOR MANAGEMENT AREA 8.1

National Forest Land:	6,253 acres*
Management Practices:	There are no scheduled management practices for this area.

* Reference pages 3-9 and 3-11 of the FEIS (Tables 3-1 and 3-2)

<u>Scheduled Management Practice</u>	<u>Unit of Measure</u> <u>Per decade</u>	<u>Proposed</u> <u>1986-1995</u>	<u>Probable</u> <u>1996-2005</u>
Total Road Construction	Miles	3	3
Total Roads Open	Miles	66	66
Total Roads Closed	Miles	0	0
Roads Obliterated	Miles	3	5
Wildlife Opening Maintenance	Acres	110	110

STANDARDS AND GUIDELINES FOR MANAGEMENT AREAS 8.1 and 8.2

1900 Land and Resource Management Planning

Vegetative Management

In MA 8.1, manage vegetation only to protect unique values or to protect adjacent property from fire or pests.

2300 Recreation Management

Recreation Opportunities

Feature primarily Roaded Natural Motorized recreation consistent with the special area management objectives.

Visual Quality

Visual Quality will be consistent with special area management objectives.

Trails

Trails will be consistent with the special area management objectives.

2400 Timber Management

Silvicultural Systems

Timber management will be consistent with the special area management objective—not regulated.

Even aged or uneven aged systems may be used on experimental forests. On unique areas other than experimental forests, area management plans will specify the systems to be used.

2600 Wildlife Habitat Management

Wildlife will be present, but wildlife habitat may be incidental to the purpose of this goal.

Favor selective treatment of transmission line rights-of-way vegetation to be consistent with the purpose of the objectives of this area.

Wildlife habitat management will comply with the special area management objectives.

Fish

Fish habitat management will comply with the special area management objectives.

2700 Land Uses

Permits for study or evaluation of unique resource values will be granted to qualified agencies and individuals. Other uses are not appropriate.

Uses that would interfere with research work will not be permitted.

5100 Fire Management

Suppress fires using ground attack hand tool methods. Prescribed fire is permitted when an environmental assessment determines that the results would benefit the site's unique values.

7700 Transportation System

Roads

Provide local roads as needed to comply with special area management objectives.

Refer to Appendix F for maintenance standards.

Management Area 8.1
Vegetative Composition Percentages
by District

Vegetative Type	E. River		Florence		Laona		Lakewood		All	
	E	D	E	D	E	D	E	D	E	D
UPLANDS										
Jack Pine	-		-		-		4		2	
Balsam Fir	43		-		30		5		16	
Red Pine	-		-		-		-		-	
White Pine	9		-		-		4		4	
White Spruce	-		-		-		-		-	
Mx. Hardwood	-		-		-		-		-	
Uneven-age										
Mx. Hardwood	35		67		5		81		66	
Even-age										
Oak	-		-		2		-		*	
White Birch	-		-		-		-		-	
Hemlock	13		-		15		6		8	
Aspen	-		33		3		-		4	
Upland Opening	-		-		-		-		0	
WETLANDS										
Hardwoods	-		-		-		-		-	
Conifers	43		51		13		89		37	
Cedar	1		7		5		-		4	
Untyped	-		-		-		-		-	
Sedge Meadow	-		-		1		-		*	
Marsh	-		-		1		-		1	
Shrub Swamp	7		-		-		-		1	
Bog	49		42		80		11		57	

E = Existing Vegetation Composition

D = Desired Vegetation Composition
(to be determined by natural succession)

* Less Than 1%

United States
Department of
Agriculture

Forest
Service

Eastern
Region



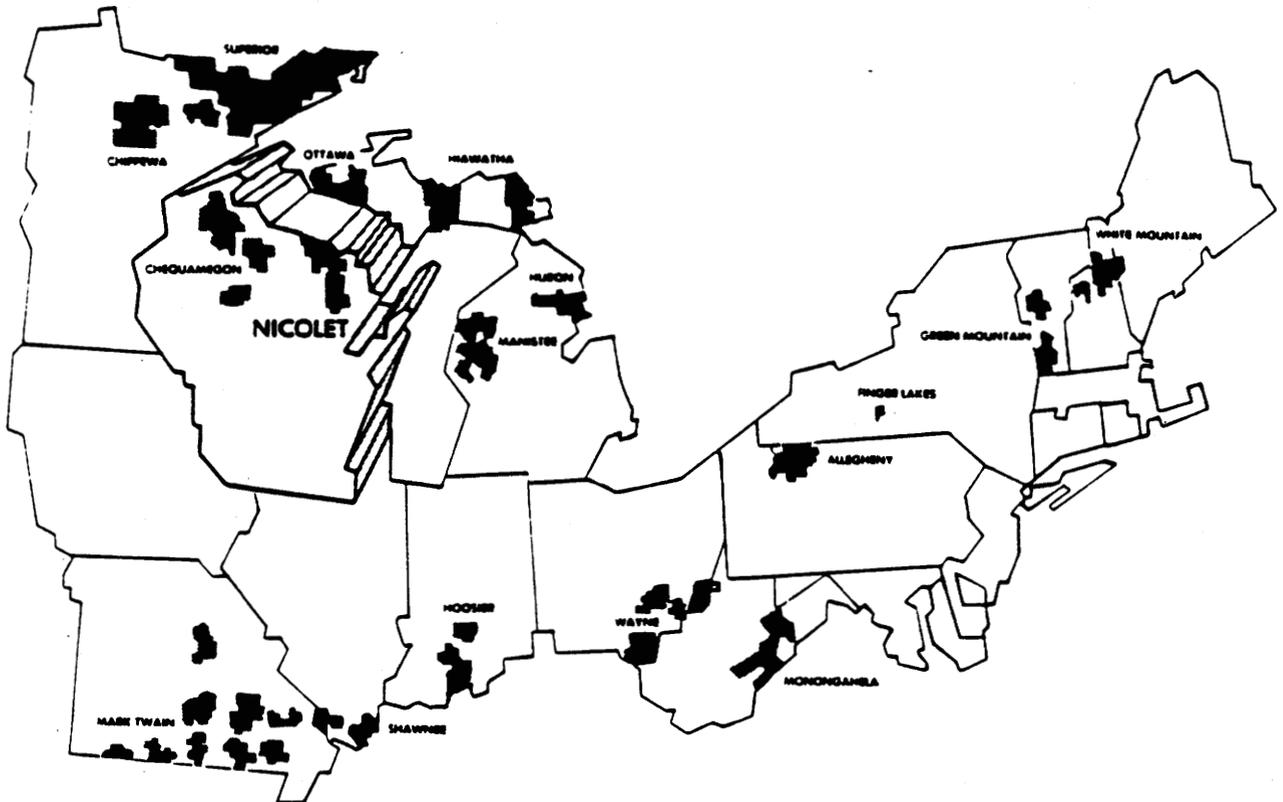
Record of Decision

Final Environmental Impact Statement Land and Resource Management Plan

NICOLET NATIONAL FOREST

APPENDIX D

THE FOLLOWING PAGES WERE COPIED FROM THIS DOCUMENT



RECORD OF DECISION

for

USDA, FOREST SERVICE

**FINAL ENVIRONMENTAL IMPACT STATEMENT
Nicolet National Forest
Land and Resource Management Plan**

**Florence, Forest, Langlade, Oconto, Oneida,
and Vilas Counties, Wisconsin**

Special Areas

Another aspect of forest diversity is that provided by sites that are unique habitats of scientific or cultural interest of national, regional, or state wide significance. These sites may be occupied by rare plants or represent the best places to conduct forest research to discover new knowledge about the forest eco-system.

The Forest Plan identifies 89 sites that were located mainly by surveys contracted by the Forest Service early in the planning process. Eighteen of these sites are believed to be of significance worthy of addition to the National Research Natural Area system. Others may qualify for inclusion in the State of Wisconsin Scientific Area system. The Forest Plan will protect these areas until more detailed evaluations on their suitability for designation can be completed.

The forest planning process recognized that the special qualities of these sites were not available from other lands while other resource needs could be met from lands where special qualities were absent. Special areas were given a protected status in all alternatives considered so there is no difference in the alternatives.

Designation as special areas may cause controversy if protection of the special values precludes utilization of other resource opportunities that may be available from the site. There is no known resource opportunity precluded that could not be met on other lands.

Island-Bio- Geography

A proposal to study the theory of Island Biogeography has developed into a significant issue. The proposal recommends delaying selected management activities, such as timber harvest, wildlife habitat projects and road construction on approximately 25% of the Forest for a long period of time. This delay would allow for the possibility of study of the theory at some time in the future.

The people who raised the issue of Island Biogeography are particularly concerned that habitat must be provided for species requiring large areas of relatively undisturbed old growth forests. These people believe that such habitat is becoming scarce and if lost can lead to the extinction of many species. Furthermore, these people believe that the most logical place such habitat can be protected is in the National Forests.

There is strong opposition against this proposal. The opposition felt they had not been adequately informed and involved in the discussions. They viewed the proposal as an effort to have more land preserved without any management activities. The proposal is also viewed as an attempt to get additional wilderness established without wilderness designation by Congress.

IX. RIGHT TO APPEAL This decision is subject to appeal in accordance with the provisions of 36 CFR 211.18. Notice of appeal must be in writing and submitted to:

Floyd J. Marita,
Acting Regional Forester, Eastern Region,
USDA-Forest Service,
310 West Wisconsin Avenue,
Milwaukee, Wisconsin 53203.

The notice of appeal must be submitted within 45 days after the date of this decision, or 30 days after the Notice of Availability of the Final EIS is published in the Federal Register, whichever is later. A statement of reason to support the appeal and a request for oral presentation, if desired, must also be submitted within these time limits.

An appeal of this decision does not halt Forest Plan implementation. A stay of the decision must be requested. A stay may be requested at any time during the appeal period until a decision on the appeal is made by the Chief, USDA Forest Service.

No decision on site-specific projects are made in this document although a number of projects are identified. Those projects identified in various parts of the Plan or Final EIS are only included in order to clarify discussions, illustrate a point or to show that Forest Plan goals and objectives can be achieved.

Final decisions on site-specific projects will be made during Forest Plan implementation after appropriate analysis and documentation meeting NEPA requirements. Parties dissatisfied with a specific project should appeal the site-specific decision once it is made.

The appeal process for projects is the same as that described above for the Forest Plan, except notice of appeal must be sent to the person making the decision. This will normally be a District Ranger or the Forest Supervisor.


FLOYD J. MARITA
Acting Regional Forester

AUG. 11 1986

Date

APPENDIX E

MCCASLIN MOUNTAIN RESEARCH NATURAL AREA PLANT LIST

Abies balsamea, Balsam Fir
Acer rubrum, Red Maple
Acer saccharum, Sugar Maple
Actaea pachypoda, White Baneberry
Amelanchier sp., Juneberry
Amphicarpa bracteata, Hog Peanut
Antennaria sp., Pussy Toes
Aquilegia canadensis, Wild Columbine
Aralia nudicaulis, Wild Sarsaparilla
Aralia racemosa, Spikenard
Arctostaphylos uva-ursi, Bearberry
Aster macrophyllus, Big Leaved Aster
Athyrium filix-femina angustum, Lady Fern
Betula alleghaniensis, Yellow Birch
Betula papyrifera, Paper Birch
Brachyelytrum erectum, Long Awned Wood Grass
Carex blanda, Wood Sedge
Carex pensylvanica, Pennsylvania Sedge
Clintonia borealis, Bluebead
Comptonia peregrina, Sweet Fern
Conopholis americana
Corallorhiza maculata, Spotted Coral Root
Cornus rugosa, Round Leaved Dogwood
Corydalis sempervirens, Pink Corydalis
Corylus cornuta, Beaked Hazelnut
Danthonia spicata, Poverty Oat Grass
Desmodium glutinosum, Pointed Tick Trefoil
Diervilla lonicera, Bush Honeysuckle
Dryopteris intermedia, Intermediate Wood Fern
Epifagus virginiana, Beech Drops
Fagus grandifolia, Beech
Fraxinus americana, White Ash
Hamamelis virginiana, Witch Hazel
Hepatica americana, Round Lobed Hepatica
Lonicera canadensis, American Fly Honeysuckle
Lycopodium annotinum, Stiff Clubmoss
Lycopodium clavatum, Running Clubmoss
Lycopodium obscurum, Flat-branched Groundpine
Lysimachia, quadrifolia, Whorled Loose-strife
Maianthemum canadense, Canada Mayflower
Mitchella repens, Partridge Berry
Monarda fistulosa, Wild Bergamot
Monotropa hypopithys, Pinesap
Monotropa uniflora, Indian Pipe
Oryzopsis asperifolia, Rough-leaved Rice Grass
Ostrya virginiana, Hophornbeam
Pedicularis canadensis, Wood Betony
Pinus strobus, White Pine
Polypodium virginianum, Rock-cap Fern

Populus grandidentata, Bigtooth Aspen
Prunus serotina, Black Cherry
Pteridium aquilinum latuisculum, Bracken Fern
Pyrola elliptica, Large-leaved Shinleaf
Quercus rubra, Red Oak
Rhus typhina, Staghorn Sumac
Ribes sp., Currant
Rubus sp., Raspberry, Blackberry
Sambucus pubens, Red-berried Elder
Schizachne purpurascens, False Melic Grass
Selaginella rupestris, Rock Spikemoss
Smilacina racemosa, False Solomon's Seal
Streptopus roseus longipes, Twisted Stalk
Thalictrum dioicum, Early Meadow Rue
Tilia americana, Basswood
Trillium cernuum, Nodding Trillium
Tsuga canadensis, Hemlock
Uvularia grandiflora, Bellwort
Vaccinium myrtilloides, Canada Blueberry
Viburnum acerifolium, Maple-leaved Arrow-wood
Viola pubescens, Downy Yellow Violet

APPENDIX F - ECOLOGICAL LAND TYPE DESCRIPTIONS [*]

I. STAMBAUGH - PADUS ECOLOGICAL LAND TYPE

A. Associations: This ELT occurs on the glacio-fluvial outwash plains, undulating to hilly pitted outwash or end moraine, and to a lesser extent on eskers and crevice fill. Slopes are generally short but often complex. The unit often occurs closely associated with other soils developed on glacio-fluvial drift but also with till soils in many areas. Areas of this unit are commonly many hundreds of acres in size with some measuring thousands of acres. There is a wide range in productivity within the Stambaugh and Padus soils of this ELT. Because of the wide productivity range, this ELT varies the greatest of all units. This unit occupies 32% of the Nicolet National Forest.

B. Soils: The major soils are developed in from 1.5 to 4.0 feet of silty loamy loess overlaying sand and gravel drift. The soils are acid and generally well drained except for a small total acreage of soils with high water tables. There is a small acreage of soils developed in slack water deposits formed in ponded situations. These are similar to the major soils in character and use. The soils generally have good moisture and nutrient retention. This ELT is composed of Soil Resource Inventory mapping units Stambaugh (20%), Padus (70%), Bohemian (1%), Brimley (0.1%), and inclusions (8.9%).

C. Vegetation: Habitat Types:

Acer-Tsuga-Dryopteris	(Sugar Maple-Hemlock-Shield Fern)
Acer-Viola-Osmorhiza	(Sugar Maple-Violet-Sweet Cicely)
Tsuga-Maianthemum	(Hemlock-Wild Lily of the Valley)

The type including Dryopteris is the most common on the Padus soils, by far the highest acreage soil in the ELT. Ground cover often appears sparse under the northern hardwood cover so common on this type. The hemlock and wild lily of the valley type has comparatively small acreage and it too is centered on the Padus soils of the unit. Sambaugh soils, being the richest in the unit, are associated closely with the sugar maple-violet-sweet cicely habitat type. Where this ELT is associated with the Sarona-Keweenaw ELT there is increased incidence of oak-witch hazel-maple leaf viburnum type.

The Stambaugh-Padus ELT has historically had recurring successional changes, more so than the Iron River ELT. Even now there are mixed timber types and no complete dominance by northern hardwoods. Northern hardwoods are still the most common type.

D. Vegetative Diversity: All timber types, with the exception of jack pine, occur on this ELT. Timber type and age distribution is quite good relative to the other ELTs. However, within this ELT 50% is in the northern hardwood type. Average stand size is large, within-stand tree species mix is considered medium, and understory vegetation diversity is poor. As a whole, considering that this ELT occupies the greatest acreages, the overall vegetation diversity can be considered "medium".

II. GREENWOOD ECOLOGICAL LAND TYPE

A. Associations: This ELT occupies depressional areas throughout the Forest. It is commonly in a landscape of glacio-fluvial landforms. Most areas are isolated pockets without surface drainage. Some areas appear to be the more drainage-isolated parts of larger wetlands. The areas were formed in ponded water following deglaciation. Remnant ponds are not uncommon and they usually occur near the center of the area. Areas range from less than 40 to hundreds of acres in size. Water tables are at or above the surface most of the year. This unit occupies 1% of the Nicolet National Forest.

B. Soils: The soils of the unit are extremely acid peats and mucks formed from the remains of bog plants. Most of the areas are more than 10 feet deep and have a few feet of organics over sand. Some of the areas are ground water related, but most appear to be perched situations sealed by colloidal mucks formed on old lake bottoms. This ELT is composed of Soil Resource Inventory mapping units Greenwood (95.0%), Kinross (1.8%), Deford (3.0%), and inclusions (3.0%).

C. Vegetation: Vegetation is principally sphagnum moss, cranberry, leatherleaf, bog laurel, bog rosemary, labrador tea, and black spruce. Only a few species can exist at all in these oxygen and nutrient deficient low areas. Tree growth is poor.

D. Vegetative Diversity: Vegetation within this ELT is that associated with stagnated water areas such as bogs and black spruce swamps. Even though the diversity of all the understory vegetation is high in both numbers of species and density, overall diversity of this ELT is "low".

III. MICHIGAMME ROCK OUTCROP COMPLEX

The Michigamme series is found on a small fraction of the Nicolet National Forest. Due to the small area it occupies it was not described as a separate Ecological Land Type in the 1983 ELT publication. However, as work along these lines progresses, an ELT description for this unit will probably be developed.

The Michigamme Rock Outcrop Complex is typically gently rolling to moderately steep with slopes in the range of 4 to 15%. The well drained Michigamme soil is formed in a silty or loamy mantle material over loamy glacial till underlain by igneous bedrock. The Rock Outcrop portion of this unit is bare granite bedrock, in some areas in vertical or near vertical bedrock escarpments. Individual Complex areas range from 5 to 640 acres in size. Individual areas contain 50 to 80% Michigamme soils, 5 to 35 percent Rock Outcrop, and 1 to 15% inclusions of other soils. The Michigamme soils and rock outcrops are so intricately mixed, or so small in size, it is not practical to map them separately.

Typically, the Michigamme soils have a fine sandy loam surface layer. Water and air movement through the soil is at a moderate rate. Available water capacity for plant growth is low. The soil ranges from very strongly acid in the surface to medium acid in the lower subsoil. Root development for most plants is restricted below a depth of 30 inches by igneous bedrock.

A few areas of this type are cleared and used for hay or pasture. Most areas of Michigamme soil support second growth timber stands of sugar maple, red maple, yellow birch, hemlock, paper birch and aspen.

*/ Information on the Stambaugh-Padus and Greenwood ELTs is excerpted from Ecological Land Types on the Nicolet National Forest, anonymous, 1983. Information on the Michigamme Rock Outcrop Complex is from Dave Hoppe, Nicolet Soil Scientist, pers. comm.

DECISION NOTICE
and
FINDING OF NO SIGNIFICANT IMPACT

USDA - FOREST SERVICE

**McCASLIN MOUNTAIN CANDIDATE RESEARCH NATURAL AREA
ENVIRONMENTAL ASSESSMENT**

**NICOLET NATIONAL FOREST
LAONA RANGER DISTRICT
FOREST COUNTY, WISCONSIN**

An environmental assessment (EA) for the McCaslin Mountain candidate research natural area (RNA) is available for public review in the Forest Supervisor's Office in Rhinelander, Wisconsin and at the Laona District Office in Laona, Wisconsin. The EA documents the analysis of a proposed Federal action to implement the Nicolet National Forest Land and Resource Management Plan (Forest Plan) in the McCaslin Opportunity Area on the Laona District, Nicolet National Forest. The purpose of this analysis is to evaluate the McCaslin Mountain candidate research natural area and decide the appropriate management designation and management area boundary.

This analysis is needed because a decision was made on page 16 of the Record of Decision for the Final Environmental Impact Statement (FEIS) to protect the eighteen candidate research natural areas listed in the FEIS (Chapter 3, pages 8-9) until a more detailed evaluation on the suitability of each candidate area for designation could be completed.

The FEIS states on page 9 of Chapter 3 that, "If through the evaluation process those areas do not qualify as RNA's or State Scientific Areas, they will then be assigned as Special Areas as described in the following section." Both the candidate Research Natural Areas and the other ecological special areas described in the FEIS on pages 3-8 to 3-12 received a designation of Management Area 8.1 in the Record of Decision and the Forest Plan.

The EA is tiered to the FEIS for the Forest Plan. The Forest Plan, Analysis Record and the individual compartment folders are also incorporated by reference in the Environmental Assessment. I have reviewed the EA and related material; my decision is based on that review.

The Decision

Based on the results of the analysis documented in the EA, it is my decision to implement a modification of Alternative F - Designation 2. Alternative F - Designation 2 includes:

1. Preparation of an Establishment Record recommending McCaslin Mountain for designation as a Research Natural Area and submit to the Chief of the Forest Service for approval. The name of the candidate Research Natural Area will be McCaslin Mountain.
2. The Management Area boundary will follow FR 2141 on the west, FR 2673 on the south, FR 2671 on a portion of the north and four straight line segments on the rest of the north and a portion of the east as shown in the EA and attached map. The Management Area boundary will include 524 acres. This is 339 acres more than the 185 acres shown in the FEIS for the Forest Plan.

3. All existing roads within the Management Area boundary will be closed to motorized vehicles.

Also, Alternative F - Designation 2 will be modified to change the length of the hiking trail:

4. The proposed 2.0 mile nonmotorized multi-purpose trail system in Alternative F will be reduced to a .5 mile hiking trail to provide onsite educational opportunities for the public. This trail would only be used to provide foot access into the candidate RNA for the public to observe the distinctive features. The hiking trail would follow the existing travelway, FR 8379, and would not extend east of the old McCaslin Lookout Tower site.

Where the management area boundary follows an existing system road the specific location of the boundary line is 50 feet from the centerline of the system road towards the interior of the candidate RNA to allow for routine road maintenance activities.

I have also decided to conduct routine repair and maintenance activities such as road maintenance, property line location and maintenance and carry out administrative actions such as cultural resource surveys and silviexam during the next ten year period.

Mitigation measures to be implemented consist of those Forest Plan Standards and Guidelines which apply Forest wide, and the standards and guidelines connected with a Management Area 8.1.

In conducting this analysis, consultation occurred between Nicolet National Forest personnel and representatives from the Bureau of Endangered Resources, Wisconsin Department of Natural Resources; The Nature Conservancy; a member of the Wisconsin Natural Areas Preservation Council; a faculty member at Wheaton College; and the Forest Sciences Laboratory, North Central Forest Experiment Station.

The Wisconsin Department of Natural Resources and Dr. Forest Stearns recommended a dual management area designation of research natural area and Wisconsin State natural area. Dr. Tom Crow would also support a concurrent designation. I have decided to defer a decision on a dual designation until a management decision has been made on several other candidate research natural areas. I will then evaluate a group of candidate research natural areas at the same time.

Other Alternatives considered and reasons for not being selected

Alternatives considered in the Environmental Analysis include: Alternative A - including 185 acres; Alternative B - including 278 acres; Alternative C - including 454 acres; Alternative D - including 409 acres and Alternative E - including 568 acres. Also in each alternative three possible management designations were included: Designation 1 - continue management as a Management Area 8.1, Designation 2 - recommend McCaslin Mountain for designation as a research natural area, and Designation 3 - establish McCaslin Mountain as a Wisconsin State natural area.

I did not choose Alternatives A, B, C, or D because none of these alternatives provided as many acres of SAF Forest Cover Type 55 or the Michigamme Rock Outcrop Complex as Alternative F.

Alternative A and B also did not include the Padus soil unit and proposed higher administrative costs to establish and maintain the management area boundary than Alternative F.

Selection of Alternative C would also close 1.1 miles of FR 2673 to public use, would not include the Padus soil unit, removed more volume from the proposed McCaslin Tower Timber Sale and included a management area boundary that would cost more to establish and maintain than Alternative F.

Alternative E was not selected because it had higher administrative costs for the installation and maintenance of the boundary line than Alternative F. Selection of this Alternative also closed .3 miles of FR 2673, removed more acres of available, suitable and capable land from such management practices as timber harvesting and wildlife opening construction, and removed more volume from the proposed McCaslin Tower Timber Sale than Alternative F.

Selection of Alternatives A, B or D also did not protect the distinctive features as well as Alternative F.

Reasons for Selecting Alternative F

I have chosen to implement Alternative F as modified because this alternative effectively addresses the public issues, concerns and opportunities and implements the Forest Plan with the least environmental impacts as listed below:

- a. recommends establishment of McCaslin Mountain as a research natural area which provides national recognition to the distinctive features in the area.
 - b. if approved as a RNA, would provide representation of SAF Forest Cover Type 55 which is a target for the seven Lake States national forests in the Regional Guide.
 - c. provides research with adequate opportunity to study the Michigamme Rock Outcrop Complex in association with both the Sarona and Padus soil units as well as the relationship to the existing habitat types.
 - d. provides a greater degree of long-term protection for the distinguishing features than any of the other alternatives except Alternative E
 - e. generates lower administrative costs to install and maintain the boundary line than other alternatives except Alternative D.
- The direction stated in FSM 4063.37 requires the Forest upon establishment of a research natural area, to clearly identify and monument corners and turning points of the boundary in the field.
- f. does not close FR 2673 to public use with motorized vehicles.
 - g. removes less volume from the proposed McCaslin Tower Timber Sale than Alternatives C and E.

This action is not consistent with the Forest Plan, and will require a change to the Forest Plan prior to establishment as a research natural area.

The proposed actions are within established USDA - Forest Service policies and direction.

There will be no known adverse effects on prime lands, floodplains, wetlands, threatened and endangered species, cultural resources or civil rights.

Finding of No Significant Impact (FONSI)

I have reviewed the disclosure of environmental effects, including the cumulative effects, maps of the area and referenced FEIS disclosures documented in the environmental assessment for Alternative F - Designation 2 as modified and have determined that this action is not a major Federal action, individually or cumulatively, and will not significantly effect the quality of the human environment. Therefore, based on this information and my experience with similar decisions in the past, an environmental impact statement is not needed.

Implementation and Request for Review

This decision will be implemented immediately.

This decision is subject to appeal in accordance with the provisions of 36 CFR 217. Notices of Appeal, pursuant to 36 CFR 217.8, must be filed within 45 days of this decision, and must be sent to both the Reviewing Officer, in this case the Regional Forester of the Eastern Region, and the Deciding Officer, the Forest Supervisor of the Nicolet National Forest.

Floyd Marita, Regional Forester
USDA Forest Service, Eastern Region
310 West Wisconsin Avenue, Room 500
Milwaukee, Wisconsin 53203

Michael B. Hathaway, Forest Supervisor
Nicolet National Forest
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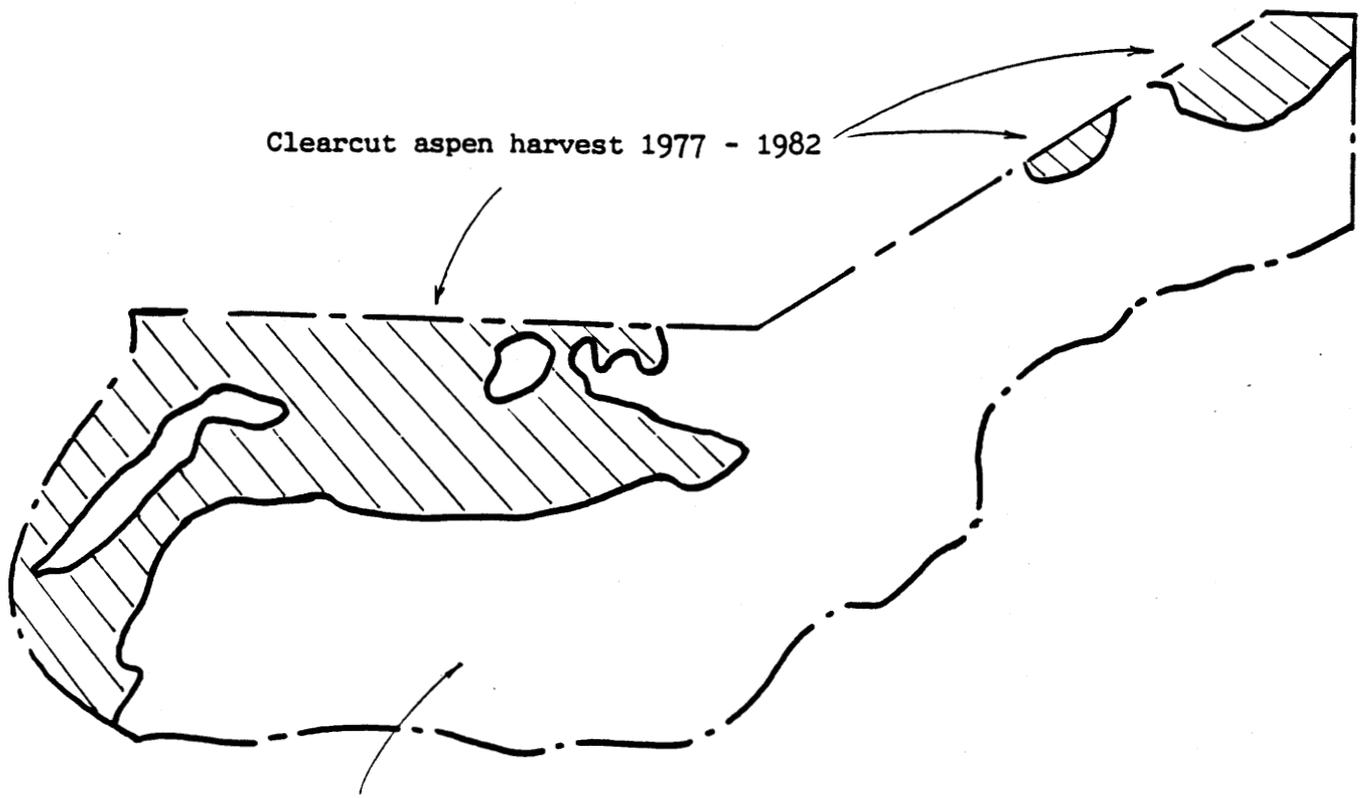
For further information contact Dale Staege, Laona District, Laona, Wisconsin 54541 or by telephone at (715) 674-4481.

Approved by:


MICHAEL B. HATHAWAY
Forest Supervisor
Nicolet National Forest

4/9/90
DATE

APPENDIX H - LOGGING HISTORY



Logging of old growth hardwoods 50 to 75 years ago;
selective cutting may have occurred earlier.

Nicolet NF - Breeding Bird Survey

Census History

Site Number: 002

District: Laona

<u>Year</u>	<u>Code</u>	<u>Species</u>	<u>No. Recorded</u>
1987	6740	Ovenbird	2
	6280	Yellow-throated Vireo	1
	4661	Alder Flycatcher	1
	4880	American Crow	1
	4610	Eastern Wood-Pewee	1
	4670	Least Flycatcher	3
	6240	Red-eyed Vireo	2
	4520	Great-crested Flycatcher	2
3870	Yellow-billed Cuckoo	1	
1989	6740	Ovenbird	2
	6240	Red-eyed Vireo	2
	1940	Great Blue Heron	1
	4670	Least Flycatcher	1
	4610	Eastern Wood-Pewee	2
	7590	Hermit Thrush	2
	7560	Veery	1
1991	6740	Ovenbird	1
	6240	Red-eyed Vireo	1
	4670	Least Flycatcher	1
	7590	Hermit Thrush	1
	7560	Veery	1
	4610	Eastern Wood-Pewee	2
	3930	Hairy Woodpecker	2