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Final Environmental Impact Statement

McCaslin Project

**Lakewood/Laona Ranger District, Chequamegon-Nicolet National Forest
Oconto and Forest Counties, Wisconsin**

Township 33 North, Range 15 East, sections 1-3, 11-14, and 24-5; Township 33 North, Range 16 East, sections 1-11, 14-23, 27-30; Township 33 North, Range 17 East, sections 5 and 6; and Township 34 North, Range 16 East, sections 16, 17, 20-29; 32-36, Fourth Principal Meridian.

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MC CASLIN PROJECT
Final Environmental Impact Statement
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Abstract: The Chequamegon-Nicolet National Forest proposes to manage vegetation and habitat on about 22,000 acres. Actions would occur on the Lakewood/Laona Ranger District and include timber harvest, wildlife opening maintenance, aspen and jack pine regeneration, planting and protection of tree seedlings, lake and stream habitat improvement, and development of the transportation system needed to serve the public.

Public involvement was used in the development of this Final Environmental Impact Statement (FEIS). Public comments helped refine the scope of the decision to be made, identify major issues, shape alternatives, and direct the analysis of effects. The major issues identified in this analysis related to how actions would affect vegetation, wildlife, and landscape pattern. Four alternatives were analyzed in detail:

- Alternative 1, the “No Action” alternative
- Alternative 2 is the Agency Preferred Alternative. It is our original action proposed to the public for initial scoping. It has been slightly modified in response to more detailed analysis.
- Alternative 3 responds to wildlife and landscape pattern issues. It emphasizes interior forest habitat conditions.
- Alternative 4 responds to vegetation and wildlife issues. It emphasizes aspen management.
- Alternative 5 combines issues and emphasizes interior conditions in a portion of the area and aspen management in another portion of the area.

These alternatives incorporate design features and mitigation measures to avoid or minimize potential environmental impacts. This EIS is organized to discuss the purpose of and need for action, the Forest Service Proposed Action developed to address those needs, and the alternatives that were developed to respond to issues raised by the public. The document then discusses existing conditions within the project area and the environmental consequences of implementing each of the alternatives. At this time, the preferred alternative is Alternative 5.

MCCASLIN FEIS SUMMARY

Introduction

Purpose and Need for Action (Chapter 1)

The overriding purpose of the McCaslin Project is to implement vegetation management activities that are consistent with direction in the Nicolet Forest Plan and to respond to the following identified needs for action.

Need #1 – Forest Age and Composition Modification

The current diversity of ages and types of forest stands in the project area vary from desired conditions in the Nicolet Forest Plan. The composition of the forest stands are important to maintain all plant and animal populations, including threatened, endangered, and sensitive species, non-game plants and animals, and game species as well as biological communities and overall ecosystem functions. The following summaries show some of the more notable gaps between the desired future conditions (DFC's) by Management Area. More detailed tables can be found in Section 3.5. Of primary importance in these tables are the differences in aspen and hardwood composition and age structure. These are the dominant types in the McCaslin area.

Table 1 : Primary Vegetation Goals for MA 1.1/1.2: Mixed forests with a large aspen component

Vegetative Type	Desired and Existing Conditions for Lakewood Portion (values in percentages)			Desired and Existing Conditions for Laona Portion (values in percentages)			Nicolet NF Existing Condition
	DFC	McCaslin Existing	Lakewood RD Existing	DFC	McCaslin Existing	Laona RD Existing	
Jack Pine	<1	0.0	1.2	0	0.0	0.0	1.5
Balsam Fir	2	5.3	2.7	1	0.8	3.2	3.0
Red Pine	1	1.0	5.9	2	3.4	4.0	8.5
White Pine	<1	20.2	5.2	1	0.0	0.4	3.0
White Spruce	<1	4.3	1.7	1	18.4	3.5	3.3
Hardwoods	13	12.4	17.2	37	27.7	38.5	31.1
Oak	8	0.0	7.4	2	0.0	0.0	1.9
White Birch	8	7.8	6.8	1	0.0	0.4	2.5
Hemlock	2	0.0	1.1	1	0.0	0.5	0.6
Aspen	63	48.3	48.8	52	48.6	47.2	42.5
Upland Opening	3	0.7	2.0	3	1.2	2.3	2.1

Table 2: Primary Vegetation Goals for MA 3.1/3.2: Even-aged hardwood forests managed for large sawtimber

Vegetative Type	Desired and Existing Conditions for Lakewood Portion (values in percentages)			Desired and Existing Conditions for Laona Portion (values in percentages)			Nicolet NF Existing Condition
	DFC	McCaslin Existing	Lakewood RD Existing	DFC	McCaslin Existing	Laona RD Existing	
Jack Pine	<1	0.7	0.7	<1	0.0	0.0	0.5
Balsam Fir	2	2.1	2.8	<1	0.1	1.0	2.5
Red Pine	4	3.4	6.1	3	0.9	2.4	5.8
White Pine	2	3.8	2.5	1	0.1	0.7	1.8
White Spruce	1	1.1	1.4	2	2.1	3.0	2.4
Hardwoods	32	29.4	40.0	53	66.0	61.4	46.4
Oak	20	4.1	8.7	6	6.5	1.9	5.5
White Birch	4	3.0	3.0	<1	0.0	0.4	2.4
Hemlock	3	0.8	0.3	3	0.0	0.1	0.8
Aspen	28	49.4	31.9	29	23.6	26.8	29.2
Upland Opening	3	2.1	2.7	3	0.7	2.2	2.8

Table 3: Primary Vegetation Goals for MA 4.1/4.2: Upland softwood forest managed for pulpwood and sawtimber

Vegetative Type	Desired and Existing Conditions for Lakewood Portion (values in percentages)			Desired and Existing Conditions for Laona Portion (values in percentages)			Nicolet NF Existing Condition
	DFC	McCaslin Existing	Lakewood RD Existing	DFC	McCaslin Existing	Laona RD Existing	Forest-wide Existing
Jack Pine	17	13.2	8.6	<1	0.0	0.0	7.3
Balsam Fir	1	1.3	1.9	7	0.0	5.2	2.8
Red Pine	24	27.7	30.5	28	6.4	33.4	28.9
White Pine	9	2.1	2.9	8	0.0	0.4	3.3
White Spruce	3	1.2	1.2	8	33.4	12.4	5.1
Hardwoods	4	0.6	16.5	23	21.9	25.2	18.9
Oak	2	34.4	8.2	2	0.0	0.0	4.7
White Birch	2	0.0	1.5	<1	0.0	0.9	1.7
Hemlock	1	2.9	0.7	1	0.0	0.0	0.8
Aspen	32	11.9	24.9	20	32.6	20.4	23.5
Upland Opening	4	4.7	3.0	3	5.7	2.2	3.1

There is a need for modified composition, density, and age distributions of forest stands that move the area toward the desired future conditions identified in the Nicolet Forest Plan. In addition to differences between existing and desired forest composition, the density of trees in hardwood and conifer stands in the area is higher than that called for in the Forest Plan. The high density of trees is suppressing the growth rate of trees, limiting their value from ecological and economic standpoints.

Linked Objectives:

1. Move forest composition toward Management Area goals, especially in aspen and hardwood types.
2. Improve the age class distribution of aspen to more closely match desired conditions (Forest Plan, p. 27).
3. Improve tree vigor in long rotation even and uneven-aged stands by reducing crowding and competition between trees in accordance with Forest Plan direction (Forest Plan, p. 21).
4. Improve structural diversity of tree, shrub, and forb species in hardwood stands by moving them toward uneven-aged conditions (Forest Plan, pp. 89, 97, 113).
5. Enhance species diversity in hardwood stands.

One of the purposes of this project is to use timber sales as the primary method for making desired changes to the forest vegetation (Nicolet Forest Plan Record of Decision, pp.26-8).

The Nicolet National Forest Land and Resource Management Plan (Forest Plan) established a goal of using commercial timber sales to accomplish vegetation management objectives whenever possible. During the last 15 years, numerous timber sale operations have been used on the Lakewood-Laona Ranger District to successfully move forest composition, age class distribution and tree density towards Forest Plan goals. Local demand for timber sales is high and the opportunity to use timber sales to manage vegetation is apparent. The recent history of timber sale offers on the Lakewood-Laona District suggests that the aspen, hardwoods, and conifer timber in the project area would be desirable for purchase. An objective of our action is to meet this goal by using timber harvest to accomplish vegetation management goals wherever feasible and appropriate.

Need # 2- Stand Tending and Reforestation

There is a need to control the competition of vegetation around certain young plantations within the project area. The Nicolet Forest Plan anticipated this need (p. 55) and identifies appropriate methods to maintain health and vigor of desired forest. Following the last analysis of the project area, a number of areas were successfully planted with seedlings or regenerated through natural seeding or sprouting. In some of the areas, brushy species have since taken root and are competing with the desired forest trees. The seedlings represent a considerable investment of labor and money. Good forestry practice as well as wise fiscal management suggest the need to protect those investments.

There is a need to reduce brush competition in certain areas to allow for the desired understory development. There are some areas with an overstory of fire tolerant trees, such as oaks, with a long-term objective of developing an understory of the same species. Due to soil and climatic conditions, it is desirable to continue the establishment and development of these forest types. Currently, however, brushy competition is preventing the establishment of desirable seedlings. The Nicolet Forest Plan gives guidance on the use of prescribed fire (pp. 72-3) for such purposes.

There is a need to encourage the regeneration of eastern hemlock and American butternut in the project area. Due to deer browsing, there is also a need to protect the newly-established seedlings to ensure success. The Nicolet Forest Plan has identified the need for a higher representation of hemlock (pp. 89, 105, 113) and it has been a Forest policy to encourage its establishment where opportunities are present. American butternut is a minor timber species in the eastern United States, with an unusually high presence within the State of Wisconsin. In particular, the part of the state in which the project area is located has a relatively high representation of this species. American butternut is currently being attacked nationwide by a very virulent exotic fungus called butternut canker. This disease has decimated butternut populations throughout the range of the tree. Researchers and forest managers are racing to gather information on the tree, the disease, and ways to manage both. Local foresters, in cooperation with Forest Service scientists, are identifying locations that provide good opportunities for butternut regeneration. Several of these areas are located in the project area.

There is a need to increase the white pine component in the project area. There are locations within the project area where long-lived species, such as white pine, white spruce, and eastern hemlock are desirable for long-term management. An example of this includes riparian areas, where such trees would provide shady conditions in the long-term and an assurance of future large woody debris. The Nicolet Forest Plan encourages the establishment of such species in these areas (p. 66). In addition to riparian areas, there are other locations that lend themselves well to white pine management. The Nicolet Forest Plan (pp. 89, 105, 113) gives desired future conditions (DFC’s) for vegetation composition in each of the management areas. Analysis shows that the amount of existing white pine is less than desired in portions of the area.

Linked objectives:

1. Improve survival and vigor within recently established plantations by releasing them from competition (in accordance with pp. 55-6 of the Forest Plan).
2. Improve understory diversity and increase long-lived species in riparian zones.
3. Encourage the establishment and survival of eastern hemlock and American butternut.

Need #3– Access Management

There are numerous roads within the project area. The estimated mileage of roads under national forest jurisdiction is 160 miles. The type and condition of the roads varies from hard gravel surface with shoulders to unsurfaced “woods roads.” The current road mileage in the parts of the area exceeds the density of roads called for in the Forest Plan (see Table 1-5). Some of these roads are currently non-driveable, but are on the current road inventory. Additionally, the location of some of the existing roads is not appropriate for ongoing management activities. In some cases, due to the fine texture of the soils and other factors, such as extensive use during wet periods, unacceptable impacts to the roads have taken place. The Nicolet Forest Plan gives direction to construct and maintain roads at an appropriate level for planned uses while minimizing soil and water impacts (pp. 56-7, 77). Some of the roads in the project area will be proposed for upgrading (graveling and sloping for improved drainage- see maps) to allow for continued use with fewer impacts. To meet Nicolet Forest Plan open road density Desired Conditions (see Table 1-5) and address problem areas, there is a need to close some of the roads within the project area.

Management Area	Desired Future Condition	Existing Condition within project area
1.1	≤ 4 mi./sq. mi. of improved open road.	4.4 mi./sq. miles
1.2	≤ 2 mi./sq. mi. of improved open road.	1.7 mi./sq. miles
3.1	≤ 4 mi./sq. mi. of improved open road.	3.3 mi./sq. miles
3.2	≤ 2 mi./sq. mi. of improved open road.	3.1 mi./sq. miles
4.1	≤ 4 mi./sq. mi. of improved open road.	5.5 mi./sq. miles
4.2	≤ 2 mi./sq. mi. of improved open road.	4.3 mi./sq. miles
8.2	≤ 2 mi./sq. mi. of improved open road.	2.0 mi./sq. miles

Linked objective: Develop and maintain a safe, cost-effective transportation system for future forest management and recreational use while providing needed access for harvest proposed with minimal impacts to the environment (Forest Plan, pp. 20; 56-7; 77).

Need #4 – Erosion Control at Lincoln Lake and North Branch Oconto River

The amount of human use at a dispersed campsite on Lincoln Lake has resulted in erosion on the trail leading to the lake. Likewise, human use at a dispersed campsite near Knowles Dam on the North Branch Oconto River has resulted in erosion problems around the campsite as well as the trail leading down to the river. At that location, the riverbank is unstable and has been sloughing into the river. The erosion is negatively affecting the enjoyment and safety of people using the trails and the river. Nicolet Forest Plan direction (p. 39-40) places an emphasis on resource protection and the correction of health and safety problems, such as trail erosion. The Forest Plan also features the provision and maintenance of recreation sites that encourage dispersed recreation. Therefore, there is a need for reduced erosion on the identified trails around dispersed campsites at these sites while maintaining the existing walk-in access.

Need #5 – Fish and Wildlife Habitat Maintenance and Improvement

Lincoln Lake and the North Branch of the Oconto River are popularly used for fishing. There is a lack of hiding cover and woody debris for fish at specific locations on Lincoln Lake, the North Branch of the Oconto River, Knowles Creek, an unnamed tributary to Knowles Creek, and Mosquito Creek. The lack of hiding cover and woody debris increases the risk of predation, while reducing opportunities for shade and resting pools. The Nicolet Forest Plan gives direction to provide for fisheries management on waters capable of supporting viable fish populations by maintaining and improving cover and spawning improvement structures (p. 68). Therefore, there is a need to improve fish habitat in these areas that is favorable to the growth and development of fish populations.

Bluegill Creek Impoundment is a popular place for the public to view and learn about wildlife species associated with wetland habitats. It is also excellent potential habitat for fish-hunting ospreys. Currently, there is a lack of a good osprey nesting site at the Bluegill Creek Impoundment which can be viewed from the existing barrier-free viewing platform. The Nicolet Forest Plan gives direction to construct and maintain impoundments and habitat improvement structures for the benefit of wildlife and the enjoyment and education of the public (pp. 65, 69, 39, 44). Therefore, there is a need to provide a long-term osprey nesting site that is viewable from the public viewing platform.

The Forest Service maintains numerous permanently non-forested areas as one way of providing a variety of habitats for wildlife (Forest Plan, pp. 64, 89, 105, 113). These are scattered throughout the project area and are found in a variety of sizes. Over time, brush and other competing vegetation has encroached on these openings. There is a need to maintain these areas in an open condition in accordance with Forest Plan direction for the benefit of a number of wildlife species.

Need #6 - Archaeological Evaluation and Interpretation

There are 26 known historic sites within the project area that have not yet been formally evaluated. In accordance with Forest Plan direction (p. 43), the sites have undergone a preliminary evaluation and impacts to these sites have been and will continue to be avoided, mitigated, or minimized. Ultimately, as conditions allow and in accordance with the direction from the State Historic Preservation Office (SHPO), the sites need to be formally evaluated. There is a need to formally evaluate these sites to determine their significance and to determine whether or not they should be nominated for listing in the National Registration of Historic Places.

Four of these sites have a high potential for public interpretation. The public continues to be interested in interpretive historical sites. The Nicolet Forest Plan gives direction to develop interpretive programs that support Forest Service Programs (such as the Heritage Resource Program) and describe subjects of interest to the public (p. 44). Interpretation of these sites could provide Forest visitors and nearby residents an

opportunity to learn more about local and regional cultural history. Therefore, there is a need to provide public interpretative opportunities of these sites.

Proposed Action (Chapter 1)

The McCaslin Project proposes commercial harvest to improve quality, structure, and growing conditions of forest stands, and to provide wood products and fiber in accordance to goals outlined in the Forest Plan. Road construction and reconstruction would occur as necessary to implement proposed projects. Road closure and decommissioning is proposed to move towards Forest Plan density goals. Also included are wildlife and aquatic habitat improvement projects and placement of archaeological interpretation signs.

Scoping (Chapter 1)

Comments on the proposed action were solicited from Forest Service employees, members of the public, other public agencies, tribes, adjacent property owners, and organizations. Various methods were used to request comments. The project has been listed in the Chequamegon-Nicolet NEPA Quarterly since January, 2000.

Preliminary scoping packages were sent to Native American tribes on April 12, 2000 and January 3, 2001. Scoping letters were sent to other interested members of the public on April 24, 2000 and March 30, 2001. On April 5, 2001, a Notice of Intent (NOI) to prepare an environmental impact statement (EIS) was published in the Federal Register. The NOI asked for public comment on the proposal during the period of April 5 to May 7.

In these scoping efforts, mailings were sent to about 400 groups and individuals including adjacent property owners, other government agencies, and anyone else who has requested notification (see Chapter 4, List of Agencies and People Consulted). As a result of these outreaches, the Forest Service received 83 responses providing comments and concerns.

Issues

Major issues identified for the project proposal are Effects on Vegetation, Effects on Wildlife, and Landscape Pattern effects. The following major issues were used to develop alternatives to the Proposed Action.

Issue 1: Effects on Vegetation

Actions are intended to alter forest composition and/or age structure of the treated sites. These changes alter the diversity of habitats that occur across the landscape as a whole. Additionally proposed actions may impact habitat conditions for rare and sensitive plants as well as potential effects resulting from changes in wildlife populations. Other species, such as butternut and hemlock, may benefit from some of the actions proposed.

The proposal could also have the potential to increase the spread of non-native invasive plant species within the project area. These aggressive species can outcompete and negatively impact native flora. This analysis will consider the potential for effects such as these as well as many others.

Indicators:

- Vegetation Composition (measured by % of cover types by MA and area-wide)
- Vegetation Age Class Distribution (measured by age classes by forest type)
- Forest Plan Composition Objectives
- Sensitive Plant Viability

Issue 2: Effects on Wildlife:

There are concerns that the proposed activities could have negative effects on a variety of wildlife species. This can happen through direct impacts to neotropical migrants, such as destruction of their nests during logging operations, or indirect impacts such as habitat alteration through forest fragmentation. Various species can be affected either positively or negatively. For example, tree removal can result in certain species being more vulnerable to competition or predation from other species. Conversely, some species may benefit by an increase in suitable habitat that results from forest management actions.

One specific concern that was raised is the potential of the proposed action to increase white-tailed deer numbers by increasing available aspen browse through regeneration harvests. Another concern was raised regarding potential effects to neotropical migratory birds.

This analysis will consider the effects on wildlife and analyze those that are considered to be potentially significant. Since it would be impossible to track the effects of this project on each and every species found in the analysis area, Management Indicator Species (MIS) are used to represent most habitats and the majority of all other species (Nicolet Forest Plan FEIS, p. 3-33). The effects to other, less common, species are evaluated in the analysis of Threatened, Endangered, and Sensitive (TES) species and Regional Forester's Sensitive Species.

Indicators:

- TES Species Habitats and Population Estimates
- Management Indicator Species habitats, trends and population estimates

Issue 3: Effects on Landscape Pattern:

The existing landscape pattern (from ecological conditions and past treatments) is one of large areas of maturing forest broken by stream and wetland corridors and young forests from past harvests and catastrophic events. The alternatives could change this pattern.

Landscapes can be fragmented by vegetation management activities, such as timber harvesting, road construction, and wildlife opening management. Fragmentation of the landscape impacts species differently. Increased landscape fragmentation benefits "edge-loving" wildlife species, such as deer and some species of birds. Other species, that prefer less edge, can be negatively affected by increased fragmentation. Effects on landscape pattern last for shorter time periods when areas of young forests are aggregated. There are many ways of measuring landscape patterns. However, in this analysis, landscape patterns will be measured to disclose the changes in forest fragmentation, interior, and edge habitat. Since edge, the amount of interior forest, and the amount of edge-affected forest would be most directly affected by the proposals and have the most direct and measurable effects on wildlife, these criteria were chosen for this analysis. It will be used mainly to help predict potential implementation effects on plants and wildlife.

Indicators:

- Amount edge
- Acres Interior Habitat
- Acres Edge-affected Habitat

Alternatives Considered in Detail (Chapter 2)

Five alternatives were identified and analyzed, including the "No Action" alternative. Alternative 2 is the preferred alternative.

Alternative 1

This alternative was developed in response to NEPA requirements for a no action alternative and serves as a baseline for comparison to the action alternatives. This alternative proposes no new activities. Current management plans would continue to guide management of the project area. Current activities, which are ongoing, would continue such as dispersed recreation use, annual road maintenance, stream improvement activities, and some wildlife opening improvement. This alternative allows the current process of succession to continue.

Alternative 2 (The Proposed Action) was developed by the Forest Service to move the area toward desired conditions identified in the Nicolet National Forest Plan. Other opportunities to improve fish and wildlife habitat and to increase public knowledge of heritage resources were also included in this proposal. The Forest Service submitted these proposals to interested members of the public and to other agencies for comment.

Alternative 3 (Interior Habitat Alternative). Some respondents were concerned the proposal would cause too much fragmentation of interior forest (Issue # 1.7.3). Alternative 3 was developed to achieve the purpose and need while reducing the changes to forest interior habitat. This alternative would favor longer-lived species. Roading would be reduced and wildlife opening maintenance would not occur. Design features that reduce effects to interior habitat, such as winter logging, would be increased.

Alternative 4 (Aspen Emphasis Alternative). Some respondents were concerned that aspen has been steadily declining in Wisconsin since the turn of the century (included in issue 1.7.1, Vegetation). Alternative 4 was developed to achieve the purpose and need while maintaining and enhancing aspen and other young forest types throughout the area. Under this alternative, aspen stands at rotation age would be widely regenerated. In some areas, to counteract the ongoing loss of aspen types through succession, stands of other types with an aspen component would be converted to aspen. In concert with this, existing wildlife openings would be maintained, and prescribed underburns would be included to maintain or enhance young forest conditions.

Alternative 5 (Hybrid Alternative) was developed to address both the interior forest and aspen issues. Within the project area is a shift in landtype associations. The northern half of the project area is typified by finer-textured soils that currently support a larger proportion of northern hardwood forests in large blocks. The southern half of the area contains coarser soils and supports a larger variety of forest types in smaller patches. Because of this difference, some areas are better suited for interior forest and others for aspen forest. Therefore, in developing Alternative 5, the Interdisciplinary Team tried to identify activities that would maintain or enhance the large block northern hardwood types to the north while looking for ways to maintain or enhance aspen or young forest conditions in consolidated areas within the southern portion of the area. Other vegetation and road management activities were identified that would be consistent with the general theme of this alternative.

Table 5: Activity by Alternative for McCaslin: This table summarizes activities proposed for each alternative. Project maps displaying each alternative and the management activities are attached to this summary.

Activity	Alternative 1 Approximate Totals	Alternative 2 Approximate Totals	Alternative 3 Approximate Totals	Alternative 4 Approximate Totals	Alternative 5 Approximate Totals
Tot. Acres Harvested	0	8,688	6,913	8,842	8,554
Tot. stands harvested	0	219	134	229	209
Acres selection harvest	0	4,686	4,989	3,788	4,706
Acres thinning	0	2,611	1,911	2,521	3,094
Acres clearcut	0	1,099	0	2,260	596
Acres overstory removal	0	231	0	215	117
Acres shelterwood	0	28	13	58	41
Miles new system road	0	3.0	0	4.0	2.9
Miles existing road reconstructed	0	14.3	1.2	11.0	6.6
Miles of roads closed and kept on system	0	1.2	2.2	2.2	2.2
Miles of roads closed/ decommissioned	0	22.1	30.4	26.4	27.6
Acres of release work	0	314	314	314	314
Acres of oak underburn	0	169	0	119	119
Acres site prep burn	0	53	18	53	53
Acres planted	0	374	288	159	276
Acres wildlife opening maintenance	0	188	0	188	128
Stream habitat improvement	none	25 tree drops 500 feet brush bundle placement ½ mile stream debris removal	25 tree drops 500 feet brush bundle placement ½ mile stream debris removal	25 tree drops 500 feet brush bundle placement ½ mile stream debris removal	25 tree drops 500 feet brush bundle placement ½ mile stream debris removal
Erosion Control	No	Yes	Yes	Yes	Yes
Plant fruit shrubs	0 acres	7 acres	7 acres	7 acres	7 acres
Archaeological Evaluation and Interpretation	none	-Evaluate 26 sites -Construct signs, benches, and trail at 4 sites	-Evaluate 26 sites -Construct signs, benches, and trail at 4 sites	-Evaluate 26 sites -Construct signs, benches, and trail at 4 sites	-Evaluate 26 sites -Construct signs, benches, and trail at 4 sites

Environmental Consequences (Chapter 4)

This section summarizes the information from Chapter 3, Affected Environment, and Chapter 4, Environmental Consequences, and displays the environmental effects and project outputs. A comparative summary of the consequences of each alternative by issue is presented in the following tables.

Issue 1 Effects on Vegetation

Table 6: Desired Future Conditions, Existing Conditions, and outcomes for MA 1.1/1.2: Mixed forests with a large aspen component (4638 acres)

Vegetative Type	Lakewood Portion (values in percentages)						
	DFC	Existing	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Hardwoods	13	12.4	12.4	14.8	12.4	10.0	13.2
White Birch	8	7.8	7.8	4.7	7.8	6.9	6.0
Aspen	63	48.3	48.3	49.1	48.3	52.2	49.4
Vegetative Type	Laona Portion (values in percentages)						
	DFC	Existing	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
White Spruce	1	18.4	18.4	18.4	18.4	15.0	18.4
Hardwoods	37	27.7	27.7	27.7	29.8	24.5	37.2
Aspen	52	48.6	48.6	48.6	46.4	55.2	39.1

Table 7: Desired Future Conditions, Existing Conditions, and outcomes for MA 3.1/3.2: Even-aged hardwood forests managed for large sawtimber (13,945 acres)

Vegetative Type	Lakewood Portion (values in percentages)						
	DFC	Existing	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Hardwoods	32	29.4	29.4	31.6	30.2	25.6	30.6
White Birch	4	3.0	3.0	1.7	3.0	2.7	2.7
Aspen	28	49.4	49.4	49.1	48.6	54.1	49.2
Vegetative Type	Laona Portion (values in percentages)						
	DFC	Existing	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
White Spruce	8	33.4	33.4	33.4	33.4	28.6	33.4
Hardwoods	23	21.9	21.9	21.9	22.9	15.5	22.9
Aspen	20	32.6	32.6	32.6	31.6	43.8	31.6

Table 8: Desired Future Conditions, Existing Conditions, and outcomes for MA 4.1/4.2: Upland softwood forest managed for pulpwood and sawtimber (2,954 acres)

Vegetative Type	Laona Portion (values in percentages)						
	DFC	Existing	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
White Spruce	2	2.1	2.1	2.1	2.1	3.4	2.1
Hardwoods	53	66.0	66.0	66.2	67.2	61.5	68.7
Aspen	29	23.6	23.6	23.4	22.4	26.8	20.9

Table 9: Aspen Age Class Distribution by Alternative

	0-10 Year Age Class	11-20 Year Age Class	21-30 Year Age Class	31-40 Year Age Class	41+ Year Age Class
Recommended %	20	21	19	17	23
Existing %	6	18	19	29	28
Alternative 1 %	1	16	21	32	31
Alternative 2 %	17	16	21	32	14
Alternative 3 %	1	16	22	32	29
Alternative 4 %	30	14	19	28	9
Alternative 5 %	10	16	22	33	19

Issue 2 Effects to Wildlife

Table 10: Comparison of Outcomes for Wildlife and Fisheries Resources by Alternative

Objective	Indicator	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Maintain Species Viability	TES Key Findings	No impacts	No impacts on any Federally-listed species			
	RFSS Key findings	No impacts	Possible impacts to individuals, but unlikely to cause trend for Federal Listing: <ul style="list-style-type: none"> Goshawk Red shouldered hawk Swainson’s thrush Cerulean warbler Goblin fern Blunt-lobed grape fern American ginseng Beneficial impact to butternut.	Possible impacts to individuals, but unlikely to cause trend for Federal Listing: <ul style="list-style-type: none"> Goshawk Red shouldered hawk Swainson’s thrush Cerulean warbler Goblin fern Blunt-lobed grape fern American ginseng Beneficial impact to butternut.	Possible impacts to individuals, but unlikely to cause trend for Federal Listing: <ul style="list-style-type: none"> Goshawk Red shouldered hawk Swainson’s thrush Cerulean warbler Goblin fern Blunt-lobed grape fern American ginseng Beneficial impact to butternut.	Possible impacts to individuals, but unlikely to cause trend for Federal Listing: <ul style="list-style-type: none"> Goshawk Red shouldered hawk Swainson’s thrush Cerulean warbler Goblin fern Blunt-lobed grape fern American ginseng Beneficial impact to butternut.
Maintain existing wildlife openings	Acres / number of features	0	<ul style="list-style-type: none"> 188 acres upland openings maintained 1 osprey platform 7 acres shrub planting 	<ul style="list-style-type: none"> 0 acres upland openings maintained 1 osprey platform 7 acres shrub planting 	<ul style="list-style-type: none"> 188 acres upland openings maintained 1 osprey platform 7 acres shrub planting 	<ul style="list-style-type: none"> 128 acres upland openings maintained 1 osprey platform 7 acres shrub planting
Improve aquatic structure in selected lakes and streams	structures	0	<ul style="list-style-type: none"> 25 tree drops ½ mile debris removal 500 feet brush bundles, logs 	<ul style="list-style-type: none"> 25 tree drops ½ mile debris removal 500 feet brush bundles, logs 	<ul style="list-style-type: none"> 25 tree drops ½ mile debris removal 500 feet brush bundles, logs 	<ul style="list-style-type: none"> 25 tree drops ½ mile debris removal 500 feet brush bundles, logs

Table 11: Ranking of comparison between selected Management Indicator Species population estimates by Alternative

Species	Alt 1		Alt 2		Alt 3		Alt 4		Alt 5	
	Ranking Population	% Change								
Barred owl	1*	14.3	2*	7.7	2*	7.7	2*	7.7	1*	14.3
Blackburnian warbler	1	14.5	4	8.0	2	11.5	5	1.3	3	9.8
Black-throated green warbler	1	17.1	4	11.4	2	14.3	5	5.6	3	14.1
Common Raven	1*	3.2	3	0.6	1*	3.2	4	0.0	2	2.2
Chestnut sided warbler	5	(-18.2)	2	(-17.3)	4	(-18.0)	1	(-16.3)	3	(-17.7)
Ovenbird	5	(-2.2)	4	1.8	1	2.4	3	2.0	2	2.1
Pine warbler	1	21.4	2	(-2.4)	5	(-9.2)	3	(-2.9)	4	(-6.0)
Pileated woodpecker	1	7.5	2*	5.1	2*	5.1	3	0.7	2*	5.1
Red-eyed	1	6.3	4	3.7	2	6.1	5	2.4	3	4.9

vireo										
Scarlet Tanager	4	(-3.7)	2	(-2.6)	3	(-3.2)	1	(-1.8)	2	(-2.6)
Golden-winged warbler	1*	4.7	4	(-3.1)	1*	4.7	3	(-6.7)	2	1.0

* = same value as another alternative

ND = no difference between alternatives

% change = percent change from current conditions

Table 12: Ranking Comparison of Selected MIS habitat acres by Alternative

Species	Alt 1		Alt 2		Alt 3		Alt 4		Alt 5	
	Ranking Habitat Acres	% Change								
Barred owl	1	11.3	3	8.4	2*	8.5	4	4.0	2*	8.5
Blackburnian warbler	1	28.6	4	19.1	2	26.9	3	11.9	3	23.3
Black-throated green warbler	1	28.0	5	19.2	2	26.4	4	12.9	3	23.2
Common Raven	1	0.5	4	0.3	3	0.4	4	0.3	2	0.4
Chestnut sided warbler	ND	0.0								
Ovenbird	1*	0.9	1*	0.9	1*	0.9	2	0.7	1*	0.9
Pine warbler	3	(-4.9)	2	(-4.5)	5	(-15.1)	1	(-4.6)	4	(-9.8)
Pileated woodpecker	1	5.9	3	4.1	2	4.1	4	1.4	2	4.1
Red-eyed vireo	ND	0.0								
Scarlet Tanager	ND	0.0								
Golden-winged warbler	ND	0.0								

Issue 3 Landscape Effects

Table 13: Landscape Pattern Indicators					
Indicator	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
Acres Interior Habitat	13,974	12,737	13,967	11,900	13,579
Acres edge-affected habitat	20,685	21,922	20,693	22,760	21,081
Miles of edge	854.6	869.2	857.2	851.1	845.5

The following tables display the findings of effects for other minor issues that were examined as part of this analysis.

Table 14: Other Resource Indicators Summary Comparison Of Alternatives

Other Resource Indicators	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Soils	No Effect	There would be no short or long-term detrimental soil disturbance effects on project sites or adjacent areas for the alternatives analyzed within the McCaslin Project boundary. The majority of the stands proposed for treatment in this project are on flat to rolling, well drained, fine sandy loam or silt loam soils. Most soils pose a very low potential for soil erosion and displacement, compaction and rutting, and nutrient depletion. The adherence to Forest Plan standards and guidelines, site-specific design measures and timber sale contract provisions would eliminate or minimize potential adverse soil resource impacts from erosion, displacement, compaction, rutting, burning and nutrient removal.			
Water	No Effect	The effects section determines that no detrimental erosion or sedimentation would be expected to occur from stand treatment, road construction, and non-system road reconstruction on the project sites under any of the alternatives			
Air	No Effect	The effects section determines that air quality would remain good and that effects to air quality would be minimal.			
Fish	No Effect	No adverse effects to fisheries are expected. Riparian planting, erosion control measures, and aquatic habitat improvement projects are expected to have a beneficial effect on fisheries.			
Transportation	No decrease in road density No decrease in access	Overall road densities within the project area and associated MAs are expected to move towards and /or meet Forest Plan Objectives under any of the action alternatives.			
Recreation	No Effect	Effects to recreation are expected to be the same across all action alternatives and would be limited to possible short-term conflicts and inconveniences due to harvest operations near snowmobile trails and dispersed campsites.			
Visual Resources	No Effect	Due to site-specific design features, visual quality objectives would be expected to continue meeting visual quality objectives for the Nicolet National Forest.			
Heritage Resources	No Effect	Given the use of mitigation measures to avoid known heritage sites, there would be no adverse effects to heritage resources. In the event that new sites are found, they would be immediately protected and reviewed by the Heritage Resources Staff.			
Forest Plan Revision	No Effect	Alternatives 2 and 4 would reduce interior habitat management options within Plan Revision Areas 2A, B, and C by creating 260 and 585 acres of temporary openings in these areas. Alternatives 3 and 5 would result in no major changes of available management options for the Plan Revision.			

**Table 15: Effects on Transportation System
Existing and Resulting Open Road Densities and Comparison to Forest Plan Objectives**

MA	DFC	Existing Cond.	Alt 1	% Change	Alt 2	% Change	Alt 3	% Change	Alt 4	% Change	Alt 5	% Change
1.1	≤ 4	4.34	4.34	0	3.96	-9%	3.88	-11%	3.94	-9%	3.92	-10%
3.1	≤ 4	3.18	3.18	0	3.14	0%	2.95	-7%	2.95	-7%	2.95	-7%
4.1	≤ 4	6.08	6.08	0	6.08	0%	5.63	-7%	5.91	-3%	5.78	-5%
1.2	≤ 2	1.58	1.58	0	1.58	0%	1.46	-8%	1.51	-4%	1.46	-8%
3.2	≤ 2	2.96	2.96	0	2.66	-10%	2.35	-11%	2.57	-13%	2.49	-6%
4.2	≤ 2	4.27	4.27	0	4.20	-2%	4.05	-5%	4.09	-4%	4.08	-4%
8.1		3.33	3.33	0	3.01	-10%	2.91	-13%	3.01	-10%	3.01	-10%
9.1		5.84	5.84	0	5.84	0%	5.84	0%	5.84	0%	5.84	0%
Overall Ranking			5 th		4 th		1 st		3 rd		2 nd	

Table 16 : Economic Outcomes by Alternative

Objective	Indicator	Alt 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
Provide wood products (as per LRMP, pp.19-35)	Commercial Timber Volume (in million board feet)	0	44.4	30.5	51.4	40.9
Provide economic efficiency	Net Present Value	\$0	\$1,934,549	\$1,532,781	\$2,041,476	\$1,840,357
	Benefit Cost Ratio	0	2.37	2.45	2.18	2.38
Generate income and employment in local communities	Payments to Counties	\$0	\$940,740	\$712,803	\$1,059,817	\$886,154
	Income Generated	\$0	\$44,788,500	\$30,451,735	\$51,896,919	\$40,942,207
	Jobs Created/Sustained	0	737	501	854	674

MCCASLIN DEIS ERRATA

- Map 4 of Alternative 3 included a number of even-aged harvests that are included as part of Alternative 2. A corrected map showing the correct Alternative 3 activities for that area now replaces the earlier erroneous version.
- The existing estimated ruffed grouse population shown in Table 3.7-1 (p. 51, DEIS) is incorrect. The figure given (337) is the estimated number of drumming males per 100 acres. The corrected estimated ruffed grouse population is 2,016 birds. See the response to Comment 7F (EIS Appendix I) for further explanation.
- Golden-winged warbler (GWWA) population estimates in Tables 4.7.1b and 2.5-7 for Alternative 2 of the DEIS were miscalculated. The corrected estimated population is 293 birds, which would be a decline of 9 birds from the existing condition. This recalculation also affects data in Table 4.7b. The corrected GWWA estimated population decline in Alternative 2 is 3.1 %. Alternative 2 would result in the 3rd highest estimated population compared to the other alternatives.
- McCaslin DEIS Appendix D contained an incomplete statement on page 38 which resulted in confusion to at least one respondent. In the DEIS, the statement reads, *“1,770 acres of potential cerulean warbler habitat was identified within the MPA by GIS habitat analysis”*. This statement is now corrected to read as follows:
*“1,770 acres of potential cerulean warbler habitat **that had proposed harvest treatments** was identified within the MPA by GIS habitat analysis”*.
- Section 4.14 of the McCaslin DEIS concluded that Alternatives 2 and 4 would limit Forest Plan Revision options by creating 260 and 585 acres of temporary openings, respectively. At the time the McCaslin DEIS was being prepared, a Proposed Land and Resource Management Plan for the Chequamegon-Nicolet

was not available. Early assumptions in the McCaslin DEIS were made which were since found to be incorrect.

Since the McCaslin DEIS was issued, a Proposed Chequamegon-Nicolet NF Land and Resource Management Plan and DEIS (4/11/03) was released. A review of Management Areas 2A, 2B, and 2C in the Proposed Plan (pp. 3-7 through 3-10) show that neither level of additional openings would result in any apparent conflict with Management Area goals, standards or guidelines proposed in the Forest Plan revision effort. Management Area goals under revision MA's 2A, 2B and 2C allow for, and desire, some management of early seral habitats. All three MA's allow for small amounts of temporary openings up to 40 acres in size (see response to Comment 10 C, Appendix I).

McCaslin DEIS section 4.14 conclusions are now changed to read: Based upon comparison of effects of McCaslin proposed and alternative actions, there would be no inconsistency or apparent conflict with Alternatives being considered in the effort to refine the 1986 Forest Plans (see McCaslin Project File Section BB).

6. The following text has been added to Section 1.6 – Public Involvement:

“On November 1, 2002, a letter was sent to all of those people who had previously commented on or otherwise showed interest in the McCaslin Project. The letter asked each recipient which format of the McCaslin Draft Environmental Impact Statement they would prefer.

On February 21, 2003, a copy of the DEIS, a summary of the DEIS, or a web address where it could be found was mailed to approximately 113 parties for comment. A Notice of Availability of an EIS was published in the Federal Register on March 7, 2003. Also published on March 7 was a legal notice in the Rhinelander Daily News.

In response to the DEIS, 12 responses were received during the 45-day comment period. Summaries of these comments and responses to those comments are attached to this document.

Modifications were made to the DEIS as a result of some of the public comments and this Final Environmental Impact Statement (FEIS) is the result of these changes.”

7. Appendix I – Responses to Comments on the DEIS has been added to the EIS.

8. Portions of Tables 2.5-3 and 2.5-4 were corrected to read as follows:

Table 2.5-2: Desired Future Conditions, Existing Conditions, and outcomes for MA 1.1/1.2: Mixed forests with a large aspen component (4638 acres)

Vegetative Type	Lakewood Portion (values in percentages)						
	DFC	Existing	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Hardwoods	13	12.4	12.4	14.8	12.4	10.0	13.2
White Birch	8	7.8	7.8	4.7	7.8	6.9	6.0
Aspen	63	48.3	48.3	49.1	48.3	52.2	49.4
Vegetative Type	Laona Portion (values in percentages)						
	DFC	Existing	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
White Spruce	1	18.4	18.4	18.4	18.4	15.0	18.4
Hardwoods	37	27.7	27.7	27.7	29.8	24.5	37.2
Aspen	52	48.6	48.6	48.6	46.4	55.2	39.1

Table 2.5-3: Desired Future Conditions, Existing Conditions, and outcomes for MA 3.1/3.2: Even-aged hardwood forests managed for large sawtimber (13,945 acres)

Vegetative Type	Lakewood Portion (values in percentages)						
	DFC	Existing	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Hardwoods	32	29.4	29.4	31.6	30.2	25.6	30.6
White Birch	4	3.0	3.0	1.7	3.0	2.7	2.7
Aspen	28	49.4	49.4	49.1	48.6	54.1	49.2

Vegetative Type	Laona Portion (values in percentages)						
	DFC	Existing	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
White Spruce	2	2.1	2.1	2.1	2.1	3.4	2.1
Hardwoods	53	66.0	66.0	66.2	67.2	61.5	68.7
Aspen	29	23.6	23.6	23.4	22.4	26.8	20.9

Table 2.5-4: Desired Future Conditions, Existing Conditions, and outcomes for MA 4.1/4.2: Upland softwood forest managed for pulpwood and sawtimber (2,954 acres)

Vegetative Type	Laona Portion (values in percentages)						
	DFC	Existing	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
White Spruce	8	33.4	33.4	33.4	33.4	28.6	33.4
Hardwoods	23	21.9	21.9	21.9	22.9	15.5	22.9
Aspen	20	32.6	32.6	32.6	31.6	43.8	31.6

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Document Structure

The document is organized into four chapters:

Chapter 1. Purpose of and Need for Action: The chapter includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.

Chapter 2. Alternatives, including the Proposed Action: This chapter provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.

Chapter 3. Affected Environment: This chapter describes, by resource, the existing conditions of the analysis area.

Chapter 4. Environmental Consequences: This chapter describes the environmental effects of implementing the proposed action and other alternatives.

Consultation and Coordination: This chapter provides a list of preparers and agencies consulted during the development of the environmental impact statement.

References: Provides literature citation that were used in the DEIS.

Index: The index provides page numbers by document topic

Glossary: Provides definitions for words and concepts described in the DEIS.

Appendices: The appendices provide more detailed information to support the analyses presented in the environmental impact statement.