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
Maximum Total Miles, Forestwide	**284**	**574**	**324**	**284**	**419**	**419**	**384**	**574**	**469**

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

	Alternatives								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**9**	**SA**
Recreation--ATV/Off Road Vehicles 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.

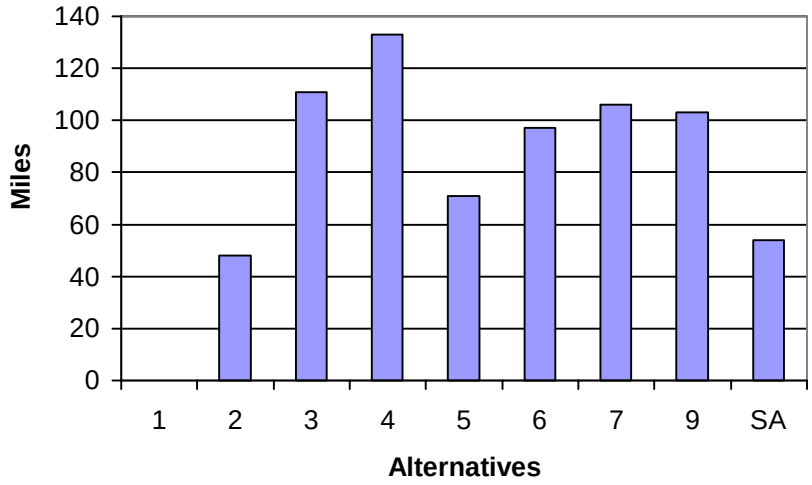

Figure 12. Estimated Miles of Motorized Trails to be Relocated Due to All Non-Motorized Designations (MA 5, 5B, 6A, 6B, NM)

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.

Table 7. Current Total Road Density[1] Estimates for the Chequamegon-Nicolet National Forests.

	Chequamegon NF	Nicolet NF
Land Base	843,061 acres (1317.3 mi²)	651,485 acres (1017.9 mi²)
Miles of Road	4038.2 miles	4983.8 miles
Total Road Density[1]	**3.1 mi/mi²**	**4.9 mi/mi²**
Forestwide Average Total Road Density	**3.9 mi/mi²**	

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

[1]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.

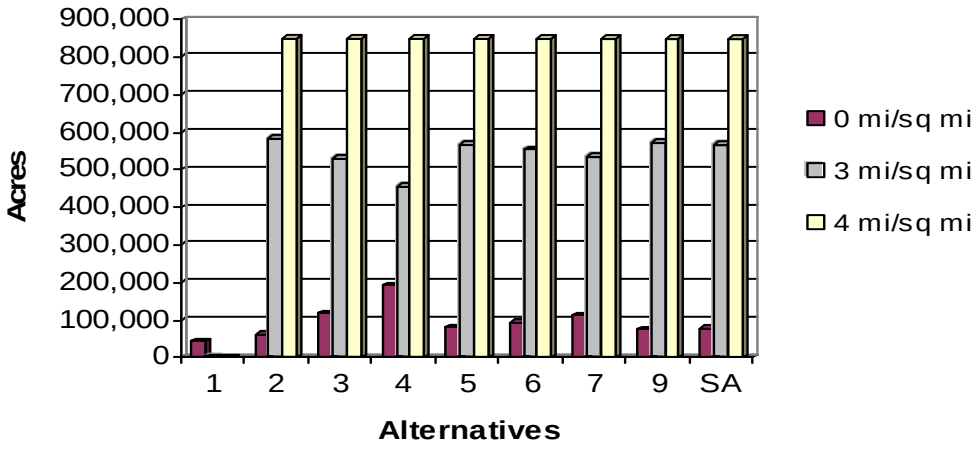

Figure 13. Acres by Total Road Density (TRD) Upper Limit

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[1], Chequamegon-Nicolet National Forests

	Chequamegon NF	Nicolet NF
Land Base	843,061 acres (1317.3mi²)	651,485 acres (1017.9 mi²)
Miles of Open FS Roads	2997.3 miles	3064.1 miles
Open Road Density[1]	**2.2 mi/mi²**	**3.0 mi/mi²**
Forestwide Average Open Road Density	**2.6 mi/mi²**	

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.

[1]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.

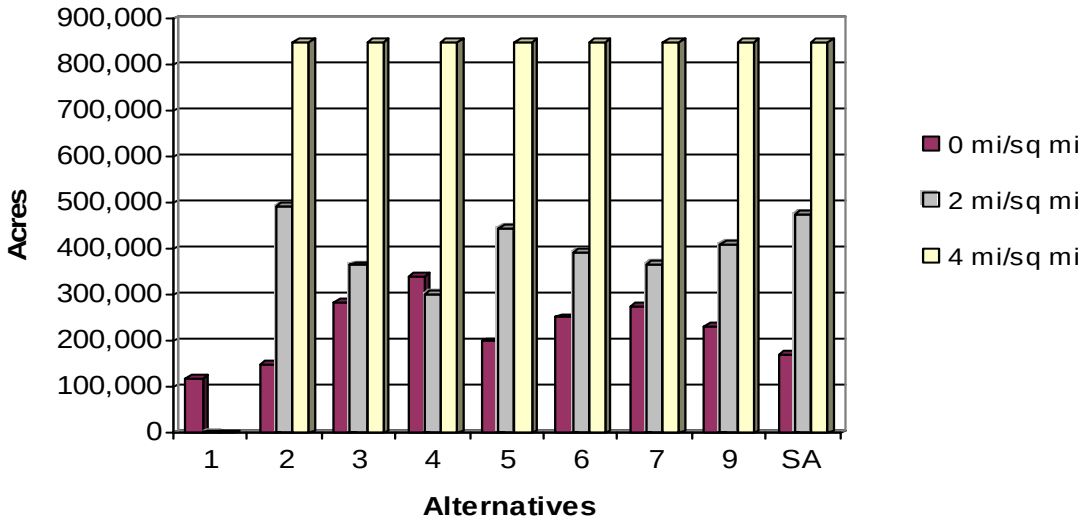

Figure 14. Acres by Open Road Density (ORD) Upper Limit

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										
	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	Desirable Recreation Qualities	Ecosystem Rest. Value	Overlap with Ecol. Ref. Areas
	Acres											
Flynn Lake--Adjacent to Existing Wilderness	6300	x	x	x	x	x	x	x	x	HIGH	MED	HIGH
Porcupine Lake Addition-- Adjacent to Existing Wilderness	1700		x	x	x		x	x	x 1400 ac	MED	HIGH	LOW
Iron River	8300			x						LOW	LOW	LOW
Hungry Run	7400			x	x	x				LOW	HIGH	HIGH
Spring Brook	7800			x		x	x	x	x	MED	HIGH	HIGH
Schmuland/Popple	7100			x						LOW	LOW	LOW
Mud Lake	10,000			x			x			LOW	HIGH	MED
Stony Creek	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.

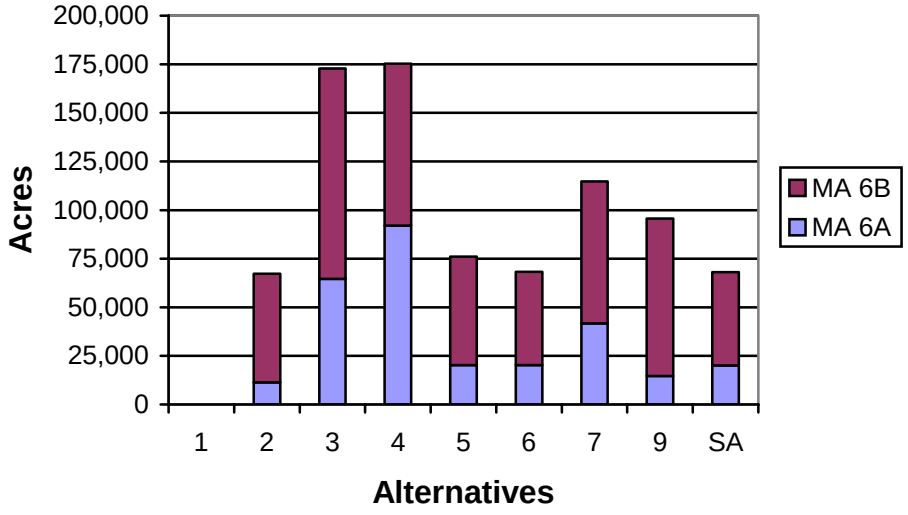

Figure 15. Acres of SPNM Allocation as MA 6A and 6B

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.

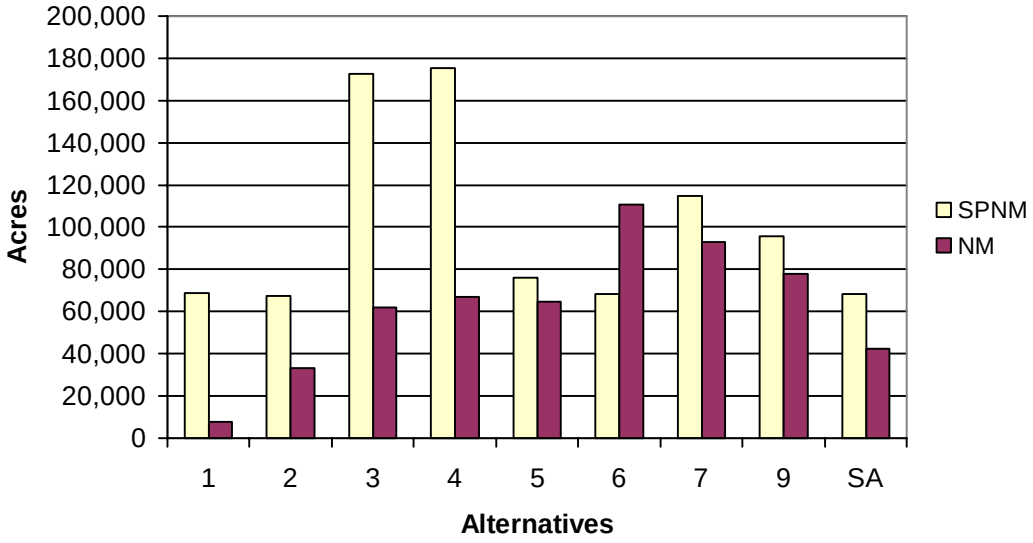

Figure 16. Acres of Semi-Primitive Non-Motorized (SPNM) and Non-Motorized with Full Vegetative Management (NM) Areas by Alternative.

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.

Projected percent of NF Species Composition in 10 years	Current	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7	Alt 9	SA
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%
Projected percent of NF Species Composition in 100 years										
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.

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

[1]Core Blocks: MA 2B, & 5, 5B, 6A if currently >50% hardwood

[2]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.

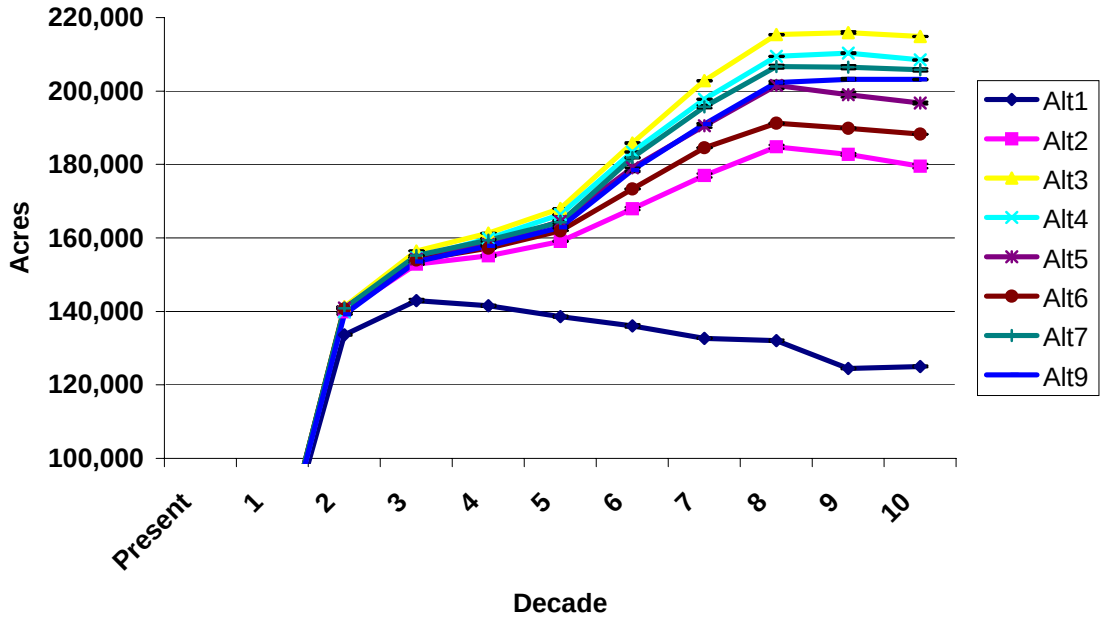

Figure 17. Area of Mature Northern Hardwood Interior (90m buffer)

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

	Alternatives								
Current = 336	**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)

	Alternatives								
Current = 2.6%	**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 10th decades.

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

		Alternatives								
	Unit of Measure	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	Alternatives—Projected Potential Annual Outputs in 2012									
	Current Mgmt	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
Northern Wisconsin Economic Impact Area										
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
Wisconsin Pulp and Paper Economic Impact Area										
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
Northern Minnesota Economic Impact Area										
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