



United States
Department of
Agriculture
Forest Service

August 2017



Draft Environmental Impact Statement

School Trust Land Exchange

Superior National Forest
Cook, Lake, and St. Louis Counties, Minnesota



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**School Trust Land Exchange
Draft Environmental Impact Statement
Cook, Lake, and St. Louis Counties, Minnesota**

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Abstract: The Forest Service proposes to exchange federal lands of equal value from a pool of approximately 39,000 acres for approximately 31,000 acres of Minnesota School Trust lands. The purpose and need for the land exchange is: the Superior National Forest would acquire land inside the Boundary Waters Canoe Area Wilderness from the State of Minnesota with outstanding wilderness/scenic/recreational opportunities, which will consolidate ownership and eliminate the risk of development or uses incompatible with wilderness values and management. The federal land located outside the BWCAW conveyed to the State of Minnesota would allow the State to manage lands outside the wilderness to generate revenue to benefit Minnesota public schools and consolidate land ownership patterns. One issue driving analysis of alternatives was identified during scoping, the impact of differing management policies of the Forest Service for national forest lands and Minnesota Department of Natural Resources for School Trust lands. One alternative analyzed in detail was developed to address this issue. This was analyzed in detail along with the modified proposed action and no action alternatives. The agency preferred alternative has not been identified at this time.

It is important that reviewers provide their comments at such times and in such a way that they are useful to the Agency's preparation of the EIS. Therefore, comments should be provided prior to the close of the comment period and should clearly articulate the reviewer's concerns and contentions. The submission of timely and specific comments can affect a reviewer's ability to participate in subsequent administrative review or judicial review. Comments received in response to this solicitation, including names and addresses of those who comment, will be part of the public record for this proposed action. Comments submitted anonymously will be accepted and considered; however, anonymous comments will not provide the respondent with standing to participate in subsequent administrative or judicial reviews.

Send Comments to:

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Comments due on DEIS:

60 days from date of publication of the Notice of
Availability in the Federal Register

Summary

This EIS documents a proposed land exchange between the Forest Service, U.S. Department of Agriculture and the Minnesota Department of Natural Resources (MDNR) acting on behalf of the State of Minnesota and as trustee of Permanent School lands.

Purpose and Need for Action

The overall purpose of the land exchange is to help achieve the Desired Condition for land adjustment in the Forest Plan:

D-LA-1 – The amount and spatial arrangement of National Forest System land within the proclamation boundary of the Forest are sufficient to protect resource values and interests, improve management effectiveness, eliminate conflicts, and reduce the costs of administering landlines and managing resources.” (Forest Plan, Land Adjustment, pg. 2-51)

Specifically, the purpose and need for the land exchange is to:

- Achieve the intent of Forest Plan Guideline G-LA-2, which identifies as Priority 1 for acquisition: “Land needed to protect and manage administrative or Congressionally designated, unique, proposed, or recommended areas.” The Superior National Forest would acquire land within the BWCAW with outstanding wilderness/scenic/recreational opportunities that consolidate ownership and eliminate the risk of development or uses incompatible with wilderness values and management. This exchange is part of the long term strategy for acquiring all county and state lands in the BWCAW to resolve the long standing issue of wilderness restrictions limiting use of nonfederal lands. The exchange would also help achieve the intent of Section 5a of the 1964 Wilderness Act.
- Achieve the intent of several other components of Forest Plan Guideline G-LA-2 which provide priorities for land acquisition including habitat for listed species, lands with historic and cultural resources, wetlands, lands with water frontage, and lands with recreational value.
- Allow the State to actively manage lands outside the wilderness to generate revenue to benefit Minnesota Public Schools. This would achieve the intent of Forest Plan Guideline G-LA-3(b) which identifies national forest lands as potentially available for conveyance through exchange: “parcels that will serve a greater public need in State, county, city, or other federal agency ownership.”
- Achieve the intent of Forest Plan Guideline G-LA-3(c) which identifies national forest lands as potentially available for conveyance through exchange: “inaccessible parcels isolated from other National Forest System land and intermingled with private land”.
- Achieve the intent of Forest Plan Guideline G-LA-3(e) which identifies national forest lands as potentially available for conveyance through exchange: “Tracts that are difficult or expensive to manage due to rights-of-way problems, complex special use permits, or tracts with significant property boundary issues.”
- Achieve the intent of Forest Plan Guideline G-LA-3(d) which identifies national forest lands as potentially available for conveyance through exchange: “Parcels that would reduce the need for landline maintenance and corner monumentation, result in more logical and efficient management, and improve land ownership pattern.”

The land exchange is also needed to respond to Minnesota Statute 92.80 which specifically addresses this exchange:

92.80 EXPEDITED EXCHANGE OF LAND WITHIN BOUNDARY WATERS CANOE AREA WILDERNESS FOR FEDERALLY OWNED LANDS.

Subdivision 1. Purpose and scope.

(a) The purpose of this section is to expedite the exchange of a portion of the state-owned lands located within the Boundary Waters Canoe Area Wilderness. The state owns 116,559 acres of land within the wilderness area, 86,295 acres of which are School Trust land.

(b) Exchange of School Trust lands within the Boundary Waters Canoe Area Wilderness for federally owned lands located outside the wilderness area will preserve the spectacular wild areas while producing economic benefits for Minnesota's public schools.

A working group appointed by the Minnesota Legislature's former Permanent School Fund Advisory Committee developed ideas to inform a land exchange proposal. In a letter dated August 22, 2012, the MDNR formally proposed a land exchange consistent with the collaborative framework and legislation.

These developments provide additional reasons for 'why here' and 'why now'. After reviewing the feasibility of the land exchange proposal, the Forest Service accepted the MDNR proposal. An Agreement to Initiate was signed by the Forest Service and MDNR in January 2015 that outlines the intent to analyze this land exchange in cooperation with the MDNR.

Modified Proposed Action

The Forest Service proposes to acquire approximately 31,057 acres of School Trust lands within the BWCAW in exchange for an equal value of federal lands to be selected from a pool of approximately 39,467 acres. The final acres to be exchanged would reflect equal market values based on an appraisal compliant with federal standards. The possibility that all of the federal land will be necessary to achieve equal value, or that the federal land list of approximately 39,467 acres will be inadequate, is relatively low.

The Forest Service would also transfer authority and administration of special use permits located within the federal parcels to the MDNR. Many of these permits and easements involve both short and long-term authorizations for roads and trails, phone lines, electrical lines, fiber optics, and a county canister transfer station. These permits are located across the Forest and are administered by five ranger districts. On parcels where the Forest Service manages recreation facilities and trails, easements would be retained.

The State Constitution requires the State to reserve mineral rights in an exchange of School Trust lands. (Minn. Const. Art. XI Section 10.) The United States would reserve mineral rights on the 150 parcels where federal minerals occur.

Decisions to be Made

The decisions to be made are:

- Whether to authorize an exchange;
- If an exchange is authorized, which lands and under what conditions.

Scoping

In February 2015, the Forest Supervisor initiated a scoping process for this project. The scoping period lasted until May 15, 2015 and included notification to a wide range of interested persons, adjacent landowners, state, local and tribal government, and organizations. In addition, five open houses were held in the project area and Saint Paul, MN.

Over 1,600 comment letters were received from interested persons, adjacent landowners, state, local and tribal government, and organizations. Upon review of scoping comments, the Forest Supervisor decided to prepare an EIS.

A Notice of Intent to prepare an EIS was published in the Federal Register on August 28, 2015. An additional scoping period lasted until September 30, 2015. Several additional scoping comments were received.

Issues and Alternatives

Analysis of scoping comments indicated the following issue that drove development of alternatives considered in detail. This issue is described as follows:

Issue statement: The proposed land exchange would result in effects to ecological and social resources due to differences between Forest Service management policies for national forest lands and MDNR management policies for School Trust lands; specifically as pertaining to the sale of lands to private parties; and potential effects to wildlife habitat, heritage resources, and water frontage land.

One alternative considered in detail was developed to address this issue: Alternative 3. Alternative 3 addresses the issue by dropping candidate federal parcels from the exchange that were identified for the potential for effects related to the real estate management, wildlife habitat, heritage resources, and water frontage land. Alternative 3 proposes approximately 23,136 acres of candidate federal parcels for exchange.

In addition, Alternative 1 (No Action) and Alternative 2 (Modified Proposed Action) are analyzed. Alternative 1 is analyzed as required by CEQ regulations, and provides a basis for comparing the effects of not taking action and taking action. Alternative 2 is the modified proposed action. A final decision may be made within the range of alternatives (36 CFR 220.4(c) (5)).

A Forest Service preferred alternative has not been identified at this time.

Comparison of Alternatives and Potential Impacts by Resource

Table ES-1 displays how the Alternatives meet the purpose and need. Table ES-2 displays a summary of resource effects by Alternative. Additional details are in the EIS at Chapter 3 and the Appendices.

Table ES-1. How Alternatives meet the Purpose and Need

Purpose and Need Element	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
Acquire lands in the BWCAW, meet the intent of applicable law and protect them from uses incompatible with wilderness management	<ul style="list-style-type: none"> Meets by acquiring approximately 31,057 acres of School Trust lands in the BWCAW. 	<ul style="list-style-type: none"> Meets by acquiring approximately 31,057 acres of School Trust lands in the BWCAW. 	<ul style="list-style-type: none"> Fails to meet; acquires no School Trust lands in the BWCAW.
Acquire lands that meet priorities identified in G-LA-2, including wetlands, waterfront and recreation value	<ul style="list-style-type: none"> Meets by acquiring approximately 31,057 acres of School Trust lands in the BWCAW with wetlands, waterfront and recreation value. 	<ul style="list-style-type: none"> Meets by acquiring approximately 31,057 acres of School Trust lands in the BWCAW with wetlands, waterfront and recreation value. 	<ul style="list-style-type: none"> Fails to meet; acquires no lands.
Convey federal land to the State of Minnesota which allows for the MDNR to actively manage the land to generate revenue for the Minnesota public schools.	<ul style="list-style-type: none"> Meets by conveying federal land of equal value from a pool of 39,467 acres which the MDNR can manage to generate revenue for the Minnesota public schools. 	<ul style="list-style-type: none"> Meets to a moderate degree, but less well than Alternative 2 due to dropping some lands from the exchange which are high priority for the MDNR to acquire. 	<ul style="list-style-type: none"> Fails to meet; conveys no land which the MDNR can manage to generate revenue for the Minnesota public schools.
Reduce or eliminate special use permits	<ul style="list-style-type: none"> Meets by reducing and/or eliminating over 30 special use permits or easements. 	<ul style="list-style-type: none"> Meets to a lesser degree than Alternative 2 by reducing and/or eliminating 15 special use permits or easements. 	<ul style="list-style-type: none"> Fails to meet; does not reduce or eliminate special use permits.

Table ES-1. How Alternatives meet the Purpose and Need

Purpose and Need Element	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
Consolidate federal and state ownership patterns	<ul style="list-style-type: none"> Meets due to design of modified proposed action to consolidate federal and state ownership patterns by eliminating 134 NFS isolated parcel groupings. 	<ul style="list-style-type: none"> Meets to a lesser degree than Alternative 2 by eliminating 96 NFS isolated parcel groupings. 	<ul style="list-style-type: none"> Fails to meet; current ownership pattern is unchanged.
Reduce boundary management and landline costs	<ul style="list-style-type: none"> Meets due to reduction in 437 miles of boundary outside the BWCAW managed by the Forest. 	<ul style="list-style-type: none"> Meets to a lesser degree than Alternative 2 by a reduction in 254 miles of boundary outside the BWCAW managed by the Forest. 	<ul style="list-style-type: none"> Fails to meet; current boundary managed is unchanged.

Table ES-2. Comparison of Alternatives by resource effects

Resource	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
BWCAW	<ul style="list-style-type: none"> United States acquires approximately 31,057 acres of School Trust lands in the BWCAW; meeting the intent of applicable law and protecting them from uses incompatible with wilderness management. Wilderness character preserved, meets Section 4(b) of the Wilderness Act. 	<ul style="list-style-type: none"> United States acquires approximately 31,057 acres of School Trust lands in the BWCAW; meeting the intent of applicable law and protecting them from uses incompatible with wilderness management. Wilderness character preserved, meets Section 4(b) of the Wilderness Act. 	<ul style="list-style-type: none"> The analysis assumes that no physical change would occur to BWCAW School Trust lands under the No Action Alternative other than the continuation of natural ecological processes and wilderness uses allowed by the Forest Plan and existing law. However, while not considered reasonably foreseeable, the possibility exists that uses of the School Trust lands inside the BWCAW could be proposed that are incompatible with wilderness management. Purpose and Need to consolidate federal ownership in BWCAW not met.
Recreation	<ul style="list-style-type: none"> Uses of existing recreation facilities on candidate federal parcels would continue after exchange. Development of real estate highest and best use parcels could change ROS class and scenery. Forest-wide recreation opportunities would be similar to existing condition. 	<ul style="list-style-type: none"> Uses of existing recreation facilities on candidate federal parcels would continue after exchange. Forest-wide recreation opportunities would be similar to existing condition. 	<ul style="list-style-type: none"> No changes from current management situation on lands proposed for exchange. Forest-wide recreation opportunities would be similar to existing condition.

Resource	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
1854 Treaty Rights and Tribal Interests	<ul style="list-style-type: none"> • Potential for loss of access and consultation on ‘real estate highest and best use’ candidate federal parcels that may ultimately be sold to private parties (10,858 acres). • Access and opportunities for consultation with State of Minnesota instead of the Forest Service on lands conveyed to the State. 	<ul style="list-style-type: none"> • Minimal or no loss of access due to sale of land to private parties because ‘real estate highest and best use’ candidate federal parcels not included in Alternative 3. • Access and opportunities for consultation with State of Minnesota instead of the Forest Service on lands conveyed to the State. 	<ul style="list-style-type: none"> • No changes from current management situation on lands proposed for exchange. Access and federal consultation opportunities would continue.
Heritage Resources	<ul style="list-style-type: none"> • Some heritage sites and areas with high potential for heritage sites conveyed to the State. • Project-specific programmatic agreement would provide same protections on conveyed lands as under Forest Service ownership. 	<ul style="list-style-type: none"> • Fewer heritages sites and areas with high potential for heritage sites conveyed to the State than under Alternative 2. • Project-specific programmatic agreement would provide same protections on conveyed lands as under Forest Service ownership. 	<ul style="list-style-type: none"> • No changes from current management situation on lands proposed for exchange.
Minerals	<ul style="list-style-type: none"> • No reasonably foreseeable and substantial difference between alternatives; minerals exploration and development in an environmentally sound manner is an allowable use on the candidate federal parcels whether the surface is managed by the Forest Service or MDNR. • Mineral ownership would not change. 	<ul style="list-style-type: none"> • No reasonably foreseeable and substantial difference between alternatives; minerals exploration and development in an environmentally sound manner is an allowable use on the candidate federal parcels whether the surface is managed by the Forest Service or MDNR. • Mineral ownership would not change. 	<ul style="list-style-type: none"> • No changes from current management situation on lands proposed for exchange.

Resource	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
Vegetation	<ul style="list-style-type: none"> Scale of land ownership change would result in minimal effects to Landscape Ecosystem objectives for forest composition. 	<ul style="list-style-type: none"> Scale of land ownership change would result in minimal effects to Landscape Ecosystem objectives for forest composition and would be less than in Alternative 2. 	<ul style="list-style-type: none"> No changes from current management situation on lands proposed for exchange.
Non-native invasive species (NNIS)	<ul style="list-style-type: none"> Risk of NNIS spread due to real estate development and forestry management. 	<ul style="list-style-type: none"> Risk of NNIS spread due to forestry management; less risk than Alternative 2. 	<ul style="list-style-type: none"> No changes from current management situation on lands proposed for exchange. Least risk of NNIS spread.
Threatened, Endangered and Sensitive (TES) Species	<ul style="list-style-type: none"> May affect, likely to adversely affect wolf, lynx and northern-long eared bat, and lynx and wolf critical habitats. Would not cause jeopardy. May affect RFSS species; not likely to lead towards a trend towards federal listing. 	<ul style="list-style-type: none"> May affect, likely to adversely affect wolf, lynx and northern-long eared bat. Would not cause jeopardy. May affect RFSS species; not likely to lead towards a trend towards federal listing. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange.
Wildlife Habitat	<ul style="list-style-type: none"> Conveys some high and outstanding MBS-surveyed biodiversity areas to the State; subsequent management could reduce biodiversity ranking except for 'high conservation value forest highest and best use' candidate federal parcels. 	<ul style="list-style-type: none"> Drops some high and outstanding MBS-surveyed biodiversity areas from the exchange; likely fewer effects to high and outstanding MBS-surveyed areas than in Alternative 2. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange; Forest Service management could change biodiversity ranking on some MBS-surveyed areas.

Resource	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
Wetlands and Floodplains	<ul style="list-style-type: none"> Additional candidate federal parcels with wetland acres need to be dropped from Alternative 2 to meet Executive Order 11990. Complies with Executive Order 11988 for floodplains. 	<ul style="list-style-type: none"> Would likely result in a net gain of wetlands to the federal estate, complying with Executive Order 11990. Complies with Executive Order 11988 for floodplains. 	<ul style="list-style-type: none"> No changes from current management situation for wetlands and floodplains on lands proposed for exchange.
Soils and Riparian	<ul style="list-style-type: none"> Effects to soils would be minimized and avoided with MFRC guidelines Some water frontage conveyed to the State could subsequently be sold for development. 	<ul style="list-style-type: none"> Effects to soils would be minimized and avoided with MFRC guidelines Water frontage conveyed is minimized; minimal or no real estate development. 	<ul style="list-style-type: none"> No changes from current management situation for soils or water frontage on lands proposed for exchange.
Lands	<ul style="list-style-type: none"> Improves land ownership configuration outside the BWCAW and acquires Priority 1 lands in the BWCAW. 	<ul style="list-style-type: none"> Improves land ownership configuration outside the BWCAW less than Alternative 2. Acquires Priority 1 lands in the BWCAW. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange.
Special Uses	<ul style="list-style-type: none"> About 30 special use permits would be transferred to MDNR management. 	<ul style="list-style-type: none"> About 15 special use permits would be transferred to MDNR management. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange.

Resource	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
Environmental Justice	<ul style="list-style-type: none"> Potential loss of access to Tribes on candidate federal parcels with 'real estate highest and best use' (10,858 acres). 	<ul style="list-style-type: none"> Minimal or no loss of access due to sale of land to private parties because 'real estate highest and best use' candidate federal parcels not included in Alternative 3. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange.
Human Health	<ul style="list-style-type: none"> Regulations managing for human health would not vary substantially by alternative. 	<ul style="list-style-type: none"> Regulations managing for human health would not vary substantially by alternative. 	<ul style="list-style-type: none"> Regulations managing for human health would not vary substantially by alternative.
Air Quality	<ul style="list-style-type: none"> Regulations managing for air quality would not vary substantially by alternative. 	<ul style="list-style-type: none"> Regulations managing for air quality would not vary substantially by alternative. 	<ul style="list-style-type: none"> Regulations managing for air quality would not vary substantially by alternative.
Climate Change	<ul style="list-style-type: none"> Both the Forest Service and MDNR manage in consideration of climate change. 	<ul style="list-style-type: none"> Both the Forest Service and MDNR manage in consideration of climate change. 	<ul style="list-style-type: none"> No change from current management situation.
Economics	<ul style="list-style-type: none"> Candidate federal parcels would be conveyed to the State to be managed to generate revenue for Minnesota public schools. 	<ul style="list-style-type: none"> Candidate federal parcels would be conveyed to the State to be managed to generate revenue for Minnesota public schools; however the candidate federal parcel list is lower priority for MDNR than Alternative 2. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange.

Resource	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
Roadless Areas	<ul style="list-style-type: none"> One candidate federal parcel includes acreage in a Roadless Area Conservation Rule (RACR) area. Conveyance of this parcel could ultimately result in effects to roadless characteristics of remaining federal lands in the RACR. 	<ul style="list-style-type: none"> No change from current management situation. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange.
Public Involvement and Administrative Review	<ul style="list-style-type: none"> Both the Forest Service through NEPA and MDNR through MEPA provide for public involvement in making management decisions. 	<ul style="list-style-type: none"> Both the Forest Service through NEPA and MDNR through MEPA provide for public involvement in making management decisions. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange.

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- Appendix J-Guide to Arc GIS Online for School Trust Land Exchange

The appendices are available at the School Trust Land Exchange project website

<https://www.fs.usda.gov/goto/Superior/SchoolTrustLandExchange>

List of Maps

See Appendix H and ArcGIS Online web map at

<https://www.fs.usda.gov/goto/Superior/SchoolTrustLandExchange/InteractiveMap>

Chapter 1 Purpose of and Need for Action

1.1 Document Structure

The Superior National Forest (SNF) has prepared this Environmental Impact Statement in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal laws and regulations. This Environmental Impact Statement (EIS) discloses the direct, indirect, and cumulative impacts that would result from the proposed action and alternatives. The document is organized into four chapters:

- *Chapter 1. Purpose and Need for Action:* The chapter includes information on the history of the project proposal, the purpose of and need for the project, the agency's proposal for achieving that purpose and need and the decision framework. This section also details how the SNF 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 issues raised by the public and other agencies. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- *Chapter 3. Affected Environment and Environmental Consequences:* This chapter describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by issue and resource.
- *Chapter 4. Consultation and Coordination, Index and References:* This chapter provides a list of preparers and agencies consulted during the development of the environmental impact statement, an index and a list of references used in the EIS.
- *Appendices:* The appendices provide more detailed information to support the analyses presented in the environmental impact statement. The Appendices are attached as separate documents to the EIS and are available at <https://www.fs.usda.gov/goto/Superior/SchoolTrustLandExchange>
 - Appendix A-Scoping Comment Disposition
 - Appendix B-Land Lists
 - Appendix C-Special Use Permits
 - Appendix D-Cumulative Actions
 - Appendix E-Public Interest Factors Summary
 - Appendix F-Draft Biological Evaluation
 - Appendix G-Draft Biological Assessment
 - Appendix H-Maps
 - Appendix I-MDNR Priority List for Acquisition of Candidate Federal Parcels
 - Appendix J-User Guide to ArcGIS Online (AGOL) for School Trust Land Exchange. AGOL is a web-based mapping tool displaying the lands proposed for exchange, and a variety of resources that overlay those parcels. This web mapping tool displays spatial information to inform public review and comment on the Draft EIS. The AGOL for the School Trust Land Exchange EIS is available at

<https://www.fs.usda.gov/goto/Superior/SchoolTrustLandExchange/InteractiveMap>

Additional supporting documentation may be found in the project planning record located at the Supervisor's Office, Duluth, MN. In order to eliminate repetitive discussion and documentation, the School Trust Land Exchange EIS tiers to the 2004 Superior National Forest Plan Final EIS.

A cadastral survey is a survey that creates, marks, defines, retraces or re-establishes the boundaries and subdivisions of federal lands of the United States. Public lands in northeastern Minnesota were first surveyed under the direction of the United States General Land Office (GLO) between 1858 and 1907 to define land units for conveyance by the US. The survey plat is the graphic drawing of the boundaries involved with a particular survey project, and contains the official acreage to be used in the legal description. In this EIS, GLO acres represent the official acreages associated with the GLO surveys. As such, GLO acreages are being used to define the real estate transaction if a land exchange is approved. The analyses of effects presented in Chapter 3 is based upon Geographic Information System (GIS) data. GIS values indicate the size of the parcels as computed geometrically using mapping software, which may be different than the GLO legal acreage. Unless noted as GLO acres, all values shown in the EIS are GIS values. See Appendix B-Land Lists for GLO acres.

1.2 Background

Development of the Proposal:

This EIS documents a proposed land exchange between the Forest Service, U.S. Department of Agriculture and the Minnesota Department of Natural Resources (MDNR) acting on behalf of the State of Minnesota and as trustee of school trust fund lands.

The State of Minnesota and the Superior National Forest (SNF) are working together on a mutually beneficial strategy to transfer ownership of approximately 83,000 acres of School Trust lands, located within the Boundary Waters Canoe Area Wilderness (BWCAW), to federal ownership through a land exchange and a land purchase. The State's mandate for School Trust lands is to manage them on behalf of the Permanent School Fund to support public education. In the BWCAW, this mandate directly contradicts the wilderness laws and regulations implemented by the Forest Service. The intent of the School Trust Land Exchange is to convey lands without wilderness restrictions to the State so that it may fulfill its mandate on School Trust lands. At the same time, the Forest Service would consolidate ownership within the BWCAW to protect the wilderness resource.

For more information about School Trust land management, see http://dnr.state.mn.us/aboutdnr/school_land/index.html

The controversy over the School Trust lands within the BWCAW is more than 40 years old. After numerous attempts to resolve it, we are finally on a course to positively address the controversy. Beginning in 2010, the Minnesota Legislature's former Permanent School Fund Advisory Committee appointed a working group with a cross-section of interested stakeholders to develop a strategy to meet the land management goals of both the State and Forest Service. An important outcome of this collaborative process was legislation signed by the Governor of Minnesota on April 27, 2012, to expedite a land exchange between the federal government and the State, as well as to give the State authority to sell School Trust lands within the BWCAW to the United States (Minn. Stat. 92.80 and 92.82). This legislation also identified a priority area for federal parcels to be considered for exchange which is displayed on the Forest-wide maps identifying parcels proposed for exchange (see Appendix H).

In a letter dated August 22, 2012, the MDNR formally proposed a land exchange consistent with the collaborative framework and legislation. The land exchange would exchange one-third of state-offered lands in the BWCAW, approximately 31,000 acres, for an equal value of federal lands to be selected from

a pool of approximately 39,000 acres.

The overall goal for School Trust lands in the BWCAW includes purchasing the remaining two-thirds (approximately 53,000 acres). An exchange and a purchase, with the majority of the lands planned for purchase, helps meet the intent of Forest Plan Guideline G-LA-5 (2004 Superior National Forest Land and Resource Management Plan, hereafter Forest Plan, p. 2-52). For more information on the role of the purchase, see sections 2.3.1 and 2.3.2 of the EIS.

A feasibility analysis of the proposed land exchange was conducted. In that screening process, an interdisciplinary team of Forest Service specialists reviewed federal parcels identified as candidates for exchange and made recommendations on which parcels should be considered, which to drop from the exchange, and which parcels required further evaluation. Several parcels were dropped from the land list at the recommendation of the Forest Service interdisciplinary team; thereby avoiding several potential resource effects which might occur under School Trust management. Specifically, several federal parcels in shoreline areas which could be considered desirable for development were dropped from the exchange. Several parcels were also dropped following initial tribal consultation to address tribal concerns.

An Agreement to Initiate the land exchange was signed by MDNR Commissioner Tom Landwehr and Forest Supervisor Brenda Halter in January 2015.

1.3 Project Area

Maps of the proposed action may be found in Appendix H, posted on the Forest Service web page at <https://www.fs.usda.gov/goto/Superior/SchoolTrustLandExchange>. There is a Forest-wide map showing all of the parcels proposed for exchange and more detailed maps of the federal lands.

In addition, ArcGIS Online (AGOL)-a web-based mapping tool displaying the lands proposed for exchange and a variety of resources that overlay those parcels is available to review. This web mapping tool displays spatial information to inform public review and comment on the Draft EIS. The AGOL for the School Trust Land Exchange EIS is available at <https://www.fs.usda.gov/goto/Superior/SchoolTrustLandExchange/InteractiveMap>

The federal lands consist of 984 parcels totaling approximately 39,467 acres¹ scattered throughout Cook, Lake and Saint Louis Counties outside the BWCAW. A land list of federal land is shown in Appendix B. The list in Appendix B is not in priority order. If all lands are not needed to equal the value of the State lands, parcel(s) will be dropped from the exchange. The environmental analysis disclosed in the range of alternatives in the EIS, comments received, and regulatory and equal value requirements will inform the decision by the Forest Supervisor on what parcels to include if a decision is made to authorize a land exchange.

The nonfederal lands are school trust fund lands, held in trust by the State for the school districts of the Minnesota. The State lands consist of 831 parcels totaling approximately 31,057 acres², are widely scattered, noncontiguous lands distributed throughout the Boundary Waters Canoe Area Wilderness (BWCAW). Some of these lands are easily accessible by water and portages, other more remote parcels have no water, trail or portage access. There are no structures or developed campsites associated with any

¹ This number has been updated from the 39,000 acre figure displayed in the scoping package because it is based on current GIS calculations. The candidate federal parcels in the Modified Proposed Action are the same as those displayed in the scoping package.

² This number has been updated from the 30,000 acre figure displayed in the scoping package based on adjustments to which School Trust lands in the BWCAW would be exchanged in the Modified Proposed Action, and because it is based on current GIS calculations.

of the state lands though some of these lands could be used by the occasional camper. A land list of candidate state parcels is shown in Appendix B.

1.4 Purpose and Need for Action

The overall purpose of the land exchange is to help achieve the Desired Condition for land adjustment in the Forest Plan:

D-LA-1 – The amount and spatial arrangement of National Forest System land within the proclamation boundary of the Forest are sufficient to protect resource values and interests, improve management effectiveness, eliminate conflicts, and reduce the costs of administering landlines and managing resources.” (Forest Plan, Land Adjustment, pg. 2-51)

Specifically, the purpose and need for the land exchange is to:

- Achieve the intent of Forest Plan Guideline G-LA-2, which identifies as Priority 1 for acquisition: “Land needed to protect and manage administrative or Congressionally designated, unique, proposed, or recommended areas.” The Superior National Forest would acquire land within the BWCAW with outstanding wilderness/scenic/recreational opportunities that consolidate ownership and eliminate the risk of development or uses incompatible with wilderness values and management. This exchange is part of the long term strategy for acquiring all county and state lands in the BWCAW to resolve the long standing issue of wilderness restrictions limiting use of nonfederal lands. The exchange would also help achieve the intent of Section 5a of the 1964 Wilderness Act.
- Achieve the intent of several other components of Forest Plan Guideline G-LA-2 which provide priorities for land acquisition including habitat for listed species, lands with historic and cultural resources, wetlands, lands with water frontage, and lands with recreational value.
- Allow the State to actively manage lands outside the wilderness to generate revenue to benefit Minnesota Public Schools. This would achieve the intent of Forest Plan Guideline G-LA-3(b) which identifies national forest lands as potentially available for conveyance through exchange: “parcels that will serve a greater public need in State, county, city, or other federal agency ownership.”
- Achieve the intent of Forest Plan Guideline G-LA-3(c) which identifies national forest lands as potentially available for conveyance through exchange: “inaccessible parcels isolated from other National Forest System land and intermingled with private land”.
- Achieve the intent of Forest Plan Guideline G-LA-3(e) which identifies national forest lands as potentially available for conveyance through exchange: “Tracts that are difficult or expensive to manage due to rights-of-way problems, complex special use permits, or tracts with significant property boundary issues.”
- Achieve the intent of Forest Plan Guideline G-LA-3(d) which identifies national forest lands as potentially available for conveyance through exchange: “Parcels that would reduce the need for landline maintenance and corner monumentation, result in more logical and efficient management, and improve land ownership pattern.”

The land exchange is also needed to respond to Minnesota Statute 92.80 which specifically addresses this exchange:

92.80 EXPEDITED EXCHANGE OF LAND WITHIN BOUNDARY WATERS CANOE AREA WILDERNESS FOR FEDERALLY OWNED LANDS.

Subdivision 1. Purpose and scope.

(a) The purpose of this section is to expedite the exchange of a portion of the state-owned lands located within the Boundary Waters Canoe Area Wilderness. The state owns 116,559 acres of land within the wilderness area, 86,295 acres of which are School Trust land.

(b) Exchange of School Trust lands within the Boundary Waters Canoe Area Wilderness for federally owned lands located outside the wilderness area will preserve the spectacular wild areas while producing economic benefits for Minnesota's public schools.

A working group appointed by the Minnesota Legislature's former Permanent School Fund Advisory Committee developed ideas to inform a land exchange proposal. In a letter dated August 22, 2012, the MDNR formally proposed a land exchange consistent with the collaborative framework and legislation.

These developments provide additional reasons for 'why here' and 'why now'. After reviewing the feasibility of the land exchange proposal, the Forest Service accepted the MDNR proposal. An Agreement to Initiate was signed by the Forest Service and MDNR in January 2015 that outlines the intent to analyze this land exchange in cooperation with the MDNR.

1.5 Modified Proposed Action

The Proposed Action described in the scoping package was modified by adjusting which School Trust lands inside the BWCAW would be included in the exchange. Specifically, about 5,013 acres of School Trust lands located in the Trout Lake unit of the BWCAW were added to the exchange, while about 5,006 acres of School Trust lands located in the Knife Lake border area of the BWCAW were removed from the exchange and would be purchased instead. This modification was made to better position the land exchange to comply with Executive Order 11990-Wetlands. The School Trust lands proposed for exchange in the Modified Proposed Action represents an increase of about 2,002 wetland acres as compared to the Proposed Action. See Section 3.9 for more information on wetlands. All of the School Trust lands proposed for exchange in the Modified Proposed Action have low mineral potential as shown in the Mineral Character Determination (see Section 3.6).

In the Modified Proposed Action, the Forest Service proposes to exchange federal lands of equal value from a pool of approximately 39,467 acres for approximately 31,057 acres of School Trust lands. The federal land list is shown in Appendix B and is not listed in priority order. Maps of the federal lands are in Appendix H. The Modified Proposed Action includes analysis of exchanging all 39,467 acres. However, if a decision is made to proceed with a land exchange, the possibility that all of the federal land will be necessary or that the federal land list will be inadequate is relatively low. The final configuration of parcels would reflect equal market values based on an appraisal compliant with federal standards, as well as consideration of public comments, resource effects displayed in the range of alternatives, and compliance with the regulations described in Section 1.6 Decision Framework and other applicable requirements.

The candidate federal parcels would become School Trust lands administered by the MDNR. Potential 'highest and best use' of candidate federal parcels by the MDNR for School Trust lands management are shown in Appendix I and are displayed in the maps in Appendix H. The highest and best use reflects a screening categorization by the MDNR based on characteristics of each parcel (e.g. road frontage). The

highest and best uses have been identified as: forestry, forestry-high conservation value forest, minerals³, and real estate. The highest and best use designations do not mean such a use will occur if the land exchange is completed. No specific actions or projects are reasonably foreseeable on the exchange lands other than some timber harvest proposed by the Forest Service (see Appendix D). Instead, the highest and best use designations identify uses that are considered possible and would best meet school trust management objectives on the candidate federal parcels. In the case of candidate federal parcels identified for minerals or real estate highest and best use, these lands would be managed for forestry by MDNR until, if ever, a mineral or real estate use is actually proposed and authorized.

The highest and best uses identified are used to inform the effects analysis in Chapter 3. The analysis evaluates differences between policies and potential management uses of the Forest Service and MDNR on the lands proposed for exchange. See Section 3.1 for the analysis framework.

The Forest Service would also transfer authority and administration of special use permits located within the federal parcels to the MDNR. Many of these permits and easements involve both short and long-term authorizations for roads and trails, phone lines, electrical lines, fiber optics, and a county canister transfer station. These permits are located across the Forest and are administered by five ranger districts. See Appendix C for a list of the affected permits. On parcels where the Forest Service manages existing trails or other recreation facilities, easements would be retained and allow for continuation of existing uses.

The land list for the state lands in the BWCAW is shown in Appendix B and maps of the state lands are shown in Appendix H.

The State Constitution requires the State to reserve mineral rights in an exchange of School Trust lands. (Minn. Const. Art. XI Section 10.) The United States would reserve mineral rights on the 150 parcels where federal minerals occur.

1.6 Decision Framework

Most of the public lands involved in the School Trust Land Exchange were acquired by the United States under the authority of the Weeks Act of 1911 (see Appendix B) and would be exchanged under that same authority. Other authorities that would govern the Land Exchange between the State of Minnesota and the United States include the Federal Land Policy and Management Act of 1976 (43 USC §§ 1716-1717) (FLPMA) and the Federal Land Exchange Facilitation Act of 1988. Regulations promulgated to implement FLPMA are found in 36 CFR 254, Subpart A (36 CFR 254). Some federal candidate parcels are reserved public domain lands, meaning the lands were never conveyed by the United States. The authority for exchange of public domain lands is the General Exchange Act of March 20, 1922.

Land Exchange Regulations and Public Interest Determination

Land exchanges are discretionary, voluntary real estate transactions between federal and non-federal parties. Regulations provide that the Forest Supervisor “may complete an exchange only after a determination is made that the public interest will be well served” (36 CFR 254.3(b)). Factors that must be considered include: the opportunity to achieve better management of federal lands and resources, to meet the needs of state and local residents and their economies, and to secure important objectives, including but not limited to: protection of fish and wildlife habitats, cultural resources, watersheds, and wilderness and aesthetic values; enhancement of recreation opportunities and public access; consolidation of lands and/or interests in lands, such as mineral and timber interests, for more logical and

³ Parcels where the mineral rights are owned by the State of Minnesota are labelled minerals-trustsurface_taxformin on the maps in Appendix H.

efficient management and development; consolidation of split estates; expansion of communities; accommodation of existing or planned land use authorizations; promotion of multiple-use values; implementations of applicable Forest Land and Resource Management Plans; and fulfillment of public needs. See 36 CFR 254.3(b) and 254.4(c) (4). Appendix E of the EIS presents a comparison of how the alternatives address these factors.

The public interest determination must show that the resource values and the public objectives of the non-federal lands equal or exceed the resource values and the public objectives of the federal lands and that the intended use of the conveyed federal land would not substantially conflict with established management objectives on adjacent federal lands, including Indian trust lands. The findings and supporting rationale shall be made part of the decision (Forest Service Handbook 5409.13, section 34.1; 36 CFR 254.3(b)). The Record of Decision (ROD) will contain the findings and supporting rationale for the selected alternative and how the public interest is served under 36 CFR 254.3(b), as well as provide information for compliance with Forest Service requirements and the Forest Plan.

Equal Value and Appraisal Requirements

Under the FLPMA, a land exchange involves the transfer of equal valued land. If land values are not equal, every effort is made to equalize values by adding or deleting land. Cash equalization may then be paid by either party up to 25 percent of the value of the federal land. See 36 CFR 254.12.

Any decision, documented in the ROD, to move forward with a land exchange will be supported by a current appraisal, approved by the Forest Service, which verifies that the exchange meets the equal value requirements of applicable federal law and regulation. Requests for appraisal reports and appraisal review reports are processed under Freedom of Information Act procedures. Appraisals must conform to Uniform Appraisal Standards for Federal Land Acquisitions and the Uniform Standards of Professional Appraisal Practice of the Appraisal Foundation. Given the number of parcels identified as candidates, the exchange can be structured with enough flexibility to accommodate the requirement that the value of the nonfederal land is within 25% of the value of the federal land, as required by 36 CFR 254.12. The final proposed configuration of land would be determined after the market value of the parcels is determined by appraisals and the environmental analysis has been completed. This information would be presented in the ROD.

Forest Plan Direction

The Land Exchange decision will be made in compliance with the Forest Plan⁴. The Forest Plan was revised in 2004 and provides management direction for the Superior National Forest as required by the National Forest Management Act.

Forest-wide direction for land exchange:

The EIS will disclose effects related meeting the Purpose and Need (see section 1.4) and as related to Forest Plan direction (Forest Plan, pages 2-51 and 2-52).

Management Area (MA) direction for land exchange:

The School Trust lands located inside the BWCAW would be acquired in the land exchange and managed according to Wilderness MA direction (see pp. 3-40 to 3-77 of the Forest Plan). Acquisition of non-federal lands inside the BWCAW is allowed and is considered Priority 1 for acquisition in the Forest Plan (G-LA-2, Priority 1(c)).

⁴See www.fs.usda.gov/main/superior/landmanagement/planning for the Forest Plan.

The majority of the candidate federal parcels are located within the General Forest and General Forest-Longer Rotation Forest Plan MAs. These MAs emphasize land and resource conditions that provide a wide variety of goods, uses and services including timber management, minerals management, recreation, special uses, and other uses. Land conveyances are allowed in these MAs (O-GF-4; O-LR-4).

Approximately 7,800 acres (19%) of the federal parcels fall within the Recreation Use in a Scenic Landscape (RUSL) and Semi-Primitive Motorized Recreation (SPM) MAs. The management emphasis of these two areas is primarily recreation; and other uses, including timber management, minerals management, special uses, and other uses may occur on the federal parcels. Standard S-RU-1, applying to the Recreation Use in a Scenic Landscape MA, states “To meet management, recreation and scenic resource objectives, purchases, donations, and exchanges will be used to enhance and protect the landscape, viewshed, and character of the area. Conveyances will be permitted on a case-by-case basis, as long as management area objectives are not compromised.” Guideline G-SPM-4, applying to the Semi-Primitive Motorized Recreation MA, states “Conveyances of National Forest System land will generally not be permitted. Acquisitions will generally be priority 2.” Section 3.3 of the EIS analyzes compliance with Standard S-RU-1, and the effects of deviating from Guideline⁵ G-SPM-4.

Executive Orders for Wetlands and Floodplains

The School Trust Land Exchange must comply with two Executive Orders (EOs) that are related to wetlands and floodplains. EO 11990 was signed by President Jimmy Carter on May 24, 1977, “*in order to avoid to the extent possible the long and short term adverse impacts associated with the destruction or modifications of wetlands....*” This order applies to land exchanges such that, as much as practicable, the exchange does not result in the loss of wetland resources. EO 11988 was also signed by President Jimmy Carter on May 24, 1977 “*in order to avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative....*” This order applies to land exchanges such that, as much as practicable, the exchange does not result in an increase in the flood damage potential.

Forest Service policy (Forest Service Handbook 5409.13 § 33.43c) provides that the following list of three conditions satisfy the requirements of EOs 11990 and 11988:

- The value of the wetlands or floodplains for properties received and conveyed is equal (balancing test) and the land exchange is in the public interest.
- Reservations or restrictions are retained on the unbalanced portion of the wetlands and floodplains on the federal lands when the land exchange is in the public interest but does not meet the balancing test.
- The federal property is removed from the exchange proposal when the conditions described in the preceding paragraphs 1 or 2 cannot be met.

The Forest Service is also required, by EOs 11988 and 11990, to reference in a conveyance those uses that are restricted under identified federal, state, or local wetland and floodplain regulations. In Minnesota, the CWA (USACE/USEPA/MPCA), Protected Waters Permit Program (MDNR), and the Wetland Conservation Act (WCA), Board of Water and Soil Resources regulate certain activities in wetlands. Floodplain management ordinances are administered at the local (county) level.

See section 3.10 of the EIS for information on wetlands and floodplains pertaining to this land exchange.

⁵ Project decisions may deviate from Forest Plan guidelines as described at Forest Plan p. 1-8.

Other Requirements

Nonfederal lands would be screened using Environmental Site Assessments in accordance with ASTM Standard 1527-13 to avoid acquisition of contaminated property.

1.6.1 Forest Service Decisions

Based on the purpose and need, the Responsible Official for the Forest Service; who for this project is the Forest Supervisor of the Superior National Forest; reviews the proposed action, the other alternatives, and the environmental consequences in order to make the following decisions:

- Will a land exchange be approved?
- If a land exchange is approved, for which lands and under what conditions (if any)?

The Forest Service will issue a Record of Decision on the Land Exchange once any objections filed per 36 CFR 218 are addressed. Individuals and entities who provide specific written comment as defined in § 218.2 and meeting the requirements of 36 CFR 218.25(a)(3) during scoping or the Draft EIS comment period will be eligible to participate in the objection process. The opportunity to object will be provided when the Draft ROD is made available. See www.fs.usda.gov/goto/superior/projects for more information on the objection process.

1.7 Tribal Government Involvement

The project falls within the area ceded to the United States in the Treaty of 1854 (1854 Ceded Territory), where the following Bands reserved rights to the natural resources as part of the Treaty: Grand Portage Band of Lake Superior Chippewa, Bois Forte Band of Chippewa, and Fond du Lac Band of Lake Superior Chippewa (collectively, the Bands). The Bands are sovereign nations and, as a condition of the 1854 Treaty, they retain the usufructuary right to hunt, fish and gather in the ceded lands. The Superior National Forest has developed government to government consultation protocol agreements with the Bands to ensure it considers their treaty rights and consults with them during project planning and implementation.

For the School Trust Land Exchange, consultation and coordination with Tribal Governments began through informal notice at regularly scheduled forest-wide meetings held with the Bands by the Forest Supervisor and Tribal Liaison Officer. The Bands were provided an overview of the proposed project starting in 2013. Consultation throughout 2013 resulted in removing some parcels from the proposed action before it was scoped with the public. In February 2015, letters were sent to the Bands notifying them of the proposed action and requesting scoping comments. Responses were received from the Fond du Lac Band and Bois Forte Band. Concerns identified in those letters are summarized in section 1.7.1. Before the Draft EIS was distributed to the public, review and opportunity to consult and comment on a preliminary version of the Draft EIS was completed with the Bands.

1.7.1 Tribal Issues and concerns

Tribes raised the concern that conveying land in the 1854 Ceded Territory out of federal ownership would result in effects related to differences between Forest Service management policies for national forest lands and MDNR management policies for School Trust lands. This included concerns related to sale of land to private ownership and loss of access, trust responsibilities, opportunities to comment on management proposals, effects to cultural resources, and wild rice lakes. See section 3.4 of the EIS for an analysis on 1854 Treaty Rights and Tribal Interests. Additional information pertaining to these issues is also found in the rest of Chapter 3.

1.8 Public Involvement

The Forest initiated a scoping period that lasted from February through May 2015. The Forest also hosted five open houses in Grand Marais, Ely, Aurora, Duluth, and Saint Paul, Minnesota where the public could ask questions, learn more about the project, and submit comments. Over 1,600 comment letters were received from a variety of individuals, organizations and governments.

Upon review of scoping comments, the Forest Supervisor decided to prepare an EIS. A Notice of Intent to prepare an EIS was published in the Federal Register on August 28, 2015. Additional scoping comments were requested by September 30, 2015. Several additional scoping comments were received.

Using the comments from the public, other agencies, and organizations (see Issues section 1.8.1), the interdisciplinary team (see Chapter 4) developed a list of issues to address. Disposition of scoping comments may be found in Appendix A to the Draft EIS. Due to the number and length of comments, the disposition in Appendix A addresses issues identified in the comments and does not repeat the comments verbatim. The entire text of the scoping comments is in the project record.

1.8.1 Public Issues

The Forest Service separated the issues into two groups: issues that drive alternatives, and others issues that did not drive alternatives. Issues that do not drive alternatives were identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) addressed within the existing range of alternatives; or 4) conjectural and not supported by scientific or factual evidence; 5) are limited in extent, duration, and intensity.

The Council on Environmental Quality (CEQ) NEPA regulations explain this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..."

1.8.1.1 Issues that Drive Alternatives Considered in Detail

Analysis of scoping comments indicated the following issue that drove development of alternatives considered in detail. This issue is described as follows:

Issue statement: The proposed land exchange would result in effects to ecological and social resources due to differences between Forest Service management policies for national forest lands and MDNR management policies for School Trust lands; specifically as pertaining to the sale of lands to private parties; and potential effects to wildlife habitat, heritage resources, and water frontage land.

1.8.1.2 Other issues, Other Scoping Concerns, Questions and Suggestions

During public scoping a number of suggestions, questions and resource concerns were raised that did not drive the formation of an alternative considered in detail. In many cases, these issues are analyzed in Chapter 3 of the EIS. In some cases, comments prompted alternatives considered but not analyzed in detail (see section 2.3). A summary of these concerns and their disposition can be found in Appendix A.

1.8.2 Project Record Documentation

This EIS incorporates by specific reference the project record. The project record contains technical documents prepared by the interdisciplinary team members, as well as other information including maps, field notes, and data used to support the analysis and conclusions that are disclosed in this EIS. It is considered an unpublished appendix to the EIS.

Relying upon the project record helps to implement the CEQ regulation provision that Federal agencies should reduce the paperwork related to NEPA (40 CFR 1500.4); that the EIS should be analytic, rather than encyclopedic; and that the EIS be kept as concise as possible, and no longer than absolutely necessary (40 CFR 1502.2).

The objective is to furnish the public and the Responsible Official with enough information to demonstrate a reasonable consideration of the environmental impacts of the alternatives and how these impacts may be mitigated, without repeating the detailed analysis and background information in the project record. The project record is updated over the course of the analysis and public involvement process.

Chapter 2 Alternatives

2.1 Introduction

This chapter describes and compares the alternatives considered for the School Trust Land Exchange Project. It includes a description of each alternative considered. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design of the alternative and some of the information is based upon the environmental, social and economic effects of implementing each alternative.

2.2 Alternatives Considered in Detail

The Forest Service developed three alternatives considered in detail in this EIS.

- Alternative 1 is No Action (required by 40 CFR 1502.14).
- Alternative 2 is the Modified Proposed Action.
- Alternative 3 Reduced Federal Land List, drops candidate federal parcels from the exchange to address the issue identified in section 1.8.1.1.

The Forest Supervisor will make a decision on the land exchange that is encompassed within the range of alternatives evaluated in the EIS (36 CFR 220.4(c) (5)). If an action alternative is selected, the decision would be within the range of alternatives, but may not exactly match one of the alternatives presented in the EIS. This is due to the need to meet equal value requirements in the land exchange regulations (36 CFR 254.12); and is also based on consideration of comments, meeting the Purpose and Need, the public interest determination, and effects to resources and values. It is likely that the not all of the 39,467 acres of federal candidate lands included in the Modified Proposed Action would be needed to meet equal value requirements for the exchange.

No Forest Service preferred alternative has been identified at this time.

2.2.1 Alternative 1 - No Action

Under the No Action Alternative, no land exchange between the federal government and the State of Minnesota would take place. The School Trust lands in the BWCAW would continue to be owned by the State of Minnesota and managed by MDNR, and the federal candidate parcels outside the BWCAW would continue to be owned by the federal government and managed by the Superior National Forest according to the Forest Plan. Special use permits and other uses on the lands would continue to be managed by the current land managers.

2.2.2 Alternative 2 – Modified Proposed Action

See section 1.5 for a description of the Modified Proposed Action.

2.2.3 Alternative 3 – Reduced Land List

The intent of Alternative 3 is to address the issue described in Section 1.8.1 of the EIS. Alternative 3 does not include any candidate federal lands identified as ‘highest and best use’ for real estate management by the MDNR. In addition, Alternative 3 minimizes conveyance of water frontage lands. Alternative 3 also

minimizes inclusion of federal candidate lands that contain known heritage sites. Finally, Alternative 3 removes some federal candidate lands with high quality wildlife habitat. The effects of conveying these lands in Alternative 2, or not conveying them in Alternative 3 (and Alternative 1), are displayed and contrasted in the EIS as related to environmental effects, the public interest determination factors and meeting the purpose and need.

In Alternative 3, the Forest Service proposes to exchange federal lands of equal value from a pool of approximately 23,136 acres for approximately 31,057 acres of School Trust lands. The federal land list shown in Appendix B is not listed in priority order. Maps of the federal lands are in Appendix H. The final acres to be exchanged would reflect equal market values based on an appraisal compliant with federal standards. The possibility that all of the federal land will be necessary or that the federal land list will be inadequate is low to moderate; there is a greater risk than in Alternative 2 that the federal land list will be inadequate.

The candidate federal parcels would become School Trust lands administered by the MDNR. Potential 'highest and best use' of candidate federal parcels by the MDNR for School Trust lands management are shown in Appendix I and are displayed in the maps in Appendix H. The highest and best use reflects a screening categorization by the MDNR based on characteristics of each parcel (e.g. road frontage). The highest and best uses have been identified as: forestry, forestry-high conservation value forest, minerals⁶, and real estate. The highest and best use designations do not mean such a use will occur if the land exchange is completed. No specific actions or projects are reasonably foreseeable on the exchange lands other than some timber harvest proposed by the Forest Service (see Appendix D). Instead, the highest and best use designations identify uses that are considered possible and would best meet school trust management objectives on the candidate federal parcels. In the case of candidate federal parcels identified for minerals highest and best use, these lands would be managed for forestry by MDNR until, if ever, a mineral use is actually proposed and authorized.

The highest and best uses identified are used to inform the effects analysis in Chapter 3. The analysis evaluates differences between policies and potential management uses of the Forest Service and MDNR on the lands proposed for exchange. See Section 3.1 for the analysis framework.

The Forest Service would also transfer authority and administration of special use permits located within the federal parcels to the MDNR. Many of these permits and easements involve both short and long-term authorizations for roads and trails, phone lines, electrical lines, fiber optics, and a county canister transfer station. These permits are located across the Forest and are administered by five ranger districts. See Appendix C for a list of the affected permits. On parcels where the Forest Service manages existing trails or other recreation facilities, easements would be retained and allow for continuation of existing uses.

The land list for the state lands in the BWCAW is shown at Appendix B and maps of the state lands are shown in Appendix H.

The State Constitution requires the State to reserve mineral rights in an exchange of School Trust lands. (Minn. Const. Art. XI Section 10.) The United States would reserve mineral rights on the parcels where federal minerals occur.

2.3 Alternatives Considered but Eliminated from Detailed Study

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in

⁶ Parcels where the mineral rights are owned by the State of Minnesota are labelled minerals-trustsurface_taxformin on the maps in Appendix H.

detail (40 CFR 1502.14). Public comments received in response to the Proposed Action provided suggestions for alternative methods for achieving the purpose and need.

2.3.1 Proposed Action Presented in Scoping Package

As described in Section 1.5 of the EIS, the Proposed Action described in the scoping package was modified by adjusting which School Trust lands inside the BWCAW would be included in the exchange. This modification was made to better position the land exchange to comply with Executive Order 11990-Wetlands. Therefore, the Proposed Action presented in the scoping package was not analyzed in detail.

2.3.2 Include School Trust Land Purchase in School Trust Land Exchange Proposed Action

Several commenters suggested that the School Trust Land Purchase be included as part of the Proposed Action for the School Trust Land Exchange. Commenters stated that the School Trust Land Purchase is a connected action per NEPA regulations to the School Trust Land Exchange. Commenters also asked about the timing of the exchange and the purchase, and asked that land exchange occur contingent upon the completion of the purchase.

This alternative was not considered in detail for several reasons. First, the School Trust Land Exchange is not a connected action per NEPA regulations to the School Trust Land Purchase. While the Forest Service has an overall goal of acquiring all School Trust lands within the BWCAW, there is no requirement that the entire acquisition be completed in one land transaction or at one time. Instead, the Forest Service makes progress towards the overall goal based on opportunity and willing partners in land transactions. For example, the Forest Service has already completed multiple exchanges with Lake County and Cook County which transferred county-administered land within the BWCAW to federal ownership. These land exchanges occurred between 1982 and 2016, were separate actions and were not contingent on each other to be completed. Another example of using multiple projects to meet an overall goal is multiple separate vegetation management projects. Conducting timber harvest in one portion of the Forest is not necessarily contingent on completion of timber harvest in another part of the Forest, even though both harvest activities may be contributing towards the same Forest-wide goal related to forest composition. Implementation of the School Trust Land Exchange is not contingent on the School Trust Land Purchase (or vice-versa), even though both actions would contribute towards the overall goal of consolidating federal ownership in the BWCAW. However, the School Trust Land Purchase, along with other relevant land transactions, is evaluated in the cumulative effects analysis of this EIS.

Second, opportunities to fund the purchase may become available on a timeframe that does not coincide with the completion of the environmental review and land transaction process for the land exchange. If funding for the purchase becomes available before (or after) the land exchange process is complete, the Forest can move to use the funding for purchase in a timely manner. If the School Trust Land Purchase was included as part of the proposed action in this EIS with the School Trust Land Exchange, this flexibility to complete the purchase would be constrained on completing such a combined environmental review.

2.3.3 Purchase more or all School Trust Lands in BWCAW

Several commenters suggested that the Forest Service purchase all School Trust lands in the BWCAW and not do a land exchange to avoid potential effects associated with conveying federal lands. Some commenters also suggested reducing the amount of land included in the exchange by increasing the proportion of land purchased. Methods suggested to fund the purchase include:

- Purchase School Trust lands in BWCAW with BWCAW entry fees.

- Purchase School Trust lands in BWCAW with timber sale receipts.
- Purchase School Trust lands in BWCAW with Iron Range Resources and Rehabilitation Board (IRRRB) funding.

In the case of School Trust lands within the BWCAW, the MDNR has expressed intent to the Forest Service to exchange about one-third of the lands, and sell the remaining two-thirds to the Forest Service. This approach is consistent with the approach identified by the working group appointed by the former Minnesota Legislature's Permanent Trust Fund Advisory Committee in 2010 (see Section 1.2). Minnesota Statute 92.80 states the following, further indicating the intent of the State to exchange for some School Trust lands inside the BWCAW:

92.80 EXPEDITED EXCHANGE OF LAND WITHIN BOUNDARY WATERS CANOE AREA WILDERNESS FOR FEDERALLY OWNED LANDS.

Subdivision 1. Purpose and scope.

(a) The purpose of this section is to expedite the exchange of a portion of the state-owned lands located within the Boundary Waters Canoe Area Wilderness. The state owns 116,559 acres of land within the wilderness area, 86,295 acres of which are School Trust land.

(b) Exchange of School Trust lands within the Boundary Waters Canoe Area Wilderness for federally owned lands located outside the wilderness area will preserve the spectacular wild areas while producing economic benefits for Minnesota's public schools.

Further, a purchase of all School Trust lands in the BWCAW would not meet several aspects of the purpose and need. It would not improve the national forest land ownership configuration outside the BWCAW. While a purchase would add funds to Permanent School Fund, it would not provide the Permanent School Fund with land that could be managed to generate revenue for Minnesota public schools. Based on the intent expressed by MDNR and in Minnesota Statute 92.80, and because a purchase of all School Trust lands would not meet the purpose and need, this alternative was not analyzed in detail.

Commenters asked how the Forest Service would fund the purchase of the two-thirds of the School Trust lands in the BWCAW. The Forest has applied for funding through the Land and Water Conservation Fund and plans to continue pursuing this avenue until funded or another funding source is found. The Forest is also investigating other potential sources of funding such as foundations.

Commenters asked about the 'condemnation' process for selling Minnesota School Trust lands. Minnesota's Constitution requires that school trust lands only be sold at public auction (MINN CONST. ART. 11, SEC.8). In order to meet this public auction requirement, the State must initiate eminent domain proceedings to remove the school trust lands status. Once the School Trust no longer has an interest in the lands to be sold under the two-third sale scenario, MDNR has authority to sell directly to the United States (MINN. STAT. SEC. 92.82). The 2017 Minnesota legislature appropriated funding to commence the eminent domain proceedings in calendar year 2017. The State's intent is to finalize its eminent domain proceedings in calendar year 2018 and convey the former school trust lands parcels directly to the U.S. Forest Service upon its receipt of federal funding under a likely phased acquisition approach.

Regarding funding of the purchase suggested by commenters, federal regulations require that the BWCAW entry fee receipts be used for specific purposes and it would not be permitted to use the fees to fund the School Trust Land Purchase. In the case of timber sale receipts, this possibility may be

considered for the purchase as outlined in Forest Service Handbook 5409.13, section 31.12. Regarding IRRRB, if this entity or other organizations or foundations offers to fund the purchase, the Forest would further investigate such an offer for feasibility and implementation.

2.3.4 Exchange all School Trust Lands in BWCAW

Some commenters suggested that the Forest Service should do a land exchange for all School Trust lands inside the BWCAW. Commenters stated that purchase is not allowed under the 1964 Wilderness Act. Commenters also stated that an exchange would provide better long-term benefits to the School Trust fund than purchase because lands would be available to generate revenue in perpetuity.

The land exchange proposed in this project involves about one third of the School Trust lands in the BWCAW (about 31,057 acres). The Forest Service would purchase the remaining School Trust lands; this meets Forest Plan Guideline G-LA-5 (Forest Plan p. 2-52) which identifies purchase as a viable option. Further, the State of Minnesota has indicated intent to pursue an exchange for about one third of the School Trust lands and a purchase regarding the remaining two thirds.

While the purchase of the remaining School Trust lands is a separate action from the School Trust Land Exchange, it is the position of the Forest Service that the purchase is a legal action under applicable federal law, regulation and policy. Regarding state statutes, Minnesota Statute 92.82 states the following:

92.82 PRIVATE SALE OF SURPLUS STATE LAND WITHIN BOUNDARY WATERS CANOE AREA WILDERNESS; COOK, LAKE, AND ST. LOUIS COUNTIES.

(a) Notwithstanding sections 92.06, 92.13, 92.14, 92.45, 94.09, and 94.10, the commissioner of natural resources may sell to the United States by private sale the surplus land, including the land bordering public water, that is described in paragraph (d)...

(d) The land that may be sold is state-owned land under the control of the commissioner of natural resources and located within the boundary of the Boundary Waters Canoe Area Wilderness in Cook, Lake, and St. Louis Counties. The state-owned lands may include the state land for which the School Trust interest was extinguished through condemnation, university lands granted to the state by acts of Congress, and all other lands acquired by the state in any manner and under the control of the commissioner of natural resources.

2.3.5 Exchange Candidate Federal Lands outside Superior National Forest

A commenter suggested that the Forest Service should identify candidate federal lands located outside the Superior National Forest and within the State of Minnesota, such as federal lands from the Chippewa National Forest. The MDNR, working with the Forest Service and as informed by input from several interested stakeholders, identified intent to exchange for a suite of candidate federal parcels on the Superior National Forest (see Section 1.2 Background). Further, without identifying specific lands, this alternative is theoretical only.

2.3.6 Only exchange lands with low mineral development potential

A commenter suggested that the land exchange should only include lands with low mineral development potential. The School Trust lands inside the BWCAW included in the Modified Proposed Action were identified in a Mineral Character Determination to have low development potential (see section 3.6).

Some of the candidate federal lands were identified by the MDNR as potentially having minerals management as the highest and best use. Given this identification by the MDNR, these parcels may have potential for mineral development, although no minerals development projects are reasonably foreseeable on these parcels. An alternative which drops all of these candidate federal parcels from the exchange was not evaluated in detail for three reasons. First, reasonably foreseeable differences between MDNR and Forest Service management policies as pertaining to minerals management were not determined to be substantial enough for analysis of this alternative in detail (see section 3.6 of the EIS for more information). Second, the option to drop some or all of the candidate federal parcels from the exchange with a highest and best use of minerals is available to the Forest Supervisor within the range of alternatives analyzed in detail in the EIS. Third, these parcels are identified as the top priority for acquisition by the MDNR, and some of these parcels are within the legislative priority area described in Minn. Stat. 92.80 (see Appendix I). Removal of all of these parcels from the exchange would substantially fail to meet the purpose and need to “allow the State to actively manage lands outside the wilderness to generate revenue to benefit Minnesota Public Schools.”

2.3.7 Modify the lands proposed for exchange to achieve no net loss of State-administered land by County

Commenters suggested that the exchange parcels be adjusted so there is no net loss of State-administered land in Lake County, and other counties to avoid economic effects to the Counties. The Forest Service recognizes that ownership and use of public lands affects County budgeting and economic development. School Trust lands inside the BWCAW that would be acquired by the Forest Service would be subject to Payment in Lieu of Taxes requirements and Thye-Blatnick payment requirements (see 16 U.S.C. 577g). The federal government would pay counties according to those requirements. Outside the BWCAW, State-administered land ownership would increase under Alternatives 2 and 3. Federal candidate parcels conveyed to the State of Minnesota would be managed to generate long-term economic return for the Permanent School Fund to benefit Minnesota public schools, including in these Counties. Because there would be a gain, instead of a loss, of State-administered land outside the Wilderness in each County, and lands within the wilderness acquired by the Forest Service would be subject to payments to Counties, this alternative was not analyzed in detail.

2.3.8 Exchange lands close to timber markets

A commenter suggested that the exchange should be limited to federal lands close to timber markets. The design of the Modified Proposed Action included consideration of meeting the proponents goal of managing lands to benefit Minnesota public schools, including through timber sales and other resource uses. Additional considerations in the design of the Modified Proposed Action include achieving more contiguous land ownership patterns among other objectives identified in the Forest Plan, and consideration of affected resources. A focus solely on timber markets would not meet the overall intent of the Purpose and Need. However, many of federal candidate lands are identified for forest management as the highest and best use by the MDNR, and the parcels identified for other highest and best use of minerals and real estate would be managed for forestry until such time, if ever, that the other use is realized. It is anticipated that the candidate federal parcels identified for forestry use by the MDNR may be viable for commercial timber sales. Thus, the intent of this suggested alternative is substantially met in the existing range of alternatives analyzed in detail.

2.3.9 Exchange national forest lands within the BWCAW for School Trust lands within the BWCAW

A commenter suggested that the exchange should be for lands within the BWCAW. Specifically, the commenter suggested exchanging national forest lands within the BWCAW at entry points and portages

for other School Trust lands within the BWCAW. Then, the MDNR could manage these lands to make income for the Permanent School Fund by charging use fees. This alternative was not considered feasible to meet the purpose and need. School Trust lands would remain within the BWCAW, which would not allow the Forest Service to be in a position to manage consolidated ownership of the BWCAW to preserve wilderness character. This outcome would not meet the purpose and need. Also, the MDNR would be in a better position to manage lands outside the BWCAW than inside the BWCAW to generate revenue, as reflected in the proposal submitted by the MDNR for land exchange and Minnesota Statute 92.80.

2.3.10 Do not exchange national forest lands within Semi Primitive Motorized Recreation or Recreation Use in a Scenic Landscape Management Areas

Commenters suggested that the exchange drop all candidate federal parcels in the Semi-Primitive Motorized Recreation and Recreation Use in a Scenic Landscape Management Areas to avoid effects to the recreation setting and opportunities. This alternative was not analyzed in detail for several reasons. Removal of all of these parcels from the exchange would substantially fail to meet the purpose and need for the project to “allow the State to actively manage lands outside the wilderness to generate revenue to benefit Minnesota Public Schools.” This is because candidate federal parcels located in the Semi-Primitive Motorized Recreation Management Area were identified as the highest priority for acquisition by the MDNR as well as being within the legislative priority area described in Minn. Stat. 92.80 (see Section 3.12 Economics). Also, with the exception of sale of lands to private ownership, differences between MDNR and Forest Service management policies as specifically pertaining to recreation were not evaluated to be substantial enough to warrant analysis of this alternative in detail (see Section 3.3 Recreation). Alternative 3, analyzed in detail, does address potential effects to recreation due to sale of public land to private ownership. Finally, the option to drop some or all of the candidate federal parcels in these Management Areas from the exchange is available to the Forest Supervisor within the range of alternatives analyzed in detail in the EIS.

2.3.11 Do not exchange national forest lands that were surveyed as having high or outstanding biodiversity by the Minnesota Biological Survey

Commenters suggested that the exchange drop all candidate federal parcels that were surveyed as having high or outstanding biodiversity by the Minnesota Biological Survey (MBS) to avoid effects to the habitats found on those parcels. This suggestion was addressed by dropping some parcels with high or outstanding biodiversity as surveyed by MBS from Alternative 3; however not all of such lands were dropped from Alternative 3. Federal candidate parcels identified as a potential highest and best use by MDNR for High Conservation Value Forest were kept in Alternative 3 because the intent of this designation is for the MDNR to compensate the Permanent School Fund to maintain habitat quality. The option to drop from the exchange some or all of the candidate federal parcels with high and outstanding biodiversity as identified by MBS is available to the Forest Supervisor within the range of alternatives analyzed in detail in the EIS.

2.3.12 Exchange with Restrictions

An alternative to complete the land exchange with restrictions was considered but not analyzed in detail because the existing range of alternatives addresses issues that might otherwise be addressed by deed restrictions. Executive Orders for wetlands and floodplains can be met within the existing range of alternatives (see section 3.10). On parcels where the Forest Service manages existing trails or other recreation facilities, easements would be retained in Alternatives 2 and 3.

The application of additional deed restrictions to conveyed federal lands may impede the MDNR from managing those lands to generate revenue for the Permanent School Fund, and create a long-term administrative burden for the Forest Service on those lands. These outcomes would not meet the purpose and need as compared to conveying lands without deed restrictions.

2.4 Comparison of Alternatives

Table 2.4-1 displays a summary of how the alternatives meet the Purpose and Need.

Table 2.4-2 displays a summary of the potential effects each alternative has on resources analyzed in Chapter 3.

Appendix E displays a summary of how the alternatives respond to the public interest factors that are considered in making a decision on the land exchange. See section 1.6 for a description of the public interest factors and relevant regulations.

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Table 2.4-1. How Alternatives meet the Purpose and Need

Purpose and Need Element	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
Acquire lands in the BWCAW, meet the intent of applicable law and protect them from uses incompatible with wilderness management	<ul style="list-style-type: none"> Meets by acquiring about 31,057 acres of School Trust lands in the BWCAW. 	<ul style="list-style-type: none"> Meets by acquiring about 31,057 acres of School Trust lands in the BWCAW. 	<ul style="list-style-type: none"> Fails to meet; acquires no School Trust lands in the BWCAW.
Acquire lands that meet priorities identified in G-LA-2, including wetlands, waterfront and recreation value	<ul style="list-style-type: none"> Meets by acquiring about 31,057 acres of School Trust lands in the BWCAW with wetlands, waterfront and recreation value. 	<ul style="list-style-type: none"> Meets by acquiring about 31,057 acres of School Trust lands in the BWCAW with wetlands, waterfront and recreation value. 	<ul style="list-style-type: none"> Fails to meet; acquires no lands.
Convey federal land to the State of Minnesota which allows for the MDNR to actively manage the land to generate revenue for the Minnesota public schools.	<ul style="list-style-type: none"> Meets by conveying federal land of equal value from a pool of 39,467 acres which the MDNR can manage to generate revenue for the Minnesota public schools. 	<ul style="list-style-type: none"> Meets to a moderate degree, but less well than Alternative 2 due to dropping some lands from the exchange which are high priority for the MDNR to acquire. 	<ul style="list-style-type: none"> Fails to meet; conveys no land which the MDNR can manage to generate revenue for the Minnesota public schools.
Reduce or eliminate special use permits	<ul style="list-style-type: none"> Meets by reducing and/or eliminating over 30 special use permits or easements. 	<ul style="list-style-type: none"> Meets to a lesser degree than Alternative 2 by reducing and/or eliminating 15 special use permits or easements. 	<ul style="list-style-type: none"> Fails to meet; does not reduce or eliminate special use permits.

Table 2.4-1. How Alternatives meet the Purpose and Need

Purpose and Need Element	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
Consolidate federal and state ownership patterns	<ul style="list-style-type: none"> Meets due to design of modified proposed action to consolidate federal and state ownership patterns by eliminating 134 NFS isolated parcel groupings. 	<ul style="list-style-type: none"> Meets to a lesser degree than Alternative 2 by eliminating 96 NFS isolated parcel groupings. 	<ul style="list-style-type: none"> Fails to meet; current ownership pattern is unchanged.
Reduce boundary management and landline costs	<ul style="list-style-type: none"> Meets due to reduction in 437 miles of boundary outside the BWCAW managed by the Forest. 	<ul style="list-style-type: none"> Meets to a lesser degree than Alternative 2 by a reduction in 254 miles of boundary outside the BWCAW managed by the Forest. 	<ul style="list-style-type: none"> Fails to meet; current boundary managed is unchanged.

Table 2.4-2. Comparison of Alternatives by resource effects

Resource	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
BWCAW	<ul style="list-style-type: none"> United States acquires about 31,057 acres of School Trust lands in the BWCAW; meeting the intent of applicable law and protecting them from uses incompatible with wilderness management. Wilderness character preserved, meets Section 4(b) of the Wilderness Act. 	<ul style="list-style-type: none"> United States acquires about 31,057 acres of School Trust lands in the BWCAW; meeting the intent of applicable law and protecting them from uses incompatible with wilderness management. Wilderness character preserved, meets Section 4(b) of the Wilderness Act. 	<ul style="list-style-type: none"> The analysis assumes that no physical change would occur to these lands under the No Action Alternative other than the continuation of natural ecological processes and wilderness uses allowed by the Forest Plan and applicable law. However, while not considered reasonably foreseeable, the possibility exists that uses of the School Trust lands inside the BWCAW could be proposed that are incompatible with wilderness management. Purpose and Need to consolidate federal ownership in BWCAW not met.
Recreation	<ul style="list-style-type: none"> Uses of existing recreation facilities on candidate federal parcels would continue after exchange. Development of real estate highest and best use parcels could change ROS class and scenery. Forest-wide recreation opportunities would be similar to existing condition. 	<ul style="list-style-type: none"> Uses of existing recreation facilities on candidate federal parcels would continue after exchange. Forest-wide recreation opportunities would be similar to existing condition. 	<ul style="list-style-type: none"> No changes from current management situation on lands proposed for exchange.

Resource	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
1854 Treaty Rights and Tribal Interests	<ul style="list-style-type: none"> Potential for loss of access and consultation on 'real estate highest and best use' candidate federal parcels that may ultimately be sold to private parties (10,858 acres). Access and opportunities for consultation with State of Minnesota instead of the Forest Service on lands conveyed to the State. Access and consultation with Forest Service on acquired lands. 	<ul style="list-style-type: none"> Minimal or no loss of access due to sale of land to private parties because 'real estate highest and best use' candidate federal parcels not included in Alternative 3. Access and opportunities for consultation with State of Minnesota instead of the Forest Service on lands conveyed to the State. Access and consultation with Forest Service on acquired lands. 	<ul style="list-style-type: none"> No changes from current management situation on lands proposed for exchange. Access and federal consultation opportunities would continue.
Heritage Resources	<ul style="list-style-type: none"> Some heritage sites and areas with high potential for heritage sites conveyed to the State. Project-specific programmatic agreement would provide same protections on conveyed lands as under Forest Service ownership. 	<ul style="list-style-type: none"> Fewer heritages sites and areas with high potential for heritage sites conveyed to the State than under Alternative 2. Project-specific programmatic agreement would provide same protections on conveyed lands as under Forest Service ownership. 	<ul style="list-style-type: none"> No changes from current management situation on lands proposed for exchange.
Minerals	<ul style="list-style-type: none"> No reasonably foreseeable and substantial difference between alternatives; minerals exploration and development in an environmentally sound manner is an allowable use on the candidate federal parcels whether the surface is managed by the Forest Service or MDNR. Mineral ownership would not change. 	<ul style="list-style-type: none"> No reasonably foreseeable and substantial difference between alternatives; minerals exploration and development in an environmentally sound manner is an allowable use on the candidate federal parcels whether the surface is managed by the Forest Service or MDNR. Mineral ownership would not change. 	<ul style="list-style-type: none"> No changes from current management situation on lands proposed for exchange.

Resource	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
Vegetation	<ul style="list-style-type: none"> Scale of land ownership change would result in minimal effects to Landscape Ecosystem objectives for forest composition. 	<ul style="list-style-type: none"> Scale of land ownership change would result in minimal effects to Landscape Ecosystem objectives for forest composition and would be less than in Alternative 2. 	<ul style="list-style-type: none"> No changes from current management situation on lands proposed for exchange.
Non-native invasive species (NNIS)	<ul style="list-style-type: none"> Risk of NNIS spread due to real estate development and forestry management. 	<ul style="list-style-type: none"> Risk of NNIS spread due to forestry management; less risk than Alternative 2. 	<ul style="list-style-type: none"> No changes from current management situation on lands proposed for exchange. Least risk of NNIS spread.
Threatened, Endangered and Sensitive (TES) Species	<ul style="list-style-type: none"> May affect, likely to adversely affect wolf, lynx and northern-long eared bat, and lynx and wolf critical habitats. Would not cause jeopardy. May affect RFSS species; not likely to lead towards a trend towards federal listing. 	<ul style="list-style-type: none"> May affect, likely to adversely affect wolf, lynx and northern-long eared bat. Would not cause jeopardy. May affect RFSS species; not likely to lead towards a trend towards federal listing. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange for TES species.
Wildlife Habitat	<ul style="list-style-type: none"> Conveys some high and outstanding MBS-surveyed biodiversity areas to the State; subsequent management could reduce biodiversity ranking except for 'high conservation value forest highest and best use' candidate federal parcels. Acquires high quality wildlife habitat in BWCAW. 	<ul style="list-style-type: none"> Drops some high and outstanding MBS-surveyed biodiversity areas from the exchange; likely fewer effects to high and outstanding MBS-surveyed areas than in Alternative 2. Acquires high quality wildlife habitat in BWCAW. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange. Forest Service management could change biodiversity ranking.

Resource	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
Wetlands and Floodplains	<ul style="list-style-type: none"> Additional candidate federal parcels with wetland acres need to be dropped from Alternative 2 to meet Executive Order 11990. Complies with Executive Order 11988 for floodplains. 	<ul style="list-style-type: none"> Would likely result in a net gain of wetlands to the federal estate, complying with Executive Order 11990. Complies with Executive Order 11988 for floodplains. 	<ul style="list-style-type: none"> No changes from current management situation on lands proposed for exchange for wetlands and floodplains.
Soils and Riparian	<ul style="list-style-type: none"> Effects to soils would be minimized and avoided with MFRC guidelines. Some water frontage conveyed to the State could subsequently be sold for development. 	<ul style="list-style-type: none"> Effects to soils would be minimized and avoided with MFRC guidelines Water frontage conveyed is minimized; minimal or no real estate development. 	<ul style="list-style-type: none"> No changes from current management situation on lands proposed for exchange for soils or water frontage.
Lands	<ul style="list-style-type: none"> Improves land ownership configuration and boundary management outside the BWCAW and acquires Priority 1 lands in the BWCAW. 	<ul style="list-style-type: none"> Improves land ownership configuration and boundary management outside the BWCAW less than Alternative 2. Acquires Priority 1 lands in the BWCAW. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange.
Special Uses	<ul style="list-style-type: none"> About 30 special use permits would be transferred to MDNR management. 	<ul style="list-style-type: none"> About 15 special use permits would be transferred to MDNR management. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange.
Environmental Justice	<ul style="list-style-type: none"> Potential loss of access to Tribes on candidate federal parcels with 'real estate highest and best use'. 	<ul style="list-style-type: none"> Minimal or no loss of access due to sale of land to private parties because 'real estate highest and best use' candidate federal parcels not included in Alternative 3. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange.

Resource	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
Human Health	<ul style="list-style-type: none"> Regulations managing for human health would not vary substantially by alternative. 	<ul style="list-style-type: none"> Regulations managing for human health would not vary substantially by alternative. 	<ul style="list-style-type: none"> Regulations managing for human health would not vary substantially by alternative.
Air Quality	<ul style="list-style-type: none"> Regulations managing for air quality would not vary substantially by alternative. 	<ul style="list-style-type: none"> Regulations managing for air quality would not vary substantially by alternative. 	<ul style="list-style-type: none"> Regulations managing for air quality would not vary substantially by alternative.
Climate Change	<ul style="list-style-type: none"> Both the Forest Service and MDNR manage in consideration of climate change. 	<ul style="list-style-type: none"> Both the Forest Service and MDNR manage in consideration of climate change. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange.
Economics	<ul style="list-style-type: none"> Candidate federal parcels would be conveyed to the State to be managed to generate revenue for Minnesota public schools. 	<ul style="list-style-type: none"> Candidate federal parcels would be conveyed to the State to be managed to generate revenue for Minnesota public schools; however the candidate federal parcel list is lower priority for MDNR than Alternative 2. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange.
Roadless Areas	<ul style="list-style-type: none"> One candidate federal parcel (#758) includes acreage in a Roadless Area Conservation Rule (RACR) area. Conveyance of this parcel could affect roadless characteristics of remaining federal lands in the RACR. 	<ul style="list-style-type: none"> No change from current management situation. 	<ul style="list-style-type: none"> No change from current management situation on lands proposed for exchange.

Resource	Modified Proposed Action (Alternative 2)	Reduced Federal Land List (Alternative 3)	No Action Alternative (Alternative 1)
Public Involvement and Administrative Review	<ul style="list-style-type: none">Both the Forest Service through NEPA and MDNR through MEPA provide for public involvement in making management decisions.	<ul style="list-style-type: none">Both the Forest Service through NEPA and MDNR through MEPA provide for public involvement in making management decisions.	<ul style="list-style-type: none">No change from current management situation on lands proposed for exchange.

Chapter 3 Affected Environment and Environmental Consequences

This chapter presents the elements of the environment that could be affected by the land exchange. The “Affected Environment” portion of each section below describes the current condition of the issue indicators, trends relative to their status, and parts of the indicators that could be impacted by the alternatives. The “Environmental Consequences” portion of each section below describes the direct, indirect, and cumulative effects of the alternatives.

The interdisciplinary team (IDT) examined and analyzed data to estimate the effects of each alternative. The data and level of analysis were commensurate with the importance of the possible impacts (40 CFR 1502.15). The effects are quantified where possible, although qualitative discussions may also be included. Acreage figures are estimates based on information from the Superior National Forest geographic information system (GIS) database. Acres identified in the GIS database may vary slightly from acreage identified in legal descriptions of parcels involved in the proposed land exchange. The accuracy of the estimated acreage is sufficient for the analysis.

The interdisciplinary team is aware of possible inaccuracies and limitations of the data. The forest is highly variable and constantly changing and not all data are current. However, the interdisciplinary team concluded it is the best available forest information and is adequate for analysis and drawing conclusions. Additional data and accuracy would add precision to estimates or better define a relationship; however, the basic data and central relationships are sufficiently well-established in the respective sciences that additional accuracy is unlikely to reverse or nullify understood relationships. Thus, additional information would be welcomed and add precision, but it is not considered essential to provide adequate information for the decision-maker to make a reasoned choice among alternatives.

3.1 Analysis Framework

Forest Service Handbook 5409.13, section 31.18a provides guidance for environmental effects analysis for land exchange:

Land exchanges convey land, interests in land, and the resources associated with them. However, the act of conveyance has no environmental effects. Therefore, the environmental analysis should focus on the future use and management of the lands acquired and conveyed and the effect of the exchange on the lands that adjoin them.

There are no specific projects or actions that are reasonably foreseeable on the lands involved in the School Trust Land Exchange other than some vegetation management proposed by the Forest Service (see Appendix D). The analysis therefore evaluates policies and potential management uses of the lands proposed for exchange. While not programmatic⁷, this analysis is necessarily broader in focus than it would be for reasonably foreseeable specific projects or actions on the proposed exchange lands. Policies of the Forest Service in managing national forest lands and the MDNR in managing School Trust lands are described in section 3.1.1. Potential management uses on the exchanged lands are described in

⁷ A programmatic NEPA analysis addresses general environmental issues related to broad decisions, such as those establishing policies, plans, programs, or a suite of projects (CEQ Guidance on Effective Use of Programmatic NEPA Reviews, page 9). The decision to be made in the School Trust Land Exchange is described in section 1.6.1 of the EIS. The decision to be made is on a land exchange and does not include the establishment of policies, plans, programs, or a suite of projects. Thus, the School Trust Land Exchange EIS is a project-level analysis, not a programmatic analysis.

section 3.1.2. The analysis discloses the potential effects of differences between the policies and potential uses of the Forest Service in managing national forest lands and the potential uses and policies of the MDNR in managing School Trust lands, on the lands involved in the exchange. Cumulative effects analysis considers potential changes in management policies and potential uses from other land exchanges and acquisitions on the Superior National Forest where relevant (see Appendix D).

3.1.1 Management Policies

Overall management policies of the Forest Service for Superior National Forest lands and the MDNR for School Trust lands is presented in Section 3.1.1. The information in section 3.1.1 is not intended to be an exhaustive listing of laws, regulations and policies; instead it is a summary of such information. The full text of laws, regulations and policies may be found in source materials such as the Code of Federal Regulations and the Superior National Forest Plan in the case of the Forest Service; or Minnesota Rules and the Subsection Forest Resource Management Plans in the case of the MDNR.

The overall policies are outlined, and then specific policies for forest management, minerals management and real estate management is described because these are ‘highest and best uses’ identified by the MDNR for the candidate federal lands discussed in Section 3.1.2. Additional resource-specific information about laws, regulations and policies is described as necessary in Sections 3.2 through 3.14.

3.1.1.1 Overall Policies

Forest Service-Superior National Forest Lands

The Forest Service manages National Forest System lands for multiple use and sustained yield of products and services and is authorized to govern their use and occupancy under the authority of the Organic Administration Act of 1897, the Multiple-Use Sustained Yield Act of 1960, the National Forest Management Act of 1976, and the Federal Land Policy and Management Act of 1976. The Forest-wide desired conditions, goals and objectives described in Chapter 2 of the Forest Plan provide an overall summary of the multiple uses and values the Forest Service manages for on the Superior National Forest. These uses and values include, but are not limited to: multiple use and sustained yield of timber, water, wildlife, recreation, and minerals in consideration of ecological, social, and economic outcomes.

MDNR-School Trust Lands

General Policy Statement (Operational Order 121):

The DNR acts as a trustee for School Trust lands, including minerals, with fiduciary duties to the beneficiaries of the Trust. This responsibility imposes obligations on the DNR that typically do not apply when the DNR manages acquired lands in accordance with its traditional natural resources mission which includes balancing a variety of values including outdoor recreation and natural resources protection and development.

The School Trust lands are not DNR lands, even when included within the boundaries of agency-designated management units, and the primary mission for School Trust lands is different than for other DNR-managed lands. Under the law, the primary management priority for School Trust lands is to maximize their long term economic return. This priority must be managed consistent with sound natural resource conservation and management principles. In most instances, these two goals are complementary and the appropriate balance can be achieved. This is true particularly with those natural resource management practices that are essential to maintaining a sustainable economic return such as ensuring good forest soil productivity for the long term health of timber harvest yields. However, in those circumstances where there is an unresolvable

conflict between maximizing long term economic return and protecting natural resources and recreation values, the DNR must give precedence to long term economic return in its management duties on School Trust lands.

If the DNR decides to manage School Trust land to protect natural resource and recreation values and in doing so either restricts or prohibits long-term economic return in a way that conflicts with its Trust obligations, the DNR must seek a way to compensate the Trust. This may include buying the land or exchanging it for income-producing land. For example, where the DNR designates protection of old-growth forest on School Trust land and in doing so restricts or prohibits long term economic return from timber harvest on the land, the DNR must seek a way to compensate the Trust.

As trustee, the DNR must also look for short term economic return but must balance those with the need to protect the revenue generating capacity of the Trust in the long run. For example, it is important to manage forest harvest on School Trust lands for a specific amount of yield on a continuing and sustainable basis so there are not periods of timber unavailability resulting in periods of no income to the Trust. Accordingly, managing harvest cannot focus exclusively on short term revenue at the expense of long-term harvest yields. Further, given the perpetual nature of the Trust, the DNR must use adaptive management principles to ensure sustainable economic returns on School Trust lands over the long run. In doing so, the DNR must monitor and take into account uncertainties such as climate change, invasive species and land use trends and address these factors based on sound scientific principles.

In summary, School Trust lands must be managed differently than other DNR-managed lands because their primary missions are different. The primary management goal for School Trust lands is long term economic return; for other DNR-managed lands it includes a wide range of goals including outdoor recreation and natural resources protection and development. Most of the time these goals can be managed consistent with one another but at other times unresolvable conflicts may arise between achieving the maximum long term economic return and natural resources protection and recreation. On School Trust lands, maximizing long term economic gain takes precedence when there is an unresolvable conflict between the economic and natural resources and recreation management objectives. When the DNR decides to preserve the natural resource or recreation values on certain School Trust lands because of their significance, and in doing so restricts or prohibits the land's long term revenue generating potential in a way that conflicts with its Trust obligations, the DNR must seek a way to compensate the Trust.

In addition to this overall policy for School Trust lands, the MDNR develops Section Forest Resource Management Plans to provide policies and direction for managing state lands, including School Trust lands. The Northern Superior Uplands Section Forest Resource Management Plan covers much of northeastern Minnesota. The Northern Superior Uplands Plan is currently being revised⁸.

3.1.1.2 Policies Related to Real Estate Management (sale of land to private ownership) Forest Service-Superior National Forest Lands

Forest Service Manual 5571 states: "The sale authorities for National Forest System lands are narrow in scope and application. They provide for the conveyance of specific and limited categories of land to relieve or to resolve title conflicts and certain management problems. (See FSH 5509.11, Ch. 20)." It is

⁸ <http://www.dnr.state.mn.us/forestry/subsection/nsu/index.html>

assumed that under the No Action Alternative, none of the candidate federal lands would be sold to private parties.

MDNR-School Trust Lands

As part of its real estate management activities, the MNDNR enters into various real estate contracts on School Trust lands. The MNDNR generates revenue from School Trust lands through lease contracts, easements, and licenses. Additional revenue is generated through annual public auctions of School Trust lands. Also, the MNDNR as a trustee enters into land exchanges that reposition the School Trust lands to consolidate ownership, improve management, or to take advantage of future revenue potential (School Trust Lands Biennial Report for Fiscal Years 2014-2015, p. 16). Minnesota Statutes, section 92.12 requires that the MNDNR hold frequent sales of School Trust lands and other state-owned lands when it's in the public interest. Minnesota Statutes, section 92.13 requires land sales when it is advantageous to do so. Sale of School Trust lands are completed to generate revenue for the benefit of Minnesota public schools.

The analysis in the EIS focuses on sales because this represents the most substantial difference in management policies and uses between the Forest Service and MDNR. Approximately 1,027 acres of School Trust Land were sold in Cook, Lake and St. Louis Counties between 2000 and 2014 (School Trust real estate sale data, project file). That equates to about 70 acres per year. Of the proposed Federal lands for exchange in the Modified Proposed Action (Alternative 2), 10,858 acres have been identified as real estate highest and best use. If the trend of 70 acres per year of School Trust Land being sold was to be applied to those parcels it would take approximately 154 years to sell all of those exchanged lands. The actual rate of sale of the exchanged lands is likely less because other existing School Trust lands could be sold⁹. Also, sale of school trust lands is limited by conversion restrictions under Forest Stewardship Council certification; FSC indicator 6.10a-d limit the ability to convert forestlands to non-forestland uses based on a percentage of the acres certified over a rolling five year average.

Given the location of the real estate highest and best use parcels, development is assumed to be low-density residential such as recreation residences which would likely clear relatively small amounts of vegetation to maintain the rural forested character. Development would follow county zoning ordinances, such as setbacks from water bodies and septic system requirements, and applicable State and Federal laws.

Alternative 3 drops the real estate highest and best use parcels from the exchange. While it is possible that other parcels included in Alternative 3 could be sold under MDNR management policies for School Trust lands, such sales are assumed to be minimal for this analysis because the remaining parcels were identified for forestry or minerals management purposes as the highest and best use.

Conclusion: The Forest Service only infrequently and for narrow purposes sells national forest lands to private ownership, whereas the MDNR may sell School Trust lands to private ownership to fulfill objectives to generate revenue for Minnesota public schools. This is the most substantial difference between the management policies of the Forest Service in managing Superior National Forest lands, and the MDNR in managing School Trust lands. Potential effects related to this difference are disclosed in the EIS and are addressed through Alternative 3 considered in detail.

⁹ The amount of real estate development that may occur at a regional scale is unlikely to vary by alternative because demand for housing development could be met on existing private lands or subsequent to sale of existing School Trust lands in northeastern Minnesota under the No Action alternative.

3.1.1.3 Policies Related to Forest Management (timber harvest and related activities)

Forest Service-Superior National Forest Lands

At a landscape level, the Forest Service manages Superior National Forest lands according to the management direction in the Forest Plan. The Forest Plan takes into account the vegetation management goals and objectives of the Minnesota Forest Resource Council Landscape Plans, and are informed by the Ecological Classification System¹⁰ for ecological mapping and landscape classification.

At a site level, the Forest Service manages Superior National Forest lands in compliance with several sets of management guidelines that are intended to protect and conserve multiple resource uses and values while allowing for forest management. These include the Minnesota Forest Resources Council (MFRC) Voluntary Site-Level Guidelines, and Forest Plan standards and guidelines.

MDNR-School Trust Lands

At a landscape level, the MDNR manages School Trust lands and other DNR lands according to the management direction in the Northern Superior Uplands Section Forest Resource Management Plan¹¹. Overall, the Subsection Resource Management Plan is broadly aligned with the approach of the Superior National Forest Plan as both take into account the vegetation management goals and objectives of the Minnesota Forest Resource Council Landscape Plans, and are informed by the Ecological Classification System¹² for ecological mapping and landscape classification.

At a site level, MDNR manages School Trust lands in compliance with several sets of management guidelines that are intended to protect and conserve multiple resource uses and values while allowing for forest management. These include the Minnesota Forest Resources Council (MFRC) Voluntary Site-Level Guidelines, Forest Stewardship Council certification, and Sustainable Forestry Initiative certification.

The MDNR manages some School Trust lands for forestry under a ‘High Conservation Value Forest’ (HCVF) designation. On these lands, the MDNR would manage the forest to maintain conservation values, and would seek to compensate the School Trust where needed (see Operational Order 121, Section 3.1.1.1).

Conclusion: Overall, the two sets of forest management policies are similar, especially at a site level due to the common use of MFRC guidelines. Both management regimes are working towards similar overall landscape vegetation composition objectives. Priorities to generate revenues for the School Trust may result in a somewhat greater emphasis on even aged management and shorter rotations than on national forest lands.

3.1.1.4 Policies Related to Minerals Management

Forest Service-Superior National Forest Lands

The overall Forest Service mission is to “sustain the health, diversity, and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations.” The Organic Administration Act (Act of June 4, 1897) set aside and reserved national forests ‘to furnish a continuous supply of timber for the use and necessities of citizens of the United States’ and provided for mineral exploration within

¹⁰ <http://www.dnr.state.mn.us/ecs/index.html>

¹¹ This Plan is currently being revised; see <http://dnr.state.mn.us/forestry/subsection/nsu/index.html> for more information.

¹² <http://www.dnr.state.mn.us/ecs/index.html>

the national forest reserves; the Multiple Use Sustained Yield Act of 1960 states the national forests shall be administered for a variety of uses including timber, watershed and wildlife and fish purposes, and included provisions to continue use and administration of mineral resources on national forest lands; and the National Forest Management Act of 1976 that states the national forests shall be administered for a variety of uses on a sustained basis to ensure in perpetuity a continuous supply of goods and services to the American people. The Mining and Minerals Policy Act of 1970 states the following: The Congress declares that it is the continuing policy of the Federal Government in the national interest to foster and encourage private enterprise in:

- 1) the development of economically sound and stable domestic mining, minerals, metal and mineral reclamation industries,
- 2) the orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help assure satisfaction of industrial, security and environmental needs.

The Superior National Forest Land and Resource Management Plan (Forest Plan), approved in 2004, embodies the provisions of the National Forest Management Act, regulations on Forest Plan implementation, and the other laws previously stated. The Forest Plan guides all natural resource management activities for the SNF. The Plan describes desired resource conditions, resource management practices, levels of resource production and management, and the availability of suitable land for resource management. The Plan provides management objectives to ensure that ecosystems are capable of providing a sustainable flow of beneficial goods and service to the public. Desired Conditions for minerals management in the 2004 Forest Plan (p. 2-9) include:

- 1) Exploration and development of mineral and mineral material resources is allowed on National Forest System land, except of federally owned minerals in designated wilderness (Boundary Waters Canoe Area Wilderness (BWCAW)) and the Mining Protection Area (MPA). (D-MN-1)
- 2) Ensure that exploring, developing and producing mineral resources are conducted in an environmentally sound manner so that they may contribute to economic growth and national defense. (D-MN-2)

Forest Plan standards and guidelines set direction for the management of mineral resources. Federally owned minerals are generally open for exploration and development outside of Wilderness and Mining Protection Areas as long as those activities are consistent with the National Forest Land and Resource Management Plan and applicable Federal and State regulations. The use of NFS lands for exploration and development of non-federal mineral rights are governed by the reserved or outstanding rights indicated in the chain of title (S-MN-10). The Forest Plan also identifies these additional standards and guidelines pertaining to non-federal mineral rights:

- 1) A permit is not required for occupancy of federal surface for exploration or development of the underlying mineral estate unless the chain on title indicates one is appropriate (S-MN-11).
- 2) The protection of federal surface will be accomplished through negotiating with the mineral owner or operator and implementing applicable State and federal Laws (S-MN-12).
- 3) Where a federal permit is required, mitigation measures and management requirements will be established to minimize and mitigate adverse environmental effects (S-MN-13).
- 4) Land disturbed by mineral development activities or facilities will generally be reclaimed as soon as practical. Reclamation work will generally reflect the landscape character and processes of the surrounding landscape. Reclamation measures will generally be implemented so that the mining project areas would meet the pre-project SIO as soon as practical (G-MN-1).

The Forest Service's policy for minerals resource management is expressed in the Forest Service Manual:

The mission of the Forest Service in minerals management is to encourage, facilitate, and administer the orderly exploration, development, and production of mineral and energy resources on National Forest System lands to help meet the present and future needs of the Nation.

The authority to manage the exploration and development of mineral and energy resources within National Forest System lands is jointly shared between the Secretary of Agriculture and the Secretary of the Interior. The administration of the general mining laws and the mineral leasing acts is primarily the responsibility of the USDI. Certain mineral leasing acts require the consent of the Secretary of Agriculture and are subject to conditions that ensure the adequate utilization of the lands for the purposes for which they were acquired or are being administered. National Forest System lands whether acquired or reserved from the public domain shall not be leased over the objection of the Forest Service (43 CFR 3101.7-1(c)).

The objectives of the Forest Service regarding minerals consist of (FSM 2802):

- 1) Encourage and facilitate the orderly exploration, development, and production of mineral and energy resources on National Forest System lands to maintain a viable, healthy minerals industry.
- 2) Ensure that exploration, development, and production of mineral and energy resources are conducted in an environmentally sound manner and that these activities are integrated with the planning and management of other National Forest resources.
- 3) Eliminate or prevent occupancy and activities that are not reasonably incident to and required for the mineral operation.
- 4) Ensure that mineral-related activities are processed and administered in accordance with laws, regulations, and policy.
- 5) Promote self-sufficiency in mineral and energy resources essential for economic growth and the national defense.

MDNR-School Trust Lands

Regarding ferrous metallic minerals, Minnesota Rules Part 6130.0200 states:

The purpose of parts [6130.0100](#) to [6130.6300](#) is to implement Minnesota Statutes, sections [93.44](#) to [93.51](#) in order to control possible adverse environmental effects of mining, to preserve the natural resources, and to encourage the planning of future land utilization, while at the same time promoting the orderly development of mining, the encouragement of good mining practices, and the recognition and identification of the beneficial aspects of mining.

Regarding nonferrous metallic minerals, 'Questions and Answers Regarding State leases for Nonferrous Metallic Minerals' (MDNR 2015) states:

Why does the state lease its mineral rights? There are three primary reasons why the state grants leases of its mineral rights. First, is to support the goal of the Permanent School Trust Fund to secure the maximum long-term economic return from the School Trust Lands consistent with the fiduciary responsibilities imposed by the trust relationship established in the Minnesota Constitution, with sound natural resource conservation and management principles, and with other specific policy provided in state law. Revenue earned from School Trust Lands goes into the Permanent School Trust Fund. Allowing private minerals exploration companies to explore on School Trust Lands supports that goal because minerals have generated 90% of the historic total revenue to the Permanent School Trust Fund. There are also fiduciary responsibilities to the university trust lands and the tax-forfeited lands. Second reason, the state has an obligation to

support Minnesota Statutes, section 93.001 which sets forth state policy to “provide for the diversification of the state's mineral economy through long-term support of mineral exploration, evaluation, environmental research, development, production, and commercialization.” Lastly, there is private interest in exploring for minerals in Minnesota. Minnesota has high mineral potential, active and historic history of mining iron ore, excellent infrastructure for mining activities such as rail, ports, and power; and lastly a safe, conflict-free work environment and a stable democracy with a long history of honoring the rule of law.

With these reasons understood the state also has stringent rules concerning the potential environmental impacts of nonferrous metallic minerals development and exploration. Minnesota Rules, Chapter 6132 states that the purpose and policy concerning nonferrous metallic minerals is to “control possible adverse environmental effects ... to preserve natural resources ... while promoting orderly development of ... mining” so that mining is “conducted in a manner that will reduce impacts to the extent practicable, mitigate unavoidable impacts and ensure that the mining area is left in a condition that protects natural resources.”

Conclusion: Overall, the two sets of minerals management policies are similar. Minerals exploration and development in an environmentally sound manner is a possible use on the federal candidate parcels, whether the surface is managed by the Forest Service or MDNR. Mineral ownership would not change if a land exchange is authorized. See Section 3.6 of the EIS for more information.

3.1.2 Potential Uses of Exchanged Lands

Potential uses of the lands involved in the exchange under the existing condition, and potential uses that may occur after the exchange are presented in Section 3.1.2. Additional resource-specific information about potential uses of the lands is described as necessary in Sections 3.2 through 3.13.

3.1.2.1 Candidate Federal Parcels (outside BWCAW)

Existing Condition:

The majority of the federal parcels are located within the General Forest and General Forest-Longer Rotation Forest Plan Management Areas (MAs). These MAs emphasize land and resource conditions that provide a wide variety of goods, uses and services including timber management, minerals management, recreation, special uses, and other uses. Approximately 7,800 acres (19%) of the federal parcels fall within the Recreation Use in a Scenic Landscape and Semi-Primitive Motorized Recreation MAs. The management emphasis of these two areas is primarily recreation; and other uses, including timber management, minerals management, special uses, and other uses may occur on the federal parcels.

There are several complex special use permits and easements located on some of the federal parcels (see Appendix C). Many of these permits and easements involve both short and long-term authorizations for roads and trails, phone lines, electrical lines, fiber optics, and a county canister transfer station. These permits are located across the Forest and are administered by five ranger districts.

Potential Future Use of Exchanged Lands:

The candidate federal parcels would become School Trust lands administered by the MDNR. Potential ‘highest and best use’ of candidate federal parcels by the MDNR for School Trust lands management are shown in Appendix I and are displayed in the maps in Appendix H. The highest and best use reflects a screening categorization by the MDNR based on characteristics of each parcel (e.g. road frontage). The

highest and best uses have been identified as: forestry, forestry-high conservation value forest, minerals¹³, and real estate. The highest and best use designations do not mean such a use will occur if the land exchange is completed. No specific actions or projects are reasonably foreseeable on the exchange lands other than some timber harvest proposed by the Forest Service (see Appendix D). Instead, the highest and best use designations identify uses that are considered possible and would best meet school trust management objectives on the candidate federal parcels. In the case of candidate federal parcels identified for minerals or real estate highest and best use, these lands would be managed for forestry by MDNR until, if ever, a mineral or real estate use is actually proposed and authorized.

The highest and best uses identified are used to inform the effects analysis in Chapter 3. The analysis evaluates differences between policies and potential management uses of the Forest Service and MDNR on the lands proposed for exchange.

The MDNR would continue to allow activities that are currently authorized by special use permits. Nonfederal uses may continue under State jurisdiction by permit, easement or lease administered by the MDNR.

On parcels where the Forest Service manages existing trails or other recreation facilities, easements would be retained.

3.1.2.2 School Trust Lands (inside BWCAW)

Existing Condition:

The School Trust lands are widely scattered, noncontiguous lands distributed throughout the BWCAW in Cook, Lake and St. Louis Counties. Because of the location of these lands, they are not actively managed by MDNR and as such take on the characteristics of the surrounding wilderness. The analysis assumes that no physical change would occur to these lands under the No Action Alternative other than the continuation of natural ecological processes and wilderness uses allowed in the Superior National Forest Plan and applicable law. However, while not considered reasonably foreseeable, the possibility exists that uses of the School Trust lands inside the BWCAW could be proposed that are incompatible with wilderness management.

Potential Future Use of Exchanged Lands:

The School Trust lands would be added to the four Management Areas identified in the Forest Plan as comprising the BWCAW: Pristine, Primitive, Semi-Primitive Non-Motorized and Semi Primitive Motorized. The Forest Service would manage these lands in accordance with the Wilderness Act, the 1978 BWCA Act, Forest Service policies for wilderness, and Forest Plan direction for those Management Areas. The wilderness resource is managed to retain its enduring value, and for uses and activities compatible with wilderness character.

¹³ Parcels where the mineral rights are owned by the State of Minnesota are labelled minerals-trustsurface_taxformin on the maps in Appendix H.

3.2 Boundary Waters Canoe Area Wilderness (BWCAW)

3.2.1 Introduction

The School Trust Land Exchange Project Area includes lands located both inside and outside the Boundary Waters Canoe Area Wilderness (BWCAW). This analysis will disclose the effects of the School Trust Land Exchange on the wilderness resource.

3.2.1.1 Analysis Methods

The Forest Service has the responsibility to protect the wilderness character of the Boundary Waters Canoe Area Wilderness (BWCAW). The analysis for the wilderness resource utilizes the analysis for resource sections in Chapter 3 and then considers how these effects impact wilderness character.

Indicators

Indicator 1: Acres of federal ownership within BWCAW

This indicator evaluates how well each alternative meets the Purpose and Need to consolidate federal ownership within the BWCAW. An increase in federal ownership within the BWCAW would help meet this aspect of the Purpose and Need (see Section 1.4 for Purpose and Need).

Indicator 2: Effects to Wilderness Character

This indicator evaluates potential effects of each alternative on wilderness character of the BWCAW. This indicator looks at potential differences in effects between alternatives in management of the School Trust lands proposed for exchange within the BWCAW, as well as potential differences in effects to the BWCAW from management of the candidate federal parcels under each alternative.

Wilderness Character

The management of the wilderness resource and wilderness character is regulated by a body of laws, regulations, and policies as summarized in FSM 2300, Chapter 2320, 2320.1. The USDA Forest Service, Rocky Mountain Research Station has also developed an interagency strategy to monitor trends in wilderness character to provide a foundation for agencies to develop a nationally consistent approach to implement this monitoring and addresses two questions: How do stewardship activities affect attributes of wilderness character? How are attributes selected as integral to wilderness character changing over time within a wilderness, within an agency, and across the National Wilderness Preservation System? The guidelines and methods are documented in the General Technical Report - “Keeping It Wild 2; An Updated Interagency Strategy to Monitor Trends in Wilderness Character Across the National Wilderness Preservation System” (USDA Forest Service RMRS-GTR-340. 2015). This report defines the five qualities of wilderness as:

- *Untrammeled* – wilderness is essentially unhindered and free from the intentional actions of modern human control or manipulation.
- *Natural* – wilderness ecological systems are substantially free from the effects of modern civilization.
- *Undeveloped* – wilderness is essentially without permanent improvements or the sights and sounds of modern human occupation.
- *Outstanding opportunities for solitude or a primitive and unconfined type of recreation* – wilderness provides outstanding opportunities for recreation in an environment that is

relatively free from the encumbrances of modern society, and for the experience of the benefits and inspiration derived from self-reliance, self-discovery, physical and mental challenge, and freedom from societal obligations..

- *Other Features of Value* – wilderness features that may include cultural resource sites, paleontological sites, or any other features not included under the other four qualities that have ecological, geological, scientific, educational, scenic, or historical value.

Analysis Parameters

The analysis area for direct, indirect and cumulative effects includes the entire BWCAW because this covers the area where federal ownership may change due to the School Trust Land exchange and other land transactions, and covers the area where wilderness character could be affected.

The analysis timeframe is in perpetuity because the land exchange and other land transactions changing ownership within the BWCAW are assumed to be permanent.

3.2.2 Affected Environment

Forest Service-National Forest Lands

The BWCAW is part of the National Wilderness Preservation System and is unique in the System in that visitors to the area have the opportunity to travel primarily by canoe. In addition to the recreational opportunities of the BWCAW, it protects over 1 million acres of boreal forest in its natural condition.

Glaciers left behind lakes and streams interspersed with islands that are surrounded by rugged cliffs and crags, gentle hills, canyon walls, rocky shores, and sandy beaches. The total acreage within the BWCAW is approximately 1,096,342 (all ownerships). Under the existing condition, there are approximately 815,108 acres of federal ownership within the BWCAW.

Approximately 1175 lakes varying in size from 10 acres to 10,000 acres and several hundred miles of streams comprise about 190,000 acres (20 percent) of the BWCAW surface area and provide for the opportunity for long distance travel by watercraft. The BWCAW has approximately 67 entry points with access to 1200 miles of canoe routes, 12 hiking trails, and over 2,000 designated campsites. It offers freedom to those who wish to pursue the expansive opportunities for solitude and personal challenges. In the winter months visitors also enjoy opportunities for skiing, dog-sledding, snowshoeing, camping and ice- fishing. This type of experience is rare within the continental United States and the BWCAW is the only lake land wilderness of its kind and size in the National Wilderness Preservation System allowing visitors to canoe, hike, portage and camp. The BWCAW is one of the most heavily used wilderness areas in the Forest Service with an average of 26,000 reserved permits and 13,000 self-issue permits (day use paddle and non-quota season overnight use paddle and motor) annually, and approximately 150,000 day and overnight visitors a year.

The SNF Forest Plan (pages 3-40 to 3-76) establishes a framework, along with the wilderness character framework, for managers allowing them to provide a range of wilderness opportunities for the public while maintaining the overall goals of preservation. The wilderness has been divided into four different management areas:

- **Pristine wilderness.** Areas of pristine wilderness provide outstanding opportunities for isolation and solitude, relatively free from the evidence of contemporary human activities. Frequency of encounters with other visitors is rare.

- **Primitive wilderness.** This area provides an excellent opportunity for isolation and solitude, relatively free from the sights and sounds of humans. The frequency of encountering others is low.
- **Semi-primitive non-motorized wilderness.** Opportunities for experiencing isolation and solitude are moderate to low. The frequency of encountering others in the area is moderate.
- **Semi-primitive motorized wilderness.** Opportunities for experiencing solitude and isolation are low. Motorized watercrafts are permitted and will be noticeable along major travel routes and portages and near major entry points. The frequency of encountering others is moderate to high.

MDNR-School Trust Lands

Within the BWCAW, state-owned lands including School Trust lands are designated as state wilderness areas under Minnesota Statute 86A.05, subdivision 6 (see also Minnesota Statute 84.523). Mining, peat harvesting, logging, and other activities inconsistent with wilderness values are generally prohibited within the BWCAW. The School Trust lands within the BWCAW proposed for exchange take on the characteristics of the surrounding federal wilderness.

3.2.3 Direct and Indirect Effects

Indicator 1: Acres of federal ownership within BWCAW

Table 3.2-1 displays the change in federal ownership within the BWCAW under each Alternative. Because Alternative 1 does not increase federal ownership, it does not meet the Purpose and Need. Alternatives 2 and 3 meet an aspect of the Purpose and Need by increasing federal ownership within the BWCAW by about 31,057 acres.

Table 3.2-1 Federal ownership within BWCAW			
	Alternative 1	Alternative 2	Alternative 3
Existing Condition	815,108 acres	815,108 acres	815,108 acres
School Trust Land Exchange	+0 acres	+31,057 acres	+31,057 acres
Cumulative Actions			
Cook County Land Exchange	+1,911 acres	+1,911 acres	+1,911 acres
School Trust Land Acquisition	+ 53,000 acres (approximate)	+53,000 acres (approximate)	+53,000 acres (approximate)
Gunflint Land Acquisition	+32 acres	+32 acres	+32 acres

Table 3.2-1 Federal ownership within BWCAW			
	Alternative 1	Alternative 2	Alternative 3
Cumulative Total Federal Ownership within BWCAW¹⁴	870,051 acres	900,922 acres	900,922 acres

Indicator 2: Effects to Wilderness Character

School Trust Lands within BWCAW:

Federal and state law (see Sections 3.2.1 and 3.2.2) generally¹⁵ preclude management of the School Trust parcels within the BWCAW in a way that would adversely affect wilderness character. Under all alternatives, natural ecological processes and wilderness management such as campsite and portage maintenance would continue.

Candidate Federal Parcels outside BWCAW:

Candidate federal parcels may be managed under each alternative as outlined in Section 3.1 Analysis Framework. Potential future uses on the candidate federal parcels could result in indirect effects to the BWCAW. Potential future uses include:

Forestry: Forest management adjacent to the BWCAW could result in effects to lands within the BWCAW or effects within the same watershed. None of the candidate federal parcels are directly adjacent to the BWCAW. There are three candidate federal parcels within a mile of the BWCAW with a highest and best use of forestry (see Map 2a, Appendix H). Site-level guidelines to protect soil and water resources are similar among all alternatives (see Section 3.10) and effects would be unlikely to enter the BWCAW. Noise generated by logging equipment would be temporary, a type common on the landscape, and similar among all alternatives because both the Forest Service and MDNR manage timber sales.

Minerals: While a minerals development proposal located on candidate federal parcels could potentially affect the BWCAW, there are none that are reasonably foreseeable. Federal and state law protecting the BWCAW would apply to a minerals development proposal under all alternatives. See Section 3.6 for more information on minerals management policies.

Real Estate: Real estate development adjacent to the BWCAW could result in effects to lands within the BWCAW or effects within the same watershed. None of the candidate federal parcels are directly adjacent to the BWCAW. There are four candidate federal parcels within a mile of the BWCAW with a highest and best use of real estate (see Map 2a, Appendix H). County ordinances and applicable regulations would limit effects from potential construction and use of rural forest homes and effects are unlikely to enter the BWCAW (see section 3.10). Noise generated by construction of any homes on these four parcels would be temporary and of a type common on the landscape because home construction or renovation occurs periodically on privately owned lands within the Forest.

¹⁴ There are approximately 1,096,342 acres within the BWCAW under all ownerships.

¹⁵ While not reasonably foreseeable for effects analysis, the possibility exists that MDNR management of School Trust Lands within the BWCAW could change in a way incompatible with wilderness character. The acquisition of School Trust lands within the BWCAW by the federal government would eliminate this risk.

3.2.4 Cumulative Effects

Indicator 1: Acres of federal ownership within BWCAW

Table 3.2-1 displays the cumulative change in federal ownership within the BWCAW, accounting for the other land transactions displayed in Appendix D. Federal ownership will increase under all Alternatives due to the Cook County Land Exchange, Gunflint Land Acquisition, and School Trust Purchase. Alternatives 2 and 3 will result in the greatest cumulative increase in federal ownership and better meet the Purpose and Need than Alternative 1.

Indicator 2: Effects to Wilderness Character

School Trust Lands within BWCAW:

As discussed in Section 3.2.3, there would be no change in wilderness character under any Alternative as related to management of the School Trust lands within the BWCAW. Therefore, there would be no cumulative effects to wilderness character as related to management of the School Trust lands within the BWCAW under any alternative.

Candidate Federal Parcels outside BWCAW:

As discussed in Section 3.2.3, differences between alternatives in management of the candidate federal parcels are unlikely to impact the BWCAW. Therefore, there would be limited or no cumulative effects to wilderness character under any alternative.

3.3 Recreation and Scenery

3.3.1 Introduction

The School Trust Land Exchange Project Area includes lands located both inside and outside the Boundary Waters Canoe Area Wilderness (BWCAW) used both directly and indirectly by the public for recreation. Section 3.2 discloses effects to the BWCAW. This section will evaluate potential effects to recreation on the candidate federal parcels due to a change in management policies from the Forest Service for national forest lands to the MDNR for school trust lands.

Superior National Forest lands proposed for exchange outside of the BWCAW are used for both non-motorized and motorized access to a wide range of the Forest's dispersed recreation and trails opportunities. These include hunting, gathering, trapping, berry picking, sightseeing, hiking, recreation motor vehicle (RMV) riding and others.

3.3.1.1 Methodology

Indicators

Indicator 1: Access to Recreation facilities and dispersed recreation

This indicator evaluates potential effects to recreation facilities (including trails, access points and campsites) on the lands proposed for exchange. This indicator displays whether the exchange would affect the existing and future use of recreation facilities in consideration of Forest Service policies for national forest lands and MDNR policies for School Trust lands. As noted in sections 1.5 and 2.2.3, the Forest Service would retain easements for existing recreation facilities on candidate federal parcels if a land exchange is authorized.

This indicator also evaluates whether access for dispersed recreation would be affected by future uses of the exchanged lands. This may occur if lands designated for highest and best use of real estate are sold to private parties, in which case public access is assumed to be lost.

Indicator 2: Forest Plan Management Area Direction

The 2004 Superior National Forest Plan outlines management direction for specific management areas (MA) in addition to forest-wide management direction. MA direction was developed to be appropriate for the variety of different uses and resources in the MAs. Ten different MAs were identified for National Forest lands outside of the Wilderness (Forest Plan, pg. 3-2; see map of Management Areas at Forest Plan Figure MAS-1).

Recreational use does occur within all of the Forest Plan Management Areas on the Forest however, two MAs emphasize land and resource conditions which support or enhance the scenic and recreational experience:

Recreational Use in a Scenic Landscape (RU) emphasizes land and resource conditions that provide a scenic landscape for recreational activities in natural-appearing surroundings (Forest Plan, pg. 3-14). Standard S-RU-1 states: "To meet management, recreation and scenic resource objectives, purchases, donations, and exchanges will be used to enhance and protect the landscape, viewshed, and character of the area. Conveyances will be permitted on a case-by-case basis, as long as management area objectives are not compromised." The analysis will evaluate compliance with S-RU-1.

Semi-primitive Motorized Recreation (SPM) emphasizes land and resources conditions that provide recreational opportunities in nearly primitive surroundings where motorized use is allowed (Forest Plan,

pg. 3-25). Guideline G-SPM-4 states: “Conveyances of National Forest System land will generally not be permitted. Acquisitions will generally be priority 2.” The action alternatives include conveyance of national forest system land in this MA. The analysis will evaluate the effects of deviating from Guideline G-SPM-4¹⁶.

Indicator 3: Recreation Opportunity Spectrum (ROS)

The USDA Forest Service uses a nationally recognized classification system called the Recreation Opportunity Spectrum (ROS) to help describe different recreation settings, opportunities, and experiences and to help guide management activities. The names of the ROS classes are descriptive: urban, rural, roaded natural, semi-primitive motorized, semi-primitive non-motorized, and primitive (Forest Plan, pg. 2-40 and 2-41; see map at Forest Plan Figure O-REC-1).

The ROS class objectives for the candidate federal parcels to be exchanged in this project are Rural, Roaded Natural, Semi-Primitive Motorized, and Semi-Primitive Non-Motorized.

This analysis evaluates whether the exchange is likely to result in a change to ROS classifications in the areas affected by the land exchange in consideration of Forest Service policies for national forest lands and MDNR policies for School Trust lands. Forestry and minerals management are similar between the agencies as discussed in section 3.1; therefore this analysis focuses on potential changes in ROS classification due to potential development on real estate highest and best use candidate federal parcels.

Real estate development for rural residential use such as vacation cabins would not result in changes to ROS classifications of Rural and Roaded Natural because such development is typical for these ROS classifications. Therefore, this indicator discusses potential effects to Semi-Primitive Non-Motorized and Semi-Primitive Motorized ROS areas from real estate highest and best use candidate federal parcels.

Indicator 4: Scenery

The Forest Plan uses Scenic Integrity Objectives (SIO) to manage for scenic resources on the Superior National Forest. Various areas of the Forest are identified as having High, Moderate or Low SIO (Forest Plan pp. 2-45 to 2-48; see map at Forest Plan Figure SC-1). The candidate federal parcels are located in all of the SIO areas.

This analysis evaluates whether the exchange is likely to result in a change to High and Moderate SIO in the areas affected by the land exchange in consideration of Forest Service policies for national forest lands and MDNR policies for School Trust lands. Forestry and minerals management are similar between the agencies as discussed in section 3.1. In the case of scenery, both agencies follow Minnesota Forest Resource Council Site-Level Guidelines, which include guidance to manage for visual quality (MFRC Site Level Guidelines Handbook, pp. 4, 10, and 11). Therefore, this analysis focuses on potential changes in scenery due to potential development on real estate highest and best use candidate federal parcels.

Indicator 5: Off Highway Vehicle (OHV) policies

Both the Forest Service and the MDNR manage for OHV as one of multiple uses on public lands. However, there may be potential differences in specific policies related to that use. Both agencies generally allow cross-country snowmobile travel on the candidate federal parcels. Regarding all-terrain vehicles (ATV), both agencies allow use on roads and trails that are open to such use. The Superior National Forest prohibits cross-country ATV travel, while the MDNR allows cross-country ATV travel in some areas for purposes of hunting and trapping during hunting and trapping seasons.

¹⁶ Projects may deviate from a Forest Plan Guideline as described at Forest Plan p. 1-8.

This analysis evaluates whether the exchange is likely to result in effects related to OHV use in consideration of Forest Service policies for national forest lands and MDNR policies for School Trust lands.

Analysis Parameters

The analysis area for direct and indirect effects includes the candidate federal parcels because this is where changes in land ownership resulting from the School Trust Land Exchange could result in effects to recreation opportunities. The analysis area for cumulative effects includes the candidate federal parcels plus areas Forest-wide that may change landownership (see Appendix D) to evaluate cumulative changes in recreation opportunities. The analysis timeframe is 154 years because this is when potential real estate sale and development is assumed to be complete (see Section 3.1).

3.3.2 Affected Environment

The candidate federal parcels proposed to be exchanged are scattered throughout the Superior National Forest and are currently undeveloped and used for forest management and dispersed recreation opportunities. Recreation use is managed according to the Forest Plan (for example, see pp. 2-40 to 2-47) and other applicable federal regulations. A desired condition from the Forest Plan is “The Forest provides a range of quality motorized and non-motorized recreation opportunities to satisfy diverse public interest while maintaining sustainable ecosystems.”

The candidate federal parcels are generally in locations isolated from larger tracts of federal land but closer to larger tracts of State of Minnesota lands. In addition, a network of roads near these parcels facilitates both non-motorized and motorized access to a wide range of the Forest’s dispersed recreation and trails opportunities. These include hunting, gathering, trapping, berry picking, hiking, sightseeing, and recreation motor vehicle (RMV) riding.

3.3.3 Direct and Indirect Effects

3.3.3.1 Alternative 1 – No Action

Under Alternative 1, no land exchange would occur and recreation management and use on the candidate federal parcels would continue as currently managed by the Forest Service.

3.3.3.2 Alternative 2

Indicator 1: Recreation facilities and dispersed recreation

There are thirteen different recreation sites and segments of trails which would be affected by this project under Alternative 2 (and a subset of these sites under Alternative 3). The sites and trails, the distance affected if it is a trail and their general locations are listed in Table 3.3-1.

Table 3.3-1. Alternative 2 Affected Recreation Sites and Trails		
Site/Trail	Distance Affected	Location
Shoepack Lake Boat Access	N/A	Laurentian Ranger District, St. Louis County
Shannon River Campsite and Access Trail (non-motorized)	.25 mile	Laurentian Ranger District,

Table 3.3-1. Alternative 2 Affected Recreation Sites and Trails

Site/Trail	Distance Affected	Location
		St. Louis County
Taconite State Snowmobile Trail	5 miles	Laurentian and Kawishiwi Ranger Districts, St. Louis County
Sturgeon River Ski Trail	7 miles (unmaintained trail)	Laurentian Ranger District, St. Louis County
Kinney Spur Snowmobile Trail	2 miles	Laurentian Ranger District, St. Louis County
Arrowhead State Snowmobile Trail	11 miles	LaCroix Ranger District, St. Louis County
Agass Lake Access Trail (non-motorized)	.75 miles	Kawishiwi Ranger District, St. Louis County
Stony Spur ATV Trail	4 miles	Kawishiwi Ranger District, St. Louis and Lake Counties
Yukon Snowmobile Trail	4 miles	Tofte Ranger District, Lake County
Blueberry Snowmobile Trail	6 miles	Gunflint Ranger District, Cook County
Border Route Hiking Trail – Otter Lake Cutoff	1 mile	Gunflint Ranger District, Cook County
Border Route Hiking Trail	5 miles	Gunflint Ranger District, Cook County
Superior Hiking Trail	14 miles	Gunflint Ranger District, Cook County

The MDNR - Parks and Trails Division oversees trails on State and School Trust lands. As noted in sections 1.5, the Forest Service would retain easements for existing recreation facilities on candidate federal parcels if a land exchange is authorized. The easements would provide that existing uses would continue on these recreation facilities. Given the easements, the longevity of the trails and the importance they have supporting tourism in the region, it is anticipated that MDNR Parks and Trails and local trail clubs would continue priority recreation activities on these lands and continue to manage them similar to how the Forest Service currently manages them (Majerus email communication, 12/1/15). The only exception would be the Sturgeon River Trail. The Forest Service does not currently maintain this segment of trail and under MDNR management it would most likely be decommissioned.

See Tables 3.4.1 and 3.4.2 for changes in access to federal and public lands for dispersed recreation under the alternatives. Alternative 2 may eventually result in loss of access for dispersed recreation on the real estate highest and best use parcels.

Indicator 2: Forest Plan Management Area Direction

S-RU-1

Alternative 2 includes about 3,597 acres of candidate federal parcels proposed for exchange in the Recreation Use in a Scenic Landscape (RU) Management Area (MA). Of these lands, about 815 acres are identified as real estate highest and best use and the remaining land (about 2,782 acres) are identified as forestry and forestry-high conservation value forest highest and best use.

Standard S-RU-1 applies to these lands. The response to comments on the Forest Plan Revision provides context for Standard S-RU-1:

The respondent also asks that limitations on land adjustment in the Recreation Use in a Scenic Landscape MA on the Superior NF be increased to prohibit exchanges of lands that could eventually be used for residential or resort development. We have decided to not amend the management direction as requested because doing so would preclude the very types of developed recreation opportunities that are described in the theme and desired conditions (e.g. D-RU-5, D-RU-8 and D-RU-9) of this MA. We feel that standard S-RU-1 provides a level of control on land adjustments that is better fitted to the theme and desired conditions of this MA, and have retained this guideline in the final Plans of both Forests. (Forest Plan Final EIS, Appendix J, p. J-347-348).

In Alternative 2, the real estate highest and best use parcels could be eventually be used for development, primarily residential such as cabins. The real estate highest and best use land represent about 1% of the 84,309 acres of national forest lands in this MA on the north shore of Lake Superior. Development of this land would result in a reduction of forest lands on the footprint of development. Parcels identified as forestry and forestry-high conservation value forest highest and best use would continue to contribute towards the forested character of the area. In the context of the land base in this MA, development on the real estate highest and best use parcels would not alter the overall forested character of the area and would contribute towards meeting D-RU-5, D-RU-8 and D-RU-9 as envisioned in the response to comments in the Forest Plan Final EIS. Alternative 2 would meet S-RU-1 in the Forest Plan.

G-SPM-4

In Alternative 2, about 4,245 acres of candidate federal parcels are proposed for exchange in the Semi Primitive Motorized (SPM) MA out of a total of about 69,018 acres of federal ownership in this MA (about 6%). All of these parcels are identified as minerals highest and best use. Alternative 2 would deviate from G-SPM-4 because these parcels would be conveyed to the State.

Minerals highest and best use parcels would not have substantial and reasonably foreseeable differences between Forest Service and MDNR management (see section 3.6). Unless a minerals management project is proposed and authorized, these lands would be managed by MDNR for forestry. Forestry highest and best use lands may be managed by MDNR with somewhat less emphasis on older forest characteristics than the Forest Service would in this MA (see D-SPM-1, Forest Plan p. 3-25). Motorized recreation opportunities on these lands as envisioned by the SPM MA would continue to be available under MDNR management. Somewhat more motorized access for may be available under MDNR management than Forest Service management (see Indicator 5).

Because of these limited differences and the Desired Conditions for this MA, deviating from Guideline G-SPM-4 would not substantially impair the ability of the Forest Service to manage the remaining national forest lands to move towards the Desired Conditions for this MA in the Forest Plan.

Indicator 3: Recreation Opportunity Spectrum

There are 159 candidate federal parcels with a highest and best use of real estate which overlap Semi-Primitive Motorized ROS class areas and 36 such parcels which overlap Semi-Primitive Non-Motorized ROS class areas. The overlapping areas total about 5,071 acres. In these areas, development could eventually result in a change to the ROS classification to Roaded Natural as a result of development of cabins interspersed in the woods. Most of these candidate federal parcels are adjacent to or contain existing roads.

Indicator 4: Scenery

Under Alternative 2, there are about 8,251 acres of candidate federal parcels with real estate highest and best use within moderate and high SIO areas. While Forest Plan direction for managing SIO would not apply to land under ownership of the State of Minnesota, the scenery on these parcels could change to reflect development such as cabins if sold to private parties. The scenery on these parcels could trend towards that found in Roaded Natural ROS areas (see Indicator 3).

Indicator 5: OHV policies

As discussed in Section 3.3.1.1, the most notable difference between management policies is that MDNR allows for cross-country OHV use for hunting and trapping purposes during hunting and trapping seasons, whereas the Superior National Forest prohibits public cross-country OHV use. Under Alternative 2, this would result in an increase in motorized access for hunting and trapping on candidate federal parcels. It would also increase the potential for resource damage to soil and water resources, wildlife habitat, and conflicts with non-motorized recreation. These effects would be limited by MDNR management policies. MDNR prohibits use which damages wetlands or causes rutting while traveling cross country on OHVs. MDNR may prohibit cross-country OHV use in some areas to manage for other resources.

Effects from OHV and snowmobile use on existing routes that are open to such use, and cross country snowmobile use, would be similar to Alternative 1 because both the Forest Service and MDNR manage for such uses.

3.3.3.3 Alternative 3

Indicator 1: Recreation facilities and dispersed recreation

In Alternative 3, there are six segments of trail (on the Arrowhead, Taconite, and Yukon Snowmobile Trails; Border Route and Superior Hiking Trails; and Sturgeon River Ski Trail) which would change from National Forest System lands to Minnesota School Trust lands. The MDNR - Parks and Trails Division oversees trails on State and School Trust lands. As noted in section 2.2.3, the Forest Service would retain easements for existing recreation facilities on candidate federal parcels if a land exchange is authorized. The easements would provide that existing uses would continue on these recreation facilities.. Given the easements, the longevity of the trails and the importance they have supporting tourism in the region, it is anticipated that the MDNR - Parks and Trails Division would continue priority recreation activities on these lands and continue to manage them similar to how the Forest Service currently manages them (Majerus email communication, 12/1/15).

See Tables 3.4.1 and 3.4.2 for changes in access to federal and public lands for dispersed recreation under the alternatives. Alternative 3 would minimize or avoid loss of access for dispersed recreation because it does not include the real estate highest and best use parcels.

Indicator 2: Forest Plan Management Area direction

S-RU-1

Alternative 3 includes about 1,322 acres of candidate federal parcels proposed for exchange in the Recreation Use in a Scenic Landscape (RU) Management Area (MA). These lands have a forestry and forestry-high conservation value forest highest and best use. Management area objectives would not be compromised and Alternative 3 would meet the direction at S-RU-1 in the Forest Plan.

G-SPM-4

In Alternative 3, about 2,664 acres of candidate federal parcels are proposed for exchange in the Semi Primitive Motorized (SPM) MA out of a total of about 69,018 acres of federal ownership in this MA (about 3.9%). All of these parcels are identified as minerals highest and best use. Alternative 2 would deviate from G-SPM-4 because these parcels would be conveyed to the State.

Minerals highest and best use parcels would not have substantial and reasonably foreseeable differences between Forest Service and MDNR management (see section 3.6). Unless a minerals management project is proposed and authorized, these lands would be managed by MDNR for forestry. Forestry highest and best use lands may be managed by MDNR with somewhat less emphasis on older forest characteristics than the Forest Service would in this MA (see D-SPM-1, Forest Plan p. 3-25). Motorized recreation opportunities on these lands as envisioned by the SPM MA would continue to be available under MDNR management.

Because of these limited differences and the Desired Conditions for this MA, deviating from Guideline G-SPM-4 would not substantially impair the ability of the Forest Service to manage the remaining national forest lands to move towards the Desired Conditions for this MA in the Forest Plan.

Indicator 3: Recreation Opportunity Spectrum

Under Alternative 3, there are no federal candidate parcels with real estate highest and best use whose development may affect ROS class. Overall, Alternative 3 is unlikely to result in any substantial changes to existing ROS classifications on the Forest.

Indicator 4: Scenery

Under Alternative 3, there are no federal candidate parcels with real estate highest and best use whose development may affect SIO. Overall, Alternative 3 is unlikely to result in any substantial changes to existing SIO on the Forest.

Indicator 5: OHV policies

As discussed in Section 3.3.1.1, the most notable difference between management policies is that MDNR allows for cross-country OHV use for hunting and trapping purposes during hunting and trapping seasons, whereas the Superior National Forest prohibits public cross-country OHV use. Under Alternative 3, this would result in an increase in motorized access for hunting and trapping on candidate federal parcels. It would also increase the potential for resource damage to soil and water resources, wildlife habitat, and conflicts with non-motorized recreation. These effects would be limited by MDNR management policies. MDNR prohibits use which damages wetlands or causes rutting while traveling cross country on OHVs. MDNR may prohibit cross-country OHV use in some areas to manage for other resources. Effects of cross country OHV use would pertain to a smaller area under Alternative 3 than Alternative 2 due to fewer acres being conveyed.

Effects from OHV and snowmobile use on existing routes that are open to such use, and cross country snowmobile use, would be similar to Alternative 1 because both the Forest Service and MDNR manage for such uses.

Table 3.3-2. Summary of Areas Evaluated for Indicators 2, 3, and 4				
Indicator		Alt. 1	Alt. 2	Alt. 3
Indicator 2: Forest Plan Management Area Direction	Recreational Use in a Scenic Landscape	0	815 acres Real Estate Highest and Best Use (HBU) 2,782 acres Forestry HBU	1,322 acres Forestry HBU
	Semi-primitive Motorized Recreation	0	4,245 acres Minerals HBU	2,664 acres Minerals HBU
Indicator 3: Recreation Opportunity Spectrum (ROS)	Semi-primitive Non-motorized and Semi-primitive Motorized	0	5,071 acres Real Estate HBU	0
Indicator 4: Scenery	Moderate and High Scenic Integrity Objectives (SIO)	0	8,251 acres Real Estate HBU	0

3.3.4 Cumulative Effects

3.3.4.1 Alternative 1

While cumulative land transactions would increase lands with public access in several areas, recreation opportunities and settings Forest-wide would continue similar to the existing situation.

3.3.4.2 Alternative 2

Indicator 1: Recreation facilities and dispersed recreation

Due to lack of recreation facilities on federal lands proposed for conveyance (NorthMet Land Exchange) or commitments to continue allowing use (Cook County Land Exchange), cumulative land transactions would not affect use of any existing designated campgrounds, trails or other recreation facilities.

See Tables 3.4.1 and 3.4.2 for cumulative changes in access to federal and public lands for dispersed recreation under the alternatives. There would be a cumulative net gain in public access.

Indicator 2: Forest Plan Management Areas

Recreation Use in a Scenic Landscape MA

The Cook County Land Exchange would result in 670 acres of federal land in the RUSL MA being conveyed to Cook County. When added to Alternative 2, this would total about 4,267 acres of federal land in the RUSL MA on the North Shore of Lake Superior being conveyed to other ownership out of about 84,309 acres (5%). The Gunflint Land Acquisition would add 20 acres of federal ownership in the RUSL MA in the Gunflint Trail corridor. The total cumulative effects represent a small incremental difference from the direct and indirect effects, and would be in compliance with S-RU-1 in the Forest Plan.

Semi-Primitive Motorized MA

Cumulative land transactions do not affect ownership in this MA; therefore there would be no cumulative effects related to this MA.

Indicator 3: Recreation Opportunity Spectrum

The NorthMet Land Exchange would convey about 5,528 acres of federal land in a SPM ROS class to private ownership and the Cook County Land Exchange would convey about 598 acres of federal land in a SPM or SPNM ROS class to Cook County.

The NorthMet Land Exchange would acquire about 5,565 acres, the Bushman Land Acquisition would acquire about 1,688 acres, and the Gunflint Lake Acquisition would acquire about 20 acres in a SPM or SPNM ROS class for federal ownership.

Cumulative land transactions would result in a net increase of SPM or SPNM ROS class areas on the Forest, reducing the loss of these areas resulting from Alternative 2.

Indicator 4: Scenery

The Cook County Land Exchange would convey to Cook County about 1,594 acres of federal land with an SIO of Moderate or High. Of this land, scenery on about 200 acres may trend towards visuals associated with rural development, in addition to the 8,251 acres of Moderate or High SIO areas that may be affected by the Modified Proposed Action.

Other cumulative land transactions are not located in Moderate or High SIO areas, although the Bushman and Gunflint Lake Land Acquisitions would likely be classified as such when brought into federal ownership, reducing the net loss of Moderate or High SIO areas on the Forest.

Indicator 5: OHV policies

Cumulative land transactions would have varying and minor effects on OHV policies. On the federal lands proposed for conveyance in the NorthMet Land Exchange, public OHV use would be assumed to be prohibited by PolyMet Inc. Federal land proposed for conveyance to Cook County would likely see OHV use similar to that of the MDNR under management by Cook County. Lands acquired in the NorthMet Land Exchange, Bushman Land Acquisition and Gunflint Lake Land Acquisition would be managed for OHV use according to Forest Service regulations and the Forest Plan.

Conclusion-Alternative 2 Cumulative Effects

When added to the Alternative 2 candidate federal parcels with a real estate highest and best use designation, cumulative land transactions would result in a loss of recreation opportunities and changes to recreation settings on some lands conveyed to private landowners (the federal lands in the NorthMet Land Exchange, although there is limited recreation use of the NorthMet federal lands; and about 200 acres of federal land in the Cook County Land Exchange that may be subsequently developed). Cumulative land transactions would also result in new recreation opportunities for the public on acquired lands (for example, the Hay Lake tract in the NorthMet Land Exchange, and the tract adjacent to the BWCAW in the Bushmen Land Acquisition). While these outcomes change opportunities and settings in various locations on the Forest, at a Forest-wide scale there would be similar recreational opportunities as compared to the existing situation. See Forest-wide outcomes for land access at Table 3.4-2.

3.3.4.3 Alternative 3

Indicator 1: Recreation facilities and dispersed recreation

Due to lack of recreation facilities on federal lands proposed for conveyance (NorthMet Land Exchange) or commitments to continue allowing use (Cook County Land Exchange), cumulative land transactions would not affect use of any existing designated campgrounds or trails.

See Tables 3.4.1 and 3.4.2 for cumulative changes in access to federal and public lands for dispersed recreation under the alternatives. There would be a cumulative net gain in public access.

Indicator 2: Forest Plan Management Areas

Recreation Use in a Scenic Landscape MA

The Cook County Land Exchange would result in 670 acres of federal land in the RUSL MA being conveyed to Cook County. When added to Alternative 3, this would total about 1,992 acres of federal land in the RUSL MA on the North Shore of Lake Superior being conveyed to other ownership out of about 84,309 acres (2.4%). The Gunflint Land Acquisition would add 20 acres of federal ownership in the RUSL MA in the Gunflint Trail corridor. The total cumulative effects represent a small incremental difference from the direct and indirect effects, and would be in compliance with S-RU-1 in the Forest Plan.

Semi-Primitive Motorized MA

Cumulative land transactions do not affect ownership in this MA; therefore there would be no cumulative effects related to this MA.

Indicator 3: Recreation Opportunity Spectrum

The NorthMet Land Exchange would convey about 5,528 acres of federal land in a SPM ROS class to private ownership and the Cook County Land Exchange would convey about 598 acres of federal land in a SPM or SPNM ROS class to Cook County.

The NorthMet Land Exchange would acquire about 5,565 acres, the Bushman Land Acquisition would acquire about 1,688 acres, and the Gunflint Lake Acquisition would acquire about 20 acres in a SPM or SPNM ROS class for federal ownership.

Cumulative land transactions would result in a net increase of SPM or SPNM ROS class areas on the Forest. Overall, there would be a net increase of SPM and SPNM ROS class areas on the Forest under Alternative 3 because the direct and indirect effects are unlikely to substantially change SPM or SPNM ROS class areas.

Indicator 4: Scenery

Alternative 3 would have minimal cumulative effects because changes to scenery related to real estate development would be minimized or avoided.

Indicator 5: OHV policies

Cumulative effects for Alternative 3 would be similar to Alternative 2 for OHV policies; however the total changes would affect fewer acres.

Conclusion-Alternative 3 Cumulative Effects

The total cumulative effect for Alternative 3 would be similar to Alternative 2, except that changes to ROS class, scenery and access for dispersed recreation related to real estate development as a result of Alternative 3 would be minimized or avoided.

3.4 Treaty Rights and Tribal Interests

3.4.1 *Introduction*

Tribes are sovereign nations. The United States government and its departments, including the USDA Forest Service, have a responsibility to recognize this status. The federal relationship with each tribe was established by, and has been addressed through, the Constitution of the United States, treaties, executive orders, statutes and court decisions. Government-to-government consultation between the federal government and federally recognized American Indian tribal governments acknowledges the sovereign status of these tribes. This consultation supports Executive Order 13175 (November 6, 2000), which recognizes the sovereignty of federally recognized American Indian tribes and the special government-to-government relationship.

Beginning in the mid-nineteenth century, the government of the United States made treaties with the Ojibwe that ceded areas of land in northern Minnesota to the federal government. In return, specific reservations were created for the tribes' use and other considerations specified. The treaties also preserved the right of the Ojibwe bands to hunt, fish and gather off the reservations within the treaty area. Tribal interests and uses on National Forest lands are protected through various statutes. The federal trust doctrine requires that federal agencies manage the lands under their stewardship with full consideration of tribal rights and interests, particularly reserved rights, where they exist.

The Superior National Forest has a role in maintaining these rights because it is an office of the federal government responsible for natural resource management on lands subject to these treaties. The Superior National Forest is located on lands ceded by the Ojibwe to the United States in 1854 and 1866. Three bands; Grand Portage, Fond du Lac, and Bois Forte, live in proximity to the Forest and are directly affected by the treaties. The tribes consider many areas in the Superior National Forest important for cultural, historic, traditional and spiritual reasons.

Article 11 of the 1854 treaty states that Ojibwe within the treaty area would continue to have the right to hunt and fish on lands they ceded. This guarantee is important in the context of natural resource management. Forest direction is to generally assure the availability of resources to support the continued exercise of treaty rights and cultural practices, including access to such resources and places or traditional practices. The objective is to maintain sufficient availability of resources to support the continued harvest or utilization needed to satisfy tribal needs. Important considerations include trends in species viability and watershed conditions as well as changes in access to traditional places. The area of consideration includes lands of other ownerships within and adjacent to the National Forest System (NFS) boundaries. Tribal interests extend beyond NFS land; this larger area lends a broader landscape perspective to maintaining ecological sustainability on the forests.

This analysis discloses effects to tribal interests and treaty rights on the lands proposed for exchange in consideration of the issues raised by the tribes during scoping. Section 3.4 includes effects to public lands accessible to the tribes, federal land ownership in the 1854 ceded territory, opportunities for consultation, and wild rice lakes. Information on cultural resources is in section 3.5. Information on opportunities to comment during environmental review processes is at section 3.14.13 of the EIS. Additional resource-specific information is contained in the other sections of Chapter 3, and is summarized in Chapter 2.

3.4.1.1 Methodology

Indicator 1: Acres of Federal Land in the Superior National Forest and opportunity for consultation and comment

Indicator 1 displays the acres of federal land on the Superior National Forest within the 1854 ceded territory under each alternative. This indicator displays effects of the land exchange on governmental responsibilities under the 1854 Treaty, and opportunities for tribal consultation on management of the lands proposed for exchange. This indicator displays differences in the alternatives that may affect the ability of the tribes to use their sovereign government relationship with the federal government on the lands proposed for exchange, an important issue for tribal interests and the ability to exercise 1854 treaty rights.

Indicator 2: Acres of Public Land Accessible to Tribes

This indicator displays how the land exchange would affect the ability of the tribes to access lands under each alternative. Both the Forest Service managing national forest lands, and the MDNR managing School Trust lands, allow tribal access. However, in the event School Trust lands are sold to private parties, tribal access is assumed to be lost. Therefore, this indicator displays candidate federal lands that would have a highest and best use of real estate under MDNR management as eventually resulting in a loss of tribal and public access. This indicator displays differences in the alternatives that may result in changes to access, an important issue for tribal interests and the ability to exercise of 1854 treaty rights. Public lands are identified in this indicator as federal, state and county lands.

Indicator 3: Wild Rice Lake with Federally Owned Shoreline

Wild rice is an important cultural resource for the tribes. Indicator 3 displays federal ownership of shoreline on lakes supporting wild rice under each alternative. Wild rice lakes were identified according to the MDNR inventory of wild rice lakes. Shoreline lengths were approximated reviewing GIS information. Access to wild rice lakes are discussed for this indicator.

Analysis Parameters

The analysis area for direct and indirect effects are on the lands proposed for exchange because this is where changes in land ownership due to the School Trust Land Exchange may occur. The analysis area for cumulative effects is all of the lands within the Superior National Forest because this is the area where changes in federal land ownership may affect treaty rights and tribal interests within the 1854 ceded territory.

The analysis timeframe is the present time and extends 154 years into the future. This timeframe is chosen because the land exchange would be complete and it is assumed that all candidate federal lands identified for highest and best use of real estate use, if conveyed to the State, could be sold to private parties in this timeframe (see Section 3.1.1.2). The analysis timeframe is also in perpetuity because it is anticipated that the ownership change would be in perpetuity.

3.4.2 Affected Environment

Tribal Cultural, Economic and Governmental Interests

Culture is the whole set of learned behavior patterns common to a group of people at a certain period of time, as well as their interactive behavior systems, material goods or thoughts and beliefs. People rely on their culture in order to live, relate to others as collective groups, and know how to both understand and function in their world. On the Superior National Forest, the Ojibwe tribal culture is dominant.

The continued availability of traditionally utilized natural resources is crucial to Ojibwe culture. Now, as in the past, many places throughout the landscape are visited during a yearly cycle to collect food, medicines and other materials, as well as for religious practices and social gatherings. Plants and animals

gathered from prairie openings, aquatic environments and forests provide sustenance. The traditions of gathering these and other natural resources continue to be economically and spiritually important. Because of their concern with the continuation of this aspect of Ojibwe culture, the bands take an active role in the protection and restoration of many species of plants, animals and fish. The bands also claim that access to these resources and traditional cultural places is an inherent right.

Use of the natural resources for economic benefit is important to many band members through employment and the operation of various forest product businesses. The federal, state, county and tribal governments themselves provide employment opportunities in natural resource management and there is interest in terms of job training, firefighting, contracts for construction and forest management, and state and private forestry rural assistance opportunities. There is also widespread use of forest products tied to the gathering for personal, traditional and treaty purposes; this includes fishing, hunting, trapping, harvesting wild rice, tree boughs, saps, roots, bark, berries, medicines, firewood and other items.

There are numerous areas throughout the Superior National Forest that have traditional, cultural and spiritual significance to the bands. The use and protection of these areas is a way of maintaining traditional links to past generations. Traditional use areas often have some aspect of spiritual significance. The bands believe that archaeological sites and past cemetery areas, many of which are unplatted, are sacred and should be protected.

The Ojibwe interest in the forest goes beyond that of spiritual and cultural to the unique legal relationship that the United States government has with tribal governments. These federally recognized tribes have sovereign status.

Section 3.4.3 includes information on the current status of land ownership and MDNR-inventoried wild rice lakes in Alternative 1.

3.4.3 Direct and Indirect Effects

Tables 3.4-1, 3.4-2 and 3.4-3 display outcomes of the alternatives for the indicators described in section 3.4.1.1.

Table 3.4-1 Acres of Federal Land within the Superior National Forest			
	Alternative 1 (No Action)	Alternative 2 (Modified Proposed Action)	Alternative 3 (Reduced Federal Land list)
Existing Condition	2,171,888 acres	2,171,888 acres	2,171,888 acres
School Trust Land Exchange			
School Trust Land Exchange-Lands Acquired	No change	+31,057 acres	+31,057 acres
School Trust Land Exchange-Lands Conveyed	No change	-39,467 acres	-23,136 acres
Outcome of School Trust Land Exchange	2,171,888 acres	2,163,478 acres (8,410 acre net decrease)	2,179,809 acres (7,921 acre net increase)
Cumulative Actions			
Cook County Land Exchange	+449 acres (net increase)	+449 acres (net increase)	+449 acres (net increase)
NorthMet Land Exchange	+40 acres (net increase)	+40 acres (net increase)	+40 acres (net increase)
School Trust Land Acquisition	+53,000 acres (approximate)	+53,000 acres (approximate)	+53,000 acres (approximate)
Gunflint Land Acquisition	+32 acres	+32 acres	+32 acres
Bushmen Lake Land Acquisition	+2,233 acres	+2,233 acres	+2,233 acres
Cumulative Total Federal Land in Superior National Forest	2,227,642 acres (55,754 acre net increase)	2,219,232 acres (47,344 acre net increase)	2,235,563 acres (63,675 acre net increase)

Table 3.4-2 Acres of Public Land Accessible to Tribes and Public within Superior National Forest boundary			
	Alternative 1	Alternative 2	Alternative 3
Existing Condition	2,897,104 acres	2,897,104 acres	2,897,104 acres
School Trust Land Exchange			
School Trust Land Exchange-Lands Acquired ¹⁷	No change	No change	No change
School Trust Land Exchange-Lands Conveyed ¹⁸	No change	-10,858 acres	No change
Outcome of School Trust Land Exchange	2,897,104 acres	2,886,246 acres	2,897,104 acres
Cumulative Actions			
Cook County Land Exchange ¹⁹	- 200 acres	- 200 acres	- 200 acres
NorthMet Land Exchange	+40 acres (net increase)	+40 acres (net increase)	+40 acres (net increase)
School Trust Land Acquisition ²⁰	No change	No change	No change
Gunflint Land Acquisition	+32 acres	+32 acres	+32 acres
Bushmen Lake Land Acquisition	+2,233 acres	+2,233 acres	+2,233 acres
Cumulative Total Public Land Accessible to Tribes and Public	2,899,209 acres (2,105 acre net increase)	2,888,351 acres (8,753 acre net decrease)	2,899,209 acres (2,105 acre net increase)

¹⁷ Public ownership would not change as a result of acquiring School Trust lands in the BWCAW because ownership would transfer from the State of Minnesota to the United States.

¹⁸ Real Estate Highest and Best Use parcels are assumed to eventually be transferred to private ownership. Other candidate federal parcels conveyed are assumed to remain in public ownership by the State of Minnesota.

¹⁹ In this land exchange, approximately 200 acres were identified for development as a future use by Cook County, which likely involves sale of the land to private ownership.

²⁰ There would be no change to whether the lands are in public ownership because ownership would be transferred from the State of Minnesota to the United States in this acquisition.

Table 3.4-3 Wild Rice Lakes with Federally Owned Shoreline in the Superior National Forest			
	Alternative 1	Alternative 2	Alternative 3
Existing Condition	137 wild rice lakes with federally owned shoreline	137 wild rice lakes with federally owned shoreline	137 wild rice lakes with federally owned shoreline
School Trust Land Exchange			
School Trust Land Exchange-Lands Acquired	No change	Increase of federally owned shoreline on seven wild rice lakes (13.8 mile increase)	Increase of federally owned shoreline on seven wild rice lakes (13.8 mile increase)
School Trust Land Exchange-Lands Conveyed	No change	Decrease of federally owned shoreline on three wild rice lakes (0.8 mile decrease)	No change
Outcome of School Trust Land Exchange	No change	Increase of federal ownership on seven wild rice lakes; decrease on three wild rice lakes (net increase of about 13 miles)	Increase of federally owned shoreline on seven wild rice lakes (13.8 mile increase)
Cumulative Actions			
Cook County Land Exchange	Increase of federally owned shoreline on one wild rice lake (0.7 mile increase)	Increase of federally owned shoreline on one wild rice lake (0.7 mile increase)	Increase of federally owned shoreline on one wild rice lake (0.7 mile increase)
NorthMet Land Exchange	Increase of federally owned shoreline on two wild rice lakes (2.7 mile increase)	Increase of federally owned shoreline on two wild rice lakes (2.7 mile increase)	Increase of federally owned shoreline on two wild rice lakes (2.7 mile increase)
School Trust Land Acquisition	Increase of federally owned shoreline on 14 wild rice lakes (35 mile increase)	Increase of federally owned shoreline on 14 wild rice lakes (35 mile increase)	Increase of federally owned shoreline on 14 wild rice lakes (35 mile increase)
Gunflint Land Acquisition	No change	No change	No change

Table 3.4-3 Wild Rice Lakes with Federally Owned Shoreline in the Superior National Forest

	Alternative 1	Alternative 2	Alternative 3
Bushmen Lake Land Acquisition	No change	No change	No change
Cumulative Total federally owned shoreline of wild rice lakes	Increase of federally owned shoreline on 17 wild rice lakes (38.4 mile increase).	Increase of federally owned shoreline on 24 wild rice lakes; decrease on 3 wild rice lakes; (net increase of 51.4 miles).	Increase of federally owned shoreline on 24 wild rice lakes; (net increase of 52.2 miles).

3.4.3.1 Alternative 1 – No Action

As shown in Tables 3.4-1, 3.4-2 and 3.4-3, there would be no change in public or federal lands, or public ownership of wild rice lake shoreline from the existing condition as a result of Alternative 1. In addition, there would be no change in opportunities for consultation.

3.4.3.2 Alternative 2

Indicator 1: Federal land ownership and opportunity for consultation

Under Alternative 2, there would be a net decrease of 8,410 acres of federal land ownership. On federal candidate parcels conveyed to the State (39,467 acres), opportunities to consult with the federal government would be lost. On these conveyed lands, opportunities of the Bands to consult with the MDNR on a government-to-government basis are required by Minnesota State Executive Order 13-10, signed by Governor Mark Dayton on August 8, 2013. However, those lands that are subsequently sold to private ownership would not have consultation opportunities; thus it is assumed that consultation opportunities would eventually be lost on the 10,858 acres identified as real estate highest and best use.

Indicator 2: Tribal access

Under Alternative 2, a majority of the federal candidate lands proposed for conveyance would be still available for tribal access under MDNR management. However, those lands that are subsequently sold to private ownership would not be available; thus it is assumed that access would eventually be lost on the 10,858 acres identified as real estate highest and best use.

Indicator 3: Federal wild rice lake shoreline

Under Alternative 2, federally owned shoreline on three MDNR-inventoried wild rice lakes would be conveyed: Shannon (0.26 miles), Crown (0.31 miles), and Ed Shave (0.25 miles) Lakes. The highest and best use identified for these parcels is forestry (Shannon Lake), and real estate (Crown and Ed Shave Lakes). On Shannon Lake, access via the conveyed parcel would continue to be available as the land would be managed for forestry use. On Crown and Ed Shave Lakes, access via the conveyed parcels would be lost in the event of sale to private parties. The remainder of the shoreline on Crown and Ed Shave Lakes is owned by the state of Minnesota. Any development on the conveyed parcels adjacent to

Crown and Ed Shave Lakes that may affect the lakes would be regulated by County ordinance and applicable state and federal law.

School Trust lands and shorelines on seven wild rice lakes (Crooked, Gull, Papoose, Big, Bootleg, Upper Pauness, and Oriniack) in the BWCAW would be transferred from state to federal ownership. The ability of the Bands to access and use these lands would not materially change as a result of Alternative 2 because the lands are available for access and use under state or federal ownership.

3.4.3.3 Alternative 3

Indicator 1: Federal land ownership and opportunity for consultation

Under Alternative 3, there would be a net increase of 7,912 acres of federal land ownership. On federal candidate parcels conveyed to the State (23,136 acres), opportunities to consult with the federal government would be lost. On these conveyed lands, opportunities of the Bands to consult with the MDNR on a government-to-government basis are required by Minnesota State Executive Order 13-10, signed by Governor Mark Dayton on August 8, 2013. Those lands that are subsequently sold to private ownership would not have consultation opportunities; however this would occur to minimal or no degree under Alternative 3 because there are no candidate federal parcels included with a highest and best use of real estate.

Indicator 2: Tribal access

Under Alternative 3, federal candidate lands proposed for conveyance would be still available for access under MDNR management. Minimal or no lands would be subsequently sold to private ownership with a resulting loss of access.

Indicator 3: Federal wild rice lake shoreline

Under Alternative 3, there would be no conveyance of federal waterfront of MDNR-inventoried wild rice lake shorelines.

School Trust lands and shorelines on seven wild rice lakes (Crooked, Gull, Papoose, Big, Bootleg, Upper Pauness, and Oriniack) in the BWCAW would be transferred from state to federal ownership. The ability of the Bands to access and use these lands would not materially change as a result of Alternative 2 because the lands are available for access and use under state or federal ownership.

3.4.4 Cumulative Effects

3.4.4.1 Alternative 1

While the school trust land exchange would not occur, other land transactions would result in a cumulative increase in federal land ownership, public land ownership, and federal wild rice lake shoreline ownership on the Superior National Forest (see Tables 3.4-1, 3.4-2 and 3.4-3).

3.4.4.2 Alternative 2

Other land transactions would result in changes in federal land ownership, public land ownership, and federal wild rice lake shoreline ownership on the Superior National Forest. These cumulative changes and the increases or decreases produced by Alternative 2 are shown in 3.4-1, 3.4-2 and 3.4-3. In addition to the changes shown in these tables, the Forest Service has recently received a Master Development Plan from Lutsen Resort, located near the shore of Lake Superior between Tofte and Grand Marais, MN. The Master Development Plan describes potential future uses of developed recreation such as downhill skiing

on national forest lands adjacent to the existing Lutsen Resort. While these lands would remain national forest land, there is potential for up to 550 acres to have reduced hunting and gathering opportunities due to these uses. Cumulative actions result in a net increase in federal ownership and opportunities for access and consultation in the analysis area.

3.4.4.3 Alternative 3

Other land transactions would result in changes in federal land ownership, public land ownership, and federal wild rice lake shoreline ownership on the Superior National Forest. Alternative 3 results in the greatest cumulative increases for all of these indicators among the Alternatives (see Tables 3.4-1, 3.4-2 and 3.4-3). In addition to the changes in these tables, the Forest Service has recently received a Master Development Plan from Lutsen Resort, located near the shore of Lake Superior between Tofte and Grand Marais, MN. The Master Development Plan describes potential future uses of developed recreation such as downhill skiing on national forest lands adjacent to the existing Lutsen Resort. While these lands would remain national forest land, there is potential for up to 550 acres to have reduced hunting and gathering opportunities due to these uses.

3.4.5 Conclusion

The Forest Service and the MDNR have policies to conduct government to government consultation with the Bands. The Forest Service has policies to conduct federal government-tribal government consultation and the State of Minnesota has policies for MDNR to conduct state government-tribal government consultation. Both agencies allow access to federal or state-administered lands. Sale of conveyed lands for real estate development under Alternative 2 on approximately 10,858 acres represents a potential loss of access and consultation on those lands. This potential loss of access and consultation would be on approximately 0.4% of public lands (10,858 acres out of 2,897,104 acres) in the analysis area. Alternative 1 would not include this outcome, while Alternative 3 would result in minimal to no change from sale of land for real estate development. Cumulatively, land transactions result in a net gain of federal ownership within the 1854 ceded territory.

3.5 Heritage Resources

3.5.1 Introduction

Both federal parcels and non-federal parcels contain known heritage resource sites, however both the type and number of sites differ for each. Similarly, the quality and scale of heritage resource survey coverage completed to date varies for both the federal parcels and non-federal parcels. By in large, riparian lakeshore areas, like those present on School Trust Lands in the Boundary Waters Canoe Area Wilderness (BWCAW), have a higher potential to contain buried precontact sites, whereas the sites present in general forest areas away from lakes and waterways are more likely to contain historic period sites like logging camps and homesteads. This analysis discloses potential effects to heritage resources on the parcels proposed for exchange.

3.5.1.1 Methodology

The environmental effects of exchanging lands are informed by the analysis framework described in Section 3.1. In addition, there are differences between MDNR-School Trust and SNF management for heritage resources, however Minnesota has heritage resource review regulations available under the Minnesota Field Archaeology Act (M.S. 138). By in large, Minnesota State regulations governing heritage resource management are less extensive than comparable federal regulations.

Proposed exchange parcels were summarized by number, type, and National Register status of known heritage sites using geographical information system analysis. In addition, the extent and quality of prior heritage resource survey completed on federal parcels was reviewed. The current Superior National Forest heritage site and survey spatial dataset (SNF; Heritage Site and Survey Geodatabase 2015), Minnesota Office of State Archaeologist Site Dataset (Magner, 2016), and USFS data for ownership were among the data sets used for planning and analysis. The number, type, and National Register status of known heritage resource sites were used to help evaluate the potential effects of management activities on heritage resources as well as highlighting differences between alternatives. In addition, the presence of high-probability landform features such as lakeshores and riparian zones were assessed, as these locations have a higher likelihood of containing buried precontact sites. Analysis of the quality and scope of prior heritage survey on federal parcels is also an important indicator, as the forest has regulatory direction under 36 CFR 800 (National Historic Preservation Act, as amended) to identify heritage sites within an area of potential effect, which, in this case would be the candidate federal parcels. Loss of federal ownership would, to some extent, lessen the protections afforded to heritage resource sites under federal law and policy, such as the National Historic Preservation Act (1966), the Archaeological Resource Protection Act (1979), and the Native American Graves and Repatriation Act (1990). However, known (and yet unknown) heritage resource sites on federal parcels will be subject to the management requirements of the Minnesota Historic Sites Act and the Minnesota Field Archaeology Act as codified under M.S. 138. Potential effects to both known heritage sites and those potential sites yet unidentified on federal parcels may be avoided through development of a project specific Programmatic Agreement with the State of Minnesota and the Minnesota State Historic Preservation Office (MnSHPO), wherein the State would manage the federal parcels pursuant to 36 CFR § 800.

In addition to requiring consultation with interested parties such as the Tribes and MnSHPO, 36 CFR § 800 (commonly referred to as the Section 106 process) requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings (36 CFR § 800.1(a)). Federal candidate parcels included in Alternative 2 contain approximately 28 historic properties and federal candidate parcels included in Alternative 3 contains 1 historic property. Nonfederal lands included in all action alternatives contain approximately 62 historic properties.

There are three conditions that would satisfy the requirements of 36 CFR § 800. Any individual condition or combination thereof would eliminate direct, indirect and cumulative effects for all action alternatives:

1. The Superior National Forest executes a project specific Programmatic Agreement with MnSHPO, the State of Minnesota, and potential concurring parties that codifies historic property review and protection mechanisms afforded under 36 CFR § 800, the Minnesota Historic Sites Act, and the Minnesota Field Archaeology Act (as codified under M.S. 138).
2. The Superior National Forest evaluates all historic properties on federal parcels and develops mitigation measures through consultation with MnSHPO and interested parties for those properties determined to be eligible to the National Register of Historic Places. Mitigations could include a wide variety of measures including site protection measures, conservation easements, and/or indirect mitigations enhancing historic properties located outside of the area of potential effect.
3. Prior heritage survey coverage of federal parcels has been determined to be adequate and all known federal parcels containing historic properties are removed from the exchange proposal if the preceding paragraphs 1 or 2 cannot be met.

Indicators

Three indicators related to heritage resource sites are analyzed for effects of three alternatives associated with the School Trust Land Exchange. These indicators help measure the potential direct, indirect, and cumulative effects to heritage resource sites.

Indicator 1: Heritage Sites Received and Conveyed

Indicator 1 assesses the number, type, and National Register status of heritage sites both received and conveyed in the proposed exchange for each alternative. Pursuant to 36 CFR § 800, National Register status is an important management consideration for heritage sites on federal parcels, as the Forest is directed to evaluate and mitigate potential effects posed to all heritage sites listed, considered eligible, or yet to be evaluated (collectively, historic properties) to the National Register of Historic Places. Heritage sites that have been determined ineligible are not afforded review under 36 CFR § 800.

While the loss of historic properties on federal parcels is not offset by historic properties entering the federal estate, it should be noted that the 62 historic properties located on State School sections in the BWCAW are generally comprised of buried precontact and historic period sites with comparatively high research value and high integrity (e.g. minimal disturbance). All precontact and historic period sites of Native American affiliation were removed from federal candidate parcels considered for exchange through early consultation with 1854 ceded territory Bands.

Indicator 2: Waterfront Received and Conveyed

Indicator 2 assesses the amount (miles) of waterfront (lakes and streams) both received and conveyed in the proposed exchange for each alternative. Lakeshore and riparian locations are generally considered to have moderate to high archaeological probability in northeastern Minnesota, therefore this indicator helps to determine the level of risk to locations that are likely to contain historic properties. Review of the SNF heritage site geodatabase shows that nearly 75% of the 3000 precontact archaeological sites recorded on the Superior National Forest are within 100 meters of a lake, stream, or river. Shoreline development along lakes can adversely affect historic properties through ground disturbance, thereby diminishing the integrity and data potential. Indicator 2 measures the potential direct, indirect, and cumulative effects of the three alternatives to lakeshores and riparian zone that have a moderate to high archaeological probability.

Indicator 3: Extent of Heritage Resource Survey

Indicator 1 assesses the extent and quality of heritage resource survey on federal parcels proposed for exchange. This indicator was selected because federal agencies are directed to *make a reasonable and good faith effort to carry out* historic property identification efforts when an undertaking is proposed on federal lands (36 CFR §800.4(b) (1)). The federal parcels proposed for exchange have been surveyed for historic properties at various levels of intensity between 1979-2015. These surveys were generated in advance of prior Forest Service undertakings such as timber harvest, recreation improvements, and fuel treatments. The State parcels are not included in this indicator, as sites on state lands will generally be afforded greater protection under federal heritage resource laws, policy, and regulation than currently exist. Cumulative effects are not relevant for this indicator.

Analysis Parameters

Indicator 1: Heritage Sites Received and Conveyed

For Indicator 1, the analysis area includes both the School Trust lands to be acquired in the BWCAW by the Federal Government and the candidate federal parcels proposed to be exchanged to the State of Minnesota. The analysis timeframe is in perpetuity because it is anticipated that the ownership change would be in perpetuity.

Indicator 2: Waterfront Received and Conveyed

For Indicator 2, the area considered in the analysis of direct and indirect effects includes all of the National Forest lands proposed for exchange. This analysis area was selected because shoreline development that occurs on exchanged parcels could potentially cause direct and indirect effects to previously unidentified heritage resources in locations of moderate-high archaeological probability. Waterfront acreage associated with State School Trust lands in the BWCAW was not included in this analysis. While waterfront acreage is relatively high on the State School Trust Lands in the BWCAW, those lands would be afforded full review under federal heritage laws. Additionally, lands in the BWCAW are managed pursuant to direction of the Wilderness Act and applicable state laws, and no reasonably foreseeable actions are anticipated outside of management of existing primitive campsites. The analysis timeframe is in perpetuity because it is anticipated that the ownership change would be in perpetuity.

Indicator 3: Extent of Heritage Resource Survey

For Indicator 3, the area considered in the analysis of direct and indirect effects includes all of the National Forest lands proposed for exchange. This analysis area was selected because development that occurs on exchanged parcels could potentially cause direct and indirect effects to heritage resources in areas that have not received adequate survey prior to exchange. Disclosure of existing heritage resource survey within federal parcels proposed for exchange is important, as federal agencies are directed to make a good faith effort to identify heritage resources when an undertaking is proposed that has the potential to adversely affect heritage resources. Heritage resource survey on the SNF can be categorized into two types: block survey and intensive survey. Block survey utilizes helicopter flyover to identify clearings and/or building remains associated with historic homesteads, logging camps, and linear features such as railroad lines. Heritage resources identified during block survey are subsequently ground verified and mapped. *Block survey* has been conducted on all Forest lands proposed for exchange under all action alternatives. *Intensive survey* is conducted in areas which exhibit high-medium probability for buried archaeological sites. Such areas include islands, lakeshores, river margins, glacial features such as beach benches and historic trail corridors. Intensive survey methods include surface walkover and sub-surface testing via shovel probes as allowed. Intensive survey has been completed on the major rivers, streams, lakes, and identified glacial features within the federal lands proposed for exchange, however this

coverage is not of a sufficient scale to confidently state that all buried archaeological resources have been identified. In the event of transfer, State School Trust lands in the BWCAW lands would be surveyed for heritage resources in advance of any potential federal undertaking, however, as noted above, due to wilderness management direction reasonably foreseeable undertakings would be limited to use and rehabilitation of existing primitive campsites.

3.5.2 Affected Environment

Relevant Laws, Regulations, and Policies

There are multiple Federal and State laws and regulations related to heritage resources. This heritage resource section contains a brief description of the most pertinent laws as they relate to the School Trust Land Exchange proposal. It should be noted that this is not an all-inclusive list of every law, code, act, or executive order that applies to the management of these resources.

Federal

The management of heritage resources on federally owned, leased, or administered lands is regulated or guided by a body of laws, regulations, and policies, as summarized in FSM 2300, chapter 2360 (U.S. Forest Service 2008, 2010), Region 9 FSH 2309.12, “Heritage Program Handbook” (U.S. Forest Service 2015a), The Superior National Forest Programmatic Agreement with MnSHPO, the Grand Portage Band of Lake Superior Chippewa, the Fond du Lac Band of Lake Superior Chippewa, and the Bois Forte Band of Chippewa, and the Advisory Council on Historic Preservation (U.S. Forest Service 2015b), the Region 9 “Tribal Relations Strategic Framework” (U.S. Forest Service 2015c), the “Superior National Forest Land and Resource Management Plan,” (U.S. Forest Service 2004), and the Cultural Heritage Cooperation Authority (Public Law 110-234, 25 U.S.C 32A).

The major federal laws pertaining to this analysis are described below:

The National Historic Preservation Act

Section 106 of the NHPA requires that Federal agencies “prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register.” Additionally, the NHPA requires Federal agencies to consult with tribes to determine whether there are traditional religious and cultural properties that may be adversely affected by a proposed undertaking (16 U.S.C. 470a (d) (6)). In this context, the term “historic property” refers only to those places that meet the criteria for listing in the NRHP, and the criteria are defined by regulations (36 CFR 60.4) as:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and

- a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- b) that are associated with the lives of persons significant in our past; or
- c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d) that have yielded, or may be likely to yield, information important in prehistory or history.

Cemeteries and properties that have achieved significance within the past 50 years are among the properties specified as generally *not* eligible for the NRHP. Integrity relates to location, design, setting,

materials, workmanship, feeling, and association (National Park Service 1999); a property does not have to exhibit all seven aspects of integrity but must retain those aspects that are essential to conveying its significance. For example, integrity of association with an event or person is critical for sites that are significant under criterion A or B; integrity of feeling is more important for a property that is nominated under criterion C because of its artistic value; integrity of materials and workmanship is important for a property nominated under criterion C for its architecture; and integrity of location, materials, and workmanship would be important for an artifact scatter nominated under criterion D for its research value in understanding technology and site function.

Traditional Cultural Properties

A unique category of historic property, TCPs, is associated with cultural practices or beliefs of a living community that: (1) are rooted in that community's history; and (2) are important in maintaining the continuing cultural identity of the community (Parker and King 1998). A TCP may be a building, site, district, object, or landscape. The significance must stretch beyond the past 50 years yet retain ongoing significance. Although the same aspects of integrity are relevant (integrity of location, design, setting, materials, workmanship, feeling, and association), National Register Bulletin 38 notes that the concept of integrity is applied somewhat differently for TCPs than it is for historic buildings or archaeological sites:

In the case of a traditional cultural property, there are two fundamental questions to ask about integrity. First, does the property have an integral relationship to traditional cultural practices or beliefs; and second, is the condition of the property such that the relevant relationships survive? (Parker and King 1998).

A TCP must be bounded and its significance documented and evaluated in accordance with the NRHP criteria listed above. A good example of a TCP for northeastern Minnesota would be a wild rice stand and attendant processing areas that have been used by a distinct cultural group for over 50 years.

Affected Environment Discussion

The regulations implementing NHPA direct the agencies to consult to try to avoid, reduce, or mitigate adverse effects on historic properties. Preliminary consultation for the School Trust Land Exchange Proposal has occurred between the SNF, the MnSHPO and the 1854 ceded territory Bands (Bands). This consultation focused on identification of issues of concern to the Bands, and preliminary conversations with both the Bands and SHPO regarding the development of a project specific Programmatic Agreement. Preliminary consultation with the Bands led to adjustments of the federal lands included in the current action alternatives. Federal lands containing precontact (sites of pre 1650 CE Native American affiliation) heritage resources were dropped from consideration and several federal parcels adjacent to wild rice waters were dropped from consideration.

The federal parcels and non-federal parcels have different types of heritage resource sites and different levels of past survey coverage. In addition, the State parcels include several locations of extremely high-archaeological probability located along significant historic travel and trade routes within the BWCAW; both include upland locations away from navigable water, shoreline locations, and wetlands, however the State parcels in the BWCAW could be characterized as having a higher probability of containing significant precontact, contact period Native American, and fur trade era heritage resource sites within those state parcels located along the US-Ontario Border. The heritage resource sites located on federal lands proposed for exchange are primarily associated with early 20th century logging and homesteads, whereas the heritage resource sites on State School Trust lands within the BWCAW are primarily precontact Native American archaeological sites.

3.5.3 Direct and Indirect Effects

Alternative 1

Candidate Federal Parcels

Under Alternative 1, the National Forest lands would continue to be managed under relevant federal heritage resource laws as described in Sections 3.5.1 and 3.5.2 (see also Section 3.1 for overall Forest Service management policies).

School Trust Lands inside BWCAW

Under Alternative 1, current management as wilderness would continue. Very few management activities would be expected, and any that might occur would occur around campsites and portages and would involve routine maintenance of these recreational sites. The Forest Service currently manages undertakings proposed for BWCAW campsites pursuant to the full scope of federal heritage resource laws, regulation, and policy. Therefore, no impacts are expected to heritage resources under Alternative 1.

Alternative 2

Indicator 1: Heritage Resources Received and Conveyed

Alternative 2 (Modified Proposed Action) includes approximately 39,467 acres of candidate federal lands, which contains 28 unevaluated heritage resource sites. These sites are associated with 20th century Euro-American activities, and are represented by ruined logging camps, farmsteads, collapsed homesteads, and isolated historic artifact scatters. All of these sites can be categorized as historic archaeological sites, composed of surface features and artifacts. There are no standing structures or Native American archaeological sites associated with the federal parcels proposed for exchange under Alternative 2. Under Alternative 2, approximately 62 unevaluated heritage resource sites within School Trust lands within the BWCAW would be transferred to federal management. These 62 sites consist of 47 precontact Native American, 7 historic, and 8 multicomponent (both precontact and historic components) sites. Alternative 2 would result in a net increase of 34 heritage resource sites within the federal estate, and an appreciable increase in precontact Native American sites relative to the heritage resource sites present on the federal parcels. Direct, indirect and cumulative effects to unevaluated sites present on federal parcels proposed for exchange would be avoided and minimized through development of a project specific Programmatic Agreement that retains Section 106 review procedures, as it is uncertain if the Minnesota Historic Sites Act and Field Archaeology Act, by themselves, would afford comparable review procedures and protections.

Table 3.5-1: Heritage Resource Indicators for Alternative 2 and 3. (net gain or loss for each alternative is in parentheses)			
	Federal Received (Alternative 2 & 3)	Alternative 2 Federal Conveyed (net change)	Alternative 3 Federal Conveyed (net change)
Heritage Resource Sites	+62	-28 (+34)	-1(+61)
Stream and Lakeshore (miles)	+157	-80 (+77)	-40 (+117)
Intensive Survey Acres	N/A	3800	2640

Indicator 2: Waterfront Received and Conveyed

In Alternative 2 there would be loss of 80 miles of waterfront outside the BWCAW and gain 157 miles of waterfront inside the BWCAW to the federal estate. This would yield a net gain of 77 miles of waterfront to the federal estate (Table 3.5-1). Although this is a net gain in waterfront, the exchange parcels within the BWCAW are not directly comparable to conveyed lands outside the BWCAW in terms of the level of development pressure and development potential. Lakes and streams adjacent to waterfront parcels conveyed are at higher risk with respect to potential future effects to archaeological sites that may exist in locations with known moderate to high archaeological probability once they are put in School Trust ownership because some parcels were identified as real estate highest and best use. Direct, indirect and cumulative effects to unevaluated sites present on federal parcels proposed for exchange would be avoided and minimized through development of a project specific Programmatic Agreement that retains Section 106 review procedures, as it is uncertain if the Minnesota Historic Sites Act and Field Archaeology Act, by themselves, would afford comparable review procedures and protections.

Indicator 3: Extent and Quality of Heritage Resource Survey

Under Alternative 2, approximately 39,467 acres of federal lands are proposed for exchange. Block survey to identify above ground heritage resources has been completed on the entirety of these lands, while intensive survey has been completed on approximately 3,800 acres, or about 10% of the total federal lands proposed for exchange. The 3,800 acres of intensive survey includes coverage of high-probability landform features such as lake shores, near lake terraces, stream and river terraces, and relic lakeshore features, however the survey coverage does not include all moderate to high probability locations and some is dated and does not meet current standards for archaeological inventory. As such, the Forest cannot meet regulatory requirements in 36 CFR 800 unless one or more of the three conditions described in the Methodology section are met.

Alternative 3

Indicator 1: Heritage Resources Received and Conveyed

The reduced amount of shoreline acreage appreciably reduces the number of unevaluated heritage resource sites on federal lands potentially affected by the exchange; 1 unevaluated heritage resource site is located on federal lands proposed for exchange under Alternative 3. As such, if an exchange is consummated under Alternative 3, there would be a net increase of 61 unevaluated sites to the federal estate. Alternative 3 also reduces the amount of federal acreage considered to be of moderate-high archaeological probability by removing a substantial portion of the shoreline and riparian lands from the exchange, thereby reducing the potential for buried precontact sites in riparian and lakeshore areas to be effected by future management of School Trust lands.

Similar to Alternative 2, direct, indirect and cumulative effects to unevaluated sites present on federal parcels proposed for exchange under Alternative 3 would be avoided and minimized through development of a project specific Programmatic Agreement that retains Section 106 review procedures, as it is uncertain if the Minnesota Historic Sites Act and Field Archaeology Act, by themselves, would afford comparable review procedures and protections.

Indicator 2: Waterfront Received and Conveyed

If the exchange is consummated as outlined in Alternative 3 there would be a loss of 40 miles of waterfront outside the BWCAW and gain 157 miles of waterfront inside the BWCAW. This would yield a net gain of 117 miles of waterfront to the federal estate (Table 3.5-1). Although this is a net gain in waterfront, the exchange parcels within the BWCAW are not directly comparable to conveyed lands outside the BWCAW. However, real estate highest and best use parcels are not included in Alternative 3. Direct, indirect and cumulative effects to unevaluated sites present on federal parcels proposed for exchange would be avoided and minimized through development of a project specific Programmatic Agreement that retains Section 106 review procedures, as it is uncertain if the Minnesota Historic Sites Act and Field Archaeology Act, by themselves, would afford comparable review procedures and protections.

Indicator 3: Extent and Quality of Heritage Resource Survey

Under Alternative 3, approximately 23,136 acres of federal lands are proposed for exchange. Block survey to identify above-ground heritage resources has been completed on the entirety of these lands, while intensive survey has been completed on approximately 2,640 acres, or 12% of the total federal lands proposed for exchange. The 2,640 acres of intensive survey includes coverage of high-probability landform features such as lake shores, near lake terraces, stream and river terraces, and relic lakeshore features, however the survey coverage does not include all moderate to high probability locations and some is dated and does not meet current standards for archaeological inventory. As such, the Forest cannot meet regulatory requirements in 36 CFR 800 unless one or more of the three conditions described in the Methodology section are met.

3.5.4 Cumulative Effects

Heritage resources on the candidate lands in the School Trust Land Exchange would not be affected by the other land adjustments shown in Appendix D because those adjustments would not result in any changes to management policies or physical changes pertaining to the heritage resources located on the candidate lands in the School Trust Land Exchange. This cumulative effects analysis focuses on actions or events that may affect the heritage resources on the candidate lands involved in the School Trust Land Exchange.

Effects to heritage resources can come from both natural and human agencies, however the effects that federal historic preservation law and policy seek to limit are those potential effects associated with agency

actions. Natural effects to heritage resources include those affects that cannot be controlled, such as damage associated with windstorms and tree uprooting, which can expose and mix archaeological materials, thereby affecting the integrity of archaeological sites and the data therein. Wildfires can adversely affect historic structures and buried archaeological sites. These natural effects will continue over time and space under all alternatives. Inadvertent human actions can also damage, displace, and/or destroy heritage resources sites. Examples of these effects would include inadvertent use of a heritage resource site as a landing for logging activities, or damage associated with all-terrain vehicle use in a historic homestead. Potential effects associated with human activities can be lessened through implementation of site protection measures (flag and avoid) during ground disturbing activities such as timber sales, law enforcement patrols, and monitoring of sites by qualified heritage resource professionals. Under the action alternatives presented above, cumulative effects to all known and yet identified heritage resource on federal lands will be avoided and minimized through development of a project specific Programmatic Agreement. Recorded and newly discovered heritage resource sites will be afforded review procedures codified in 36 CFR 800 during implementation of future undertakings. Without development of Programmatic Agreement or other conditions described in the Methodology section, heritage resources located on federal lands proposed for transfer to the State are expected to experience direct, indirect and cumulative effects vis-à-vis potential future uses on the exchanged lands such as logging, minerals management, or sale to private parties.

3.5.5 Conclusion

When considering the range of alternatives for the School Trust land exchange, effects to heritage resources would be the greatest for Alternative 2, and the least for Alternative 1 (no-action). Effects would be primarily due to potential development of waterfront parcels and changes in land use adjacent to lakes and streams. Alternative 3, designed to remove those lakeshore and stream parcels that were identified as high potential for development, would have reduced effects on heritage resources compared to Alternative 2. Effects under Alternatives 2 and 3 can be avoided and minimized by fulfilling one or more of the three conditions described in the Methodology section, thereby fulfilling review and compliance obligations under 36 CFR 800.

3.6 Minerals

3.6.1 Introduction

The School Trust Land Exchange proposes to exchange up to approximately 39,467 acres of Federal parcels outside the Boundary Waters Canoe Area Wilderness (BWCAW) for approximately 31,057 acres of State owned School Trust lands within the BWCAW. In the land exchange, only the surface estate would be acquired or conveyed; the mineral estate would remain under current ownership status including the Federal mineral rights on those parcels where Federal mineral estates exist.

Lands in the BWCAW designated for exchange were chosen based on a Mineral Character Determination (MCD) completed by the State, for all State owned lands within the BWCAW. The MCD is a probability assessment for the existence of an economic mineral deposit, or the presence of a geologic structure that could contain an economic mineral deposit, for each parcel of State land within the BWCAW. The MCD is available at www.fs.usda.gov/goto/superior/projects under the School Trust Land Exchange Project page. The following number code is used in the MCD:

Resource Potential	Code	Reason
Exceptional	6	Parcel is in an established deposit trend
High	5	Geologic feature hosts known occurrences
Moderate	2-4	Geologic feature hosts occurrence criteria
Low	1	Geologic feature hosts very few occurrence criteria

Due to the restrictions imposed on lands within the BWCAW which have limited government and private mineral investigations for many decades, an evaluation of mineral development potential based on previous work was not feasible. Therefore, to evaluate the probability of development for each parcel of land, the potential for the existence of a mineral deposit (MCD) was used to assess mineral development probability. High potential lands were designated for the School Trust Land Purchase, where the Federal government will own the lands “fee simple” thus, giving the Federal government complete authority over the management of those. While State regulations also preclude the development of State owned minerals in the BWCAW, the State Constitution (MN. Const. Art. XI Section 10) requires the reservation of the mineral estate in land exchanges. Additionally, Federal legislation does not prohibit the development of non-Federal minerals and the potential exists for state law to change. Therefore, the parcels of School Trust land chosen for the exchange are those considered to have a lower probability for the existence of a mineral deposit, and therefore a lower probability of development.

It should be noted that regardless of resource potential, due to the ownership patterns and current restrictive laws in the BWCAW, there exists a low probability of exploration and development on any parcel of land in the BWCAW. The Boundary Waters Canoe Area Wilderness Act of 1978 (P.L. 95-495) prohibits the exploration for, or mining of, any federal minerals within the BWCAW. The Act restricts, but does not prohibit, the exercise of non-Federal mineral rights. State law is more restrictive and specifically prohibits the issuance of permits for any land or State natural resource in the BWCAW (Minn. Stat. 84.523 subd. (3) and (4)). It is unlikely mineral development could occur under current Federal and State laws, but it is conceivable that under certain circumstances exploration could.

An assessment of the Federal lands outside the BWCAW listed in the exchange was also conducted in order for the State to determine the highest and best use of those lands if the lands are conveyed to the State of Minnesota. The State designated lands into three main categories: forestry, minerals, and real estate. In order to categorize the highest and best use, a determination of the potential for mineral development was conducted using a range of factors from long range assessment of tax policies, global

mineral demand, investor risk factors, the location of active and inactive State leases, auxiliary mine lands, exploration data, and bedrock geology maps. This assessment differs from the MCD for those lands in the BWCAW in that the existence of recent data from active exploration, leasing, and mining activities in Minnesota allows for a more direct assessment of the development potential of a given parcel of land. Despite an indication of ‘minerals’ for the highest and best use for some of the Federal parcels listed for exchange, no mineral development has been proposed for any of the lands under consideration for the exchange. In addition, parcels would not be used for minerals purposes immediately upon conveyance of those lands to the School Trust; those lands would be used for forestry purposes until, if ever, a minerals use is proposed and authorized. The likelihood of a mineral use on the candidate federal exchange parcels is low. Historically, only a small fraction of lands that hold mineral development potential, and under state lease, is actually ever developed²¹.

3.6.1.1 Methodology

One indicator related to minerals is analyzed for the effects of three alternatives associated with the land exchange. This indicator is used to measure the potential direct, indirect, and cumulative effects to minerals in the land exchange.

Indicator: Mineral estate ownership status and administration.

While proposals for minerals exploration or development that could affect surface resources are possible on parcels proposed for exchange, no such proposals are reasonably foreseeable. For this analysis, a comparison of policies affecting how mineral exploration and development activities are managed is conducted. General minerals management policies are described in section 3.1.1 of the EIS.

Analysis Parameters

Analysis Area: The analysis area is the approximately 31,057 acres of State owned parcels in the BWCAW and the approximately 39,467 acres of Federal parcels in which the Forest Service would exchange for those State owned parcels in the BWCAW. The analysis area was chosen because effects to the mineral estates, and their administration, by the land exchange are only those estates underlying the parcels of land listed for exchange. The timeframe selected for the direct, indirect, and cumulative effects is in perpetuity because it is anticipated that the ownership change would be in perpetuity.

3.6.2 Affected Environment

Currently the 39,467 acres of Federal parcels outside the BWCAW designated for exchange exhibit a mixed sub-surface ownership of Federal, State, and private estates. Federal sub-surface estates comprise approximately 6,331 acres, State sub-surface estates total 3,793 acres, and private estates total approximately 29,343 acres. The State identified 151 parcels, or approximately 6,089 acres, as “minerals” for a highest and best use however; those parcels would be used for forestry purposes until, if ever, a mineral use is proposed. Currently there are no proposals for mineral use on any of the candidate federal lands, and no mineral exploration or development project will directly result from the land exchange. Mineral exploration and development are an allowable use on all candidate federal parcels regardless of surface owner.

All 31,057 acres of the sub-surface estates under the School Trust lands in BWCAW are owned by the State. Those lands are not actively managed by the State and are currently managed as wilderness parcels.

²¹ About 1% of state metallic leases has extended beyond 10 years; and such an extension does not necessarily result in development.

State law prohibits the issuance of permits for any land or State natural resource in the BWCAW. The MCD identified over 41,000 acres of School Trust candidate parcels with low mineral resource potential (status numbers 1 & 2) in the BWCAW. All parcels identified for the exchange contain low mineral resource potential.

3.6.3 Direct and Indirect Effects

3.6.3.1 Alternative 1

Surface and sub-surface ownership and administration would not change on the candidate federal parcels or the School Trust Lands inside the BWCAW. Minerals management policies would continue under existing ownerships as discussed in Sections 3.1 and 3.6.

3.6.3.2 Alternatives 2 and 3

Candidate Federal Parcels

Lands conveyed from federal ownership would no longer be under federal control and therefore would not be managed under the Forest Plan and/or be influenced by any authority (such as the Weeks Act) under which the United States acquired them. While the federal lands, if conveyed to the State, would still be located within the proclamation boundary of the Superior National Forest, they would be non-Federal lands and no longer managed by the USFS.

The State's management goals are to control the possible adverse environmental effects of exploration and mining, to preserve natural resources, and to encourage planning of future land utilization, while at the same time promoting orderly development of mineral resources, encouragement of good mining practices, and recognition and identification of the beneficial aspects of mineral development. Many of the State's goals regarding mineral development parallel Federal goals (see section 3.1.1).

Regardless of surface or mineral ownership, all metallic mineral development operations in Minnesota are subject to applicable State and Federal environmental review, regulations, and permitting. There are three possible surface and sub-surface ownership outcomes due to the results of the land exchange on the candidate federal parcels:

- 1) State surface ownership over Federal mineral estates
- 2) State surface ownership over State mineral estates
- 3) State surface ownership over Private mineral estates

Tables 3.6-1, 3.6-2, and 3.6-3 below show the acreage and percent changes from the current status of surface and sub-surface ownership as a result of the land exchange.

Parcels Outside of the Boundary Waters Canoe Area			
	Alt. 1	Alt. 2	Alt. 3
Total Acres in Exchange	0	39,467	23,136
Acres Federal Minerals	0	6,331	3,673
Acres Non-Federal Minerals	0	33,136	19,463
Acres Split-Estate	0	35,674	20,850
Acres $\frac{\text{Federal}}{\text{Federal}} \rightarrow \frac{\text{State}}{\text{Federal}}$	0	6,331	3,673
Acres $\frac{\text{Federal}}{\text{Private}} \rightarrow \frac{\text{State}}{\text{Private}}$	0	29,343	17,177
Acres $\frac{\text{Federal}}{\text{State}} \rightarrow \frac{\text{State}}{\text{State}}$	0	3,793	2,286

Table 3.6-1. Candidate Federal Parcels: surface and mineral ownership (acres).

Parcels Outside of the Boundary Waters Canoe Area			
	Alt. 1	Alt. 2	Alt. 3
Total Acres in Exchange	0	39,467	23,136
% Federal Minerals	0%	15%	15%
% Non-Federal Minerals	0%	85%	85%
% Split-Estate	0%	90%	90%
% $\frac{\text{Federal}}{\text{Federal}} \rightarrow \frac{\text{State}}{\text{Federal}}$	0%	16%	16%
% $\frac{\text{Federal}}{\text{Private}} \rightarrow \frac{\text{State}}{\text{Private}}$	0%	74%	74%
% $\frac{\text{Federal}}{\text{State}} \rightarrow \frac{\text{State}}{\text{State}}$	0%	10%	10%

Table 3.6-2. Candidate Federal Parcels: surface and federal ownership (percent).

Parcels Inside of the Boundary Waters Canoe Area			
	Alt. 1	Alt. 2	Alt. 3
Acres Federal Minerals	0	0	0
Acres Non-Federal Minerals	0	31,057	31,057
Acres Split-Estate	0	31,057	31,057
Acres $\frac{\text{State}}{\text{Federal}} \rightarrow \frac{\text{Federal}}{\text{Federal}}$	0	0	0
Acres $\frac{\text{State}}{\text{Private}} \rightarrow \frac{\text{Federal}}{\text{Private}}$	0	0	0
Acres $\frac{\text{State}}{\text{State}} \rightarrow \frac{\text{Federal}}{\text{State}}$	0	31,057	31,057

Table 3.6-3. BWCAW School Trust lands: surface and mineral ownership (acres).

The effects of the changes in surface ownership and the administration of the mineral estate are analyzed in the proceeding text.

Federal fee simple conversion to State surface ownership over Federal minerals

After conveyance to the State, the Bureau of Land Management (BLM) would retain the authority to issue prospecting permits and leases, and to authorize operations in operating plans after preparation of the appropriate environmental analysis. Prior to approving a plan, the authorized officer (BLM) shall consult with the agency having jurisdiction over the lands with respect to the surface protection and reclamation aspects of such plan (43 CFR 3590.2) This allows the State to suggest any permit or lease stipulations to protect existing surface improvements or uses, or to object to the permit or lease. The BLM is required to inspect and regulate operations for the discovery, testing, development, mining, reclamation, and processing of minerals. Inspections determine the adequacy of water management and pollution control measures taken for the protection of the quality of surface and groundwater resources and the adequacy of emission control measures taken for the protection of air quality. Inspections shall be conducted as necessary and shall be fully coordinated with all State and Federal agencies having jurisdiction.

Federal surface ownership over State minerals conversion to State fee simple

The State of Minnesota has the authority to designate minerals available for leasing regardless of the surface owner outside of lands withdrawn from mineral entry by State law. The commissioner, with the approval of the state Executive Council, may issue leases to explore for, mine, and remove metallic minerals on lands where an interest in the minerals is owned by the state, including trust fund lands, land forfeited for nonpayment of taxes and held in trust by the state, lands where severed mineral interests have forfeited (MN Statutes, 93.55), lands where severed mineral interests have been otherwise acquired, lands where severed mineral interests may be leased by the commissioner (MN Statutes, 93.55, subdivisions 1a and 3), the beds of public waters, and lands otherwise acquired that have been designated by the commissioner as mining units. State leases have a maximum term of 50 years. For exploration activities, if the surface is owned by an entity other than the State, the lessee is required to contact the surface owner within at least 20 days in advance of any activities which will use the surface estate. If the surface is owned by the State, the exploration plan is sent to the Department of Natural Resources (DNR)

land administrators, such as the area forester and area wildlife manager for review and comment. The State has up to 20 days to review the exploration plan and determine if changes are required or if condition or changes in the plan are required. The DNR can request more time for review and consultation if needed. After the review is complete, the DNR will send an authorization letter to the lessee approving the activities, subject to any requirements that must be met or adjustments made to the exploration plan. Following exploratory drilling, the operator must submit a completed MN Department of Health (MDH) report form that provides details on how the operator sealed the boring and they must also submit a portion of the drill core samples to the DNR upon lease termination. For more information on State Rules see Minnesota State leasing (MN Rules, 6125), exploration (MN Rules, 4727), and non-ferrous mining (MN Rules, 6132) rules. All proposed metallic mineral development and processing operations are subject to applicable State and Federal environmental review and permitting.

The only foreseeable change in mineral estate management is that 36 CFR 251.15, or the Secretary of Agriculture's Rules and Regulations (Secretary's Rules), that govern the exercise of mineral rights reserved in conveyances to the United States would no longer apply to exploration or development of mineral resources. However, the State of Minnesota has statutes and regulations which apply to the lease of State owned minerals which contain a number of provisions which parallel the Secretary's Rules. The table below is a brief comparison of the Secretary's Rules and Minnesota Statutes on leasing.

Table 3.6-4. 36 CFR 251.15 compared to Minnesota Regulations on leasing.

<u>Secretary's Rules and Regulations (36 C.F.R. 251.15)</u>	<u>Minnesota Regulations</u>
<u>Prior written notice (1).</u>	<u>The State must give public notice of the sale for prospecting permits of at least 30 days prior to sale (MN Statutes, 93.16). Permit or lease holder must give at least 20 days' notice to surface owner. MN Rules, 6125.0700(25), as well as 20 days' notice to the Commissioner of the Minnesota Dept. of Natural Resources ("Commissioner"). MN Rules, 6125.0700(25).</u>
<u>Only occupy, use or disturb as much surface as necessary. (1)</u>	<u>Use of the surface must be approved by the Commissioner, and the surface use must be conducted in "such manner as to prevent or reduce scarring and erosion of the land and pollution of air and water." MN Rules, 6125.0700(24).</u>
<u>Exercise of rights must not preclude full use of land by Forest Service until owner of rights receives a permit allowing such. (2)(i).</u>	<u>Lessee must get permit from the Commissioner, subject to numerous restrictions as set forth in state regulations. See MN Rules, 6125.0700.</u>
<u>Fee for permit shall be at rate of \$2 per acre. (2)(ii).</u>	<u>Lessee agrees to pay to the state rental for the mining unit at the rate of \$1.50 per acre of land and water included, per calendar year, for two years. This rate rises to \$5 per acre for the next three years. Then \$15 per acre for the next five years; and finally \$30 per acre for the remainder</u>

<u>Secretary's Rules and Regulations</u> <u>(36 C.F.R. 251.15)</u>	<u>Minnesota Regulations</u>
	of the term of the lease. MN Rules, 6125.0700(6).
<u>Owner of reserved right will repair or replace any improvements damaged or destroyed by operations and restore land to a condition safe and reasonably serviceable for FS programs. (2)(iii).</u>	<u>Lessee hereby agrees and is obligated to indemnify and hold the state harmless from all damages or losses caused directly or indirectly by operations under the lease. MN Rules, 6125.0700(27).</u>
<u>Owner shall provide a bond of such size to guarantee such repair, replacement or restoration. (2)(iii).</u>	<u>No bond is required under MN Rules, 6125.0700(27).</u>
<u>Failure to comply with permit shall be cause for termination of all rights to use, occupy or disturb surface of land. (2)(iv).</u>	<u>State may terminate lease for failure to comply with conditions of lease. MN Rules, 6125.0700(32).</u>
<u>All structures, improvements and materials shall be removed within one year after termination of permit or FS may destroy or remove or assume title thereto. (3).</u>	<u>Upon termination of lease, lessee has 180 days to remove property place or erected–after 180 days property title goes to the state. MN Rules, 6125.0700(33).</u>
<u>Timber and or young growth cut or destroyed must be paid for – all slash must be disposed. (4).</u>	<u>Lessee hereby agrees and is obligated to indemnify and hold the state harmless from all damages or losses caused directly or indirectly by operations, whether to land, timber, minerals, growing crops, or buildings, or to any person or other property under the lease. MN Rules, 6125.0700(27).</u>
<u>Disposal of tailings, dumpage and other materials must be done in such manner as to prevent obstruction, pollution or deterioration of water resources. (5)</u>	<u>No interference, diversion, use or appropriation of any waters over which the commissioner or any other state agency has jurisdiction, may be undertaken unless authorized in writing by the commissioner or the state agency. M.R. §6125.0700(23). Use of the surface must prevent or reduce pollution of air and water. MN Rules, 6125.0700(24).</u>
<u>Owners must comply with State laws and with later enacted laws that apply. (6).</u>	<u>Lessee must comply with Federal and State laws. MN Rules, 6125.0700(23).</u>
<u>Owners must use due diligence in prevention and suppression of fires. (7).</u>	

Federal surface ownership over private minerals conversion to State surface over Private minerals

Outstanding rights: There would be no foreseeable change in the management of the mineral estate. As a general rule, the Forest Service does not have authority to deny the exercise of an outstanding mineral right. Exploration and development of mineral resources are subject to the rights granted by the mineral

severance deed regardless of surface owner. Owners of private mineral estates that have outstanding mineral rights do not have any specific legal obligations as far as exploration and mineral development to the surface owner however; negotiations may take place between the mineral estate operator and the surface manager (in this case the State) to provide for surface resource protection mitigations.

Reserved rights: As with outstanding rights, exploration and development of mineral resources are subject to the rights granted by the mineral severance deed. The only foreseeable change is that 36 CFR 251.15, or the Secretary's Rules, that govern the exercise of mineral rights reserved in conveyances to the United States would no longer apply to exploration or development of mineral resources. From the perspective of the State, the mineral rights would be treated as an outstanding right. Exploratory borings would continue to be regulated by the Minnesota Department of Health (Minnesota Rules Ch. 4727) regardless of the surface owner. Parallel to the Secretary's Rules, the State permitting process requires an applicant to obtain the necessary State and Federal permits to operate, establishes time thresholds for an operator to remove certain structures related to mining operations, requires financial assurance, establishes conditions for suspension or termination of mining permits, requires reclamation of disturbed lands, and allows for the introduction of mitigation measures to protect certain natural resources.

Weeks Act

Most of the candidate federal parcels have Weeks Act status (see Appendix B-Land Lists). The Weeks Act authorizes the Secretary of Agriculture to purchase forested, cutover, or denuded lands within the watersheds of navigable streams as may be necessary to regulate the flow of navigable streams or for timber production. These Weeks Act purposes represent the intent of the Forest Service when it acquires lands under the Act. In turn, such intent is an important factor in construing the extent of any mineral rights reserved in the deeds conveying the land to the United States.²²

In general, the Forest Service would consider any surface mining proposal (resulting in the complete destruction of the surface) to be inconsistent with the purposes for which land is acquired under the Weeks Act. Still, the Weeks Act, itself, does not expressly prohibit any particular type of mining. Ultimately, whether a particular mineral developer has the right to engage in surface mining techniques (e.g. open pit mining) on split-estate land is determined on a case-by-case basis that requires an interpretation of the mineral rights created in the applicable mineral severance deed(s).²³

Historically, only a small fraction of lands that hold mineral development potential is actually ever developed (for example, about 1% of state metallic leases have extended beyond 10 years, and this extension does not necessarily result in development). Because of the low frequency of minerals development, the case-by-case interpretation needed as stated above if a minerals development project is proposed, and the lack of any reasonably foreseeable minerals development proposals on the candidate federal parcels, it would be speculative to identify a difference between alternatives due to Weeks Act status. For these reasons, it would also be speculative to identify and analyze mineral development scenarios as affected by the Weeks Act on the candidate federal lands for this analysis.

Conclusion-Direct and Indirect Effects

Minerals exploration and development are allowable uses on the candidate federal parcels whether the surface is federally owned, or conveyed to the State of Minnesota. Mineral ownership will not change as a result of the land exchange. This comparison of the minerals policies between the Superior National Forest for national forest lands and MDNR for School Trust lands indicates no reasonably foreseeable

²² This intent is also an important consideration in determining whether the Forest Service consents to any proposed development of federal minerals located on National Forest System land.

²³ The Forest Service proposed a land exchange to resolve a conflict between surface and mineral estates on Weeks Act lands in the NorthMet Mining and Land Exchange Project.

difference between alternatives related to minerals management other than the potential for a change from 36 CFR 251.15 to similar Minnesota Rules. A change from 36 CFR 251.15 to similar Minnesota Rules would not appreciably change the minerals management regulatory framework. Any minerals development proposal would be subject to applicable state and federal regulations if proposed.

School Trust Lands inside BWCAW

Lands conveyed from State ownership would no longer be under State authority and therefore would not be managed under State law; the lands would be federally owned and managed under the Forest Plan for wilderness purposes. The surface estate would change ownership from State to Federal, while the mineral estate would not change and State regulations would continue to prohibit the issuance of permits for any land or State natural resource in the BWCAW (Minn. Stat. 84.523 subd. (3) and (4)). These changes would not result in direct or indirect effects to the School Trust lands located within the BWCAW under any alternative.

3.6.4 Cumulative Effects

3.6.4.1 Alternatives 1, 2, and 3

Candidate Federal Parcels

The proposed withdrawal of federal minerals within the Rainy River Watershed described in a Notice of Intent published in the Federal Register on January 13, 2017 was evaluated for any potential cumulative effects. Under the proposed withdrawal, the Forest Service is proposing a request to the Secretary of the Interior, for a 20-year term, a withdrawal of approximately 234,328 acres of National Forest System (NFS) lands within the Rainy River Watershed on the Superior National Forest from disposition under United States mineral and geothermal leasing laws, subject to valid existing rights. A potential outcome of the withdrawal would be that for the federal mineral estates withdrawn, minerals exploration and development would not be an allowable use during the 20 year term. This would potentially occur under all Alternatives.

Most of the lands proposed for exchange in the School Trust Land Exchange would not be affected by the mineral withdrawal or vice versa because most of the candidate federal parcels have non-federal mineral ownership. The minerals withdrawal applies to federal minerals underlying federal surface ownership (i.e. ‘fee simple’ federal ownership). Also, lands proposed for exchange in the School Trust Land Exchange that are outside the proposed withdrawal area would not be affected by the mineral withdrawal.

There are several fee simple candidate federal parcels within the proposed withdrawal area that would become split estate under Alternatives 2 and 3. It is possible that the federal mineral estates underlying these fee simple candidate federal parcels, if they become split estate, would no longer qualify for the proposed withdrawal. These parcels are shown in Table 3.6-5.

There are about 280 acres of fee simple candidate federal parcels that were identified as minerals highest and best use that may not qualify for the proposed withdrawal once they are split estate. A potential cumulative effect of Alternatives 2 and 3 is that minerals exploration and development would be an allowable use if these lands are exchanged to the State, whereas minerals exploration and development would not be an allowable use for 20 years if retained by the Forest Service under Alternative 1 and the proposed withdrawal is implemented. However, there are no proposed or reasonably foreseeable minerals exploration or development projects on the candidate federal parcels. Given the limited area affected and the lack of reasonably foreseeable projects on the candidate federal parcels, the proposed minerals

withdrawal does not substantially change the overall conclusions displayed in Section 3.6.3, Direct and Indirect Effects.

Table 3.6-5 Fee simple candidate federal parcels within the proposed withdrawal area that would become split estate under Alternatives 2 and 3.

Alternative 2			Alternative 3		
Spatial ID	Highest and Best Use	Acres	Spatial ID	Highest and Best Use	Acres
469	real estate	40	593	forestry	43.6
593	forestry	43.6	771	minerals	40
771	minerals	40	774	minerals	40
774	minerals	40	775	minerals	40
775	minerals	40	776	minerals	40
776	minerals	40	791	minerals	40
791	minerals	40	792	minerals	40
792	minerals	40	793	minerals	40
793	minerals	40	802	forestry	40
802	forestry	40	808	forestry	40
808	forestry	40	809	forestry	40
809	forestry	40			
	Total	483.6		Total	443.6

School Trust Lands in BWCAW

The School Trust Lands purchase would add Federal fee simple lands within the BWCAW; the minerals estate under those lands would remain withdrawn from mineral entry by Federal law.

3.7 Vegetation

3.7.1 Methodology

Parcels proposed for exchange were analyzed for potential impacts to Landscape Ecosystems (LE) within the Northern Superior Uplands (NSU) Section. Changes to species composition and age class distribution within the LE's would have potential impacts to ecosystem function, such as changes to wildlife habitat, local hydrology and disturbance patterns. Impacts would likely be the result of considerable changes in ecosystem management objectives or changes in land use.

While National Forest System (NFS) lands are managed according to the Superior National Forest Land and Resource Management Plan (Plan), lands owned by the State managed for forested ecosystems follow objectives outlined in the Northern Superior Uplands Subsection Forest Resource Management Plan (currently under revision), Minnesota Forest Resources Council's (MFRC) Northeast Landscape Forest Resources Plan (2014) and best management practices (BMPs) listed in *Sustaining Minnesota Forest Resources: Voluntary Site-Level Forest Management Guidelines for Landowners, Loggers and Resource Managers* (MFRC 2005). The guidance provided under the SNF Plan and Northeast Landscape Plan and BMPs are similar enough that forest ecosystems managed by the Superior National Forest or the State would function nearly the same, ecologically, within the Northern Superior Uplands Section.

As described in Sections 3.1 and 3.6, there is not a substantial and reasonably foreseeable difference between alternatives for minerals management. While MDNR forestry management for school trust lands may sometimes emphasize somewhat shorter rotation ages than the Forest Service on national forest lands, those differences would be unlikely to be appreciable at the Section scale due to the similar aforementioned land management plans. Therefore, minerals and forestry highest and best use candidate federal parcels were not considered further in the effects analysis.

The School Trust lands within the BWCAW would likely see no difference in management under State or Federal ownership. Therefore, those lands were not considered further in the effects analysis.

The most likely parcels to have demonstrable effects to LEs would be those areas acquired by the State identified as real estate highest and best use. Those areas are assumed to eventually be sold and developed which would be a departure from how they would have been managed if those lands had remained in Federal ownership. Considering that difference, the possible effects to LE's from the potential change in land use for those parcels identified as real estate highest and best use is considered in the analysis.

Indicator 1: Acres of Federal land proposed to be exchanged that could potentially be sold and developed.

The indicator used for vegetation for the project area is acres of Federal land proposed to be exchanged with real estate highest and best use. This indicator analyzes the differences between alternatives related to the influence potential development has on landscape ecosystem dynamics. Land acquired by the State and then sold could developed, thus potentially impacting species composition and age class distribution.

Analysis Parameters

The analysis area used to examine the direct and indirect effects of each alternative is National Forest System land within the NSU Section. This analysis area was selected because it demonstrates how the actions on federal lands influence LE composition and age class distribution within those LEs.

The analysis area for cumulative effects is all lands within the NSU Section. This analysis area was selected because it demonstrates how the proposed exchange will influence LE composition and age class distribution across all ownerships within the ecological classification unit (section).

The time period for the analysis of direct, indirect, and cumulative effects on biodiversity significance rank would be from project implementation until 154 years after the exchanges are complete. This time period would include potential real estate development (see section 3.1). Additionally, for the purposes of the effects analysis it is assumed that any development of those parcels would take place within that time frame.

Of the 10,858 acres of real estate highest and best use, 9,614 acres are within the NSU Section. The remaining 1,144 acres are in the Northern Minnesota and Ontario Peatlands (NMOP) Section. That acreage represents approximately 0.02% of the NMOP Section, which is approximately 5,304,790 acres within the State. Considering this, management of those lands would have a relatively insignificant impact on the species composition and age class distribution within that section and therefore were not considered in this analysis.

Past management activities' impacts on LE species composition and age class distribution are considered when looking at the existing condition. For example, a stand that had been harvested and converted would reflect the effects of past management activities on the vegetation through the current condition of its forest type and age class.

3.7.2 Affected Environment

Relatively minor portions of the Forest are within the Northern Minnesota and Ontario Peatlands and the Northern Minnesota Drift and Lake Plans Sections. Because the Forest accounts for such small parts of these sections, landscape ecosystem objectives within these sections are not considered in the Forest Plan and therefore will not be discussed in this section.

The vast majority of the Forest is in the Northern Superior Uplands (NSU) Section. The NSU Section covers about 5,970,000 acres of northeastern Minnesota, of which approximately 2,156,600 acres is National Forest System Land. Within this section, and within the Forest, there are six Landscape Ecosystems (LE) which include Forest Plan objectives. The LEs are:

- Jack Pine/Black Spruce
- Dry-mesic Red and White Pine
- Mesic Red and White Pine
- Mesic Birch/Aspen/Spruce-Fir
- Sugar Maple
- Lowland Conifers

Vegetation objectives for the LEs are the basis for identifying opportunities to move vegetation from the existing condition toward long-term desired conditions. Existing conditions, at the time of Forest Plan Revision, and desired future conditions for the LE's are described in detail on pages 2-59 through 2-78 of the Forest Plan (USDA 2004). Existing conditions for LE species composition and age class distribution are listed in the Forest Monitoring Report (2009).

3.7.3 Direct and Indirect Effects

3.7.3.1 Alternative 1

Candidate Federal Parcels

The land exchange would not occur and therefore vegetation composition would be managed in the future similar to the existing management framework (see Section 3.1).

3.7.3.2 Alternative 2

Candidate Federal Parcels

Under Alternative 2, 9,614 acres of the proposed exchange lands within the NSU Section to be acquired by the State have been identified as real estate highest and best use. Within the Superior National Forest those 9,614 acres represent about 0.4% of NFS lands that are part of the NSU section. Those parcels could be sold and could potentially be developed.

Given the location of the parcels that could be sold, development is assumed to be low-density residential such as recreation residences (i.e. lake or hunting cabins) which would likely clear minimal amounts of vegetation to maintain the rural forested character. Development would be expected to follow county zoning ordinances, such as setbacks from water bodies and septic system requirements, and pertinent State and Federal laws. Considering the likely use of these lands, compliance with applicable regulations and the relatively small portion of the NFS lands within the NSU section direct and indirect effects to LE species composition and age class distribution would be extremely minimal, if even measurable, at the LE scale.

3.7.3.3 Alternative 3

Candidate Federal Parcels

Under Alternative 3 none of the parcels identified as real estate highest and best use would be exchanged. As a result, minimal to no effects are anticipated as a result of land that could be sold and developed.

3.7.4 Cumulative Effects

3.7.4.1 Alternative 1

Candidate Federal Parcels

The land exchange would not occur. As a result, there would be no cumulative effects associated with this project.

3.7.4.2 Alternative 2

Candidate Federal Parcels

Other proposed land exchanges within the NSU Section include the NorthMet and Cook County exchanges. The amount of land being considered for those exchanges is 6,650 acres and 1,620 acres respectively. Combined those projects account for another 8,270 acres of Federal land to potentially be exchanged, which is 0.1% of the NSU section. Considering the relatively minimal amount of the section those lands comprise, minimal cumulative effects are anticipated.

The MDNR has developed forest resource management plans for three of the five subsections, Border Lakes, North Shore Highlands and Nashwauk Uplands, within the NSU Section. (Minnesota Department of Natural Resources 2010) The MDNR's management plans have similar goals to those in the Forest Plan in moving towards desired conditions for forest composition and age class distribution.

Management activities on county and industrial forest land are not likely to have substantial effects on LE configuration. Although industrial forest land and some county land are typically managed more actively for timber production the relatively small amount of each within the project area would not account for a substantial influence on species composition and age class distribution within the LEs.

The BWCAW is entirely within the NSU section. This area of land, regardless of surface ownership, is not managed for timber and would account for a relatively large portion of land that would not see any manipulation of LE composition or age class distribution other than from natural disturbance and succession.

Forest management on private forest land would not have substantial effects on LE composition. Private landowners typically have not utilized their lands for timber production. Timber production accounted for only one percent of primary reasons for owning forest land among 2,000 private landowners that participated in a survey across the United States (Baughman et. al. 2001). Considering this, private land within the project area would not have a noticeable influence on LE structure throughout the project area or NSU section.

Vegetation management on NFS land would continue to move LE composition and age class distribution towards Forest Plan objectives.

3.7.4.3 Alternative 3

Candidate Federal Parcels

Under Alternative 3 none of the parcels identified as real estate highest and best use would be exchanged. As a result, minimal to no cumulative effects are anticipated as a result of lands being sold and developed.

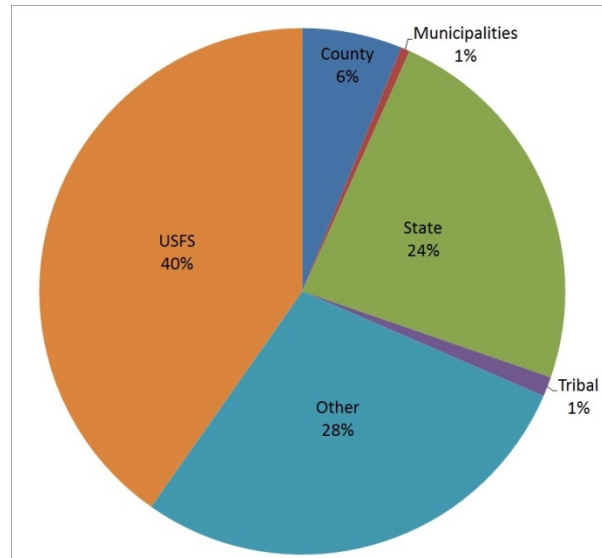


Figure 3.7-1. Pie chart showing ownership within the Northern Superior Uplands Section

3.8 Non-native Invasive Plants

3.8.1 Introduction

There is a risk that the activities associated with the School Trust Exchange would lead to the spread of non-native invasive plants (NNIP). Ground disturbance associated with activities could create conditions favorable to the introduction or spread of non-native invasive plants. This potential effect is analyzed in this section, which describes the NNIP that are currently known to exist in the Project Area, as well as the effects of the alternatives on NNIP.

3.8.1.1 Methodology

One indicator is used to analyze the effects of the alternatives on NNIP.

Indicators

Indicator 1: Acres of NNIP on exchange lands

This indicator is useful for distinguishing among alternatives because NNIP occurrences on lands proposed for exchange have the highest potential for spreading as a result of the exchange.

Analysis Parameters

The area covered by the analysis of direct and indirect effects includes all of the National Forest lands and all the state lands proposed for exchange in the School Trust Exchange. This analysis area was selected because this is where the land exchange activities will occur which could potentially cause the direct and indirect effects to NNIP. The area covered by the cumulative effects analysis includes lands of all ownerships within recent and reasonably foreseeable land exchange and acquisition projects. This cumulative effects analysis area was selected because other land exchange or acquisition projects may have similar effects with respect to weed spread as the School Trust Exchange.

The time period for the analysis of direct, indirect, and cumulative effects on weed spread would be from project implementation until 154 years after the exchanges are complete. This time period would include potential real estate development (see section 3.1). Additionally, for the purposes of the effects analysis it is assumed that any development of those parcels would take place within that time frame and weed spread would occur within this timeframe.

3.8.2 Affected Environment

Table 3.8-1 displays the non-native invasive plants that are known to occur within the exchange parcels. This list was developed based on results from NNIP inventory data collected on the Superior National Forest. Typical areas that have some weed infestation in the Project Area are roadsides, trails, portages, gravel pits, parking areas, campgrounds, campsites, helispots, and administrative sites. Although the inventory could have missed NNIP locations, it is a good representation of the existing condition of NNIP in the analysis area.

Mesic forested sites with shady understories on the Superior National Forest are fairly resistant to invasion by most NNIP. NNIP that disperse into such plant communities tend to get out-competed quickly by native shrubs, forbs, and trees. However, some NNIP are exceptions to this general observation. For example, common buckthorn, Siberian peabush, and Tatarian honeysuckle can thrive in the understory of mesic native plant communities. None of these species are known to occur on either federal or state exchange lands.

Conversely, there are a number of native plant communities typical of droughty, shallow-soiled sites that are susceptible to invasion by NNIP. These sites have less abundant shrub and forb layers, and as a result are more susceptible to being invaded by NNIP, especially if some ground disturbance occurs. These types of sites correspond to Ecological Landtypes (ELTs) 7, 9, 11, 16, 17, and 18. Most susceptible among these are rock outcrops, which correspond to ELT 18. ELT 18 is zero to eight inches of soil over bedrock. Of the pool of federal lands, less than 1% of analysis area is mapped as ELT 18, with most of ELT 18 located in parcels north of Orr, MN. On the pool of state lands in the BWCAW, ELT's have not been mapped, but given the amount of bedrock exposure present in the BWCAW, the proportion of ELT 18 on state parcels is likely higher.

Table 3.8-1. Non-native Invasive Plants known in the Analysis Area for the School Trust Exchange Project

Species	MN Status*	Life History/ Habitat Summary	Acres of NNIP on Entire Pool of Federal Lands	Acres NNIP on State Lands	Ecological Risk**
Spotted knapweed <i>Centaurea maculosa</i>	P	Short lived perennial, spread entirely by seeds, dry to mesic uplands (Wilson and Randall 2002)	1.1	None detected	High
Canada thistle <i>Cirsium arvense</i>	P	Perennial, spread by seed and rhizome, occupies disturbed sites (Lym and Christianson 1996)	0.7	0.02	High
Bull thistle <i>Cirsium vulgare</i>	No status	Biennial, spread by seed, occupies disturbed sites (Lym and Christianson 1996)	0.1	0.002	Low
Cypress spurge <i>Euphorbia cyparissias</i>	No status	Moderately aggressive herbaceous perennial spread by rhizome and seed (Czarapata 2005)	0.06	None detected	Moderate
Orange hawkweed <i>Hieracium auranticum</i>	No status	Perennial, spread by seed and rhizome, widespread in disturbed upland sites (Callihan et al. 1982)	18.8***	0.02	Moderate
Yellow hawkweeds <i>Hieracium</i> sp.	No status	Several similar non-native invasive yellow hawkweeds occur in Project Area; perennial, spread by seed and rhizome, widespread in disturbed upland sites (Gleason and Cronquist 1991)	18.8***	0.02	Moderate
St. Johnswort <i>Hypericum perforatum</i>	No status	Herbaceous perennial; spread by seed and lateral roots, dry to mesic uplands (Krueger and Sheley 2002)	0.09	None detected	Moderate
Oxeye daisy <i>Leucanthemum vulgare</i>	No status	Perennial, spread by seed and rhizome, widespread in disturbed upland sites (Gleason and Cronquist 1991)	18.8***	0.002	Moderate
Common tansy <i>Tanacetum vulgare</i>	P	Perennial; spread by seed and rhizome; disturbed uplands (Voss 1996)	1.6	None detected	Moderate

Table 3.8-1. Non-native Invasive Plants known in the Analysis Area for the School Trust Exchange Project

Species	MN Status*	Life History/ Habitat Summary	Acres of NNIP on Entire Pool of Federal Lands	Acres NNIP on State Lands	Ecological Risk**
<p>* P = Prohibited noxious weed (Minnesota Statutes 18.76 to 18.91) that must be controlled.</p> <p>** Species represents either a low, moderate, or high threat to natural communities (USDA Forest Service 2010).</p> <p>Risk given in table represents risk in most susceptible habitat.</p> <p>*** Estimated acres based on miles of road in Project Area.</p>					

In general, the Project Area has a fairly low level of NNIP infestation (Table 3.8-1). Orange hawkweed, yellow hawkweeds, and oxeye daisy are the most abundant NNIP. They are found along most roads in the Project Area and at many campsites in the BWCAW. They pose a moderate ecological risk to native plant species. The high ecological risk species, Canada thistle and spotted knapweed, are much less abundant, totaling approximately 1.8 acres of infestations. The other moderate ecological risk species, common tansy, St. Johnswort, and cypress spurge, occupy approximately 1.8 acres in the Project Area. The following analysis only considers the effects of moderate and high risk species. The low risk species do not pose enough of a threat to native plant communities to warrant consideration in the analysis.

3.8.3 Direct and Indirect Effects

3.8.3.1 Alternative 1 (No Action)

Candidate Federal Parcels

Under Alternative 1, Indicator 1 would be 0 acres (Table 3.8-2). The same NNIP infestations would be present as on the lands that are proposed for exchange under Alternatives 2 and 3. However, because no exchange would occur, the risk of NNIP spread would differ for Alternative 1 because the federal lands would continue to be managed as directed by the Superior National Forest Land and Resource Management Plan (Forest Plan). NNIP would continue to spread due to ground disturbance from resource management actions allowed for in the Forest Plan (see Section 3.1 for more information on federal management). There would be no risk of NNIP spread from real estate use of the land. The risk of NNIP spread on federal lands would be lowest for Alternative 1, as would the subsequent ecological effects of NNIP spread.

School Trust Lands inside BWCAW

For the state lands in the BWCAW, Indicator 1 would also be 0 for Alternative 1 (Table 3.8-2). The invasive plants that are present on state lands would continue to spread just as they would under Alternatives 2 and 3 because there would be no physical management differences for the state lands in the BWCAW under Alternatives 1, 2, or 3.

Table 3.8-2. Acres of NNIP on exchange lands			
Indicator	Alt. 1	Alt. 2	Alt. 3
1. Acres of NNIP on exchange lands	0 acres	Federal lands: 60.1 State lands: 0.07	Federal lands: 28.7 State lands: 0.07

3.8.3.2 Alternative 2 (Proposed Action)

Candidate Federal Parcels

For federal lands Indicator 1 would be 60.1 acres under Alternative 2. The risk of NNIP spread and abundance would be highest for this alternative. Under Alternative 2, some of the federal lands acquired by the state could be used for real estate development. This future use would lead to greater habitat fragmentation and road building, both of which contribute to the spread of NNIP. Federal exchange lands used for forestry in the future would also have a somewhat greater risk of NNIP spread compared to lands under Forest Service management. While many of the forestry practices are similar between the Forest Service and MDNR for School Trust lands, a shorter forest stand rotation age on School Trust forest land would result in more School Trust forest being in younger age classes compared to Forest Service management. This in turn would result in a somewhat higher risk of NNIP spread on the federal exchange lands in Alternative 2 compared to the No Action Alternative. Minerals management practices are very similar between the Forest Service and MDNR for School Trust lands so federal exchange lands managed for minerals as a future use in Alternative 2 would not have any higher risk of NNIP spread compared to the No Action Alternative.

The ecological effects of invasive plants on federal exchange lands would most likely be moderate and would depend on the extent of weed spread and which species spread. The most likely species to spread would be oxeye daisy and orange and yellow hawkweeds, which would probably be found along any new roads or any new real estate development associated with Alternative 2. St. Johnswort, tansy, and spotted knapweed would likely follow a similar pattern but with lower abundance, while Canada thistle would also be likely to be found in harvest units. The ecological impacts of Canada thistle and spotted knapweed would be highest as they have a greater likelihood of spreading into nearby undisturbed susceptible habitat (like wetland edges for Canada thistle) and degrading native plant communities. The ecological consequences of the remaining species would be lower because they would most likely be confined to previously disturbed areas. It is likely that some of the NNIP spread would be limited by invasive plant treatments carried out by the MDNR under the authority of Operational Order 113, which provides the DNR with direction for NNIP management.

School Trust Lands inside BWCAW

For state exchange lands in the BWCAW, Indicator 1 is 0.07 acres. NNIP abundance is much lower in the BWCAW, and under Alternative 2 the risk of spread of these invasives would be very low because the lands would be managed as wilderness with little human-caused ground disturbance. There would be no difference in the risk of weed spread and abundance between Alternatives 1 and 2 for the state exchange lands.

3.8.3.3 Alternative 3

Candidate Federal Parcels

For federal lands Indicator 1 would be 28.7 acres under Alternative 3. The risk of spread of NNIP on federal lands would be intermediate between Alternative 1 and Alternative 2. Lands with a future use of real estate are not included in this alternative, so the main source of NNIP spread would be forestry. As described under Alternative 2, a shorter rotation age under future School Trust management would lead to a higher risk of NNIP spread and subsequent ecological impacts than the No Action but lower risk than Alternative 2.

School Trust Lands inside BWCAW

For the state exchange lands in the BWCAW, the effects would be the same as described under Alternative 2.

3.8.4 Cumulative Effects

3.8.4.1 Alternative 1

Candidate Federal Parcels

In the No Action Alternative, there would be moderate cumulative effects resulting from weed spread associated with other land exchanges in which lands leave federal ownership. Actions that could spread NNIP on those lands include mining (NorthMet Mining Project and Land Exchange), and communications/fire hall expansion/gravel development (Cook County Land Exchange). Ground disturbance on lands that leave federal ownership could result in expansion of NNIP infestations due to lack of a cohesive framework for managing NNIP on non-federal lands. Some of this weed spread would be offset by NNIP mitigations proposed in the NorthMet Project, or by NNIP management activities undertaken by the cooperative weed management areas in Cook or Lake Counties. Overall the cumulative effect would be moderate because the NNIP spread would be primarily on disturbed ground which would be a small amount of ground relative to the amount of forest lands that would remain in northeast Minnesota.

There would be minor cumulative effects resulting from weed spread associated with land exchanges and land acquisitions in which lands enter federal ownership. Land entering federal ownership would be managed for a variety of uses in accordance with the Forest Plan. However, real estate or municipal development would not be one of these uses. Some of the lands would be in the BWCAW and some would be outside the BWCAW, and NNIP spread and subsequent impacts could result from managing forest, mineral, recreation, or other resources. The cumulative effects would be minor and would be offset by ongoing Forest Service NNIP management actions to control NNIP inside and outside the BWCAW (2006 NNIP Decision Notice and 2013 BWCAW NNIP Record of Decision).

3.8.4.2 Alternative 2

Candidate Federal Parcels

The cumulative effects of NNIP for Alternative 2 with respect to the candidate federal parcels would be moderate. The cumulative effects would be composed of the direct and indirect effects described above in section 3.8.3.2 as well as the effects resulting from other land exchanges described above in section 3.8.4.1. NNIP spread that occurs would probably be moderate in extent and longer lasting due to a portion of it occurring on private lands.

School Trust Lands inside BWCAW

The cumulative effects of NNIP for Alternative 2 with respect to the School Trust lands in the BWCAW would be minor. The effects would essentially be the same as those described above in section 3.8.4.1. The acquisition of lands in the BWCAW as proposed in Alternative 2 would contribute very little if at all to these effects.

3.8.4.3 Alternative 3

Candidate Federal Parcels

The cumulative effects of NNIP for Alternative 3 would be essentially the same as that described above for Alternative 2. The differences between Alternatives 2 and 3 are small enough in comparison to the other cumulative effects actions that there would be very little difference between the alternatives.

School Trust Lands inside BWCAW

The cumulative effects of NNIP for Alternative 3 would be the same as that described above for Alternative 2.

3.9 Wildlife

3.9.1 Introduction

Section 3.9 displays effects related to an issue raised in scoping-changes in ownership of lands containing high or outstanding biodiversity as surveyed by the Minnesota Biological Survey.

For effects to Regional Forester Sensitive Species along with additional habitat information (e.g. Management Indicator Habitats) see Appendix F-Draft Biological Evaluation. For effects to federally-listed species under the Endangered Species Act, see Appendix G-Draft Biological Assessment.

Indicators

One indicator is used to analyze the effects of the alternatives on biodiversity significance rank.

Indicator 1: Acres of high or outstanding site biodiversity significance rank on exchange lands

This indicator describes the acres of federal candidate parcels that are in sites ranked by the Minnesota DNR Biological Survey as having either high or outstanding biodiversity significance. This indicator is useful for distinguishing among alternatives because it quantifies acreage of lands falling into one of these categories that would be included in the land exchange.

Analysis Parameters

The area covered by the analysis of direct and indirect effects includes all of the National Forest lands and all the state lands proposed for exchange in the School Trust Exchange. This analysis area was selected because this is where the land exchange activities will occur which could potentially cause the direct and indirect effects to biodiversity significance rank. The area covered by the cumulative effects analysis includes lands of all ownerships within recent and reasonably foreseeable land exchange and acquisition projects. This cumulative effects analysis area was selected because other land exchange and acquisition projects may have similar effects on biodiversity significance rank as the School Trust Exchange.

The time period for the analysis of direct, indirect, and cumulative effects on biodiversity significance rank would be from project implementation until 154 years after the exchange is complete. This time period would include potential real estate development (see section 3.1).

3.9.2 Affected Environment

The Minnesota DNR's Minnesota Biological Survey has been collecting field data and evaluating the biodiversity significance of natural areas in Minnesota since 1987. Although the process is not complete for northern Minnesota including the Superior National Forest, portions of the Forest have been evaluated and ranked as outstanding (99,471 acres), high (253, 412 acres), moderate (252,215 acres), or below (24,069 acres); for full details see http://www.dnr.state.mn.us/eco/mcbs/biodiversity_guidelines.html. No sites have been ranked for lands within the BWCAW yet. GIS data for the School Trust Exchange analysis was downloaded from the Minnesota Geospatial Commons (<https://gisdata.mn.gov/>).

Although sites of biodiversity significance were not included in the Forest Plan and there are no regulations or requirements the Forest Service must follow when managing these sites, they are frequently important habitat for both common and rare plants and animals. According to the DNR website cited above, areas ranked as having outstanding biodiversity significance “contain the best occurrences of the rarest species, the most outstanding examples of the rarest native plant communities, and/or the largest, most ecologically intact or functional landscapes,” while sites ranked as having high biodiversity significance “contain very good quality occurrences of the rarest species, high-quality examples of rare native plant communities, and/or important functional landscapes.”

3.9.3 Direct and Indirect Effects

3.9.3.1 Alternative 1

Candidate Federal Parcels

No parcels would leave federal ownership in Alternative 1, and the lands ranked with a high or outstanding biodiversity significance rank would continue to be managed in accord with Forest Plan direction. Potential future uses under federal management are described in Section 3.1. Real estate development would not be a future use of the lands in Alternative 1. Forest Service management actions could possibly cause the DNR to re-evaluate the biodiversity significance rank of any given area.

School Trust Lands inside BWCAW

School trust lands within the BWCAW would continue to be managed to take on the characteristics of the surrounding federally designated wilderness under Alternative 1. For this reason, if biodiversity significance ranks are assigned to these lands in the future, those ranks would not likely change under Alternative 1.

Table 3.9-1. Acres of high or outstanding site biodiversity significance rank on exchange lands			
Indicator	Alt. 1	Alt. 2	Alt. 3
1. Acres of high or outstanding site biodiversity significance rank on exchange lands	0 acres	Federal lands: 6,108 State lands: not available	Federal lands: 2,133 State lands: not available

3.9.3.2 Alternative 2

Candidate Federal Parcels

In Alternative 2, 6,108 acres of federal lands with biodiversity significance rank of high or outstanding would be exchanged (Table 3.9-1). Potential future uses of these lands under school trust management could include real estate development, forestry, or minerals management. There is not a substantial and reasonably foreseeable difference between alternatives for minerals management (see Section 3.6). Some of the forest management could include emphasis for managing high conservation value forests such as longer stand rotation ages than normal school trust forest management.

Potential real estate development of federal candidate parcels is one difference between Alternatives 1 and 2; real estate development could increase fragmentation and permanently convert land to residential use and could cause the DNR to re-evaluate the biodiversity significance rank for sites containing these parcels. For the potential future use of forest management, the biggest difference between Alternatives 1 and 2 would be shorter stand rotation ages and more forest in a younger age class in Alternative 2. Again, such management may cause the DNR to re-evaluate the biodiversity significance ranks for these areas. In general, some of the differences between Alternatives 1 and 2 probably make it more likely that the DNR could lower the biodiversity significance rank under Alternative 2. If biodiversity significance rank of all of the candidate federal lands changed under Alternative 2, that would represent approximately 2% of all of the acreage ranked as outstanding or high on the Superior National Forest.

School Trust Lands inside BWCAW

School trust lands acquired under Alternative 2 would be managed as federal wilderness. If biodiversity significance ranks are assigned to these lands in the future, those ranks would not likely change under Alternative 2.

3.9.3.3 Alternative 3

Candidate Federal Parcels

In Alternative 3, 2,133 acres of federal lands with biodiversity significance rank of high or outstanding would be exchanged (Table 3.9-1). Nearly all of these parcels would be considered for the potential future use of forestry with an emphasis on managing for high conservation value forest involving longer stand rotation ages than normal school trust forest management. Because of this different management emphasis, it is less likely that the biodiversity significance values of these parcels would be impacted by the exchange. The biodiversity significance ranks of these parcels could be impacted by Alternative 3, but the impacts would likely be closer to Alternative 1 than Alternative 2.

School Trust Lands inside BWCAW

School trust lands acquired under Alternative 3 would continue to be managed as wilderness, just as in Alternatives 1 and 2. If biodiversity significance ranks are assigned to these lands in the future, those ranks would not likely change under Alternative 3.

3.9.4 Cumulative Effects

3.9.4.1 Alternative 1

For Alternative 1 several other completed or ongoing land exchange projects could cause minor cumulative effects to the biodiversity significance rank relative to the School Trust Exchange. Under the NorthMet Land Exchange, 6,143 acres of lands ranked as high biodiversity significance would leave federal ownership and potentially be developed for minerals, and under the Cook County Land Exchange 117 acres of lands ranked as high biodiversity significance are leaving federal ownership to be sustainably developed by Cook County. These 6,193 acres represent approximately 2% of lands having ranks of high or outstanding which would be a minor cumulative effect.

The decrease in acreage of lands ranked with high biodiversity significance described above would be offset somewhat by the acquisition of 1,106 acres of lands also ranked as high (117 ac of Lake County lands in the NorthMet Land Exchange and 989 acres of lands that would be purchased in the School Trust Land Acquisition). The school trust lands would be in the BWCAW and would continue to be managed as wilderness, and the lands acquired in Lake County would continue to be managed for forestry. This beneficial cumulative effect would help offset the cumulative effects of lands leaving federal ownership.

3.9.4.2 Alternative 2

Candidate Federal Parcels

For Alternative 2, 6,108 acres of federal lands with biodiversity significance rank of high or outstanding would be exchanged under the proposed action as described above in section 3.9.3.2. With 6,193 acres of lands ranked as high to potentially be exchanged under the NorthMet Land Exchange and Cook County Land Exchange as described above in section 1.1.4.1, the cumulative 12,301 acres of high or outstanding rank biodiversity significance lands leaving federal ownership would represent approximately 3% of lands with those biodiversity significance ranks in the Superior National Forest. Although this would

represent a greater cumulative effect than Alternative 1, the amount is still small enough that it represents a minor cumulative effect overall.

School trust lands would be acquired through land exchange in Alternative 2; these lands do not have a biodiversity significance rank but they are located in the BWCAW and would continue to be managed as wilderness. 1,106 acres of additional lands with a biodiversity significance rank of high would be acquired in the School Trust Land Acquisition and the NorthMet Land Exchange. Most of these lands are in the BWCAW and would represent a beneficial cumulative effect that would help offset the cumulative effects of lands leaving federal ownership.

3.9.4.3 Alternative 3

The cumulative effects of Alternative 3 on biodiversity significance rank would be very similar to those described for Alternative 1, because there would be very little direct exchange of lands with a high or outstanding biodiversity rank in Alternative 3.

3.10 Water Resources

3.10.1 *Introduction*

Both federal parcels and non-federal parcels have similar water resources in terms of type and quality of habitat; including lakes, streams, and wetlands with good water quality and healthy, intact ecological systems. Land management and development near water resources could occur on some conveyed lands; while management on acquired lands is not proposed to change since it will continue to be managed within the Boundary Waters Canoe Area Wilderness.

3.10.1.1 Methodology

Proposed exchange parcels were summarized by acres of wetland and miles of waterfront (lakes and streams) using geographical information system analysis. The current National Wetland Inventory (NWI; Circular 39 data set; Shaw and Fredine 1956), National Hydrography Dataset (NHD; USGS, <http://nhd.usgs.gov/index.html>) for waterbodies, aerial photos, and USFS data for ownership were among the data sets used for planning and analysis. The amount of wetlands, lakes, and streams within exchange parcels were used to help evaluate the potential effects of management activities on water resources as well as highlighting differences between proposed action alternatives. Aquatic organisms (Regional Forester Sensitive Species; RFSS) were also analyzed in the aquatic wildlife section of the Biological Evaluation for this Environmental Impact Statement (Appendix F). In addition to the indicators and analysis below, the proposed exchange was checked for compliance with various elements of the Superior National Forest Land and Resource Management Plan (2004) and other federal and state laws and regulations concerning water resource protection. These compliance checks can be found in the project record and are summarized here (Watershed Environmental Assessment Quality Assurance / Quality Control Worksheet, 2016).

Indicators

Two indicators related to water quality and watershed health are analyzed for effects of three alternatives associated with the School Trust Land Exchange. These indicators help measure the potential direct, indirect, and cumulative effects to water quality and watershed health at both the site-specific and watershed-scale.

Indicator 1: Wetlands Received and Conveyed

Indicator 1 assesses the amount (acres) of wetlands both received and conveyed in the proposed exchange for each alternative. This indicator evaluates the compliance with Executive Orders 11990 and 11988.

Executive Order (E.O.) 11990 requires that the exchange preserve wetland functions with no net loss to the Federal estate.

E.O. 11988 requires that the exchange not increase flood hazards to the non-Federal estate. There is no federally-designated flood hazard areas on the federal lands proposed for exchange. There are no FEMA issued regulatory floodplain maps for Lake and Cook County, Minnesota.

There are three conditions that would satisfy the requirements of E.O 11990 and E.O. 11988:

1. Value of the wetlands or floodplains for properties received and conveyed is equal (balancing test) and the land exchange is in the public interest.
2. Reservations or restrictions are retained on the unbalanced portion of the wetlands and floodplains on the Federal lands when the land exchange is in the public interest but does not meet the balancing test.

3. The Federal property is removed from the exchange proposal when the condition described in the preceding paragraphs 1 or 2 cannot be met.

Indicator 2: Waterfront Received and Conveyed

Indicator 2 assesses the amount (miles) of waterfront (lakes and streams) both received and conveyed in the proposed exchange for each alternative. This indicator helps to determine the level of risk water resources will be under based on the proximity to forest and mineral land management activities and land development. Shoreline development along lakes can impact riparian vegetation (Elias and Meyer, 2003), aesthetics (Stedman and Hammer, 2006), shallow water (littoral) vegetation (Radomski, 2001), water quality (Garrison and Wakeman, 2000) and substrate characteristics. This can have an effect on water resources including community composition, diversity, and/or abundance of fish (Bryan and Scarnecchia, 1992; Schindler et al., 2000), frogs (Woodford and Meyer, 2003), birds (Lindsay et al., 2002), and other species. This indicator measures potential development as it relates to the quality of water resources and analyzes the effects of the three alternatives associated with the School Trust Land Exchange Project. Indicator 2 measures the potential direct, indirect, and cumulative effects to the quality of water resources at the site specific scale including potential downstream effects to water resources both inside and outside the BWCAW. Effects that inform compliance with Forest Plan Guideline G-LA-4 (Forest Plan p. 2-52) are also discussed.

Analysis Parameters

Indicator 1: Wetland Received and Conveyed

For Indicator 1, the area considered in the analysis of direct and indirect effects to wetlands includes all of the National Forest lands and all of School Trust lands proposed for exchange. This analysis area was selected because this is where the land exchange activities will occur which could potentially cause direct and indirect effects to wetland acreage ownership. This indicator evaluates wetland acres received and conveyed for this exchange for compliance with Executive Orders 11990 and 11988. Cumulative effects are not relevant for this indicator; cumulative effects for water resources are evaluated with Indicator 2.

Indicator 2: Waterfront Received and Conveyed

For Indicator 2, the area considered in the analysis of direct and indirect effects to waterfront includes all of the National Forest lands and all of the School Trust lands proposed for exchange. This analysis area was selected because shoreland development that occurs on exchanged parcels could potentially cause direct and indirect effects to water resources. The area covered by the cumulative effects analysis is the spatial boundary of the Superior National Forest (SNF). This cumulative effects analysis area was chosen because shoreland development that occurs on exchanged parcels and other land exchanges and acquisitions could potentially cause cumulative effects to water resources across the SNF.

The timeframe selected for the direct, indirect and cumulative effects for both indicators is 154 years because it is assumed that potential real estate development subsequent to the proposal could occur within 154 years (see section 3.1). The majority of effects would take place once management or subsequent development occurs and would remain constant thereafter.

3.10.2 Affected Environment

Both federal parcels and non-federal parcels have similar water resources; Both have some slow-moving open water habitat, both have lowland conifer swamp, both have non-forested wetlands, and both have adjacent lake and stream habitats. Both federal parcels and non-federal parcels have similar water resources in terms of type and quality of habitat; including lakes, streams, and wetlands with good water quality and healthy, intact ecological systems.

Indicator 1: Acres of Wetland Received and Conveyed

Wetland types are very similar on both federal and non-federal parcels and include seasonally flooded/floodplain, wet meadow, shallow marsh and open water wetland. The overall existing conditions of these wetlands, both inside and outside the BWCAW, are healthy and functioning parts of the landscape.

Indicator 2: Waterfront Received and Conveyed

Waterfront parcels that are proposed for conveyance are currently undeveloped and are generally managed for undeveloped recreation and forestry. Parcels located within the Boundary Waters Canoe Area Wilderness would remain un-developed, effectively maintaining water quality and ecological functions. Private development of parcels located near lakes and streams are required to meet county shoreland development standards (Cook County, 2010; Lake County, 2011; and St. Louis County, 2015).

3.10.3 *Direct and Indirect Effects*

3.10.3.1 Alternative 1

Candidate Federal Parcels

Under Alternative 1, the National Forest lands would continue to be managed under the Forest Plan as described in Section 3.1. Water resources would continue to be managed similar to the existing condition.

School Trust Lands inside BWCAW

Under Alternative 1, management activities would include routine maintenance of campsites and portages. Natural ecological processes would continue. Therefore, water resources would continue to be managed similar to the existing condition.

Overall, both Indicator 1 (Acres of Wetland Received and Conveyed) and Indicator 2 (Waterfront Received and Conveyed) would show no change.

3.10.3.2 Alternative 2

Indicator 1: Acres of Wetland Received and Conveyed

If the exchange is consummated as outlined in Alternative 2 there would be net balance of wetlands and no disposal of floodplain acreage under Federal management. Wetland balance would occur under Alternative 2 by adjustments in final parcel selection based on wetland acres and appraisal values (Table 3.10-1).

Table 3.10-1: Wetland (acres) and waterfront (miles; Stream and Lakeshore) received and conveyed for Alternative 2 and 3
(net gain or loss for each alternative is in parentheses).

	State Received (Alternative 2 & 3)	Alternative 2 Federal Conveyed (net change)	Alternative 3 Federal Conveyed (net change)
Wetland (acres)	9,589	11,258 (-1,669*)	6,777 (+2,812)
Stream (miles)	57	57 (0)	33 (+24)
Lakeshore (miles)	100	23(+77)	10 (+90)

*because the amount of federal land conveyed is dependent on appraisal values, the whole list of parcels is not likely to be exchanged; these adjustments will be used to balance wetland acres to no net loss as per E.O 11990 and E.O. 11988.

Neither wetlands nor floodplains will be adversely affected by this alternative and requirements of Executive Orders 11988 (Floodplains) and 11990 (Wetlands) would be followed by final adjustments to balance the number of wetland acres within the federal and nonfederal estates so the exchange preserves wetland functions with no net loss to the federal estate. This exchange will not impact floodplain management in Cook, Lake or St. Louis Counties.

Management on the federal parcels would protect wetlands and floodplains after the parcels left federal ownership. Parcels would be subject to County Zoning Ordinances (Cook County, 2010; Lake County, 2011; and St. Louis County, 2015) as well as regulatory controls for shoreland areas and wetlands (State of Minnesota, 2008). Controls include MN Protected Waters permitting (Minnesota Department of Natural Resources), the MN Wetland Conservation Act (Minnesota Board of Water and Soil Resources; BWSR), and the Section 404 of the federal Clean Water Act (US Army Corps of Engineers).

Indicator 2: Waterfront Received and Conveyed

If the exchange is consummated as outlined in Alternative 2 there would be loss of 80 miles of waterfront outside the BWCAW and gain 157 miles of waterfront inside the BWCAW to the federal estate. This would yield a net gain of 77 miles of waterfront to the federal estate (Table 3.10-1). Although this is a net gain in waterfront, the exchange parcels within the BWCAW are not directly comparable to conveyed lands outside the BWCAW in terms of the level of development pressure and development potential. Lakes and streams adjacent to waterfront parcels with a highest and best use of real estate are at higher risk with respect to effects on water resources because management can include sale for development of waterfront. Effects from real estate use would be minimized and avoided by county zoning ordinances and other applicable federal and state law described immediately above under Indicator 1.

Forest Plan Guidelines pertaining to waterfront conveyance:

G-LA-4: There would be a net gain of 77 miles of waterfront to the federal estate due to acquisition of waterfront on waterbodies with high water quality and recreation opportunities inside the BWCAW, indicating that 'land with significant water frontage resource values' will be acquired. The public interest determination will be made in the Record of Decision. A summary of effects related to the public interest determination is found at EIS Appendix E. Compliance with G-LA-4 will be determined in the ROD when the public interest determination is made.

3.10.3.3 Alternative 3

Indicator 1: Acres of Wetland Received and Conveyed

If the exchange is consummated as outlined in Alternative 3 there would be a net gain of wetlands and floodplain acreage under Federal management. The final acreage of wetland received and conveyed would be subject to adjustments in final parcel selection based on wetland balance and appraisal values but would be likely see a net gain to the federal estate (Table 3.10-1).

Neither wetlands nor floodplains will be adversely affected by this alternative and requirements of Executive Orders 11988 (Floodplains) and 11990 (Wetlands) would be followed by final adjustments to balance the number of wetland acres within the federal and nonfederal estates so the exchange preserves wetland functions with no net loss to the federal estate. This exchange will not impact floodplain management in Cook, Lake or St. Louis Counties.

Management on the federal parcels would protect wetlands and floodplains after the parcels left federal ownership. Parcels would be subject to County Zoning Ordinances (Cook County, 2010; Lake County, 2011; and St. Louis County, 2015) as well as regulatory controls for shoreland areas and wetlands (State of Minnesota, 2008). Controls include MN Protected Waters permitting (Minnesota Department of Natural Resources), the MN Wetland Conservation Act (Minnesota Board of Water and Soil Resources; BWSR), and the Section 404 of the federal Clean Water Act (US Army Corps of Engineers).

Indicator 2: Waterfront Received and Conveyed

If the exchange is consummated as outlined in Alternative 3 there would be a loss of 43 miles of waterfront outside the BWCAW and gain 157 miles of waterfront inside the BWCAW to the federal estate. This would yield a net gain of 114 miles of waterfront to the federal estate (Table 3.10-1). Conveyed lands would come into ownership by the State of Minnesota, to be managed by MDNR for School Trust objectives. Effects from management of lakeshore parcels would include minimal to no real estate development because real estate highest and best use parcels are not included in Alternative 3.

Forest Plan Guidelines pertaining to waterfront conveyance:

G-LA-4: There would be a net gain of 114 miles of waterfront to the federal estate due to acquisition of waterfront on waterbodies with high water quality and recreation opportunities inside the BWCAW, indicating that 'land with significant water frontage resource values' will be acquired. The public interest determination will be made in the Record of Decision. A summary of effects related to the public interest determination is found at EIS Appendix E. Compliance with G-LA-4 will be determined in the ROD when the public interest determination is made.

Conclusion-Direct and Indirect Effects

When considering the range of alternatives for the school trust land exchange, effects to water resources would be the greatest for Alternative 2, and the least for Alternative 1 (no-action). Effects would be primarily due to potential development of waterfront parcels and changes in land use adjacent to lakes and streams, although these would be managed by county ordinances, and state and federal regulations. Alternative 3, designed to remove those lakeshore and stream parcels that were identified as high potential for development, would have fewer effects on water resources compared to Alternative 2.

3.10.4 Cumulative Effects

The cumulative effects analysis for water resources focuses on Indicator 2 and includes the net increase or decrease in miles of shoreline for lakes and streams. This analysis includes the proposed actions for the

school trust exchange as well as all potential cumulative actions from other land exchanges and acquisitions. The list of potential cumulative actions was reviewed and those actions that may affect water resources were considered in this analysis. Private parcels would be subject to County Zoning Ordinances (Cook County, 2010; Lake County, 2011; and St. Louis County, 2015) as well as regulatory controls for shoreland areas and wetlands (State of Minnesota, 2008). Controls include MN Protected Waters permitting (Minnesota Department of Natural Resources), the MN Wetland Conservation Act (Minnesota Board of Water and Soil Resources; BWSR), and the Section 404 of the federal Clean Water Act (US Army Corps of Engineers). As such, only federal lands were considered for this analysis.

3.10.4.1 Alternative 1

For alternative 1, the no-action alternative, there would be increases in stream and lakeshore (366 miles) ownership on Superior National Forest from other land exchanges and land acquisitions (Table 3.10-2).

Table 3.10-2: Potential net change in stream and lakeshore miles occurring from Cumulative land exchanges or acquisitions.

	Existing on Superior National Forest	Alternative 1 Plus other Exchanges and Acquisitions (net change)	Alternative 2 Plus other Exchanges and Acquisitions (net change)	Alternative 3 Plus other Exchanges and Acquisitions (net change)
Stream (miles)	2,196	2,244 (+48)	2,244 (+48)	2,268 (+72)
Lakeshore (miles)	5,232	5,550 (+318)	5,627 (+395)	5,717 (+485)

3.10.4.2 Alternative 2

For alternative 2 there would be increases in stream and lakeshore (443 miles) ownership on Superior National Forest from cumulative land exchanges and land acquisitions (Table 3.10-2).

3.10.4.3 Alternative 3

For alternative 3 there would be increases in stream and lakeshore (557 miles) ownership on Superior National Forest from cumulative land exchanges and land acquisitions (Table 3.10-2).

Conclusion

When considering cumulative effects across the range of alternatives for the school trust land exchange, effects to water resources would vary by alternative, but only slightly when considering all land acquisitions and exchanges. Effects would be primarily due to potential development of waterfront parcels and change in land use adjacent to lakes and streams. Although each alternative shows a net gain in waterfront, the exchange parcels within the BWCAW are not directly comparable to conveyed lands outside the BWCAW in terms of the level of development pressure and development potential. Lakes and streams adjacent to waterfront parcels with a highest and best use of real estate that are conveyed to the School Trust are at higher risk with respect to effects on water resources because management can include sale for development of waterfront.

3.10.5 *Other Soil and Water Resource Determinations*

Additional management policies pertaining to soil and water resources were reviewed for potential differences between alternatives. These are presented in Table 3.10.3.

Table 3.10.3. Other Soil and Water Resource Determinations

Resource	Determination
Site-level forest management guidelines to protect soil and water resources	As discussed in Section 3.1, site-level guidelines are similar between the Forest Service and MDNR and would avoid and minimize effects to soil and water resources under any Alternative.
Groundwater	Forest Service and MDNR both manage to protect ground water quality as regulated by applicable federal and state law. Under Alternative 2, real estate highest and best use parcels that are subsequently developed under private ownership would be regulated through County ordinances to manage septic systems that could affect groundwater. Septic system development would be minimized or avoided under Alternative 3 and would not occur under Alternative 1.
Municipal Water Supplies	The exchange would not affect municipal water supplies (Water Resources QA/QC memo, project record).
MDNR protected waters, trout streams	Potential effects to lakes and rivers are evaluated in Indicator 2 in Section 3.10.
Shipstead Newton Nolan (SNN) Act	The federal SNN Act would apply to candidate federal parcels within the area regulated by this Act under Alternative 1. Under alternatives 2 and 3, any conveyed federal lands would be regulated by Minn. Stat. sec. 92.45 (“little SNN Act”); which has the same substantive requirements as the federal SNN Act.

3.11 Lands

3.11.1 *Introduction*

The Lands section of the EIS evaluates the alternatives for meeting several components of the Purpose and Need related to land ownership pattern. In addition, several factors informing the public interest determination are evaluated. Other sections of the EIS also inform the purpose and need and the public interest determination (see section 2.4 and Appendix E for a summary of this information). For information about the mineral estate, see section 3.6 of the EIS.

3.11.1.1 Methodology

Indicators

Indicator 1: Boundary Length

This indicator is used to evaluate how well each alternative meets the Purpose and Need as related to improving boundary management. A decrease in the length of boundary managed meets the intent of this aspect of the Purpose and Need. Boundary length is measured by:

- Net change in the length of the boundary around national forest land in the Superior National Forest (including internal boundaries around nonfederal in-holdings) to be managed. This indicator is a distance representing the miles of boundary eliminated when NFS lands are conveyed outside of the BWCAW. A reduction of exterior boundary generally indicates more consolidated ownership as well as simplified management because it reduces need for land surveys to support resource management.

Indicator 2: Land Ownership Pattern

This indicator is used to evaluate how well each alternative meets the Purpose and Need as related to consolidating land ownership for more logical and efficient land management ownership patterns. More contiguous blocks of land ownership meets the intent of this aspect of the Purpose and Need. The land ownership pattern is measured by:

- Net change in number of Forest Service contiguous parcel groupings that are isolated from adjoining NFS lands. This indicator is an integer number that counts a single parcel grouping as “1” regardless of its size. Isolated parcel groupings require access across non-NFS lands, which reduces management efficiency. The non-contiguous nature of the landscape requires additional individual resource management plans which also reduces management efficiency. Eliminating isolated parcel groupings improves the landownership pattern by consolidating ownership, enabling more logical and efficient management.
- Qualitative evaluation and discussion of parcel groupings.

Analysis Parameters

The analysis area for direct and indirect effects are the lands proposed for exchange because this is where the exchange would result in effects relevant to the indicators evaluated.

The time frame for direct and indirect effects is immediately before and after a land exchange takes place. The landownership pattern changes at a single point in time.

The analysis area for cumulative effects is the Superior National Forest proclamation boundary. The time frame for cumulative effects is the time period in which there exist reasonably foreseeable NFS land

adjustment activities. The landownership pattern changes over time with multiple land adjustments including purchases, land exchanges, and conveyances. Land adjustments up to 2016 have been incorporated into the existing Superior National Forest boundaries and subsequent area calculations. It is assumed that the aggregate effect of these past land adjustments have been absorbed into and are represented in the current baseline data. Based on this assumption, only the Land Exchange Proposed Action and other current and foreseeable land adjustment actions are evaluated as cumulative actions.

3.11.2 *Affected Environment*

Currently, the ~39,467 acres of Federal parcels outside the BWCAW designated for exchange exist in contiguous, isolated parcel groupings of various sizes. The parcel groupings adjoin a mixture of State lands and private lands. The indicators for land use measure miles of physical boundary line or measure the elimination of isolated parcel groupings. Therefore, any proposed State use of the lands (forestry, minerals and real estate) will not change the environment affected by the proposed land exchange for these indicators.

All ~31,057 acres of the School Trust parcels inside the BWCAW adjoin NFS lands. Acquisition of these parcels results in consolidation of federal land in the BWCAW.

3.11.3 *Direct and Indirect Effects*

3.11.3.1 Alternative 1 – No Action

Candidate Federal Parcels

Alternative 1 eliminates 0 NFS isolated parcel groupings outside the BWCAW.

Alternative 1 eliminates 0 miles of NFS boundary outside the BWCAW.

3.11.3.2 Alternative 2

Candidate Federal Parcels

Alternative 2 eliminates 134 NFS isolated parcel groupings outside the BWCAW.

Alternative 2 eliminates 437 miles of NFS boundary outside the BWCAW.

3.11.3.3 Alternative 3

Candidate Federal Parcels

Alternative 3 eliminates 96 NFS isolated parcel groupings outside the BWCAW.

Alternative 3 eliminates 254 miles of NFS boundary outside the BWCAW.

Table 3.11.1 Summary of Lands Indicators-Direct and Indirect Effects			
Indicator Outside BWCAW	No Action	Modified Proposed Action	Alternative 3
Isolated NFS parcel groupings eliminated	0	134	96
Miles of NFS Boundary eliminated	0	437	254

Alternative 2 meets the Purpose and Need related to land ownership pattern and boundary management to the greatest degree. Alternative 3 meets this aspect of the Purpose and Need less than Alternative 2, and Alternative 1 does not meet it.

3.11.4 *Cumulative Effects*

Land exchanges are real estate property transactions that involve the conveyance of federal land in exchange for the acquisition of non-federal land. Land purchases are real estate property transactions that involve the acquisition of non-federal land. The land exchange and purchase actions described in this section are designed to consolidate and enhance the functional boundaries of the Superior National Forest. The following potential land adjustments are considered reasonably foreseeable for purposes of this analysis. A land exchange is considered reasonably foreseeable if a feasibility analysis has been prepared by the Superior National Forest and approved by the Regional Forester of the Eastern Region. A land purchase is considered reasonably foreseeable if appropriations have been made to acquire it or if the project has been proposed in the President's budget for future years. Because land purchases do not involve the conveyance of federal land, there is no measurement for the eliminated of isolated parcel groupings.

Cook County Land Exchange. The SNF has entered into an exchange agreement with Cook County, Minnesota, to exchange 1,261.89 acres of federal land for 1,910.76 acres of tax-forfeit lands within the BWCAW. Miles of boundary line added 4.5: Isolated parcel groupings eliminated: 2

Gunflint Lake Land Purchase. The SNF has the funds to purchase, in intends to acquire, 29.33 acres of private land on the east side of Gunflint Lake in is Fiscal Year 2016. Miles of boundary eliminated: 1548 feet (0.3 mile).

Bushmen Lake Land Purchase. Funds have been requested in the President's FY2017 budget to purchase approximately 2,233 acres of private land north of Pickett Lake in St. Louis County, adjoining the BWCAW. Miles of boundary line eliminated: 14 miles.

NorthMet Land Exchange. A Final Record of Decision was signed in January 2017 to convey approximately 6,650 acres of national forest land to PolyMet, Inc. in exchange for approximately 6,690 acres of non-federal lands. Miles of boundary line eliminated: 33 miles.

The SNF is currently working with St. Louis County to identify lands to be considered in a future exchange of federal lands outside the BWCAW for tax-forfeit lands inside the BWCAW. Until a proposed land list is finalized and a feasibility analysis is prepared by the SNF and approved by the Regional Forester, this action is not reasonably foreseeable for the purposes of the current analysis.

3.11.4.1 Alternative 1

This alternative eliminates 43 miles of NFS boundary and 2 isolated parcel groupings (through cumulative actions).

3.11.4.2 Alternative 2

This alternative eliminates 480 miles of NFS boundary and 132 isolated parcel groupings.

3.11.4.3 Alternative 3

This alternative eliminates 297 miles of NFS boundary and 264 isolated parcel groupings.

Table 3.11.2 Summary of Lands Indicators-Cumulative Effects			
Cumulative Indicator Outside BWCAW	No Action	Modified Proposed Action	Alternative 3
Isolated NFS parcel groupings eliminated	2	132	98
Miles of NFS Boundary eliminated	43	480	297

3.12 Economics

3.12.1 *Introduction*

The existence of School Trust parcels within the BWCAW conflicts with the management objectives for School Trust lands to generate revenue for Minnesota public schools. A land exchange under Alternatives 2 and 3 would resolve this conflict because the Forest Service would acquire the School Trust parcels within the BWCAW (which cannot be practically managed to generate revenue for Minnesota public schools under existing regulations). In exchange, the Forest Service would convey candidate federal parcels to the state of Minnesota which the MDNR could manage to generate revenue for the Permanent School Fund. The Economics section of the EIS evaluates the alternatives for meeting the component of the Purpose and Need for the MDNR to actively manage lands outside the wilderness to generate revenue to benefit Minnesota Public Schools.

3.12.1.1 Methodology

Indicators

Indicator 1: School Trust Management Objectives

This indicator is evaluated by comparing how the Alternatives convey parcels to the State that are identified as priority for acquisition by MDNR. MDNR identified a priority order for acquisition based on how well the parcels could be managed to accomplish School Trust management objectives, including to generate revenue for Minnesota public schools (MDNR submitted data, project record). In general, minerals highest and best use parcels were identified as top priority, followed by real estate, followed by forestry, followed by forestry-high conservation value forest.

The Alternatives are compared in Indicator 1 by displaying the degree to which parcels MDNR identified as highest priority for acquisition are proposed for exchange. The land list for each Alternative is divided into sets of 100 parcels and the priority order number (shown in Appendix I) is summed within each set. Lower sums per set indicate that the MDNR would acquire higher priority parcels because the highest priority parcel for acquisition is given a score of 1, and the lowest priority parcel is given a score of 1019. The scores for each set are listed in order of priority-in other words set #1 shows the top 100 priority parcels in each Alternative, set #2 shows the second highest 100 priority parcels included in each Alternative, etc. The first five sets of 100 parcels are displayed in Table 3.12.1 because both Alternatives 2 and 3 have at least 500 candidate federal parcels.

In addition, this indicator displays how the Alternatives convey parcels to the State identified as a priority in Minnesota Statute 92.80. The number of parcels within the legislative priority area by Alternative are displayed.

Priorities identified by MDNR and the Minnesota Statute 92.80 are not considered 'Forest Service priorities'. However, these are used to inform how well the Alternatives meet a component of the Purpose and Need for the State to actively manage lands outside the wilderness to generate revenue to benefit Minnesota Public Schools.

Analysis Parameters

The analysis area for direct, indirect and cumulative effects are the candidate federal parcels because these are the lands that could be conveyed to the State of Minnesota in the School Trust Land Exchange. The analysis timeframe is in perpetuity because it is anticipated that the ownership change would be in perpetuity.

3.12.2 *Affected Environment*

The project area contains candidate federal parcels throughout the Forest as shown in Appendix H. Highest and best uses of the candidate federal parcels by MDNR and the legislative priority area are shown in Appendix H. The priority order identified by MDNR and parcels located in the legislative priority area is shown in Appendix I.

The total landbase of the Minnesota School Trust lands in the state of Minnesota is approximately 2.5 million acres at present.²⁴

3.12.3 *Direct and Indirect Effects*

3.12.3.1 Alternative 1 – No Action

Under Alternative 1, the School Trust Land Exchange would not occur. Alternative 1 does not meet the component of the Purpose and Need for the State to actively manage lands outside the wilderness to generate revenue to benefit Minnesota Public Schools. Alternative 1 also does not convey any lands identified in the legislative priority area identified in Minnesota Statute 92.80. There is no data to display for Alternative 1 in Table 3.12.1 because there are no candidate federal parcels proposed in Alternative 1.

3.12.3.2 Alternatives 2 and 3

Table 3.12.1 MDNR Priority Parcels by Alternative

	Alternative 2 (Modified Proposed Action)	Alternative 3 (Reduced Land List)
Set of 100 Priority Parcels	Set Score	Set Score
Set #1 (1-100)	5050	9847
Set #2 (101-200)	15050	50181
Set #3 (201-300)	25706	60794
Set #4 (301-400)	36013	70861
Set #5 (401-500)	46213	82817

As shown in Table 3.12.1, Alternative 2 overall has about half or less of the set scores of Alternative 3. This indicates that Alternative 2 includes candidate federal parcels which the MDNR considers a higher priority than in Alternative 3. Alternative 2 includes all candidate federal parcels with a highest and best use of minerals, while Alternative 3 drops some of these; and Alternative 2 includes all candidate federal parcels with a highest and best use of real estate, while Alternative 3 drops all of these. Because of these

²⁴ http://dnr.state.mn.us/aboutdnr/school_lands/index.html accessed 8/25/16.

differences, Alternative 2 meets the Purpose and Need better than Alternative 3 for the State to actively manage lands outside the wilderness to generate revenue to benefit Minnesota Public Schools.

Alternative 2 includes a greater number of parcels in the legislative priority area (289) than Alternative 3 (130). This also indicates that Alternative 2 meets the Purpose and Need better than Alternative 3 for the State to actively manage lands outside the wilderness to generate revenue to benefit Minnesota Public Schools.

3.12.4 *Cumulative Effects*

There are no other reasonably foreseeable land exchanges between the Forest Service and the State of Minnesota for school trust lands, therefore there are no cumulative effects related to Indicator 1 under any alternative.

3.13 Special Uses

3.13.1 Introduction

Under authority of the Organic Administration Act of June 4, 1897 and the Federal Land Policy and Management Act (FLMPA) of October 21, 1976, the use of National Forest land for access to non-federal land can be granted under a special use authorization (Title V – FLMPA). The primary purpose is to provide the most reasonable access to non-federal land across federal land in accordance with FLPMA and Alaska National Interest Lands Conservation Act (ANILCA) of December 2, 1980. The landowner's statutory right of access is limited to that which is adequate to secure to the owner the reasonable use and enjoyment of the non-federal lands. The right of access is subject to rules and regulations of the Secretary of Agriculture (36 CFR 251).

The Forest Plan desired condition is for non-federal landowners to have reasonable access to their land (D-TS-5, Forest Plan, p. 2-47). Emphasis in granting Special Use authorizations will be on common corridors and multiple use sites. A Forest Plan objective is to attempt to meet demand for special use activities when consistent with the Forest Plan direction and when the proposed use cannot be accommodated on non-National Forest land (O-SU-2, Forest Plan, p. 2-52).

See Section 3.3 Recreation for discussion on trails and recreation facilities on the lands proposed for exchanged.

3.13.1.1 Methodology

Special Use authorizations are located on numerous federal parcels outside the Boundary Waters Canoe Area Wilderness (BWCAW). All of the uses occur as linear right-of-ways and can be measured in miles or amount of federal acres encumbered by the special use authorization.

Indicator 1: Number of Special Use authorizations on the proposed parcels.

Analysis Parameters

The analysis area for the direct, indirect and cumulative effects for the land exchange would be all of the parcels of land being disposed of and acquired by the U. S. Forest Service. The parcels outside the BWCAW would be conveyed to the State of Minnesota and the School Trust lands inside the BWCAW would be conveyed to the United States. All Special Use permits currently on the lands conveyed outside the BWCAW would be closed and easements would be transferred to the State of Minnesota.

3.13.2 Affected Environment

Federal Lands Outside the BWCAW:

There are a number of Special Uses that occur on federal lands outside the BWCAW. There are nine temporary road access authorizations to the MDNR and St. Louis County Land Department. These authorizations are for short term use, usually less than five years, for land management activities on state and county lands.

Two of the authorizations are for recreation events across federal lands. The recreation events are utilizing existing trails that are in federal ownership and in the foreseeable future would continue as long as needed for the organizations authorized.

The remaining authorizations are long-term. There is one authorization to St. Louis County for a Transfer Station. The transfer station services outlying private property north of Chisholm, Minnesota.

There are five special use easements or parts of existing easements issued to Cook and St. Louis Counties for county roads in the project area. In addition to these, there are five special use easements issued to private landowners for road access to their private property.

Eleven long-term private road special use authorizations are located in the analysis area. These authorizations provide road access to private land or St. Louis County lease sites.

The eight remaining long-term special use authorizations are for utility corridors.

Table 3.13.1 shows the current special uses authorizations in the analysis area.

Table 3.13.1 Special Use Authorizations in the School Trust Land Exchange			
Authorization #	Permit Holder	Use	Expiration Date
KAW608404	Wolf Track Classic	Recreation Event	12/31/2016
TOF581602	ALS Minnesota	Recreation Event	1/1/2020
LAU100203C	St. Louis County	Transfer Station	12/31/2020
LAU107144	MNDNR	Temporary Road Access	12/31/2017
LAU107148	MNDNR	Temporary Road Access	12/31/2019
LAU107153	MNDNR	Temporary Road Access	12/31/2016
LAU107013	MNDNR	Temporary Road Access	12/31/2019
LAU107025	MNDNR	Temporary Road Access	12/31/2018
LAU107159	MNDNR	Temporary Road Access	12/31/2020
GUN107289	MNDNR	Temporary Road Access	12/31/2020
GUN107290	MNDNR	Temporary Road Access	12/31/2019
LAU100237	St. Louis County	Temporary Road Access	12/31/2017
GUN100123	Cook County Highway Dept.	Road Easement	N/A
KAW100242	St. Louis County Public Works	Road Easement	N/A
LAC100201	St. Louis County Public Works	Road Easement	N/A
LAU100210	St. Louis County Public Works	Road Easement	N/A
LAU100211	St. Louis County Public Works	Road Easement	N/A
GUN552802	Mark Adams	Road Easement	N/A
GUN572301	Robert Martin	Road Easement	N/A

Table 3.13.1 Special Use Authorizations in the School Trust Land Exchange			
LAC533502	Michael Lambert	Road Easement	N/A
LAC669301	Chain O'Lakes Lookout Inc.	Road Easement	N/A
LAU610602	PVT163701 RA	Road Easement	N/A
GUN738101	Hovland Cabin Trust	Road Access	12/31/2020
GUN731903	James McCanney	Road Access	12/31/2016
KAW683502	Joe Foster	Road Access	12/31/2016
KAW702901	Phil Hebl	Road Access	12/31/2015
KAW100257	St. Louis County	Road Access –Lease Site	12/31/2018
KAW700703	Gordon Meagher	Road Access	12/31/2022
LAC663202	Crystal Parker	Road Access	12/31/2022
LAC666601	Black Duck North RA	Road Access	12/31/2016
LAU515601	Jeffery Walters	Road Access	12/31/2025
TOF572403	Moose Run RA	Road Access	12/31/2015
GUN737601	Whippoorwill RA	Road Access	12/31/2020
GUN408405	Arrowhead Electric Cooperative	Fiber Optic Lines	12/31/2020
GUN408404	Arrowhead Electric Cooperative	Powerlines	12/31/2026
KAW409502	Northeast Service Cooperative	Fiber Optic Lines	12/31/2022
LAC460701	Paul Bunyan Rural Telephone	Fiber Optic Lines	12/31/2019
KAW100622	Lake County	Fiber Optic Lines	12/31/2034
LAU410601	Citizens Telecom	Telephone/Fiber Lines	12/1/2016
LAU409401	Lake Country Power	Powerlines	12/1/2018
LAU408802	Qwest	Telephone/Fiber Lines	12/31/2025

Any future special uses or right-of-way requests that involve federal land within the analysis area and pass initial application screening would be analyzed in separate future analyses.

School Trust Lands Inside the BWCAW:

There currently are no commercial or private uses occurring on the School Trust lands inside the BWCAW.

3.13.3 *Direct and Indirect Effects*

3.13.3.1 Alternative 1

Candidate Federal Parcels

Under Alternative 1, no ownership changes would occur on federal lands outside the BWCAW. The current special use authorizations identified in the analysis area would continue. These authorizations would be administered following manual direction. Special use authorizations would be monitored or inspected to insure authorized uses are in compliance with the terms and conditions of the permits. The revenue generated from these uses would be paid to the treasury. Any new Special Use requests would be evaluated through environmental documentation specific to that request. Any authorization expiring would require environmental documentation to continue the use.

School Trust Lands inside BWCAW

Under Alternative 1, no ownership changes would occur inside the BWCAW. The state would continue to administer the lands.

3.13.3.2 Alternative 2

Candidate Federal Parcels

Under Alternative 2, approximately 39,467 acres of federal candidate parcels would be available to exchange to the State. All special use authorizations on exchanged lands would be terminated or acres encumbered would be modified to reflect the change in ownership. All recorded easements would be transferred to the State of Minnesota. Special Use authorizations for maintaining existing utility corridors on federal land would be amended to exclude the sections of the corridors proposed to exchange out of. The utility companies would need to work with the State of Minnesota to retain the corridors and identify any needs for maintenance of lines. The permits issued for the recreation events would also be amended to reflect the exchange of land. The administration of all special use authorizations would be the responsibility of the State of Minnesota. The amount of revenue that these authorizations generated would be lost to the federal government and may be gained by the MDNR for the Permanent School Fund.

School Trust Lands inside BWCAW

Under Alternative 2, approximately 31,057 acres of School Trust lands inside the BWCAW would be traded to the Forest Service. The land would be managed according to the Wilderness Act of 1964 and the Superior National Forest Land and Resource Management Plan.

3.13.3.3 Alternative 3

Candidate Federal Parcels

Under Alternative 3, a reduced number of acres would be available to trade to the State of Minnesota. The number of Special Use authorizations would be reduced to those listed in Table 3.13.2. The six road access or temporary road access special use authorizations listed in would be terminated or acres encumbered would be modified to reflect the change in ownership. All recorded easements would be transferred to the State of Minnesota. Special use authorizations for maintaining existing utility corridors

on federal land would be amended to exclude the sections of the corridors proposed to exchange out of. The utility companies would need to work with the State of Minnesota to retain the corridors and identify any needs for maintenance of lines. The permits issued for the recreation events would also be amended to reflect the exchange of land. The administration of all special use authorizations would be the responsibility of the State of Minnesota. The amount of revenue that these authorizations generated would be lost to the federal government and may be gained by the MDNR for the School Trust fund.

Table 3.13.2 Special Use Authorizations in Alternative 3			
Authorization #	Permit Holder	Use	Expiration Date
TOF581602	ALS Minnesota	Recreation Event	1/1/2020
KAW608404	Wolf Track Classic	Recreation Event	12/31/2016
LAU107013	MNDNR	Temporary Road Access	12/31/2019
LAU100210	St. Louis County Public Works	Road Easement	N/A
LAC533502	Michael Lambert	Road Easement	N/A
LAC669301	Chain O'Lakes Lookout Inc.	Road Easement	N/A
LAU610602	PVT163701 RA	Road Easement	N/A
LAC663202	Crystal Parker	Road Access	12/31/2022
LAC666601	Black Duck North RA	Road Access	12/31/2016
KAW702901	Phil Hebl	Road Access	12/31/2015
KAW100257	St. Louis County	Road Access –Lease Site	12/31/2018
GUN738101	Hovland Cabin Trust	Road Access	12/31/2020
LAU409401	Lake Country Power	Powerlines	12/1/2018
LAU410601	Citizens Telecom	Telephone/Fiber Lines	12/1/2016
KAW100622	Lake County	Fiber Optic Lines	12/31/2034

School Trust Lands inside BWCAW

Under Alternative 3, approximately 31,057 acres of School Trust parcels inside the BWCAW would be traded to the Forest Service. The land would be managed according to the Wilderness Act of 1964 and the Superior National Forest Land and Resource Management Plan.

3.13.4 *Cumulative Effects*

There are no other land transactions or projects that would affect the special uses located on the lands proposed for exchange; therefore there are no cumulative effects to special uses under any alternative.

3.14 Other Disclosures

3.14.1 *Short-term Uses and Long-term Productivity*

Short-term uses and long-term productivity are discussed as related to the three highest and best uses identified by MDNR for the federal candidate parcels-forestry, minerals and real estate.

Forestry: Forest Service management of Superior National Forest lands and MDNR management of School Trust lands both conduct forest management in consideration of short-term uses and long-term productivity. In the case of the Forest Service, multiple use and sustained yield over the long-term is a core policy. In the case of the MDNR for School Trust lands, management seeks to provide an economic return to the School Trust, yet manages the land to ensure long-term sustainable yields (see Operational Order 121, section 3.1). The long-term productivity of lands used for forest management would not vary substantially between alternatives.

Minerals: As discussed in Section 3.6, minerals management is a potential use on the candidate federal parcels whether the lands are owned by the Forest Service or the State. There would not be a substantial difference between alternatives affecting long-term productivity from minerals management.

Real estate: There is the potential for a portion of the lands identified as highest and best use for real estate management to experience a reduction in long-term productivity. This reduction could occur on the portion of lands sold that are converted to rural residential use. Most of the land sold would stay as forest to maintain the rural forested character while a portion is committed to housing footprints. This may occur on approximately 10,858 acres of land in Alternative 2, to minimal to no degree in Alternative 3, and would be avoided in Alternative 1.

3.14.2 *Unavoidable Adverse Effects*

Unavoidable adverse effects are discussed as related to the three highest and best uses identified by MDNR for the federal candidate parcels-forestry, minerals and real estate.

Forestry: Site-level guidelines to avoid and minimize adverse effects are similar, as discussed in section 3.1. It is possible that in some cases, management of School Trust lands could prioritize revenue over wildlife habitat values when conducting forest management. The Forest Service could prioritize timber production over wildlife habitat in some cases as well. However, the MDNR has the option to compensate the School Trust to avoid this effect, and the Forest Service has broad discretion in balancing resources values and tradeoffs. Thus, potential adverse effects from forestry management would not be unavoidable under any alternative.

Minerals: As discussed in Section 3.6, minerals management is a potential use whether the candidate federal parcels are owned by the Forest Service or the State. There would not be a substantial difference between alternatives from minerals management.

Real estate: The greatest difference between Forest Service policies for managing the Superior National Forest and the MDNR for managing School Trust lands was identified as sale of public land to private parties. Alternative 2 may eventually result in a conversion of public forest land of about 10,858 acres to rural residential private use, whereas Alternative 3 would have minimal or no such conversion and Alternative 1 would have no such conversion. The conversion of public forest land to rural residential private use²⁵ is a potential unavoidable adverse effect to some resources and values as described in several

²⁵ While this potential use could occur under Alternative 2, there are no existing plans or decisions for such a use. See Section 3.1 for the analysis framework.

resource sections of Chapter 3 (e.g. see the Recreation, 1854 Treaty Rights, and Wildlife sections). This conversion would also result in beneficial effects for other resources and values (e.g. see Section 3.12 Economics).

3.14.3 *Irreversible and Irretrievable Commitments of Resources*

Irreversible commitments of resources are those that cannot be regained, such as the extinction of a species or the removal of mined ore. Irretrievable commitments are those that are lost for a period of time such as the temporary loss of timber productivity in forested areas that are kept clear for use as a power line rights-of-way or road.

For the School Trust Land Exchange, the exchange of land is assumed to change ownerships for the long term. While future land ownership adjustments are possible to bring exchanged lands back to their original ownerships, this is unlikely. Thus, the change in land ownership is assumed to be permanent and would be considered an irreversible commitment. The varying potential environmental effects for different resources and values from this irreversible commitment are displayed throughout Chapter 3.

3.14.4 *Possible conflicts between the proposed action and Federal, regional, State, and local land use plans, policies, and controls for the area concerned.*

Most of the federal lands considered for conveyance to the State already adjoin State-owned lands. Many are isolated and would no longer be adjacent to Federal lands. While there are no specific projects that are proposed on conveyed federal land, the ‘highest and best use’ identified by the MDNR is for minerals, real estate and forestry (see Section 3.1). There are some differences between the intended uses of conveyed lands and the management of federal lands, in particular for real estate. However, management objectives may still be met on remaining adjacent lands based on the analysis in Chapter 3. If specific projects on conveyed federal lands are proposed, applicable laws and regulations would be applied to avoid and minimize effects to any adjacent lands. In conclusion, the intended use of the conveyed lands will not substantially conflict with objectives on adjacent lands.

3.14.5 *Energy requirements and conservation potential of the various alternatives and mitigation measures.*

Energy use is generally regulated by federal and state agencies other than the Forest Service. Energy requirements and conservation potential of a management action on the exchanged lands would be identified as needed if a specific project is proposed on the exchanged lands. There is no reasonably foreseeable difference in energy requirements between alternatives.

3.14.6 *Natural or depletable resource requirements and conservation potential of alternatives and mitigation measures.*

Natural or depletable resource requirements and conservation potential of alternatives and mitigation measures are discussed as related to the three highest and best uses identified by MDNR for the federal candidate parcels-forestry, minerals and real estate.

Forestry: As discussed in Section 3.1, forestry policies which identify broadly applicable mitigation measures are similar under any alternative.

Minerals: As discussed in Section 3.6, there would not be a substantial difference in the regulatory framework for minerals management between alternatives. Specific conservation practices and mitigation measures would be identified if a minerals management project is proposed.

Real estate: Alternative 2 may eventually result in a conversion of forest land of about 10,858 acres to rural residential use. Most of this land would likely remain forested and experience rural development on portions of the land such as cabins. Alternative 3 would have minimal to no such conversion and Alternative 1 would have no such conversion. Specific conservation practices and mitigation measures for real estate development would be identified if such a project is proposed. The real estate development would be guided by county ordinances, and applicable federal and state law.

3.14.7 *Urban quality, historic and cultural resources, and the design of the built environment, including the reuse and conservation potential of alternatives and mitigation measures.*

See section 3.5 for effects to historic and cultural resources.

3.14.8 *Environmental Justice*

Executive Order 12898 (1994) directs Federal agencies to avoid causing adverse human health and environmental effects that may disproportionately impact minority and low-income populations. The land exchange has the potential to affect the minority populations of the Fond du Lac, Grand Portage and Bois Forte Bands by changing lands available to exercise treaty rights. See section 3.4 for effects to treaty rights and tribal interests. See section 3.14.9 for effects to human health.

3.14.9 *Human Health*

Regulations for the protection of human health are generally under the jurisdiction of the State of Minnesota as administered by the Minnesota Department of Health and the Minnesota Pollution Control Agency. Effects to human health are discussed as related to the three highest and best uses identified by MDNR for the federal candidate parcels-forestry, minerals and real estate.

Forestry: Risks to human health from forest management are more likely to persons conducting forest management operations than the general population. Safety is considered during field work by both the Forest Service and MDNR, and is also addressed by OSHA regulations in either case.

Minerals: In the event of a minerals management proposal on the federal candidate parcels, state regulations related to human health would be applied whether the surface ownership is federal or State (see Section 3.6 for more information on minerals management). Any project-specific mitigations would be developed if a minerals management project is proposed.

Real Estate: Real estate development of rural residential homes may occur under Alternative 2. In general, the risks to human health from residential development are understood and relatively low due to the rules and experience of state and local government in managing residential development. Residential development would be required to follow county ordinances such as for water frontage setbacks and septic systems. Any project-specific mitigations would be developed at such time a project is proposed.

In conclusion, there would be no substantial difference in risks to human health between the alternatives.

3.14.10 *Air Quality*

Regulations for the protection of air quality are under the jurisdiction of the State of Minnesota as administered by the Minnesota Pollution Control Agency. The Forest Service has responsibilities related to the protection of air quality in Class I Airsheds on national forest lands such as the Boundary Waters Canoe Area Wilderness. Effects to air quality are discussed as related to the three highest and best uses identified by MDNR for the federal candidate parcels-forestry, minerals and real estate.

Forestry: The effects of forestry on air quality, including the BWCAW, would not vary substantially by alternative due to the relatively small scale of effects, and that forestry use is anticipated to occur under any alternative. All logging equipment, OHV and snowmobile use in the 4 counties of northeastern Minnesota contributes approximately 0.005% of the impact on haze in the BWCAW (Travel Management Project air quality analysis, project file).

Minerals: In the event of a minerals management proposal on the federal candidate parcels, state and federal regulations related to air quality would be applied whether the surface ownership is federal or state. If the minerals management proposal has the potential to affect the Class I airshed, the Forest Service would play its role per 40 CFR 52.21(p) whether the surface ownership is federal or state. Any project-specific mitigations would be developed if a minerals management project is proposed.

Real Estate: Real estate development of rural residential homes may occur under Alternative 2 on the candidate federal parcels identified for real estate highest and best use. There may be localized impacts to air quality during construction of homes; these effects would be minimized through the application of federal and state regulations affecting constructing equipment and practices. Emissions related to residential home occupancy and use are controlled by county, state and federal regulations. The amount of development that may occur at a regional scale is unlikely to vary substantially by alternative because demand for housing development may be met on existing private lands or subsequent to sale of existing School Trust lands in northeastern Minnesota under the No Action alternative. Effects to regional air quality from real estate development are unlikely to vary substantially by alternative.

In conclusion, there would be no substantial difference in effects to air quality between the alternatives.

3.14.11 *Climate Change*

Forest Service managing Superior National Forest lands

The Forest Service considers climate change in project planning²⁶, and when revising land management plans²⁷. In addition, the Forest Service has created a 'climate change scorecard' to track progress on each National Forest to improve resiliency, adaptation and mitigation for climate change²⁸.

MDNR managing School Trust lands

Operational Order 121 for management of School Trust lands states:

...As trustee, the DNR must also look for short term economic return but must balance those with the need to protect the revenue generating capacity of the Trust in the long run. For example, it is important to manage forest harvest on School Trust lands for a specific amount of yield on a continuing and sustainable basis so there are not periods of timber unavailability resulting in periods of no income to the Trust. Accordingly, managing harvest cannot focus exclusively on short term revenue at the expense of long-term harvest yields. Further, given the perpetual nature of the Trust, the DNR must use adaptive management principles to ensure sustainable economic returns on School Trust lands over the long run. In doing so, the DNR must monitor and take into account uncertainties such as climate change, invasive species and land use trends and address these factors based on sound scientific principles.

²⁶ http://www.fs.fed.us/emc/nepa/climate_change/index.htm

²⁷ <http://www.fs.usda.gov/planningrule>

²⁸ <http://www.fs.fed.us/climatechange/advisor/scorecard.html>

Climate change is also an issue that is being considered as the MDNR revises the Northern Superior Uplands Subsection Forest Resource Management Plan (NSU SFRMP). This Plan applies to School Trust lands in northeastern Minnesota (NSU SFRMP, Background and Preliminary Issues, pp. 1.16 to 1.17).

Climate change is considered per management policies by both the Forest Service and MDNR. Any specific actions to adapt to climate change or reduce greenhouse gas emissions would be incorporated into project designs at such time specific projects are proposed.

3.14.12 *Roadless Areas*

None of the federal candidate parcels are located inside a Forest Plan Inventoried roadless area. One candidate federal parcel (Parcel ID 758, see Map 5b for Alternative 2 in Appendix H) overlaps the Cabin Creek Roadless Area Conservation Rule roadless area for about 6.3 acres. The highest and best use of this parcel under Alternative 2 is real estate,. Under Alternative 2, the Roadless Rule would no longer apply to Parcel 758. However, potential real estate development²⁹ on Parcel 758 could adversely affect the roadless characteristics of the remaining federal lands in the Cabin Creek Roadless Area Conservation Rule roadless area. Under Alternatives 1 and 3, the parcel would stay in federal ownership and there would be no change to the Cabin Creek Roadless Area Conservation Rule roadless area.

3.14.13 *Public Involvement and Environmental Impact Assessment*

Concerns were expressed in scoping comments that the land exchange would result in changes to the ability of the public to comment on proposed management actions on the exchanged lands. This section evaluates how the land exchange may affect public involvement and environmental impact assessment of management proposals under each alternative. Regarding tribal consultation, see section 3.4.

On federal lands, the National Environmental Policy Act (NEPA) generally applies to federal proposals that may affect the environment. The NEPA generally provides the opportunity to the public to comment on management proposals, depending on the scope of the environmental review. The NEPA also requires environmental impact assessment commensurate with the scope and type of management proposals. The Forest Service provides an opportunity to file an administrative objection to draft decisions supported by EIS and EA documents (36 CFR 218).

On School Trust lands administered by the MDNR, the Minnesota Environmental Policy Act (MEPA) generally applies to state proposals that may affect the environment. Like NEPA, MEPA generally provides the opportunity to the public to comment on management proposals, depending on the scope of the environmental review. The MEPA also requires environmental impact assessment commensurate with the scope and type of management proposals. There is no equivalent state objection process to the Forest Service objection process.

The intent of and services provided to the public by NEPA and MEPA are similar. There are similar opportunities for the public to comment on and be involved in management decision processes under all alternatives. However, under Alternative 2, those lands that are subsequently sold to private ownership would not have opportunities for comment; thus it is assumed that opportunities to comment could eventually be lost on the 10,858 acres identified as real estate highest and best use. This outcome would not occur under Alternative 1 and may occur to minimal or no degree under Alternative 3.

²⁹ While this potential use could occur under Alternative 2, there are no proposed plans or decisions for such a use in this location. See Section 3.1 for the analysis framework.

3.14.14 *Noise*

On Superior National Forest lands, there are no specific policies or regulations for noise. The Forest Service considers and generally follows the Minnesota Rules on noise, and may develop mitigations for specific projects as they are proposed. Minnesota Rules on noise would apply to actions authorized by the MDNR on School Trust lands. The MDNR may also develop mitigations for specific projects as they are proposed. There is no substantial difference between alternatives related to noise.

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Chapter 4 Consultation and Coordination

4.1 Preparers and Contributors

The following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons contributed in the development of this environmental impact statement.

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BS in Photojournalism, and Forest Resources and Conservation, University of Florida, 1992
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BA, Anthropology, University of Wisconsin Madison, 1998
MA, Anthropology, University of Minnesota Twin-Cities, 2005

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B.S. Environmental Engineering; B.S. Biology;
M.S. Environmental Engineering

Marty Rye
Hydrologist
26 years experience
B.S. Agricultural Engineering-Soil and Water;
B.S. Civil Engineering-Water Resources

4.1.1.2 Federal, State, and Local Agencies

The MDNR submitted the proposed land exchange to the Forest Service and an Agreement to Initiate was signed in January 2015 by the two agencies. MDNR staff was available to answer questions at the open houses during the scoping period in the spring of 2015.

The MDNR also provided a projection of highest and best use of the candidate federal parcels for School Trust land management, information on recent land sales of School Trust lands, and a priority order for acquisition of the candidate federal parcels to meet School Trust management objectives. This information was used by the Forest Service interdisciplinary team to inform the analysis in the EIS (see section 3.1 for the analysis framework).

4.1.1.3 Tribes

The following organizations representing affected tribes were consulted during initial project design in 2013, during the public scoping in 2015, and prior to release of the DEIS to the public in early 2017:

Grand Portage Band
1854 Treaty Authority
Fond du Lac Band
Bois Forte Band

4.1.1.4 Others

Approximately 1,600 comments from individuals and organizations were received during the scoping period. A listing of these individuals and organizations is in the project file.

These individuals and organizations, along with federal, state, local and tribal entities, were notified of the availability of the Draft EIS.

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