Chapter 1: Purpose and Need

1.1 ORGANIZATION OF THE ENVIRONMENTAL ANALYSIS

This Final Environmental Impact Statement (EIS) for the Glacier Project is organized into four chapters with appendices, and follows the format established by the Council on Environmental Quality (CEQ) regulations (40CFR 1500-1508) for implementing the National Environmental Policy Act (NEPA). The major sections of the document are as follows:

- **Summary:** Summarizes the Final EIS

- **Chapter 1: Purpose and Need.** This chapter provides introductory material that explains the purpose and need for the proposed action, provides background information about the project area, and describes the issues to be addressed.

- **Chapter 2: Alternatives.** This chapter describes the No-Action Alternative and the action alternatives, including the proposed action, which are analyzed in detail in Chapter 3. This chapter also includes a summary comparison of the environmental effects of the alternatives.

- **Chapter 3: Affected Environment and Environmental Effects.** This chapter discloses the effects of the significant issues raised during the scoping period. It also briefly summarizes the effects likely to occur with the implementation of each alternative.

- **Chapter 4: References.** This chapter provides the names of the resource specialists who contributed to this project, the names of those who were mailed this document, and a list of literature cited. This chapter also provides acronyms and abbreviations, a glossary, and an index.

- **Appendices:** The following appendices are found in this section; A -Vegetation Treatment Definitions, B –Treatment and Unit Specific Design Criteria, C -Past, Present and Reasonably Foreseeable Future Actions, D -Monitoring Plan, E-Operational Standards and Guidelines (not included here), F – Biological Evaluation, G – Biological Assessment

- **Maps:** Alternative 2 is displayed on Maps 1 and 2. Alternative 3 is displayed on Maps 3 and 4 and Alternative 4 is displayed on Maps 5 and 6.

An important consideration in the preparation of this EIS has been to reduce paperwork as specified in 40 CFR 1500.4. The objective is to furnish enough site-specific information to demonstrate a reasoned consideration of the environmental effects of the alternatives and how any adverse effects can be mitigated or avoided. Additional information is available at the Kawishiwi District office and upon request.

The entire planning record will be available at the Kawishiwi Ranger District Office in Ely, Minnesota, upon issuance of the Record of Decision. Other reference documents,

such as the Superior National Forest Land and Resource Management Plan (Forest Plan) and associated Record of Decision and Final Environmental Impact Statement, are available at libraries around the region as well as at all Superior National Forest offices and on the website at www.fs.fed.us/r9/superior.

1.2 INTRODUCTION

The purpose of the Glacier Project is to implement the Forest Plan. The Glacier Project proposed activities are intended to move the Glacier Project Area from its existing condition toward the desired conditions described in the Forest Plan. The proposed activities would manage forest vegetation composition, structure, and spatial patterns (including habitat de-fragmentation), and the transportation system associated with these activities.

Proposed activities include:

- Creating young forest with regeneration harvests
- Improving stand structure and within-stand diversity with intermediate harvests
- Restoring stand conditions without harvest, such as:
  - Planting long-lived tree species to enhance scenery and aquatic habitat
  - Conducting prescribed burns to reduce the future risk of wildfire
- Reduce the amount of management induced edge (fragmentation) while maintaining large mature patches and interior forests
- Managing the minimum road system needed for long-term vegetation management

1.3 PROJECT LOCATION

The Glacier Project Area is located in Lake and St. Louis Counties. Activities would be located in portions of Townships 61, 62, and 63 North, and Ranges 9, 10, and 11 West, and are primarily proposed on National Forest System land. The Vicinity Map (Figure 1-1) displays the location of the project area.

The project area boundary encompasses about 90,000 acres of land with mixed ownership. Approximately 47,000 acres (52 percent) of the entire project area are on National Forest System land located on the Kawishiwi Ranger District of the Superior National Forest.

The project area is approximately 5 to 20 miles east of Ely in the vicinity of the Fernberg Road (County Road 18) and State Highway 1. Some of the larger lakes and rivers in or near the project area are Greenstone Lake, Triangle Lake, Farm Lake, Moose Lake, Fall Lake, and the Kawishiwi River. The project area is outside the Boundary Waters Canoe Area Wilderness (BWCAW); **actions are not proposed within the BWCAW.**

1.4 PURPOSE AND NEED FOR ACTION

An interdisciplinary team of natural resource specialists compared the existing resource conditions with Forest Plan objectives and desired conditions (called a "mid-level assessment"). In the mid-level assessments, resource specialists recommended possible opportunities and management actions to move the project area toward Forest Plan desired conditions. The recommendations identified a need to address the vegetation component in the project area. Kawishiwi District Ranger, Mark E. Van Every, chose to address forest vegetation management as the primary purpose and need and provided direction to the resource specialists to develop and document this proposed action for public review and comment.

Past land uses (including harvesting and exclusion of wildfire) influenced the vegetation composition and structure in the project area. Since the early 1900s, fire suppression and a lack of vegetative management actions that address historical native communities have resulted in a high percentage of forest vegetation communities that are altered from their range of natural variability (RNV). RNV is the range of forest composition and stand structures that would occur across the landscape under the influence of natural conditions and processes, such as weather and fire.

The amount of aspen on National Forest System land in the project area is nearly three times more than what would have been predicted to occur under RNV. Overall, the Glacier Project Area has an over representation of aspen, while jack pine, white pine, red pine, paper birch and spruce-fir forest types are under-represented when compared to the relative amounts that would have occurred under the influence of RNV. The project area also has a much smaller percentage of land in the young age classes (1%) while there is currently two to three times the amount of upland forest in the 50-99 year age classes. The 100-149 year age class is also considerably under-represented in the project area as well as across the forest.

The purpose of the Glacier Project is to maintain and promote native vegetation communities that are diverse, productive, healthy, and resilient by moving the vegetation component toward landscape ecosystem objectives described in the Forest Plan (p. 2-23, O-VG-1). There is a need to manage the amount, distribution and characteristics of vegetation so that it is more representative of the historical range of natural variability. (Forest Plan, D-VG-3, page 2-22) The associated transportation system (including gravel pits) needed for long-term vegetation management in the project area is also addressed.

While developing the proposed action, the interdisciplinary team collaborated with and reviewed data from the State of Minnesota, Lake and St. Louis Counties, and tribal representatives. The primary reasons for collaboration were to try to design similar forest management activities that would occur across ownership boundaries. The interdisciplinary team also proposed road management activities that would meet the multiple needs of land owners and forest visitors.

1.4.1 Purpose and Need for Managing Vegetation

The interdisciplinary team of resource specialists identified a need to move the project area's vegetation towards the Forest Plan's desired conditions for soil, wildlife habitat, scenery, fuels reduction, and aquatic habitat enhancement. This section provides a brief description of these resources along with vegetation management opportunities in the Glacier Project Area. The interdisciplinary team of resource specialists integrated the opportunities to develop a proposed action that contributes to the overall need to manage vegetation.

Landscape Ecosystem

Landscape ecosystems (LE) are ecological areas characterized by their dominant vegetation communities and patterns, which are a product of local climate, glacial topography, dominant soils, and natural processes, such as succession, fire, wind, insects, and disease. (Forest Plan p. 2-55) Vegetation composition, age class, tree species diversity, and management indicator habitat (MIH) objectives are specified for each landscape ecosystem on the Superior National Forest. (Forest Plan p. 2-55 to 2-78).

MIH represent the habitats used by a wide variety of native species, including management indicator species, game species, and a majority of Regional Forester Sensitive Species that are part of that habitat. Management indicator habitats provide a means of monitoring and evaluating the effects of actions on biotic resources, including specific species, communities, habitats and interrelationships among organisms. Managing for these objectives is a key component of providing for the full diversity of desired wildlife habitats.

The current vegetation component in the Glacier Project Area does not meet the Forest Plan desired conditions for species composition, age class, tree species diversity, and management indicator habitats for Landscape Ecosystems. The differences between the existing and desired conditions were used to develop the purpose and need for this project. The interdisciplinary team of resource specialists addressed the following opportunities while developing the proposed action.

a. Vegetation Spatial Patterns/MIH 11 -13 (addresses forest habitat fragmentation; Forest Plan O-VG-19, O-VG-24, O-VG-25, O-VG-20)

- Restore landscape scale vegetation patterns for healthy ecosystems. (Forest Plan D-VG-7b and c)
- Promote mature forest patches and interior forest patches to meet species needs for well distributed habitats and ecosystem needs. (Forest Plan O-VG-17, O-VG-18)
- Continue to reduce edge and increase patch size where appropriate. (Forest Plan O-WL-35, O-VG-21)

b. Vegetation Composition & Age/MIH 1–9 (Forest Plan D-VG-3, D-WL-3e, O-VG-13, O-VG-14)

- Increase young jack pine, aspen, and red/white pine. (Forest Plan O-VG-2)

- Decrease mature and old aspen, jack pine, and mature spruce fir. Some areas need more old spruce fir forest. (Forest Plan O-VG-2)
- Increase young lowland black spruce/tamarack communities. (Forest Plan O-VG-16)
- Increase the acreage of jack pine forest. (Forest Plan O-VG-2, LE objectives)
- Favor long-lived and/or conifer species on nutrient sensitive soils (Ecological Land Types). (Forest Plan D-WS-3, O-WS-1, O-WS-9, O-WS-10)

c. Tree Species Diversity (Forest Plan, LE objectives)

- Maintain and increase, where possible, tree species diversity (for total percentage of trees, not total acres of forest type).

d. Forest Products (Forest Plan D-TM-1, O-TM-1, D-TR-1, O-TR-5)

- Maintain and enhance birch stands for collection of birch bark (improve bark quality, provide medicinal uses, etc.) and to maintain the birch forest type.
- Provide commercial wood for mills in northern Minnesota at a level that is sustainable over time.

Wildlife Habitat Management

The wildlife mid-level analysis displayed numerous vegetation management needs to address differences between the existing project area condition and Forest Plan direction. In brief, there is a need to address habitat needs for game species, management indicator species (specifically, goshawk and white pine), threatened, endangered, and sensitive species (lynx and bald eagle), and Regional Forester Sensitive Species (RFSS). The interdisciplinary team of resource specialists addressed the following opportunities while developing the proposed action.

a. Game Species (Forest Plan D-WL-2, D-WL-3g, O-WL-39)

- Within the context of MIH objectives, provide young forest for moose and deer to browse, older forest for thermal cover and young jack pine for spruce grouse and introduce disturbance into non-forest lands for improved moose habitat.

b. Management Indicator Species: Goshawk and White Pine (Forest Plan D-WL-3e)

- Maintain and improve suitable goshawk habitat. (Forest Plan O-WL-31)
- Proactively plant white pine and manage existing white pine. (O-WL-32, O-WL-33)

c. Threatened, Endangered, and Sensitive Species (TES): Lynx and Bald Eagle (Forest Plan O-WL-8, O-WL-4, O-WL-5, O-WL-6)

- Maintain lynx foraging and denning habitat, especially in the Bogberry, Omaday, and August Lake area. (O-WL-9, O-WL-10)
- Maintain and protect known bald eagle nest sites; promote future nest sites within known and potential eagle territories and habitat. (O-WL-16)

d. Regional Forester Sensitive Species (RFSS) (Forest Plan D-WL-3d, O-WL-18a and b)

- Manage for thermal cover for deer and moose (especially in the Garden Lake Deer Yard) and for foraging habitat for gray wolf prey species (deer, moose, and beaver). (D-WL-3c, O-WL-17)
- Maintain/improve juxtaposition of important habitats/habitat features for Regional Forester Sensitive Species; in particular: boreal owl, great gray owl, three-toed woodpecker, and olive-sided flycatcher. (Forest Plan O-WL-20, O-WL-21, O-WL-23, O-WL-24, O-WL-25)
- Improve habitat conditions for large-leaved sandwort, a Regional Forester Sensitive Species, along Spruce Road where the species is being degraded by non-native invasive species and encroaching vegetation. (O-WL-30)

Scenery Enhancement

In the High Scenic Integrity Objective areas such as Minnesota State Highway 1, Lake County Highways 16 and 18 (Fernberg Trail), Lake County Road 183 (Moose Lake Road), and the Tomahawk Snowmobile Trail, the Forest Plan desired condition (Forest Plan D-SC-1) is that the "scenic quality is protected or enhanced". The interdisciplinary team integrated scenic management vegetation treatment opportunities in these areas while developing the proposed action. Examples include cutting balsam fir and planting red and white pine; and thinning or partial cutting followed by diversity planting.

Fuels Reduction

The Forest Plan states "Treat areas of highest fire risk based on fire regime and condition class to minimize effects of unwanted wildland fire" (O-ID-3). The Lake County Community Wildfire Protection Plan (CWPP) coordinating committee identified areas within the Glacier Project that should be treated to reduce the risk of wildfire to protect life and property and to move the area back to the ecological condition associated with the historical natural fire regime. The interdisciplinary team of resource specialists integrated many of the CWPP proposals into the proposed action.

Aquatic Habitat Enhancement

Forest Plan direction (D-WS-6, O-WS-3, 4, and 5) generally encourages favoring long-lived tree species such as white pine and red pine to benefit both lake and stream riparian and aquatic habitat conditions. Riparian habitat surveys indicated there are some opportunities to enhance aquatic conditions in the project area by promoting recruitment, growth and longevity of long-lived trees species. The interdisciplinary team of resource specialists integrated many of these opportunities into the proposed action.

1.4.2 Purpose and Need for Managing the Transportation System

The proposed action addresses access for long-term vegetation management on National Forest System land, access requests from private landowners, road/trail encroachments, stream crossing rehabilitation, and use of gravel pits.

The existing road system does not meet current or future needs for long-term forest vegetation management. In some locations, the existing roads are not adequate to access areas where management activities are proposed. In other locations, there is an excess of roads. Some of these roads are no longer needed, or will not be needed for many years. Requests from other landowners for use of National Forest System land or roads to access non-federal land should be provided when deemed necessary. Encroachments have been identified where unauthorized access is occurring on National Forest System land. The number and size of gravel pits should be appropriate to maintain the road system.

The transportation system design needs to consider environmental, social and health concerns (Forest Plan, D-TS-1, D-TS-2, and O-TS-1). Road density as it relates to wildlife, and stream crossings as they relate to aquatic conditions, are some of the specific environmental concerns that the interdisciplinary team addressed while developing the proposed action.

The interdisciplinary team integrated the following opportunities and direction from the Forest Plan into the Glacier Project's Proposed Action to address the transportation system needs.

1. Provide the minimum miles of existing or new classified roads that may be needed for long-term vegetation management. (Forest Plan D-TS-2, D-TS-3)
2. Reduce road density in the project area. (D-WL-5, O-WL-7, O-WL-11, O-WL-13)
3. Resolve known road/trail encroachments through decommissioning or placing roads or trails on the National Forest System or under special use authorization. (D-TS-4, D-TS-5, O-TS-6)
4. Respond to non-federal land owners' requests for access across National Forest System land.

   (D-TS-5)
5. Determine which gravel pits to maintain and which gravel pits to rehabilitate. (D-MN-1)
6. Improve stream crossings on roads associated with the proposed action to enhance aquatic conditions. (Forest Plan D-WS-8, O-WS-2)

1.4.3 Purpose and Need as it relates to Forest Plan Management Area Direction

The Forest Plan "zones" the Superior National Forest outside the Boundary Waters Canoe Area Wilderness into ten management areas (MAs). Each MA has its own management desired conditions, objectives, standards, and guidelines, which were outlined in Chapter 3 of the Forest Plan.

Many of the MAs within the Glacier Project Area emphasize a large tree and old forest character. Many stands within these MAs have reached maturity and are not transitioning to long-lived species. The interdisciplinary team integrated the MAs direction into the proposed action by including activities that increased species diversity and long-lived species. Information on the relevant MAs can be found in the scoping report.

1.5 MODIFIED PROPOSED ACTION

The interdisciplinary team developed a proposed action that was included in the Glacier Project Scoping Report. This proposed action follows the Forest Plan objectives for Landscape Ecosystem and Management Area goals and objectives and incorporates the Forest Plan standards and guidelines. Forest Plan direction provides a framework with which to manage vegetation by considering multiple-use and other resource desired conditions. In developing the original proposed action for the scoping report, the team considered the existing condition for age class, species composition, and Management Indicator Habitats in each of the landscape ecosystems, both in the project area and across the forest. This forest-wide vegetation information showed there was an opportunity to create conditions that would move the vegetation towards the desired conditions outlined in the Forest Plan. The team identified possible management actions that would move the area towards the desired conditions. In addition, the team considered Forest Plan direction for other resources in developing the proposed action, such as protecting and, where appropriate, enhancing wildlife habitat, watershed health, soil resources, scenic integrity, riparian habitat, and heritage resources. In particular, this project would:

- Maintain existing patches of mature forest greater than 300 acres that would not lose interior forest qualities during the next ten years. Some harvest is planned around the edges of some large patches to reduce fragmentation and some intermediate harvest (such as thinning or variable thinning) would occur but would not eliminate the interior forest qualities. In addition, forest that would grow into a 300-acre mature patch within ten years was also considered as a mature patch. These patches would provide interior forest habitat for species needing larger tracts of mature forest such as boreal owl, goshawk, and lynx.

- Create one 300-plus-acre patch of young of forest by harvesting a mature patch that does not maintain interior forest characteristics in ten years. Forest successional modeling shows that this patch would succeed to a pole-aged spruce-fir forest and would not have a closed canopy or interior forest conditions. Regenerating this patch at this time would allow it to maintain patch characteristics, although at a younger age. Collaborative efforts between the Minnesota Department of Natural Resources and the Forest Service would result in a large patch of young forest.

- Reduce fragmentation by proposing regeneration harvests adjacent to existing young stands, including those proposed to be harvested on other ownership.

- Maintain and improve habitat needed for threatened, endangered, and sensitive species. The project would defer management action in some stands to maintain habitat for some species such as boreal owl, goshawk, and rare plants. And

proposes management action in other areas to create or enhance habitat, such as riparian management and planting of white pine for future bald eagle nesting habitat, enhancing wolf and lynx habitat by limiting new roads open for public use and creating young forest for prey species such as deer and snowshoe hare.

- Maintain nesting and foraging habitat within the known goshawk territory.
- Create and maintain conifer habitat for three-toed woodpecker and olive-sided flycatcher.
- Maintain stands that currently provide thermal cover, and increases the amount of conifer in other stands in the Garden Lake Deer Yard.

The scoping report was mailed out in early May, and since then, the interdisciplinary team has been developing a modified proposed action that addresses comments received on the Scoping Report and incorporates better field data and specific wildlife needs. Some of the changes to the original proposed action include reducing the amount of regeneration harvest to address lynx habitat, reducing the number of roads that would be added to the system, and deferring many of the intermediate harvest units because on-the-ground conditions would not benefit from a partial harvest at this time. See Section 2.4, Alternatives Considered But Eliminated From Detailed Study for more information on changes made to the original proposed action.

Table 1.5-1 summarizes the primary treatment objectives based on total stand acres. There are three primary types of vegetation management: creating young forest through even-aged management, improving stand conditions through intermediate treatments such as thinning and partial harvest, and improving stand conditions through a variety of treatments such as prescribed burning, biomass removal, and planting. This table displays the total acres of vegetation that would be managed under this modified proposed action (alternative 2).

A. Vegetation Actions

Table 1.5-1 Modified Proposed Action: Vegetation Management (Acres)

Primary Vegetation Treatment Category	Acres
Create young upland and lowland forest through vegetation management treatments such as clearcut with reserves, seed tree, and shelterwood harvest.	5,495
Improve the quality of stand conditions through vegetation management treatments such as thinning, variable thinning, and partial harvest. These treatments would increase structural and species diversity and would not change the age of the stand.	2,579
Improve the quality of stand conditions through a variety of treatments including prescribed burning, biomass removal, mechanical ground disturbance, planting and/or seeding desired species, and removing less desirable species.	5,234
Total Acres Treated	13,308

Table 1.5-2 summarizes some of the other resource objectives that would be met through the vegetation actions described above.

Table 1.5-2. Other Resource Objectives Met Through Vegetation Management	
Landscape Ecosystem Management	
Convert existing aspen forest to jack pine forest.	1,518
Convert existing aspen forest to white pine and red pine forest	135
Improve tree species diversity within harvested areas	1,889
Improve tree species diversity in restoration areas	5,152
Wildlife Habitat Management	
Improve habitat conditions for moose and deer	2,790
Improve habitat conditions for ruffed and spruce grouse	4,681
Increase amount and survival of white pine	7,858
Improve stand complexity for Northern Goshawk	3,766
Promote future nesting habitat for Bald Eagle	3,264
Improve habitat conditions for Large-leaved sandwort	16
Fuel Reduction	
Reduce fuel levels to reduce risk of wildfire	803
Brush disposal sites (Ojibway Summer Home and Moose Lake Road)	2
Scenery Enhancement	
Manage areas of high scenic interest for long-lived species	556
Aquatic Habitat Enhancement	
Enhance riparian habitat through planting long-lived tree species and/or releasing existing long-lived tree species adjacent to streams and lakes	486
Sensitive Soils	
Increase long-lived and/or conifer species on nutrient sensitive soils.	3,042
Forest Products	
Provide sustainable commercial wood products (million board feet)	46

Appendix A contains vegetation treatment definitions. Appendix B contains the list of units that would be managed in the Glacier Project.

B. Transportation System, Trails, Gravel Pits, and Stream Crossings

The modified proposed action for the transportation system is summarized in Table 1.5-3. The interdisciplinary team modified the original proposed action because of public comments and additional field information. Because many of the proposed vegetation units requiring new road are no longer part of the Modified Proposed Action, there is little need for new roads.

The following describes the specific actions that would be made under the modified proposed action.

Table 1.5-3. Proposed Transportation System, Trails, Gravel Pits, and Stream Crossings	
Transportation System	**Modified Proposed Action**
Relocate road to Smitty's Resort on Snowbank Lake to allow for gravel pit expansion and add remaining unauthorized road to managed road system to provide access to Federal land.	0.2 miles of road construction 0.2 miles of road decommissioned 0.4 miles of existing road added to system
Reconstruct Madden Lake Road to improve public access to Madden Lake	0.9 miles
Add existing roads to the system to provide long-term access to State and Federal land.	0.2
Construct new system road to provide long-term access to State and Federal land.	0.8
Use previously constructed temporary road corridor to access vegetation treatment units.	28
Construct new temporary road to access vegetation treatment units.	16
Trails	
Add existing winter-use routes to the trail system	7.5
Gravel Pits	
Gravel pits (Number and total acres of expansion)	6 pits, 0.6 acres
Rehabilitate Gravel pit (Number)	1
Stream Crossings	
Improve Stream Crossings (Number)	3

1.6 PROJECT AREA DESCRIPTION

A. Land Ownership

Figure 1-1 shows land ownership in the project area. The Superior National Forest manages just over half of the land located within the project area.

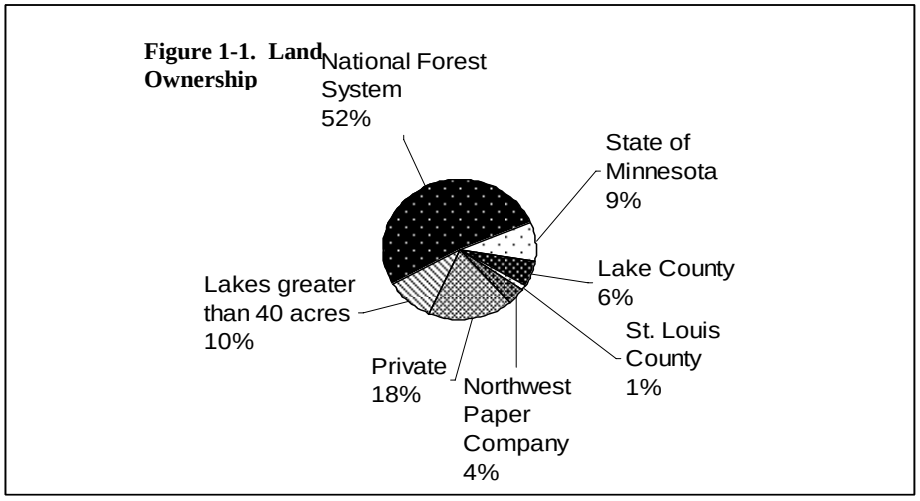

Figure 1-1. Land Ownership

B. Landscape Ecosystems

The Forest Plan used landscape ecosystems to outline management objectives for the forest vegetation composition and age class, tree species diversity and management indicator habitats on National Forest System land. Landscape ecosystems are large ecological areas derived from a combination of individual or groupings of native plant communities, ecological systems, and terrestrial ecological unit inventories. Each landscape ecosystem is characterized by its own dominant vegetation communities and patterns. These characteristics are products of local climate, glacial topography, dominant soils, and natural processes such as fire, wind, insects, and disease. Management in each landscape ecosystem will maintain or restore the forest to conditions more representative of native plant communities and landscape scale patterns. These communities and patterns emulate natural disturbance and other ecological processes. Table 1.6-1 shows the acres of each landscape ecosystem in the project area, and the percentage of the project area in each landscape ecosystem.

Table 1.6-1. Landscape Ecosystems on National Forest System Land in the Glacier Project Area			
Landscape Ecosystem	**Acres in Glacier Area**	**% of Glacier Area**	**% of LE (Forest-wide) in Glacier Project Area**
Jack Pine/Black Spruce LE	24,000	51	9
Dry-mesic Red and White Pine LE	14,000	30	8
Lowland Conifer within Jack Pine/Black Spruce LE and Dry-mesic Red and White Pine LE	4,600	10	4
Cedar, black ash, non-forest lowland, and upland not in a separate LE	4,400	9	n/a
Total Project National Forest System Acres	47,000	100	n/a

C. Management Areas

The Forest Plan "zones" the Superior National Forest outside the BWCAW into ten management areas (MAs). Chapter 3 of the Forest Plan includes the desired conditions, objectives, standards, and guidelines for each MA. The Glacier Project Area includes six of these MAs. The emphasis for each MA in the project area is summarized below.

General Forest MA emphasizes land and resource conditions that provide a wide variety of goods, uses, and services. These include wood products, other commercial products, scenic quality, developed and dispersed recreation opportunities, and habitat for a diversity of terrestrial and aquatic wildlife and fish. Numerous roads open to public travel provide access to resources and roaded recreation opportunities. Non-motorized recreation opportunities also occur. Compared to other Forest Plan management areas, the General Forest MA will have the most amount of young-forest and the largest sized timber harvest units. (Forest Plan, pp. 3-5 – 3-8)

General Forest - Longer Rotation MA emphasizes land and resource conditions that provide a wide variety of goods, uses, and services. These include wood products, other commercial products, scenic quality, developed and dispersed recreation opportunities, and habitat for a diversity of terrestrial and aquatic wildlife and fish species. Numerous roads that are open to public travel provide access to resources and roaded recreation opportunities. Non-motorized recreation opportunities also occur. (Forest Plan, pp. 3-9 – 3-12)

Recreation Use in a Scenic Landscape MA emphasizes land and resource conditions that provide a scenic landscape for recreational activities in natural-looking surroundings and also provides wildlife habitat to enhance recreational wildlife watching opportunities. (Forest Plan, pp. 3-13 – 3-15)

Semi-primitive Motorized Recreation MA emphasizes land and resource conditions that provide recreational opportunities in nearly primitive surroundings where motorized use is

allowed. Most recreation use occurs on lakes, trails, portages, and low standard roads. Interaction among recreational users is low. Forest management enhances recreation and scenic objectives and may occasionally be noticeable to visitors. (Forest Plan, pp. 3-24 – 3-26)

Research Natural Areas MA focus on preserving and maintaining areas for ecological research, observation, genetic conservation, monitoring, and educational activities. The role of these areas in ecological research and monitoring is in providing unique or high quality representative native plant community types. (Forest Plan pp. 3-33 – 3-37)

Unique Biological Areas MA have outstanding biological and other special values. Although this management area preserves these values, these areas are primarily managed for interpretive purposes. The Harris Lake Natural National Landmark is located in the southern portion of the project area on the south side of Highway 1. (Forest Plan pp. 3-33 – 3-37)

Proposed management activities occur in four of these management areas: General Forest, General Forest – Longer Rotation, Recreation Use in a Scenic Landscape, and Semi-primitive Motorized Recreation. No actions are proposed in the Research Natural Areas or Unique Biological Areas MAs.

Table 1.6-2 shows the acres and percent of each management area in the project area on all ownerships. This provides an indication of the management area allocation; however, it is important to note that management activities are not proposed on non-National Forest System land.

Table 1.6-2. Management Areas (MA) within the Glacier Project Area

Management Area	MA Acres in Project Area	Percent of Glacier Project Area
General Forest	36,700	41
General Forest - Longer Rotation	10,900	12
Semi-primitive Motorized Recreation	13,800	15
Recreation Use in a Scenic Landscape	26,900	30
Research Natural Areas	640	1
Unique Biological Areas	650	1

1.7 DECISION TO BE MADE

Mark E. Van Every, Kawishiwi District Ranger, is the responsible official for the Glacier Project. The decisions to be made include:

- Which actions, if any, will be approved?

A decision is expected in 2008. Implementation may begin in 2009. Primary treatments would be started within five years of the responsible official's decision and would likely take several years to complete.

1.8 SCOPING AND PUBLIC INVOLVEMENT

The Glacier Project Scoping Report was mailed to the public on May 21, 2007. Approximately 1,600 addresses were on the initial project mailing list, consisting of landowners within and adjacent to the project area, and other interested agencies and individuals. The report contained the project's Purpose and Need, Proposed Action, additional information on landscape ecosystems and management areas, and information on how to remain on the project mailing list. The scoping report initiated the public involvement process and asked for comments from the public by June 25. Because of some delays in mailing the scoping report, some people did not receive their package in a timely manner. The district ranger sent a letter to the entire mailing list, explaining how to obtain a copy of the scoping report if they did not receive one and extending the comment period to July 16.

Seventy-three written comments were received, in addition to several phone calls where people asked to remain on the mailing list. The comments were all categorized and were used to develop significant issues. Significant issues are described below. In addition, some asked questions about the project or resource management. The questions are addressed in the Response to Scoping Comments in Appendix J.

On October 26, 2007, the district ranger decided to complete an Environmental Impact Statement instead of an Environmental Assessment. A Notice of Intent to prepare an EIS was published in the November 2, 2007 edition of the Federal Register. And a letter was mailed to those who submitted comments on the scoping report, stating that an EIS would be completed. The letter included information on the significant issues raised during scoping, the alternatives that would be analyzed in detail, and information on the indicators that would be used to disclose the effects of the project. Both the Notice of Intent and the public letter asked for additional input on the project.

The Draft EIS was mailed to everyone who submitted comments or asked to remain on the mailing list and to others who have requested copies of EIS documents. The 45-day comment period began when the Notice of Availability was published in the federal register on February 1, 2008. Twenty-five comments were received during the comment period.

The district ranger decided that a new significant issue was raised during the 45-day comment period on the draft EIS and he directed the interdisciplinary team to address this issue in a supplement to the Draft EIS. In addition, the supplement contained additional information on some of the effects analyses and clarified other resource sections. None of the changes were substantial.

The supplement was mailed to the same mailing list used for the draft EIS and included the notice of availability in the Federal Register and a legal notice in the newspaper of record. There was a 45-day comment period. Fourteen comments were received during the supplement comment period. Comments received on the draft and supplement will be addressed and included with the Record of Decision.

1.9 SIGNIFICANT ISSUES

The following are the significant issues and indicators the district ranger decided will be used to develop alternatives for this project. These significant issues are based on the comments the public submitted on the Glacier Project Scoping Report Proposed Action and the Draft EIS. The indicators that will be used to disclose the effects of each significant issue are also included. Additional information on other alternatives considered and on each of these issues can be found in Chapter 3.

1. Vegetation management adjacent to the Boundary Waters Canoe Area Wilderness

The public raised a concern that vegetation management and associated roads would negatively affect wilderness qualities, the visitor's experience, and the ecological integrity of the Boundary Waters Canoe Area Wilderness (BWCAW).

Indicators

There are four wilderness qualities that will be used to disclose the effects of the project on the wilderness and they include: untrammeled, natural, undeveloped, and outstanding opportunities for solitude or a primitive and unconfined type of recreation.

Effects to the natural quality of the BWCAW will be addressed in each resource section in Chapter 3.

2. Lynx

The public expressed concern that harvest and associated road activities have the potential to affect lynx and lynx habitat. In particular, the Glacier Project would create unsuitable habitat and would fragment the connectivity between suitable lynx habitat in the BWCAW, which is considered a lynx refugia. In addition, the new roads and new winter trails would result in compacted travel surfaces, and could result in illegal use of closed roads and increased competition

Indicators

Denning habitat
Connectivity within and between Lynx Analysis Units
Acres and percent of unsuitable habitat
Road and compacted trail density
Acres of snowshoe hare and red squirrel habitat

3. Non-Native Invasive Species

The public expressed a concern that harvest and related road activities have the potential to increase the risk and the spread of non-native invasive species, in particular, into the BWCAW and on some rock outcrop sites.

Indicators

Miles of new upland road
Acres of harvest within 50 feet of a non-native plant occurrence
Acres of harvest adjacent to the BWCAW
Acres of harvest adjacent to rock outcrop areas.

4. Forest Plan Inventoried Roadless Areas
Harvest and associated road activities have the potential to impact Forest Plan inventoried roadless areas, which could adversely impact the roadless characteristics of the areas.

Indicators
Acres of harvest and miles of road within roadless areas.

5. Amount of young forest and mature and over-mature forest
Disagreement exists over the amount of harvest that is proposed and how much should be included at this time to meet Forest Plan decade one objectives. Some commenters expressed a concern that the Forest Service should increase the amount of young forest and decrease the amount of mature and over-mature forest in order to more quickly move the vegetation toward the first decade Forest Plan Landscape Ecosystem objectives and to provide wood products and support local economies. There is also a concern that if the over-mature aspen and jack pine are not harvested now these forest communities may be lost to mortality and would convert to less desirable forest types.

Indicators:
Acres of young forest in project area
Acres of mature and over-mature aspen and jack pine in project area
Vegetation age-class distribution by Landscape Ecosystem
Economic analysis (costs of the various activities and return to the federal government)
Environmental effects of harvest on all resources

1.10 OTHER ANALYSIS

The effects of the project on other relevant resources will also be disclosed in Chapter 3. Additional information on all resources is available in the Glacier Project Record.

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