



United States  
Department of  
Agriculture

**Forest Service**

Chequamegon-Nicolet  
National Forests

R9-CN-FEIS-Summary

April 2004



# Chequamegon-Nicolet National Forests

## Final Environmental Impact Statement Summary

*To accompany the 2004 Land and  
Resource Management Plan*



## Abstract

This is a summary of the Final Environmental Impact Statement (FEIS) that accompanies the Chequamegon-Nicolet National Forests 2004 Land and Resource Management Plan (2004 Forest Plan). This summary presents the major findings of the analysis that went into building the FEIS.

*The U.S. Department of Agriculture (USDA) prohibits discrimination in all of its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at (202) 720-2600 (voice and TDD).*

*To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.*

*Please recycle this document when it is ready to be discarded.*



# Final Environmental Impact Statement



## Summary

**Ashland, Bayfield, Florence, Forest, Langlade, Oconto, Oneida,  
Price, Sawyer, Taylor, and Vilas Counties, Wisconsin**

**Responsible Official:**

Randy Moore, Regional Forester  
USDA Forest Service  
Eastern Region  
626 E. Wisconsin Avenue  
Milwaukee, WI 53202  
414-297-3428

**For Further Information Contact:**

Chequamegon-Nicolet National Forests

68 South Stevens Street  
Rhineland, WI 54501  
Phone: 715-362-1300  
Fax: 715-362-1359  
TTY: 715-362-1383

1170 4<sup>th</sup> Avenue South  
Park Falls, WI 54552  
Phone: 715-762-2461  
Fax: 715-762-5179  
TTY: 715-762-5701

Layout/Design  USDA Forest Service  CAT Publishing Arts

---

For sale by the Superintendent of Documents, U.S. Government Printing Office  
Internet: [bookstore.gpo.gov](http://bookstore.gpo.gov) Phone: (202) 512-1800 Fax: (202) 512-2250  
Mail: Stop SSOP, Washington, DC 20102-0001

# Table of Contents

**Overview of the Chequamegon-Nicolet National Forests and the 2004 Forest Plan ..... 1**

Physical and Biological Environment ..... 3

Social Environment ..... 3

Forest Planning ..... 4

**Public Involvement and Cooperation ..... 5**

External Participation ..... 5

Internal Participation ..... 5

How Public Comment Was Used in the FEIS ..... 6

**A Brief History of the Revision Topics ..... 7**

Access and Recreation Opportunities ..... 7

    Problem # 1 – All-Terrain (ATV) and Off-Road Vehicle (ORV) Use/ Motorized Access ..... 7

    Problem # 9 – Wilderness and Semi-Primitive Non-Motorized Areas ..... 8

Biological Diversity ..... 8

    Problem # 2 – Aquatic, Riparian, and Wetland Ecosystems ..... 8

    Problem # 3 – Ecosystem Restoration ..... 9

    Problem # 4 – Landscape Pattern ..... 9

    Problem # 5 – Old Growth ..... 10

    Problem #10 – Wildlife ..... 10

Special Land Allocations ..... 10

    Problem # 7 – Special Land Allocation—Candidate and Existing Research Natural Areas and Special Management Areas ..... 10

Timber Production ..... 11

    Problem # 8 – Timber Production ..... 11

    Problem # 6 – Special Forest Products ..... 11

**Emphasis Of Each Alternative ..... 12**

Alternative 1 ..... 17

Alternative 2 ..... 18

Alternative 3 ..... 19

Alternative 4 ..... 20

Alternative 5 ..... 21

Alternative 6 ..... 22

Alternative 7 ..... 23

Alternative 9 ..... 24

Selected Alternatives ..... 25

**Alternatives Considered but Eliminated from Detailed Study ..... 27**

Alternatives that emphasized early successional habitat; employed limited emphases on emphasis on ecosystem restoration; and emphasized increases in motorized or non-motorized recreation, but not both. .... 27

Alternative emphasizing maintenance of the aspen acreage present at the end of the first decade of implementation of the 1986 Plans, while concurrently addressing the revision’s biological diversity issue..... 27

Alternatives providing ATV off-road, off-trail cross-country use ..... 29

Alternatives providing an increase in ATV intensive use areas ..... 29

An alternative considering all inventoried roadless areas mapped in the Roadless Area Conservation Rule Environmental Statement as potential Wilderness study areas ..... 30

An alternative maintaining ASQs for the Chequamegon and Nicolet National Forests at the level predicted in the 1986 (current) Plans, or increasing the ASQs to the level calculated in the maximum timber benchmark. .... 30

An alternative permitting departure from the policy of non-declining timber yield ..... 31

**Comparison of Alternatives ..... 31**

    Access and Recreation Opportunities..... 31

        Problem # 1 – All-Terrain and Off-Road Vehicles/Motorized Access ..... 31

        Problem # 9 – Wilderness and Semi-Primitive Non-Motorized (SPNM) Areas..... 36

    Biological Diversity ..... 38

        Problem # 2 – Aquatic, Riparian, and Wetland Ecosystems ..... 38

        Problem # 3 – Ecosystem Restoration..... 39

        Problem # 4 – Landscape Pattern ..... 41

        Problem # 5 – Old Growth ..... 42

        Problem # 10 – Wildlife (including Species of Concern)..... 43

    Other Physical and Biological Resources..... 43

    Special Land Allocation ..... 45

        Problem # 7 – Special Land Allocation..... 45

    Timber Related Products ..... 46

        Problem # 8 – Timber Production ..... 46

        Problem #6 – Special Forest Products..... 46

    Other Physical and Biological Resources..... 47

    Social and Economic Environment ..... 47

**How to find out more about the Forest Plan ..... 49**

# Final Environmental Impact Statement

## Summary

This is a summary of the Final Environmental Impact Statement (FEIS) that accompanies the Chequamegon-Nicolet National Forests Land and Resource Management Plan (Forest Plan). This summary presents the major findings of the analysis that went into building the FEIS.

In addition to the FEIS, documents related to the 2004 Forest Plan also include a packet of maps that illustrate much of the data and results found in the 2004 Forest Plan and FEIS, Appendices to the FEIS, and a Record of Decision.

All of this information is available to you at your local Forest Service office or public library. However, we realize this amount of information can be overwhelming.

We hope this summary will help you see what we did, why we did it, and where we go from here.

This summary contains the following information:

- An overview of the Chequamegon-Nicolet National Forests and Forest Plan
- Public involvement process
- Brief descriptions of the revision topics
- Emphasis of each of the forest management alternatives
- Land allocations for each forest management alternative
- Probable effects that each alternative will have on the Forests

---

### Overview of the Chequamegon-Nicolet National Forests and the 2004 Forest Plan

The Chequamegon-Nicolet National Forests are located in Wisconsin's 'North Woods,' covering over a million and a half acres. As of 1993, the two Forests have been administered together and the Forest Plan Revision process for both Forests has been completed as one unit. Both Forests were established by Presidential proclamation in 1933 and were originally made up of largely abandoned and tax delinquent land that was acquired by the Federal Government under the authority of the Weeks Act of 1911. During the Great Depression, Civilian Conservation Corps members planted thousands of acres of red pine and jack pine, built firebreaks, and constructed recreational facilities. Today evidence of this history can still be seen on the Forests. People from major cities and communities from Wisconsin and other areas travel to the Forests to take part in both summer and winter recreation opportunities.

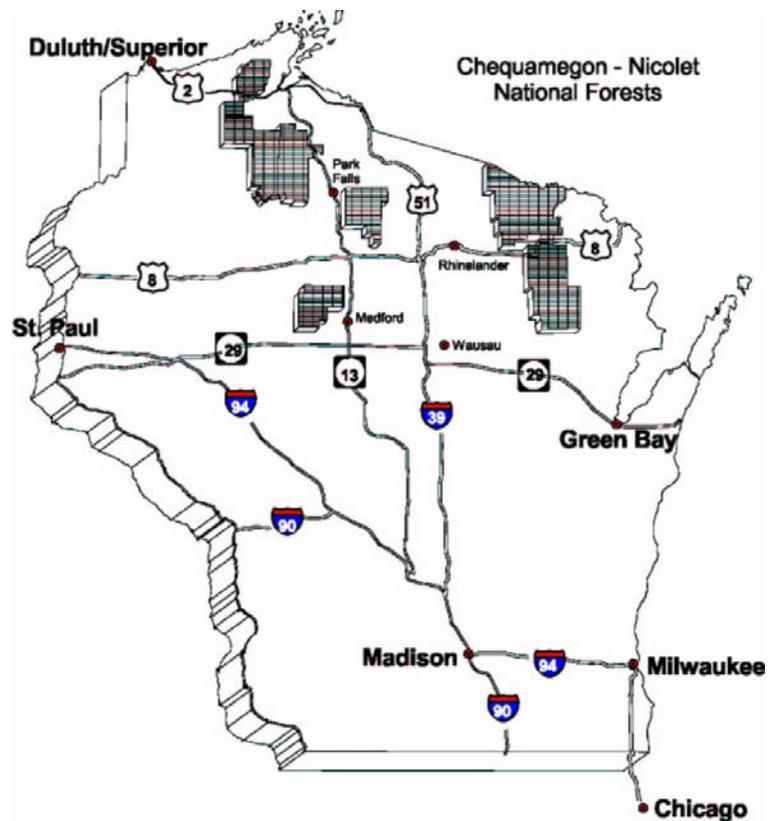


Figure 1. Vicinity Map of Chequamegon-Nicolet National Forests

The Forests’ boundaries encompass National Forest System (NFS) lands within 11 different Wisconsin Counties: Ashland, Bayfield, Florence, Forest, Langlade, Oconto, Oneida, Price, Sawyer, Taylor, and Vilas. Table 1 provides the acreages of NFS lands within each of these counties as well as percents of other non-individual ownership.

Table 1. Ownership of Public and Tribal Lands within Eleven Northern Wisconsin Counties (Acres from Barish, 1995)

County	County Acres	NF Acres	Ownership Percentage Within Each County					Total Percent
			National Forest	State Lands	County Lands	Tribal Lands	Other Federal	
Ashland	668,096	180,630	27	2	5	8	3	45
Bayfield	944,896	270,145	29	2	18	1	1	52
Florence	312,384	85,030	27	4	12	0	0	43
Forest	649,024	344,030	53	0.5	2	2	0	58
Langlade	558,528	32,247	6	3	23	0	0	32
Oconto	638,784	141,353	22	1	7	0.02	0	30
Oneida	719,808	12,980	2	11	11	0.05	0	24
Price	801,728	150,676	19	4	11	0	0	34
Sawyer	804,160	126,685	16	11	14	6	0.3	47
Taylor	624,000	123,913	20	1	3	0	0	24
Vilas	558,592	54,536	10	27	1	5.5	0	44
<b>Total / Avg</b>	<b>7,280,000</b>	<b>1,520,425</b>	<b>21</b>	<b>5</b>	<b>10</b>	<b>2</b>	<b>0.4</b>	<b>38</b>

The Forests are divided into the following five Ranger Districts: Great Divide (Glidden and Hayward), Medford-Park Falls, Washburn, Lakewood-Laona, and Eagle River-Florence. The Argonne Experimental Forest and Oconto River Seed Orchard are found on the Nicolet land base as well. Each Ranger District maintains an office in the communities with which it shares its name except Great Divide with offices in the communities of Glidden and Hayward.

The Chequamegon-Nicolet National Forests are composed of four separate contiguous units. The two largest units—The Nicolet National Forest, and the Washburn and Great Divide Districts of the Chequamegon—are 662,000 and 576,000 acres, respectively. These two units represent the two largest contiguous areas of public land in Wisconsin. Private parcels of land are scattered within the boundaries of the National Forests. Average National Forest ownership within the four units is 77%.

Multiple use management leads to a multitude of goods and services provided by the Forests. Trails for motorized and non-motorized uses are common. Dozens of campgrounds provide opportunities for lakeside recreation. Many more lakes and rivers are accessible at boat and canoe landings. Forest products gathered as medicinal plants and other miscellaneous products, as well as sale of sawtimber and pulp products are important to local culture and the economy.

## Physical and Biological Environment

Glacial geology characterizes the Chequamegon-Nicolet National Forests (CNNF) providing variety in landform from hilly glacial moraine to flat or pitted outwash sand plains. This variety in soils provides for a variety of tree species and vegetative communities. Rare natural communities include pine barrens, northern dry forests, northern dry-mesic forests, and boreal forests.

The Forests boast an abundance of water in the form of rivers, lakes, and wetlands. The CNNF is located within 41 different 5<sup>th</sup> level watersheds averaging 235 square miles. The watersheds fall within two major hydrologic regions with 19 watersheds draining through the Great Lakes to the Atlantic and 22 draining through the Upper Mississippi to the Gulf of Mexico.

There are over 300 wildlife species known to inhabit the CNNF some time during their life cycle. These species provide Forest users with a wide variety of recreational opportunities, such as hunting and wildlife viewing. The transition between northern boreal forests and eastern deciduous forests supports a rich diversity of birds, including neotropical migrants. Timber wolves are found throughout the Chequamegon and in limited numbers on the Nicolet. Bald eagles have been increasing in number both statewide and Forestwide.

## Social Environment

Larger communities near or within the CNNF include Ashland, Crandon, Eagle River, Florence, Lakewood, Laona, Medford, Park Falls, and Rhinelander. Small communities abound within the Forests, including Drummond, Clam Lake, Perkinstown, Phelps, Tipler, Alvin, Argonne, Hiles, Wabeno, Cavour, and Mountain. Population increases in the 11 counties surrounding the CNNF ranged from 1.4% to 18.8% between 1990 and 2000. In these communities some residents have long depended on the Forests for their livelihood and recreation while others have moved to the area more recently to retire and are interested in preserving resources and land values.

The Forests' smaller communities have the most potential to be affected by changes in tourism expenditures. National Forest visitors commonly travel from metropolitan areas such as Duluth, Minneapolis, and St Paul in Minnesota; Wausau, Green Bay, Madison, and Milwaukee in Wisconsin; and Chicago and Northern Illinois. In addition, 25% revenues from timber sales, special use permits, and other revenue-generating activities are important to counties. Such payments have more than doubled between 1996 and 2001.

Roads and trails provide motorized access to most parts of the CNNF and are used by hunters, the fishing public, and those who drive for pleasure. ATV and snowmobile trails are plentiful on the Chequamegon and snowmobile trails are common on the Nicolet. Sixteen semi-primitive non-motorized areas and five Congressionally-designated Wilderness areas provide solitude.

## **Forest Planning**

Land and resource management plans guide management activities on NFS lands. They contain direction on how and where different types of activities can occur. They also provide guidance on implementation and on monitoring of each plan's effectiveness.

The FEIS contains an analysis of a number of different potential Forest Plans, each of which represents a combination of, and revision of the current Forest Plans for the CNNF. These different potential Plans are called alternatives. The FEIS contains 9 alternatives. Each of the alternatives can be considered to be a separate and complete Forest Plan. Alternative 1 represents the existing Forest Plans. Alternative 5 was selected as the Preferred Alternative and was the basis for the Proposed Plan published with the Draft EIS (DEIS). Following public comment on the draft documents, Alternative 5 was modified in response to both internal and public comments and the newly created alternative was called the Selected Alternative. The Selected Alternative is the basis for the 2004 Plan, and environmental consequences of this Plan and the other alternatives are displayed in the Final Environmental Impact Statement, Appendices, and maps. A Record of Decision has been written that explains the following:

1. The rationale for selecting modified Alternative 5 (Selected Alternative) to be the 2004 Forest Plan,
2. How the Selected Alternative responds to Plan revision problems and public issues, and
3. How the 2004 Plan relates to existing laws and regulation.

We have been applying the existing Forest Plans since they were approved in 1986. Monitoring and evaluation during implementation of these Plans showed that there were several reasons to update or revise them. These reasons include public comments during implementation of the 1986 Plans, changed conditions as reflected in monitoring and evaluation during Plan implementation, the availability of new information and scientific understanding, and the changes in public perceptions about what constitutes maximum net public benefit related to national forests. Work began on revising the existing Forest Plan several years ago.

Many laws and policies guide National Forest management. Some of the more familiar ones include the National Forest Management Act (NFMA) and the National Environmental Policy Act (NEPA). NFMA requires that National Forest System lands be managed for a variety of uses on a sustained basis to ensure a continued supply of goods and services to the American people. NEPA ensures that environmental information is

made available to public officials and citizens before decisions are made and before actions are taken.

The FEIS was prepared according to NEPA regulations. It displays the Forest Plan alternatives and the environmental consequences each alternative would have.

In addition to existing guidance, new policies needed to be incorporated into the revised Forest Plan. The USDA Forest Service published its *USDA Forest Service Strategic Plan (2000 Revision)* setting long-term goals and objectives that will guide future agency actions in concert with the Government Performance and Results Act. One objective is to “provide ecological conditions to sustain viable populations of native and desired nonnative species and to achieve objectives for Management Indicator Species.” Strategies to accomplish this objective include implementing habitat restoration and management activities for species with viability concerns and ecosystems at risk. This strategy is in accordance with recommendations provided to the Forests’ within “*Report on the Scientific Roundtable on Biological Diversity Convened by the Chequamegon and Nicolet National Forest.*”

The Forest Plan focuses on those goals, as well as other issues that have been raised through monitoring and public input.

---

## Public Involvement and Cooperation

The overall goal for public participation was to identify and have all potentially affected interests informed and participating in the revision effort. Opportunities to bring individuals with different interests together to discuss issues being addressed in the Plan Revision were pursued. Consultation with Federal agencies and State, Tribal, and local governments was also carried out.

### External Participation

Approximately 3000 individuals, groups, organizations, and agencies were contacted and/or have participated in the planning process through the Forests’ public involvement efforts. Contacts have been through news releases, newsletters, one-on-one contacts, open houses, informational meetings, and the Forest web page.

Consultation with the 11 counties encompassing the National Forests was done via a group of representatives organized by the County Forester’s Association. The Wisconsin DNR also formed a committee for the purpose of review and consultation with the Forest Service regarding Forest Plan Revision. Tribal entities were consulted both formally with the Voigt Inter-Tribal Task Force and informally with the Great Lakes Indian Fish and Wildlife Commission. FEIS Appendix A provides more detail on public involvement during the planning process, as well as response to public comments received on the Proposed Plan and DEIS.

### Internal Participation

Chequamegon-Nicolet National Forests employees manage the Forests’ resources on a daily basis and continually interact with the public. Employees have a good understanding of what the issues are and what concerns the public has. Documents were e-mailed to employees several times for review and comment beginning with discussions identifying potential issues previous to publishing the Notice of Intent to Revise the Forest Plans. An employee meeting to provide feedback was held in August 1999, as

well. District Rangers have made efforts to keep employees apprised of developments in the revision over time.

The Interdisciplinary core team and extended team (ID Team) that leads the analysis process for the revision is made up of Forest employees. Employees from all over the Forests assisted with inventory and analysis, public contacts, and development of Alternatives, Standards, and Guidelines.

## **How Public Comment Was Used in the FEIS**

All written comments the Forest received following publishing the Notice of Intent (NOI) were read and categorized by subject matter; then issues were identified. About 188 responses to the NOI were received. During the period between October 11, 1996 and August 31, 2001, comment letters were received in response to information shared at Open Houses, Public Meetings, or other communications. Approximately 1800 responses were received during that time. They, too, were read, categorized by subject matter, and considered during the development of Alternatives.

By April 2003, eight alternatives had been developed and were described in Chapter 2 of the DEIS. The eight alternatives were developed using significant issues raised by the public in addition to those identified as needing revision in the End of Decade Monitoring Report. Alternative development also incorporated resource specialist experience and expertise, professional knowledge from employees, and knowledge from experts participating in Species Viability Evaluation. Other sources for alternative development include Forest Plan monitoring and internal documents including the Purpose and Need (December, 2002), Planning Criteria (August, 1998), Resource Assessments, and Analysis of the Management Situation reports. Environmental consequences of each alternative were presented in Chapter 3 of the DEIS.

The DEIS was made available for public comment in April of 2003. Based on public requests, the original 90-day comment period was extended to August 11, 2003. Approximately 3,000 individual responses were received from public, county, State and federal officials, public interest organizations, and private businesses. A specialized Forest Service unit, the Content Analysis Team (CAT), reviewed all responses, organized them into an electronic database by subject, and generated public concern reports. This helped the Chequamegon-Nicolet National Forests ID-team and decision-makers to systematically consider public input and respond to it (see Appendix A, Response to Comment).

After considering public comments on the Proposed Forest Plan and DEIS, the interdisciplinary team, in consultation with the Forests' Leadership Team, made necessary changes and revisions. These are presented in the FEIS volumes and in the 2004 Forest Plan. One change of note is the formulation of an additional alternative that is a modified version of Alternative 5 and is called the Selected Alternative. It is described later in this document and in Chapter 2 of the FEIS. Analysis of all 9 alternatives is presented in Chapter 3 of the FEIS.

---

## A Brief History of the Revision Topics

Four major topic areas were identified to be included in the revision of the 1986 Forest Plans. The revision issues are those areas of Forest management that were determined to need change as a result of more information about resource conditions, changed resource conditions, new scientific and/or technical information, improved understanding of the results of the previous management direction due to monitoring and evaluation, and changes in public perceptions about what constitutes maximum public benefit relative to national forests. The four major topics are as follows: Access and Recreation Opportunities, Biological Diversity, Special Land Allocations, and Timber Production (including Special Forest Products). These revision topics function as broad headings for 10 important sub-topics or issues listed for their associated major revision topic. Problem statements were developed for each of the 10 sub-topics. The FEIS also examines the social and economic aspects of the counties and communities linked to the Chequamegon-Nicolet National Forests.

The four revision topics and their related problem statements, described below, are the focus of the forest plan revision process. They address the central issues to which future management of the Forest must respond. Each of the nine alternatives described later in this document represents a different set of answers to questions raised by the revision topics.

### Access and Recreation Opportunities

#### Problem # 1 – All-Terrain (ATV) and Off-Road Vehicle (ORV) Use/ Motorized Access

Areas on the Forests open to motorized access are generally extensively roaded. Motorized uses on the Chequamegon-Nicolet National Forests have a long history. People have been accustomed to utilizing roads for traveling most parts of the Forests. The current Forest Plans are inconsistent in road descriptions, total road density designations, and Management Area Prescriptions. For instance, the Chequamegon Plan inventoried only “system” roads, while the Nicolet Plan included all roads and was more detailed in its descriptions.

Total and open road density guidelines need to be designed and applied to the Forests in a consistent manner. They need to be based on Recreation Opportunity Spectrum inventories and roads analysis, such that the Forests have safe, effective, and economically efficient transportation and provide recreational experiences desired by the forest users. The Recreation Opportunity Spectrum (ROS) classification system was used to apply road density goals on various areas of the forest. Maps in the map packet labeled “Recreation Management Emphasis, Open Road Density and Special Land Allocations” for Alternatives 1-9 display locations of open road density zones. The map labeled Road Density displays locations of open road density zones in the Selected Alternative.

ORV use in general, and ATV use specifically have risen steadily over the past two decades. The increased use created new user conflicts. For example, some four-wheel drive enthusiasts prefer rugged roads or trails that are infrequently maintained. Others who prefer a non-motorized experience don’t want to hear the sound of motors.

The Chequamegon and Nicolet Forest Plans provide very different policies regarding access for off-road vehicles. The Chequamegon provides for liberal ATV access to national forest land; most of the forest is open for this use unless areas, roads and/or trails are posted closed. In the Nicolet ATV policy, all areas, roads and/or trails are closed to

ATV use unless they are posted open; there are no areas, and very few routes posted open. ATV use on the Chequamegon has resulted in unacceptable resource damage and occasional conflicts with other recreation activities. Illegal ATV use on the Nicolet is an increasingly prevalent problem. A consistent policy between forests, as well as coordination with State regulation, is needed to provide for off-road use, and new direction is needed to address impacts to resources. Consideration also needs to be given to the expressed desire for designated four-wheel drive vehicle trails.

The 2004 Forest Plan provides options for consistent, enforceable Forestwide policy that addresses the needs of Off Road Vehicle users, prevents unacceptable resource damage, and minimizes conflicts with other recreation activities.

### **Problem # 9 – Wilderness and Semi-Primitive Non-Motorized Areas**

Designated Semi-Primitive Non-Motorized (SPNM) areas and Congressionally designated Wilderness are intended to provide visitors with a remote experience free from the presence and sounds of motorized vehicles. The Chequamegon-Nicolet National Forests provide one of the few places in Wisconsin with a land area large enough to provide some seclusion for quality non-motorized experiences. The 1984 Wisconsin Wilderness Act designated several areas as Wilderness and also directed the Department of Agriculture to “review the wilderness option when the plans are revised, which revisions will ordinarily occur on a 10-year cycle, or at least every 15 years” [Section 5 (b) (2)].

Feedback from the recreating public suggests that the existing Forest Plans underestimated the quality of non-motorized recreational opportunities necessary to meet user demands (End of Decade Report 1998a), especially given the current increase in ATV use. Comments from the public indicated they had difficulty finding areas free of mechanized sights and sounds. In addition, the 1986 plans allowed timber harvest within SPNM areas with some restrictions. New direction is needed to provide a range of quality non-motorized recreation opportunities, including those that emphasize remoteness, solitude, and wild character.

The 2004 Forest Plan addresses a range of quality non-motorized recreation opportunities that emphasize remoteness, solitude, personal challenge (individually or in combination), and the absence of motorized vehicles.

## **Biological Diversity**

### **Problem # 2 – Aquatic, Riparian, and Wetland Ecosystems**

The existing Forest Plans do not describe a desired future condition for aquatic resources. Goals, Objectives, and Forestwide and Management Area Standards and Guidelines are needed to provide clearer direction on the management, protection, and restoration of watersheds and individual aquatic, riparian, and wetland ecosystems.

The existing Chequamegon and Nicolet Forest Plans would benefit from:

1. A more robust treatment of key issues associated with aquatic, riparian, and wetland ecosystems;
2. Increased reference to watershed management; riparian area, wetland, and water quality goals and objectives, and mitigation measures for other activities within these areas;

3. Improved direction for specific aquatic resources, issues, and management activities; and
4. Identification of Desired Conditions for aquatic, riparian, and wetland ecosystems.

Goals, Objectives, and Forestwide and Management Area Standards and Guidelines have been developed to work toward reaching the Desired Condition for watersheds and aquatic resources (found in Chapter 3 of the Plan).

### Problem # 3 – Ecosystem Restoration

Current Chequamegon and Nicolet Forest Plans provide very little ecosystem restoration direction. Restoring deteriorated ecosystems is one of the primary goals of the Forest Service's "*Course to the Future*." The Forest Service's Strategic Plan (2000 revision) recognizes that maintaining or restoring sustainable forest ecosystems is an important mission element. In response to direction by the Chief of the Forest Service, a Scientific Roundtable on Biological Diversity was convened on September 20-23, 1992. Roundtable members provided advice for ongoing implementation of Forest Plans and for future forest plan revision. Maintenance and/or restoration of components of ecological composition, structure, and function are needed to increase the likelihood of sustaining local ecosystems and, in turn, providing for maintenance of the diversity of plant and animal communities native to this area. In some cases, the maintenance and restoration of these ecological characteristics are also contributors to maintaining viable populations of native and desired non-native wildlife, fish, and plant species. The 1986 Plans provided little explicit direction on ecosystem sustainability, and new information since 1986 demonstrates the need for heightened and/or changed direction. Alternatives provide varying allocations of Management Areas that provide for heightened emphasis on ecosystem restoration.

### Problem # 4 – Landscape Pattern

Landscape pattern is the term most commonly used to describe the arrangement of species and communities in a natural setting. Landscapes have three structural components: a **matrix** - the most connected portion of similar vegetation within the landscape; **patches** - isolated portions of similar vegetation within the matrix; and **corridors** - relatively narrow areas that connect patches (Diaz and Apostol, 1992). Very small patches, such as the size of a tree canopy gap in a forest, provide important habitat components for some species such as magnolia warbler (Howe et al, 1995). Large patches can improve species viability by decreasing dispersal distance and increasing the likelihood of mating (Primack, 1993). Greater diversity of habitat-specific species occurs as patches become larger (Primack, 1993).

Current Standards and Guidelines for both Plans address biological diversity by increasing species variety through edge habitat creation and the strategic placement of forest vegetation types. The level of even-age management and emphasis on early successional forest types has resulted in a landscape pattern where small patches dominate. The emphasis on disconnected patches, affects many species that react negatively to large amounts of forest edge.

The Forest Plan describes desired future conditions that include landscape composition and structure as objectives, and modify long-term landscape patterns by:

1. Emphasizing areas that maintain interior forest conditions;
2. Restoring a pattern of large patches across the landscape;

3. Increasing mid to late successional forest habitat (forestwide or in concentrated blocks);
4. Decreasing the interspersions of large concentrated blocks of late-successional habitat with early successional habitat (where appropriate);
5. Increasing attention to connections between landscapes and/or patches; and
6. Restoring formerly dominant forest types such as white pine.

Alternatives vary in Management Area allocation to progress toward the desired condition.

### **Problem # 5 – Old Growth**

The 1986 Plans do not consistently define old growth, including the significance of old growth to ecological sustainability. There needs to be consistent criteria developed for old growth, including desired spatial and temporal arrangement of existing and future old growth, and the relevant characteristics needed to aid in the inventory and designation of old growth areas. The revised Plan reflects the ecological importance of old growth and allocates old growth areas based on present characteristics and spatial distribution.

### **Problem #10 – Wildlife**

The existing Plans do not adequately ensure the distribution, abundance, and quality of desired habitat types and features needed to meet the requirements of some mature forest dependent wildlife species. Changes in social values regarding wildlife and wildlife-related recreation, and a new understanding about the suitability of some landscape habitat features is reflected in revised management direction.

The 1986 Forest Plans are inconsistent in direction for management of Threatened, Endangered, and Sensitive species, as well as in direction for certain structural components, such as reserve trees. The existing Plans tend to focus on early successional species and habitats and do not sufficiently provide for area-sensitive or edge-sensitive species.

The Alternatives provide new or updated direction for:

1. Managing permanent openings;
2. Reserving adequate amounts of standing and downed dead woody material;
3. Expanding the Riley Lake Wildlife Management Areas to provide additional upland shrub/grassland habitat to meet sharp-tailed grouse population objectives;
4. Providing for the recovery and viability of “Regional Forester Sensitive Species;” and
5. Designing a landscape pattern that includes some large patches of vegetation to provide habitat for area sensitive species.

## **Special Land Allocations**

### **Problem # 7 – Special Land Allocation: Candidate and Existing Research Natural Areas and Special Management Areas**

Research Natural Areas (RNAs) are maintained in their natural condition and provide opportunities for monitoring natural processes, studying ecosystems and their component parts, and investigating successional and other long-term changes. Special Management Areas (SMAs) have outstanding natural, historical, or recreational features and are also

maintained in their natural condition. RNAs and SMAs identified for their ecological characteristics maintain and protect unique ecosystems, processes, and rare or sensitive plant and animal species and habitat.

Existing RNAs do not make use of the draft framework that the Eastern Region of the Forest Service is now using to establish a network of representative ecological reference areas. The existing and candidate RNAs and SMAs lack a wide range of representation of vegetative communities and thus provide limited value as reference areas. In addition, the existing areas are small, isolated, and are not integrated into a systematic network of reserves where proximity, continuity, and presence of connecting corridors are coordinated. Finally, current Plans do not provide for management area prescriptions or guidelines for most RNAs and SMAs and do not display locations on a map so that they can be easily identified for monitoring and evaluation purposes.

Alternatives 2-9 and the Selected Alternative identify specific candidate RNAs and designate SMAs by providing Management Area prescriptions 8E and 8F for RNAs and SMAs, respectively, including specific standards and guidelines to direct management.

## Timber Production

### Problem # 8 – Timber Production

Past assumptions used for identifying suitable lands for timber production, as well as estimation of growth and yield, need to be updated with new information to provide an accurate prediction of the long-term capabilities of the Forests to produce timber products. More nearly accurate assumptions are being used to estimate expected growth and yield of timber products as well as to identify acres suited for timber production.

Forest management methodologies need to be revised to provide for the diversity of plant and animal communities, and to maintain viability of species existing on the Forests. Needed changes include structural and compositional goals of forest stands, allocations of forest types across the Forests, and silvicultural prescriptions applicable to different land areas and forest types.

Silvicultural prescriptions were modified to provide a wider range of options for developing needed changes in forest structure and composition (Forest Plan, Chapter 2). Allocation of these various treatments across the landscape are proposed in ways to increase the representation of native ecosystems and reduce fragmentation of habitats, to provide biological community diversity and increase the likelihood of viability for the species found within the planning area.

### Problem # 6 – Special Forest Products

Special Forest Products consist of items such as birch bark, birch stems, Christmas trees, cones, conifer boughs, firewood, maple sap, sheet moss, etc. that are gathered and intended for resale or are gathered on more than an incidental basis. There is demand for Special Forest Product gathering, but there is no specific management direction to monitor, manage, and control such gathering. The 2004 Forest Plan and other “revision” alternatives (2-9), establish special forest products goals, objectives, standards, guidelines, and monitoring direction.

---

## Emphasis of Each Alternative

Nine alternatives were analyzed in the FEIS. Each alternative represents a complete forest plan that meets legal and administrative requirements. A new alternative was created by modifying the Preferred Alternative following the public comment period. It is called the Selected Alternative in the FEIS and the Record of Decision.

All alternatives adhere to the concepts of multiple use and sustained ecosystem management. They all have a set of Goals and Objectives and a set of Forestwide Standards and Guidelines. Alternative 1, the No Action Alternative, does not incorporate the emphasis on Revision topics while Alternatives 2-9 and the Selected Alternative do. Therefore, alternatives other than Alternative 1 are often referred to as “revision” or “action” alternatives. Goals, Objectives, and Standards and Guidelines in Alternatives 2-9 and the Selected Alternative ensure protection of Forest resources and compliance with applicable laws. Ecological conditions will be managed to maintain viable populations of existing native and desirable non-native species, and watershed conditions will remain stable or improve. Alternative 1 complies with applicable laws and protects Forest resources but has a higher risk of affecting viability of area-sensitive and other species.

Important points shared by alternatives other than the No Action Alternative follow:

1. ATV use is limited to designated roads and trails; no off-road or off-trail use is allowed. In addition, there is no provision for intensive use or play areas, causing one existing area to be closed and rehabilitated. The general policy is that roads and trails are closed to use by ATVs unless they are posted open. Finally, winter use of snowmobile trails by ATVs is permitted where posted.
2. ATV terminology varies between Alternatives 2-9 and the Selected Alternative. All alternatives vary in amount of trail and road use allowed by ATVs. Alternatives 2-9 refer to new loop trail miles, miles of connector between National Forest loop trails, and seasonal time period, if any, when ATVs might travel on designated road routes. The term connector was not used in the Selected Alternative. Instead, mileage for both connectors and trails is combined and referred to collectively as ATV trails. ATV routes are defined as classified roads that are designated and posted for ATV use.
3. Changes have been made in snowmobile use policy to provide consistency between the two Forests. Future trail relocations due to management area allocations may be indicated in some alternatives. Forestwide Standards and Guidelines in Alternatives 2-9 and the Selected Alternative restrict snowmobiles to routes and trails that are posted open and designated for their use. In addition, snowmobiles may travel on normally unplowed, open roads when snow accumulations exceed four inches
4. Motorized access in the Forest Plan consists of assigning areas with upper limits of zero, two, and four miles per square mile open road density and assigning upper limits for total road density of zero, three, and four miles per square mile to areas on the Forest.
5. Eight areas have been identified that could potentially be recommended for Wilderness study. Alternatives 2–9 and the Selected Alternative range from one to eight in proposed Wilderness Study Areas. Acreage figures for Wilderness in Alternative comparison narratives include Research Natural Area and Special Management Area inclusions.

6. The Semi-Primitive Non-Motorized (SPNM) designation has been subdivided into Management Areas 6A (low disturbance) and 6B (limited vegetation management).
7. There is a third category of restricted vehicular access (not SPNM) where full vegetation management is combined with the goal of zero open road density. Alternatives allocate various amounts of each.
8. Protection of Aquatic Resources is accomplished through Forestwide Standards and Guidelines that are constant across alternatives 2-9 and the Selected Alternative.
9. By allocating varying amounts of Management Areas 2B, 3B, 4B, and 4C, revision alternatives provide a range of emphasis on ecosystem restoration within northern hardwood interior forest (MA 2B); Oak forest with a component of pine and pine forest with a component of oak (MA 3B & 4B respectively); and surrogate barrens (MA 4C).
10. Landscape pattern is primarily addressed by the amount of Management Areas 2B, 3B, 4B, and 4C allocation across alternatives. While patch size varies for each vegetative community, these management areas emphasize management to maintain larger vegetation patches that provide landscape scale interior forest or large patches of open land management.
11. Alternatives 2-9 and the Selected Alternative designate varying acreage of Old Growth and Natural Feature Complexes. Old Growth is addressed collectively with designation of Research Natural Areas (RNAs) and Special Management Areas (SMAs) in display of environmental consequences. RNAs and SMAs are considered necessary as refugia for rare species, important relicts of historic vegetative communities, reference areas for monitoring, and protection for scenic or cultural sites. Acreage of RNAs and SMAs remains constant across alternatives 2-9 and the Selected Alternative.
12. Threatened and Endangered Species (TE) populations are estimated to be stable or increasing in all alternatives for Gray Wolf, Bald Eagle, and Fassett's locoweed. There are no known breeding populations of Canada Lynx or Kirtlands's Warbler.
13. Determinations in the Biological Evaluation, for species included on the Regional Forester's Sensitive Species (RFSS) list, state that activities in all Alternatives would have either No Effect, Beneficial Effect, or May affect Individuals but would not likely cause a trend toward federal listing or loss of viability.
14. Regulation of Special Forest Product gathering is accomplished through Forestwide Standards and Guidelines and is constant across Alternatives 2-9 and the Selected Alternative.

In addition, a number of designations and activities will remain constant in the Proposed Forest Plan:

1. Existing permittees and Easement holdings;
2. Current designated Wilderness;
3. Current designated Research Natural Areas
4. Current procedures that require survey, evaluation, protection, and interpretation of historic and cultural properties;
5. Existing developed recreation sites, utility corridors, and electronic sites;
6. Current designated national scenic and recreational trails;

7. Current designated scenic byways and;
8. A maximum Forestwide average road density objective of 3.0 miles/square mile on the Nicolet and Chequamegon National Forests.

Finally, some designations and activities will show small changes from the 1986 Forest Plans. For the most part, Standards and Guidelines were adjusted to provide consistency between the two Forests for the following resource areas:

1. Minerals management
2. Wild and Scenic River Eligibility Status
3. Visual Quality Objectives (now called Scenic Integrity Objectives)
4. Management of Heritage Resources
5. Fire Management
6. Management of Forest Health
7. Management of Surface Ownership, Land Adjustments, Special Uses, and Communication Sites

In the next section, a brief summary statement of emphasis and outputs describes each alternative. Relative terms of moderate or high are used to describe alternatives. These are qualitative estimates relative to other alternatives. Descriptions are accompanied by a pie chart showing how land within the Forests' boundaries was allocated to Management Areas. Management Areas define where different management activities may be carried out and where different public uses may occur. The Management Areas used in the 2004 Plan and its alternatives represent an expanded and updated array of areas compared to those used in the 1986 Forest Plans. Table 2 compares the existing set of Management Areas to the ones developed for the 2004 Forest Plan.

**Table 2. Comparison of Numbering Systems Used in the 1986 Management Areas with those in 2004 Plan**

Management Area	1986 Plan	1986 Plan	Revised
	Nicolet	Chequamegon	Plan
<b>Early Successional Vegetation</b>			
Aspen	1.1 and 1.2	1.1 and 1.2	1A
Aspen mixed with Conifers	N/A	N/A	1B
Aspen mixed with Hardwood	N/A	N/A	1C
<b>Uneven-aged Northern Hardwoods</b>			
Interior Northern Hardwoods Emphasis--5-20% Aspen	N/A	N/A	2A
Interior Northern Hardwoods Emphasis, 0-10% Aspen	N/A	N/A	2B
Northern Hardwoods, Smaller patches, 15-30% Aspen	2.1 and 2.2	2.1 and 2.2	2C
<b>Even-aged Northern Hardwoods</b>			
Emphasis on Oak and Oak mixed with Pine Larger patch sizes	N/A	N/A	3B
Emphasis on Oak and Aspen Smaller Patches	3.1 and 3.2	3.1 and 3.2	3C
<b>Upland Conifer</b>			
Red, White, and Jack Pine, primarily of plantation origin	4.1 and 4.2	4.1 and 4.2	4A
Red and white pine of natural origin, Large patch sizes	N/A	N/A	4B
Surrogate Pine Barrens/Jack Pine Forest	N/A	N/A	4C
<b>Wilderness/Potential Wilderness Study Area</b>			
Wilderness	5	5	5
Potential Wilderness Study Area	N/A	N/A	5B
<b>Semi-Primitive Non-Motorized</b>			
Semi-primitive Non-Motorized Area, No Vegetation Mgmt	N/A	N/A	6A
Semi-primitive Non-Motorized Area, Limited Vegetation Mgmt	N/A	N/A	6B
Semi-primitive Non-Motorized Area, Slightly Limited Veg Mgmt	6.2 and 6.3	6	N/A
<b>Special Designations</b>			
Argonne Experimental Forest	8.2	N/A	8A
Oconto River Seed Orchard	8.2	N/A	8B
Riley Lake Wildlife Area and Moquah Barrens Area	N/A	8.1	8C
Wild, Scenic and Recreational River Corridors	9.2	8.2 and 8.5	8D
Existing and/or Candidate Research Natural Areas	8.1	8.4	8E
Special Management Areas	8.1	8.6 and 8.7	8F
Old Growth and Natural Feature Complexes	N/A	N/A	8G
National Recreation and Scenic Trails	N/A	8.3	In other MA's

Each numeric category represents a different primary emphasis for the management of National Forest System lands.

2004 Plan Management Areas consist of a numeric and letter designator. The number represents a general emphasis and letters subdivide the common emphasis areas. The primary emphasis within Management Areas for each numeric category is described in Table 3.

**Table 3. Primary emphasis within Management Areas by Numeric Category**

<b>Management Area 1</b>	Simply structured early successional forests, made up primarily of the aspen forest type. Predominant recreational uses include hunting and related activities.
<b>Management Area 2</b>	Large, relatively continuous, mid to late successional northern hardwood forests. In alternatives other than Alternative 1, acreage of subcategories 2A, 2B, and 2C are listed on Figures 2 to 10 for comparison. Fishing, large and small game hunting, campground and dispersed area camping, and a variety of motorized and non-motorized trail uses are the primary recreation activities.
<b>Management Area 3</b>	Mixture of even-aged northern hardwoods ranging from shade intolerant early successional species to shade tolerant later successional species. Fishing, large and small game hunting, campground and dispersed area camping, and a variety of motorized and non-motorized trail uses are the primary recreation activities.
<b>Management Area 4</b>	Upland conifer forests mixed with other forest communities. Fishing, hunting, berry picking, camping and motorized and non-motorized trail use are potential recreational activities.
<b>Management Area 5</b>	Existing Rainbow Lake, Porcupine Lake, Whisker Lake, Headwaters, and Blackjack Springs congressionally designated Wilderness. Forces of nature are meant to be the only disturbance factors in these areas. Non-motorized and non-mechanical recreational activities such as hiking predominate. Management Area 5B consists of areas that meet criteria to be Wilderness Study Areas; disturbance factors and recreational pursuits are very similar to Wilderness.
<b>Management Area 6</b>	Natural-appearing late successional forests where the Semi-Primitive Non-Motorized recreational setting is emphasized. Forces of nature are the predominant disturbance factors in MA 6A. In 6B areas, limited vegetation management is allowed. Primitive camping, hiking, and other non-motorized recreational activities predominate. In Figures 2-10, 6A areas are used as an indicator of the Semi-Primitive Non-Motorized experience for alternatives other than Alternative 1. This is because 6A areas provide high emphasis on a non-motorized experience and MA 6B overlaps with other Management Areas.
<b>Management Area 8</b>	Includes specially designated areas including the Argonne Experimental Forest, open-land management areas, candidate and designated Research Natural Areas, and others. Recreation activities occur within Management Area 8, but recreation is not the emphasis within these MAs.

Alternatives are described such that their primary differences are pointed out. Alternatives 2-9 have the same set of Goals, Objectives, and Forestwide and Management Area Standards and Guidelines. The differences among them are in the percentages of Management Area allocations. Alternative 1 has a different set of Management Areas, and its Goals, Objectives and Standards and Guidelines differ considerably from those of all other Alternatives. The Selected Alternative is a modified version of Alternative 5, with some changes in Management Area allocations, and incremental changes in Goals, Objectives, and Standards and Guidelines.

Throughout these summarized descriptions of the Alternatives, the terms “low, moderate, and high” are relative terms, placing the Alternative being described in its relative position within this set of Alternatives.

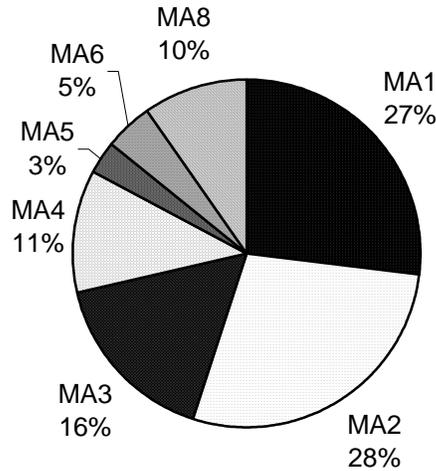
## Alternative 1

Alternative 1 is the No Action alternative and reflects the forestwide direction from each of the Nicolet and Chequamegon Forest Plans for the respective Forests. That is, management allocations, activities, and management direction found in existing plans would continue. The two plans are not necessarily consistent with each other and were independently prepared. Alternative 1 meets the NEPA requirement (36 CFR 219.12(f)(7) that a No Action alternative must be considered.

Recreational opportunities are mixed. There is a high trail mileage, as well as permissible off-trail, off-road use for ATVs on the Chequamegon; there is very little ATV use allowed on the Nicolet. Approximately 69,000 acres of SPNM areas are designated, but all allow timber harvest to some degree.

Both existing plans place high emphasis on timber production. This alternative provides the highest Allowable Sale Quantity (ASQ) at 1.46 Billion Board Feet and highest suited land for timber harvest of all alternatives (934,000 ac).

A higher emphasis on early successional species provides for use of clearcutting as a major means of forest regeneration, with higher potential for small vegetation patch sizes, and high contrast between patches.



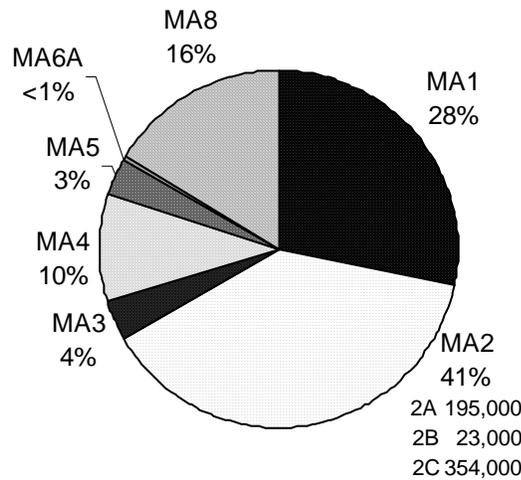
**Figure 2. Alternative 1--Management Area Allocation by Numeric Category**

MA 1	Early Successional Forest	MA 5	Wilderness and Wilderness Study Areas
MA 2	Uneven-Aged Northern Hardwoods	MA 6	Semi-Primitive Non-Motorized Areas
MA 3	Even-Aged Northern Hardwoods	MA 8	Special Designations

(See Table 3 for more detail)

## Alternative 2

Alternative 2 places the most emphasis of the action alternatives (i.e. Alternatives 2-9 and the Selected Alternative) on production and maintenance of early successional species. It also emphasizes more motorized recreation than other alternatives, provides the highest amount of new ATV trails and connectors, and provides the most months per year for ATV use of designated routes (on-road use). This alternative provides the least emphasis on northern hardwood interior forest, oak and pine forest, and on management for surrogate barrens. It provides the highest number of acres with aspen emphasis, including Alternative 1. Alternative 2 identifies one area to be recommended for Wilderness study (6,300 acres). This alternative has a combined ASQ of 1.34 billion board feet, which is second highest of the alternatives.



**Figure 3. Alternative 2 Management Area Allocation by Numeric Category**

MA 1	Early Successional Forest	MA 5	Wilderness and Wilderness Study Areas
MA 2	Uneven-Aged Northern Hardwoods	MA 6A	Semi-Primitive Non-Motorized Areas
MA 3	Even-Aged Northern Hardwoods	MA 8	Special Designations

(See Table 3 for more detail)

### Alternative 3

Alternative 3 places the most emphasis of all alternatives on ecosystem restoration, landscape scale interior forest conditions, and providing semi-primitive non-motorized experience. This alternative provides no new ATV trails, a low number of connectors, and does not permit ATV use on classified roads. It identifies two areas to be recommended for Wilderness study (8,000 acres). Alternative 3 provides the highest acreage of the alternatives in Management Area 6B Semi-Primitive Non-Motorized areas (suited timberlands) and a relatively high amount of the Management Area 6A (non-suited timberlands) Semi-Primitive Non-Motorized areas. The alternative provides for a combined ASQ of 1.24 billion board feet and provides the highest emphasis on modified silvicultural methods to achieve ecosystem restoration components. It provides a relatively low acreage of aspen emphasis.

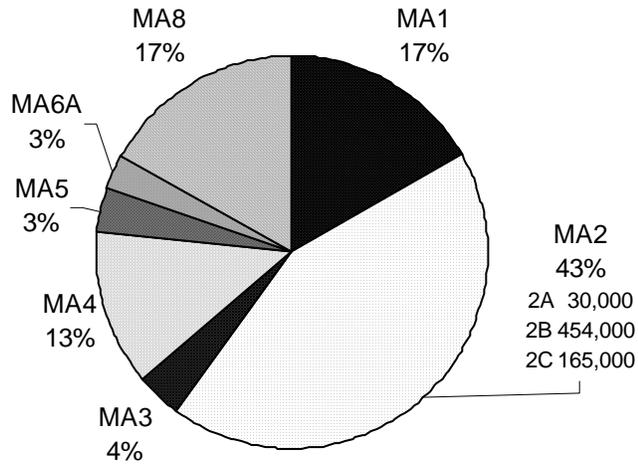


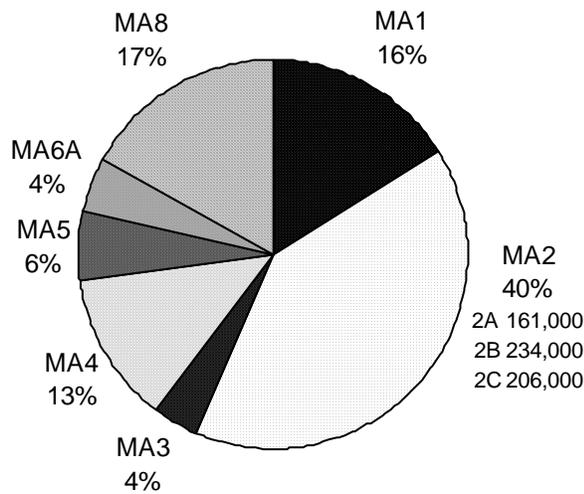
Figure 4. Alternative 3 Management Area Allocation by Numeric Category

MA 1	Early Successional Forest	MA 5	Wilderness and Wilderness Study Areas
MA 2	Uneven-Aged Northern Hardwoods	MA 6A	Semi-Primitive Non-Motorized Areas
MA 3	Even-Aged Northern Hardwoods	MA 8	Special Designations

(See Table 3 for more detail)

## Alternative 4

Alternative 4 responds primarily to the lack of quality remote recreational settings on the Forests by recommending all 8 potential Wilderness areas for Wilderness study (56,100 acres), designating the most Management Area 6A Semi-Primitive Non-Motorized acres of any alternative, and by allocating a relatively high amount of Management Area 6B Semi-Primitive Non-Motorized areas. No new ATV trails are provided, ATVs are not permitted on roads, and ATV access is not permitted on the Nicolet. This alternative provides for a moderate level of ecosystem restoration, including a moderate emphasis on landscape scale interior forest conditions. Alternative 4 provides the lowest number of suitable acres, the lowest combined ASQ of 1.22 billion board feet, and the lowest number of acres with aspen emphasis.



**Figure 5. Alternative 4 Management Area Allocation by Numeric Category**

MA 1	Early Successional Forest	MA 5	Wilderness and Wilderness Study Areas
MA 2	Uneven-Aged Northern Hardwoods	MA 6A	Semi-Primitive Non-Motorized Areas
MA 3	Even-Aged Northern Hardwoods	MA 8	Special Designations
(See Table 3 for more detail)			

### Alternative 5

Alternative 5 provides less emphasis on ecosystem restoration. A higher percentage of the forest is traditionally managed, compared to other alternatives. It provides for species viability over time through protection of ecological reference areas, and for some amount of ecosystem restoration through allocation of management areas with modified silvicultural methods. This alternative provides about equal, and relatively moderate, emphasis on both motorized and non-motorized recreation. It provides a moderate level of new ATV trails and connectors on the Forests and 3 ½ months of ATV access to classified roads per year. The alternative recommends three areas for Wilderness study (15,400 acres) and provides low amounts of opportunities for semi-primitive non-motorized recreation. The alternative provides a low to moderate emphasis on landscape scale interior forest conditions, and a moderate emphasis on Old Growth areas. It provides a moderate level of aspen emphasis. The combined ASQ for this alternative is 1.30 billion board feet.

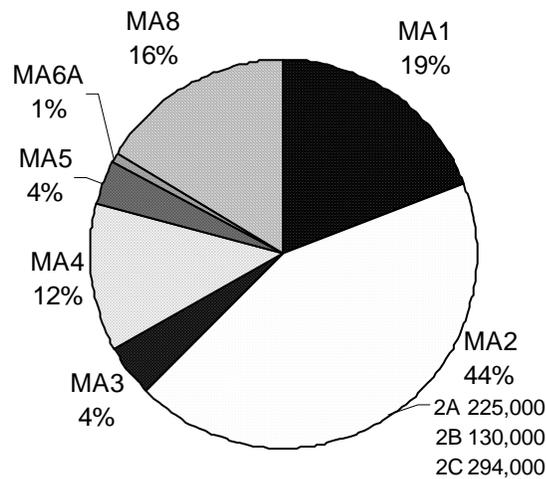
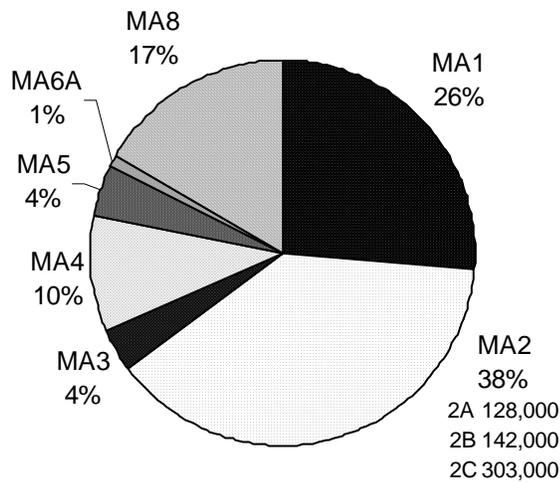


Figure 6. Alternative 5 Management Area Allocation by Numeric Category

MA 1	Early Successional Forest	MA 5	Wilderness and Wilderness Study Areas
MA 2	Uneven-Aged Northern Hardwoods	MA 6A	Semi-Primitive Non-Motorized Areas
MA 3	Even-Aged Northern Hardwoods	MA 8	Special Designations
(See Table 3 for more detail)			

## Alternative 6

Alternative 6 provides some emphasis on early successional forest species and moderate emphasis on biological diversity issues. There are moderate amounts of non-motorized recreational opportunities in this alternative, and more of the non-motorized areas are managed for timber. Conversion of early successional to longer-lived species progresses relatively slowly, and the alternative maintains a moderate emphasis on factors related to biological diversity. Recreation opportunities focus on Non-Motorized areas with fully managed forest (NM), on low amounts of semi-primitive non-motorized opportunities, and on low to moderate opportunities for ATV access. Alternative 6 recommends four areas for Wilderness study (29,000 acres). Its combined ASQ is 1.29 billion board feet and it provides for a high number of acres emphasizing aspen.

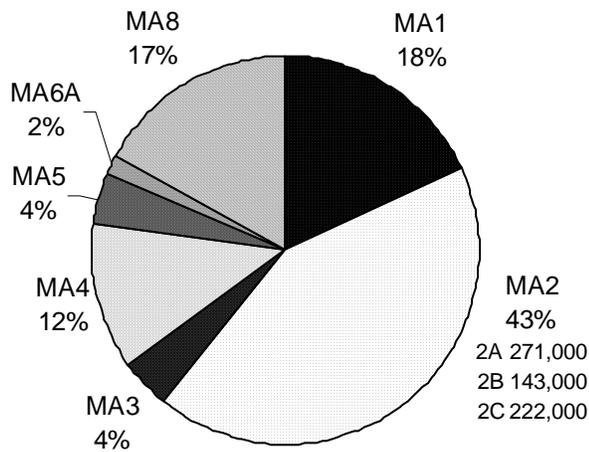


**Figure 7. Alternative 6 Management Area Allocation by Numeric Category**

MA 1	Early Successional Forest	MA 5	Wilderness and Wilderness Study Areas
MA 2	Uneven-Aged Northern Hardwoods	MA 6A	Semi-Primitive Non-Motorized Areas
MA 3	Even-Aged Northern Hardwoods	MA 8	Special Designations
(See Table 3 for more detail)			

## Alternative 7

Alternative 7 provides moderate to high emphasis on biological diversity and landscape scale patches of interior forest while producing northern hardwood sawtimber products and allocating a high amount of Old Growth areas. This alternative provides for no new ATV trails, some new ATV connectors, and no ATV road routes unless serving as connectors. Alternative 7 allocates a moderate amount of acres to semi-primitive non-motorized emphasis and recommends four areas for Wilderness study (25,800 acres). The combined ASQ for this alternative is 1.29 billion board feet and it provides for a moderate level of aspen emphasis



**Figure 8. Alternative 7 Management Area Allocation by Numeric Category**

MA 1	Early Successional Forest	MA 5	Wilderness and Wilderness Study Areas
MA 2	Uneven-Aged Northern Hardwoods	MA 6A	Semi-Primitive Non-Motorized Areas
MA 3	Even-Aged Northern Hardwoods	MA 8	Special Designations

(See Table 3 for more detail)

### Alternative 9

Alternative 9 provides a high response to biological diversity issues, combined with high amounts of motorized recreation access and ATV use. This alternative provides for the most new ATV trails and connectors of all alternatives but does not permit ATV access on classified roads, except as connectors. It recommends three areas for Wilderness study (15,800 acres) and provides a low amount of the more remote form of semi-primitive non-motorized area (MA 6A), and a moderate amount of the semi-primitive non-motorized areas with timber management (MA 6B). This alternative provides the second highest emphasis on ecosystem restoration, as well as a high emphasis on landscape scale patch management and Old Growth. The combined ASQ for this alternative is 1.31 billion board feet. Emphasis on aspen management is low.

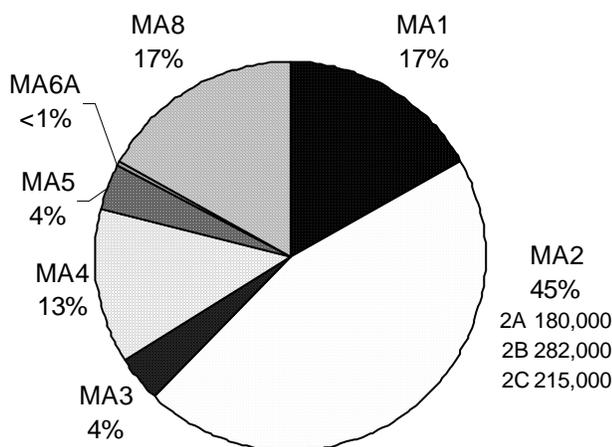


Figure 9. Alternative 9 Management Area Allocation by Numeric Category

MA 1	Early Successional Forest	MA 5	Wilderness and Wilderness Study Areas
MA 2	Uneven-Aged Northern Hardwoods	MA 6A	Semi-Primitive Non-Motorized Areas
MA 3	Even-Aged Northern Hardwoods	MA 8	Special Designations

(See Table 3 for more detail)

### Selected Alternative

The Preferred Alternative (Alternative 5) was modified to create the Selected Alternative. It has increased allocation of management areas that emphasize ecosystem restoration and interior forest conditions. It retains the same emphasis on Old Growth areas as in Alternative 5. Acreage of recommended Wilderness Study Areas is similar to Alternative 5 at 15,500 acres. It provides for increased species viability over time through protection of ecological reference areas and a higher allocation of management areas with modified silvicultural methods that provide for emphasis on ecosystem restoration. Like Alternative 5, the Selected Alternative provides about equal, and relatively moderate, emphasis on both motorized and non-motorized recreation. It provides a moderate level of new ATV trails on the Forests, increased ATV use on roads, and relatively low amounts of opportunities for semi-primitive non-motorized recreation. It provides a moderate level of aspen emphasis. The combined ASQ for this alternative is 1.31 billion board feet

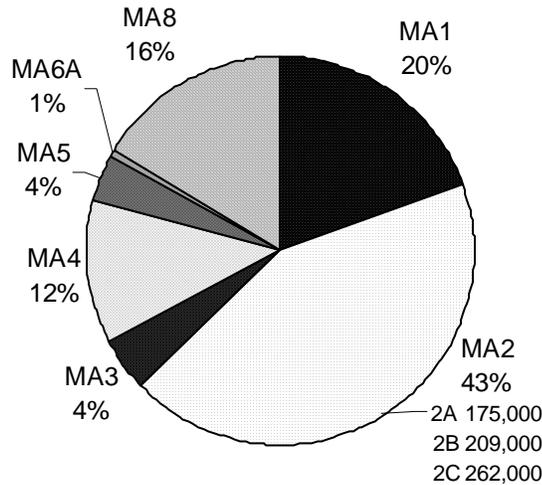


Figure 10. Selected Alternative Management Area Allocation by Numeric Category

MA 1	Early Successional Forest	MA 5	Wilderness and Wilderness Study Areas
MA 2	Uneven-Aged Northern Hardwoods	MA 6A	Semi-Primitive Non-Motorized Areas
MA 3	Even-Aged Northern Hardwoods	MA 8	Special Designations
(See Table 3 for more detail)			

**Table 4. Comparison of Acres Allocated to Management Areas in Each Alternative with Management Area Overlap Displayed**

Note: Acreages are rounded to the nearest thousand (or hundred). Because of rounding, total acreages for each alternative are not identical. In addition, some areas are assigned to more than one management prescription and may get double or triple counted.

Management Areas	Alternatives								
	1	2	3	4	5	6	7	9	SA
<b>Early Successional Vegetation</b>									
1A- Aspen	400,000	168,000	101,000	138,000	158,000	168,000	153,000	101,000	158,000
1B- Aspen mixed with conifers	0	86,000	74,000	27,000	33,000	81,000	31,000	78,000	38,000
1C- Aspen mixed with Hardwood	0	167,000	72,000	76,000	95,000	146,000	87,000	72,000	95,000
<b>Uneven-aged Northern Hardwoods</b>									
2A- Interior Northern Hardwoods Emphasis--5-20% Aspen	0	195,000	30,000	161,000	225,000	128,000	271,000	180,000	175,000
2B- Interior Northern Hardwoods Emphasis, 0-10% Aspen	0	23,000	454,000	234,000	130,000	142,000	143,000	282,000	209,000
2C- Northern Hardwoods, Smaller patches, 15-30% Aspen	422,000	354,000	165,000	206,000	294,000	303,000	222,000	215,000	262,000
<b>Even-aged Northern Hardwoods</b>									
3B- Emphasis on Oak and Oak mixed with Pine Larger patch sizes	0	1,700	23,900	6,400	1,700	6,400	10,900	11,900	10,900
3C- Emphasis on Oak and Aspen Smaller Patches	242,000	54,000	36,000	48,000	62,000	46,000	52,000	48,000	52,000
<b>Upland Conifer</b>									
4A- Red, White, and Jack Pine, primarily of plantation origin	171,000	117,000	112,000	125,000	152,000	114,000	140,000	124,000	138,000
4B- Red and White Pine of natural origin, Large patch sizes	0	17,000	65,000	50,000	17,000	20,000	30,000	53,000	30,000
4C- Surrogate Pine Barrens/Jack Pine Forest	0	10,000	13,000	13,000	13,000	10,000	13,000	13,000	13,000
<b>Wilderness/Potential Wilderness Study Areas</b>									
5- Wilderness (Includes 2000 acres of existing RNA within boundaries)	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000	44,000
5B- Potential Wilderness Study Areas	0	6,300	7,900	56,100	15,400	29,000	25,800	15,800	15,500
MA 5B only	0	6,300	7,600	45,200	12,300	22,600	18,100	11,700	11,700
MA 8E, 8F & 8G overlap	0	0	300	10,900	3,100	6,400	7,700	4,100	3,800
<b>Semi-Primitive Non-Motorized</b>									
1986 Goal 6-Semi-Primitive Non-Motorized Area	69,000	0	0	0	0	0	0	0	0
6A- Semi-Primitive Non-Motorized Area, No Vegetation Mgmt	0	11,300	64,600	92,000	20,200	20,200	41,700	14,700	20,100
MA 6A only	0	2,600	45,200	65,500	11,100	11,100	24,600	6,000	8,900
MA 8E, 8F & 8G overlap	0	8,700	19,400	26,500	9,100	9,100	17,100	8,700	11,200
6B- Semi-Primitive Non-Motorized Area, Limited Vegetation Mgmt <sup>1</sup>	0	56,000	108,000	83,000	56,000	48,000	73,000	81,000	48,000
<b>Non-Motorized, Only</b>									
Non-Motorized Areas that do not limit vegetation management activities <sup>1</sup>	7,600	33,300	62,000	67,000	64,500	110,900	93,100	78,000	42,500
<b>Special Designations</b>									
8A- Argonne Experimental Forest	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500
8B- Oconto River Seed Orchard	700	700	700	700	700	700	700	700	700
8C- Riley Lake Wildlife Area and Moquah Barrens Area	13,000	19,600	19,600	19,000	19,600	19,600	19,600	19,600	19,600
8D- Wild, Scenic and Recreational River Corridors	41,000	41,000	41,000	41,000	41,000	41,000	41,000	41,000	41,000
MA 8D only	41,000	34,800	34,600	34,300	34,500	34,400	34,500	34,500	34,500
MA 5B overlap	0	200	200	800	800	700	300	300	300
MA 8E, 8F & 8G overlap	0	6,000	6,200	5,900	5,700	5,900	6,200	6,200	6,200
8E- Existing and/or Candidate Research Natural Areas	2,500	35,200	35,200	35,200	35,200	35,200	35,200	35,200	35,200
8F- Special Management Areas	13,000	63,900	63,900	63,900	63,900	63,900	63,900	63,900	63,900
8G- Old Growth and Natural Feature Complexes	67,600	85,500	91,000	92,600	85,500	91,000	92,600	92,600	85,500

<sup>1</sup> MA 6B and Non-Motorized areas with full vegetation management represent a recreation experience layered on top of areas within Management Areas 1-4; therefore acreage for these areas is represented in several other Management Areas. See Map Set for further information.

## Alternatives Considered but Eliminated from Detailed Study

The following alternatives were considered in the analysis but were eliminated from further detailed study.

### Alternatives that emphasized early successional habitat; employed limited emphasis on ecosystem restoration; and emphasized increases in motorized or non-motorized recreation, but not both.

Early development of Alternatives 8 and 2 took a similar approach with regard to ecological issues, emphasizing early successional forest species management and applying limited emphases on land allocation to ecosystem restoration and old growth areas. This approach represented low response to the biological diversity issue. These two alternatives differed primarily in their emphasis on motorized vs. non-motorized recreational opportunities. Alternative 8 increased opportunities for non-motorized recreation and provided little increase in motorized recreation. Alternative 2 placed a greater emphasis on increasing ATV recreational opportunities but did not emphasize increases in non-motorized recreation.

Feedback from public meetings indicated that opportunities for motorized and non-motorized use should be more balanced within the alternatives. That is, if ATV opportunities increased, the quality of non-motorized areas might suffer and larger areas or different locations for non-motorized areas should be considered to provide for a wider range of recreational opportunities. The Forests' response was to provide a greater balance for these two forms of recreation in Alternative 2, eliminating the primary difference between it and Alternative 8. Alternative 8 was therefore eliminated from further detailed study.

### Alternative emphasizing maintenance of the aspen acreage present at the end of the first decade of implementation of the 1986 Plans, while concurrently addressing the revision's biological diversity issue.

Alternative 2 was originally developed to provide essentially the same emphasis on producing early successional species as the 1986 Forest Plans. The End of Decade Monitoring Report (1998) indicated that the Forests exceeded desired composition goals for aspen during the first decade. Alternative 2 was to retain the same amount of aspen forest type that existed at the end of the first decade.

As interdisciplinary discussion progressed and Forestwide Standards and Guidelines and management area prescriptions were developed, Alternative 2 as originally conceived was dropped from further consideration. Accomplishing the regeneration harvest required to maintain the level of aspen called for in the original Alternative 2 was found to be in conflict with **Minimum Management Requirements** (36 CFR 219.27) and/or desired progress on the biological diversity portion of the **Purpose and Need** (Chapter 1, FEIS).

**Minimum Management Requirements** in conflict with this level of early successional habitat are:

1. Research Natural Areas and Special Management Areas were increased for all alternatives other than Alternative 1 to provide representative examples of ecosystems native to the Chequamegon-Nicolet land base within ecological reference areas. They serve as areas for ecological monitoring and research, and as refugia for rare species. Harvesting would not take place, and the

approximately 6,000 acres of aspen within these areas would convert to other forest types over time.

2. To progress toward the aquatic desired condition, “Wisconsin’s Forestry Best Management Practices” were adopted as Forest Guidelines for riparian management zones. These practices call for retaining 60 basal area of trees within 35 feet of intermittent streams and 100 feet of lakes and perennial streams.
3. Some sensitive plant species locations are expected to occur within aspen areas, and Forest Standards call for a 100- to 500-foot zone of vegetation management that maintains or enhances habitat for sensitive species. Management within this zone is not likely to include clearcutting to regenerate aspen. In addition, Standards designed to protect heron rookeries and bald eagle, northern goshawk, and red-shouldered hawk breeding areas exclude land use activities in buffer zones with radii ranging from 330- to 650-feet.

Examples of Plan revision changes provided by Alternative 2 that help meet the **Purpose and Need** (Chapter 1, FEIS) but conflict with maintaining the level of aspen/early successional acreage at current levels (including items which address biological diversity issues, and potential Wilderness Study Areas) follow:

1. Patches of aspen occur within management areas emphasizing larger blocks of forest to provide for interior forest conditions (Management Areas 2B, 3B, 4B). Goals for forest composition in these areas include a decrease in aspen to avoid creating openings in portions of the forest canopy. Interior forest conditions are favorable to area sensitive species such as the Northern Goshawk and Red-shouldered Hawk—species that were estimated as being at high risk of decreasing likelihood of viability by experts involved in the second Species Viability Evaluation (SVE) panel.
2. Old Growth areas were designated as management areas in Alternative 2 (and the other action alternatives). In addition, more area is designated as Old Growth in Alternative 2 compared to the existing condition, so it can be concentrated in larger, less isolated patches. This landscape arrangement is expected to provide more ecological benefit than previous smaller, isolated old growth patches. Over time, about 4,000 acres of natural conversion of aspen to other species would be expected, given the lack of timber harvest activities in those areas. In the 1986 Plans, Old Growth identification was not done as part of the Forest Plan but at the project level. Areas were often deferred from project level decisions rather than assigned a special designation. This made it difficult to project the effect Old Growth identification would have had on the existing aspen forest type composition in the future in Alternative 1. As a result, more aspen may be showing as currently available for harvest in Alternative 1 than was intended by project level decisions.
3. Timber management will not occur in Wilderness Study Areas (MA 5B). Alternative 2 includes one 6,000-acre area of MA 5B. It contains about 1,050 acres of aspen that would be expected to convert naturally to longer-lived species eventually.
4. To maintain cold-water trout streams, a Standard was developed to do partial tree removal treatments (no clearcuts) within corridors next to streams. The Standard would ensure continued canopy shading to maintain cold water temperatures that support trout species.

### Alternative(s) providing ATV off-road, off-trail cross-country use

The original intent was to continue to provide some opportunity for off-road, off-trail use on the Chequamegon National Forest under Alternative 2. As analysis progressed, existing ATV use on the Chequamegon National Forest became more limited as Forest Supervisor Law Enforcement orders were created to restrict ATV users to designated trails and roads within areas where resource damage had occurred. Examples of resource damage include riding ATVs repeatedly in riparian areas, wetlands, and on steep slopes. See Figure 11 below.



**Figure 11. ATV Resource Damage**

As ATV use continues to increase on the Forests, we expect that off-road, off-trail use would lead to increased unacceptable resource damage and additional travel restrictions such as those described above. As progressive closures limited area open to off-road or off-trail use, ATV use would become concentrated in remaining open areas, increasing the potential for damage. Therefore, Alternatives 2-9 and the Selected Alternative limit ATV use to designated trails or roads throughout the Forests, and off-road/off-trail activities are considered only in Alternative 1, the Existing Condition.

### Alternatives providing an increase in ATV intensive use areas

Alternative 1 includes one currently-designated intensive use area on the Washburn District. Originally, Alternatives 2, 5, 6, 7, and 9 included up to three intensive use areas (sometimes called “play” areas) for ATVs. Each area was to be no more than 20 acres and would be developed and maintained by local ATV clubs.

The State of Wisconsin funded three ATV intensive use areas of 100, 300, and 500 acres on municipal or township property. These areas are managed as fee areas and are large enough to provide adequate funds for maintenance through fees charged. The current “play” area on the Chequamegon National Forest is much smaller--about 35 acres--and it is likely fees could not support maintenance costs for the area. Use over time has created potential safety hazards on steep slopes in the play area. It is also located very near the Moquah Barrens area. Pine barrens is a globally imperiled community and is highly susceptible to invasion by non-native plant species. Maintaining the play area greatly increases the risk of spread of invasive species by errant ATV operators.

In general, intensive use areas are detrimental to the landscape, even when carefully managed and maintained. As a result, the conclusion was reached that such use is not compatible with the recreational and ecological goals for these Forests, so no additional intensive use areas, or a continuation of the current ATV intensive use area will be considered in detail in Action Alternatives.

### **An alternative considering recommending all Inventoried roadless areas mapped in the Roadless Area Conservation Rule Final Environmental Statement as wilderness study areas**

An alternative including all 18 Roadless Areas mapped in the Roadless Area Conservation Rule Final Environmental Impact Statement (RACFS) as potential Wilderness Study Areas was considered and eliminated from detailed study. The Roadless Area Conservation Rule (Rule) was published in the Federal Register on Friday, January 12, 2001 (Federal Register Vol. 66, No. 9). The purpose of the Rule was to "...provide, within the context of multiple use management, lasting protection for inventoried roadless areas within the National Forest System." On January 8, 2001, a lawsuit was filed alleging that the 2001 Rule was illegal. In November of 2002, the Rule was enjoined from implementation. On December 12, 2002, the appellate court lifted the injunction. However, on July 14, 2003, the Rule was once again enjoined from implementation, this time by the Wyoming District Court. Other litigation is pending and the rule or policy related to the Rule could change in the future. More detail on treatment of RACFS areas in alternatives is included in the planning record.

A new Chequamegon-Nicolet NF roadless area inventory, *The Forest Plan Revision Roadless Area Inventory and Wilderness Evaluation*, was begun in 1999 and the report compiled in 2002. All 18 RACFS inventoried areas were considered in that analysis as well as the rest of the land base in the two National Forests. As a result of the 2002 inventory and evaluation, eight areas were considered for potential Wilderness Study Area status and are included in Alternatives considered in detail. One of these areas, Flynn Lake, was also an inventoried RACFS area. Appendix C in this document describes the process used and displays results of the analysis.

### **An alternative maintaining ASQs for the Chequamegon and Nicolet National Forests at the level predicted in the 1986 (current) Plans, or increasing the ASQs to the level calculated in the maximum timber benchmark**

An alternative that maintained timber production at or above the ASQs stated in the 1986 (current) Plans was considered but was eliminated from further analysis. The yield model for timber production calculation was improved based on information gained during 15 years of implementing the current Plans. Applying the yield model to the current plans resulted in a maximum combined (Chequamegon and Nicolet National Forests) ASQ of 1500 MMBF of timber. Acres on the Chequamegon deemed "not needed to meet demand" in the 1986 Plan were generally considered "suitable lands for timber production" in the yield model. The Purpose and Need (Chapter 1, FEIS) sets the need and rationale for addressing biological diversity on these Forests. The management changes needed to meet the Purpose and Need for biological diversity, reduce timber production capability to some degree, from the 1500 MMBF level. Therefore, any further analysis of increasing ASQs beyond the 1986 level, or even maintaining ASQs at those levels, was eliminated.

## An alternative permitting departure from the policy of non-declining timber yield

An alternative to maximize timber production and to allow a departure from the policy of non-declining timber yield was considered but was eliminated from further analysis. As stated above, analysis accomplished on the 1986 Plans, in accordance with their respective Standards and Guidelines, was unable to produce the ASQs originally predicted in 1986. The Purpose and Need (Chapter 1, FEIS) sets the need and rationale for addressing biological diversity on these Forests. A departure from non-declining timber yield to increase volume outputs would conflict with the basic ecological changes needed to meet this aspect of the Purpose and Need.

---

## Comparison of Alternatives

This section is designed to help the reader understand and compare, in more detail, the land allocations, activities and outputs, and the environmental and socio-economic effects of the nine alternatives. Each description tells how the alternatives respond to the revision topics and problem statements. This discussion focuses on factors that display measurable differences among alternatives, and summarizes more highly detailed information found in Chapter 3 of the FEIS.

The summary is presented by revision topic and problem statement with the addition of social and economic impacts, fire management, and minerals management. For a complete disclosure of environmental effects, and economic and social impacts, consult Chapter 3 of the FEIS.

## Access and Recreation Opportunities

### Problem #1 – All-Terrain and Off-Road Vehicles/Motorized Access

National Forests provide large blocks of land that offer a more remote motorized experience and can also provide connections with motorized trail systems that occur on lands managed by State, County and other ownership. Demand for ATV access increased beyond expectations since the 1986 Forest Plan was developed. ATV policies are very different between the Forests – permitted on most of the Chequamegon, and prohibited on most of the Nicolet. A comprehensive ATV policy is needed on both Forests that provides quality ATV experiences, protects natural resources, considers interaction with conflicting recreational activities, provides connecting trails or routes between trails on neighboring lands, is reasonably enforceable, and treats the two Forests more equitably with regard to ATV access.

A combined Chequamegon and Nicolet ATV policy in Alternatives 2-9 and the Selected Alternative includes:

1. No off-trail or off-road use.
2. No intensive-use or Play areas.
3. NF roads and trails closed to ATVs unless posted open.

In the Selected Alternative, ATV use terminology is simplified. ATV travelways are described as either trails or routes, and mileage for connectors and trails was combined. A trail generally travels through the forest and does not make use of classified forest system roads. An ATV route follows classified forest system roads where signed for ATV usage.

Approximately 284 miles of ATV trails on the Chequamegon National Forest currently exist. Table 5 displays maximum trail construction forestwide using combined connector/trail figures for all alternatives.

**Table 5. Maximum Miles of ATV Trails by Alternative**

	Alternatives								
	1	2	3	4	5	6	7	9	SA
Miles of Existing Trails									
Chequamegon	284	284	284	284	284	284	284	284	284
Maximum Miles New ATV Trails									
Chequamegon	0	35	0	0	0	0	0	35	100
Nicolet	0	85	0	0	35	35	0	85	85
Maximum Miles New Connectors									
Chequamegon	0	75	20	0	50	50	50	75	N/A
Nicolet	0	95	20	0	50	50	50	95	N/A
Maximum Total Miles ATV Trails									
Chequamegon	284	394	304	284	334	334	334	394	384
Nicolet	0	180	20	0	85	85	50	180	85
<b>Maximum Total Miles, Forestwide</b>	<b>284</b>	<b>574</b>	<b>324</b>	<b>284</b>	<b>419</b>	<b>419</b>	<b>384</b>	<b>574</b>	<b>469</b>

The Selected Alternative uses an adaptive management approach to new trail construction to help find a level of ATV/ORV access that satisfies the demand for additional recreational opportunities without causing unacceptable resource damage or conflicts with other forest visitors.

Seasonal ATV road use also varies across alternatives and is displayed in Table 6. Use of designated ATV road routes is similar in Alternatives 1, 2, and the Selected Alternative. Alternative 1 offers year-round ATV use on the Chequamegon, while Alternative 2 and the Selected Alternative permit year-round ATV use except during the 2-month spring break-up. Alternatives 5 and 6 allow ATV use on designated roads for 3½ months per year during the fall hunting season. They contrast with Alternatives 3, 4, 7, and 9 that deny ATV use on Forest Service roads except on those designated as connectors.

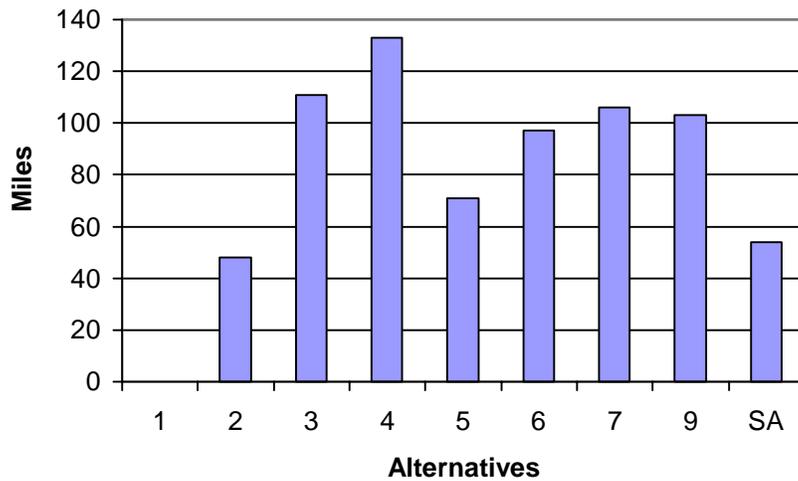
**Table 6. Number of Months that Designated Roads May be Used by ATVs**

Recreation--ATV/Off Road Vehicles	Alternatives								
	1	2	3	4	5	6	7	9	SA
No. of Months Designated Roads may be used	12	10	0	0	3.5	3.5	0	0	10

In the Selected Alternative, the procedures used to determine which roads will be designated as ATV routes and opened to ATV traffic vary between the Chequamegon and Nicolet. On the Chequamegon, ATV use will be permitted on all classified system roads except for: 1) roads that the Forest does not have the authority to designate as ATV routes; and 2) in instances where the local Ranger District identifies and closes specific routes for management issues such as safety, resource degradation, township concerns, or recreation use conflict. On the Nicolet, the agency will work with township officials and the public to identify existing classified system roads for designation as posted ATV routes to enhance the existing network of town-designated ATV routes. Total mileage of

the route system will depend on many factors, including the number of problems experienced (violations, resource damage, conflicts with other users, etc.).

Public motorized vehicles will not be permitted in recommended Wilderness Study Areas (MA 5B), Semi-Primitive Non-Motorized areas (SPNM; MA 6A and 6B), and Non-Motorized areas with full vegetation management (NM). In some alternatives, existing ATV and snowmobile trails pass through some of the newly identified non-motorized areas. These trails will gradually be closed and relocated when suitable relocated routes can be developed and constructed. Figure 12 displays the miles of motorized trails that would need to be relocated due to the allocation of new non-motorized areas (MA 5B, 6A, 6B, and NM), by alternative.



**Figure 12. Estimated Miles of Motorized Trails to be Relocated Due to All Non-Motorized Designations (MA 5, 5B, 6A, 6B, NM)**

Street legal 4-Wheel Drive Off-Road Vehicles (ORVs) are allowed on Forest Service roads. However, ORV users often desire a more challenging experience on designated trails. There is one existing 25-mile route providing that experience.

Miles of ORV trails vary in Alternatives 2-9 and the Selected Alternative. Alternative 4 calls for the closure and rehabilitation of the existing route. Alternatives 1, 3, 7, 9, and the Selected Alternative maintain the existing 25-mile route and add no new 4-Wheel Drive Trails. However, the Selected Alternative calls for rehabilitating the existing route and relocating it if monitoring shows that safety or natural resources are compromised, and if a maintenance agreement with non-Forest entities is developed. Alternatives 2, 5, and 6 provide the highest number of miles of 4-Wheel Drive routes with the potential for an additional ORV trail of a maximum 25-mile length.

**General motorized access**

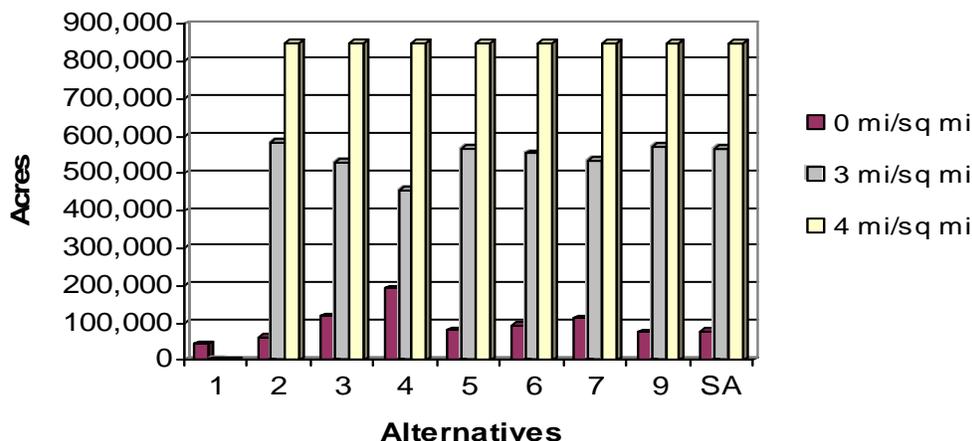
Areas open to general motorized vehicle access are extensively roaded. Current total road density estimates are displayed in Table 7.

	Chequamegon NF	Nicolet NF
<b>Land Base</b>	843,061 acres (1317.3 mi <sup>2</sup> )	651,485 acres (1017.9 mi <sup>2</sup> )
<b>Miles of Road</b>	4038.2 miles	4983.8 miles
<b>Total Road Density<sup>1</sup></b>	<b>3.1 mi/mi<sup>2</sup></b>	<b>4.9 mi/mi<sup>2</sup></b>
<b>Forestwide Average Total Road Density</b>	<b>3.9 mi/mi<sup>2</sup></b>	

*Note: Eighteen miles of road on the Chequamegon were not included in the analysis because of insufficient information in the inventory.*

<sup>1</sup>Total miles of all open and closed roads, regardless of ownership, per square mile of National Forest land.

The Forests retain the objective from the 1986 Plans to reach a forestwide average total road density of 3.0 miles per square mile. Alternatives make use of Recreation Opportunity Spectrum (ROS) classifications to develop road density upper limits that focus emphasis for road decommissioning. In addition, Roads Analysis terminology improves consistency of road descriptions and inventory between forests. Acres of Total Road density zones vary across alternatives and are displayed in Figure 13. Each zone sets an upper limit on total road density and helps prioritize road decommissioning efforts.



**Figure 13. Acres by Total Road Density (TRD) Upper Limit**

Open Road Density (ORD) is an indicator of the number of roads open to public motorized vehicle use. More roads may exist, but public vehicular use of some roads is restricted using gates or other closure devices. Road closures would be used where a non-motorized and/or semi-primitive recreational goal is desired. The current open road density on the Chequamegon-Nicolet National Forests is displayed in Table 8.

**Table 8. Current Open Road Density<sup>1</sup>, Chequamegon-Nicolet National Forests**

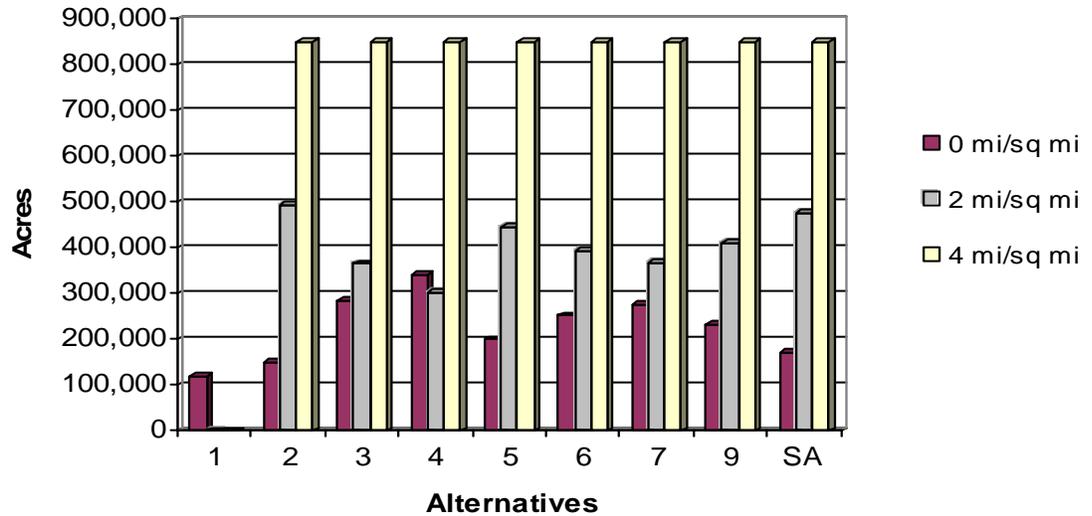
	<b>Chequamegon NF</b>	<b>Nicolet NF</b>
<b>Land Base</b>	843,061 acres (1317.3mi <sup>2</sup> )	651,485 acres (1017.9 mi <sup>2</sup> )
<b>Miles of Open FS Roads</b>	2997.3 miles	3064.1 miles
<b>Open Road Density<sup>1</sup></b>	<b>2.2 mi/mi<sup>2</sup></b>	<b>3.0 mi/mi<sup>2</sup></b>
<b>Forestwide Average Open Road Density</b>	<b>2.6 mi/mi<sup>2</sup></b>	

*Note: Out of a total of 9,040 miles of road forestwide, eighteen miles of road on the Chequamegon land base of the Forests were not included in the analysis because of insufficient information in the inventory.*

<sup>1</sup>Miles of Forest Service road open to the driving public per square mile of National Forest land.

The need for zero open road density areas for each alternative is driven primarily by allocation of recommended Wilderness Study Areas and Semi-Primitive Non-Motorized Areas as described in the next section. Some portions of Management Areas 1-4 are also zoned non-motorized.

Areas identified in the ROS inventory as Semi-Primitive Motorized were assigned an open road density upper limit of 2 miles/square mile. Additional 2.0 mi/ square mile open road density upper limits were assigned to some large blocks of interior northern hardwood (MA 2B), Moquah Barrens (part of MA 8C), potential SPNM areas if not allocated as MA 6A or B, and MA 8D (Existing and Potential Wild and Scenic River Corridors). All other areas were assigned a maximum open road density of 4 miles/sq. mi. Figure 14 displays the area of open road density zones across alternatives.



**Figure 14. Acres by Open Road Density (ORD) Upper Limit**

Minimum miles of road to be closed to meet all open road density objectives (0.0 mi/sq mi, 2.0 mi/sq mi, and 4.0 mi/sq mi) are displayed in Table 9. Most roads to be closed are classified as Maintenance Level 2 (ML 2) and are described as primitive roads that are drivable by high clearance vehicles or used for transporting timber products. These roads are usually too rugged for passenger car traffic. Comparing the Action Alternatives to Alternative 1 is difficult, since open road guidelines were not assigned uniformly across the Forests under the 1986 Forest Plans.

**Table 9. Minimum Miles of Road (estimated) to be Closed to Meet ORD Objectives and Percent that are Maintenance Level 2 (low standard) Roads.**

Open Road Density Objective	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6	Alt. 7	Alt. 9	SA
Minimum miles of open roads to be closed to meet ORD objectives	120	670	1000	1160	780	910	980	890	710
Percent of roads that are ML 2	82%	81%	80%	80%	82%	81%	81%	80%	81%

### Problem #9 – Wilderness and Semi-Primitive Non-Motorized (SPNM) Areas

Eight inventoried (2002) roadless areas meet criteria for potential Wilderness Study Areas. Collectively they comprise about 56,000 acres. Table 10 displays area names, acreage, and relative qualities of each area. “Desirable Recreation Qualities” refer to the presence of lakes, interesting topography, and other factors indicative of an area’s potential to offer quality non-motorized recreation experiences. Ecosystem restoration values include contribution to interior northern hardwood blocks and existence of old growth characteristics. Overlap with Ecological Reference Areas indicates the acreage of existing and candidate Research Natural Areas, Special Management Areas, and Old Growth areas within potential Wilderness Study areas.

**Table 10. Potential Wilderness Study Areas, Size, and Qualities by Alternative**

	Alternatives									Desirable Recreation Qualities	Ecosystem Rest. Value	Overlap with Ecol. Ref. Areas	
	1	2	3	4	5	6	7	9	SA				
Acres of Roadless Areas (2002 Inventory) recommended for Wilderness Study (Areas below)	0	6,300	8,000	56,100	15,400	29,000	25,800	15,800	15,500				
	<b>Acres</b>												
<b>Flynn Lake</b> --Adjacent to Existing Wilderness	6300	x	x	x	x	x	x	x	x		HIGH	MED	HIGH
<b>Porcupine Lake Addition</b> --Adjacent to Existing Wilderness	1700		x	x	x		x	x	x	1400 ac	MED	HIGH	LOW
<b>Iron River</b>	8300			x							LOW	LOW	LOW
<b>Hungry Run</b>	7400			x	x	x					LOW	HIGH	HIGH
<b>Spring Brook</b>	7800			x		x	x	x	x		MED	HIGH	HIGH
<b>Schmuland/Popple</b>	7100			x							LOW	LOW	LOW
<b>Mud Lake</b>	10,000			x			x				LOW	HIGH	MED
<b>Stony Creek</b>	7500			x		x					LOW	LOW	HIGH

Alternative 4 includes all potential Wilderness Study Areas and the largest number of total acres. Alternative 9 and the Selected Alternative include only areas that have medium or high recreation experience potential as well as medium or high ecological value. In the Selected Alternative, the boundary of Porcupine Lake Addition was adjusted northeastward to avoid including an existing snowmobile trail within the area. Alternatives 2-9 and the Selected Alternative include Flynn Lake as a potential Wilderness Study Area; it is the only area with high recreational value. Two of the areas are adjacent to existing Wilderness. Flynn Lake is next to the existing Rainbow Lake Wilderness with a Township-maintained road separating the two. Porcupine Lake Addition is adjacent to the existing Porcupine Wilderness.

**Semi-Primitive Non-Motorized designations**

Comments regarding the semi-primitive non-motorized opportunities on the Forests were received from recreationists and referenced in the End of Decade Report for the 1986 Chequamegon-Nicolet National Forest Plans. These comments indicated that while there seems to be enough Semi-Primitive Non-Motorized (SPNM) areas, the quality of the experience is less than desired. In particular, there is a desire for more remoteness and solitude. Vehicle noise is commonly heard in current SPNM areas. Forest that looks different from managed areas is also desired. Inventoried SPNM areas were treated in three ways in the 2004 Forest Plan. Those allocated to Management Areas 6A include no vegetation management with the possible rare exception of salvage activities, while limited vegetation management would be allowed in areas allocated to Management Area 6B. In addition, some inventoried areas showing potential to provide an SPNM experience were designated Non-Motorized, with full vegetation management (NM).

All SPNM areas in the 1986 Forest Plans were considered suitable for timber harvest. Alternatives 2-9 increased the wild character and feeling of remoteness of SPNM areas by restricting timber harvest in some areas, and by identifying additional areas (MA6A) with high recreational quality that are considered generally “not appropriate” for timber harvest. A range of 6A and 6B designations is provided across alternatives and is shown in Figure 15.

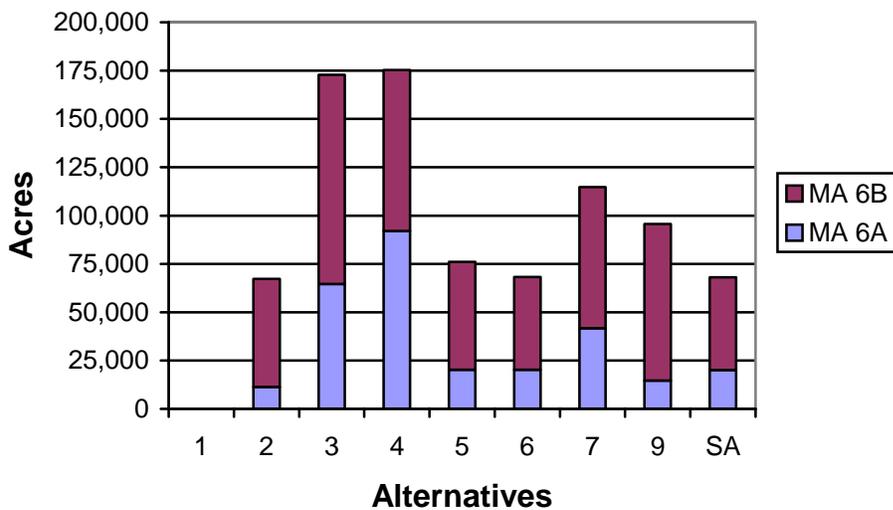


Figure 15. Acres of SPNM Allocation as MA 6A and 6B

The areas called Non-Motorized with Full Vegetation Management, (NM or XX.0) were developed, in part, in response to requests by hunters who desired a non-motorized hunting experience where early successional species predominated. These areas were identified as potential SPNM in the ROS analysis but rated lower in SPNM quality. The NM designation is essentially an overlay that lies on top of other management areas (MAs 1-4). Vegetation management follows the standards and guidelines of the underlying management area while the NM designation closes the area to motorized recreation. Roads would be present within the areas but would be closed to public motor vehicles.

Figure 16 shows acres of Non-Motorized area with full vegetation management compared with designated SPNM (MA 6A +6B). As in SPNM areas, less contact with other visitors, increased physical challenge, and less exposure to the sights, sounds, and smells of motors are expected in NM areas. However, because they are available for full timber management, NM areas are likely to show more evidence of human disturbance than SPNM areas. NM areas are highest in Alternative 6, at the expense of SPNM areas. Alternative 6 is followed by Alternative 7, 9, 4, 5, 3, Selected Alternative, 2, and 1 from high to low.

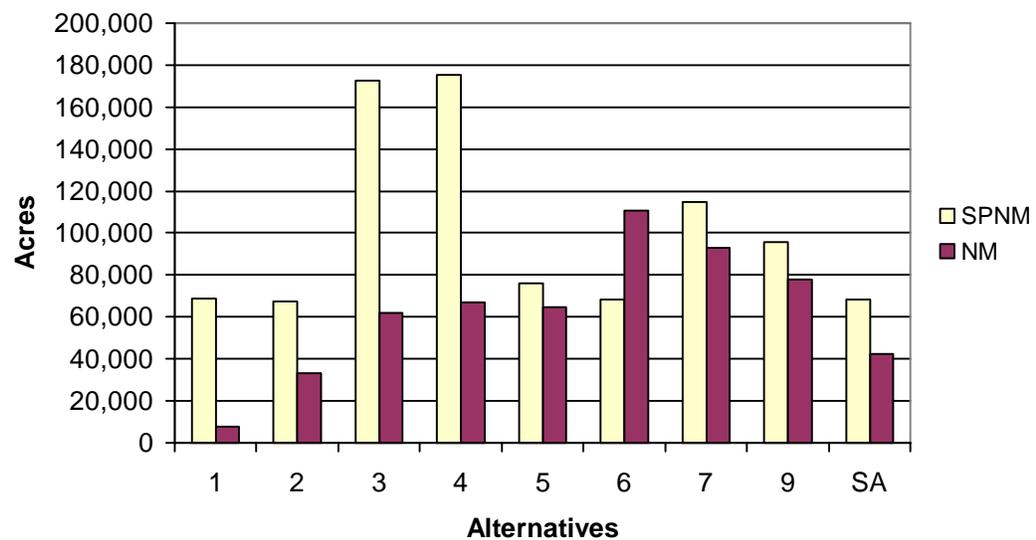


Figure 16. Acres of Semi-Primitive Non-Motorized (SPNM) and Non-Motorized with Full Vegetative Management (NM) Areas by Alternative.

## Biological Diversity

### Problem # 2 – Aquatic, Riparian, and Wetland Ecosystems

An aquatic desired condition is described in Chapter 3 of the 2004 Plan. Forestwide Standards and Guidelines were developed to move toward that condition. Aquatic resources will be adequately protected in all alternatives, with the possible exception of Alternative 1. Biological evaluation of sensitive aquatic organisms indicates that with standards and guidelines that restrict ATV use to designated trails and roads, Forest Service management activities will not cause a trend toward Federal Listing or loss of viability for those species.

### Problem # 3 – Ecosystem Restoration

While forests that were heavily harvested in the late 1800s and early 1900s are largely forested today, current conditions still lack certain species characteristics and arrangements of vegetation on the landscape important to retaining landscape level biodiversity and sustainable ecosystems in the Lake States and in Wisconsin (Mladnoff and Pastor 1993). Examples of species that are lacking include white pine super canopy trees within a northern hardwood forest and in mixtures with red pine; and hemlock found in combination with northern hardwoods. Spatial concerns include progressing towards a vegetation pattern made up of a large-scale matrix of northern hardwood/hemlock surrounding smaller patches of diverse vegetation types.

Based on recommendations made in the *Report on the Scientific Roundtable on Biological Diversity Convened by the Chequamegon and Nicolet National Forest* (General Technical Report NC-166) and on range of variability estimates, three communities/ecosystems are under-represented in the regional landscape and have the highest opportunity for restoration. They include northern hardwood interior forest, red/white pine communities, and pine barrens. Red and white pine communities will take time to develop and reach mid-successional stages. In the interim, oak species can fill the need for a longer-lived species in mixtures with pine. Therefore, Oak/Pine (MA3B) communities also contribute to restoration goals. Table 11 displays Management Area acres emphasizing restoration of three under-represented communities and the Oak/Pine community.

**Table 11. Area of Emphasis on Three Under-Represented Communities and the Oak/Pine Community (Acres)**

	Alternatives								
	1	2	3	4	5	6	7	9	SA
Pine Barrens Emphasis (MA 4C+Moquah Barrens Area)	8,000	24,000	27,000	27,000	27,000	24,000	27,000	27,000	27,000
Interior Northern Hardwood Emphasis (MA 2B)	0	23,000	454,000	234,000	130,000	142,000	143,000	282,000	209,000
Natural Origin Red Pine/White Pine Emphasis (MA 4B)	0	17,000	65,000	50,000	17,000	20,000	30,000	53,000	30,000
Oak/Pine Emphasis (MA 3B)	0	1,700	23,900	6,400	1,700	6,400	10,900	11,900	10,900
Total Acres	8,000	65,700	569,900	317,400	175,700	192,400	210,900	373,900	276,900

Alternatives 3, 4, and 9 provide the highest number of acres with emphasis on restoring under-represented communities (Table 11). The Selected Alternative provides about 277,000 acres, about 100,000 acres more than Alternative 5, the Preferred Alternative. Vegetative composition across the Forests would move toward restoration goals in Alternative 1. However, landscape pattern and other aspects of sustainable ecosystems are not addressed directly in this Alternative.

Over time, acres of northern hardwood communities would increase as longer-lived species replaced early successional species within Management Area 2B and, to a lesser extent, in Management Area 2A. In addition, aspen as a forest cover type would decrease, and white pine would increase over long periods of time, given Management Area Composition Guidelines in the Plan. Table 12 projects species composition as a percentage of upland Forest acres in 10 and 100 years.

**Table 12. Species Composition as a Percentage of Upland Forest Acres in 10 and 100 years.**

<b>Projected percent of NF Species Composition in 10 years</b>										
	<b>Current</b>	<b>Alt 1</b>	<b>Alt 2</b>	<b>Alt 3</b>	<b>Alt 4</b>	<b>Alt 5</b>	<b>Alt 6</b>	<b>Alt 7</b>	<b>Alt 9</b>	<b>SA</b>
Northern Hardwood Communities	39.7%	39.9%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Aspen	29.8%	29.7%	29.2%	29.2%	29.0%	29.4%	29.3%	29.3%	29.1%	29.2%
White Pine	1.9%	1.9%	2.2%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.1%
<b>Projected percent of NF Species Composition in 100 years</b>										
Northern Hardwood Communities	39.7%	47.1%	47.8%	53.6%	53.4%	50.2%	50.0%	51.6%	51.5%	50.7%
Aspen	29.8%	23.4%	21.9%	16.3%	16.6%	20.0%	20.3%	18.6%	17.9%	19.2%
White Pine	1.9%	2.8%	4.7%	4.1%	4.1%	3.8%	4.2%	3.8%	4.2%	3.8%

To provide a frame of reference for ecosystem restoration activities, an estimate of the historic distribution of the ecosystems to be restored is needed. Schulte *et al.* (2002) used Public Land Survey (PLS) notes to estimate relative dominance and relative importance of tree species found in Province 212 during a period between 1832 and 1866.

Approximations based on that work estimate that northern hardwood forest type composition existed at about 45%, aspen at about 4%, and red pine/white pine at about 4%. All alternatives project a decrease in aspen in 100 years; however, the decrease does not approach estimated pre-Euro settlement conditions.

Certain areas of the Forests have a higher potential for developing characteristics of under-represented vegetative communities and ecological components than others. In the action alternatives, the amount of these areas assigned to management areas that take advantage of their potential for ecosystem restoration varies. The management areas that emphasize ecosystem restoration are sometimes called Alternative Management Areas (MA 2B, 3B, 4B, and 4C). Descriptions for these management areas include modified silvicultural methods to encourage restoration of species composition, structural components, and functional processes. The acreage of MAs 2B, 3B, 4B, and 4C varies across alternatives. Table 13 displays the area and the percentage of Forests' land base included as AMAs across alternatives.

**Table 13. Area of Management Areas 2B, 3B, 4B, 4C, and Percent of Forests Made Up of These MAs Across Alternatives.**

	<b>Alternatives</b>									
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>9</b>	<b>SA</b>	
Area of Alternative Management Areas--Acres	0	51,700	555,900	303,400	161,700	178,400	196,900	359,900	262,900	
Percent of Forest Allocated as Alternative Management Areas (2B,3B,4B,4C)	0	3%	37%	20%	11%	12%	13%	24%	18%	

In general, Alternatives 3, 4, and 9 place the most emphasis on restoration of under-represented Forest communities. The Selected Alternative ranks fourth among alternatives in terms of AMA allocations.

**Problem #4 – Landscape Pattern**

Landscape pattern is the common term describing the arrangement of habitat types in a natural setting. Landscapes have the following three structural components: **matrix**, the most connected portion of similar vegetation; **patches**, isolated portions of similar vegetation; and **corridors**, relatively narrow areas connecting patches (Diaz and Apostol, 1992). Scientists participating in the first Chequamegon-Nicolet species viability panel in 2000 had varying opinions on northern hardwood vegetative patch sizes required by species of viability concern. Forest Service planners developed Alternatives 3-9 and the Selected Alternative so that at least one contiguous northern hardwood patch of 50,000 acres or larger could be found on each Forest.

In Alternative 2, a core patch of at least 50,000 acres was created on each Forest by adding acreage allocated to Management Area 2A as well as MA 2B, 5, 5B, and 6A when measuring blocks of northern hardwood interior forest.

These large patches provide habitat for area-sensitive species. In the opinion of species viability panel experts, retaining large hardwood patches may also reduce impacts of white-tailed deer herbivory on understory shrubs and plants. To display the differences between alternatives, Table 14 displays the number of blocks and total area of Northern Hardwood Core area and Northern Hardwood Dominated area greater than 20,000 acres. Core areas include MA 2B plus Wilderness (MA5), potential Wilderness Study Areas (MA5B), and Semi-Primitive Non-Motorized areas with low disturbance (MA6A), where composition of early successional species would be less than 10%. Northern Hardwood Dominated areas include the Core areas plus MA 2A (uneven-age northern hardwoods with less than 20% early successional species) as well as Wild, Scenic and Recreational River Corridors (MA 8D).

**Table 14. Number and Total Area of Northern Hardwood Patches (Blocks) Greater than 20,000 Acres by Alternative.**

	Alternatives								
	1	2	3	4	5	6	7	9	SA
<b>Northern Hardwood Core Blocks<sup>1</sup></b>									
Number of Blocks	0	0	7	6	3	2	3	5	6
Total Acres (Thousands)	0	0	530	284	175	121	148	255	286
<b>Northern Hardwood Dominated Blocks<sup>2</sup></b>									
Number of Blocks	0	4	7	7	5	5	7	7	6
Total Acres (Thousands)	0	196	605	586	452	307	489	613	477

<sup>1</sup>Core Blocks: MA 2B, & 5, 5B, 6A if currently >50% hardwood

<sup>2</sup>NH Dominated Blocks: MA 2A and 8D added to those identified for Core Areas

A vegetation simulation model (HARVEST) was used to project area of mature northern hardwood interior forest available in 100 years under each alternative. This time frame was used to allow existing patches of early successional species to transition to longer-lived species. Assumptions included the following: 1) The forested environment excludes lowland and upland openings, as well as other openings such as water, roads, and harvested openings up to 20 years old; 2) edge habitat is defined as a 90-meter edge around each portion of interior forest; 3) a break in forest canopy consists of an opening

30 meters or more in width; and 4) mature northern hardwood is 80 years old or older and excludes all other forest types except northern hardwoods and aspen. It is assumed that aspen would convert to northern hardwood in 80 years. Figure 17 displays area of mature northern hardwood interior forest in 100 years by alternative.

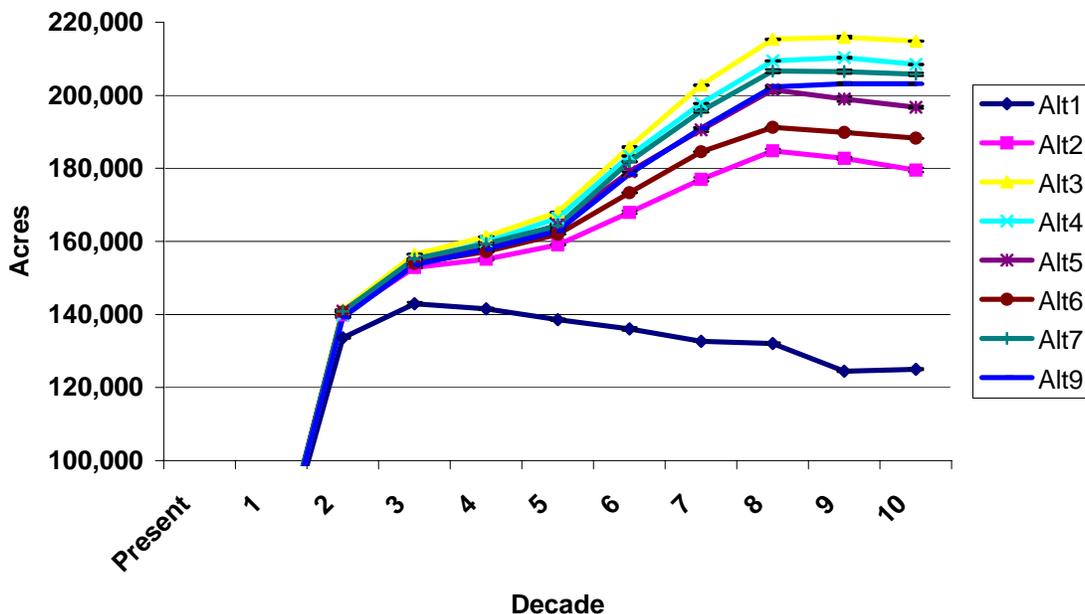


Figure 17. Area of Mature Northern Hardwood Interior (90m buffer)

Alternative 1 shows the fewest acres of mature northern hardwood interior forest available in 100 years. Ranking across alternatives from high to low is 3, 4, 7, 9, 5, 6, 2, and 1. Because these model runs occurred prior to development of the Selected Alternative, it was not included in the analysis. However, due to management area allocation similarities, it would likely fall between Alternatives 5 and 9.

### Problem # 5 – Old Growth

Old Growth is allocated as Management Area 8G in Alternatives 2-9 and the Selected Alternative. Alternative 1 did not designate Old Growth programmatically. Instead, Old Growth was included in vegetative composition guidelines and designated at the site-specific level (about 60,000 acres). Project level Old Growth designations were done on the southern part of the Nicolet. However, on the Chequamegon and the northern part of the Nicolet, potential old growth areas were deferred from project level decision, but were not designated as Old Growth areas. Therefore, old growth acreage, over time, is uncertain in Alternative 1.

Acres of designated Old Growth vary across action alternatives. Alternatives 4, 7, and 9 are the highest with 92,600 acres, followed by Alternatives 3 and 6 with 91,000 acres, and Alternatives 2, 5, and the Selected Alternative with 85,500 acres.

## Problem # 10 – Wildlife (including Species of Concern)

Wildlife-related issues included several factors that are addressed as part of other Problem Statements. Examples are Landscape Pattern, Ecological Restoration, and Recreation Opportunities and Motorized Access. In addition, Forestwide Standards and Guidelines were revised in the 2004 Forest Plan to better address coarse woody debris and reserve tree retention, beaver populations in riparian areas, and to restrict ATV use to trails, among others (see Chapter 2 of the 2004 Forest Plan). This section summarizes effects of Forest Plan allocations on Threatened, Endangered, and Regional Forester Sensitive species, and on two wildlife issues that were not addressed directly in other Problem Statements. Those two issues are 1) amount of upland permanent openings and 2) amount of early successional habitat.

Threatened and Endangered Species (TE) populations are estimated to be stable or increasing in all alternatives for Gray Wolf, Bald Eagle, and Fassett's locoweed. There are no known breeding populations of Canada Lynx or Kirtland's Warbler on the Forests.

Bald eagle populations are predicted to remain stable or increase under all alternatives because the quality and quantity of habitat is predicted to remain stable or increase (Tables J-29, J-30, Appendix J). The number of active bald eagle territories on the Chequamegon-Nicolet National Forests has shown a consistent upward trend over the past several decades. This trend is expected to continue as long as unoccupied suitable habitat exists.

The number of wolves on the Chequamegon-Nicolet National Forests is expected to remain stable in areas where they currently exist. As wolves colonize unused suitable habitat, especially on the eastern side of the Forests, the population is expected to increase under all alternatives. Wolves may increase at a slower rate and rise to lower levels under Alternative 1 because of a higher open road density and greater off-road vehicle access when compared to other alternatives (Appendix J).

Expected direct effects to known locations of Fassett's locoweed on the National Forests will be the same across the alternatives due to Forestwide Standards and Guidelines that protect shoreline habitat (see Forestwide Standards and Guidelines, Chapter 2, of the 2004 Forest Plan) and mitigation measures specific to the species.

Determinations in Appendix J, Biological Evaluation for plant species included on the Regional Forester's Sensitive Species (RFSS) list, state that activities in all Alternatives would not be likely to cause a trend toward Federal listing or loss of viability.

Four animal species on the RFSS list are "likely to occur" and have no known occurrences on the Forests. Habitat conditions and populations, when present, are expected to remain stable or improve under all alternatives for RFSS animal species.

### Management Indicators

Management Indicators are "plant and animal species, communities, or special habitats selected for emphasis in planning, and which are monitored during forest plan implementation to assess the effects of management activities on their populations and the populations of other species with similar habitat needs which they might represent" (FSM 2620.5 WO amendment 2600-91-5). Management Indicators for the revised Forest Plan are: Mature northern Hardwood Interior forest, Mature natural red/white pine forest, Pine barrens, Regenerating aspen forest, Gray wolf, Bald eagle, Northern goshawk, Red-shouldered hawk, American marten, Brook trout, and Canada yew.

Effects of activities on Gray wolf, Bald eagle, goshawk, red-shouldered hawk, and American marten have been covered as part of Threatened, Endangered, or Sensitive species above.

The “Management Indicators” section of Chapter 3 includes several measures to display variation in alternatives for amount of mature northern hardwood interior forest, mature natural red/white pine forest, pine barrens, and regenerating aspen forest. To display effects of alternatives on area of indicator communities, Table 15 shows projected area of mature northern hardwood interior forest in 100 years, projected total acres of mature pine in 100 years, area of aspen less than 20 years old in 10 and 100 years, and area of pine barrens and surrogate barrens emphasis (MA 8C and MA 4C). No projections were made for the Selected Alternative for area of mature northern hardwood interior forest in 100 years, since models were run before the Selected Alternative was developed. However, due to similarities in management area allocation, the Selected Alternative is likely to fall between Alternatives 5 and 9. Aspects of the communities other than area are expected to be monitored over the life of the Forest Plan. These aspects include patch size, structural components, tree sizes, gaps in crown cover, and populations of selected songbirds.

**Table 15. Indicators of Effects on Management Indicator Communities.**

	Alternatives								
	1	2	3	4	5	6	7	9	SA
Projected Area of Interior, Mature Northern Hardwood after 100 years	120,000	180,000	220,000	220,000	200,000	190,000	210,000	210,000	200,000 to 210,000*
Projected Total Acres of Mature Pine in 100 years	62,900	71,600	72,700	71,600	66,600	68,000	68,100	71,700	69,900
Total Acres--True Barrens	8,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
Total Acres--Surrogate Barrens Emphasis	0	9,900	12,800	12,800	12,800	9,900	12,800	12,800	12,800
Projected Acres of aspen less than 20 years old in 10 years	77,100	75,100	74,100	73,600	75,000	74,500	74,300	74,400	74,300
Projected Acres of Aspen less than 20 years old in 100 years.	99,200	84,300	75,800	68,300	81,500	84,200	74,700	71,800	74,400

*\*No projections were made for the Selected Alternative, but due to Management Area allocation similarities, it is likely to fall between Alternatives 5 and 9.*

Of the Management Indicator species, Canada yew is a species of near viability concern, primarily because of white-tailed deer herbivory, over which the Forest Service has less control. Some scientists at Species Viability Evaluation panels suggested that large patches of closed-canopy interior forest would yield decreased deer populations locally. If so, Alternatives 3, 4, 7, and 9 would provide the most benefit to Canada yew and other plant species with similar requirements. However, scientists disagree on the effectiveness of patch size on white-tailed deer herbivory when deer populations are high, such as the current situation in northern Wisconsin. Other factors such as winter severity can also affect white-tailed deer populations.

Brook trout populations are expected to remain stable or improve under all alternatives.

**Other Wildlife Factors**

Management prescriptions in all alternatives tend toward a reduction in coverage of the aspen forest type. While factors other than habitat (such as natural population cycles in

ruffed grouse and winter severity for white-tailed deer) affect populations of popular game species, it is likely that long-term decreases in the aspen forest type may also lead to population reductions of some game species. The aspen forest type currently is found on 336,000 upland acres of the National Forests. Table 16 shows area of National Forest upland comprised of the aspen forest type at 10 and 100 year across alternatives. Alternatives 3 and 4 provide the greatest decrease in aspen composition in 100 years. Alternatives 1 and 2 retain more aspen as part of forest species composition.

**Table 16. Area (in Thousands of Acres) of Upland Forest Composed of Aspen Forest Type at Three Time Periods Across Alternatives**

Current = 336	Alternatives								
	1	2	3	4	5	6	7	9	SA
In 10 years	335	329	330	327	331	331	330	328	330
In 100 Years	264	247	184	187	226	229	209	202	216

Upland openings provide edge and brushy habitat for species such as white-tailed deer, ruffed grouse, and meadow voles. Forest Type Composition Objectives for several management areas call for a smaller percentage of permanent upland openings compared to 1986 management areas (Alternative 1). Other management areas provide for increased opportunity to concentrate openings into fewer, larger areas. Table 17 displays percent of upland within permanent openings projected 10 and 100 years from present.

**Table 17. Projected Percentage of Forests Made up by Permanent Openings at Three Time Periods Across Alternatives (Includes Open Areas Within MA 8C and Natural Openings Such as Frost Pockets)**

Current = 2.6%	Alternatives								
	1	2	3	4	5	6	7	9	SA
In 10 years	2.7%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.6%	2.5%
In 100 Years	3.4%	2.5%	2.6%	2.3%	2.4%	2.4%	2.3%	2.4%	2.3%

In 10 years, percent of upland within permanent openings remains stable across alternatives. In 100 years, Alternatives 1 and 3 provide for the smallest decrease in upland openings. Alternative 3 emphasizes concentrating openings in barrens-like communities, while Alternative 1 provides more scattered upland opening

## Special Land Allocation

### Problem # 7 – Special Land Allocation

This topic includes candidate and designated Research Natural Areas (RNAs) and Special Management Areas (SMAs). RNAs are intended for long-term study and monitoring of ecosystems or their component parts. Alternatives 2-9 and the Selected Alternative follow the draft Eastern Region and the National RNA strategy by selecting RNAs within Land Type Associations and Subsections from the National Hierarchy of Ecological Units.

SMAs contain outstanding examples of plant and animal communities, geological features, scenic grandeur, or other special attributes that merit special management. RNAs and SMAs are collectively called Ecological Reference Areas and act as refugia for rare species, recovery areas for rare species, and controls for research and monitoring.

Because of these characteristics, allocation of these areas is consistent across Alternatives 2-9 and the Selected Alternative. In addition, the areas are included as part of the Minimum Level Management Requirements.

## Timber Related Products

### Problem # 8 – Timber Production

Table 18 displays land suitable for timber production and projected combined average annual ASQs (unconstrained by budget) at the first, fifth, and 10<sup>th</sup> decades.

**Table 18. Timber Suitability and Combined Average Annual Forests ASQs Across Alternatives--Chequamegon and Nicolet National Forests\***

	Unit of Measure	Alternatives								
		1	2	3	4	5	6	7	9	SA
ASQ 1st decade	MMBF	146	134	124	122	130	129	129	131	131
ASQ 5th decade	MMBF	178	169	151	148	166	164	160	160	163
ASQ 10th decade	MMBF	182	170	151	148	166	164	160	160	166
Suited Acres	Thousands of Acres	934	874	830	781	863	847	841	861	862

\*ASQ values for the Chequamegon and for the Nicolet as separate forests can be found in the "Timber and Related Products" section of Chapter 3 under the headings 'Proposed Changes-- Allowable Sale Quantity'.

Potential harvest levels for Alternatives 2-9 and the Selected Alternative are less than those listed for existing management direction for every category shown. Forest Plan revision vegetation issues were driven by the need to maintain, improve, or restore the health of local ecosystems to provide for plant and animal diversity. Changes made in the action alternatives from the current management direction include changing desired species composition as well as adjusting silvicultural methods in certain areas, as recommended in the *Report on the Scientific Roundtable on Biological Diversity Convened by the Chequamegon and Nicolet Nation Forest*, (General Technical Report NC-166).

Among the action alternatives, average annual ASQ figures for the first decade in Alternatives 2, 5, 9, and the Selected Alternative are similar at 131 to 134 MMBF; Alternatives 6 and 7 are equal at 129 MMBF; and Alternatives 3 and 4 are lowest at 124 and 123 MMBF, respectively.

### Problem #6 – Special Forest Products

Special forest products are plant or fungi materials gathered for personal use, barter, commercial resale, and sale as craft products. There is no credible inventory of special forest products, and no reasonable way to estimate sustainable and ecologically sound harvest levels. All action alternatives have the same Standards and/or Guidelines for special forest products. Alternative 1 retains the current special forest products policy established in 2001 (Forest Service Handbook – Forest Supplement – 2409.22-02-1). Information needs are reflected in Chapter 4, the Monitoring and Evaluation section of the 2004 Forest Plan, so that any needed adjustments to collection and harvest policies can be made in the future.

## Other Physical and Biological Resources

Standards and Guidelines will maintain or improve the existing soil resource and watershed resource conditions in all alternatives. Standards and Guidelines are expected to maintain adequate opportunities for private development of mineral and energy resources in all alternatives. Some opportunities for private development of mineral resources could be expected to decrease due to areas recommended for Wilderness study. A 10-year supply of gravel for Forest Service use is expected to remain available in all alternatives.

Fire will be used as a restoration and regeneration tool in open land and pine management areas. Fuel reduction will be accomplished mechanically or through prescribed fire following windstorms and in the Wildland/Urban interface. Prescribed fire treatment is likely to be emphasized within Management Areas 4A, 4B, and 4C as well as 3B and 8C.

## Social and Economic Environment

Several indicators are used in Chapter 3, “Economic and Social Effects” section to describe effects of alternatives on the social and economic environment. Two indicators will be displayed in this chapter to compare alternatives. They are 25% Fund payments to Counties and employment changes attributable to Forest Service resource activities.

There are three types of payment that can be made each year to local units of government to partially offset funding shortfalls from untaxed national forest lands in Wisconsin. These payments are based in the following laws: the Payments in Lieu of Taxes (PILT) Act of 1976, the Twenty-Five Percent Fund of 1908 (25% Fund), and the Secure Rural Schools and Community Self-Determination Act of 2000 (SRSCS).

Of the three, the 25% Fund is used as an indicator here. The 25% Fund authorizes the Forest Service to pay local counties that have national forest land within their boundaries 25% of the forest’s annual net revenues. The payments are to be used by the counties for school needs or road maintenance and construction. Payments are based on revenues received from timber sales, special use permit fees, and leases for minerals, oil, and gas. Table 18 displays estimated payments to counties in FY 2012 assuming the Forest Plan is fully funded and timber outputs are at ASQ levels. Outputs produced at predicted “experienced” budget levels, that is, budget levels based on past experience, can be found in Supplemental Tables at the end of Chapter 2 of the FEIS.

The level of estimated payments is highest at \$2.48 million for Alternative 1 and lowest at \$2.08 for Alternative 4 and the Selected Alternative. However, when compared to the current 25% Fund amount (FY 2001), estimated potential payments increase by \$275,000 (Alternatives 4 and Selected) to \$675,000 (Alternative 1). Payments have the potential to increase because current management is not funded at full 1986 Forest Plan levels. The analysis shows that there is the potential for increased Forest revenues, and therefore increased 25% Fund payments to counties, in all alternatives analyzed if the revised Forest Plan is fully funded.

Employment levels are used to display impacts of CNNF management on local economies. The Chequamegon-Nicolet National Forests contribute jobs (and income) to three Economic Impact Areas:

1. The Northern Wisconsin Economic Impact Area consisting of 15 counties in northern Wisconsin and Michigan;
2. The Wisconsin Pulp and Paper Economic Impact Area, including 9 counties in east central Wisconsin; and
3. The Northern Minnesota Economic Impact Area.

Employment attributed to CNNF resource programs in 2012 is displayed in Table 19 for each of the three Economic Impact Areas and reflects how the number of jobs produced might change from 2001 levels by Alternative. The jobs and income attributable to the CNNF in 2001 are based on actual management activity levels, while those estimated for 2012 are under the assumption of full Plan level funding. These funding assumptions make for a constant, non-arbitrary comparison of the effects of alternatives in 2012, and demonstrate the potential for change from the Forests' current operational levels.

**Table 19. Economic Indicators.**

Economic/Social Effects	Current Mgmt	Alternatives—Projected Potential Annual Outputs in 2012								
		1	2	3	4	6	6	7	9	SA
Annual Payment to Counties (25% of NF Revenues), Millions of Dollars	1.805	2.480	2.280	2.105	2.080	2.230	2.205	2.205	2.255	2.080
<b>Northern Wisconsin Economic Impact Area</b>										
Annual Employment attributed to National Forest Programs (Number of jobs)	15,100	20,000	17,900	16,600	16,000	17,500	17,200	17,000	17,200	15,900
Percent Change from Current Management	0	32.4	18.5	9.9	5.9	15.8	13.9	11.9	13.9	5.2
<b>Wisconsin Pulp and Paper Economic Impact Area</b>										
Annual Employment attributed to National Forest Programs (Number of jobs)	11,200	14,900	14,900	13,500	13,700	14,100	14,400	14,000	14,400	14,000
Percent Change from Current Management	0	33	33	20.5	22.3	25.8	28.5	25	28.5	25
<b>Northern Minnesota Economic Impact Area</b>										
Annual Employment attributed to National Forest Programs (Number of jobs)	1300	1000	900	900	800	900	900	900	900	900
Percent Change from Current Management	0	-23	-30.7	-30.7	-38.4	-30.7	-30.7	-30.7	-30.7	-30.7

---

## How to find out more about the Forest Plan

The Chequamegon-Nicolet National Forests are committed to helping individuals and groups in our communities understand the impact that the Forest Plan will have on their activities. Full sets of all official documents may be found in the following locations.

- Your local library
- On our website, [www.fs.fed.us/r9/cmf](http://www.fs.fed.us/r9/cmf)
- A CD-ROM available from your local Forest Service office

If you would like to request a CD-ROM containing the full set of documents, or have questions regarding the Forest Plan and would like to speak with a Forest Service employee, see the following list of Chequamegon-Nicolet offices:

### **Supervisor's Office**

Forest Supervisor Anne Archie  
68 South Stevens Street  
Rhineland, WI 54501  
1170 4<sup>th</sup> Avenue South  
Park Falls, WI 54552

### **Eagle River-Florence Ranger District**

District Ranger Debra Kidd  
1247 East Wall Street  
Eagle River, WI 54521  
4793 Forestry Drive  
Florence, WI 54121

### **Great Divide Ranger District**

District Ranger Barry Paulson  
P.O. Box 126  
Highway 13  
Glidden, WI 54527  
P.O. Box 896  
10650 Nyman Avenue  
Hayward, WI 54843

### **Lakewood-Laona Ranger District**

District Ranger Joel "Harv" Skjerven  
15085 State Road 32  
Lakewood, WI 54138  
4978 Highway 8 West  
Laona, WI 54541

### **Medford-Park Falls Ranger District**

District Ranger Robert Hennes  
850 North 8<sup>th</sup>, Highway 13  
Medford, WI 54451  
1170 4<sup>th</sup> Avenue South  
Park Falls, WI 54552

### **Washburn Ranger District**

District Ranger Chris Worth  
113 Bayfield Street East  
P.O. Box 578  
Washburn, WI 54891



The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.



**Chequamegon-Nicolet  
National Forests**

